6. ALTERNATIVES ANALYSIS

6.1 INTRODUCTION

The Alternatives Analysis chapter of the EIR includes consideration and discussion of a range of reasonable alternatives to the proposed project, as required per CEQA Guidelines Section 15126.6. This chapter includes discussions of the following: the purpose of an alternatives analysis; alternatives considered but dismissed; reasonable range of project alternatives and their associated impacts in comparison to the proposed project's impacts; and the environmentally superior alternative.

6.2 CEQA REQUIREMENTS FOR ALTERNATIVES ANALYSIS

The primary intent of the alternatives evaluation in an EIR, as stated in Section 15126.6(a) of the CEQA Guidelines, is to "[…] describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." In the context of CEQA Guidelines Section 21061.1, "feasible" is defined as:

> ...capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors.

Section 15126.6(f) of CEQA Guidelines states, "The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice." Section 15126.6(f) of CEQA Guidelines further states:

> The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determined could feasibly attain most of the basic objectives of the project.

In addition, an EIR is not required to analyze alternatives when the effects of the alternative "cannot be reasonably ascertained" and/or "implementation is remote and speculative."

The CEQA Guidelines provide the following guidance for discussing alternatives to a proposed project:

- An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives (CEQA Guidelines Section 15126.6[a]).
- Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable

of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly (CEQA Guidelines Section 15126.6[b]).

- The EIR should briefly describe the rationale for selecting the alternatives to be discussed. The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination […] Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts (CEQA Guidelines Section 15126.6[c]).
- The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison (CEQA Guidelines Section 15126.6[d]).
- If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed (CEQA Guidelines Section 15126.6[d]).
- The specific alternative of "no project" shall also be evaluated along with its impact. The purpose of describing and analyzing a no project alternative is to allow decision-makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The no project alternative analysis is not the baseline for determining whether the proposed project's environmental impacts may be significant, unless it is identical to the existing environmental setting analysis which does establish that baseline (CEQA Guidelines Section 15126.6[e][1]).
- If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives (CEQA Guidelines Section 15126.6[e][2]).

Project Objectives

Based on the above, reasonable alternatives to the project must be capable of feasibly attaining most of the basic objectives of the project. The following objectives have been submitted by the project applicant:

1. Permit an additional 277± acres of permitted mining area with approximately 35.25 million tons sold (41.6 million tons mined) of Portland Cement Concrete (PCC) grade aggregate reserves for mining and processing at Teichert's Woodland Plant for a period of 30 years;
2. Extend the life of the existing Woodland Plant consistent with the requested 30-year life of the Shifler mining permit and allow the facility to continue to operate as needed to meet market demand;
3. Allow Teichert to transfer the Esparto Plant's current annual permitted volume of 1 million tons sold (1.18 million tons mined) to the Woodland Plant once mining is complete at Esparto or the Esparto permit expires, whichever occurs first;
4. Ensure that irrigation water deliveries in Moore Canal are not affected by the proposed project;
5. Reclaim the mined land to agriculture and a mix of habitat uses, including pond, grassland, riparian woodland, and native landscape, in accordance with the requirements of the Surface Mining and Reclamation Act (SMARA), the Yolo County Off-Channel Mining Plan

(OCMP), Off-Channel Surface Mining Ordinance (OCSMO), and Surface-Mining Reclamation Ordinance (SMRO).

6.3 SELECTION AND ANALYSIS OF ALTERNATIVES

The requirement that an EIR evaluate alternatives to the proposed project or alternatives to the location of the proposed project is a broad one; the primary intent of the alternatives analysis is to disclose other ways that the objectives of the project could be attained, while reducing the magnitude of, or avoiding, one or more of the environmental impacts of the proposed project. Alternatives that are included and evaluated in the EIR must be feasible alternatives. However, the CEQA Guidelines require the EIR to "set forth only those alternatives necessary to permit a reasoned choice." As stated in Section 15126.6(a), an EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. The CEQA Guidelines provide a definition for "a range of reasonable alternatives" and thus limit the number and type of alternatives that may need to be evaluated in a given EIR. According to the CEQA Guidelines Section 15126.6(f):

> The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determined could feasibly attain most of the basic objectives of the project.

Alternatives in an EIR must be feasible. In the context of CEQA Guidelines Section 21061.1, "feasible" is defined as:

> ...capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors.

Finally, an EIR is not required to analyze alternatives when the effects of the alternative "cannot be reasonably ascertained and whose implementation is remote and speculative."

Alternatives Considered in the EIR

In light of the requirements of CEQA, the following alternatives to the proposed project were identified and considered:

1. No Project Alternative
2. Off-Site Alternative
3. Reduced Tonnage Alternative
4. Moore Canal Avoidance Alternative
5. Moore Canal Southern Alignment Alternative
6. Mining Setback 700-Feet from Creek Alternative

As described further below, the first five of these were found to be appropriate for further consideration and analysis. Alternative 6 was considered but rejected from further analysis based on the information provided below.

Alternatives Dismissed From Further Analysis

Consistent with CEQA, primary consideration was given to alternatives that could reduce significant impacts, while still meeting most of the basic project objectives.

As stated in Guidelines Section 15126.6(c), among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are:

(i) failure to meet most of the basic project objectives,
(ii) infeasibility, or
(iii) inability to avoid significant environmental impacts.

Regarding item (ii), infeasibility, among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives.

The Mining Setback 700-Feet from Creek Alternative was considered but dismissed from detailed analysis in this EIR. The reason(s) for dismissal, within the context of CEQA Section 15126.6(c) summarized above, are provided below.

Mining Setback 700 feet from Creek Alternative

The Mining Setback 700 feet from Creek Alternative would maintain a 700-foot setback between Cache Creek and the northern limits of mining activities on the site. In addition, the southern limits of the mining activities associated with the alternative would not extend south further than the existing Storz mining site to the east, thereby maintaining an approximately 1,600-foot setback from County Road 22. The total site acreage under the Alternative would be approximately 134.0 acres, a reduction of 185.3 acres relative to the proposed project. The limits of the mining area associated with this alternative are shown in Figure 6-1 below.

Under the Mining Setback 700 feet from Creek Alternative, the total tonnage of aggregate mined over the lifetime of the Mining Permit would be reduced relative to the proposed project. However, a similar amount of material would be mined and sold during each year of operations. Thus, daily truck trips associated with the Mining Setback 700 feet from Cache Creek would be similar to the proposed project. In addition, the Alternative would require relocation of Moore Canal. The Mining Setback 700 feet from Creek Alternative would include reclamation of the mined portions of the site to agriculture, lake, and open space uses.

Because the total tonnage of aggregate mined at the project site would be substantially reduced, the Alternative would only partially meet Objective #1. In addition, the operational lifespan of the Woodland Plant would be shortened relative to approval of the proposed project, as a smaller amount of mined aggregate would be available to supply the facility. Thus, Objective #2 would be partially met. The remaining project objectives would be met under the Alternative.

This alternative would not achieve reduction of significant impacts related to setbacks from existing residential development to the south and southwest. In addition, the alternative would significantly reduce the tonnage requested in Objective #1 and the alternative would still require relocation of the Moore Canal. Therefore, the significant and unavoidable impact associated with the canal would remain. Given these reasons and the fact that a Reduced Tonnage Alternative is already being evaluated in this chapter, the Mining Setback 700 feet from Creek Alternative is hereby dismissed from further review.

Alternatives Evaluated in this EIR

The following alternatives are evaluated in this section:

1. No Project Alternative;
2. Off-Site Alternative;
3. Reduced Tonnage Alternative;
4. Moore Canal Avoidance Alternative; and
5. Moore Canal Southern Alignment Alternative.

Each of the project alternatives is described in detail below, with a corresponding analysis of each alternative's consistency with the project objectives and evaluation of impacts to the existing environment in comparison to the proposed project's identified impacts. While an effort has been made to include quantitative data for certain analytical topics, where possible, qualitative comparisons of the various alternatives to the project are primarily provided. Such an approach to the analysis is appropriate as evidenced by CEQA Guidelines Section 15126.6(d), which states that the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed. The analysis evaluates impacts that would occur with the alternatives relative to the significant impacts identified for the proposed project. When comparing the potential impacts resulting from implementation of the foregoing alternatives, the following terminology is used:

- "Fewer" = Less than Proposed Project;
- "Similar" = Similar to Proposed Project; and
- "Greater" = Greater than Proposed Project.

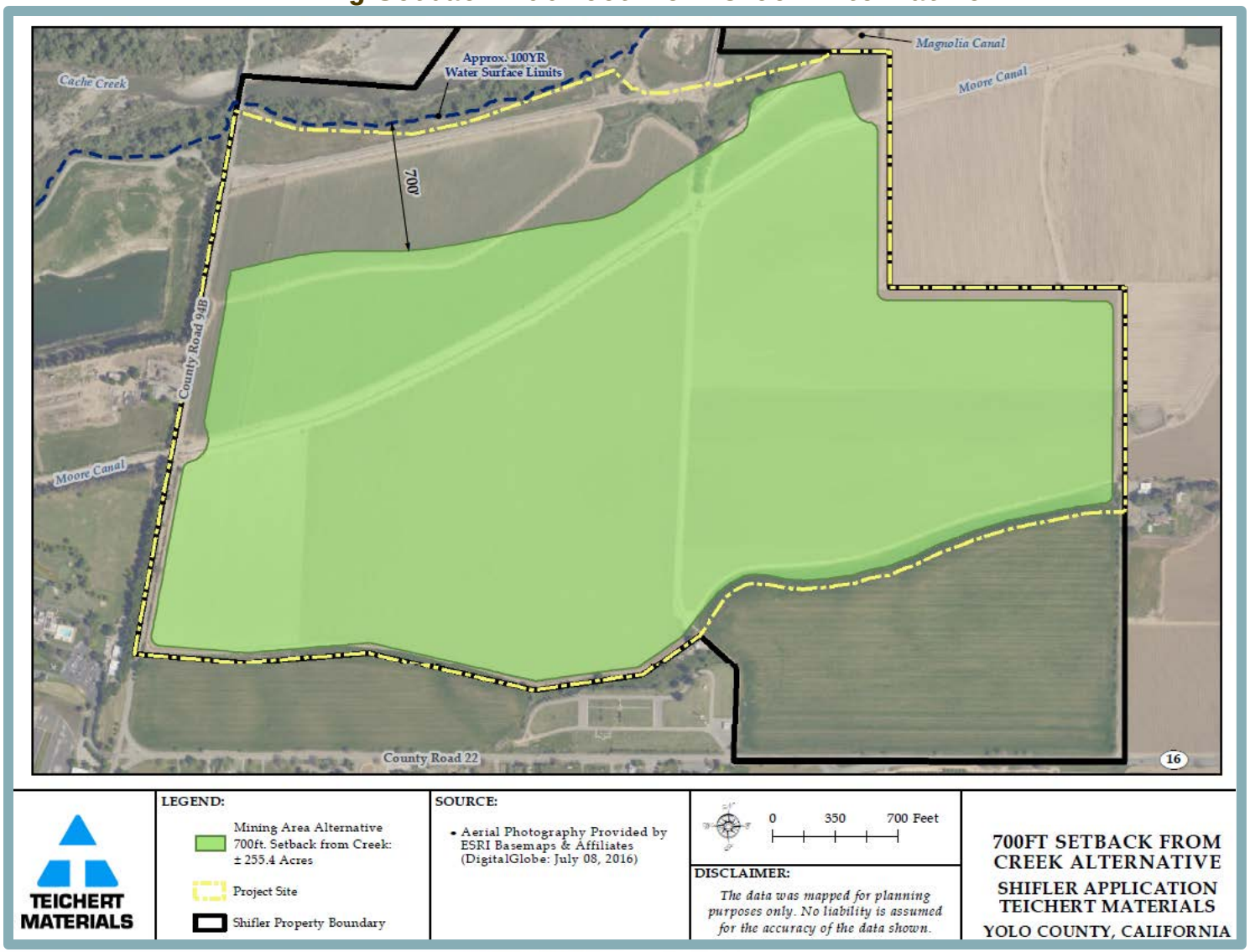
When the term "fewer" is used, the reader should not necessarily equate this to elimination of significant impacts identified for the proposed project. For example, in many cases, an alternative would reduce the relative intensity of a significant impact identified for the proposed project, but the impact would still be expected to remain significant under the alternative, thereby requiring mitigation. In other cases, the use of the term "fewer" may mean the actual elimination of an impact identified for the proposed project altogether. Similarly, use of the term "greater" does not necessarily imply that an alternative would require additional mitigation beyond what has been required for the proposed project. To the extent possible, this analysis will distinguish between the two implications of the comparative words "fewer" and "greater".

