3.2 ALTERNATIVES

Title 40, Section 1502.14 of the Code of Federal Regulations (CFR) addresses Project alternatives under NEPA. Based on the information and analysis presented in the Affected Environment and Environmental Consequences sections of an EIS, the discussion of alternatives should address the environmental impacts of the proposal and the alternatives in a comparative form which presents the issues and provides for a clear basis of choice among the alternatives.

The Alternatives to the Proposed Action include:

No Action Alternative

This alternative would retain the entire Proposed Action (Project) site (500 acres) in its present land use as open space with an existing quarry and stockpiles. Neither onsite mining nor reclamation of the existing mining site would occur.

The No Action Alternative would retain 415 acres of present land use as open space, with 45 acres as existing quarry and stockpiles. No further mining would occur onsite. Because there would be no approved plan or financial assurance for the reclamation of the existing quarry by the previous mining operator, no reclamation of the existing mining site would occur. The steep slopes of the existing quarry would remain, and no revegetation of the site would be implemented under the No Action Alternative.

Reduced North Fines Storage Area Alternative

Modified approaches to mining the site may be possible due to variables such as quality and quantity of fines, depth of mining cuts, and ability to store fines in mining cuts. Based on continuing site analysis and in response to requests by the County to consider the possibility of reducing the size of the NFSA, TMC has developed an optional approach to mining the site that would substantially reduce the size of the NFSA and decrease the total amount of material needed to be excavated in order to produce the 56.1 million tons of product as provided in the Federal Contracts with BLM.

The volume and area of the NFSA could be reduced by using an optional approach to the mining cut sequence. A detailed description of the RNFSA Alternative is presented in Section 3.2.14.

Most aspects of the Proposed Action, including mineral production, site operations, and site reclamation, would not change as a result of implementing this alternative. The rate of mineral production, the duration of mining activity, hours of operation, and required supporting facilities would not be changed. Also, the overall site reclamation process would not substantially change, with the possible exception that the area requiring reclamation at the NFSA would be reduced by approximately 33 percent.

Batch Plant Location Alternative

This alternative examines the option of locating a batch plant offsite, such as at Lang Station, which is located 1½ miles west of the Project site off Soledad Canyon Road. Existing uses at this location include other industrial land uses, sand and gravel mining, and two concrete batch plant operations. Under this alternative, aggregate would be delivered to the batch plant by trucks from the Project site. Conveyor belts would transport the aggregate from the onsite processing plant directly to the onsite ready-mixed concrete batch plant.

Addition of Water/Reclaimed Water Alternative

The only available groundwater resource at the Project site is the underflow of the Santa Clara River. The addition of water/reclaimed water alternative considers the addition of water to the Santa Clara River via importation of water from another watershed or the utilization of reclaimed treated sewage water.

Once a source of reclaimed water identified as possible process water, in-depth studies would be required to determine whether the water quality would be adequate to meet product quality and health and safety requirements. Reclaimed water potentially could contain high nitrate and salt levels, and other contaminants that would preclude its use in the production of concrete or the facility water recycling system.

Reclaimed Water Pipeline. No pipelines have been constructed near the TMC site. Therefore, the use of imported or reclaimed water would require construction of a pipeline of several miles plus negotiations with water agencies to obtain water. This alternative would not be economically feasible. This alternative would also create substantial impacts associated with pipeline construction. The proposed Rio Dulce development has considered a wastewater treatment plant site east of the Project. However, it is not known whether the Rio Dulce development will be built and thus if and when this treated water would be available. A treated water pipeline from the proposed Rio Dulce development to the Project would also need to be constructed.

Hauling of Reclaimed Water. Hauling water via trucks would substantially increase air quality, safety, and traffic impacts. Approximately 456 truck trips would be necessary to supply the site with water for all operations. In addition to the increased environmental impacts, the cost of hauling water would also make the Proposed Action infeasible.

Imported Water. SWP water is potentially available to the LACWD-37 through the AVEK (see Water Resources, Section 3.1.2.1).

