NEVADA COUNTY, CALIFORNIA
PROPOSED MITIGATED NEGATIVE DECLARATION
NOTICE OF AVAILABILITY FOR PUBLIC REVIEW

To:

Nevada County Public Works Dept
Nevada County Fire Protection Planner
RWQCB – Waste Discharge to Land Unit
General Plan Defense Fund
Rural Quality Coalition
Red Dog-You Bet Association
Sierra Nevada Group / Sierra Club
Federation of Neighborhoods
Supervisor Richard Anderson, District 5
Principal Planner
CNPS – Redbud Chapter
Washoe Tribe of Nevada and California
Department of Water Resources
State Clearinghouse
Northern Sierra Air Quality Mgmt District
US Fish and Wildlife Service
Caltrans District 3
FEMA
California Dept of Fish and Wildlife
Office of Mine Reclamation
Friends of Nevada City
George Olson
Ray Bryars
Sandy Jansen
Izzy Martin
Sue Ralston
County Counsel
CLAIM GV
United Auburn Indian Community
Native American Heritage Commission
US Army Corps of Engineers
Nevada County Resource Conservation Dist
Nevada County Environmental Health Dept
Nevada County Historical Society
Nevada County Assessor's Office

File No: Z15-004, U15-008, RP15-001, MGT17-0003, EIS15-014

Assessor's Parcel Number(s): 38-370-17; 38-380-15, -16; 38-430-02

Applicant/Owner: Jeff Hansen, President
Hansen Bros. Enterprises
P.O. Box 1599
Grass Valley, 95945
(530) 273-3381

Project Location: Within Greenhorn Creek from the northeast corner of Section 25, Township 16N, Range 9E, to Missouri Canyon at the south within Section 36, Township 16N, Range 9E. Red Dog-You Bet area of Grass Valley, CA, approximately 7 miles east of Grass Valley, 2.4 miles north of You Bet Road, and 3.3 miles north of Rollins Reservoir.

Project Description: A Rezone (Z15-004) of APNs 38-370-17, 38-380-15 & -16 and 38-430-02 from Forest-40 (FR-40) to FR-40 with the Mineral Extraction combining district (FR-40-ME); a Use Permit (U15-008) to expand an existing in-stream aggregate mining operation to an additional 38 acres in and on the banks of Greenhorn Creek in the vicinity of the Red Dog Road creek crossing and for work within the 100-year floodplain; a Reclamation Plan (RP15-001) to reclaim and restore the site after mining activities are completed; and a Management Plan (MGT17-0003) for work within a waterway.

This Notice of Availability serves as public notice that the County of Nevada has prepared a Mitigated Negative Declaration for the project identified above. As mandated by Public Resources Code § 21091, the minimum public review period for this document is 30 days. The public review period for the proposed project is from **March 14 to April 12, 2017**. **Comments must be received by 5 p.m. on the last day of the comment period, April 12, 2017.** Send comments to Tyler Barrington, Principal Planner, at Tyler.Barrington@co.nevada.ca.us, or mail comments to:

Tyler Barrington, Principal Planner
Nevada County Planning Department
950 Maidu Avenue
Nevada City, CA 95959

Prior to approval of the project, the Planning Commission will consider comments received on this Initial Study. The Planning Commission will hold a public hearing before it considers certification of the Initial Study and approval of the proposed project.

The Initial Study prepared for this project and the documents used in preparation of this Study can be reviewed online at **http://www.mynevadacounty.com/nc/cda/planning/Pages/Hansen-Brother-Greenhorn-Creek-Mining-Expansion.aspx** or at the Nevada County Planning Department, 950 Maidu Ave., Nevada City, California. Pursuant to the State of California Public Resources Code and the "Guidelines for Implementation of the California Environmental Quality Act of 1970," as amended to date, a Draft Mitigated Negative Declaration has been prepared because no substantial evidence exists, as indicated in the attached Initial Study, that the proposed project may have a significant environmental effect.

Prepared by:

Brian Foss for

Jessica Hankins, Senior Planner

5/25/17

Date

EXHIBIT A. NEVADA COUNTY, CALIFORNIA
INITIAL STUDY

To:

Nevada County Public Works Dept
Nevada County Fire Protection Planner
RWQCB – Waste Discharge to Land Unit
General Plan Defense Fund
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CLAIM GV
United Auburn Indian Community
Native American Heritage Commission
US Army Corps of Engineers
Nevada County Resource Conservation Dist
Nevada County Environmental Health Dept
Nevada County Historical Society
Nevada County Assessor's Office

Date: March 10, 2017

Project Title: Hansen Bros. Enterprises (HBE) Greenhorn Creek Aggregate Mine Expansion

Application Description: A Rezone (Z15-004) of APNs 38-370-17, 38-380-15 & -16 and 38-430-02 from Forest-40 (FR-40) to FR-40 with the Mineral Extraction combining district (FR-40-ME); a Use Permit (U15-008) to expand an existing in-stream aggregate mining operation to an additional 38 acres in and on the banks of Greenhorn Creek in the vicinity of the Red Dog Road creek crossing and for work within the 100-year floodplain; a Reclamation Plan (RP15-001) to reclaim and restore the site after mining activities are completed; and a Management Plan (MGT17-0003) for work within a waterway.

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Assessor's Parcel Numbers: 38-370-17; 38-380-15, -16; 38-430-02

Project Site Size: 38-acre expansion area

Prepared by: Jessica Hankins, Senior Planner

Comments to:

Tyler Barrington, Principal Planner
Nevada County Planning Department
950 Maidu Avenue, Suite 170
Nevada City, CA 95959
(530) 470-2723
Email: Tyler.Barrington@co.nevada.ca.us

Applicant/Owner: Jeff Hansen, President
Hansen Bros. Enterprises
P.O. Box 1599
Grass Valley, 95945
(530) 273-3381

Representative: Alicia Brenner, BT Consulting, Inc.
5460 Merchant Circle, Suite A
Placerville, CA 95667
(530) 919-6955

Zoning District(s): FR-40 (proposed FR-40-ME)

General Plan Designation: Forest 40 (FOR-40)

Figures Page

Tables

Project Location and Surrounding Uses: The project is located in the Red Dog-You Bet area, approximately 7 miles east of Grass Valley, 2.4 miles north of You Bet Road, and 3.3 miles north of Rollins Reservoir. Figure 1 below shows the general location of the project site.

Access to the site is from State Route 174 to County-maintained You Bet Road, to privately maintained Hansen Gravel Road just past the Greenhorn Creek crossing. From the processing plant off the Hansen Gravel Road, access to the in-stream mining areas is north up the Greenhorn Creek canyon, as shown in Figure 2 below. Proposed areas of expansion extend from approximately 1 mile north of the processing plant to the parcel just north of the Red Dog Narrows and the Red Dog Road creek crossing. Although the Hansen Bros. Enterprises (HBE) operation extends to Rollins Reservoir to the south, the project area for the purposes of CEQA analysis is defined as the new expansion areas within APNs 38-430-02, 38-380-15, 38-380-16, and 38-370-17 (see Figure 3).

Depending on site conditions, the operational areas may also be accessed from Red Dog Road, though it is not the current practice of the applicant to use Red Dog Road for operational purposes. The Red Dog Road crossing over Greenhorn Creek is a ford, and vehicles must wait until storm flows subside before crossing the stream.