See Table 6-1 at the end of this chapter for a comparison of the environmental impacts resulting from the considered alternatives and the proposed project.

1. No Project Alternative

The following section includes an overview providing background related to this alternative, a description of this alternative, an evaluation of the alternative's consistency with project objectives, and an impact comparison analysis.

Figure 6-1
Mining Setback 700 feet from Creek Alternative



Overview

CEQA requires the evaluation of the comparative impacts of the "No Project" alternative (CEQA Guidelines Section 15126.6[e]). Analysis of the no project alternative shall:

> "… discuss […] existing conditions […] as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services." (*Id.*, subd. [e][2]) "If the project is other than a land use or regulatory plan, for example a development project on identifiable property, the 'no project' alternative is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property remaining in the property's existing state versus environmental effects that would occur if the project were approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this 'no project' consequence should be discussed. In certain instances, the no project alternative means 'no build,' wherein the existing environmental setting is maintained. However, where failure to proceed with the project would not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment." (*Id.*, subd. [e][3][B]).

Description of Alternative

The No Project Alternative assumes the applicant will finish mining out operations at the Esparto and Schwarzgruber sites, followed by closure and reclamation of the two plant sites. The proposed excavation on the Shifler site would not occur at this time, and the site would remain in its current condition for the purposes of this analysis. As described in this EIR, the central and southern portions of the project site consist primarily of actively managed agricultural land. The northern portion of the project site consists of scattered oak trees and ruderal grassland vegetation, as well as an electric conveyor and associated gravel road formerly used to transport mined aggregate from the Teichert Storz mining site to the Woodland Plant located north of the project site. Moore Canal, a concrete-lined water conveyance structure owned and operated by the Yolo County Flood Control & Water Conservation District, bisects the central portion of the site from west to east. The assumptions for this alternative are speculative for a number of reasons:

- The applicant is not precluded from seeking subsequent approvals to excavate other planned mining (SGRO zoned) sites within the Cache Creek Area Plan (CCAP) plan area.

- The Shifler property was identified in the CCAP Update as a proposed future mining site, has known feasibly minable aggregate resources, and is within the CCAP plan area. Unless the County acted through the CCAP to explicitly preclude mining on this site, it would remain in the plan as a potential site for future mining.

- The market for sand and gravel exists with or without a local source. If demand is met with supply from outside the area there is a tradeoff in impacts that result. For example, local loss of agricultural land might not occur but regional air quality emissions and regional vehicle miles travelled would increase reflective of longer haul routes. The analysis below explores this in more detail.

Consistency with Project Objectives

The No Project Alternative would not meet the objectives of the project applicant in that the alternative would not result in the permitting of an additional 277± acres of mining area, extend the life of the existing Woodland Plant, allow a transfer of the Esparto Plant's current annual permitted volume, or reclaim mined land to agriculture and a mix of habitat uses. However, Objective #4 would be met in that the alternative would not include a change to Moore Canal thereby ensuring that irrigation water deliveries in Moore Canal are not affected.

Impacts of Alternative

The following provides a discussion evaluating the impacts of this alternative on baseline conditions as compared to the impacts of the proposed project on baseline conditions for each impact area addressed within this EIR.

Aesthetics

Under the No Project Alternative, mining operations at the Esparto and Schwarzgruber sites would continue until closure and reclamation of the mining areas and two plant sites. Post-reclamation uses would include open water lake, recreation, habitat, and agriculture based on the approved reclamation for each site. The proposed excavation on the Shifler site as well as the relocation of Moore Canal would not occur. Thus, the visual character of the Shifler site would remain unchanged from the current condition. The Woodland Plant would remain unchanged; however, the site would be reclaimed earlier than under the proposed project. Therefore, this alternative would result in fewer impacts on the project site as compared to the proposed project.

Agricultural Resources

Under the No Project Alternative, mining operations at the Esparto and Schwarzgruber sites would continue until closure and reclamation of the mining areas and two plant sites. Post-reclamation uses would include open water lake, recreation, habitat, and agriculture based on the approved reclamation for each site. The proposed excavation on the Shifler site as well as the relocation of Moore Canal would not occur. Thus, the onsite agricultural resources on the Shifler site would remain unchanged from the current condition and would eliminate the significant and unavoidable impact related to loss of farmland negating the requirement for Mitigation Measure 4.2-1. Therefore, this alternative would result in fewer impacts on the project site as compared to the proposed project.

Air Quality, Greenhouse Gas Emissions, and Energy

Under the No Project Alternative, mining operations at the Esparto and Schwarzgruber sites would continue until closure and reclamation of the mining areas and two plant sites. Accordingly, upon closure and reclamation, emissions associated with the equipment and operation on the sties would cease. Post reclamation uses, and associated emissions, would include open water lake, recreation, habitat, and agriculture based on the approved reclamation for each site. The Woodland Plant would remain unchanged; however, the site may be reclaimed earlier than under the proposed project unless processing continues with gravel from an alternative mining site. The proposed excavation on the Shifler site as well as the relocation of Moore Canal would not occur, and the onsite agricultural resources on the Shifler site would remain unchanged from the current condition. Although emissions associated with the current agricultural operations would continue to occur, emissions associated with removal and construction of Moore Canal and the mining activity on the Shifler site would not occur. Specifically, emissions of diesel particulate matter (DPM) and respirable silica associated with the proposed project equipment and operations on the Shifler site would not occur; thereby eliminating the potential for related health risks. Thus,

impacts related to onsite emissions and associated health risks would be lower under the No Project Alternative compared to the proposed project.

Mining operations would not occur on the Shifler site under the No Project Alternative. Therefore, upon closure of the Esparto and Schwarzgruber sites, the Woodland Plant would be reclaimed (unless processing continued for gravel from an alternative site) and GHG emissions associated with operations at the Woodland Plant would cease, Mitigation Measure 4.3-8 (requiring an Electric Vehicle Parking Plan be prepared for the Woodland Plant upon initiation of mining activity at the Shifler site) would not be applicable.

While project emissions associated with the proposed project would not occur, regional emissions would still occur as a function of the continued demand for sand and gravel. If the Teichert Woodland Plant was no longer a source of aggregate material, the material would be purchased elsewhere in the region. Supply could be met from other planned sites within the CCAP or outside of the County. Because production of materials and the associated emissions would continue to occur within the same region as the proposed project (i.e., within the Sacramento Valley Air Basin), the regional emissions would be similar under the No Project Alternative as compared to the proposed project.

Generally, other sources of aggregate material supply outside the County and even some locations within the CCAP would result in longer trip lengths as compared to a local source such as the proposed project, thereby increasing air pollutant and GHG emissions associated with hauling. The extent to which an increase in emissions would occur is speculative as the distances would depend on the location of each individual construction job.

Based on the above, the No Project Alternative would result in overall fewer impacts related to air quality, GHG, and energy as compared to the proposed project.

Biological Resources

Under the No Project Alternative, mining operations at the Esparto and Schwarzgruber sites would continue until closure and reclamation of the mining areas and two plant sites. Post-reclamation uses would include open water lake, recreation, habitat, and agriculture based on the approved reclamation for each site. The proposed excavation on the Shifler site as well as the relocation of Moore Canal would not occur. Thus, the biological resources on the Shifler site would remain in their current condition, and Mitigation Measures 4.4-1(a) through 4.4-1(o), 4.4-3(a), and 4.4-3(b) would not be required. Therefore, this alternative would result in fewer impacts on the project site as compared to the proposed project.

Cultural and Tribal Cultural Resources

Under the No Project Alternative, mining operations at the Esparto and Schwarzgruber sites would continue until closure and reclamation of the mining areas and two plant sites. Post-reclamation uses would include open water lake, recreation, habitat, and agriculture based on the approved reclamation for each site. The proposed excavation on the Shifler site as well as the relocation of Moore Canal would not occur. Therefore, the significant and unavoidable impact to Moore Canal, which is considered to be eligible for inclusion in the CRHR and the NRHP as an historic resource, would not occur. Furthermore, disturbance of the Shifler site and any unknown cultural, archeological, or tribal cultural resource would not occur. Therefore, because this alternative would not include any disturbance of the Shifler site, Mitigation Measures 4.5-1, 4.5-

3(a), 4.5-3(b), and 4.5-4 would not be required. For these reasons this alternative would result in fewer impacts on the project site as compared to the proposed project.

Geology and Soils, Mineral Resources, and Paleontological Resources

Under the No Project Alternative, mining operations at the Esparto and Schwarzgruber sites would continue until closure and reclamation of the mining areas and two plant sites. Post-reclamation uses would include open water lake, recreation, habitat, and agriculture based on the approved reclamation for each site. The proposed excavation on the Shifler site as well as the relocation of Moore Canal would not occur. Because mining activities would not occur, impacts related to geology and soils (slope stability, etc.) and the potential to unearth paleontological resources would not result. This alternative would preserve mineral resources on the Shifler site. Future extraction could occur at a future date consistent with site zoning and the CCAP. Therefore, this alternative would result in fewer impacts on the project site as compared to the proposed project.

Hazards and Hazardous Materials

Under the No Project Alternative, mining operations at the Esparto and Schwarzgruber sites would continue until closure and reclamation of the mining areas and two plant sites. Post-reclamation uses would include open water lake, recreation, habitat, and agriculture based on the approved reclamation for each site. The proposed excavation on the Shifler site as well as the relocation of Moore Canal would not occur. Thus, the abandonment of the existing water wells and reabandonment of the onsite gas wells would not be required. Existing canal operation and maintenance would continue on Moore Canal. With no mining operations on the Shifler site and the Woodland Plant closure pursuant to current permit requirements, this alternative would result in a reduction of the potential for an accidental release of a hazardous materials as compared to the proposed project. Therefore, this alternative would result in fewer impacts on the project site as compared to the proposed project.