Product Transportation Alternative

This alternative considers other modes of product transportation for the Project. Product would be transported by train to Los Angeles, where it would be distributed by trucks. The environmental effects of this alternative primarily affect traffic, noise, and air quality impacts. All other impacts would be similar in magnitude to the Proposed Action.

Alternative North Fines Storage Area

This alternative examines an NFSA alternative involving the area to the north of the Proposed Action fines storage site. Figure 3.2-1 presents the location of the existing NFSA site, and Figure 3.2-2 shows the location of the alternative NFSA. Figure 3.2-3 presents these areas in plan view and are labeled A (northernmost) through D (southernmost). The capacities and surface areas are listed in Table 3.2-1.

Table 3.2-1

CAPACITY AND AREA OF ALTERNATIVE NORTH FINES STORAGE AREA

Area	Capacity (million cubic yards)	Surface Area (acres)
A	3.5	38.4
B	1.4	15.0
C	3.0	28.4
D	6.0	46.0

In initial consideration of the use of these areas, discussion with the landowner determined that Area D would not be available for TMC's use. Due to Area D's unavailability, the focus of the assessment of this alternative is on Areas A, B, and C, which may be available for this form of land use.

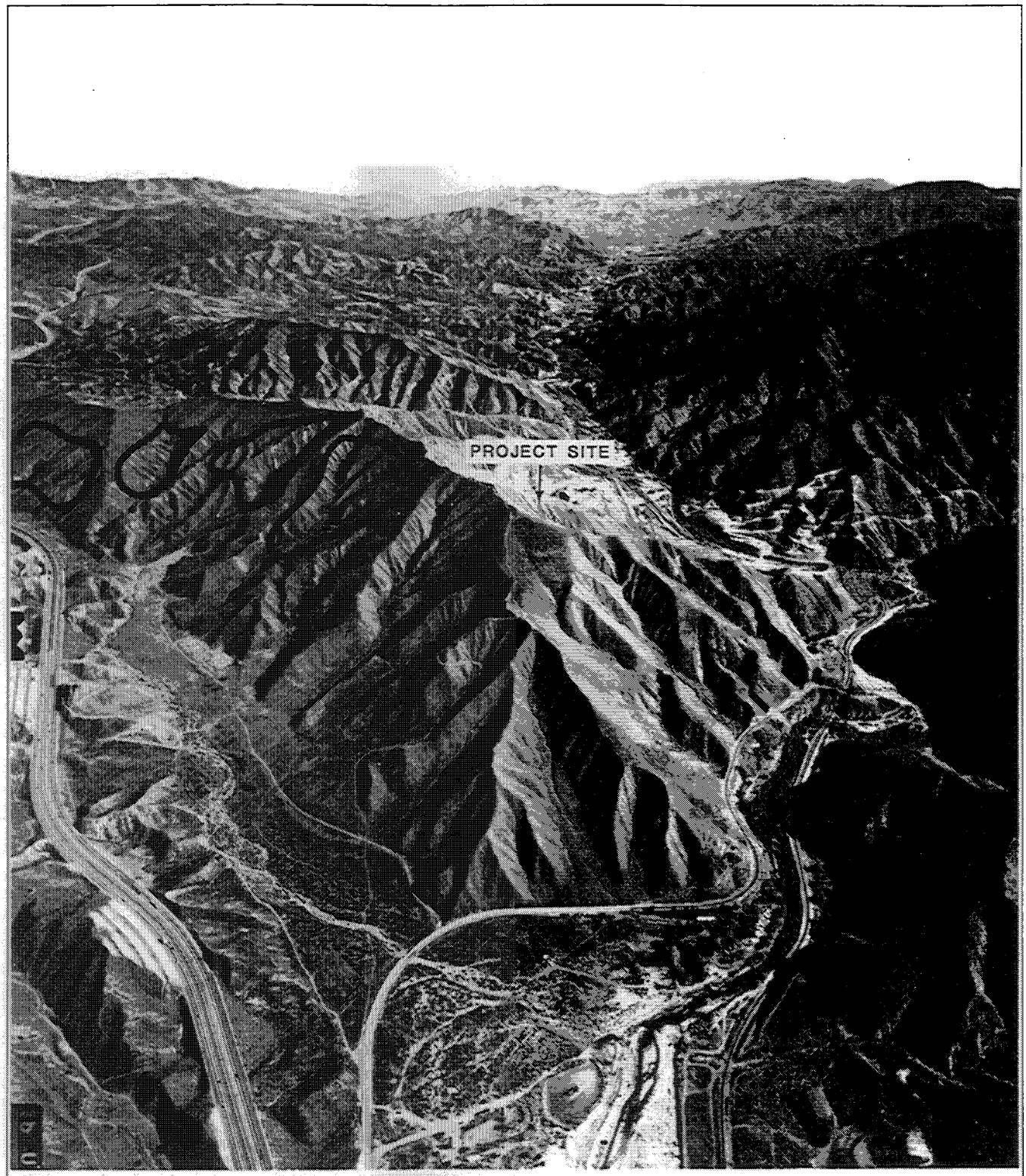
Areas A and B are located outside of the TMC contract area, while Area C is only partially within the TMC contract area.