Figure 1: Project Location

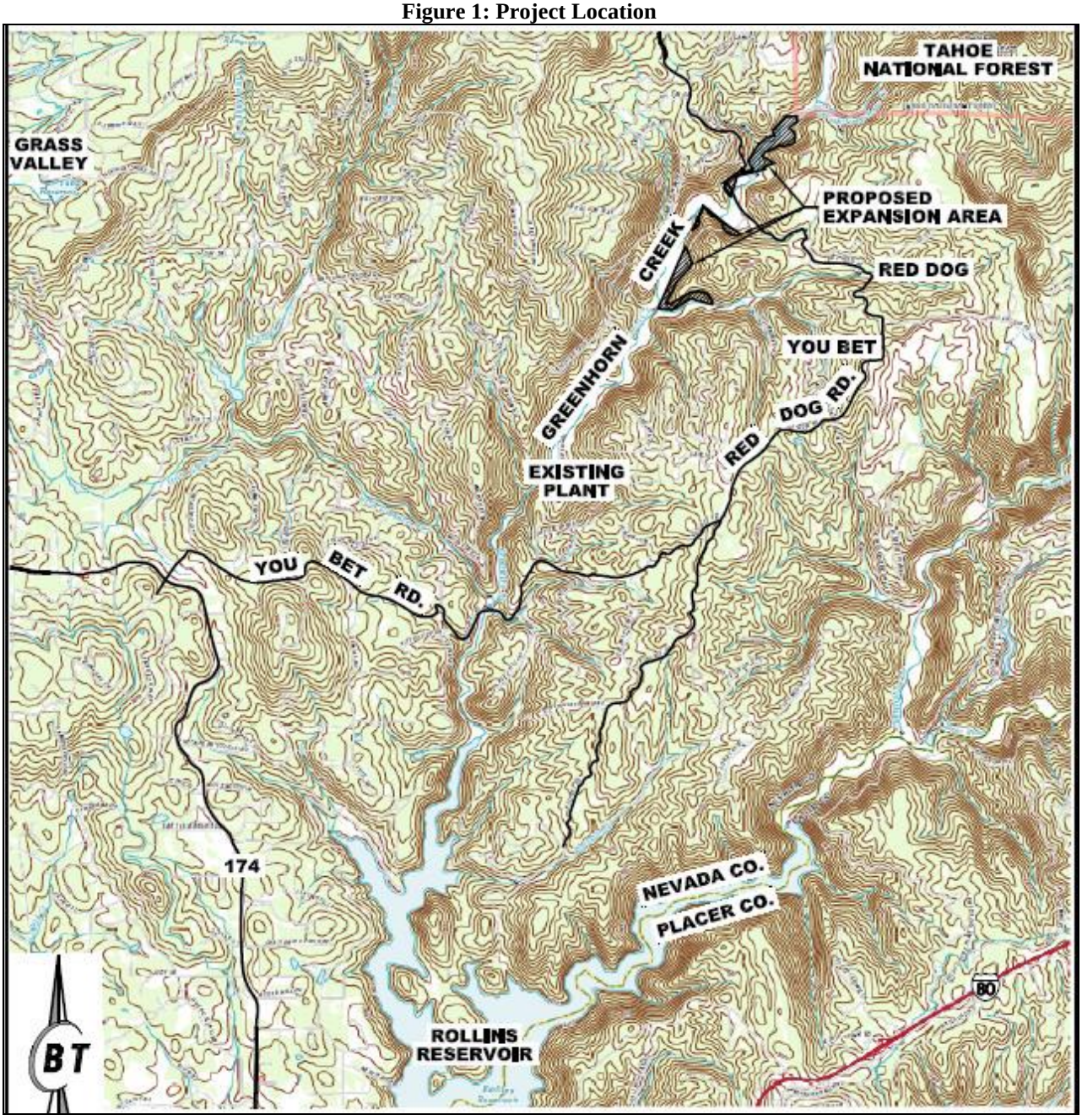
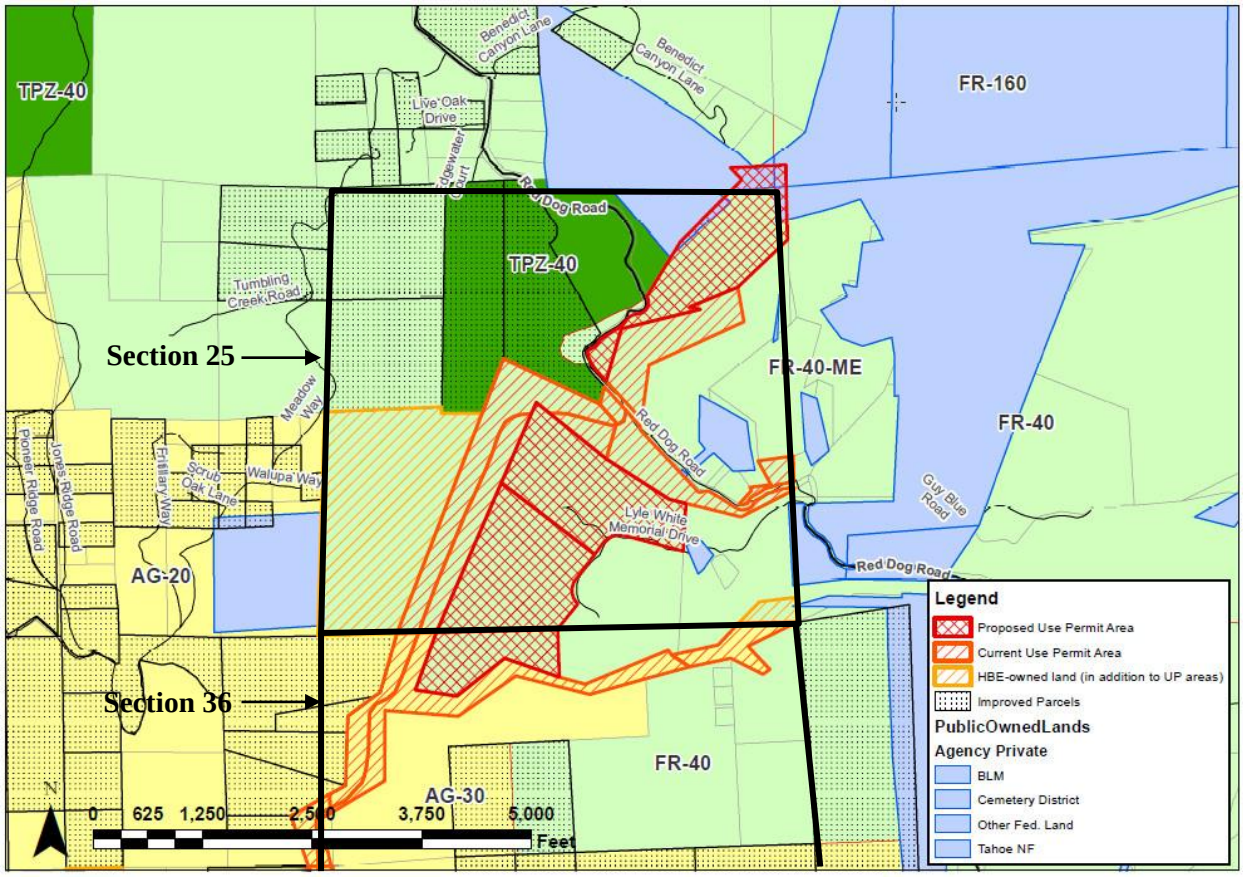


Figure 2: Site Access

The proposed sand and gravel extraction operation would operate within and on the banks of Greenhorn Creek, Missouri Canyon, and Arkansas Ravine. The width of the aggregate deposit varies from approximately 40 feet wide to approximately 600 feet wide throughout the length of the streambed in the operational area. The expansion area is located at elevations approximately 2,100 to 2,600 feet above mean sea level (msl). The streambed of Greenhorn Creek, which trends northeast to southwest, is mostly devoid of vegetation except for locations along the edge of the channel and in gravel bars where riparian vegetation grows. The canyon walls rise over 3,000 feet in elevation msl, and are heavily vegetated with upland species in the Douglas-fir forest alliance, and much of the area is characterized by disturbed or ruderal areas, including some areas of Scotch broom invasion. Other than the gravel processing plant and infrastructure improvements, there are no known manmade features on the subject properties.

Public lands are located to the north and east as shown in Figure 3. Unimproved private parcels are also located to the east, while many of the parcels to the west are improved private parcels. Several buffers are in place given that HBE owns adjoining parcels (many of which are mined under existing use permits), one to the southeast of APN 38-370-17 and all adjoining lands to the north, west, and south of the remaining project area (see Figure 3).

Figure 3: Surrounding Zoning and Ownership



Project Background: Greenhorn Creek flows through a deep canyon with substantial gravel deposit resulting from numerous upstream hydraulic mining operations dating back to the 1860s. Hydraulic mining operations used high-pressure jets of water to dislodge and move the overburden and surface soils and rocks. The water-sediment slurry was directed through sluice boxes to capture gold, while natural and manmade processes moved the aggregate waste into the Greenhorn Creek streambed, where it covered the original streambed. These sand and gravel deposits still sit atop the natural streambed. More material moves downstream with every winter season, ultimately moving into Rollins Reservoir where it causes a loss of water storage capacity at the reservoir. The source of the gravel within Greenhorn Creek comes from Gas Canyon near Scotts Flat Reservoir, the Buckeye Diggings, portions of the Red Dog/You Bet Diggings, Little York Diggings, and Missouri Canyon. In the unmined areas, the historic creek channel is estimated as being 30 to 70 feet below the present surface of the creek.

In 1975 HBE first applied for a permit to mine sand and gravel from Greenhorn Creek, along with a permit to construct and operate a processing plant (U75-003). In 1978 a rock crusher and settling ponds were added to the operation (U78-013), and in 1982 an amendment was granted to the times and days of operation (U82-020). At that time the area of operation included an NID lease area from just upstream (north) of Rollins Reservoir to approximately three miles upstream. In 1994 the Planning Commission approved an expansion of the operation into Section 25, at the northern end of the extraction area (U93-063).

Project Description: The proposed project involves an expansion of extraction areas for the existing aggregate mining operation, with expanded areas including the bed and banks of Greenhorn Creek and Missouri Canyon, as shown in Figure 4. Although it appears from the site mapping that some expansion areas would occur within forested uplands, HBE would limit harvesting to the Placer diggings soil type,

which occurs almost predominantly within the creek as shown in Figure 5. The new harvest areas are within four parcels immediately upstream and downstream of the Red Dog Road creek crossing, up to the northerly limit of USGS Section 25, and within both Sections 25 and 36 (see Figure 6). Figure 7 shows the cross sections (referenced in Figure 6) of the expansion areas before and after aggregate harvesting. The material collected from Greenhorn Creek consists of placer diggings, placer digging fragments, and other minor components, which can range from fine sand to gravel to large cobble materials. This aggregate material is the resultant deposit from historic upstream hydraulic mining activities.

The project includes a Rezone, Use Permit, Reclamation Plan, and Management Plan as discussed in more detail below. The proposed use permit and management plan would function independently, while past and proposed reclamation plans would be incorporated under one Reclamation Plan (RP15-001) pursuant to Office of Mine Reclamation (OMR) requirements and to facilitate implementation and monitoring of reclamation plan measures.

Rezone

A Rezone (Z15-004) of APNs 38-370-17, 38-380-15 & -16 and 38-430-02 is proposed to add the Mineral Extraction (ME) combining district to these parcels. Zoning is currently Forest 40 (FR-40) and would be changed to FR-40-ME. The ME zoning overlay is required for all mineral extraction projects.

Use Permit

The Use Permit would allow existing aggregate harvesting activities within Greenhorn Creek to be expanded into the areas shown in Figure 4, and would permit this mining activity within the 100-year floodplain. The lifespan of the existing mining operation and use of the processing facilities would therefore be increased. All other aspects of the existing operation would remain the same, including the number of employees, the operational hours, the amount of aggregate materials processed annually, the type of harvesting and processing equipment used, and the methods of mining and processing. Extraction would simply be moved from the existing permitted area to the expansion area. Mineral exploration is not required for this operation as the material to be harvested, processed, and sold is naturally deposited in the creek canyon by stream flows and is visible without further exploration. The existing processing plant located approximately one mile downstream of the southernmost portions of the new extraction areas would continue to be used to process the materials by screening, washing and/or crushing, and stockpiling. This plant is shown in Figure 8.

Harvesting Methods

Prior to commencement of extraction activities each year, the applicant installs gravel berms to divert braided channels of Greenhorn Creek into one main stream channel. Dry diversion channels are also constructed starting at the bottom of the new channel, then working upstream to channelize flows between meanders that would otherwise exchange flows from side to side in the floodplain. Once construction of the channel is complete, water is introduced into the channel. Temporary crossing culverts are installed for repeated crossings of large equipment. Sand and gravel is not harvested from within the flowing portion of Greenhorn Creek. As required under the terms of the California Department of Fish and Wildlife (CDFW) Streambed Alteration Agreement, a pre-extraction plan is required to be provided to the department prior to the onset of extraction activities each season. The plan specifies the locations of the extraction areas for that season, a map of the season's access roads and stream crossings, and a delineation of the low flow channel for the upcoming year's operation. Harvesting utilizes heavy equipment, typically paddle wheel scrapers, to remove sand and gravel from sandbars within the streambed.

