6—ALTERNATIVES

6.1 INTRODUCTION

This chapter describes a range of project alternatives and compares the associated potential environmental impacts to those of the project. Section 6.2, "CEQA Requirements for Alternatives Analysis," discusses the California Environmental Quality Act (CEQA) requirements for considering alternatives to the project. Section 6.3, "Summary of Project Objectives and Impacts," provides a summary of the project and its significant and unavoidable impacts. Section 6.4, "Alternatives Formulation Process and Description of Project Alternatives," discusses the alternatives formulation process and describes the alternatives evaluated. Finally, Section 6.5, "Alternatives Impact Analysis and Summary," provides an analysis of the alternatives as compared to the project, and Section 6.6 identifies the *environmentally superior alternative*, as required by CEQA. Table 6-1, "Alternatives Impact Comparison Summary," in Section 6.5, "Alternative Impact Analysis and Summary," summarizes the conclusions of the alternatives analysis.

6.2 CEQA REQUIREMENTS FOR ALTERNATIVES ANALYSIS

The CEQA Guidelines specify that an Environmental Impact Report (EIR) must describe a reasonable range of alternatives to the project, or to the location of the project, which could feasibly attain most of the basic project objectives (Guidelines §15126.6(a)). The alternatives analysis must focus on alternatives that are capable of eliminating or substantially reducing the significant adverse impacts caused by the project (Guidelines §15126.6(c)), and alternatives to the "*whole of the project*" rather than the project's component parts.[1] An EIR must include an alternatives analysis even if the EIR concludes that the project will not cause any significant adverse impacts.

The "no project" alternative, which considers impacts that would occur if existing conditions continue, must be considered (Guidelines §15126.6(e)), and the EIR must also identify the environmentally superior alternative. If the "no project" alternative is the environmentally superior alternative, the EIR must identify an environmentally superior alternative from among the other alternatives (Guidelines §15126.6(e)(2)). The EIR should not consider alternatives "whose effect cannot be reasonably ascertained and whose *implementation is remote and speculative*" (Guidelines §15126.6(f)(3), emphasis added). An EIR need not evaluate an alternative that is considered speculative, theoretical, or unreasonable. Not every potentially feasible alternative need be considered; rather, the relevant test is whether a "*reasonable range*" of feasible alternatives is considered for that particular project (Guidelines §15126.6(a)).

6.3 SUMMARY OF PROJECT OBJECTIVES AND IMPACTS

6.3.1 Project Objectives

The CEQA Guidelines provide that "the range of potential alternatives...shall include those that could feasibly accomplish most of the basic objectives of the project..." (§15126.6(c)). The overall goal of the project is to revise the approved 1987 reclamation plan for the Eliot Quarry and modify Surface Mining Permit 23 (SMP-23) to accommodate changed circumstances and to reflect regulatory changes. As

[1] *Big Rock Mesas Property Association v. Board of Supervisors of the County of Los Angeles* (2d Dist. 1977) 73 Cal. App. 3d 218).

defined in Section 2.3, "Project Objectives," of Chapter 2, "Project Description," specific project objectives as revised since the March 4, 2019 application submittal include:

1) Address the requirements of Condition 7 of County Resolution No. 12-20.
2) Realign and restore an approximately 5,800-foot reach of the Arroyo del Valle (ADV) resulting in an enhanced riparian corridor that flows south of, rather than through (as currently anticipated in SMP-23), Lake B.
3) Maximize the extraction of the remaining available on-site sand and gravel resources through the anticipated reclamation end date of 2056, including a change in the final bottom elevation of excavation in Lake B to 150 feet msl.
4) Continue to supply the regional demands for Portland Cement Concrete (PCC) grade aggregate.
5) Reduce Vehicle Miles Traveled (VMT) and the related air emissions by retaining a local source of aggregate.
6) Carry out the objectives of the LAVQAR and Zone 7 Agreement for implementation of the Chain of Lakes on the portions of land controlled by CEMEX.
7) Implement a public use pedestrian and bike trail on the southern perimeter of the CEMEX property.
8) Implement the proposed reclamation plan amendment to establish end uses of water management, open space, and nonprime agriculture in accordance with the California Surface Mining and Reclamation Act (SMARA) (Public Resources Code 2710, et seq.).

6.3.2 Significant and Unavoidable Impacts of the Proposed Project

After applying CEQA standards of significance to the entire range of adverse impacts that would result from implementation of the project, four significant and unavoidable impacts relating to daily NOx emissions, including obstructing the applicable air quality plan and cumulatively considerable net increase of a criteria pollutant for which the project region is non-attainment (NOx), have been identified through the analysis presented in Sections 4.1 through 4.8. NOx would contribute to two significant cumulative impacts as discussed in Section 5.3, "Cumulative Impacts Evaluation," of Chapter 5, "Cumulative Impacts."

As stated above, other than daily NOx emissions and their potential to obstruct the applicable air quality plan, the project would result in significant impacts that could be reduced to less than significant levels through implementation of mitigation measures identified in Chapter 4. The alternatives evaluation summary table (Table 6-1) in Section 6.5 includes a list of each of the project impacts identified in Chapter 4 of this SEIR and identifies their significance both with and without mitigation measures identified in Chapter 4 as compared to the impacts under each alternative. Significant impacts that could be mitigated to a level of less than significant were also considered in the alternatives formulation process, particularly those that address project aesthetic/visual impacts and project impacts on biological resources, air quality, greenhouse gas, geology and soils, hydrology and water quality, and noise as listed below:

- Impact 4.1-2: Creation of a New Source of Substantial Light and Glare That Would Adversely Affect Day or Nighttime Views in the Area (less than significant with mitigation);
- Impact 4.2-1: Conflict with or Obstruct Implementation of the Applicable Air Quality Plan (significant and unavoidable);

- Impact 4.2-2a: Result in a Cumulatively Considerable Net Increase of Any Criteria Pollutant for which the Project Region is Non-Attainment Under an Applicable Federal or State Ambient Air Quality Standard: NO_X (significant and unavoidable);
- Impact 4.3-1a: The Project Could Result in Direct Effects or Loss of Habitat for Special-Status Wildlife Species: Lake A Reclamation and Diversion Structure Construction (less than significant with mitigation);
- Impact 4.3-1b: The Project Could Result in Loss of Habitat for Special-Status Wildlife Species: ADV Realignment (less than significant with mitigation);
- Impact 4.3-1c: The Project Could Result in Loss of Habitat for Special-Status Wildlife Species: Berms and Outflow Between ADV and Lake B (less than significant with mitigation);
- Impact 4.3-2a: The Project Could Result in Loss of Riparian Habitat or Sensitive Natural Community: Lake A Reclamation and Diversion Structure Construction (less than significant with mitigation);
- Impact 4.3-2b: The Project Could Result in Loss of Riparian Habitat or Sensitive Natural Community: ADV Realignment (less than significant with mitigation);
- Impact 4.3-2c: The Project Could Result in Loss of Riparian Habitat or Sensitive Natural Community: Berms and Outflow Between ADV and Lake B (less than significant with mitigation);
- Impact 4.3-3a: The Project Could Have a Substantial Adverse Effect on State or Federally Protected Wetlands: Lake A Reclamation and Diversion Structure Construction (less than significant with mitigation);
- Impact 4.3-4: The Project Could Interfere Substantially with The Movement of Any Native Resident or Migratory Fish or Wildlife Species or With Established Native Resident or Migratory Wildlife Corridors, or Impede the Use of Native Wildlife Nursery Sites (less than significant with mitigation);
- Impact 4.4-4: Result in Substantial Soil Erosion or the Loss of Topsoil (less than significant with mitigation);
- Impact 4.5-1: Greenhouse Gas Emissions Generated by Reclamation Activities Could Have a Significant impact on Global Climate Change (less than significant with mitigation);
- Impact 4.6-1a: Violation of Water Quality Standards or Waste Discharge Requirements or Substantial Degradation of Surface Water or Groundwater Quality Regarding Lake A Reclamation and Diversion Structure Construction (less than significant with mitigation);
- Impact 4.6-1b: Violation of Water Quality Standards or Waste Discharge Requirements or Substantial Degradation of Surface Water or Groundwater Quality Regarding the ADV Realignment (less than significant with mitigation);
- Impact 4.6-1d: Violation of Water Quality Standards or Waste Discharge Requirements or Substantial Degradation of Surface Water or Groundwater Quality Regarding Reclamation of Lake B (less than significant with mitigation);
- Impact 4.6-3b: Substantially Alter Drainage Patterns Causing Erosion or Siltation, Increase Surface Runoff that would result in Flooding, Provide Substantial Additional Sources of Polluted Runoff, or Impede or Redirect Flood Flows Regarding ADV Realignment (less than significant with mitigation);
- Impact 4.6-3c: Substantially Alter Drainage Patterns Causing Erosion or Siltation, Increase Surface Runoff that would result in Flooding, Provide Substantial Additional Sources of Polluted