Hydrology and Water Quality

Under the No Project Alternative, mining operations at the Esparto and Schwarzgruber sites would continue until closure and reclamation of the mining areas and two plant sites. Post-reclamation uses would include open water lake, recreation, habitat, and agriculture based on the approved reclamation for each site. The proposed excavation on the Shifler site as well as the relocation of Moore Canal would not occur. Thus, no change to the existing Shifler site drainage, groundwater level and groundwater flow would occur. According to the Cache Creek Channel Stability Analysis prepared for the proposed project, the reach of Cache Creek near the project site does not display historical evidence of excessive bank erosion. Therefore, this alternative would result in fewer impacts on the project site as compared to the proposed project.

Land Use and Planning

Under the No Project Alternative, mining operations at the Esparto and Schwarzgruber sites would continue until closure and reclamation of the mining areas and two plant sites. The proposed excavation on the Shifler site as well as the relocation of Moore Canal would not occur. Therefore, this alternative would not result in land use impacts (including issues related to land use compatibility) as the current agricultural use of the Shifler site would continue.

Noise

Under the No Project Alternative, mining operations at the Esparto and Schwarzgruber sites would continue until closure and reclamation of the mining areas and two plant sites. Post-

reclamation uses would include open water lake, recreation, habitat, and agriculture based on the approved reclamation for each site. The proposed excavation on the Shifler site as well as the relocation of Moore Canal would not occur. Thus, the existing noise environment at the Shifler site would remain unchanged. The noise associated with the existing Woodland Plant operations would continue until the Woodland Plant closure pursuant to current permit requirements, at which time noise would be reduced from plant operations as compared to the proposed project. However, because the existing noise environment at the Shifler site would remain unchanged, Mitigation Measures 4.10-1(a) and 4.10-1(b) would not be required. Therefore, this alternative would result in fewer impacts on the project site as compared to the proposed project.

Public Services, Utilities, and Service Systems

Under the No Project Alternative, mining operations at the Esparto and Schwarzgruber sites would continue until closure and reclamation of the mining areas and two plant sites. Post-reclamation uses would include open water lake, recreation, habitat, and agriculture based on the approved reclamation for each site. The proposed excavation on the Shifler site as well as the relocation of Moore Canal would not occur. Because existing conditions would remain at the Woodland Plant and Shifler site, increased demand related to police services, fire protection, water, wastewater, or electricity and gas infrastructure would not occur. Therefore, this alternative would result in fewer impacts on the project site as compared to the proposed project.

Transportation and Circulation

Under the No Project Alternative, mining operations at the Esparto and Schwarzgruber sites would continue until closure and reclamation of the mining areas and two plant sites. Post-reclamation uses would include open water lake, recreation, habitat, and agriculture based on the approved reclamation for each site. Vehicle miles travelled (VMT) resulting from existing operations would continue to occur until closure of the sites. After the closure of the plants, vehicle trips (haul trucks) would still occur in the region as a function of the continued demand for sand and gravel elsewhere in the region. Generally, other sources within the CCAP boundary and/or outside the County would result in longer trip lengths as compared to a local source such as the proposed project, thereby increasing regional VMT. The extent to which an increase in VMT would occur is dependent upon the distances to each individual construction job, the distance to the supply source, and the economic feasibility of transportation costs. Because mining activities would not occur at the Shifler site under this alternative, Mitigation Measure 4.12-2 would not be required. Therefore, this alternative would result in a greater impact as compared to the proposed project.

2. Off-Site Alternative

The following section includes an overview providing background related to this alternative, a description of this alternative, an evaluation of the alternative's consistency with project objectives, and an impact comparison analysis.

Overview

Since approval of the OCMP in 1996, the County has approved seven mining permits allowing for removal of a total of 176 million tons of material on 1,900 acres (2,464 total acres for combined mining operations). Unless extended, one of the seven permits will expire in 2027, four in 2028, one in 2029, and one in 2041. Approved mining areas are designated Sand and Gravel Overlay (SG-O) on the County Zoning Map. Future planned but not approved mining is zoned Sand and Gravel Reserve Overlay (SGRO). Within the County, a total of 1,789 acres are currently zoned

SGRO. Figure 6-2 identifies those areas where mining is approved or reasonably foreseeable over the next 50 years.

Description of Alternative

Under the Off-Site Alternative, mining and reclamation activities that are currently proposed for the project site would instead occur on other SGRO zoned lands within the CCAP area. As analyzed in this EIR, the Off-Site Alternative is assumed to include mining and sale of a similar quantity of aggregate material as the proposed project (i.e., a transfer of tonnage allocation from the Esparto and Schwarzgruber operations), with a similar overall disturbance area.

Relocation of the existing Moore Canal alignment would not be required under this Alternative. It should be noted that because the Off-Site Alternative would not be located adjacent to the existing Teichert Woodland Plant, transfer of mined aggregate to the Woodland Plant with a conveyor system would not be feasible. Thus, this alternative assumes that mined aggregate would be hauled to the Woodland Plant, by way of local haul truck routes, for processing.

Consistency with Project Objectives

The Off-Site Alternative would generally be capable of meeting all of the project objectives.

Impacts of Alternative

The following provides a discussion evaluating the impacts of this alternative on baseline conditions as compared to the impacts of the proposed project on baseline conditions under each impact area addressed within this EIR.

Aesthetics

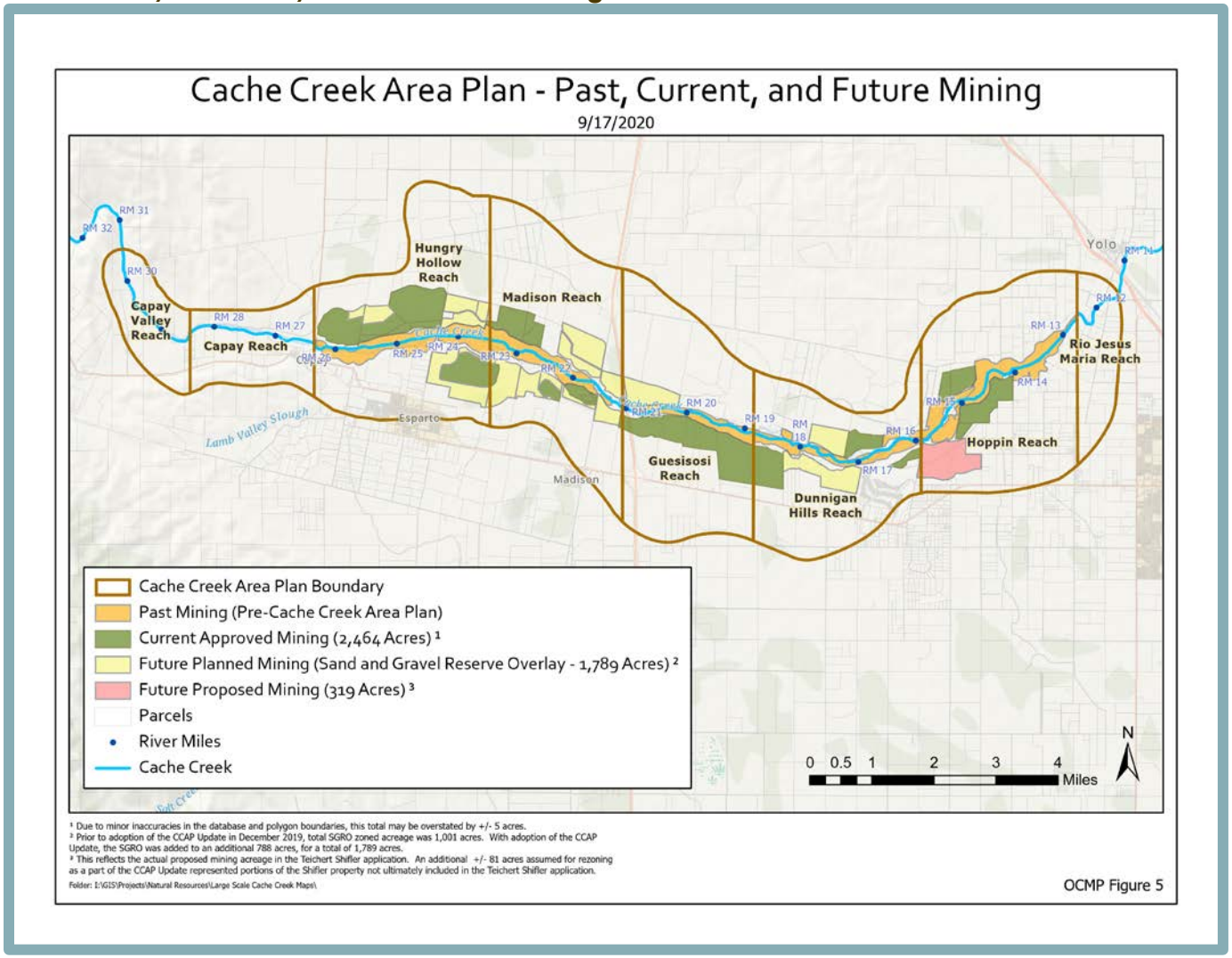
Under the Off-Site Alternative, mining and reclamation activities that are currently proposed for the project site would instead occur on other SGRO zoned lands within the CCAP area. Mining operations in the SGRO zoned lands in the Hungry Hollow Reach and Madison Reach would likely not be visible from major roadways; however, a portion of the southernmost lands within the Madison Reach may be visible from residents in Esparto. SGRO lands crossing over from the Madison Reach to the Guesisosi Reach would be adjacent to, and visible from, Interstate 505 (I-505).

Portions of the SGRO lands in the Dunnigan Hills Reach would be in close proximity to the Wild Wings subdivision. While the aesthetic value and visibility of other SGRO lands within the CCAP vary from site to site, each has an existing land use similar to the proposed project and would have a similar level of visibility as the proposed project. Lands near I-505 would have a greater level of visibility from a public vantage point. Thus, this alternative would likely result in similar impacts as the proposed project.

Agricultural Resources

Under the Off-Site Alternative, mining and reclamation activities that are currently proposed for the project site would instead occur on other SGRO zoned lands within the CCAP area. The majority of the potential off-site areas within the CCAP are in agricultural use, which would be similar to the proposed project. Because this alternative would result in similar disturbance area as the proposed project, similar level of significant impact to agricultural resources would be anticipated to occur. In addition, this alternative would still be subject to County Code requirements related to agricultural mitigation, as required per Mitigation Measure 4.2-1.

Figure 6-2
Past, Current, and Future Mining within the Cache Creek Area Plan



***Source: Yolo County. Updated Final Off-Channel Mining Plan (OCMP) for Lower Cache Creek*. December 17, 2019.**

Air Quality, Greenhouse Gas Emissions, and Energy

Under the Off-Site Alternative, mining and reclamation activities that are currently proposed for the project site would instead occur on other SGRO zoned lands within the CCAP area. This alternative would include mining and sale of a similar quantity of aggregate material as the proposed project, with a similar overall disturbance area. Therefore, emissions and energy use associated with mining operations, as well as plant operations, would remain the same as the proposed project. However, because aggregate mined under this alternative would be hauled to the Woodland Plant for processing, emissions (air quality and GHG) associated with hauling would be greater than the proposed project. Therefore, this alternative would result in greater impacts as compared to the proposed project. Similar to the project, Mitigation Measure 4.3-7 related to preparation of a GHG Reduction Plan and Mitigation Measure 4.3-8 related to preparation of an Electric Vehicle Parking Plan would be required for this alternative.