Under this alternative, all mining operations would remain the same as the Proposed Action. From an engineering standpoint, Areas A, B, and C would have a combined 7.9 million cubic yards of storage capacity, which is insufficient to meet the Project's needs of 9.3 million cubic yards for the duration of the Project. Also, Areas A, B, and C would have a combined surface area of 81.8 acres as compared to 63.1 acres for the Project. This larger land area would be due to topographic limitations affecting fines storage capacity.

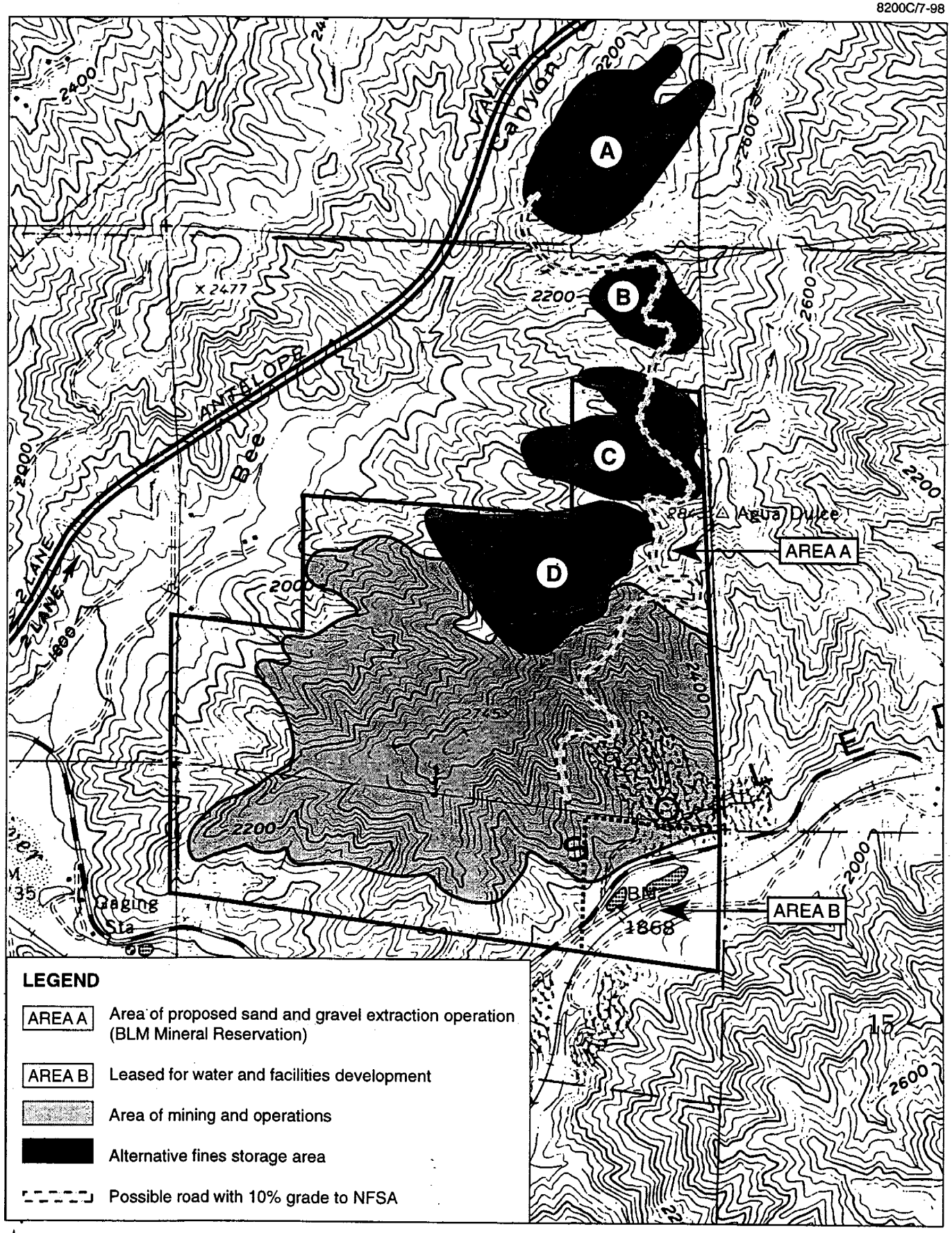
For this analysis, a conceptual design of a road from the Project's mining Cut 1 crusher site in the mine area on the south side of the ridge to the 2,100-foot level of alternative fines Area A on the north side of the ridge was developed. This road coming over the ridge is shown on Figure 3.2-3. The design criterion was a maximum 10-percent grade. The length of the designed road, crossing the ridge near the 2,700-foot level, would be about 13,250 feet. This length compares to 7,348 feet for the Proposed Action's road to the proposed NFSA from the same crusher site.