Figure 4: Site Plan

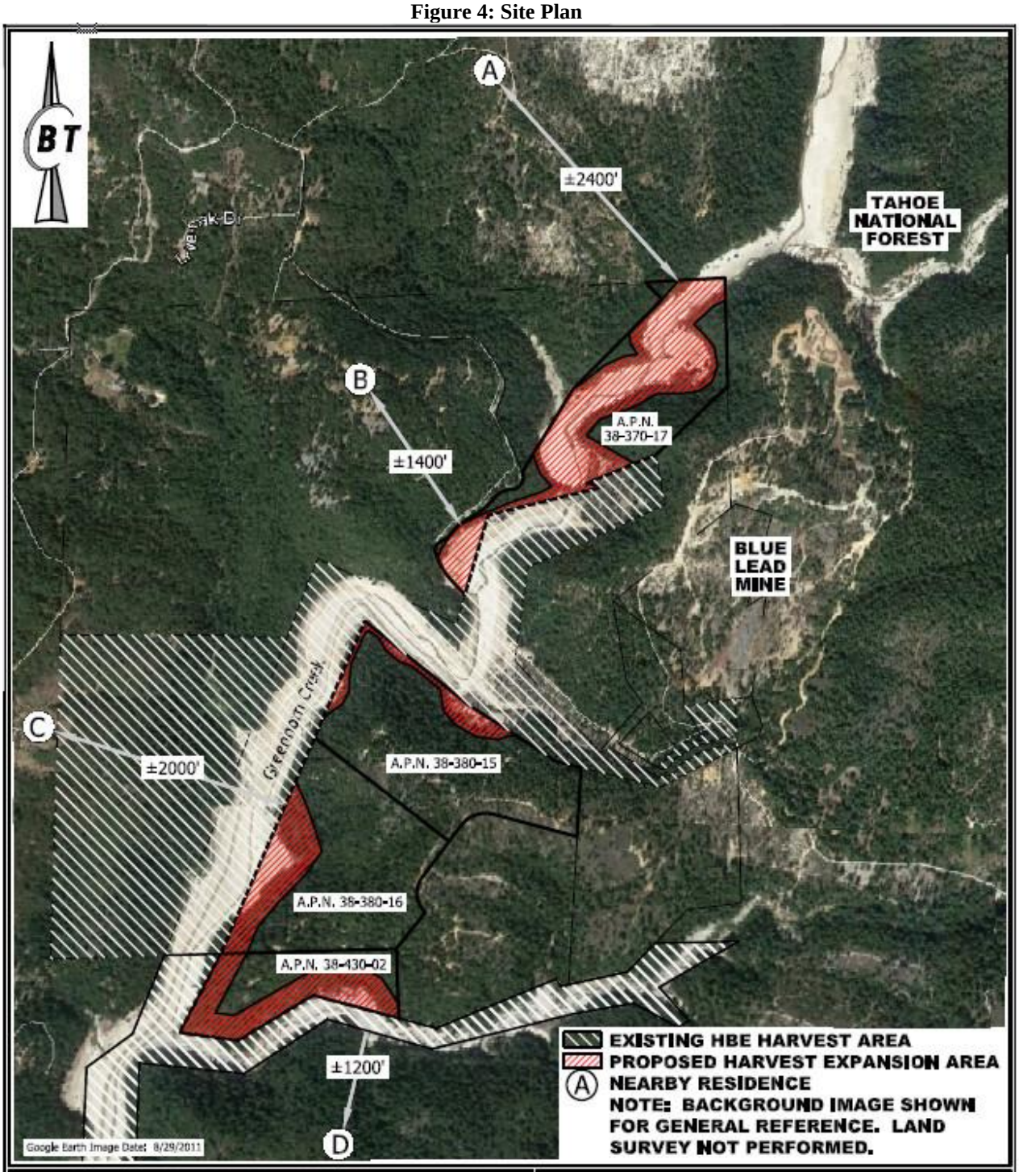
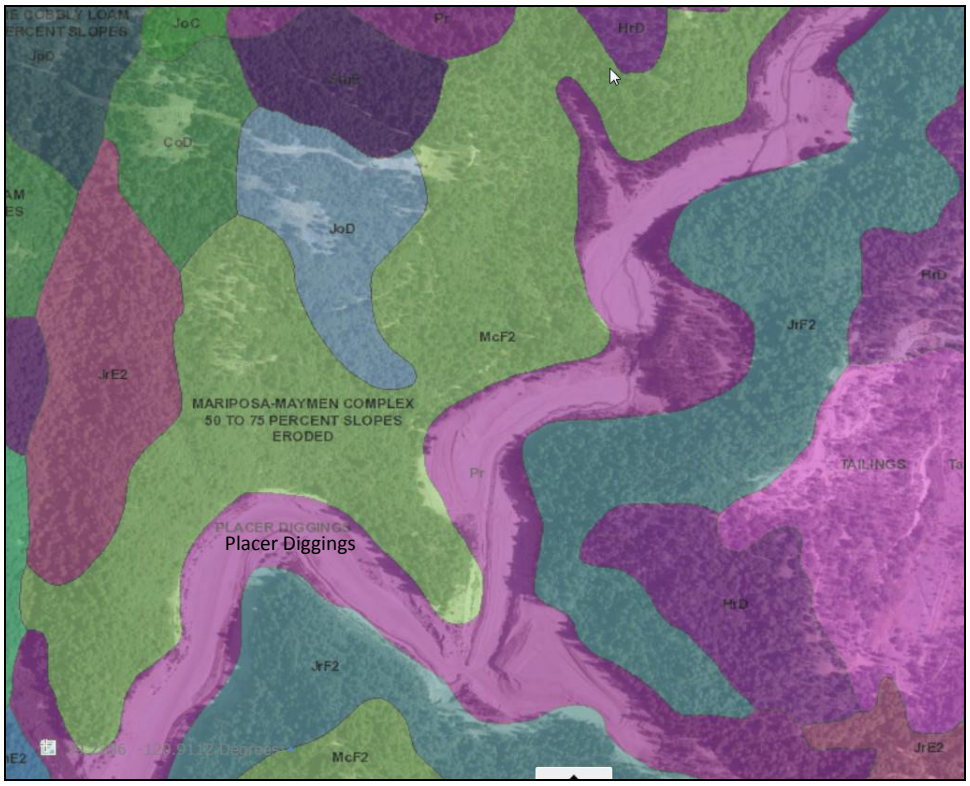
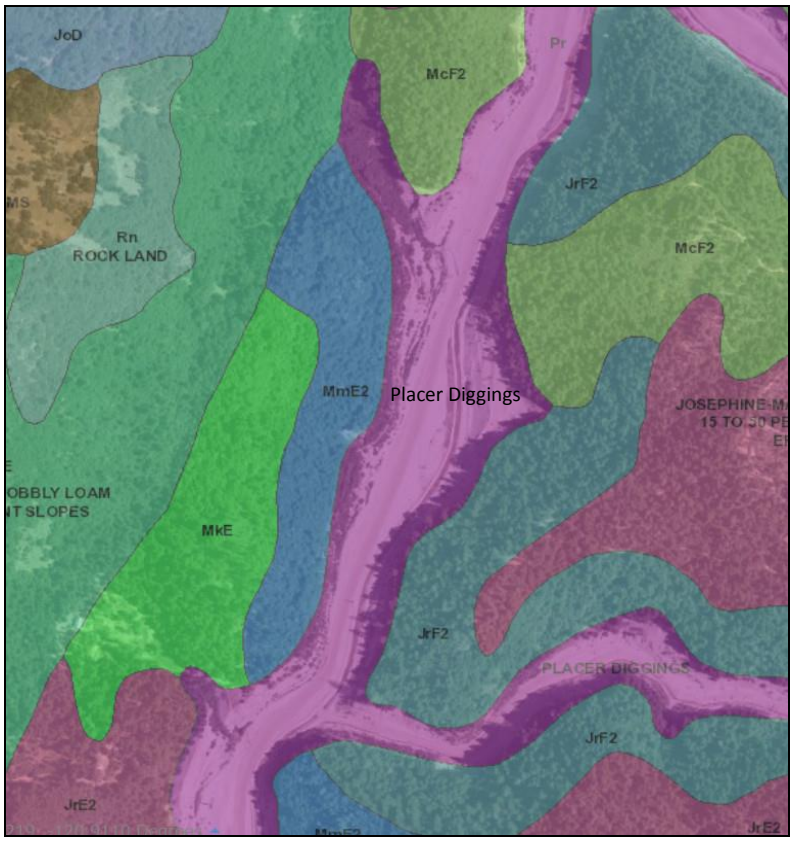