Biological Resources

Under the Off-Site Alternative, mining and reclamation activities that are currently proposed for the project site would instead occur on other SGRO zoned lands within the CCAP area. The majority of the potential off-site areas within the CCAP are in existing agricultural uses, which are reasonably anticipated to provide similar habitat values as the proposed project. This alternative would likely result in impacts to similar species and would be subject to similar mitigation requirements as the proposed project. Potential for wetlands to occur would vary from site to site. However, because this alternative would include mining and sale of a similar quantity of aggregate material over a similar disturbance area, a similar impact to biological resources would result.

Not all the streambank locations along Cache Creek within the other SGRO zoned lands are characterized consistent with the reach adjacent to the proposed project, which does not require substantial streambank stabilization in order to achieve consistency with the CCRMP/CCIP and CFT. This alternative could likely require an equal or higher level of stream channel stabilization, which would require work within the creek. Therefore, this alternative may result in a greater impact to biological resources. Mitigation Measures 4.4-1(a) through (o) and 4.4-3(a) and (b) are specific to the biological resources identified within the project site. However, similar mitigation measures would be anticipated for this alternative.

Cultural and Tribal Cultural Resources

Under the Off-Site Alternative, mining and reclamation activities that are currently proposed for the project site would instead occur on other SGRO zoned lands within the CCAP area. Like the proposed project, this alternative could affect previously undiscovered prehistoric and historic resources, and human remains. Similar to the proposed project, the applicant would be responsible for implementing mitigation related to discovery of unknown resources during excavation. Relocation of the existing Moore Canal alignment would not be required under this alternative, thereby avoiding a significant impact associated with the proposed project. Mitigation Measure 4.5-1 related to relocation of the canal would not be required. Therefore, this alternative would result in fewer impacts as compared to the proposed project. Mitigation Measures 4.5-3(a) and (b) related to tribal monitoring during initial ground-disturbing activities would be required for this alternative.

Geology and Soils, Mineral Resources, and Paleontological Resources

Under the Off-Site Alternative, mining and reclamation activities that are currently proposed for the project site would instead occur on other SGRO zoned lands within the CCAP area. These areas exhibit similar geology and soils, with the Shifler site containing more sandstone, shale,

and gravel deposits. Because this alternative would result in similar levels of material extraction, area of disturbance, and general geology is similar, mineral resource considerations and the potential to unearth paleontological resources would be similar to that of the proposed project. Therefore, this alternative would result in similar impacts as compared to the proposed project.

Hazards and Hazardous Materials

Under the Off-Site Alternative, mining and reclamation activities that are currently proposed for the project site would instead occur on other SGRO zoned lands within the CCAP area. Because similar mining activities and operation at the Woodland Plant would occur under this alternative, similar operational impacts would result. Given the agricultural nature of the other SGRO zoned lands, the likelihood of existing water wells on these alternative sites is high. Therefore, this alternative could involve proximate water wells, similar to the proposed project. Other potential hazards associated with the ultimate location of this alternative may exist, and would require evaluation in a site-specific Phase I Environmental Site Assessment. Identified environmental conditions requiring mitigation would be addressed, similar to the proposed project. Therefore, this alternative would result in similar impacts as compared to the proposed project.

Hydrology and Water Quality

Under the Off-Site Alternative, mining and reclamation activities that are currently proposed for the project site would instead occur on other SGRO zoned lands within the CCAP area. The other SGRO zoned lands have a similar flood zone proximity as the proposed project.[1] Mining operations would change the drainage patterns of the alternative site. Individual site conditions could result in differing conclusions related to groundwater level and flow. Not all the streambank locations along Cache Creek within the other SGRO zoned lands are characterized consistent with the reach adjacent to the proposed project, which does not require substantial streambank stabilization in order to achieve consistency with the CCRMP/CCIP and CFT. This alternative would likely require an equal or higher level of stream channel stabilization, which would require work within the creek. Therefore, this alternative would likely result in similar or greater impacts as compared to the proposed project.

Land Use and Planning

Under the Off-Site Alternative, mining and reclamation activities that are currently proposed for the project site would instead occur on other SGRO zoned lands within the CCAP area. Similar to the proposed project, this alternative would not divide an existing community and would not likely conflict with applicable plans, policies or regulations. Because this alternative would occur on other land zoned SGRO, the type and intensity of use has been planned for by the County. Therefore, this alternative would result in similar impacts as compared to the proposed project.

Noise

Under the Off-Site Alternative, mining and reclamation activities that are currently proposed for the project site would instead occur on other SGRO zoned lands within the CCAP area. Given the rural nature of the CCAP, the noise conditions at the alternative site are reasonably expected to be generally similar to that of the Shifler site. The Woodland Plant would continue to operate and result in noise consistent with existing conditions at the Plant. The other SGRO zoned lands would similarly be surrounded by farm dwellings, but may not be proximate to areas zoned residential. The alternative would be required to implement similar mitigation as the proposed

[1] Yolo County. *Cache Creek Area Plan Update Project, Final Environmental Impact Report. SCH# 2017052069* [pg. 4.9-3]. December 2019.

project, if required to mitigate for noise. Therefore, this alternative would result in similar impacts as compared to the proposed project. Mitigation Measure 4.10-1(a), or a measure of equivalent effectiveness, could be required for this alternative depending on the proximity of the alternative site to noise-sensitive receptors. Because mined aggregate would still be processed at the Woodland Plant, Mitigation Measure 4.10-1(b) related to installation of equipment noise from the plant would be required for this alternative.

Public Services, Utilities, and Service Systems

Under the Off-Site Alternative, mining and reclamation activities that are currently proposed for the project site would instead occur on other SGRO zoned lands within the CCAP area. Because existing conditions would remain at the Woodland Plant and mining operations at the alternative site would be the same as the proposed project, demand related to police services, fire protection, water, or electricity and gas infrastructure would be the same as the proposed project. Therefore, this alternative would result in similar impacts as compared to the proposed project.

Transportation and Circulation

Under the Off-Site Alternative, mining and reclamation activities that are currently proposed for the project site would instead occur on other SGRO zoned lands within the CCAP area. This alternative would include mining and sale of a similar quantity of aggregate material as the proposed project. Mined aggregate is assumed to be hauled to the Woodland Plant for processing. Thus, the further west the alternative site is located, the longer the haul trip distance would increase. As compared to the proposed project, the VMT associated with this alterative could be much higher. Therefore, VMT associated with hauling would likely be greater than the proposed project and the impact would be significant. Other transportation and circulation issues would remain similar to the proposed project. Mitigation Measure 4.12-2 related to preparation of a Transportation Demand Management Program would be required for this alternative.

3. Reduced Tonnage Alternative

The following section includes a description of this alternative, an evaluation of the alternative's consistency with project objectives, and an impact comparison analysis.

Description of Alternative

Under the Reduced Tonnage Alternative, the existing annual permitted tonnage allocation associated with the Teichert Esparto operation would not be transferred to the Teichert Shilfer operation. Thus, the Alternative would be limited to the tonnage associated with the Schwarzgruber approval which is base amount of 1,176,472 tons mined annually (1,000,000 tons sold) plus an additional 235,294 tons mined annually (200,000 tons sold) to serve market conditions pursuant to Section 10.4-405 of the County Mining Ordinance, for a maximum total of 1.4 million tons mined (1.2 million tons sold) in any given year, provided that production over a consecutive 10-year period does not exceed 10 million tons sold. Because the mining period for the Reduced Tonnage Alternative would be limited to 30 years under the CCAP, mining of all aggregate materials within the project site may not be completed prior to expiration of the Mining Permit. Thus, the total lifetime tonnage of aggregate mined under Alternative would be 35.3 million tons total (30.0 million tons sold) compared to the proposed project (41.6 million tons mined; 35.25 million tons sold).

Relative to the proposed project, the Reduced Tonnage Alternative would generate fewer daily truck trips associated with the Teichert Woodland Plant, because less aggregate would be processed daily at the plant. However, the footprint of the proposed mining and reclamation areas

under the Reduced Tonnage Alternative would be identical to the proposed project. This Alternative would still require relocation of Moore Canal.

Consistency with Project Objectives

Because the total tonnage of aggregate mined at the project site would be limited, the Alternative would only partially meet Objective #1. In addition, the operational lifespan of the Woodland Plant would be shortened relative to approval of the proposed project, as a smaller amount of mined aggregate would be available to supply the facility; thus, Objective #2 would be partially met. In addition, because the Esparto Plant's current annual permitted volume of 1.0 million tons sold would not be transferred to the project site, Objective #3 would not be met. Objectives #4 and #5 would be met under the Alternative.

Impacts of Alternative

The following provides a discussion evaluating the impacts of this alternative on baseline conditions as compared to the impacts of the proposed project on baseline conditions under each impact area addressed within this EIR.

Aesthetics

The Reduced Tonnage Alternative would be limited to a maximum of total of 1.4 million tons mined (1.2 million tons sold) in any given year and would be limited to 30 years under the CCAP. Thus, mining of all aggregate materials within the project site may not be completed prior to expiration of the Mining Permit and the total lifetime tonnage of aggregate mined would be reduced. This alternative would still require relocation of Moore Canal similar to the proposed project. Mining activities would still occur on the Shifler site and reclamation would similarly consist of a lake, providing riparian habitat, and reclaimed agricultural land. Therefore, the aesthetic impacts associated with the Shifler site under the alternative would be generally similar to that of the proposed project.

Agricultural Resources

The Reduced Tonnage Alternative would be limited to a maximum total of 1.4 million tons mined (1.2 million tons sold) in any given year and would be limited to 30 years under the CCAP. Thus, mining of all aggregate materials within the project site may not be completed prior to expiration of the Mining Permit and the total lifetime tonnage of aggregate mined would be reduced. While the tonnage total is reduced, the overall area of disturbance would remain unchanged. Therefore, this alternative would result in similar acreage of impacts to agricultural resources and result in a significant impact. This alternative would still be subject to County Code requirements related to agricultural mitigation, as required per Mitigation Measure 4.2-1.

Air Quality, Greenhouse Gas Emissions, and Energy

The Reduced Tonnage Alternative would be limited to a maximum total of 1.4 million tons mined (1.2 million tons sold) in any given year and would be limited to 30 years under the CCAP. Thus, mining of all aggregate materials within the project site may not be completed prior to expiration of the Mining Permit and the total lifetime tonnage of aggregate mined would be reduced. Because the intensity of maximum daily production would be reduced, the estimated daily emissions associated with this alternative would be less at the proposed site than that of the proposed project. With the reduced yearly tonnage, the annual GHG emissions at the proposed site would be reduced. Similarly, with the reduced tonnage over the project lifetime, the total emissions from the project and total energy consumed at the proposed site would be reduced. Related to potential health risks, operations would occur similar to the project from the same source areas, but at a

lesser intensity. The lower intensity would more closely match the existing conditions (at the Woodland Plant Site). The less intense emissions would result in less impacts related to toxic air contaminants as well as criteria pollutants basin wide. However, because it is reasonable to assume that demand for aggregate will be met elsewhere in the region, regional impacts from this alternative may be similar or potentially greater because materials extracted elsewhere in region or out-of-County to meet local demand would be transported a longer distance. Quantification of GHG emissions associated with alternative would be required to determine if Mitigation Measure 4.3-8 related to preparation of an Electric Vehicle Parking Plan would be required.

