

CHAPTER 5.0

Comparison of Alternatives

This section summarizes and compares the environmental advantages and disadvantages of the proposed project and the alternatives evaluated in this EIR. This comparison is based on the assessment of environmental impacts of the proposed project as identified in Sections 4.1 through 4.15 and each alternative, as identified below. Chapter 2 introduces and describes the proposed project and Chapter 3 introduces and describes the alternatives considered in this EIR.

Section 5.1 describes the methodology used for comparing alternatives. Section 5.2 summarizes the environmental impacts of the proposed project and the alternatives. Section 5.3 defines the Environmentally Superior Alternative, based on comparison of each alternative with the proposed project. Section 5.4 presents a comparison of the No Project Alternative with the alternative that is determined in Section 5.3 to be environmentally superior.

5.1 Comparison Methodology

CEQA does not provide specific direction regarding the methodology of alternatives comparison. Each project must be evaluated for the issues and impacts that are most important; this will vary depending on the project type and the environmental setting. Issue areas that are generally given more weight in comparing alternatives are those with long-term impacts (e.g., visual impacts and permanent loss of habitat or land use conflicts). Impacts associated with construction (i.e., temporary or short-term) or those that are easily mitigable to less than significant levels are considered to be less important.

This comparison is designed to satisfy the requirements of CEQA Guidelines Section 15126.6(d), Evaluation of Alternatives, which states that:

“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. 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 proposed project as proposed.”

If the Environmentally Superior Alternative is the No Project Alternative, CEQA requires identification of an Environmentally Superior Alternative among the other alternatives (CEQA Guidelines Section 15126.6[e][2]).

The following methodology was used to compare alternatives in this EIR:

- Step 1: Identification of Alternatives.** An alternatives screening process (described in Section 3) was used to identify three alternatives to the proposed project. A No Project Alternative was also identified. No other feasible alternatives meeting most of the basic project objectives were identified that would lessen or alleviate significant impacts of the proposed project.
- Step 2: Determination of Environmental Impacts.** The environmental impacts of the proposed project were identified in Sections 4.1 through 4.15, including the potential impacts of construction, operations and reclamation. Environmental impacts of the alternatives are described below.
- Step 3: Comparison of Proposed Project with Alternatives.** The environmental impacts of the proposed project were compared to those of each alternative to determine the Environmentally Superior Alternative. The Environmentally Superior Alternative was then compared to the No Project Alternative.

Although this comparison focuses on the 15 issue areas (described in Sections 4.1 through 4.15), determining an Environmentally Superior Alternative is difficult because of the many factors that must be balanced. Although this EIR identifies an Environmentally Superior Alternative, it is possible that the City could choose to balance the importance of each impact area differently and reach a different conclusion.

5.2 Evaluation of Project Alternatives

Three alternatives in addition to the No Project Alternative were identified for evaluation in this EIR. A detailed analysis of environmental impacts and mitigation for the proposed project is provided in Sections 4.1 through 4.15. The environmental analysis for each of the alternatives is presented below. Table 5-1 provides a summary of significant unmitigable (Class I) impacts for the proposed project. Table 5-2 provides a summary comparison of environmental impact conclusions for the proposed project and provides a comparative evaluation of potential environmental effects associated with each alternative for each environmental resource area based on the analysis of alternatives provided below.

There would be three significant unmitigable (Class I) impacts associated with the proposed project. Construction, operation, and reclamation activities associated with the proposed project would generate criteria pollutant emissions, including suspended and inhalable particulate matter and equipment exhaust emissions, which would exceed applicable significance criteria. Although mitigation measures would be implemented, for all years of construction and operation, emissions of ROG would remain potentially significant, NO_x would remain significant and unavoidable, and PM₁₀ would remain potentially significant during the years 2009, 2011, 2012, and 2015. During reclamation (year 2029) NO_x emissions would be potentially significant. In the cumulative context, construction and operation of the proposed project between the years 2008-2029 would have a cumulatively considerable contribution to the impact of increased criteria air pollutants in the Mountain Counties Air Basin from the construction and operations of future

**TABLE 5-1
SUMMARY OF SIGNIFICANT UNMITIGABLE (CLASS I) ENVIRONMENTAL IMPACTS
OF THE PROPOSED PROJECT AND ALTERNATIVES**

Alternative	Significant (Class I) Impacts
Proposed Project	Construction, operation, and reclamation activities associated with the proposed project would generate criteria pollutant emissions, including suspended and inhalable particulate matter and equipment exhaust emissions. Although mitigation measures would be implemented; for all years of construction and operation, emissions of ROG would remain potentially significant, NOx would remain significant and unavoidable, and PM10 would remain potentially significant during the years 2009, 2011, 2012, and 2015. During reclamation (year 2029) NOx emissions would be potentially significant.
<i>Cumulative Context</i>	The proposed project would conflict with implementation of State goals for reducing greenhouse gas (GHG) emissions and would thereby have an adverse effect on global climate change due to the overall metric tons/year of CO2e generated by the proposed project.
<i>Cumulative Context</i>	Construction and operation activities associated with the proposed project would generate criteria pollutant emissions that, depending on the pollutant, would be either potentially significant or significant. Although mitigation measures would be implemented, construction and operation of the project between the years 2008-2029 would have a cumulatively considerable contribution to the impact of increased criteria air pollutants in the Mountain Counties Air Basin from the construction and operations of future project that occur during the next twenty years.
Class I Impacts Eliminated or Created by Alternatives	
Electrification of Mine Operations	Would reduce project and cumulatively significant air quality impacts; however, impacts would still remain significant and unavoidable.
Reduced Ceramics Plant Production	Would reduce project and cumulatively significant air quality impacts; however, impacts would still remain significant and unavoidable.
Electrification of Mine Operations and Reduced Ceramics Plant Production	Would reduce project and cumulatively significant air quality impacts; however, impacts would still remain significant and unavoidable.

projects that would occur during the next twenty years. Additionally, in the cumulative context, the proposed project would have an adverse effect on global climate change.

5.2.1 Electrification of Mine Operations

Aesthetics

Under the electrification alternative, surface development on the project sites would generally be the same as under the proposed project; however, the location of the water treatment plant would need to be switched to the area of the proposed ventilation shaft in order to accommodate a new hoist and head-frame (approximately 20 feet and 65 feet in height, respectively). Although the area of impact would increase due to the new hoist and head-frame, this alternative would only slightly change the mass of structures proposed at the site as compared to the proposed project. The potential impacts on adjacent properties would be similar to those of the proposed project.

This alternative would not substantially increase new sources of light and glare compared to the proposed project, and therefore the potential impacts would not be significant. Furthermore, the site is not located in the vicinity of any sensitive receptors; therefore, altering the arrangement of the buildings on the site is not anticipated to increase impacts. Therefore, impacts related to visual resources would be the same as for the proposed project.