Runoff, or Impede or Redirect Flood Flows Regarding the Northern Reclamation Area (less than significant with mitigation);

- Impact 4.6-3d: Substantially Alter Drainage Patterns Causing Erosion or Siltation, Increase Surface Runoff That Would Result in Flooding, Provide Substantial Additional Sources of Polluted Runoff, or Impede or Redirect Flood Flows Regarding Reclamation of Lake B (less than significant with mitigation);
- Impact 4.6-5: Conflict with or Obstruct Implementation of a Water Quality Control Plan or Sustainable Groundwater Management Plan (less than significant with mitigation);
- Impact 4.8-1: Construction Noise Impacts Relative to Locally Adopted Noise Standards (less than significant with mitigation);
- Impact 4.8-2: Construction Noise Impacts Relative to Existing Ambient Conditions (less than significant with mitigation);
- Impact 7-1: Substantially Degrade the Quality of the Environment, Reduce Habitat of a Fish or Wildlife Species, cause a Fish or Wildlife Population to Drop Below Self-Sustaining Levels, Threaten to Eliminate a Plant or Animal Community, Substantially Reduce the Number or Restrict the Range of a Rare or Endangered Plant or Animal or Eliminate Important Examples of the Major Periods of California History or Prehistory (less than significant with mitigation);
- Impact 7-2a: Impacts that are Individually Limited but Cumulatively Considerable: Conflict with Air Quality Plan (significant and unavoidable);
- Impact 7-2b: Impacts That are Individually Limited but Cumulatively Considerable: Criteria Pollutant NOx (significant and unavoidable); and
- Impact 7-3: Environmental Effects Which Will Cause Substantial Adverse Effects on Human Beings (less than significant with mitigation).

6.4 ALTERNATIVES FORMULATION PROCESS AND DESCRIPTION OF PROJECT ALTERNATIVES

This section discusses the County's process for formulating alternatives to the project for analysis in this SEIR. First, a discussion of considerations associated with developing alternatives for quarry reclamation projects is discussed. Next, alternatives considered but eliminated from further consideration and the reasons for their elimination are discussed. The section then provides a description of the project alternatives that are evaluated in Section 6.5.

6.4.1 Considerations for Mine and Reclamation Project Alternatives

CEQA requires that a range of reasonable and feasible alternatives to a proposed project be evaluated in an EIR. The County's consideration of alternatives to the proposed project emphasizes an effort to identify alternatives that would address other significant but mitigable impacts.

The formulation of alternatives has been undertaken by the County in accordance with CEQA requirements, and a reasonable range of alternatives is presented herein. However, due to the complexities in reclaiming an existing mineral resource operation, the County cannot ascertain at this time whether actual implementation of one or more of the alternatives would be economically feasible from the perspective of the private entity (the Applicant). Many factors are considered in the reclamation of an aggregate production site, including potential end uses, construction methodology, slope stability, contractual requirements, statutory and regulatory requirements, and other factors.

CEQA Guidelines §15126.6(f)(2)(b) recognize mining reclamation projects as an example of why evaluation of an alternative location may not be feasible, due to the fact that location of reclaiming a mine is fixed to the specific site that has already been mined. For this reason, the County explored a broad range of potential alternatives, but not including considerations associated with alternative site locations.

It should be noted that in the County's process of formulating alternatives, limited consideration was given to the economies of scale (i.e., efficiencies related to the size of the operation) or whether the alternatives would be economically feasible and able to support the planned components, and level of mitigation that would be undertaken for the project. Such data is considered beyond the scope of a reasonable CEQA analysis and is considered unnecessary for purposes of a meaningful evaluation that compares environmental effects of potential alternatives with those of the proposed project.

6.4.2 Alternatives Considered but Rejected from Further Analysis

The following alternatives have been considered by the County but rejected from further analysis for the reasons discussed below.

6.4.2.1 No Project—Implementation of the Approved Reclamation Plan Alternative

Evaluation of a No Project Alternative is required under CEQA Guidelines §15126.6(e). The No Project Alternative must include consideration for what could be expected to occur in the reasonably foreseeable future, given the existing zoning and General Plan land use designations for the site. This SEIR considers two No Project alternatives: the No Project—Reclamation of Existing Conditions Alternative discussed in detail in section 6.4.3 below, and the No Project—Implementation of the Approved Reclamation Plan, which is discussed here. Under the No Project—Implementation of the Approved Reclamation Plan Alternative, the County would not approve a Reclamation Plan Amendment. The existing site use would continue as an aggregate mining operation and mine pits that will eventually be converted into water management facilities and only be allowed to carry out reclamation under the approved 1987 reclamation plan. Other uses allowed under the General Plan and zoning could also occur, but such changes are too speculative to define for the purposes of this SEIR.

After the 1987 reclamation plan was approved, CEMEX's predecessor prepared plans for water conveyance facilities. Those plans, which the County subsequently approved, have not been implemented. Those water conveyance facilities included:

- a 40-foot concrete spillway collecting flows from the ADV (under Vallecitos Road) before those flows descend 50 feet, at a slope of 2H:1V, into Lake A;
- an earth- and rock-lined structure to collect overflows within Lake A before conveying them under Isabel Avenue/SR 84 in a 40-foot concrete spillway to Lake B;
- an underground concrete pipe between Lake A and Lake C, which terminates at a spillway dropping water up to 70 feet down a 2H:1V slope;
- an underground 30-inch concrete pipe between Lake C and Lake B; and
- a concrete and riprap apron along the western boundary of Lake B allowing overflow to continue down the ADV channel.