Biological Resources

The Reduced Tonnage Alternative would be limited to a maximum total of 1.4 million tons mined (1.2 million tons sold) in any given year and would be limited to 30 years under the CCAP. Thus, mining of all aggregate materials within the project site may not be completed prior to expiration of the Mining Permit and the total lifetime tonnage of aggregate mined would be reduced. While the tonnage total is reduced, the overall area of disturbance would remain unchanged. This alternative would still require relocation of Moore Canal similar to the proposed project. Therefore, this alternative would still have the potential to impact the same species as the proposed project and would be subject to the same mitigation requirements. Therefore, this alternative would result in similar impacts as compared to the proposed project. Mitigation Measures 4.4-1(a) through (o) and 4.4-3(a) and (b) would be required for this alternative, given that the alternative would impact the same biological resources as the proposed project.

Cultural and Tribal Cultural Resources

The Reduced Tonnage Alternative would be limited to a maximum total of 1.4 million tons mined (1.2 million tons sold) in any given year and would be limited to 30 years under the CCAP. Thus, mining of all aggregate materials within the project site may not be completed prior to expiration of the Mining Permit and the total lifetime tonnage of aggregate mined would be reduced. While the tonnage total is reduced, the overall area of disturbance would remain unchanged. This alternative would still require relocation of Moore Canal similar to the proposed project. Therefore, this alternative would result in similar impacts related to potential unknown cultural, archeological, or tribal cultural resources during mining activities. Similar impacts associated with the relocation of Moore Canal would occur (significant and unavoidable), and Mitigation Measure 4.5-1 related to documentation of the canal would be required. Therefore, this alternative would result in similar impacts as compared to the proposed project. Mitigation Measures 4.5-3(a) and (b) related to tribal monitoring during initial ground-disturbing activities would be required for this alternative.

Geology and Soils, Mineral Resources, and Paleontological Resources

The Reduced Tonnage Alternative would be limited to a maximum total of 1.4 million tons mined (1.2 million tons sold) in any given year and would be limited to 30 years under the CCAP. Thus, mining of all aggregate materials within the project site may not be completed prior to expiration of the Mining Permit and the total lifetime tonnage of aggregate mined would be reduced. While the tonnage total is reduced, the overall area of disturbance would remain unchanged. Depending on market demand, this alternative would not likely result in as deep of excavation on the mining site, thereby reducing the pit wall heights and the associated potential slope stability issues. The same geologic and soil condition exist as with the proposed project and the potential to unearth paleontological resources would be similar to that of the proposed project. Should this alternative result in the inability to fully mine all the material from the Shifler site, the alternative would result in unused mineral resources remaining in-ground on the Shifler site likely rendering future post-

reclamation removal of these resources infeasible. Thus, this alternative could result in similar or arguably greater impacts as compared to the proposed project.

Hazards and Hazardous Materials

The Reduced Tonnage Alternative would be limited to a maximum total of 1.4 million tons mined (1.2 million tons sold) in any given year and would be limited to 30 years under the CCAP. While the tonnage total is reduced, the overall area of disturbance would remain unchanged. Because similar mining activities and operation at the Woodland Plant would occur under this alternative, similar operational impacts would result related to potentially hazardous conditions. Thus, the same potential for impacts would exist related to hazards and would be subject to the same mitigation requirements (e.g., water well abandonment, gas well re-abandonment, etc.). Therefore, this alternative would result in similar impacts as compared to the proposed project.

Hydrology and Water Quality

The Reduced Tonnage Alternative would be limited to a maximum total of 1.4 million tons mined (1.2 million tons sold) in any given year and would be limited to 30 years under the CCAP. Thus, mining of all aggregate materials within the project site may not be completed prior to expiration of the Mining Permit and the total lifetime tonnage of aggregate mined would be reduced. While the tonnage total is reduced, the overall area of disturbance would remain unchanged. This alternative would still require relocation of Moore Canal similar to the proposed project. Depending on market demand, this alternative would not likely result in as deep of excavation on the mining site, which may result in less opportunity for impacts related to groundwater level and flow, and dewatering. The adjacent reach of Cache Creek would still be considered stable with implementation of the TAC-recommended streambank reinforcement measures (Mitigation Measures 4.8-4(a through c). Therefore, this alternative would result in similar impacts as compared to the proposed project.

Land Use and Planning

The Reduced Tonnage Alternative would be limited to a maximum of total of 1.4 million tons mined (1.2 million tons sold) in any given year and would be limited to 30 years under the CCAP. Thus, mining of all aggregate materials within the project site may not be completed prior to expiration of the Mining Permit and the total lifetime tonnage of aggregate mined would be reduced. While the tonnage total is reduced, the overall area of disturbance would remain unchanged. This alternative would still require relocation of Moore Canal similar to the proposed project. The alternative would result in mining activities and continued processing at the Woodland Plant for 30 years. Therefore, the same land uses would occur with the alternative as with the proposed project, thereby resulting in similar impacts.

Noise

The Reduced Tonnage Alternative would be limited to a maximum total of 1.4 million tons mined (1.2 million tons sold) in any given year and would be limited to 30 years under the CCAP. Thus, mining of all aggregate materials within the project site may not be completed prior to expiration of the Mining Permit and the total lifetime tonnage of aggregate mined would be reduced. While the tonnage total is reduced, the overall area of disturbance would remain unchanged. This alternative would still require relocation of Moore Canal similar to the proposed project. The maximum noise levels associated with mining and processing of material would still occur under this alternative. However, the reduced tonnage would result in less intense daily operations resulting in less impacts as compared to the proposed project albeit for a shorter duration. Given that this alternative would be located the same distance from the nearest residences as the

proposed project, Mitigation Measure 4.10-1(a) related to noise shielding would be required. Because mined aggregate would still be processed at the Woodland Plant, Mitigation Measure 4.10-1(b) related to installation of equipment noise from the plant would be required for this alternative.

Public Services, Utilities, and Service Systems

The Reduced Tonnage Alternative would be limited to a maximum total of 1.4 million tons mined (1.2 million tons sold) in any given year and would be limited to 30 years under the CCAP. Thus, mining of all aggregate materials within the project site may not be completed prior to expiration of the Mining Permit and the total lifetime tonnage of aggregate mined would be reduced. While the tonnage total is reduced, the overall area of disturbance would remain unchanged. this alternative would still require relocation of Moore Canal similar to the proposed project. Because day-to-day operations at the project site would be the same as the proposed project for this alternative, demand related to police services, fire protection, water, wastewater, or electricity and gas infrastructure would be the same as the proposed project. Therefore, this alternative would result in similar impacts as compared to the proposed project.

Transportation and Circulation

The Reduced Tonnage Alternative would be limited to a maximum total of 1.4 million tons mined (1.2 million tons sold) in any given year and would be limited to 30 years under the CCAP. Thus, mining of all aggregate materials within the project site may not be completed prior to expiration of the Mining Permit and the total lifetime tonnage of aggregate mined would be reduced. While the tonnage total is reduced, the overall area of disturbance would remain unchanged. Relative to the proposed project, this alternative would generate fewer daily truck trips associated with the Teichert Woodland Plant, because less aggregate would be processed daily at the plant. As it relates to VMT, the trip lengths would be the same as with the proposed project. However, the reduced trip generation would mean less VMT associated with this alternative. The production anticipated with this alternative would be a slight increase from the assumed baseline conditions used in the VMT analysis for the proposed project (approximately 1.13 million tons). Therefore, while this alternative would result in less impact as compared to the proposed project, the alternative would still increase VMT compared to the baseline conditions resulting in a similar significant and unavoidable impact. Also, because it is reasonable to assume that demand for aggregate will be met elsewhere in the region, regional impacts from this alternative may be similar or potentially greater because materials extracted elsewhere in region or out-of-County to meet local demand would be transported a longer distance. Other transportation and circulation issues would remain similar to the proposed project. Because VMT would likely result in a significant impact, Mitigation Measure 4.12-2 related to preparation of a Transportation Demand Management Program would still be required for this alternative.

4. Moore Canal Avoidance Alternative

The following section includes a description of this alternative, an evaluation of the alternative's consistency with project objectives, and an impact comparison analysis.

Description of Alternative

Under the Moore Canal Avoidance Alternative, the current alignment of the Moore Canal across the project site would be retained, as compared to the proposed project, which includes relocation of Moore Canal to an alignment along the western and northern boundary of the project site. In other words, the area of the canal would not be altered and construction activities associated with relocation of the canal would not occur. Complete mining and reclamation plans for this alternative

are provided in Appendix N. Because the canal would continue to bisect the project site, proposed mining activities under this Alternative would be conducted in excavation areas north and south of the channel (see Figure 6-3).

The portion of the site north of the Moore Canal and east of the Magnolia Canal would not be disturbed under this Alternative. Construction of a new overcrossing at the canal would be required in order to allow for transport of mined aggregate from the southern portion of the site to the conveyor near the northern site boundary. Reclamation of the site would result in a smaller lake area south of the canal (see Figure 6-4). Because the alternative would result in more gradual slopes compared to the proposed project, less potential for adverse impacts to the canal exist related to vibration from mining activity near the canal.

Consistency with Project Objectives

Because a smaller portion of the project site would be available for mining, the total amount of aggregate mined and sold under the Alternative would be reduced compared to the proposed project. Thus, the Alternative would only partially meet Objective #1. In addition, because the existing canal alignment would limit the feasibility of reclaiming a portion of the project site with a pond, Objective #5 would be partially met. The remaining project objectives would be met under the Moore Canal Avoidance Alternative.

Impacts of Alternative

The following provides a discussion evaluating the impacts of this alternative on baseline conditions as compared to the impacts of the proposed project on baseline conditions under each impact area addressed within this EIR.

Aesthetics

Because the Moore Canal Avoidance Alternative would not require relocation of Moore Canal and a smaller portion of the project site would be available for mining, the overall disturbance area associated with the alternative would be slightly smaller compared to the proposed project. Mining activities would still occur on the Shifler site. As is the case for the proposed project, while the visual character or the Shifler site would be altered from the existing agricultural setting to surface mining, such alteration would not be permanent, as long-term reclaimed uses would consist of agricultural lands and a lake. While the reclaimed lake would be smaller than the lake identified in the Reclamation Plan for the proposed project, the post-reclamation aesthetic character and quality of the Shifler site under the alternative would not be substantially different compared to the proposed project. Overall, given that the total mining area would be slightly reduced and the existing Moore Canal alignment would be retained, the aesthetic impacts on the Shifler site under the alternative would be similar or slightly reduced compared to that of the proposed project.