Figure 5: Placer Diggings Soil Type



Northern Extent of Project Site



Southern Extent of Project Site

Figure 6: Expansion Areas – North and South

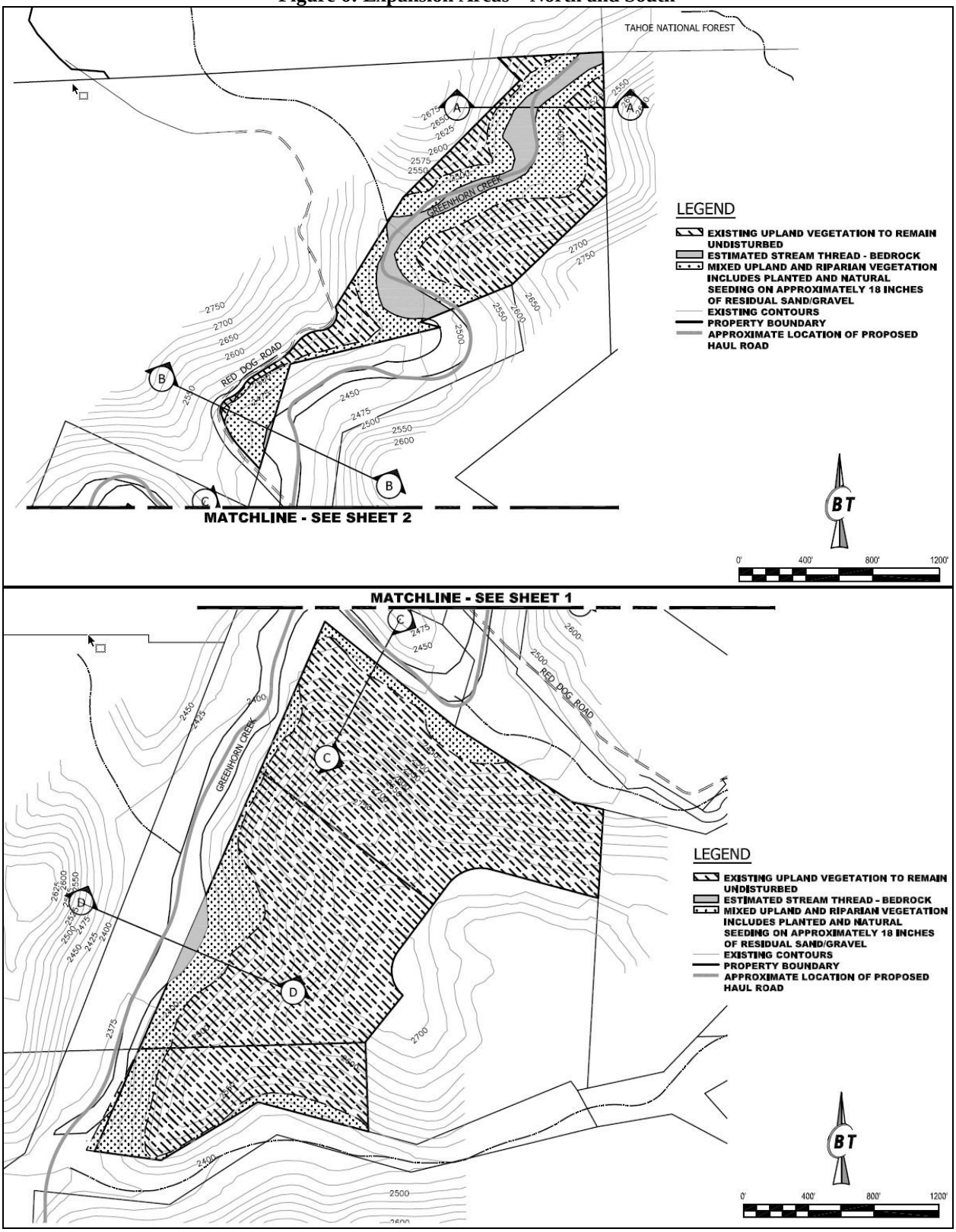


Figure 7: Cross Sections after Reclamation

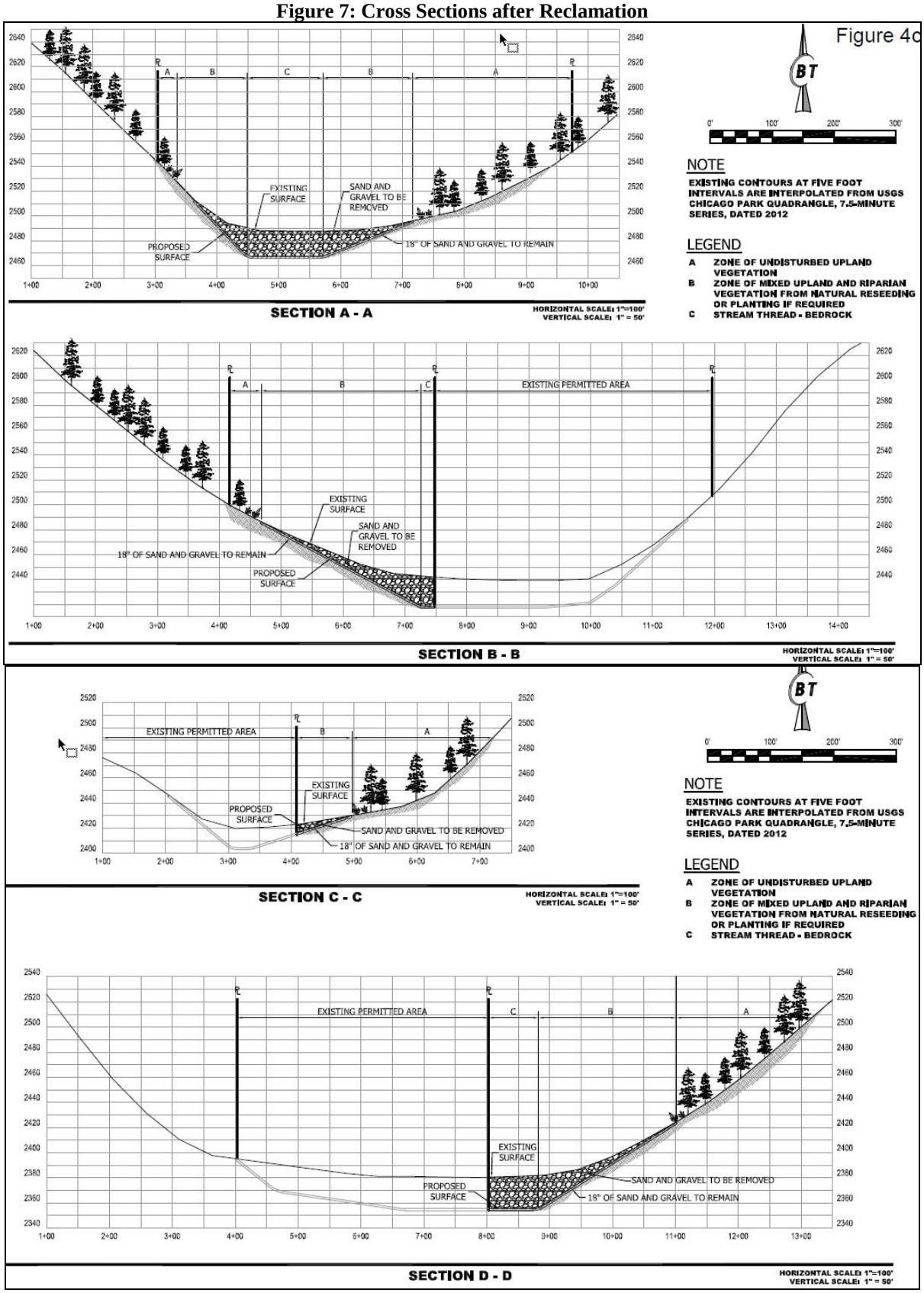
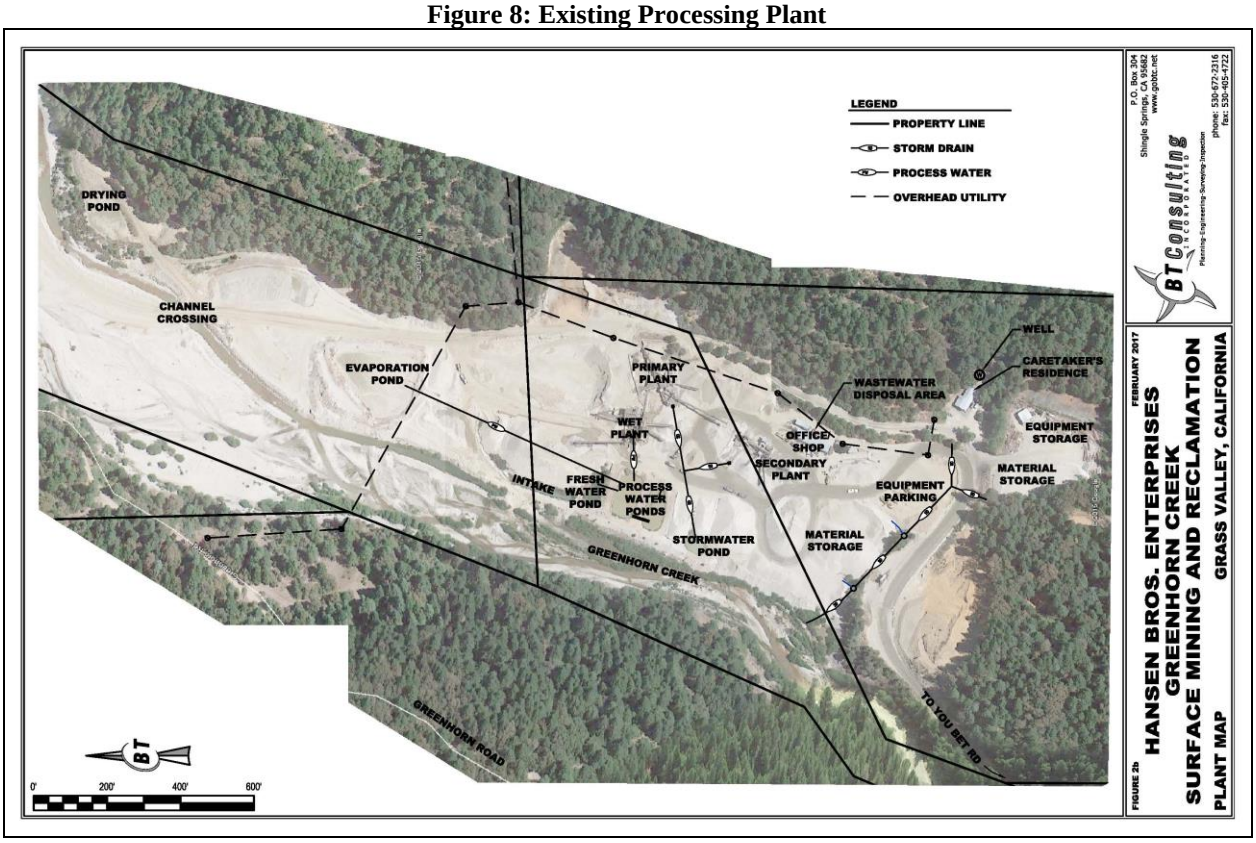


Figure 8: Existing Processing Plant



Processing Facilities

After harvesting the material is transported to the material processing plant for screening, washing, and/or crushing. Raw and processed material is stockpiled at the plant. Crushed aggregate material that is mined from the facility's operation is crushed onsite with a jaw and cone rock crusher. The operation mines negligible quantities of overburden or waste material and therefore does not require waste piles or dumps. There is no rock waste resulting from this operation. All crushed and uncrushed rock material is sold and hauled offsite.

An office, maintenance shop, fuel building, scale, scale house, caretaker's residence, water tank, sheds, and other ancillary structures are located adjacent to the plant. Restrooms for the facility are located inside the office/maintenance shop and inside the scale house. The caretaker's residence and shop are served by a private well and a private septic system. Unused and aged equipment is stored in a designated area near the plant for future use or to supply parts for actively used equipment. The plant is powered by electrical service.

Process Water Management

Water for material washing, processing activities, and dust control is pumped and diverted from Greenhorn Creek. The operation is permitted by the Central Valley Regional Water Quality Control Board under Waste Discharge Order No. 98-185 to draw a maximum of 528,000 gallons per day of water from Greenhorn Creek. As permitted by CDFW Streambed Alteration Agreement No. 1600-2007-0142-R2, the operation is prohibited from drafting more than 20 percent of the flow in Greenhorn Creek as measured immediately upstream of the diversion point. The diversion may not cause flows to go below 2 cubic feet per second (cfs) below the diversion point. Creek water is conveyed via pipe from Greenhorn Creek into a pond where it is then pumped to the appropriate location for plant processes.

Process water is only utilized at the plant. Process water is discharged onsite to unlined settling ponds adjacent to Greenhorn Creek. Discharge of waste to surface waters or surface water drainage courses is prohibited.

The settling pond levees are constructed and maintained to prevent scouring and failure from elevated flows in Greenhorn Creek. A 2-foot freeboard is maintained in the settling ponds at all times. The ponds are aerated to prevent the breeding of mosquitoes and to minimize weeds, algae, and vegetation. The ponds are also monitored for dissolved oxygen and pH. Process water that is removed from the ponds is transferred to an onsite unlined evaporation pond. Sludge or solids that are removed from the ponds are transferred to an on-site drying pond and used in road base and other product applications.

The operation has an onsite stormwater settling/infiltration pond which receives runoff from the southern portion of the plant area. The watershed that drains to the stormwater pond is used to store piles of processed material, load trucks for the off hauling of processed materials, and access roads. The pond provides for the settling of material that is suspended in the storm water runoff, and the outlet of the pond is stabilized with native aggregate material. The pond is maintained by removing settled material as needed, typically in the drier seasons of the year when the pond contains minimal stormwater. There are also several diversion swales at the plant which serve the purpose of conveying process water, stormwater, and run-on to designated locations. Given that the material at the site is mainly aggregate, maintenance of the swales is minimal.