Air Quality

With optimal electrification of operational systems and use of an electric trolley system, air emissions would be substantially reduced. However, there would be some incremental increase in air emissions elsewhere in the State resulting from the increase in electricity demand under this alternative. These incremental air emissions would include both criteria pollutants and GHGs. Per unit of energy, however, the emission reductions realized from electrification of operational systems and use of an electric trolley system would far exceed the incremental emissions from electricity production¹. It should be noted that using all electrical off-road equipment for construction and operations would not be feasible as electric equivalent equipment is not yet commercially available for many types of construction and operation equipment. In addition, even if all underground and surface equipment could be electrified there would still be significant air quality impacts due to operation of the ceramics plant. Electrification, as proposed under this alternative would reduce construction and operational emissions for ROG, NO_x, and CO₂ (depending on the phase of construction/operations and equipment emission proportion). PM10 would not be reduced substantially since the majority is generated as fugitive dust. Therefore, emissions of ROG and PM10 would remain potentially significant, and NO_x and CO₂ emissions would remain significant because, as stated above, operation of the ceramics plant alone would rise to the same level of significance with or without implementation of this alternative.

Biological Resources

Under the electrification alternative, surface development of the project sites would generally be the same as under the proposed project; however, the location of the water treatment plant would need to be switched to the area of the proposed ventilation shaft in order to accommodate a new hoist and head-frame. Although the area of impact would increase due to the new hoist and head-frame, the proposed site is already disturbed and no additional impacts to biological resources would be anticipated. Therefore, impacts related to biological resources would be the same as under the proposed project.

Cultural Resources

Under the electrification alternative, surface development of the project sites would generally be the same as under the proposed project; however, the location of the water treatment plant would need to be switched to the area of the proposed ventilation shaft in order to accommodate a new

¹ Using as an example, a 164 hp diesel loader operating at a 0.54 load factor for 8 hours. Direct emissions would be NO_x = 6 lbs/day, PM10 = 0.34 lbs/day and CO₂ = 505 lbs/day (URBEMIS, 2007) compared to emissions from an equivalent amount of electricity generated in California (grid average) of NO_x = 0.02 lbs/day, PM10 = 0.02 lbs/day, and CO₂ = 464 lbs/day (California Climate Action Registry Protocol, 2008; CARB, 2008).

hoist and head-frame. Although the area of impact would increase due to the new hoist and head-frame, there are no known cultural resources in that area that would be impacted. Therefore, impacts related to cultural resources would be the same as under the proposed project.

Geology, Soils, and Seismicity

Under the electrification alternative, surface development of the project sites would essentially be the same as under the proposed project. Although the area of impact would increase due to the addition of a new hoist and head-frame, there would not be any additional impacts related to geology, soils, and seismicity as construction of a hoist and head-frame would not differ substantially from the facilities already analyzed under the proposed project. Therefore, impacts related to geology, soils, and seismicity would be the same as under the proposed project.

Hazards and Hazardous Materials

Under the electrification alternative, surface development, operational and reclamation activities would generally be the same as under the proposed project; however, use of an electric conveyance system at the 1600 foot level would negate the need for the proposed decline tunnel to be developed deeper than approximately 1600 feet, thus eliminating the continuation of the decline and the associated use of explosives under Whispering Pines Business Park. Elimination of the decline under the Whispering Pines Business Park would reduce the overall amount of explosives required for the proposed project; however, explosives would still be required for underground mining. Additionally, explosives would be required at the New Brunswick site for modification of the proposed ventilation shaft to accommodate a new hoist house. Construction activities at the New Brunswick site would require use of hazardous materials and could result in impacts related to hazards such as described and analyzed under the proposed project. Accordingly, impacts from hazards and hazardous materials would be similar to the proposed project.

Hydrology and Water Quality

Under the electrification alternative, surface development, operational and reclamation activities would generally be the same as under the proposed project. The use of an electric conveyance system at the 1600 foot level would negate the need for the proposed decline tunnel on the Idaho-Maryland site to be developed deeper than approximately 1600 feet, thus eliminating the continuation of the decline under Whispering Pines Business Park. Under the proposed project, the applicant expects that as the decline and shaft are excavated at the Idaho-Maryland site, water flows in the range of 0 to 200 gpm are expected and would be directed to a temporary settling pond prior to being treated. Once operational, process water for the mill (at the Idaho-Maryland site) would be obtained by pumping water from either the shaft or the decline at the Idaho-Maryland site. Although rates of up to 200 gpm would not be expected under this alternative scenario, water would still be encountered and require being directed to the settling pond, treated and then discharged. Impacts related to additional construction activities at the New Brunswick site would be similar to those analyzed under the proposed projects. Accordingly, impacts to hydrology and water quality from implementation of the electrification alternative would be similar to the proposed project.

Land Use and Planning

The electrification alternative would result in the same land use changes because the project sites would generally be developed with the same surface development as under the proposed project. Accordingly, the electrification alternative would have similar land use compatibility impacts. Similar to the proposed project, the electrification alternative could conflict with the adopted City of Grass Valley Capital Improvement Program, adopted by the General Plan, as well as the City of Grass Valley Zoning Map, Whispering Pines Corporate Community Specific Plan, and City of Grass Valley Parks and Recreation Master Plan, and their applicable land use designations and policies adopted for the purpose of avoiding or mitigating environmental effects. However, implementation of mitigation measures would reduce the impact of any conflicts with these zoning and plans to less than significant. Therefore, land use impacts would be the same for the electrification alternative as for the proposed project.

Noise

Under the electrification alternative, surface development and operational activities would generally be the same as under the proposed project; however, use of an electric conveyance system at the 1600 foot level would negate the need for the proposed decline tunnel to be developed deeper than approximately 1600 feet, thus eliminating the continuation of the decline under Whispering Pines Business Park. Elimination of the decline under the Whispering Pines Business Park would substantially decrease impacts to nearby receptors from noise and vibration associated with blasting activities. Therefore, noise and vibration impacts related to blasting would be less under the electrification alternative than the proposed project.

Population and Housing

Under the electrification alternative, the number of construction, operational, and reclamation personnel required would not change from that described for the proposed project; therefore, impacts related to population and housing would be the same as under the proposed project.

Public Services

Under the electrification alternative, surface development of the project sites and the number of construction, operational, and reclamation personnel required would not change from that described for the proposed project; therefore, the electrification alternative and the proposed project would have the same impacts to public services.

Recreation

Under the electrification alternative, surface development of the project sites and the number of construction and operational personnel required would not change from that described for the proposed project; therefore, impacts related to recreation would be the same as under proposed project.

Transportation and Traffic

Under the electrification alternative, surface development and operational activities would generally be the same as under the proposed project. The analysis of the proposed project in Chapter 4, *Environmental Analysis*, includes the development of infrastructure for transport of all ore and waste materials underground to the mill located on the Idaho-Maryland site which includes assessment of impacts related to Transportation and Traffic. Therefore, because the use of the underground electric trolley/conveyance system would not likely increase surface traffic, impacts related to transportation and traffic would be the same as under proposed project.