Agricultural Resources

The Moore Canal Avoidance Alternative would result in similar acreage of impacts to agricultural resources compared to the proposed project. Upon completion of the mining activities, the alternative would include reclamation of the site to agricultural lands and a lake. Because the approximately seven acres underlying the existing on-site canals cannot be farmed, similar amounts of agricultural land would be impacted by mining under this alternative; however, because the seven acres underlying the canals would not be reclaimed under the alternative, the total amount of agricultural land and lake reclaimed under this alternative would be slightly reduced compared to the proposed project, from 116.7 acres to approximately 109.7 acres.

Figure 6-3
Moore Canal Avoidance Alternative Conceptual Mining Plan

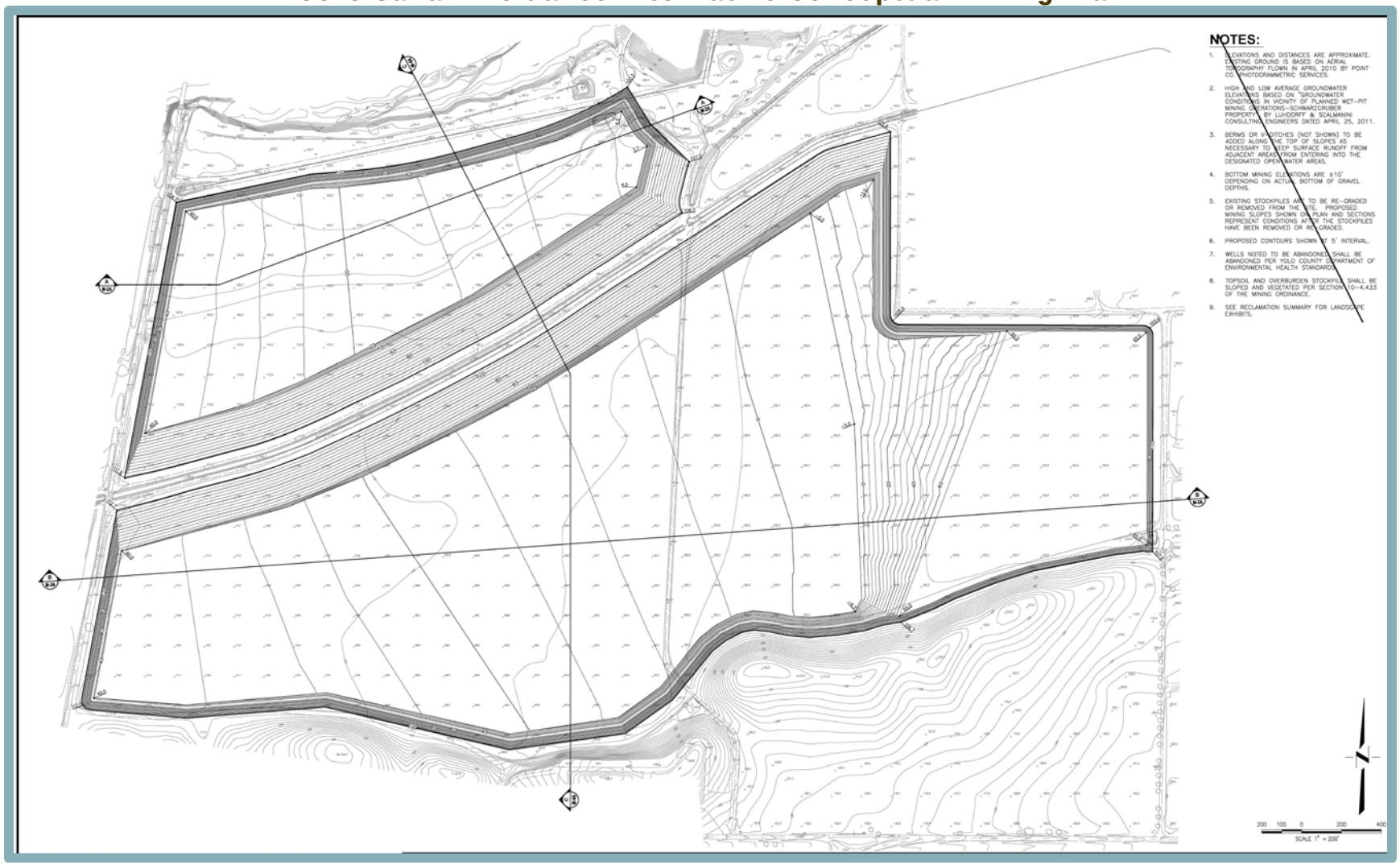
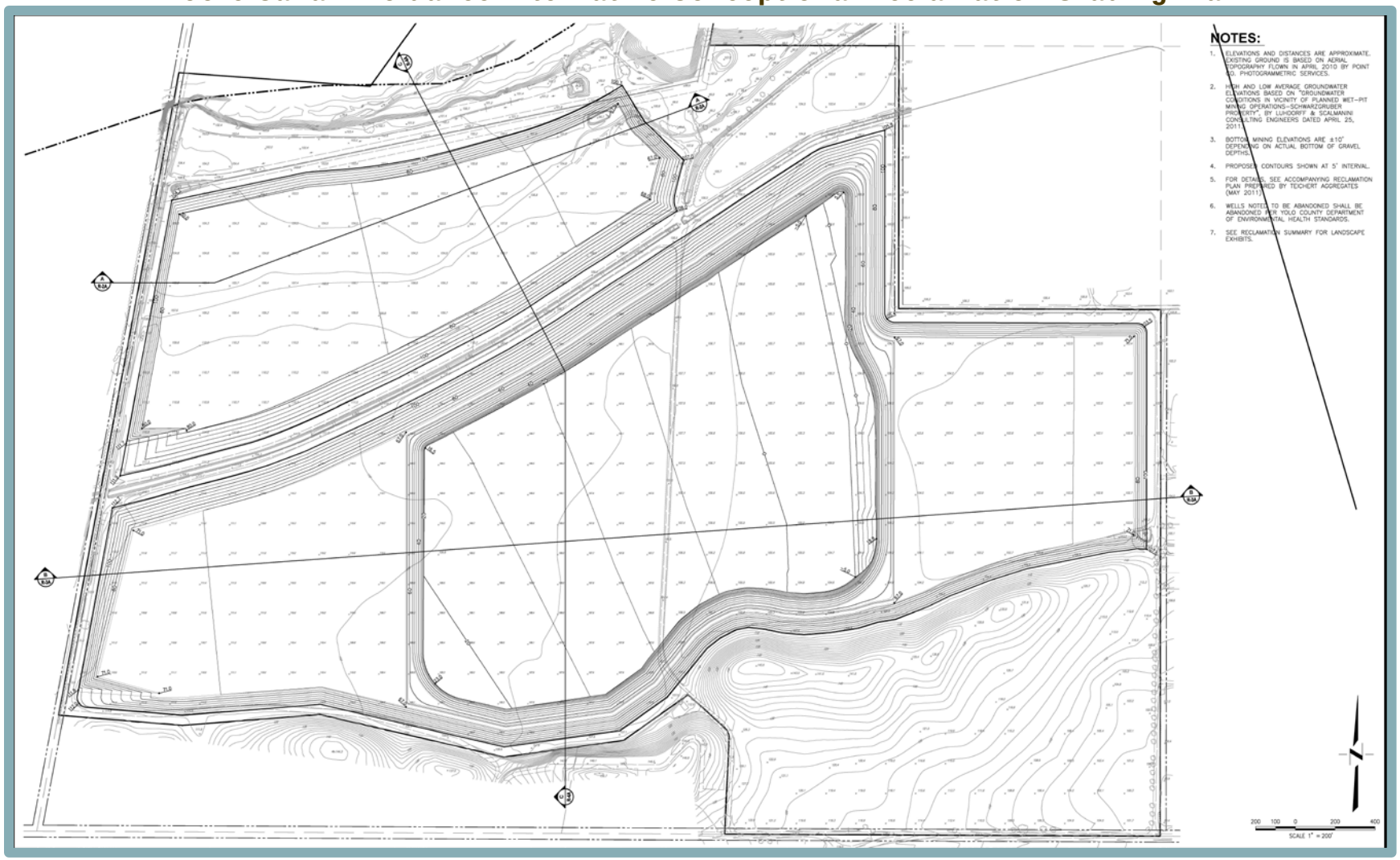


Figure 6-4
Moore Canal Avoidance Alternative Conceptional Reclamation Grading Plan



Thus, impacts to agricultural resources would be similar with slightly less reclamation back to agricultural uses. Overall for this comparative analysis this would result in a greater net impact to agriculture (total reclaimed acres would be lower) under this alternative. This alternative would result in a significant and unavoidable impact and still be subject to County Code requirements related to agricultural mitigation, as required per Mitigation Measure 4.2-1.

Air Quality, Greenhouse Gas Emissions, and Energy

Under the Moore Canal Avoidance Alternative, the intensity of maximum daily production would be similar to the proposed project. Thus, the estimated daily and yearly emissions associated with this alternative would be similar to the proposed project. However, the total lifetime tonnage of aggregate mined would be reduced and emissions associated with re-location of the canal would not occur. With the reduced tonnage over the project lifetime, the total emissions from the project and total energy consumed would be reduced. Related to potential health risks, operations would occur similar to the project from the same source areas. Thus, the alternative would result in similar impacts related to toxic air contaminants as well as criteria pollutants basin wide. Overall, this alternative would result in slightly fewer impacts as compared to the proposed project. However, because the alternative would generate similar daily and yearly emissions, Mitigation Measure 4.3-7 related to preparation of a GHG Reduction Plan and Mitigation Measure 4.3-8 related to preparation of an Electric Vehicle Parking Plan would still be required under the alternative.

Biological Resources

Under the Moore Canal Avoidance Alternative, the existing Moore Canal and Magnolia Canal alignments would be retained. Thus, the alternative would not result in impacts to 2.205 acres of potentially jurisdictional wetlands and waters of the U.S. – which would also be considered waters of the State. However, impacts to the existing on-site seasonal wetland, seasonal marsh, drainage ditch, and pond would still occur. The alternative would still have the potential to impact the same species as the proposed project and would be subject to the same mitigation requirements for such species. Overall, after accounting for the alternative's reduction in impacts to potentially jurisdictional wetlands and waters of the State, this alternative would result in slightly reduced impacts, on the whole, as compared to the proposed project. Mitigation Measures 4.4-1(a) through (o) and 4.4-3(a) and (b) would be required for this alternative.

Cultural and Tribal Cultural Resources

Under the Moore Canal Avoidance Alternative, the overall area of disturbance would be slightly reduced compared to the proposed project. Therefore, this alternative would result in reduced potential for impacts related to unknown cultural, archeological, or tribal cultural resources during mining activities. However, because relocation of Moore Canal would not occur, Mitigation Measure 4.5-1 related to documentation of the canal would not be required. Alteration of the canal would be limited to installation of a canal overcrossing for heavy equipment. Therefore, this alternative would result in reduced impacts as compared to the proposed project, likely not resulting in a significant and unavoidable impact. Mitigation Measures 4.5-3(a) and (b) related to tribal monitoring during initial ground-disturbing activities would be required for this alternative.