Because the No Project—Implementation of the Approved Reclamation Plan Alternative would not result in a reclamation plan amendment, any future action would need to occur in compliance with the approved reclamation plan. However, changes in circumstances at the site and in applicable regulatory requirements that have necessitated the preparation of an amended reclamation plan in the first place

would still exist (e.g., infeasibility of certain components of the approved project). Furthermore, the reclamation objectives outlined in the approved reclamation plan can no longer be feasibly accomplished or permitted by regulatory agencies under current regulatory conditions, which have changed considerably since 1987. The key objectives for the proposed project are listed above in Section 6.3.1.

In addition, physical conditions near the project site, such as residential development in neighboring areas, the widening of Isabel Avenue/State Route 84 [SR 84]), and sale of portions of the property, would make carrying out the approved reclamation plan infeasible as written. Further, this alternative would eliminate the ADV realignment as a feature separate from Lake B, which would result in greater biological impacts compared to the proposed project and preclude the on-site restoration and enhancement of a native riparian corridor that would promote future fish passage for listed species. Lastly, the Applicant has noted that the two previously approved, but not yet built, concrete spillways are environmentally insensitive; therefore, carrying out their construction would result in additional environmental impacts compared to the proposed project. As such, the County has eliminated the No Project—Implementation of the Approved Plan Alternative from further consideration as an alternative in this SEIR.

6.4.2.2 Avoidance of Waters of the U.S. Alternative

Under the Avoidance of Waters of the U.S. Alternative, the proposed approximately 5,800-foot reach of the ADV would not be realigned. Thus, all of the benefits of a restored and enhanced stream with native habitats that support future fish passage would not be achieved. Total materials extracted over the life of the project would be approximately 45 percent less than the proposed project under this alternative because Lake B could not progress further south, consistent with the applicant's vested mining rights. Furthermore, eliminating the realignment of the ADV would result in a shorter operational life as compared to the proposed project.

The reduction in surface disturbance would reduce potential impacts to biological resources by eliminating loss of habitat and protected wetlands and to hydrology by eliminating increased risk of erosion. The elimination of the realignment of the ADV would also reduce potential impacts to air quality, greenhouse gases, and construction-related noise.

An Avoidance of Waters of the U.S. Alternative would eliminate the project's ability to meet the objectives to maximize the extraction of the remaining available on-site sand and gravel resources; supply the regional demands for PCC grade aggregate; realign and restore an approximately 5,800-foot reach of the ADV resulting in an enhanced riparian corridor; and reduce VMT by providing a local source of aggregate because of the ADV realignment. Furthermore, because expansion of Lake B for mining would not occur, benefits of increased water storage from an expanded reclaimed Lake B to a water management facility would be reduced. In addition, the proposed project proposes enhancement to the habitat value of the ADV by reconfiguring, realigning, and revegetating the ADV with native species that have superior biological function and values than the existing conditions at the ADV. Last, this alternative would make implementation of both the approved SMP-23 and the chain of lakes project altogether infeasible because the Applicant cannot divert water from the ADV into the chain of lakes if work in waters of the U.S. is prohibited. As such, the County has eliminated the Avoidance of Waters of the U.S. Alternative from further consideration as an alternative in this SEIR.

6.4.2.3 Reduced Final Reclamation Floor Elevation Alternative

The Reduced Final Reclamation Floor Elevation Alternative would reduce the proposed final bottom elevation of excavation in Lake B from 150 feet msl to 200 feet msl. The principal rationale for the

Reduced Final Reclamation Floor Elevation Alternative is that by raising the final reclaimed elevation (post-mining) of the quarry floor, potential adverse impacts associated with the lower aquifer would be reduced. In addition, impacts to water supply wells that are screened between 200 and 150 msl may be reduced. Reducing the final reclamation floor elevation in Lake B would result in a reduction in the total material excavated over the remaining 56-year life of the project. This alternative would provide fewer years of product to the local area, which would also result in a reduction in mining activity. Furthermore, as this alternative would not fully develop available mineral reserves, many of the proposed project's objectives would not be met. This alternative was considered based on consultation with Zone 7 during the scoping and the SEIR preparation. After peer review of the technical reports and incorporation of the pertinent information into the SEIR, no potentially significant impacts to water quality or supply were identified. Therefore, because this alternative would not meet most of the Applicant's objectives and no non-mitigable significant impacts to water quality or supply associated with reclaiming to greater depths have been identified, the County has eliminated the Reduced Final Reclamation Floor Elevation Alternative from further consideration as an alternative in the SEIR.

6.4.2.4 Reduced Daily Reclamation Activity Alternative

The Reduced Daily Reclamation Activity Alternative is aimed at reducing daily NOx emissions, because those emissions are a significant and unavoidable impact. This alternative would create a limit on daily construction activities, number of haul truck trips associated with reclamation-related materials delivery, and/or employ another mechanism that would reduce the reclamation progress achieved daily. The Reduced Daily Reclamation Activity Alternative would have reduced hours of operation for reclamation compared to the proposed project. This would increase the permitted reclamation period of the project from 56 years to a longer period, and/or increase the duration of any given phase of reclamation. However, it is assumed that this alternative would not change the permitted activities and end uses would be the same as that of the proposed project. Limiting daily reclamation activities could reduce daily noise and air quality impacts by reducing construction activities and vehicle trips on peak operational days. However, construction noise and air quality impacts would be extended over a longer duration (number of days). In addition, because mobilization and demobilization of construction equipment would need to take place over a longer period of time, noise and air quality impacts would be more than would occur under the proposed project due to the need to start-up, mobilize, and then shut-down equipment for a greater number of days.

Furthermore, greenhouse gas (GHG) emissions are calculated on an annual basis, not daily. If daily construction hours are reduced, the duration of construction is extended. Thus, at best, this alternative would result in the same amount of GHG emissions spread over a longer period of time. However, when considering construction inefficiencies (e.g., increased mobilization and demobilization over more days), GHG emissions would be greater under this alternative than under the proposed project.

Ground disturbance associated with realignment of the ADV, berm construction, and grading related to reclamation would not be expected to change under this alternative. Visual impacts of the proposed project are primarily associated with temporary construction. Reduction of daily reclamation activities and the extended duration of the project under this alternative, visual impacts would be prolonged, and therefore increased, compared to the proposed project.

A Reduced Daily Reclamation Activity Alternative would result in the delay of all objectives of the proposed project, especially implementation of the Chain of Lakes that would support Zone 7's water management activities, including water storage, water conveyance, and improving the reliability of local water supply. Therefore, because long-term impacts associated with aesthetics, noise, air quality, and

GHG would be greater than the proposed project, the County has eliminated the Reduced Daily Reclamation Activity Alternative from further consideration as an alternative in the SEIR.

6.4.3 Alternatives Evaluated in Detail

Because mining reclamation projects are dependent upon site-specific geologic conditions, the range of alternatives to a proposed mineral development project is typically limited, as compared to urban development projects (e.g., commercial or residential projects). The alternatives defined for this SEIR incorporate changes to the project as proposed that would address certain impact issues associated with the project.

It should be noted that the Applicant has not provided information to the County regarding the economic, technological, and physical feasibility of these alternatives, and it is unknown whether these alternatives could be developed by the Applicant if approved in lieu of the proposed project.

The following alternatives are described below and evaluated in Section 6.5 of this SEIR:

- Alternative 1: No Project—Reclamation of Existing Conditions Alternative;
- Alternative 2: Prohibited Nighttime Reclamation Alternative;
- Alternative 3: Revised ADV Construction Phasing Alternative; and
- Alternative 4: Reduced Capacity of Lake A Diversion Structure Alternative.