On the north face only, the road length would be approximately 6,500 feet. In comparison, the Proposed Action's access road on the north face of the ridge is 3,000 feet in length. As discussed further below, the increased haulage distances involved would result in an increase in

PROPOSED NORTH FINES STORAGE AREA
AERIAL VIEW OF PROJECT SITE LOOKING EAST
Figure 3.2-1



ALTERNATIVE SITE- NORTH FINES STORAGE AREA
AERIAL VIEW OF PROJECT SITE LOOKING EAST
Figure 3.2-2



PLAN VIEW OF ALTERNATIVE SITES FOR NORTH FINES STORAGE

Figure 3.2-3

air emissions from the haul trucks and increases in dust emissions. The increased dust emissions would, in turn, require additional water usage for dust control.

Reduced Quantity Mining Concept Alternative

The objective of this reduced quantity analysis is to examine a reasonable alternative to the Proposed Action that would feasibly attain most of the Project's objectives but which would avoid or reduce significant environmental effects. The selection of the lower quantity of material to be mined was based on reducing visual impacts, reducing onsite air quality impacts, and reducing traffic impacts on Soledad Canyon Road.

The alternative considered the fact that the Federal Government will review and approve the final Mining and Reclamation Plan pursuant to federal regulations (43 CFR 3602.1-3). The federal review will include identification of any deficiencies and changes needed to prevent undue and unnecessary degradation of the lands (e.g., unnecessary burying of mineral reserves with fine materials) and hazards to public health and safety (e.g., uncontrolled floodwater runoff).

The steep topography as well as the favorable exposure of the aggregate resources on the south side of the ridge was considered. From an engineering perspective, the most logical place to start excavation activities is from the relatively flat area on the south side of the ridge that was created from previous mining activities. The staging of equipment, construction materials, and supplies can be accomplished here. Minimal overburden exists here, and haul distance to aggregate processing equipment is minimized. Sufficient area is present for stockpiling of aggregate products, and access to Soledad Canyon Road can be achieved. However, until Cut 3 is completed, only about 1 million tons of fines storage is available on the south side of the ridge. Therefore, in order to avoid unnecessary degradation of the lands by burying good exposures of government aggregate resources with fines, it is necessary to create the NFSA regardless of the size of the mining quantity selected and at an early point in the overall Project development.