Utilities and Services Systems

Both the electrification alternative and the proposed project would require the similar extension of utility services to the project sites. Because the proposed land uses, surface development, and the number of construction, operational, and reclamation personnel required would be the same for this alternative as under the proposed project, impacts to utilities (e.g., water, wastewater, etc.) would be similar for this alternative compared to the proposed project.

Energy

Under this alternative, operations would be redesigned to utilize, where feasible, electrically powered equipment in underground operations. The applicant would construct and operate an electric trolley/conveyance system that would substantially reduce the number of diesel trucks required underground. As described in Chapter 3, *Alternatives and Cumulative Projects*, due to the complexity of the underground mine workings, it is not possible at this time to determine specifically which other diesel equipment could be replaced with electrical equipment. Therefore, IMMC would be required to develop an Electrification Plan to be submitted to and approved by the City of Grass Valley before underground production could commence. The plan would include specific information regarding which underground equipment within the mine could and would be replaced with electrical equipment as well as documentation as to why other equipment could not be replaced with electrical equipment.

Due to the increase in electrically powered equipment, the electrification alternative would generate a greater demand for electricity than the proposed project. The proposed project would create a product (gold/ceramics/aggregate) with market value. Electricity consumption associated with this alternative is not anticipated to result in local energy demands exceeding the capacity of PG&E facilities, except the proposed project would require the extension of transmission lines to the project sites. This alternative would also be required to comply with the energy conservation mitigation measures described in Section 4.15, *Energy*. Furthermore, the use of electrically powered equipment would reduce the consumption of diesel fuel during construction and operation of the facility. Therefore, while this alternative would increase electricity consumption, it would decrease consumption of diesel fuel and would therefore not result in the inefficient use of energy.

5.2.2 Reduced Ceramics Plant Production

Aesthetics

Under the reduced ceramics plant production alternative, surface development of the project sites would essentially be the same as under the proposed project. The principal difference in built structures would be the addition of a small permanent crushing and screening plant in the proposed temporary stockpile area at the Idaho-Maryland site. However, this structure would not result in an increased severity to impacts related to visual quality because it would be similar in character to and lower in height than other industrial structures that would occur under the proposed project. Accordingly, impacts related to visual resources would be similar to the proposed project.

Air Quality

Under the reduced ceramics plant production alternative, air emissions associated with the ceramics plant operations would be reduced by 50 approximately percent. Depending on the phase of construction and operations, total ROG, NO_x, and PM₁₀ from the project would be reduced by up to 20 percent². Natural gas combustion associated with the ceramics plant operation is one of the major sources of CO₂ for the proposed project, and total CO₂ emissions would be reduced by approximately 20 to 30 percent during operations under this alternative. Even though air emissions would be substantially reduced under this alternative, emissions of ROG and PM₁₀ would remain potentially significant, and NO_x and CO₂ emissions would remain significant.

Biological Resources

Under the reduced ceramics plant production alternative, surface development of the project sites would essentially be the same as under the proposed project. The addition of a small permanent crushing and screening plant in the proposed temporary stockpile area would not result in any additional biological impacts, as direct impacts to this site were analyzed under the proposed project. Therefore, impacts related to biological resources would be the same as under the proposed project.

Cultural Resources

Under the reduced ceramics plant production alternative, surface development of the project sites would essentially be the same as under the proposed project. The addition of a small permanent crushing and screening plant in the proposed temporary stockpile area would not result in any additional impacts related to cultural resources as direct impacts to this site were analyzed under the proposed project. Therefore, impacts related to cultural resources would be the same as under the proposed project.

² There would be no reduction of emissions during the construction and reclamation phases, because the ceramics plant would not be in operation during those years.

Geology, Soils, and Seismicity

Under the reduced ceramics plant production alternative, surface development of the project sites would essentially be the same as under the proposed project. The addition of a small permanent crushing and screening plant in the proposed temporary stockpile area would not result in any additional impacts related to geology, soils, and seismicity as impacts to this site were analyzed under the proposed project. Therefore, impacts related to geology, soils, and seismicity would be the same as under the proposed project.

Hazards and Hazardous Materials

Under the reduced ceramics plant production alternative, surface development of the project sites would essentially be the same as under the proposed project. The addition of a small permanent crushing and screening plant in the proposed temporary stockpile area would not result in the use of substantially greater quantities or inherently more hazardous materials than were already analyzed for construction, operation and reclamation of the proposed project. Accordingly, impacts related to hazards and hazardous materials under the reduced ceramics plant production alternative would be similar to the proposed project.

Hydrology and Water Quality

Under the reduced ceramics plant production alternative, surface development of the project sites would essentially be the same as under the proposed project. The addition of a small permanent crushing and screening plant in the proposed temporary stockpile area would not result in any additional impacts related to hydrology and water quality as direct impacts to this site were analyzed under the proposed project. Therefore, impacts related to hydrology and water quality would be the same as under the proposed project.

Land Use and Planning

The reduced ceramics plant production alternative would result in the same land use changes as would occur under the proposed project because development of the project sites would be substantially the same. Accordingly, this alternative would have similar land use compatibility impacts as were described for the proposed project. Similar to the proposed project, the reduced ceramics plant production alternative could conflict with the City of Grass Valley Capital Improvement Program, adopted by the General Plan, as well as the City of Grass Valley Zoning Map, Whispering Pines Corporate Community Specific Plan, and City of Grass Valley Parks and Recreation Master Plan, and their applicable land use designations and policies adopted for the purpose of avoiding or mitigating environmental effects. However, implementation of mitigation measures would reduce the impact of any conflicts with these zoning and plans to less than significant. Therefore, land use impacts would be the same for the reduced ceramics plant production alternative as for the proposed project.

Noise

Under the reduced ceramics plant production alternative, the addition of a small permanent crushing and screening plant in the proposed temporary stockpile area could increase the amount of operational noise and vibration at the Idaho-Maryland site. However, as with the proposed project, a number of noise sources would be present including, but not limited to, wheel loaders, forklifts, heavy trucks, conveyor belts, milling equipment and cyclones or fans at the ceramics building. Additionally, topography and large buildings in the surrounding area can reduce noise traveling off site by 10dBA where there would be no direct line of sight from the noise source to a receiver. Typical noise associated with the operation of a small crushing and screening plant would be approximately 81.5 dBA Leq and 84.7 dBA Lmax at a distance of 116 feet (ESA, 2004). Assuming that the crusher would operate at approximately 900 feet from the nearest sensitive receptor (on East Bennett Road), noise levels would attenuate to 59 dBA Leq and 63 dBA Lmax. This would be greater than the noise levels expected from other stationary noise sources and would exceed the City of Grass Valley's daytime performance standards therefore resulting in a significant impact. However, attenuation of noise impacts at the nearest residence to acceptable levels could be achieved by standard engineering controls including, but not limited to, baffles, enclosures, berms and or vegetative screening to the south and east of the small crushing and screening plant. Regarding ground borne vibration, the crushing and screening plant would not generate substantial ground borne vibration at a distance of 900 feet from the nearest receptor; estimated vibration levels would likely be less than those associated with blasting; therefore, impacts would be considered less than or the same as the proposed project. Construction and reclamation activities associated with construction and subsequent deconstruction of the crushing and screening plant would be the same as under the proposed project. Accordingly, under the reduced ceramics plant production alternative, impacts related to noise would generally be similar to the proposed project.