6.4.3.1 Alternative 1: No Project—Reclamation of Existing Conditions Alternative

As discussed above, the No Project—Implementation of the Approved Reclamation Plan Alternative cannot feasibly be implemented. Furthermore, under the Surface Mining and Reclamation Act of 1975 (SMARA), a site must be reclaimed following the completion of mining. Therefore, this SEIR considers another No Project alternative, No Project—Reclamation of Existing Conditions Alternative (Alternative 1) involving reclamation of the project site under existing conditions consistent with the minimum requirements of SMARA and the Alameda County Surface Mining Ordinance.

Under Alternative 1, the County would have to approve an alternative Reclamation Plan Amendment that would allow for the reclamation and closure of the Eliot site consistent with the requirements of SMARA and the Alameda County Surface Mining Ordinance (SMO). Under this alternative, mining would not proceed until another reclamation plan amendment is adopted, and the site's water bodies and slope would be reclaimed to meet the minimum requirements of SMARA and the SMO (e.g., ensuring stable slopes, no adverse impacts associated with the reclaimed water bodies at the site, and appropriate post-reclamation vegetation). The end use would remain water management and agriculture consistent with the underlying LAVQAR requirements. However, Alternative 1 would not meet the following project objectives:

- Realign and restore an approximately 5,800-foot reach of the ADV resulting in an enhanced riparian corridor that flows south of, rather than through (as currently anticipated in SMP-23), Lake B.
- Maximize the extraction of the remaining available on-site sand and gravel resources through the anticipated reclamation end date of 2056, including a change in the final bottom elevation of excavation in Lake B to 150 feet msl.
- Continue to supply the regional demands for Portland Cement Concrete (PCC) grade aggregate.

- Carry out the objectives of the LAVQAR and Zone 7 Agreement for implementation of the Chain of Lakes on the portions of land controlled by CEMEX.

6.4.3.2 Alternative 2: Prohibited Nighttime Reclamation Alternative

Under Alternative 2, Prohibited Nighttime Reclamation Alternative, all project-related reclamation including ADV realignment, construction of the Lake A diversion structure, berm construction, and grading for final reclamation to end use would only be permitted to take place during operating hours of 7:00 a.m. to 7:00 p.m. All reclamation activities would be prohibited between 7:00 p.m. and 7:00 a.m., except for the low-flow diversion pump, which must operate at all hours during the two-year construction period for the ADV realignment. Some nighttime lighting of project facilities would still be required for security and safety purposes under this alternative; however, operational and reclamation construction lighting for the project between 7 p.m. and 7 a.m. would be avoided. Project-related traffic departing and arriving at the site between 7 p.m. and 7 a.m. would also be avoided. The current operational mining activities would not be subject to this restriction. The effects of atmospheric inversion (also known as heat rising from the earth and interacting with cooler air above) would also be pertinent to this alternative. In general, air pollutants disperse better during the day due to higher wind speeds, convective turbulence, and higher mixing heights of pollutants in the atmosphere. This alternative could benefit sensitive biological species because wildlife migrating through construction zones are harder to spot at night. Thus, Alternative 2 could reduce injury or mortality to wildlife species by limiting operations to the daytime hours. This alternative would have the same impacts as the proposed project with mitigation incorporated (see Mitigation Measure 4.1-1, "Hourly Limitation of Construction Activities," in Section 4.1, "Aesthetics and Visual Resources") and would reclaim the site and realign the ADV similarly to the proposed project.

6.4.3.3 Alternative 3: Revised ADV Construction Phasing Alternative

Alternative 3, Revised ADV Construction Phasing Alternative, is aimed at reducing daily NOx emissions. This alternative would alter the reclamation schedule of the realignment and restoration of an approximately 5,800-linear-foot reach of the ADV to flow around, rather than through, Lake B. The altered schedule would extend ADV realignment activities into 2024 or 2025, rather than 2022 or 2023 as currently anticipated under the proposed project. This would slightly delay the implementation of ADV realignment and restoration components of the project. However, delaying the implementation of the realignment until after reclamation activities in Lake A are complete would avoid concurrent reclamation activities of Lake A reclamation and ADV realignment and restoration activities. Therefore, daily NOx emissions, the cause of all significant and unavoidable impacts of this project, would be reduced. However, even under this alternative, the daily NOx exceedance would remain, so the NOx impacts would remain significant and unavoidable. Limiting daily reclamation activities to either Lake A reclamation (from 2022 to 2023) or ADV realignment and restoration (2024 to 2025) could also reduce noise intensity in the short term by reducing amount of reclamation activities and vehicle trips by avoiding concurrent reclamation in the various areas of the site. However, construction noise would increase in duration, though at a lesser intensity, compared to the proposed project, resulting in a greater long-term impact to noise. Other impacts associated with the project would be expected to remain unchanged under this alternative.

Ground disturbance associated with realignment of the ADV, berm construction, and grading related to reclamation would not be expected to change. Visual impacts of the proposed project are primarily associated with temporary construction, and therefore would be reduced compared to the proposed project in the short term as there would be less construction equipment performing reclamation activities

at a given time under Alternative 3 compared to the proposed project. However, the duration of construction would increase, thereby prolonging the duration of visual impacts. Therefore, Alternative 3 would have an overall greater impact to visual resources. A two-year delay in the implementation of the ADV realignment and restoration would not significantly interfere with meeting the objectives of the proposed *project*.

6.4.3.4 Alternative 4: Reduced Capacity of Lake A Diversion Structure Alternative

Alternative 4, Reduced Capacity of Lake A Diversion Structure Alternative, is designed to reduce potential impacts to biological resources by reducing the amount of water being diverted from the ADV into Lake A. Under Alternative 4, the diversion structure capacity would be reduced from 500 cfs to 200 cfs to allow diversion of only the first 200 cfs of water from the ADV into Lake A. This would allow for significantly more water to be retained in the ADV, which would be beneficial to biological resources in the restored ADV. While the proposed project has a low flow channel to ensure that at least 9 cfs are retained, Alternative 4 would allow for an additional 300 cfs of water (during higher water flows) to be retained in the ADV than envisioned in the proposed project. While the current version of the LAVQAR Specific Plan, the approved reclamation plan, and contract between the Applicant and Zone 7 call for a diversion structure of 500 cfs, these obligations could potentially be modified to facilitate additional water to be retained in the ADV. As the diversion structure would be smaller than the proposed project, Alternative 4 would result in less noise and air quality impacts than the proposed project as a smaller diversion structure could be constructed in less time with less construction activity. In addition, while impacts to biological resources have been reduced to less than significant after implementation of mitigation measures, Alternative 4 would have fewer impacts to biological resources by ensuring that additional water is available to biological resources within the ADV and those that will utilize the water in the ADV for feeding or migration. In addition, Alternative 4 would result in less impacts to waters of the U.S. than the proposed project because the design for the diversion structure infiltration bed would be smaller (disturb less square footage). This alternative would not meet all of the objectives of the proposed project, particularly Objective 6, which provides: "Carry out the objectives of the LAVQAR and Zone 7 Agreement for implementation of the Chain of Lakes on the portions of land controlled by CEMEX." As a result, consistency of Alternative 4 with this objective would require negotiations between Zone 7, the Applicant and the Community Development Agency of Alameda County. Therefore, it is unclear whether Alternative 4 would be able to achieve Objective 6.