Anticipated Production
The annual anticipated production of aggregate to be mined and processed is expected to range from 200,000 to 600,000 tons per year, which is the same amount as historically mined for the last 35 years. The quantity of aggregate material varies substantially based on the current market demand and the amount of materials available that wash downstream from the historic hydraulic placer diggings. Storms continue to bring additional sand and gravel downstream into the operational area, replenishing the materials which are then harvested. Mineral commodities to be removed are estimated at 30 to 50 million tons, and the maximum anticipated depth of aggregate material to be removed is approximately 70 feet. The estimated ratio of tons per cubic yard of material being mined is 1.4 to 1.8 tons per cubic yard.

Mine Operation Schedule
Plant operation, gravel harvest, material hauling, truck loading, and hauling is limited under existing Use Permits U82-020 and U93-063 to the hours of 7:00 a.m. to 6:00 p.m., Monday through Friday, except for plant repairs which may take place beyond that time under the current approved use permit. Exceptions to the time and day limitations for Saturday operation, also limited to the hours of 7:00 a.m. to 6:00 p.m., may be made with County approval. In no case is Saturday or Sunday operation authorized in the area lying south of the You Bet Road Bridge over Greenhorn Creek.

The harvesting operation is limited to April 1 to December 31 and to periods of low stream flow and dry weather under the terms of the existing Streambed Alteration Agreement with CDFW. In stormy periods, the gravel bars are flooded and the harvesting of sand and gravel is suspended until the water table subsides enough to allow heavy equipment to operate. The processing plant, however, operates continuously throughout the year, and portable aggregate processing plants may be utilized on a seasonal basis outside of Section 25 under the existing Use Permit conditions. No portable processing plants are proposed with the new use permit application.

Lifespan of Use Permit
Previous Use Permits approved by Nevada County do not have expiration dates. However, in keeping with other mining operations in the County in more recent years, HBE is currently proposing a maximum 30-year lifespan on the new Use Permit. If the operation requires additional time due to additional

materials becoming available or additional market demand, a new Use Permit approval would be required.

Floodplain
The project would occur within the 100-year floodplain and as such requires a Use Permit for work within a floodplain pursuant to Land Use and Development (LUDC) Sec. L-II 4.3.10. Floodplain impacts are evaluated in the October 7, 2016, Geotechnical and Hydrological Feasibility Assessment by Holdredge & Kull, and mitigation is required at the end of each extraction season to ensure that remaining slope configuration do not cause flooding impacts. The conditions of the CFDW Streambed Alteration Agreement and the Waste Discharge Requirements of the Central Valley Regional Water Quality Control Board also serve to manage the impact of activities within the floodplain, as discussed more in the Hydrology/Water Quality section of this Initial Study.

Reclamation Plan
Annual reclamation activities are required under the terms of the Streambed Alteration Agreement. They include removing temporary stream crossing culverts prior to the winter and/or significant rain events unless the crossing devices have been designed to pass the expected flows without impounding water upstream of the crossing or impacting the integrity of the watercourse. Structures and associated materials not designed to withstand high seasonal flows must be moved to areas above the high water mark before such flows occur.

Although the project lowers the streambed gravels, each year the creek moves in more material. Depending on the weather, the amount moved may be less than, equal to, or greater than the amount of material in the streambed the prior year. Occasionally, large parts of the upstream deposit cover over or scour out reclaimed areas and the natural revegetation process begins again. The vegetative cover proposed for the end use is anticipated to be self-regenerating to a large extent without continued dependence on irrigation, soil amendments, or fertilizer. The operation at the facility has been active for over 40 years and, according to the project biologist, natural revegetation of the riparian zone along the slopes of the Greenhorn Creek canyon, which were previously covered with aggregate waste, has proven to be effective. Vegetation at a density that is substantially similar to native surrounding areas, with various native species, develops unassisted and stabilizes the slopes (Stantec 2016).

The revegetation process therefore entails two phases. First, passive or natural revegetation and active revegetation methods within small areas (test plots) over at least two years would be assessed. The second phase, landscape level restoration, would then occur as needed, applying adaptive management recommendations that would result from the test plot study. Test plots would occur both in riparian and upland habitats. Test plot success is generally defined as 50 percent of baseline conditions two years post-construction, as vegetation once established at 50 percent cover will likely continue to revegetate. This criteria was approved by OMR. If at the end of two years, neither test plot type meet the success criteria, then adaptive management is recommended and additional testing of augmented replanting methods necessary. During this time, the passive plots should continue to be monitored to verify, if a longer study period facilitates meeting the success criteria in passive treatment plots.

The landscape level restoration would entail the application of the successful restoration techniques defined through the test plot study in riparian and upland habitats throughout the reclamation site. If passive revegetation was successful in the test plots they would be applied throughout the site. Passive revegetation methods have been successful in the past and may be viable at this site or in portions of the site. Passive landscape-level revegetation means the reclamation site would be left alone after the stream bed, bank, and upland areas are recontoured. The site is then expected to revegetate passively through natural propagation of riparian and upland species, much as it has in downstream areas previously mined by HBE. Active landscape-level revegetation would entail a directed revegetation planting palette based

on the results of the test plots. The goal is to have the planting pallet recommendations primarily depend on locally sourced cuttings. The recommended duration and timing for the landscape-level restoration is five years to be implemented upon completion of mining activities and site recontouring.

Mined lands are required to be reclaimed to a usable condition which is readily adaptable for alternate land uses and which creates no danger to public health or safety. After the end of the proposed aggregate mining activities, the ultimate condition of the creek would be something similar to the pre-hydraulic condition, with a layer of aggregate material 18 inches deep on average through the streambed and riparian plants along the edges of the stream and other species further outside the area of frequent flooding. The absence of the accumulation of sand and gravel will allow the natural propagation of alder, willow, and other riparian vegetation species.

After mining of each section is completed, the stream would be contoured into a "V" shaped channel shaped sufficiently to pass the 100-year peak flow, which conforms to the surrounding topography, with Greenhorn Creek flowing in the "V" (see Figure 7). The stream profile would be cut to the proper angle of repose. Although the final slope of the streambed under the gravel is unknown because the bedrock contour has not been explored, the bedrock contour is assumed to follow the pattern of the streambed cross section and have a slope of less than 35 percent. If canyon walls under the deposit are less than 35 percent, no adjustments to the slope are planned. Sand and gravel would be left against slopes that are steeper than 35 percent as well as to cover the stream banks and streambed. The blanket of aggregate material that remains on the banks of the channel provides a natural form of rip-rap which assists in protecting the banks from soil erosion. Any soil encountered under the gravel would be left in place.

When the operation is nearing completion, the crushers, screens, scales, buildings, drainage structures, and all other plant related equipment would be removed in order to remove the aggregate material in which they are sited on, and any excess materials, waste, or debris would be removed from the work area. All private access roads, haul roads, and other temporary traffic routes used for mining purposes would then be reclaimed by removing any road base material. The Hansen Gravel Road would be left in its operational condition, on a layer of sand and gravel.

The potential end use of the reclaimed streambed would be for recreational, watershed, and beneficial environmental uses of Greenhorn Creek such as continued habitat for foothill yellow-legged frog. The current zoning designations for operation area include forest and agricultural designations in combination with the mineral extraction designation. The reclamation plan for the site is consistent with current and surrounding zoning and land use designations.

Management Plan

For all disturbance within watercourses, wetlands, and riparian, Nevada County LUDC Sec. L-II 4.3.3 requires a Management Plan to reduce impacts to water quality, habitat, and special-status species that could occur in these areas. The project's management plan (MGT17-0003) consists of the CDFW Streambed Alteration Agreement which includes numerous protections for water quality, habitat, and special-status within Greenhorn Creek that could be affected by the project's harvesting operations. For impacts to creek banks and slopes, the project's Reclamation Plan would also serve as a management plan in the reclamation phase of the project.

Other Permits Which May Be Necessary: Based on initial comments received, the following permits may be required from the designated agencies:

1. County Road Encroachment Permit – Nevada County Public Works Dept.
2. Permit to Operate and Air Pollution Permit – Northern Sierra Air Quality Management District
3. Waste Discharge Requirements – Central Valley Regional Water Quality Control Board

4. Streambed Alteration Agreement – California Department of Fish and Wildlife

Relationship to Other Projects: The proposed project is an expansion of an existing aggregate mine extraction and processing facility currently permitted under U82-020 and U93-063, as well as a comprehensive update of the existing Reclamation Plans for the project. One other nearby mining project immediately east of the Red Dog Narrows, the Blue Lead Mine, has been approved but has no existing relationship with the proposed project.

SUMMARY OF IMPACTS and PROPOSED MITIGATION MEASURES

Environmental Factors Potentially Affected: All of the following environmental factors have been considered. Those environmental factors checked below would be potentially affected by this project, involving at least one impact that is "Less Than Significant with Mitigation" as indicated by the checklist on the following pages.

__	1. Aesthetics	__	2. Agriculture / Forestry Resources	✓	3. Air Quality
✓	4. Biological Resources	✓	5. Cultural Resources	✓	6. Geology / Soils
✓	7. Greenhouse Gas Emissions	__	8. Hazards / Hazardous Materials	✓	9. Hydrology / Water Quality
✓	10. Land Use / Planning	__	11. Mineral Resources	✓	12. Noise
__	13. Population / Housing	__	14. Public Services	__	15. Recreation
✓	16. Transportation / Circulation	__	17. Utilities / Service Systems	✓	18. Mandatory Findings of Significance

Recommended Mitigation Measures:

3. **AIR QUALITY:** To offset potentially adverse air quality and greenhouse gas impacts associated with the proposed project, the following mitigation measure shall be required:

Mitigation Measure 3A. Reduce Emissions during Harvesting Activities: The following are the minimum recommended measures to reduce project emissions related to harvesting and ongoing operations in relation to the proposed project. In addition to these measures, all statewide air pollution control regulations shall be followed, including diesel regulations (which may be accessed at www.arb.ca.gov/diesel/diesel.htm).

1. Alternatives to open burning of vegetative material shall be used to dispose of site-cleared vegetation where feasible. Among suitable alternatives are chipping, mulching, or conversion to biomass fuel.
2. Grid power shall be used (as opposed to diesel generators) for job site power needs where feasible.
3. Mobile heavy equipment shall meet State engine-tier standards in effect at the time of operation.
4. Heavy equipment idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes as feasible, and all heavy equipment shall also be maintained and properly tuned in accordance with manufacturer's specifications.