Population and Housing

Under the reduced ceramics plant production alternative, the number of construction, operational, and reclamation personnel required would be no greater than the proposed project; therefore, impacts related to population and housing would be similar to the proposed project.

Public Services

Under the reduced ceramics plant production alternative, surface development of the project sites and the number of construction, operational, and reclamation personnel required would be no greater than the proposed project; therefore, the reduced ceramics plant production alternative and the proposed project would have similar impacts to public services.

Recreation

Under the reduced ceramics plant production alternative, surface development of the project sites and the number of construction, operational, and reclamation personnel required would be no greater than the proposed project; therefore, impacts related to recreation would be similar to proposed project.

Transportation and Traffic

Under the reduced ceramics plant production alternative, surface development of the project sites and the number of construction, operational, and reclamation personnel commute trips would be no greater than the proposed project. However, a reduction in ceramics production would conversely result in an increase in aggregate production. It is expected that the same number of trucks would be required to transport either ceramics or aggregate materials from the work site as the weight and volume of either final product would be substantially the same. Accordingly, impacts related to transportation and traffic for the reduced ceramics plant production alternative would be similar to the proposed project.

Utilities and Services Systems

Both the reduced ceramics plant production alternative and the proposed project would require the similar extension of utility services to the project sites. Because the proposed land uses, surface development, and the number of construction, operational, and reclamation personnel required would be substantially the same as under the proposed project, impacts to utilities (e.g., water, wastewater, etc.) would be similar for both this alternative and the proposed project.

Energy

This alternative consists of limiting the production of the ceramics plant to reduce its natural gas demand. Assuming that above a minimum threshold, energy demands are linear in relation to the production output of the plant, reducing the production of the plant by 50 percent would result in a roughly equivalent reduction in natural gas consumption. Therefore, this alternative would have less energy-related impacts than the proposed project.

5.2.3 Electrification of Mine Operations and Reduced Ceramics Plant Production

Aesthetics

Under the electrification of mine operations and reduced ceramics plant production alternative, surface development on the project sites would generally be the same as under the proposed project; however, the location of the water treatment plant would need to be switched to the area of the proposed ventilation shaft at the New Brunswick site in order to accommodate a new hoist and head-frame. In addition, a small permanent crushing and screening plant would need to be added in the proposed temporary stockpile area at the Idaho-Maryland site. The additional structures under this alternative would be similar in character to and lower in height than other industrial structures that would occur under the proposed project. Further, this alternative would not substantially increase new sources of light and glare compared to the proposed project. Therefore, impacts related to visual resources for this alternative would be substantially the same as the for proposed project.

Air Quality

Under the electrification of mine operations and reduced ceramics plant production alternative, air emissions associated with the proposed project could be substantially reduced. As discussed above, there would be some incremental increase in air emissions elsewhere in the State resulting from the increase in electricity demand under this alternative. Depending on the phase of construction and operations, ROG and NO_x would be reduced approximately 40 to 60 percent and PM₁₀ would be reduced by 15 percent or less (assuming 60 percent electrification would be attainable). Under this alternative, CO₂ emissions would be reduced by approximately 25 to 35 percent during operations. However, even with these emission reductions, emissions of ROG and PM₁₀ would remain potentially significant, and NO_x and CO₂ emissions would remain significant.

Biological Resources

Under the electrification of mine operations and reduced ceramics plant production alternative, surface development of the project sites would essentially be the same as under the proposed project. The location of the water treatment plant would need to be switched to the area of the proposed ventilation shaft on the New Brunswick site in order to accommodate a new hoist and head-frame. Although the area of impact would increase due to the new hoist and head-frame, the proposed site is already disturbed and no additional impacts to biological resources would be anticipated. Additionally, the addition of a small permanent crushing and screening plant in the proposed temporary stockpile area on the Idaho-Maryland site would not result in any additional biological impacts as direct impacts to this site were analyzed under the proposed project. Therefore, impacts related to biological resources under this alternative would be similar to proposed project.

Cultural Resources

Under the electrification of mine operations and reduced ceramics plant production alternative, the location of the water treatment plant would need to be switched to the area of the proposed ventilation shaft on the New Brunswick site in order to accommodate a new hoist and head-frame. Although the area of impact would increase due to the new hoist and head-frame, there are no known cultural resources that would be impacted in that area. Additionally, the addition of a small permanent crushing and screening plant in the proposed temporary stockpile area on the Idaho-Maryland site would not result in any additional impacts related to cultural resources as direct impacts to this site were analyzed under the proposed project and there are no known cultural resources that would be impacted in that area. Therefore, impacts related to cultural resources would be the same as under the proposed project.

Geology, Soils, and Seismicity

Under the electrification of mine operations and reduced ceramics plant production alternative, although the area of impact would increase on the New Brunswick site and a small permanent crushing and screening plant would be installed and operated on the Idaho-Maryland site, impacts

related to Geology, Soils, Seismicity would be the same as the proposed project as these changes because impacts relate to these facilities would not substantially from the facilities already analyzed under the proposed project.

Hazards and Hazardous Materials

Under the electrification of mine operations and reduced ceramics plant production alternative, surface development and operational activities would generally be the same as under the proposed project. At the Idaho-Maryland site, there would be an overall reduction in the quantity of explosives required since the use of an electric conveyance system at the 1,600 foot level would negate the need for the proposed decline tunnel to be developed deeper than approximately 1,600 feet. The addition of a small permanent crushing and screening plant in the proposed temporary stockpile area would not result in the use of substantially greater quantities or inherently more hazardous materials than were already analyzed for construction and operation of the proposed project. At the New Brunswick site, explosives would be required for modification of the proposed ventilation shaft to accommodate a new hoist house. Construction activities at the New Brunswick site would require use of hazardous materials and could result in impacts related to hazards such as described and analyzed under the proposed project. Accordingly, impacts from hazards and hazardous materials would be similar to the proposed project.