6.5 ALTERNATIVES IMPACT ANALYSIS AND SUMMARY

The focus of the alternatives analysis in this SEIR is to explore options to mitigate or avoid the project's significant impacts. The analysis of each alternative considers whether the alternative would reduce impacts as compared to the project as proposed. In most cases, the alternatives would create the potential for reducing the magnitude, duration, or frequency of certain project impacts, but would not eliminate the impacts entirely.

As presented in Chapter 4, project impacts prior to the application of mitigation measures are identified as significant, potentially significant, or less than significant. Mitigation measures are identified, when available, for significant and potentially significant impacts, and the resulting impacts are found to be either less than significant (when mitigation would reduce a significant or potentially significant impact to below the threshold of significance) or significant and unavoidable (when either no feasible mitigation is available or when available mitigation would not reduce the impact to below the threshold of significance).

Table 6-1 provides a summary comparison of the impacts of each alternative with impacts of the project. The table lists each project impact and the significance of the project impact both without mitigation and with mitigation identified in this SEIR (if the impact without mitigation is deemed less than significant, no mitigation is needed, and the table simply lists less than significant (LS)).

Table 6-1 also identifies the anticipated comparative impact of each alternative as either having no impact (NI) or an impact greater than (+), similar to (=), or less than (-) the corresponding impact of the project. In most cases, the alternatives would result in similar or lessened impacts as compared to the project, but the reduction in impact would not be of sufficient magnitude such that a significant project impact would be reduced to less than significant. For example, reclamation activities of the proposed project exceed daily NOx thresholds under the BAAQMD threshold by more than 400%. Thus, activities would have to be limited to fewer than 2 hours per day to render the NOx impact less than significant, which would not be feasible. Mitigation measures applicable to project impacts would also be available to reduce commensurate impacts of the alternatives. Thus, in instances where a significant project impact would be reduced to less than significant with mitigation, the same mitigation would also reduce the impact of the alternative to less than significant unless otherwise noted.

Each of the project alternatives considered in this analysis is described in Section 6.4, above. The following sections discuss the impacts of each alternative as compared to project impacts identified in Sections 4.1 through 4.8 of this SEIR. Table 6-1 below provides a summary of the comparison and the discussion in the following sections emphasizes those impact areas for which the project would result in one or more significant impacts and the alternative(s) would have the potential to lessen one or more significant impacts of the project.

TABLE 6-1
ALTERNATIVES IMPACT COMPARISON SUMMARY

Impact	Project Impact Significance without/with Mitigation[1]	Alternatives[2, 3]			
		1 (No Project)	*2 (No Nighttime)*	*3 (Phasing)*	*4 (Reduced Diversion)*
Impact 4.1-1: Substantial Degradation of the Approved Visual Character or Quality of the Site and Its Surroundings	LS	+	=	+	-
Impact 4.1-2: Creation of a New Source of Substantial Light and Glare That Would Adversely Affect Day or Nighttime Views in the Area	PS/LS	=	-	+	-
Impact 4.2-1: Conflict with or Obstruct Implementation of the Applicable Air Quality Plan	S/SU	-	=	-	-
Impact 4.2-2a: Result in a Cumulatively Considerable Net Increase of Any Criteria Pollutant for which the Project Region is Non-Attainment Under an Applicable Federal or State Ambient Air Quality Standard: NO_x	S/SU	-	=	-	-
Impact 4.2-2b: Result in a Cumulatively Considerable Net Increase of Any Criteria Pollutant for which the Project Region is Non-Attainment Under an Applicable Federal or	LS	-	=	-	-

Impact	Project Impact Significance without/with Mitigation[1]	Alternatives[2, 3]			
		1 (No Project)	*2 (No Nighttime)*	*3 (Phasing)*	*4 (Reduced Diversion)*
State Ambient Air Quality Standard: ROG, CO, SO_X, PM_{10}, and $PM_{2.5}$					
Impact 4.2-3: Expose Sensitive Receptors to Substantial Pollutant Concentrations	LS	-	=/-[4]	-	-
Impact 4.2-4: Result in Other Emissions Adversely Affecting a Substantial Number of People	LS	-	=	-	-
Impact 4.3-1a: The Project Could Result in Direct Effects or Loss of Habitat for Special-Status Wildlife Species: Lake A Reclamation and Diversion Structure Construction	PS/LS	-/+[4]	-	=	-
Impact 4.3-1b: The Project Could Result in Direct Effects or Loss of Habitat for Special-Status Wildlife Species: ADV Realignment	PS/LS	-/+[4]	=	=	-
Impact 4.3-1c: The Project Could Result in Direct Effects or Loss of Habitat for Special-Status Wildlife Species: Berms and Outflow Between ADV and Lake B	PS/LS	-/+[4]	=	=	-
Impact 4.3-1d: The Project Could Result in Direct Effects or Loss of Habitat for Special-Status Wildlife Species: Northern Reclamation Area	LS	-/+[4]	=	=	-
Impact 4.3-2a: The Project Could Result in Loss of Riparian Habitat or Sensitive Natural Community: Lake A Reclamation and Diversion Structure Construction	PS/LS	-/+[4]	=	=	-
Impact 4.3-2b: The Project Could Result in Loss of Riparian Habitat or Sensitive Natural Community: ADV Realignment	PS/LS	-/+[4]	=	=	-
Impact 4.3-2c: The Project Could Result in Loss of Riparian Habitat or Sensitive Natural Community: Berms and Outflow Between ADV and Lake B	PS/LS	-/+[4]	=	=	-
Impact 4.3-2d: The Project Could Result in Loss of Riparian Habitat or Sensitive Natural Community: Northern Reclamation Area	LS	-/+[4]	=	=	-
Impact 4.3-3a: The Project Could Have a Substantial Adverse Effect on State or Federally Protected Wetlands: Lake A Reclamation and Diversion Structure Construction	PS/LS	-/+[4]	=	=	-
Impact 4.3-3b: The Project Could Have a Substantial Adverse Effect on State or Federally Protected Wetlands: ADV Realignment and the Construction of Berms and Overflow Outlet Between ADV and Lake B	LS	-/+[4]	=	=	-

Impact	Project Impact Significance without/with Mitigation[1]	Alternatives[2, 3]			
		1 (No Project)	*2 (No Nighttime)*	*3 (Phasing)*	*4 (Reduced Diversion)*
Impact 4.3-3c: The Project Could Have a Substantial Adverse Effect on State or Federally Protected Wetlands: Northern Reclamation Ares	LS	-/+[4]	=	=	-
Impact 4.3-4: The Project Could Interfere Substantially with the Movement of Any Native Resident or Migratory Fish or Wildlife Species or with Established Native Resident or Migratory Wildlife Corridors, or Impede the Use of Native Wildlife Nursery Sites	PS/LS	+	=/-[4]	=	-
Impact 4.3-5: The Project Could Conflict with Local Policies or Ordinances Protecting Biological Resources	LS	-/+[4]	=	=	-
Impact 4.4-1: Exposure of People or Structures to Potential Substantial Adverse Effects, Including the Risk of Loss, Injury, or Death as a Result of Rupture of a Known Fault	LS	-	=	=	=
Impact 4.4-2: Exposure of People or Structures to Potential Substantial Adverse Effects, Including the Risk of Loss, Injury, or Death as a Result of Strong Seismic Ground Shaking	LS	-	=	=	=
Impact 4.4-3: Exposure of People or Structures to Seismic-Related Ground Failure, Including Liquefaction, or Landslides	LS	-	=	=	=
Impact 4.4-4: Result in Substantial Soil Erosion or the Loss of Topsoil	PS/LS	-	=	=	=/-[4]
Impact 4.4-5: Be Located on a Geologic Unit or Soil That is Unstable, or That Would Become Unstable as a Result of the Project, and Potentially Result in On- or Off-Site Landslide, Lateral Spreading, Subsidence, Liquefaction, or Collapse	LS	-	=	=	=
Impact 4.4-6: Be Located on Expansive Soil, as Defined in Table 18-1-B of the Uniform Building Code (1994), Creating Substantial Risks to Life or Property	LS	-	=	=	=
Impact 4.4-7: Directly or Indirectly Destroy a Unique Paleontological Resource or Site or Unique Geological Feature	LS	-	=/-[4]	=	=
Impact 4.5-1: Gas Emissions Generated by Reclamation Activities Could Have a Significant Impact on Global Climate Change.	PS/LS	+/=[4]	=	=	=
Impact 4.5-2: Consistency with Applicable GHG Plans, Policies, Or Regulations.	LS	+/=[4]	=	=	=