The original mining concept analyzed mining of 170 million tons of product. The Notice of Sand and Gravel Sale offered for sale by the BLM in a public competitive bid up to 100 million tons of sand and gravel from the subject lands. TMC won the bid and was awarded contracts to sever, extract, and remove 56 million tons of sand and gravel. While the purpose and objective of the Project are to produce 56 million tons of PCC grade aggregates, this Reduced Quantity Mining Concept Alternative results in a project that would produce 32 million tons of PCC grade aggregates. This quantity of material was selected because it represents the quantity of material that could be produced without unnecessarily burying good-quality reserves on the south side of the ridge. Mining 32 million tons of product would require completion of Cuts 1, 2, and up to 50 percent of Cut 3. By reducing the quantity of material to be mined, less land form alteration would take place as compared to the Proposed Action; specifically, the extension of Cut 3 to the west would be limited and lowering the northeast-southwest ridgeline through the extension of Cut 4 to the north would be avoided.

Under this alternative, 47 million tons of material would need to be mined to produce 32 million tons of product. Due to the topography and need for processing areas, the only space available on the south side of the ridge for the permanent storage of fines is the southern portion of Cut 1 (0.5 million ton), the northeastern corner of Cut 2 (0.5 million ton), and Cut 3 when completed. Because Cut 3 would not be completely excavated under the Reduced Quantity Mining Concept Alternative, up to 11.9 million tons of fines would still need to be stored in the NFSA compared to 12.9 million tons for the Proposed Action. The disturbed area working face on the south side of the ridgeline would be smaller than for the Proposed Action (Cut 3 would be 50 percent smaller). This working face at the end of mining would be considered to be a mineral development asset by the Federal Government and would be available for future mineral development if the demands for future sales of this deposit are realized as is anticipated by the BLM. If on the other hand, no further mineral development were to occur, the disturbed area working face would be revegetated to an open space condition using the same reclamation guidelines as are detailed in the Project Reclamation Plan. In either case, the NFSA would be revegetated according to the Project Reclamation Plan in a program of concurrent reclamation.

3.2.1 Geotechnical Resources

3.2.1.1 No Action Alternative

Impacts

Under the No Action Alternative, no additional landform alteration would occur through mining cuts or storage of fines in the Project area. The existing quarry and stockpiles would not be recontoured, and the slopes would not be revegetated. No proposed grading for construction of the batch plant would occur. Because mining would not take place at the site under the No Action Alternative, the regionally significant aggregate resources would remain onsite. Geologic stability from the steep slopes of the existing quarry would remain a significant hazard because there are no approved reclamation plans and financial assurances for recontouring and revegetation by the former operator.

Mitigation Measures

Since no activities are associated with this No Action Alternative, there is no mitigation proposed. The significant impacts associated with the existing site hazards would not be mitigated.

3.2.1.2 Reduced North Fines Storage Area Alternative Analysis

Impacts

Under the Reduced NFSA Alternative, Cut 3 will be excavated to the 1,925-foot elevation, which is about 150 feet deeper than under the Proposed Action. Mining to this depth should encounter additional Tv1 material that could be excavated using the same mining methods as used at higher elevations. The interim pit slopes under this approach would be the same as

under the Proposed Action (i.e., 1:1 [horizontal to vertical] with benches excavated at regular intervals).

The Reduced NFSA approach will decrease the amount of excess fines that would be placed in the NFSA by reducing the amount of Tv2 to be mined and by increasing the fines to be backfilled into Cut 3 by approximately 8 percent; an increase of approximately 1 million tons.

Mitigation Measures

All mitigation of the Proposed Action relative to slope stability, configuration and compaction after reclamation is applicable to this alternative. The same fill slope and compaction requirements that achieve appropriate factors of safety would be required to mitigate potential impacts. All measures G1 through G7 apply to this alternative. No significant impacts would remain after implementation of the mitigation.

3.2.1.3 Batch Plant Location Alternative Analysis

Impacts

The addition of a batch plant near Lang Station would entail grading for site development in an area that is relatively flat. No geological impacts would occur. All other impacts as described for the Proposed Action would also apply to this alternative.