Hydrology and Water Quality

Under the electrification of mine operations and reduced ceramics plant production alternative, surface development and operational activities would generally be the same as under the proposed project. At the Idaho-Maryland site, as proposed water flows in the decline tunnel from 0 to 200 gpm are expected and would be directed to a temporary settling pond prior to being treated. Once operational, process water for the mill (at the Idaho-Maryland site) would be obtained by pumping water from either the shaft or the decline at the Idaho-Maryland site. Although rates of up to 200 gpm would not be expected under this alternative scenario, water would still be encountered and require being directed to the settling pond, treated and then discharged. The addition of a small permanent crushing and screening plant in the proposed temporary stockpile area would not result in any additional impacts related to hydrology and water quality as direct impacts to this site were analyzed under the proposed project. Accordingly, impacts to hydrology and water quality from implementation of the electrification alternative would be similar to the proposed project.

Land Use and Planning

The electrification of mine operations and reduced ceramics plant production alternative would result in the same land use changes as would occur under the proposed project because development of the project sites would be substantially the same. Accordingly, this alternative would have similar land use compatibility impacts as were described for the proposed project. Similar to the proposed project, this alternative could conflict with the City of Grass Valley Capital Improvement Program, adopted by the General Plan, as well as the City of Grass Valley Zoning Map, Whispering Pines Corporate Community Specific Plan, and City of Grass Valley

Parks and Recreation Master Plan, and their applicable land use designations and policies adopted for the purpose of avoiding or mitigating environmental effects. However, implementation of mitigation measures would reduce the impact of any conflicts with these zoning and plans to less than significant. Therefore, land use impacts would be substantially the same for the electrification of mine operations and reduced ceramics plant production alternative as for the proposed project.

Noise

Under the electrification of mine operations and reduced ceramics plant production alternative, surface development and operational activities would generally be the same as under the proposed project. Due to the use of an electric conveyance system at the 1600 foot level, the need for the proposed decline tunnel to be developed deeper than approximately 1600 feet at the Idaho-Maryland site would be negated. Therefore, impacts to nearby receptors from noise and vibration associated with blasting activities would substantially decrease. However, with the addition of a small permanent crushing and screening plant in the proposed temporary stockpile area attenuation of noise impacts at the nearest residence could exceed the City of Grass Valley City of Grass Valley's daytime performance standards. However, with the use of standard engineering controls noise could be attenuated to acceptable levels. Regarding ground borne vibration, the crushing and screening plant would not generate substantial ground borne vibration at a distance of 900 feet from the nearest receptor. Construction and reclamation activities associated with construction and subsequent deconstruction of the crushing and screening plant would be the same as under the proposed project. Therefore, impacts related to noise and vibration would generally be less than the proposed project.

Population and Housing

Under the electrification of mine operations and reduced ceramics plant production alternative, the number of construction, operational, and reclamation personnel required would be no greater than the proposed project; therefore, impacts related to population and housing would be similar to the proposed project.

Public Services

Under the electrification of mine operations and reduced ceramics plant production alternative, surface development of the project sites and the number of construction, operational, and reclamation personnel required would be no greater than the proposed project; therefore, this alternative and the proposed project would have similar impacts to public services.

Recreation

Under the electrification of mine operations and reduced ceramics plant production alternative, surface development of the project sites and the number of construction, operational, and reclamation personnel required would be no greater than the proposed project; therefore, impacts related to recreation would be the similar to the proposed project.

Transportation and Traffic

Under the electrification of mine operations and reduced ceramics plant production alternative, surface development of the project sites and operational activities would generally be the same as under the proposed project. The analysis of the proposed project in Chapter 4, *Environmental Analysis*, includes the development of infrastructure for transport of all ore and waste materials underground. Moreover, the use of the underground electric trolley/conveyance system would not likely increase surface traffic. Also, since a reduction in ceramics production would conversely result in an increase in aggregate production, it is expected that the same number of trucks would be required to transport either ceramics or aggregate materials from the work site as the weight and volume of either final product would be substantially the same. Accordingly, impacts related to transportation and traffic would be similar to the proposed project.

Utilities and Services Systems

Both the electrification of mine operations and reduced ceramics plant production alternative and the proposed project would require the similar extension of utility services to the project sites. Because the proposed land uses, surface development, and the number of construction, operational, and reclamation personnel required would be substantially the same as the proposed project, impacts to utilities (e.g., water, wastewater, etc.) would be similar for both this alternative and the proposed project.

Energy

Under this alternative, electrification of mine operations would increase electricity consumption but would decrease consumption of diesel fuel, and therefore would not result in the inefficient use of energy. Reduction of the ceramics plant production would reduce natural gas demand by approximately 50 percent as compared to the proposed project. Therefore, the electrification of mine operations and reduced ceramics plant production alternative would have less energy-related impacts than the proposed project.

5.2.4 No Project

Aesthetics

Idaho-Maryland Site

Although the Idaho-Maryland site is currently vacant (except for the Hap Warnke Mill located at the northern portion of the site), it is reasonably foreseeable that the Idaho-Maryland site would be annexed and developed under the City of Grass Valley General Plan and zoning designations. The northern portion of the site would likely be developed as a business park and the southern portion with residential development. The No Project alternative would therefore alter the existing views of the surrounding land uses and add new sources of light and glare to the project site. However, development on the site would likely be compatible with the existing surrounding commercial, light industrial and residential uses in the project vicinity. Therefore, the No Project alternative would result in substantially similar impacts to aesthetics as would the proposed

project, since the No Project development would be guided by each jurisdiction's respective design guidelines which would ensure that the site design and architecture for the buildings would be compatible with existing development.

Round Hole Site

Under the No Project alternative, the Round Hole site would likely result in development of the site with light industrial and/or commercial land uses under the City of Grass Valley's current General Plan land use designation of *Business Park* and zoning designation of Whispering Pines Specific Plan. Compared to the proposed project, the No Project alternative would likely result in additional development on the site, which could alter the existing views of the surrounding land uses to a greater extent and add increased sources light and glare to the site. However, development would likely be consistent with the surrounding land uses in the project vicinity as development would be guided by the Specific Plan which promotes the most appropriate use for the site and the preservation of the natural features and qualities of the site. Therefore, the No Project alternative would result in substantially similar impacts to aesthetics at the Round Hole site.

New Brunswick Site

It is reasonably foreseeable that the New Brunswick site would be developed with light industrial and/or industrial development in accordance with the Nevada County General Plan designation of *Industrial* and zoning designation of *Light Industrial – Site Performance Combining District*. If annexed to the City in 2011-2015, the site would likely be developed in accordance with the City of Grass Valley General Plan *Manufacturing-Industrial* designation, which consists of the following uses: light manufacturing, automotive services, warehousing/distribution, and wholesale-retail outlets. The No Project alternative would therefore alter the existing views of the surrounding land uses and would add new sources of light and glare to the site. Therefore, the No Project alternative would result in similar or potentially greater aesthetics impacts. Development would be guided by each jurisdiction's respective design guidelines which would ensure that the site design and architecture for the buildings would be compatible with existing development. However, this alternative could have more new sources of light and glare than the proposed project since the site is proposed to be unmanned and therefore does not require as much lighting as manned facilities.