Impact	Project Impact Significance without/with Mitigation[1]	Alternatives[2, 3]			
		1 (No Project)	*2 (No Nighttime)*	*3 (Phasing)*	*4 (Reduced Diversion)*
Impact 4.6-1a: Violation of Water Quality Standards or Waste Discharge Requirements or Substantial Degradation of Surface Water or Groundwater Quality Regarding Lake A Reclamation and Diversion Structure Construction	PS/LS	+/=[4]	=	=	=
Impact 4.6-1b: Violation of Water Quality Standards or Waste Discharge Requirements or Substantial Degradation of Surface Water or Groundwater Quality Regarding the ADV Realignment	PS/LS	-	=	=	-
Impact 4.6-1c: Violation of Water Quality Standards or Waste Discharge Requirements or Substantial Degradation of Surface Water or Groundwater Quality at the Northern Reclamation Area	LS	=	=	=	=
Impact 4.6-1d: Violation of Water Quality Standards or Waste Discharge Requirements or Substantial Degradation of Surface Water or Groundwater Quality Regarding Reclamation of Lake B	PS/LS	=	=	=	=
Impact 4.6-2a: Substantial Depletion of Groundwater Supplies or Interference with Groundwater Recharge Regarding Lake A Reclamation and Diversion Structure Construction	LS	+	=	=	=
Impact 4.6-2b: Substantial Depletion of Groundwater Supplies or Interference with Groundwater Recharge Regarding the ADV Realignment	LS	+	=	=	=
Impact 4.6-2c: Substantial Depletion of Groundwater Supplies or Interference with Groundwater Recharge at the Northern Reclamation Area	LS	+	=	=	=
Impact 4.6-2d: Substantial Depletion of Groundwater Supplies or Interference with Groundwater Recharge Regarding Reclamation of Lake B	LS	+	=	=	=
Impact 4.6-3a: Substantially Alter Drainage Patterns Causing Erosion or Siltation, Increase Surface Runoff that would result in Flooding, Provide Substantial Additional Sources of Polluted Runoff, or Impede or Redirect Flood Flows Regarding Lake A Reclamation and Diversion Structure Construction, Construction of the Infiltration Gallery, and Construction of Conduit from Lake A to Lake C with a Turnout to Lake B	LS	+/=[4]	=	=	=

Impact	Project Impact Significance without/with Mitigation[1]	Alternatives[2, 3]			
		1 (No Project)	*2 (No Nighttime)*	*3 (Phasing)*	*4 (Reduced Diversion)*
Impact 4.6-3b: Substantially Alter Drainage Patterns Causing Erosion or Siltation, Increase Surface Runoff that would result in Flooding, Provide Substantial Additional Sources of Polluted Runoff, or Impede or Redirect Flood Flows Regarding ADV Realignment	PS/LS	+/=[4]	=	=	-
Impact 4.6-3c: Substantially Alter Drainage Patterns Causing Erosion or Siltation, Increase Surface Runoff That Would Result in Flooding, Provide Substantial Additional Sources of Polluted Runoff, or Impede or Redirect Flood Flows Regarding the Northern Reclamation Area	PS/LS	+/=[4]	=	=	=
Impact 4.6-3d: Substantially Alter Drainage Patterns Causing Erosion or Siltation, Increase Surface Runoff That Would Result in Flooding, Provide Substantial Additional Sources of Polluted Runoff, or Impede or Redirect Flood Flows Regarding Reclamation of Lake B	PS/LS	+	=	=	=
Impact 4.6-4a: Release of Pollutants In Flood Hazard, Tsunami, or Seiche Zones Due to Project Inundation Regarding Lake A Reclamation and Diversion Structure Construction, Construction of the Infiltration Gallery, and Construction of Conduit from Lake A to Lake C with a Turnout to Lake B	LS	+	=	=	=
Impact 4.6-4b: Release of Pollutants in Flood Hazard, Tsunami, or Seiche Zones Due to Project Inundation Regarding the ADV Realignment	LS	-	=	=	=
Impact 4.6-4c: Release of Pollutants in Flood Hazard, Tsunami, or Seiche Zones Due to Project Inundation at the Northern Reclamation Area	LS	=	=	=	=
Impact 4.6-4d: Release of Pollutants in Flood Hazard, Tsunami, or Seiche Zones Due to Project Inundation Regarding Reclamation of Lake B	LS	=	=	=	=
Impact 4.6-5: Conflict with or Obstruct Implementation of a Water Quality Control Plan or Sustainable Groundwater Management Plan	PS/LS	+	=	=	=
Impact 4.7-1: Physically Divide an Established Community	LS	=	=	=	=
Impact 4.7-2: Conflict with Land Use Plans, Policies, and Regulations	LS	+	=/-	=	=/+[4]

Impact	Project Impact Significance without/with Mitigation[1]	Alternatives[2, 3]			
		1 (No Project)	*2 (No Nighttime)*	*3 (Phasing)*	*4 (Reduced Diversion)*
Impact 4.8-1: Construction Noise Impacts Relative to Locally Adopted Noise Standards	PS/LS	-	=/-[4]	-/+	-
Impact 4.8-2: Construction Noise Impacts Relative to Existing Ambient Conditions	PS/LS	-	=/-[4]	-/+	-
Impact 4.8-3: Construction Vibration Impacts Relative to Existing Ambient Conditions	LS	-	=	-/+	-
Impact 7-1: Substantially Degrade the Quality of the Environment, Reduce Habitat of a Fish or Wildlife Species, cause a Fish or Wildlife Population to Drop Below Self-Sustaining Levels, Threaten to Eliminate a Plant or Animal Community, Substantially Reduce the Number or Restrict the Range of a Rare or Endangered Plant or Animal or Eliminate Important Examples of the Major Periods of California History or Prehistory	PS/LS	+	=	=	=
Impact 7-2a: Impacts that are Individually Limited but Cumulatively Considerable: Conflict with Air Quality Plan	S/SU	+/=[4]	=	-	-
Impact 7-2b: Impacts that are Individually Limited but Cumulatively Considerable: Criteria Pollutants ROG, CO, SO_X, PM_{10}, and $PM_{2.5}$	LS	+/=[4]	=	-	-
Impact 7-2b: Impacts that are Individually Limited but Cumulatively Considerable: Criteria Pollutant NOx	S/SU	+/=[4]	=	-	-
Impact 7-3: Environmental Effects which will Cause Substantial Adverse Effects on Human Beings	PS/LS	+	=	-	-