Geology and Soils, Mineral Resources, and Paleontological Resources

Under the Moore Canal Avoidance Alternative, the overall area of disturbance would be slightly reduced compared to the proposed project. The total depth of excavation on the mining site would be similar to the proposed project; however, the alternative would result in more gradual slopes

along the perimeter of the mining pits. The technical memo from Geocon[2] (see Appendix O) identified that because this alternative would result in more gradual slopes, the alternative would reduce the potential for adverse slope stability and seepage as compared to the proposed project. The same geologic and soil conditions exist as with the proposed project and the potential to unearth paleontological resources would be similar to that of the proposed project. Because the alternative would result in a slightly smaller overall mining area, the alternative would preclude the efficient removal of aggregate resources on the site, and tonnage associated with leaving the canal in place would become infeasible to excavate. Thus, this alternative would result in slightly reduced geology and soils impacts, generally similar potential impacts to unknown paleontological resources, and slightly increased mineral resource impacts as compared to the proposed project.

Hazards and Hazardous Materials

Under the Moore Canal Avoidance Alternative, the overall area of disturbance would be slightly reduced compared to the proposed project. However, because similar mining activities and operation at the Woodland Plant would occur under this alternative, similar operational impacts would result related to potentially hazardous conditions. Thus, the same potential for impacts would exist related to hazards and would be subject to the same mitigation requirements (e.g., water well abandonment, gas well re-abandonment, etc.). Therefore, this alternative would result in similar impacts as compared to the proposed project.

Hydrology and Water Quality

A technical memo from Luhdorff & Scalmanini[3] (see Appendix O) indicated that the alternative would not result in changes to groundwater levels or flow as compared to the proposed project. However, because a smaller portion of the project site would be available for mining, the total amount of aggregate mined and sold under the alternative would be reduced compared to the proposed project. Thus, the level of excavation and dewatering required on the project site would be reduced compared to that of the proposed project. The adjacent reach of Cache Creek would still be considered stable with implementation of the TAC-recommended streambank reinforcement measures (Mitigation Measures 4.8-4[a through c]). Therefore, the alternative would result in slightly reduced impacts to Hydrology and Water Quality as compared to the proposed project.

Land Use and Planning

Under the Moore Canal Avoidance Alternative, the intensity of maximum daily production would be similar to the proposed project. However, the total lifetime tonnage of aggregate mined would be reduced, given that a smaller overall area would be available for mining. The alternative would result in mining activities on the Shifler site and continued processing at the Woodland Plant for 30 years. Given that the same land uses would occur with this alternative as with the proposed project, impacts related to land use and planning would be similar.

Noise

Under the Moore Canal Avoidance Alternative, the intensity of maximum daily production would be similar to the proposed project. Thus, noise impacts at existing receptors and other noise-sensitive uses in the project vicinity would be similar to the proposed project. Because the alternative would result in more gradual slopes compared to the proposed project, there is less

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2 Geocon Consultants, Inc. *Technical Memorandum – Dewatering, Shifler Mining and Reclamation Project, Yolo County, California*. August 11, 2020.

3 Luhdorff & Scalmanini Consulting Engineers. *Technical Memorandum, Alternate Mining Pit Configuration Shifler Property, Woodland, Yolo County*. February 20, 2020.

potential for adverse impacts to the canal related to vibration from mining activity near the canal. The additional pit walls would not change the conclusions of the noise report.[4] Overall, impacts related to noise and vibration would be similar under this alternative compared to the proposed project.

Public Services, Utilities, and Service Systems

Under the Moore Canal Avoidance Alternative, the intensity of maximum daily production would be similar to the proposed project. However, the total lifetime tonnage of aggregate mined would be reduced, given that a smaller overall area would be available for mining. Because day-to-day operations at the project site would be the same as the proposed project for this alternative, demand related to police services, fire protection, water, wastewater, or electricity and gas infrastructure would be the same as the proposed project. Therefore, this alternative would result in similar impacts as compared to the proposed project.

Transportation and Circulation

Under the Moore Canal Avoidance Alternative, the intensity of maximum daily production would be similar to the proposed project. Thus, the estimated daily and yearly emissions associated with this alternative would be similar to the proposed project. However, the total lifetime tonnage of aggregate mined would be reduced. Relative to the proposed project, this alternative would generate similar daily truck trips associated with the Teichert Woodland Plant, because a similar amount of aggregate would be processed daily at the plant. As it relates to VMT, the trip lengths would be the same as with the proposed project. The alternative would still increase VMT compared to the baseline conditions resulting in a similar significant impact. All other transportation and circulation issues would remain similar to the proposed project. Because VMT would likely result in a significant impact, Mitigation Measure 4.12-2 related to preparation of a Transportation Demand Management Program would still be required for this alternative.

5. Moore Canal Southern Alignment Alternative

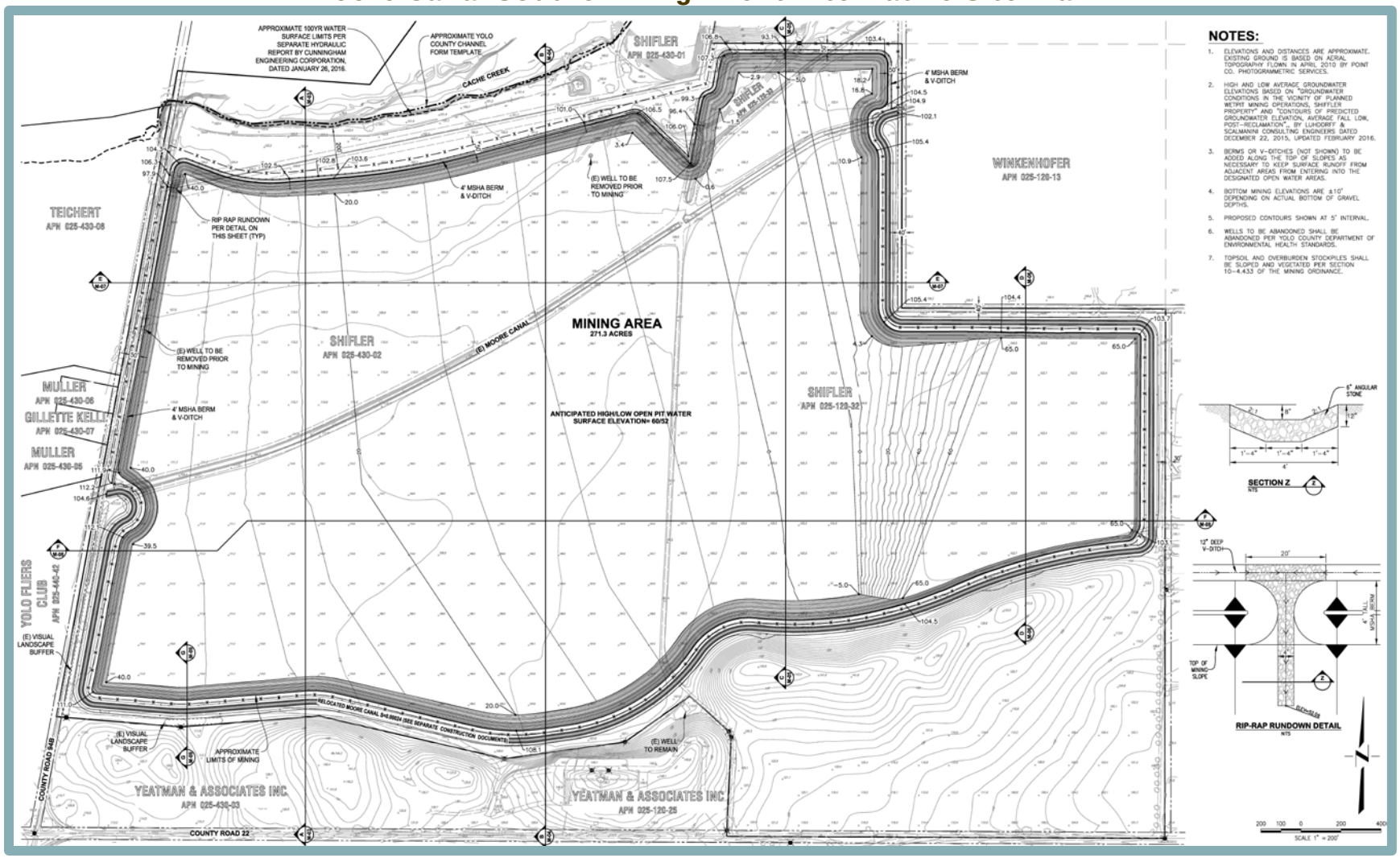
The following section includes a description of this alternative, an evaluation of the alternative's consistency with project objectives, and an impact comparison analysis.

Description of Alternative

Under the Moore Canal Southern Alignment Alternative, the current alignment of the Moore Canal across the project site would be relocated to the southern and a portion of the western perimeter of the proposed site as shown in Figure 6-5. Because the canal would follow along the border of the project site, proposed mining activities under this Alternative would be equal to the proposed project. All proposed phasing associated with mining and reclamation activities would be consistent with those of the proposed project. Construction of a new overcrossing at the canal would not be required in order to allow for transport of mined aggregate from the southern portion of the site to the conveyor near the northern site boundary. All mining activity would occur a minimum distance of 200 feet from Cache Creek top of bank. Complete mining and reclamation plans for this alternative are provided in Appendix P. Proposed reclamation of the site under this alternative would result in similar amounts of agricultural land and lake area north of the canal. Because the same amount of the project site would be available for mining, the total amount of aggregate mined and sold under the Alternative would be equal to the proposed project.

[4] Bollard, Paul, President, Bollard Acoustical Consultants, Inc. Personal Communication [Phone] with Rod Stinson, Division Manager / Air Quality Specialist, Raney Planning & Management, Inc. November 2019.

Figure 6-5
Moore Canal Southern Alignment Alternative Site Plan



Consistency with Project Objectives

Because the same amount of land within the project site would be available for mining, the total amount of aggregate mined and sold under the Alternative would be the same compared to the proposed project, and irrigation water deliveries in the Moore Canal would not be affected. Thus, the Moore Canal Southern Alignment Alternative would meet all of the project objectives.

Impacts of Alternative

The following provides a discussion evaluating the impacts of this alternative on baseline conditions as compared to the impacts of the proposed project on baseline conditions under each impact area addressed within this EIR.

Aesthetics

Because the Moore Canal Southern Alignment Alternative would still require relocation of Moore Canal and retain the same project boundaries, the overall disturbance area associated with the alternative would be similar compared to the proposed project. As is the case for the proposed project, while the visual character or the Shifler site would be altered from existing agricultural setting to surface mining, such alteration would be temporary during the mining period, as long-term reclaimed uses would consist of agricultural lands and a lake. Relocation of the Moore Canal to the southern site boundary instead of the northern site boundary would not result in substantial changes to public views of the site as compared to changes analyzed for the proposed project. However, the relocated canal would result in mining activities stopping 100 feet further north from the southerly boundary of the site, thereby creating a defacto buffer for rural residential to the south and west, and for the Monument Hills cemetery to the south. Aesthetic impacts associated with the Shifler site under the alternative would be generally similar or improved compared to the proposed project.