Timing: *During project operations*
Reporting: *During project operations*
Responsible Agency: *Northern Sierra Air Quality Management District*

4. **BIOLOGICAL RESOURCES:** To offset the potential impacts to biological resources associated with the project activities, the following mitigation measures shall be required:

Mitigation Measure 4A. Avoid and Minimize Impacts on Special-Status Plant Populations: Surveys shall be conducted for late-season blooming special-status plants not covered under the May 11, 2015 plant survey, including brownish-beaked rush, elegant groundsel, Follett's monardella, Gevers panicum, grass lead plantain, inundated bog club-moss, Scadden Flat checkerbloom, and white beaked rush as follows:

1. Pre-construction botanical surveys for the late-blooming special-status plants shall be conducted in the appropriate blooming periods, and shall be performed by a qualified botanist following CDFW and CNPS protocols for surveying special-status native plants. The survey results shall be submitted to the Planning Department within one week of survey completion.
2. If special-status plants are determined to have no presence in the proposed Project site, then no further mitigation is required.
3. If special-status plants are determined present within the project area during pre-construction field surveys and feasibly be avoided, the applicant shall implement the following measures:
   - Hire a qualified biologist to map the population and place flagging to identify the population location. Install environmentally sensitive exclusion fencing and appropriate signage at an appropriate buffer distance, starting from the edge of the special-status plant and/or plant population. Signage shall indicate the area is environmentally sensitive and not to be disturbed;
   - Adjust project activities away from special-status plants. The project work area shall be confined to areas outside a buffer acceptable to the project biologist; and
   - Supervision, guidance, and verification of the implementation of these measures shall be achieved by Hansen Bros. Enterprises and an agency-approved biological monitor (i.e., a qualified biologist or botanist approved by CDFW and/or USFWS).
4. If special-status plants are determined present within the project are during pre-construction field surveys and direct or unavoidable impacts to special-status plants would result from project activities, then the applicant shall consult with appropriate agencies (i.e., CDFW and/or USFWS) to develop acceptable mitigation which may include the successful translocation of individual plants, rectification of impact by seed collecting and stockpiling for replanting/replacement, mitigation fees, and/or permitting.

Timing: *Prior to start of mining operations during the late-bloom period (August-October)*
Reporting: *Prior to start of operations*
Responsible Agency: *Nevada County Planning Department; CDFW and USWFS as necessary*

Mitigation Measure 4B. Avoid Disturbance of Foothill Yellow-Legged Frog: The applicant shall comply with all California Department of Fish and Wildlife requirements to avoid or minimize the disturbance of FYLF. These include but are not limited to conducting worker environmental awareness trainings, delineating and avoiding sensitive habitat areas during work, conducting egg mass surveys, limiting project activities to April 1 to December 31, further limiting work during wet weather periods, ensuring that aquatic life is not stranded in dewatered areas, and having a biological monitor onsite with stop-work authorization during any relocation of stranded aquatic life. These measures may be modified as determined necessary by the California Department of Fish and Wildlife in their Streambed Alteration Agreement, as conditions change during the life of the project.
Timing: *Prior to the start of project operations each year and during project operations*
Reporting: *Prior to the start of project operations*

Responsible Agency: *CDFW*

Mitigation Measure 4C. Avoid and Reduce Impacts to Special-Status Bird Species, Nesting Raptors, and Migratory Birds: To the extent feasible all necessary vegetation removal shall be conducted between September 1 and February 28 of each year to avoid nesting birds that may be present in the construction area during construction activities (defined for the purposes of this mitigation measure as haul road construction, berm construction, and extraction). If all construction activities are conducted outside of nesting season, no further mitigation is necessary. If construction activities begin in an area prior to the start of the nesting season (March 1 to August 31) and inactivity in that area does not exceed two weeks, no further mitigation is necessary. If construction activities begin during the nesting season, the applicant shall have a pre-construction nesting survey conducted by a qualified wildlife biologist within the project area and within an approximate 300-foot buffer. Surveys shall be conducted within one week before initiation. In addition, if construction activities begin after a period of two weeks or more of inactivity in any given area during the nesting season (even if that area was already surveyed), the applicant shall re-survey the area prior to performing or continuing extraction activities. The results of the survey shall be submitted to the Planning Department within one week of completion. If no active nests are detected, then no additional mitigation is required. If surveys indicate that migratory bird nests are found in any areas that would be directly affected by construction activities, the biologist shall establish a no-disturbance buffer around the site to avoid disturbance or destruction of the nest site until after the breeding season or after the biologist determines that the young have fledged (typically late June to mid-July). The extent of these buffers shall be determined by the biologist in consultation with the California Department of Fish and Wildlife and shall depend on the listing status of the species present, the level of noise or construction disturbance, line of sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers. The buffer zone and monitoring plan shall be reported to the California Department of Fish and Wildlife and to the Planning Department. Active sites shall be monitored by the biologist periodically until after the breeding season or after the young have fledged.
Timing: *Within two weeks prior to the start of project construction each year and as needed during any periods of inactivity exceeding two weeks*
Reporting: *Prior to the start of project construction each year*
Responsible Agency: *Nevada County Planning Department and CDFW*

Mitigation Measure 4D. Amend the Streambed Alteration Agreement to Provide Protections to Riparian Habitat. Prior to any work within the expansion area, the applicant shall obtain an amended Streambed Alteration Agreement from California Department of Fish and Wildlife that encompasses the expansion area and shall provide the Agreement to the Planning Department. The applicant shall adhere to all the Streambed Alteration Agreement for the life of the project, which include but are not limited to providing an annual pre-extraction plan that delineates extraction areas for that season; an annual pre-extraction production data report to track cumulative extraction volumes from the stream channel; annual, temporary culvert crossings where heavy equipment will cross the creek; annual diversion channel and berms built in clean gravels; and erosion, sedimentation, turbidity, and siltation precautions.
Timing: *Prior to operation and pre-extraction annually*
Reporting: *Annually prior to extraction activities for the season*
Responsible Agency: *CDFW*

5. **CULTURAL RESOURCES:** To offset potentially adverse cultural or historical resources impacts associated with the proposed activities on site, the following mitigation measure shall be required:

Mitigation Measure 5A: Halt work and contact the appropriate agencies if human remains or cultural materials are discovered during project operations. All equipment operators shall be

advised of the possibility of encountering cultural resources. If such resources are encountered or suspected, work shall be halted immediately within 200 feet of the suspected resource and the Nevada County Planning Department shall be contacted. A professional archaeologist shall be retained by the applicant and consulted to access any discoveries and develop appropriate management recommendations for archaeological resource treatment. If bones are encountered and appear to be human, California Law requires that the Nevada County Coroner and the Native American Heritage Commission be contacted and, if Native American resources are involved, Native American organizations and individuals recognized by the County shall be notified and consulted about any plans for treatment.
Timing: *During operations*
Reporting: *As needed if cultural resources found*
Responsible Agency: *Nevada County Planning Department*

6. **GEOLOGY/SOILS:** To offset the potential for adverse soils or erosion impacts to result from project harvesting activities, the following mitigation measures shall be required:

Mitigation Measure 6A: Perform annual inspections of mined areas for creek bank slope and stability. During the fall season of each year and prior to the rainy season (generally prior to October 15), a geotechnical engineer shall assess the soil and rock conditions and slopes exposed by aggregate removal, along the creek and within the Red Dog Narrows, to identify potential slope configurations that could be vulnerable to erosion and/or increase the risk of localized flooding. If conditions are identified that could constrict flow in the creek, additional grading may be necessary to reduce the potential for localized flooding. All eroded creek banks identified during the inspection shall be backfilled with a 2:1 gravel fill slope or shallower and revegetated as necessary to stabilize those areas, upon the recommendation of the mine inspector. If specific geotechnical recommendations are required during the course of the project as determined by the mine inspector, subsurface investigation and analysis shall be required to develop specific geotechnical design criteria.
Timing: *Close of operational season each year*
Reporting: *Close of operational season*
Responsible Agency: *Nevada County Planning Department*

7. **GREENHOUSE GAS EMISSIONS:** See Mitigation Measure 3A.

9. **HYDROLOGY/WATER QUALITY:** See Mitigation Measure 6A.

10. **LAND USE:** See Mitigation Measures 6A, 16A, and 16B.

12. **NOISE:** To offset the potential for noise impacts at nearby residences, the following mitigation measures shall be required:

Mitigation Measure 12A: Limit Noise-Generating Uses. The following measures shall be implemented during all project operations to protect surrounding residents from operational noise:

- Plant operation, gravel harvest, truck loading, and truck hauling are limited to the hours of 7 AM to 6 PM, Monday through Friday, except for plant repairs which may take place outside those hours. Exceptions may also be made for emergency operation as determined by the Planning Director and defined in the Section 15269 of the State CEQA Guidelines.
- The operation is required to provide mufflers which meet the standards of the California Highway Patrol on all trucks belonging to the operator and used on public roadways.
- Noise emissions from the plant site at any residential property line shall not exceed 65 decibels.
- Aggregate harvesting is prohibited within 20 feet from any neighboring property.

- Noise levels associated with the operation in the new harvest areas shall not exceed County noise standards at the nearest residential property lines.
- When paddle-wheel scrapers are used for excavation in Sections 25 and 36, no more than two shall be permitted to operate. Scrapers shall be staggered to avoid simultaneous operation in the same area.
- Retail sales and rock processing is prohibited in Sections 25 and 36.
- Blasting associated with the mining operation is prohibited.

Timing: *During project operation*
Reporting: *Enforced through the code complaint process*
Responsible Agency: *Nevada County Planning Department*

16. **TRANSPORTATION/CIRCULATION:** To offset the potential for road impacts, the following mitigation measures shall be required:

Mitigation Measure 16A. Maintain the Red Dog Road Crossing: The applicant shall maintain the Red Dog Crossing and approaches in a passable condition during the operational season, within two weeks following haul road construction and in compliance with other County and State requirements such as pre-construction nesting surveys and Streambed Alteration Agreement requirements. This mitigation is not dependent on mining operations in the vicinity of the area because current and past upstream and adjoining mining activities can have long-term effects on the crossing. This condition shall be monitored during annual inspections and enforced other times of the year through a public complaint-driven process.
Timing: *Annual inspection and on a complaint basis*
Reporting: *Annual inspection*
Responsible Agency: *Nevada County Public Works, Planning, and Code Compliance*

Mitigation Measure 16B. Provide Red Dog Road Reclamation and Offer for Dedication: During reclamation of the Red Dog crossing area, the applicant shall ensure that it is left in a passable condition. The applicant shall also offer for dedication to Nevada County any portion of the Red Dog Road crossing that is owned by the applicant, in order to provide the County the opportunity to consider whether that portion should become part of the County-maintained mileage system at that time.
Timing: *Prior to release of the Financial Assurance for reclamation*
Reporting: *Approval of FACE release*
Responsible Agency: *Nevada County Public Works Department*

Mitigation Measure 16C. Pay Fair Share toward Public Access Road Maintenance and Improvements: The applicant shall contribute $0.05 per ton of aggregate materials on a quarterly basis for the proposed expansion areas for County road maintenance and improvement. The tonnage rates and annual maximum amount shall be adjusted annually based on the California Construction Cost Index (CCCI) so that these fees can keep with the anticipated rate of inflation.
Timing: *To be paid quarterly during project operations*
Reporting: *Quarterly invoicing by Fiscal Department*
Responsible Agency: *Nevada County Public Works Department*

18. **MANDATORY FINDINGS OF SIGNIFICANCE:** To offset potentially adverse impacts to air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hydrology and water quality, land use, noise, and transportation/circulation, see Mitigation Measures 3A, 4A-4D, 5A, 6A, 12A, and 16A-C.