Notes:

1. Project Impact Significance Without/With Mitigation: S = Significant; PS = Potentially Significant; LS = Less than Significant; SU = Significant and Unavoidable.
2. Alternative 1 = No Project—Reclamation of Existing Conditions Alternative; Alternative 2 = Prohibited Nighttime Reclamation Alternative; Alternative 3 = Revised ADV Construction Phasing Alternative; Alternative 4 = Reduced Capacity of Lake A Diversion Structure Alternative.
3. Comparative Impacts of Alternatives: "-"(Impact is less than the project); "+" (Impact is greater than the project); "=" (Impact is similar to the project); "NI" = No Impact.
4. Comparative notations with differing impacts in the short and long term or with and without mitigation implementation are designated with "/" between notations. E.g., "=/-" means the alternative would have similar impacts as the mitigated project, and fewer impacts if mitigation was not properly implemented or monitored. Also, "-/+" would mean the alternative would have fewer impacts in the short-term, but greater impacts in the long term. Details are provided in Section 6.5.1 through 6.5.4, below.

6.5.1 Alternative 1: No Project—Reclamation of Existing Conditions Alternative

The discussion of the No Project—Reclamation of Existing Conditions Alternative below considers Alternative 1 as compared to the proposed project. Under this Alternative, the site would need to be reclaimed under an alternative reclamation plan amendment that complies with SMARA and the Alameda County Surface Mining Ordinance. The degree of impacts that could ultimately occur as a result

of Alternative 1 would be similar to those outlined below and discussed in the LAVQAR EIR, with some reduced impacts to air quality, geology and soils, biological resources, and noise resulting from changes to meet minimum regulatory requirements (Alameda County 1980).

Aesthetics

Alternative 1 would have increased aesthetic impacts compared to the proposed project. At Lake A, the proposed landscape plan featuring California native species around the perimeter of the lake would not be implemented, and the berm across the lake would not be fully developed into an island. The existing pedestrian and bike trail along the south side of Lake A would not be extended further along Vineyard Avenue and the ADV along the south side of Lake B. Under Alternative 1, the ADV would not be realigned, reconfigured, or revegetated. Instead, the existing ADV, which has succumbed to nonnative vegetation, would remain in place without the more aesthetically pleasing native vegetation. The concrete spillways proposed under the approved reclamation plan would not be constructed as they could not be permitted under the existing regulatory environment. In addition, Lake B would not be fully developed under Alternative 1 as would occur under the proposed project. Therefore, in the Alternative 1 scenario, Lake B would be less visible and less aesthetically pleasing as it would be under the proposed project.

Air Quality

Under Alternative 1, there would be a reduction in reclamation activities to ensure that the site meets minimum SMARA and SMO requirements as compared to the proposed project. In addition, air quality impacts associated with the realignment of the ADV would be avoided. Thus, Alternative 1 would have less of an impact to air quality than the proposed project.

Biological Resources

Under Alternative 1, there would be a reduction in reclamation activities to ensure that the site meets minimum SMARA and SMO requirements as compared to the proposed project; thus, there would be less short-term impacts to biological resources. In addition, biological resources impacts associated with the realignment of the ADV would be avoided. However, the better-quality habitat that would be established under the proposed project would not come to fruition. Barriers to steelhead fish passage, such as the breached quarry ponds with warmer temperatures that harbor predatory species like bullfrogs and bass, would continue to exist. In the short term, Alternative 1 would have less of an impact on biological resources than the proposed project. However, in the long term, after the restoration of the ADV and full reclamation of Lakes A and B, Alternative 1 would have more biological resource impacts than the proposed project.

Geology and Soils

Under Alternative 1, there would be a reduction in reclamation activities to ensure that the site meets minimum SMARA and SMO requirements as compared to the proposed project. Thus, Alternative 1 would have less of an impact on geology and soils than would occur under the proposed project.

Greenhouse Gas

Under Alternative 1, there would be a reduction in reclamation activities to ensure that the site meets minimum SMARA and SMO requirements as compared to the proposed project. Greenhouse gas impacts associated with the realignment of the ADV would be avoided. However, if the proposed project is not fully implemented, which would allow for additional

aggregate material to be supplied to the local market, then the material would have to be supplied from locations located farther from the local market (e.g., from Vernalis area). Thus, it is likely that Alternative 1 would have increased greenhouse gas emissions compared to the proposed project due to the emissions associated with transporting these materials from greater distances. Further, it is generally accepted that developing new mining facilities would have more impact, at least on surface resources, than maximizing the extraction of resources from an existing surface mine.

Hydrology and Water Quality

Under Alternative 1, there would be a reduction in reclamation activities to ensure that the site meets minimum SMARA and SMO requirements as compared to the proposed project. However, the relocation and revegetation of the ADV is anticipated to enhance the ability of the ADV to handle water and flood conveyance compared to the existing ADV. These benefits would not be realized under Alternative 1. Regarding Lake B, while public comments and comments from Zone 7 on the NOP indicated that there could be potentially significant impacts associated with mining deeper in Lake B, the peer reviewed analysis contained in the SEIR concludes that impacts to hydrology and water quality will be less than significant. Therefore, Alternative 1 would have more of an impact on hydrology and water quality than the proposed project.

Land Use

Under Alternative 1, there would be a reduction in reclamation activities to ensure that the project site meets minimum SMARA and SMO requirements as compared to the proposed project. Thus, land use compatibility issues such as noise, dust, and traffic related to reclamation activities would be less under Alternative 1 compared to the proposed project. However, County General Plan policies that would be met through implementation of the project (e.g., reducing GHG emissions and maximizing mineral resources) would not be met under Alternative 1. Therefore, Alternative 1 would have less of an impact on land use but more of an impact on other resource topics compared to the proposed project. However, Alternative 1 could be less consistent with LAVQAR than the proposed project as it might not carry out all of the objectives by implementation of chain of lakes, e.g., by further reducing the size of Lake B.

Noise

Under Alternative 1, there would be a reduction in reclamation activities to ensure that the site meets minimum SMARA and SMO requirements as compared to the proposed project. Thus, noise impacts associated with reclamation activities would be less under Alternative 1 compared to the proposed project. Therefore, Alternative 1 would have less of a noise impact than the proposed project.

6.5.2 Alternative 2: Prohibited Nighttime Reclamation Alternative

The discussion below considers the impacts of Alternative 2 as compared to the project. Under a Prohibited Nighttime Reclamation Alternative, all project-related reclamation operations would only be permitted to take place during operating hours of 7:00 a.m. to 7:00 p.m. All project-related reclamation activities would be prohibited between 7:00 p.m. and 7:00 a.m. This alternative would have the same impacts as the proposed project with mitigation incorporated. However, if mitigation measures were not appropriately implemented, Alternative 2 would have a reduced impact on wildlife species compared to the proposed project.

Aesthetics

If mitigation were determined to be infeasible or not fully implemented, Alternative 2 would have less of an impact relating to nighttime lighting than the proposed project.