Air Quality

Under the No Project alternative, it is reasonably foreseeable that each of the project sites would be developed with uses similar to the surrounding commercial and industrial uses as guided by the applicable General Plan and zoning designations. This alternative could potentially increase the air quality emissions from construction, stationary equipment, and traffic sources in the project vicinity. However, future development would be subject to the City and/or County planning process as well as environmental review. Furthermore, future development would be required to comply with all federal, State, and local regulations protecting the air quality environment, including complying with the NSAQMD guidelines.

Due to the large amount of equipment associated with the proposed project (both above and below ground), the natural gas combustion needed at the ceramics plant, as well as the numerous haul trips required for the finished product, it seems unlikely that any land use development under the No Project Alternative would have similar high levels of activities and associated air pollutant emissions. Therefore, air quality impacts associated with the No Project Alternative would likely be less than those of the proposed project.

Biological Resources

Under the No Project alternative, it is reasonably foreseeable that each of the project sites would be developed with uses similar to the surrounding commercial, industrial, and residential uses as guided by the applicable General Plan and zoning designations. This alternative could likely cause increased impacts to biological habitats within each of the project sites as it is assumed that development could occur on the entire site. Therefore, impacts to Mixed Chaparral (and associated sensitive-specie, Pine Hill flannelbush), Montane Hardwood and Ponderosa Pine habitats at the Idaho-Maryland site; Annual Grassland, Freshwater Emergent Wetland, Montane Hardwood-Conifer, Montane Riparian and Wet Meadow habitats at the New Brunswick site; and Montane Hardwood-Conifer habitat at the Round Hole site would likely be impacted to a greater degree than under the proposed project. Additionally, impacts to potentially jurisdictional wetlands and waters of the U.S. on the Idaho-Maryland and New Brunswick sites would likely be greater as well. Impacts to special-status species including valley elderberry longhorn beetle, California red-legged frog, northwestern pond turtle, California horned lizard; as well as raptors would likely be similar to the proposed project. However, impacts to both Wolf Creek and South Fork Wolf Creek would likely be less than for the proposed project because discharge of process mine water and the associated facilities would not be constructed and/or operated, thus reducing impacts not only to the aquatic habitat, but to the associated species as well. Impacts to native trees, including oaks and ponderosa pine would be expected to be greater than the proposed project. Development on all the sites would be required to comply with Federal, State and local laws protecting biological resources to reduce potentially significant impacts. Overall, impacts to terrestrial habitats and species would likely be greater and impacts to aquatic habitat and species would likely be less under the No Project Alternative as compared to the proposed project.

Cultural Resources

Under the No Project alternative, it is reasonably foreseeable that each of the project sites would be developed with uses similar to the surrounding commercial and industrial uses as guided by the applicable General Plan and zoning designations. Construction of these potential uses would likely result in potential impacts similar to what would occur under the proposed project; however, because cultural resources are highly localized, impacts to cultural resources caused by construction activities may be avoided. For the New Brunswick site, impacts from the No Project alternative could be less than under the proposed project, as it is unlikely that a water treatment plant and associated discharge pipeline or similar facility that would impact the Nevada Gauge Railroad would be constructed. The siting and placement of the potential commercial and industrial uses would determine whether impacts to known or unknown cultural resources would

result from project construction. At a minimum, an accidental find mitigation measure would be standard for any project where ground disturbance would occur (see Mitigation Measure 4.4-2). Impacts to cultural resources could be greater under the No Project alternative if development is not designed to avoid known cultural resources at the project sites.

Geology, Soils, and Seismicity

Under the No Project alternative, the Idaho-Maryland Mine would not be dewatered and mining would not occur. If the project was not developed, it is likely that some type of commercial/industrial development would occur on each of the sites. If that were the case, each development site would be required to undergo geotechnical and seismic evaluation similar to the proposed project and would be required to comply with local and State building codes. Each site contains existing shafts or subsurface access points. With the development proposed under the No Project alternative, existing areas identified with potential surface subsidence hazards would likely be improved, capped or backfilled and would not remain a potential hazard. However, one site of potential subsidence hazard from the proposed project, the decline and portal, would not be constructed. Earthquakes could affect the project sites regardless of the development project. However, each project would be required to comply with local and State seismic design criteria for structures to reduce the potential for injury or property loss. If not adequately managed, surface grading, soil erosion, and soil loss, would occur under any development project. Overall, impacts to geology, soils and seismicity would likely be less under the No Project alternative than with the proposed project.

Hazards and Hazardous Materials

Under the No Project alternative, it is reasonably foreseeable that each of the project sites would eventually be developed with uses similar to the surrounding commercial and industrial uses as guided by the applicable General Plan and zoning designations. Impacts related to hazards and hazardous materials are likely to decrease compared with those associated with proposed mining operations. Furthermore, future development would be subject to the City and/or County planning process and oversight as well as environment review. Impacts associated with the operations of potential projects under the No Project alternative would likely be less than for the proposed project.

Hydrology and Water Quality

The No Project alternative would result in the eventual commercial/light industrial development of the Idaho-Maryland site, the Round Hole site, and the New Brunswick site. From a hydrologic perspective, such development would increase the total area of impervious surfaces as parking lots, sidewalks, buildings, and other paved common areas. The increase of impervious surfaces could increase the quantity and flow rate of storm water runoff and could result in the degradation of the Wolf Creek and South Fork Wolf Creek watersheds by potentially increasing sedimentation rates. However, stormwater management and water quality controls would be inherent in future development plans so although there would be an increase in impervious

surfaces, each individual development would be required to prevent excessive runoff or other conditions that would lead to increased sedimentation rates in Wolf Creek and South Fork Creek.

Development of the Round Hole site and New Brunswick site would also lead to more construction and therefore, a higher potential for temporary surface water degradation by construction-related runoff. Although there would be an increase in construction, potential water quality impacts from that construction would remain less than significant because each individual development project would be required to comply with State regulations requiring storm water management through the NPDES program and the required SWPPP (discussed above in the *Regulatory Context* section).

Under the No Project alternative, groundwater below the mine would not be dewatered and the surface water supply pipeline would not be constructed. Residents in the project area would continue to rely on well water and current groundwater pumping rates would remain the same if not increase due to future population growth and increasing water needs. Treated groundwater would not be discharged into Wolf Creek and South Fork Wolf Creek, and the passive groundwater discharge from the mine to Wolf Creek would continue. Finally, mine development rock and gold mill tailings would be not be generated.

The development under the No Project alternative, from a hydrology and water quality perspective, would likely result in less overall impacts. This is due to the fact that under the No Project alternative, there would not be potential impacts to domestic water supply wells, there would be no potential impacts due to increased discharges into Wolf Creek and South Fork Wolf Creek due to dewatering activities, and there would be no potential impacts from proposed back filling of mine development rock. Although there would be less surface development under the proposed project, the development that would likely occur under the No Project alternative would be compliant with all applicable laws regarding construction and stormwater management, and water quality objectives.