Agricultural Resources

The Moore Canal Southern Alignment Alternative would result in similar acreage of impacts to agricultural resources compared to the proposed project. Upon completion of the mining activities, the alternative would include reclamation of the site to agricultural lands and a lake. The total amount of agricultural land and lake reclaimed under the alternative would be comparable to the proposed project. Thus, impacts to agricultural resources would be similar under this alternative (significant and unavoidable). This alternative would still be subject to County Code requirements related to agricultural mitigation, as required per Mitigation Measure 4.2-1.

Air Quality, Greenhouse Gas Emissions, and Energy

Under the Moore Canal Southern Alignment Alternative, the intensity of maximum daily production would be similar to the proposed project. The estimated daily and yearly emissions associated with this alternative, as well as total energy consumed, would be similar to the proposed project. Related to potential health risks, operations would occur similar to the project from the same source areas. This alternative would result in similar impacts related to toxic air contaminants as well as criteria pollutants basin wide. Overall, this alternative would result in similar impacts as compared to the proposed project. Mitigation Measure 4.3-7 related to preparation of a GHG Reduction Plan and Mitigation Measure 4.3-8 related to preparation of an Electric Vehicle Parking Plan would still be required.

Biological Resources

Under the Moore Canal Southern Alignment Alternative, the overall area of disturbance would remain unchanged compared to the proposed project. This alternative would still require

relocation of Moore Canal, similar to the proposed project. Therefore, this alternative would still have the potential to impact the same species as the proposed project and would be subject to the same mitigation requirements. Therefore, this alternative would result in similar impacts as compared to the proposed project. Mitigation Measures 4.4-1(a) through (o) and 4.4-3(a) and (b) would be required for this alternative, given that the alternative would impact the same biological resources as the proposed project.

Cultural and Tribal Cultural Resources

Under the Moore Canal Southern Alignment Alternative, the overall area of disturbance would remain unchanged compared to the proposed project. This alternative would still require relocation of Moore Canal similar to the proposed project. Therefore, this alternative would result in similar impacts related to potential unknown cultural, archeological, or tribal cultural resources during mining activities. Similar impacts associated with the relocation of Moore Canal would occur resulting in a significant and unavoidable impact, and Mitigation Measure 4.5-1 related to documentation of the canal would be required. Therefore, this alternative would result in similar impacts as compared to the proposed project. Mitigation Measures 4.5-3(a) and (b) related to tribal monitoring during initial ground-disturbing activities would be required for this alternative.

Geology and Soils, Mineral Resources, and Paleontological Resources

Because the Moore Canal Southern Alignment Alternative would require the relocation of the Moore Canal and would retain the same project boundaries, the same geologic and soil conditions would exist as with the proposed project; thus, the potential to unearth paleontological resources would be similar to that of the proposed project. The overall mining area would remain the same; thus, similar amounts of mineral resources would be disturbed as compared to the proposed project.

A technical memorandum prepared by Geocon determined that slope inclinations and overall mining depth of the alternative would be the same as those of the proposed project (see Appendix Q).[5] The seepage front would not intercept the proposed northern mining slope at an elevation higher than the average seasonal high groundwater condition, even when sustained indefinitely. Therefore, Geocon concluded that the Southern Alignment Alternative would not result in more adverse slope stability and seepage conditions as compared to the proposed project, and the applicant would still be required to comply with Mitigation Measure 4.6-5 under the alternative.

Hazards and Hazardous Materials

Under the Moore Canal Southern Alignment Alternative, the overall area of disturbance would remain unchanged compared to the proposed project. Because similar mining activities and operation at the Woodland Plant would occur under this alternative, similar operational impacts would result related to potentially hazardous conditions. Thus, the same potential for impacts would exist related to hazards and would be subject to the same mitigation requirements (e.g., water well abandonment, gas well re-abandonment, etc.). Therefore, this alternative would result in similar impacts as compared to the proposed project.

Hydrology and Water Quality

The Moore Canal Southern Alignment Alternative would require the relocation of Moore Canal similar to the proposed project. However, under this alternative, the northern area reserved for

[5] Geocon Consultants. *Geotechnical Addendum – South Canal Alternative, Shifler Mining and Reclamation Project, Yolo County, California.* October 23, 2020.

the Moore Canal realignment under the proposed project would be mined. This alternative would assume the minimum allowed mining setback of 200 feet from the top of bank of Cache Creek. This compares to the proposed proximity of the relocated canal under the proposed project, of 200 feet from the top of bank, with mining no closer than 300 feet. Therefore, this alternative would still require compliance with Mitigation Measures 4.8-4(a through c) related to setbacks from Cache Creek.

The total tonnage of aggregate mined and sold would remain the same as the proposed project. Thus, the level of excavation and dewatering required on the project site would be similar to that of the proposed project. The technical memorandum from Luhdorff & Scalmanini[6] (see Appendix Q) indicated that the Southern Alignment Alternative would not result in changes to groundwater levels or flow as compared to the proposed project; therefore, the Southern Alignment Alternative would result in similar impacts to Hydrology and Water Quality as compared to the proposed project.

Land Use and Planning

The Moore Canal Southern Alignment Alternative mining activities would be limited to 30 years under the CCAP, similar to the proposed project. The alternative would involve similar tonnages of material mined compared to the proposed project, and the overall area of disturbance would remain unchanged. This alternative would still require relocation of Moore Canal similar to the proposed project. The alternative would result in mining activities and continued processing at the Woodland Plant for 30 years. Therefore, the same land uses would occur with the alternative as with the proposed project, thereby resulting in similar impacts.

Noise

Under the Moore Canal Southern Alignment Alternative, the intensity of maximum daily production would be similar to the proposed project. However, because the Moore Canal would be relocated along the southern site boundary instead of the northern site boundary, thereby providing a minimum of 100 feet of increased separation between the proposed mining activities and the rural residential and cemetery uses to the south and east of the site, noise level increases occurring at existing sensitive receptors and other noise-sensitive uses in the project vicinity could be reduced slightly compared to the proposed project. The Woodland Plant would continue to operate and process similar to the proposed project and Mitigation Measure 4.10-1(b) would be required. Thus, noise impacts under this Alternative would be reduced compared to the proposed project.

Public Services, Utilities, and Service Systems

Under the Moore Canal Southern Alignment Alternative, the intensity of maximum daily production would be similar to the proposed project. In addition, the total lifetime tonnage of aggregate mined would be similar. Because day-to-day operations at the project site would be the same as the proposed project for this alternative, demand related to police services, fire protection, water, wastewater, or electricity and gas infrastructure would be the same as the proposed project. Therefore, this alternative would result in similar impacts as compared to the proposed project.

Transportation and Circulation

Under the Moore Canal Southern Alignment Alternative, the intensity of maximum daily production would be similar to the proposed project. Thus, the estimated daily and yearly emissions

[6] Luhdorff & Scalmanini Consulting Engineers. *Technical Memorandum, Alternate Mining Pit Configuration Shifler Property, Woodland, Yolo County*. October 22, 2020.

associated with this alternative would be similar to the proposed project. Relative to the proposed project, this alternative would generate similar daily truck trips associated with the Teichert Woodland Plant, because a similar amount of aggregate would be processed daily at the plant. As it relates to VMT, the trip lengths would be the same as with the proposed project. The alternative would still increase VMT compared to the baseline conditions resulting in a similar significant impact. All other transportation and circulation issues would remain similar to the proposed project. Because VMT would likely result in a significant impact, Mitigation Measure 4.12-2 related to preparation of a Transportation Demand Management Program would still be required for this alternative.

6.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA Guidelines Section 15126.6(e)(2) requires consideration of an environmentally superior alternative. If the environmental superior alternative is the No Project Alternative, the EIR must identify the environmental superior alternative among the other alternatives. The environmentally superior alternative is the alternative that would result in the fewest or least significant environmental impacts.

Table 6-1 provides a summary comparison of significance levels for identified impacts under each alternative and is summarized below.

Alternative 1 (No Project Alternative) would reduce impacts to all issue areas except for Transportation and Circulation; however, the Alternative 1, the No Project Alternative, would not meet any of the project objectives except for Objective #4 related to water deliveries to Moore Canal.

Alternative 2 (Off-site Alternative) would eliminate the significant and unavoidable impact associated with the relocation of Moore Canal. In addition, this alternative would result in similar or fewer impacts as compared to the proposed project for all issue areas except for Air Quality, GHG, and Energy; Biological Resources; and Transportation and Circulation, for which Alternative 2 would result in greater impacts. However, Alternative 2 would meet all of the project objectives.

Alternative 3 (Reduced Tonnage Alternative) would result in similar or reduced impacts as compared to the proposed project for all issue areas except for Air Quality, GHG, and Energy; Geology and Soils, Mineral Resources, and Paleontological Resources; and Transportation and Circulation, for which Alternative 3 would result in similar or greater impacts. Alternative 3 would meet Objectives #4 and #5, partially meet Objectives #1 and #2, and not meet Objective #3.

Alternative 4 (Moore Canal Avoidance Alternative) would eliminate the significant and unavoidable impact associated with the relocation of Moore Canal. In addition, this alternative would result in similar or fewer impacts as compared to the proposed project for all issue areas except for Agricultural Resources and Geology and Soils, Mineral Resources, and Paleontological Resources; which would result in greater impacts. Alternative 4 would meet all the project objectives except for only partially meeting Objectives #1 and #5.

Alternative 5 (Moore Canal Southern Alignment Alternative) would result in similar or fewer impacts as compared to the proposed project for all issue areas. In addition, Alternative 5 would meet all of the project objectives.

Based on the analysis presented in this Draft EIR and the summary provided in Table 6-1, although Alternative 5 (Moore Canal Southern Alignment Alternative) would not eliminate any of the significant and unavoidable impacts associated with the proposed project, this alternative would result in similar or fewer impacts and meet all the project objectives. Therefore, Alternative 5 would be the Environmentally Superior Alternative.

Table 6-1
Comparison of Environmental Impacts for Project Alternatives

Resource Area	Proposed Project level of significance after mitigation	1. No Project Alternative	2.Off-Site Alternative	3. Reduced Tonnage Alternative	4. Moore Canal Avoidance Alternative	5. Moore Canal Southern Alignment Alternative
Aesthetics	LS	<	=	=	≤	≤
Agricultural Resources	SU	<	=*	=*	>*	=*
Air Quality, Greenhouse Gas Emissions, and Energy	LS	<	>	≥	<	=
Biological Resources	LS	<	>	=	<	=
Cultural and Tribal Cultural Resources	SU	<	<	=*	<	=*
Geology and Soils, Mineral Resources, and Paleontological Resources	LS	<	=	≥	>	=
Hazards and Hazardous Materials	LS	<	=	=	=	=
Hydrology and Water Quality	LS	<	=	=	<	=
Land Use and Planning	LS	<	=	=	=	=
Noise	LS	<	=	<	=	<
Public Services, Utilities, and Service Systems	LS	<	=	=	=	=
Transportation and Circulation	SU	>*	>*	≥*	=*	=*

Note: Less than Proposed Project = "<;" Similar to Proposed Project = "=", Greater than Proposed Project = ">", Similar or Less than Proposed Project = "≤", and Similar or Greater than Proposed Project = "≥"

* Significant and Unavoidable impact(s) determined for the proposed project would also occur under the Alternative.