Mitigation Monitoring Matrix:

MEASURE #	MONITORING AUTHORITY	IMPLEMENTATION TIMING
3A	Planning and NSAQMD	During project operations
4A	Planning, CDFW, USFWS	Prior to start of any mining operations
4B	CDFW	Prior to start of mining operations each year and during operations
4C	Planning, CDFW	Prior to start of mining operations each year
4D	CDFW	Prior to start of any mining operations and prior to start of mining operations each year
5A	Planning	During project operations
6A	Planning	Annual inspection
12A	Planning	During project operations
16A	Public Works and Planning	Annual inspection and on complaint basis
16B	Public Works	Prior to release of Financial Assurance for reclamation
16C	Public Works	Quarterly during project operations

INITIAL STUDY AND CHECKLIST

Introduction

This checklist is to be completed for all projects that are not exempt from environmental review under the California Environmental Quality Act (CEQA). The information, analysis and conclusions contained in the checklist are the basis for deciding whether an Environmental Impact Report (EIR) or Negative Declaration is to be prepared. If an EIR is determined to be necessary based on the conclusions of the Initial Study, the checklist is used to focus the EIR on the effects determined to be potentially significant. This Initial Study uses the following terms to describe the level of significance of adverse impacts. These terms are defined as follows.

- **No Impact**: An impact that would result in no adverse changes to the environment.
- **Less than Significant Impact**: An impact that is potentially adverse but does not exceed the thresholds of significance as identified in the impact discussions. Less than significant impacts do not require mitigation.
- **Less than Significant with Mitigation**: An environmental effect that may cause a substantial adverse change in the environment without mitigation, but which is reduced to a level that is less than significant with mitigation identified in the Initial Study.
- **Potentially Significant Impact**: An environmental effect that may cause a substantial adverse change in the environment; either additional information is needed regarding the extent of the impact to make the significance determination, or the impact would or could cause a substantial adverse change in the environment. A finding of a potentially significant impact would result in the determination to prepare an EIR.

The existing environmental conditions against which the project impacts are evaluated (CEQA baseline) in this Initial Study include the ongoing uses approved under Use Permits U82-020 and U93-063. These uses include harvesting within Greenhorn Creek, processing aggregate materials at the HBE plant, and hauling the materials off-site. This Initial Study evaluates the delta between these and other existing conditions and the proposed expansion of the harvesting areas. The Initial Study also considers how increasing the mining areas would extend the lifespan of the operation.

1. AESTHETICS

Existing Setting: The project is located approximately 5 miles upstream of Rollins Reservoir, within a rural area of the County along Greenhorn Creek and Missouri Canyon in USGS Sections 25 and 36. The project area follows the meander of Greenhorn Creek from the Buckeye Road crossing at its northern extent to Missouri Canyon at its southern extent, and extends east approximately 1,650 feet into Missouri Canyon. Greenhorn Creek in the project area has a bed width of approximately 40 feet wide to 600 feet wide, with a substantial amount of aggregate material and very little existing riparian vegetation. The canyon walls of Greenhorn Creek and Missouri Canyon rise rapidly from the streambeds approximately 400 to 600 feet high, from about 2,500 feet elevation to 3,000 feet elevation. The canyon walls are heavily vegetated with upland forest vegetation (Douglas-fir Forest Alliance) while sparse vegetation along the creek is riparian (White Alder Grove Forest Alliance). There is very little mingling of these vegetation types, with an abrupt transition from riparian to upland vegetation generally due to mining operations yielding exposed slopes with no vegetation present (Stantec 2015). Surrounding uses include public lands to the north east, HBE-owned land to the southeast of APN 38-370-17 and all adjoining lands to the north, west, and south of the APNs 38-380-15, 38-380-16, and 38-430-02. There are unimproved private parcels to the east and improved private parcels to the west.

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Have a substantial adverse effect on a scenic vista or views open to the public?			✓		A, D
b. Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?				✓	A, D
c. Substantially degrade the existing visual character or quality of the site and its surroundings?			✓		A, D
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			✓		A, D

Impact Discussion 1a, c-d: The site is not visible from any public roadway with the exception of Red Dog Road, which is infrequently used given that it is an at-grade stream crossing. The mining operation may be visible from some adjoining properties. The nearest neighbors on lots that appear to be improved (i.e., that have an improvement value in the tax rolls and/or where residential structures are clearly visible on aerial photographs) are three properties to the west of the Narrows (APNs 38-370-13, -14, and -19), two properties on the western side of Greenhorn Creek opposite the Missouri Canyon area (APNs 38-440-29 and -30), and a property to the south of Missouri Canyon at APN 38-430-11. All of the homes on these properties are at least 1,000 feet from the proposed new operation areas. Most of the lot development also occurs on the ridgelines and canyons above the proposed operation. However, the operation is located in a remote area, and the number of individuals who are able to view the operation is extremely limited. Additionally, the operation is predominantly along currently mined areas of the creekbed and within the creek and is thus not removing substantial vegetation. The change of views for the limited number of viewers would be very gradual as the aggregate deposit becomes lower over decades of time. No new lighting, signage, or processing areas are proposed with the project. Therefore, any adverse aesthetic impacts from aggregate extraction would be considered ***less than significant***.

Impact Discussion 1b: The project site is not located on a state scenic highway and does not contain unique scenic resources. Therefore, there would be ***no impact*** related to damaging scenic resources on a state scenic highway.

Mitigation Measures: None required.

2. AGRICULTURAL/FORESTRY RESOURCES

Existing Setting: The project area is designated as "Other Land" by the Farmland Mapping and Monitoring Program (California Department of Conservation, 2010). The site does not contain any Important Farmlands, nor is it adjacent to any Important Farmlands. Commercial agricultural uses do not exist in the project area, and the project area contains neither Williamson Act contracts nor land zoned for agriculture. The primary areas of gravel extraction are within Greenhorn Creek's bed and banks, while the upland vegetated areas of the site are forested with mixed conifer forest.

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				✓	A, D, 4
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?			✓		A
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resource Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?			✓		A
d. Result in the loss of forest land or conversion of forest land to non-forest use?			✓		A, 4
e. Involve other changes in the existing environment, which due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				✓	A, D, 4

Impact Discussion 2a,e: The project site does not contain any Important Farmlands as identified by the Farmland Mapping and Monitoring Program, nor are surrounding properties zoned for agricultural use. Project implementation would neither directly nor indirectly result in the conversion of farmland to nonagricultural uses. Therefore, there would be ***no impact*** to farmlands from the proposed project.

Impact Discussion 2b-c: Portions of the site are zoned Agricultural (AG) and Forest (FOR), and some adjoining land is zoned within a Timberland Production Zone (TPZ). However, given that the site does not have appropriate soils, and is largely within a creekbed and on the banks of a creek that are heavily graveled, the site is not appropriate for agricultural uses at this time. Additionally, mineral extraction of the site would not preclude timber harvesting on adjoining properties. Therefore, this impact is considered ***less than significant.***

Impact Discussion 2d: The project site is partially forested in the upland areas. Small portions of upland forested areas, where mixed conifer forest grows on gravel ledges, could be affected by the project, but these areas are not considered valuable timberland or forest land due to the poor gravelly soils in these areas. The project would only be allowed to harvest Placer diggings soil which are not considered useful for forest or timber-growing conditions. Conversion of these areas to banks and streambed is therefore considered ***less than significant***.

Mitigation Measures: None required.

3. AIR QUALITY

Existing Setting: Nevada County is located in the Mountain Counties Air Basin. The overall air quality in Nevada County has improved over the past decade, largely due to vehicles becoming cleaner. State

and Federal air quality standards have been established for specific "criteria" air pollutants including ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, lead, and particulate matter. In addition, there are State standards for visibility reducing particles, sulfates, hydrogen sulfide, and vinyl chloride. State standards are called California Ambient Air Quality Standards (CAAQS) and federal standards are called National Ambient Air Quality Standards (NAAQS). NAAQS are composed of health-based primary standards and welfare-based secondary standards.

Western Nevada County is Marginal Nonattainment for the 1997 ozone NAAQS, with a "Finding of Attainment" based on three years of "clean" data. The area is also Marginal Nonattainment for the 2008 ozone NAAQS and is Nonattainment for the ozone CAAQS. Most of western Nevada County's ozone is transported to the area by wind from the Sacramento area and, to a lesser extent, the San Francisco Bay Area. The existing project operations are a source of ozone in the project area as well. Ozone is created by the interaction of Nitrogen Oxides and Reactive Organic Gases (also known as Volatile Organic Compounds) in the presence of sunlight, especially when the temperature is high. Ozone is mainly a summertime problem, with the highest concentrations generally observed in July and August, especially in the late afternoon and evening hours.

Nevada County is also Nonattainment for the PM10 CAAQS, but Unclassified for the PM10 NAAQS due to lack of available recent data. The number after "PM" refers to maximum particle size in microns. PM10 is a mixture of dust, combustion particles (smoke) and aerosols, whereas PM2.5 is mostly smoke and aerosol particles. PM2.5 sources include woodstoves and fireplaces, vehicle engines, wildfires and open burning. PM10 sources include the PM2.5 plus dust, such as from surface disturbances, road sand, vehicle tires, and leaf blowers. The existing project operations are also a source of PM2.5 and PM10 in the area. Some pollen and mold spores are also included in PM10, but most are larger than 10 microns. All of Nevada County is Unclassifiable/Attainment for the PM2.5 NAAQS and Unclassified for the PM2.5 CAAQS.

Ultramafic rock and its altered form, serpentine rock (or serpentinite), both typically contain asbestos, a cancer-causing agent. Ultramafic rock and serpentine exist in several locations in Nevada County, mainly in the western half, but these geologic types are not located in the project area (California Department of Conservation, 2017).

An evaluation of project impacts related to greenhouse gas emissions is provided in Section 7 of this Initial Study.