Land Use and Planning

Under the No Project alternative, it is reasonably foreseeable that each of the project sites would be developed with uses similar to the surrounding commercial, residential, and industrial uses as guided by the applicable General Plan and zoning designations. Specifically, the Idaho-Maryland site would likely be annexed into the City of Grass Valley and developed under its designations, with the northern portion designated for development as a business park and/or commercial land use and the southern portion designated to be developed with residential uses. A neighborhood/pocket park could also be built on the site. Under County designations, the New Brunswick site would be developed with light industrial uses. It is reasonably foreseeable that the New Brunswick site would be annexed into the City in 2011-2015 (according to the Grass Valley Annexation Plan) and developed under its General Plan and zoning designations, which would include similar uses, such as light manufacturing and warehousing/distribution. In accordance with the City of Grass Valley General Plan and zoning designations, the Round Hole site is designated to be developed as a business park. Future development would be subject to the City and/or County planning process as well as environmental review. This alternative could

potentially avoid the loss of *Urban Medium Density Residential* designated land within the City that would occur under the proposed project. The No Project alternative would likely result in impacts similar to or less than that of the proposed project.

Noise

Under the No Project alternative, it is reasonably foreseeable that each of the project sites would be developed with uses similar to the surrounding commercial and industrial uses as guided by the applicable General Plan and zoning designations. This alternative could potentially increase the noise levels associated with construction, stationary equipment, and traffic sources in the project vicinity. However, future development would be subject to the City and/or County planning process as well as environmental review. Furthermore, future development would be required to comply with all federal, State, and local regulations and ordinances protecting the noise environment, including complying with all noise performance standards in accordance with City of Grass Valley and Nevada County requirements. Therefore, this alternative would likely result in impacts on noise similar to or less than that of the proposed project.

Population and Housing

Under the No Project alternative, it is reasonably foreseeable that the northern portion of the Idaho-Maryland site, as well as the New Brunswick and Round Hole sites, would be developed with uses similar to the surrounding business park, commercial, and industrial uses as guided by the applicable General Plan and zoning designations. This alternative could potentially result in additional job opportunities for the area, thus increasing the local population and demand on housing. However, future development would be subject to the City and/or County planning process as well as environmental review. Furthermore, the City and County's General Plans considered the associated population growth of the reasonably foreseeable development at the project sites in its long-range planning. As such, development on the sites would likely not result in the inducement of substantial population growth in the area beyond what is planned, either directly or indirectly. In addition, development on the sites would not displace a substantial number of existing housing or people requiring replacement housing elsewhere. Therefore, this alternative would result in fewer impacts than the proposed project as related to population and housing.

In addition, under the No Project alternative, the southern portion of the Idaho-Maryland site would likely be developed with residential development according to the City of Grass Valley General Plan and zoning designations. The *Economic and Fiscal Analysis* report determined that approximately 720 residents (275 housing units) could be accommodated in the southern portion of the site which is designated as *UMD-residential* (Hausrath, 2008). The No Project alternative would result in fewer impacts to population and housing because it would not indirectly displace housing units, as it would not result in the loss of *UMD*-designated land as would occur under the proposed project. The No Project alternative would not adversely impact the potential to provide sufficiently for the estimated increase in the need for housing units projected within the City.

Public Services

Under the No Project alternative, it is reasonably foreseeable that each of the project sites would be developed with uses similar to the surrounding commercial, industrial, and residential uses as guided by the applicable General Plan and zoning designations. This alternative could likely increase the need for public services in the project vicinity. However, the impact to public services is likely to be less than the proposed project, as the demand on public services from potential mining operation emergencies would not exist. Furthermore, future development would be subject to the City and/or County planning process as well as environment review. As part of the planning process, the payment of appropriate fees by all development projects would be required to mitigate any effects to public services. Furthermore, the City and County Fire Departments and Police/Sheriff Departments are involved in the development review process for all projects in the City and County, and would continue to provide input in to the review of new projects.

Recreation

Under the No Project alternative, it is reasonably foreseeable that each of the project sites would be developed with uses similar to the surrounding commercial and industrial uses as guided by the applicable General Plan and zoning designations. A pocket park is expected to be constructed on the Idaho-Maryland site, as guided by the City of Grass Valley Parks and Recreation Master Plan designation. Recreational facilities are not expected to be constructed on either the Round Hole site or the New Brunswick site. Potential impacts from construction of the pocket park would be mitigated through the planning and environmental review process.

This alternative could indirectly increase the need for recreational facilities in the project vicinity as development could directly or indirectly increase the population in the project vicinity. However, as part of the planning process, the payment of appropriate in-lieu fees by all development projects would be required to mitigate any impacts to recreation. Therefore, the No Project alternative would likely result in recreation impacts similar to or less than the proposed project.

Transportation and Traffic

Under the No Project alternative, it is reasonably foreseeable that the northern portion of the Idaho-Maryland site, as well as the New Brunswick and Round Hole sites, would be developed with uses similar to the surrounding business park, commercial, and industrial uses as guided by the applicable General Plan and zoning designations. This alternative could potentially increase the level of traffic in the project vicinity. Although future development would be subject to the City and/or County planning process as well as environmental review, multiple smaller development projects would make it more difficult to coordinate employee shift times to minimize peak hour traffic impacts as has been proposed under the proposed project. Overall, impacts to transportation and traffic could be greater and impacts to roadway wear would likely be less (due to less large truck traffic) under the No Project Alternative as compared to the proposed project.

Utilities and Services Systems

Under the No Project alternative, it is reasonably foreseeable that each of the project sites would be developed with uses similar to the surrounding commercial and industrial uses as guided by the applicable General Plan and zoning designations. This alternative could potentially increase the need for utilities in the project vicinity. However, future development would be subject to the City and/or County planning process as well as environmental review. Furthermore, future development would be required to comply with all federal, State, and local regulations and ordinances protecting utility services, including complying with all water conservation measures and waste minimization efforts in accordance with City of Grass Valley and Nevada County requirements. Therefore, this alternative would likely result in impacts on utilities similar to or less than that of the proposed project.

Energy

Under the No Project alternative, it is reasonably foreseeable that each of the project sites would be developed with uses similar to the surrounding commercial, industrial, and residential uses as guided by the applicable General Plan and zoning designations. This alternative could potentially increase the energy consumption on the project sites due to construction, operation, and related vehicle trips. However, future development would be subject to the City and/or County planning process as well as environmental review. Furthermore, future development would be required to be in compliance with Title 24 of the California Code of Regulations.