Air Quality, Biological Resources, Geology and Soils, Greenhouse Gas, Hydrology and Water Quality

Alternative 2 would have the same impacts as the proposed project, as mitigated, associated with air quality, biological resources, geology and soils, greenhouse gas, and hydrology and water quality impacts. If mitigation were not properly implemented or monitored under the proposed project, Alternative 2 would have fewer biological resources impacts than the proposed project. This is because nighttime lighting and noise could adversely impact biological resources, and Alternative 2 could reduce injury or mortality to wildlife by making wildlife easier to see and avoid during the daytime.

Land Use

If mitigation were determined to be infeasible under the proposed project, Alternative 2 would have fewer land use compatibility impacts than the proposed project (lighting and noise).

Noise

Alternative 2 would have the same noise impacts as the proposed project, as mitigated. However, if mitigation were determined to be infeasible under the proposed project, Alternative 2 would have less of an impact on noise than the proposed project.

6.5.3 Alternative 3: Revised ADV Construction Phasing Alternative

The discussion below considers the impacts of Alternative 3, Revised ADV Construction Phasing Alternative, as compared to the project. Alternative 3 would alter the reclamation schedule of the realignment and restoration of an approximately 5,800-linear-foot reach of the ADV to flow around, rather than through, Lake B until 2024-2025 rather than 2022-2023 as currently anticipated under the proposed project.

Biological Resources, Greenhouse Gas, Geology and Soils, Hydrology and Water Quality, Land Use, and Noise

Alternative 3 would have the same impacts as the proposed project associated with biological resources, greenhouse gas, geology and soils, hydrology and water quality, and land use impacts.

Aesthetics

Delaying the implementation of the ADV realignment until after reclamation activities in Lake A are complete would extend the duration of visible, temporary construction activities. Therefore, aesthetic impacts under this alternative would be greater compared to the proposed project.

Air Quality

Delaying the implementation of the ADV realignment until after reclamation activities in Lake A are complete would avoid concurrent reclamation activities of Lake A reclamation and ADV realignment and restoration activities. Therefore, daily NO_x emissions, the cause of the significant and unavoidable impacts of this project, would be reduced. Under this alternative, 125.42 pounds (lbs) of daily NOx emissions would be saved in 2022 and deferred to a future year (such as 2024). Therefore, instead of daily NOx emissions of 230.85 lbs/day for 2022, Alternative 3 would result in 105.44 lbs/day. This represents an approximately 54 percent reduction in daily NOx emissions

compared to the proposed project. Even under this alternative, the daily NOx exceedance beyond the BAAQMD CEQA Significance Threshold of 54 lbs/day will remain but the extent to which the threshold is exceeded will be reduced.

Noise

Limiting daily reclamation activities to either Lake A reclamation (2022-2023) or ADV realignment and restoration 2024-2025) could also reduce noise impacts by reducing noise intensity of reclamation activities and vehicle trips by avoiding concurrent reclamation in the various areas of the site. Thus, under Alternative 3, there would be a reduced amount of reclamation activities occurring at the same time. However, sensitive receptors' noise exposure would increase in duration, even though noise intensity would be less, compared to the proposed project. Therefore, Alternative 3 would have less of a noise impact than the proposed project regarding noise intensity, but a greater impact regarding duration of temporary construction noise.

As Alternative 3's air quality and noise impacts would be less than the proposed project, Alternative 3 would be the environmentally superior alternative.

6.5.4 Alternative 4: Reduced Capacity of Lake A Diversion Structure Alternative

The discussion below considers the impacts of Alternative 4 as compared to the project. Alternative 4 would reduce the capacity of the Lake A Diversion Structure to ensure that more water is retained in the ADV rather than being diverted to Lake A.

Aesthetics

Under Alternative 4, the diversion structure would be smaller than the one envisioned in the proposed project. Therefore, visual impacts are expected to be less under Alternative 4 compared to the proposed project.

Air Quality

Under Alternative 4, the diversion structure would be smaller than the one envisioned in the proposed project. Due to the smaller size of the diversion structure, less equipment and less time would be needed to construct the smaller diversion structure under Alternative 4 compared to the proposed project. Therefore, Alternative 4 would have less impacts regarding daily emissions, and air quality impacts would be less than the proposed project.

Biological Resources

Under Alternative 4, the diversion structure would be smaller than the one envisioned in the proposed project. Due to the smaller size of the diversion structure, additional water would be retained in the ADV. In turn, fewer impacts associated with waters of the U.S., wetlands and biological species in the ADV would occur. Therefore, fewer impacts to biological resources would occur under Alternative 4 compared to the proposed project.

Geology and Soils

Under Alternative 4, less water would be diverted from the ADV than under the proposed project (200 cfs compared to 500 cfs). Water being diverted into Lake A at a slower rate and a lower volume may result in less erosion at the Lake A outfall. Mitigation measures have been incorporated into the project to reduce erosion impacts to less than significant. Therefore, impacts regarding geology and soils are anticipated to be similar between Alternative 4 and the proposed project. However, implementation of Alternative 4 would reduce the need for

mitigation, and potential geology and soils impacts would be less under Alternative 4 when compared to the project if the mitigation measures to reduce erosion were not properly implemented.

Greenhouse Gas

Alternative 4 would have the less impacts associated with greenhouse gas than the proposed project because less time and construction equipment (and associated GHG emissions) would be needed to construct the smaller diversion structure.

Hydrology and Water Quality

Under Alternative 4, there would be less water diverted from the ADV than would occur under the proposed project (200 cfs compared to 500 cfs). This would allow for more water to be retained in the ADV, which would retain a more functional hydrological regime in the ADV. Thus, impacts associated with hydrology and water quality would be less under Alternative 4 compared to the proposed project.

Land Use

Under Alternative 4, the diversion structure would be smaller than the one identified in the proposed project. Thus, Alternative 4 would not meet all of the objectives of the proposed project, particularly Objective 6, which provides: "Carry out the objectives of the LAVQAR and Zone 7 Agreement for implementation of the Chain of Lakes on the portions of land controlled by CEMEX." The Zone 7 Agreement requires construction of a diversion structure capable of diverting the first 500 cfs. As a result, consistency with this objective would require negotiations between Zone 7, the Applicant, and the Community Development Agency of Alameda County. If Zone 7 is unwilling to revise the contract and/or the Community Development Agency determines that reduced diversion is inconsistent with LAVQAR, then Alternative 4 would have more land use consistency impacts than the proposed project.

Noise

The Alternative 4 smaller diversion structure would take less equipment and less time to construct the facility as compared to the proposed project. Therefore, construction related noise impacts would be less under Alternative 4 compared to the proposed project.

6.6 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA §15126.6(e)(2) requires that an EIR identify the environmentally superior alternative. CEQA also requires that if the environmentally superior alternative is the No Project Alternative, the EIR must also identify an environmentally superior alternative from the remaining alternatives. In consideration of the alternatives evaluation presented above, the Alternative 1: No Project—Reclamation of Existing Conditions Alternative would result in fewer impacts as compared to the project and the other alternatives considered. As such, the County must identify the environmentally superior alternative from the remaining alternatives.

Based on the analysis above and excluding the No Project Alternative Reclamation of Existing Conditions Alternative, the County concludes that Alternative 3, Revised ADV Construction Phasing Alternative, is the environmentally superior alternative due to reduced impacts to daily NOx emissions and daily noise impacts.

The alternatives analysis and conclusions reached regarding the environmentally superior alternative do not determine the ability of Alternative 4 to be an economically viable option for the Applicant.