Mitigation Measures

All mitigation as described for the Proposed Action (measures G1 through G7) apply to this alternative as mining would remain the same as the Proposed Action. No significant impacts would remain after implementation of the mitigation.

3.2.1.4 Addition of Water/Reclaimed Water Alternative Analysis

Impacts

The addition of a pipeline to bring reclaimed water to the site would entail construction which would disturb resources not only at the site but the entire length of pipeline alignment. Since it is anticipated that the pipeline would be buried to a few feet below the surface, there would be roadways, infrastructure and other obstacles around or under which the pipeline would have to be designed. However, no significant geotechnical issues would be associated with pipeline construction or operation. Hauling reclaimed or imported water to the site by truck would not result in additional geotechnical impacts. Impacts remain as presented for the Proposed Action.

Mitigation Measures

All mitigation as described for the Proposed Action (measures G1 through G7) apply to this alternative. No significant impacts would remain after implementation of the mitigation.

3.2.1.5 Product Transportation Alternative Analysis

Impacts

The rail transportation alternative would be similar to that of the Proposed Action. All impacts would remain the same as the mining actions would not change. The addition of a rail spur to the site would also result in surface disturbance in laying the rail and an increase in erosion potential and sedimentation into the Santa Clara River, resulting in a potentially significant impact.

Mitigation Measures

All mitigation as described for the Proposed Action (measures G1 through G7) apply to this alternative. Erosion control measures would need to be implemented near the river. No significant impacts would remain after implementation of the mitigation.

3.2.1.6 Alternative North Fines Storage Area Analysis

Impacts

Geotechnical characteristics of the alternative NFSA are the same as the Proposed Action. Slope stability issues remain the same; however, the potential for any instability problems will be spread over a larger area.

Mitigation Measures

All mitigation of the Proposed Action relative to slope stability, configuration and compaction after reclamation is applicable to this alternative. The same fill slope and compaction requirements that achieve appropriate factors of safety would be required to mitigate potential impacts. All measures G1 through G7 apply to this alternative. No significant impacts would remain after implementation of the mitigation.

3.2.1.7 Reduced Quantity Mining Concept Alternative Analysis

Impacts

Less landform alteration would occur under the Reduced Quantity Mining Concept Alternative because about 50 percent of Cut 3 and all of Cut 4 would be eliminated from mining activity. It is assumed that the existing quarry and stockpiles would be recontoured and some, but not all,

of the slopes would be revegetated. That area which could be subject to future mining under potential BLM contract objectives would not be revegetated because it would not be a part of the Reduced Quantity Mining Concept. Grading would occur and a batch plant would still be required. The proposed NFSA would also still be required under this alternative. Geotechnical stabilization requirements would remain the same for this alternative as for the Proposed Action.

Mitigation Measures

All mitigation of the Proposed Action relative to slope stability, configuration and compaction after reclamation is applicable to this alternative. The same fill slope and compaction requirements that achieve appropriate factors of safety would be required to mitigate potential impacts. All measures G1 through G7 apply to this alternative. No significant impacts would remain after implementation of the mitigation.

3.2.2 Water Resources

3.2.2.1 No Action Alternative

Impacts

Under the No Action Alternative, no local water resources would be used. Therefore, no impacts on local water resources would occur in the Project area.

Mitigation Measures

The Water Shortage Contingency Plan and mitigation measure WR1 would not be implemented, as no mitigation would be required under this alternative.

3.2.2.2 Reduced North Fines Storage Area Alternative Analysis

Impacts

Water consumption estimates would be expected to remain similar to the Proposed Action. However, it may be that water use under this alternative would be slightly less due to the reduced quantity of excavated and backfilled material over the contract period.

Under this alternative, 5 million fewer tons of fines would be produced in Phase 2 of the Project. This would result in a 25 percent reduction in the quantity of water needed in Phase 2 for fines compaction. The resulting reduction in water use would be 20 acre-feet per year as compared to the Proposed Action, which would reduce annual water usage for Phase 2 to 726 acre-feet per year.