Due to the proposed project's natural gas consumption for the ceramics plant, as well as the numerous haul trips required for the finished product, the likelihood of other land use development under the No Project alternative having similar activities and energy consumption is low. Therefore, this alternative would likely result in impacts on energy resources less than that of the proposed project.

5.3 Environmentally Superior Alternative

As shown in Table 5-2, an environmentally superior alternative to reduce impacts associated with Air Quality has been determined, Electrification of Mine Operations and Reduced Ceramics Plant Production. All the alternatives studied in this EIR were variations in operations of the proposed project and therefore each would reduce the severity of the significant unavoidable (Class I) Air Quality impacts related to emissions of NO_x, ROG, PM₁₀ and CO₂. However, no feasible alternative, which would still meet most of the basic objectives of the proposed project, would reduce the Air Quality impacts to a level of less than significant. The greatest reduction of impacts to Air Quality would occur with implementation of the Electrification of Mine Operations and Reduced Ceramics Plant Production alternative.

As noted above, although this EIR identifies an Environmentally Superior Alternative it is possible that the City could choose to balance the importance of each impact area differently and reach a different conclusion.

**TABLE 5-2
PROPOSED PROJECT VS. ALTERNATIVES
COMPARATIVE EVALUATION**

Resource Area	Proposed Project	No Project Alternative	Electrification of Mine Operations	Reduced Ceramics Plant Production	Electrification of Mine Operations and Reduced Ceramics Plant Production
Aesthetics	Impacts determined to be Class II to Class III.	>	=	=	=
Air Quality	Impacts determined to be Class I, Class II to Class III.	<	<	<	<
Biological Resources	Impacts determined to be Class II to Class III.	> for terrestrial habitats and species < for aquatic habitat and species	=	=	=
Cultural Resources	Impacts determined to be Class II.	<	=	=	=
Geology, Soils, Seismicity	Impacts determined to be Class II to Class III.	<	=	=	=
Hazards and Hazardous Materials	Impacts determined to be Class II to Class III.	<	=	=	=
Hydrology and Water Quality	Impacts determined to be Class II to Class III.	<	=	=	=
Land Use and Planning	Impacts determined to be Class II.	=/ <	=	=	=
Noise	Impacts determined to be Class II.	=/ <	<	=	<
Population and Housing	Impacts determined to be Class III.	<	=	=	=
Public Services	Impacts determined to be Class II to Class III.	<	=	=	=
Recreation	Impacts determined to be Class II to Class III.	=/ <	=	=	=

**TABLE 5-2 (Continued)
PROPOSED PROJECT VS. ALTERNATIVES
COMPARATIVE EVALUATION**

Resource Area	Proposed Project	No Project Alternative	Electrification of Mine Operations	Reduced Ceramics Plant Production	Electrification of Mine Operations and Reduced Ceramics Plant Production
Transportation and Traffic	Impacts determined to be Class II to Class III.	>	=	=	=
Utilities and Service Systems	Impacts determined to be Class II to Class III.	=/ <	=	=	=
Energy	Impacts determined to be Class II to Class III.	<	=	<	<

Key to Symbols:

- = Impact likely to be equal to that of the proposed project
- < Impact likely to be less than that of the proposed project
- > Impact likely to be greater than that of the proposed project

5.4 No Project Alternative vs. the Environmentally Superior Alternative

5.4.1 Summary of the No Project Alternative and its Impacts

The No Project Alternative is described in Section 3.4.4. Under the No Project alternative, the proposed project would not be implemented. In essence, the project sites would remain as is, and would be subject to urban development consistent with existing land use designations.

The Idaho-Maryland site would be annexed to the City of Grass Valley and developed under its General Plan and zoning designations because any development of that site would require sewage service that would need to be provided by the City. Therefore, the Idaho-Maryland site would be annexed into the City of Grass Valley with the northern portion of the site being developed as a business park integrated into the larger community for industrial and/or commercial land uses, and the southern portion of the site being developed with a mix of single family detached and attached homes, single family patio homes, duplexes, and/or town houses. Actions would include construction of buildings, roads and infrastructure to facilitate the property development. A neighborhood/pocket park could be built on the Idaho-Maryland site. Additionally, Centennial Drive is planned to be extended beyond Whispering Pines Lane south to Bennett Road before 2015.

The New Brunswick site would be developed in accordance with the Nevada County General Plan and zoning designations with light industrial uses, such as production, repairing, distribution, and warehousing of goods and equipment, along with supporting businesses and services. It is reasonably foreseeable that the New Brunswick site would be annexed into the City in 2011-2015 (according to the Grass Valley Annexation Plan) and developed under its General Plan and zoning designations. The City's designations are similar to the County's designations for the New Brunswick site. Therefore, the site would be developed with comparable uses, which could include typical light manufacturing, automotive services, warehousing/distribution, and wholesale-retail outlet uses.

The Round Hole site would be developed in accordance with the City of Grass Valley's General Plan and zoning designations. As with the Idaho-Maryland site, the Round Hole site would be developed as a business park integrated into the larger community for industrial and/or commercial land uses. The site is zoned in the City's Whispering Pines Specific Plan, which is intended to accommodate various types of development such as professional and administrative offices, industrial parks, commercial service centers, neighborhood and district shopping centers, multifamily housing developments, single family residential developments, and any other use or combination of uses. The Specific Plan specifies that the primary scenic resource in the Specific Plan area is the "dense, uniform Ponderosa pine tree cover" and the "[v]isual prominence of the pine covered skyline [is to] be retained, even at full development." Development standards specify that "[s]ite landscaping should preserve and enhance the overall wooded character of the site."

The environmental impacts of the No Project Alternative would primarily result from construction of facilities and long-term impacts associated with traffic.

5.4.2 Summary of the Environmentally Superior Alternative and its Impacts

The Environmentally Superior Alternative is defined in Section 5.3 as the Electrification of Mine Operations and Reduced Ceramics Plant Production Alternative. Impacts of this alternative are defined above. Impacts related to Air Quality would still remain significant unmitigable (Class I); however, they would be substantially reduced from those associated with the proposed project.

5.4.3 Conclusion: Comparison of the Environmentally Superior Alternative with the No Project Alternative

The Environmentally Superior Alternative (Electrification of Mine Operations and Reduced Ceramics Plant Production Alternative) would substantially reduce Air Quality emissions associated with natural gas usage from the ceramics plant. In comparison, the most significant impact of the No Project Alternative is its likelihood of creating long-term impacts related to traffic. Overall, because the Environmentally Superior Alternative would still result in a significant unmitigable (Class I) impact, the No Project Alternative is preferred.

References – Comparison of Alternatives

- California Air Resources Board, 2008. *Estimate of Emission Reductions from Time-of-Sale Energy Efficiency Requirements*. http://www.arb.ca.gov/cc/scopingplan/submittals/electricity/nrdc_time_of_sale_ee_ghg_reduction_calcs.pdf. Accessed October 23, 2008.
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