Would the proposed project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**	**Reference Source (Appendix A)**
a. Result in substantial air pollutant emissions or deterioration of ambient air quality?		✓			A, 3, 20, 31, 32, 40
b. Violate any air quality standard or contribute to an existing or projected air quality violation?		✓			A, 31, 32, 40
c. Expose sensitive receptors to substantial pollutant concentrations?		✓			A, 3, 31, 32
d. Create objectionable smoke, ash, or odors?		✓			A, 31, 32
e. Generate dust?		✓			A, 31, 32
f. Exceed any potentially significant thresholds adopted in County Plans and Goals?			✓		A, 31, 32, 40

Would the proposed project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
g. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?			✓		A, 31, 32, 40

Impact Discussion 3a-e: The project consists of the extraction of aggregate materials from sand bars and other areas within and on the banks of Greenhorn Creek. Harvested material is then transported to the existing processing plant where it is screened, washed, crushed if necessary, and stockpiled. Approximately 200,000 to 600,000 tons of materials is expected to be mined and processed annually, depending on the year-to-year market demand. The existing operation, which consists of the same activities and quantities but in different areas of Greenhorn Creek, holds a Permit to Operate containing production and emission limitations, as issued by the NSAQMD (Longmire 2015). NSAQMD has indicated that this permit is anticipated to accommodate any additional mineral processing that occurs within the proposed expansion. HBE also annually obtains an Air Pollution Permit for the burning of natural wood waste. Neither construction nor grading are proposed with the project.

The California Emissions Estimation Model (CalEEMod) was used to estimate potential emissions associated with aggregate harvesting and processing. Two separate model runs were conducted to ensure that inputs were specific to these different functions of the mining operation.

For aggregate extraction, the construction tabs in CalEEMod were used in order to input specific haul trip and heavy equipment data needed for the analysis. Based on the current conditions of approval for Section 25, it was assumed that no more than two scrapers would operate simultaneously and that one water truck would always operate on the haul road. Table 1 identifies an annual average level of emissions over 30 years of project operation. The identified levels of emissions include reductions for watering for dust control three times per day.

Table 1: Aggregate Extraction Air Quality Impacts, Mitigated with Watering

Pollutant	NSAQMD Level A Thresholds	NSAQMD Level B Thresholds	NSAQMD Level C Thresholds	Project Impact[1]
NOx	< 24 lbs/day	*24-136 lbs/day*	>136 lbs/day	44.88 lbs/day (4.40 tons/yr)
ROG	*<24 lbs/day*	24-136 lbs/day	>136 lbs/day	3.87 lbs/day (0.38 tons/yr)
PM10	*<79 lbs/day*	79-136 lbs/day	>136 lbs/ day	70.09 lbs/day (6.87 tons/yr)

Notes:
1. Pounds per day were calculated by assuming that extraction would occur 5 days per week for 9 months per year, consistent with the Streambed Alteration Agreement requirements. This provides a conservative calculation of how many pounds per day could be emitted by aggregate extraction.

As shown in Table 1, the project would be within Level B thresholds for NOx and PM10 and would be within Level A for ROG.

The processing facility is currently in use under the existing Use Permits U82-020 and U93-063. For the purposes of this project, it was assumed that the plant would continue to be used for the new gravel extraction areas, without any need for expansion or construction. Based on applicant input, three crushers (stationary sources), three front-end loaders (mobile sources), and three load-out trucks (mobile sources) are assumed to be used in processing of aggregate. The operations tab in CalEEMod was used for this analysis. Table 2 shows the pollutant emissions that would result from the continued use of the processing plant.

Table 2: Aggregate Processing Air Quality Impacts

Pollutant	NSAQMD Level A Thresholds	NSAQMD Level B Thresholds	NSAQMD Level C Thresholds	Project Impact[1]
NOx	< 24 lbs/day	*24-136 lbs/day*	>136 lbs/day	32.38 lbs/day (5.91 tons/yr)
ROG	*<24 lbs/day*	24-136 lbs/day	>136 lbs/day	4.05 lbs/day (0.74 tons/yr)
PM10	*<79 lbs/day*	79-136 lbs/day	>136 lbs/ day	2.47 lbs/day (0.45 tons/yr)

Note:
1. Although extraction may not occur between January 1 and March 31 under the Streambed Alteration Agreement, the processing plant is in use throughout the year, and pounds per day impacts were calculated to reflect that.

CalEEMod can quantify PM emissions only from heavy equipment used for processing during operations, and not the particulate emissions generated from moving and crushing aggregate. However, according to the NSAQMD, there are virtually no particulate emissions from crushing and moving rock due to the high moisture content of the material (Longmire 2017). The NSAQMD Permit to Operate requires that particulate emissions are controlled by ensuring that crushed rock is kept moist with water sprayers. Water is required to be applied by nozzles mounted above the conveyor belts that automatically apply a fine spray over the rock material to reduce dust emissions. The plant site, stockpiles, and private access roads are also required to be watered to control dust. All extraction areas are also required to be kept watered as needed to prevent emission of fugitive dust.

Table 3 below shows the total project emissions from operations when harvesting and processing emissions are combined.

Table 3: Total Project Air Quality Impacts

Pollutant	NSAQMD Level A Thresholds	NSAQMD Level B Thresholds	NSAQMD Level C Thresholds	Project Impact
NOx	< 24 lbs/day	*24-136 lbs/day*	>136 lbs/day	77.26 lbs/day
ROG	*<24 lbs/day*	24-136 lbs/day	>136 lbs/day	7.92 lbs/day
PM10	*<79 lbs/day*	79-136 lbs/day	>136 lbs/ day	72.56 lbs/day
CO	N/A	N/A	N/A	87.63 lbs/day

Additionally, emissions from processing are regulated by the NSAQMD under the existing Permit to Operate. The Permit to Operate for the 2015/2016 operating years includes a number of conditions designed to reduce the project impacts. These conditions include but are not limited to the following:

- Equipment must be in good working order in order to operate efficiently and minimize air pollutant emissions.
- Visible emissions from all emission points shall not meet or exceed 20 percent opacity more than 3 minutes in any one hour.
- Maximum annual process rate allowed is up to 750,000 tons per year.
- Applicant must keep records of plant operating hours and number of operation days, in addition to separate records for the number of gallons and type of fuel used by each crusher, screen power plant, and generator.
- At least one water truck must be assigned to dust control operations in and around the equipment operation areas and pile areas and on all haul roads as necessary to control dust.
- Any soils tracked onto adjoining paved roadways shall be promptly removed by washing, sweeping, or other technique to prevent entrainment of particulate matter into the air by passing traffic.
- The maximum speed limit on the haul road shall be posted and shall not exceed 25 miles per hour.
- Total emissions limits from all stationary sources may not exceed the following:

  Total suspended particulate: 80.0 tons/yr
  PM 10: 40 tons/yr
  NOx: 0.5 ton/yr

Sulfur Oxides:	0.1 ton/yr
Total organic gases:	0.1 ton/yr
CO:	0.2 ton/yr

Additionally, the project will be required to comply with the State's diesel regulations regarding the tier level of heavy equipment. Recommendations from the NSAQMD regarding diesel-powered heavy equipment are included in Mitigation Measure 3A to help reduce overall impacts of the project regarding criteria pollutants.

The project does not have the potential to encounter ultramafic rock as the operation would occur only in the Placer diggings soil type. With the NSAQMD Permit to Operate in place which would incorporate the proposed area of operations, and with Mitigation Measure 3A to reduce the amount of criteria pollutants generated by the project, air quality impacts are anticipated to be ***less than significant with mitigation***.

Impact Discussion 3f: Nevada County's 1995 General Plan, Chapter 14 Air Quality Element, contains numerous policies to protect air quality in Nevada County. With the exception of General Plan Air Quality Element Policy 14.7A, which requires compliance with NSAQMD Rule 226, Nevada County General Plan Air Quality Element policies are intended to apply to development that generates new residents or new employees. The ongoing Permit to Operate requires compliance with Rule 226, which is related to the control of dust emissions. The Air Quality Element of the General Plan does not otherwise provide policies that apply to site-specific development projects. The proposed development of the project site would therefore have a ***less than significant*** impact with regard to Nevada County goals and policies.

Impact Discussion 3g: The proposed project would result in a temporary but incrementally small net increase in pollutants due to construction vehicle and equipment emissions. However, Mitigation Measure 3B, as well as compliance with the County's grading ordinance, would reduce impacts to the extent that the project would not contribute to a cumulatively considerable net increase for ozone and PM10, for which the County is in non-attainment. Therefore, this impact is ***less than significant***.

Mitigation Measures: To offset potentially adverse air quality and greenhouse gas impacts associated with the proposed project, the following mitigation measure shall be required:

Mitigation Measure 3A. Reduce Emissions during Harvesting Activities: The following are the minimum recommended measures to reduce project emissions related to harvesting and ongoing operations in relation to the proposed project. In addition to these measures, all statewide air pollution control regulations shall be followed, including diesel regulations (which may be accessed at www.arb.ca.gov/diesel/diesel.htm).

1. Alternatives to open burning of vegetative material shall be used to dispose of site-cleared vegetation where feasible. Among suitable alternatives are chipping, mulching, or conversion to biomass fuel.
2. Grid power shall be used (as opposed to diesel generators) for job site power needs where feasible.
3. Mobile heavy equipment shall meet State engine-tier standards in effect at the time of operation.
4. Heavy equipment idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes as feasible, and all heavy equipment shall also be maintained and properly tuned in accordance with manufacturer's specifications.

Timing: *During project operations*
Reporting: *During project operations*
Responsible Agency: *Northern Sierra Air Quality Management District*

4. BIOLOGICAL RESOURCES

Existing Setting: The proposed expansion area is located in southern Nevada County, California upstream from Rollins Lake in Greenhorn Creek. The approximate 38-acre expansion area is located in the USGS Chicago Park Quad, at approximately 2,500 feet above mean sea level. The vegetative cover in the area is generally either disturbed or relatively intact and can be divided into the following three primary categories: streambed, riparian, and upland.

The intact streambed of Greenhorn Creek consists primarily of cobble and gravel and is highly mobile, moving downstream with precipitation events on a seasonal basis. The stream channel is mostly devoid of vegetation due to the highly mobile bedload, except for locations along the channel bank where it transitions to riparian habitat. The disturbed streambed located within the existing mining area is also generally devoid of vegetation likely due to natural channel movement and mining activities.

The riparian habitat is dominated primarily by willow (*Salix spp*.) and alder (*Alnus spp*.) species. The riparian community present within the project expansion area is sparse, somewhat fractured, and often isolated to narrow stretches along the edges of the Greenhorn Creek channel, where slopes are moderate and not as consolidated as the upland areas. Potential factors influencing the sparse distribution of riparian habitat along the stream banks in un-mined areas include a naturally shifting channel location (highly mobile bedload through riparian habitat during high flows), general public use (e.g., off-road vehicles), and associated increased erosion along the channel banks. In previously mined areas, riparian habitat also persists in some locations and is relatively devoid in others. A total of approximately 3.10 acres of this riparian biological community was identified and mapped within the proposed expansion area.

The upland habitat is generally comprised of mixed coniferous and oak vegetation. It is dominated by Douglas fir (*Pseudotsuga menziesii*), ponderosa pine (*Pinus ponderosa)*, black oak (*Quercus kelloggii*), canyon live oak (*Quercus chrysolepis*), and interior live oak (*Quercus wislizeni)*. Generally, this upland community is located along Greenhorn Creek approximately 50 to 200 feet upslope from the top of bank. The upland community is relatively intact and in good overall health. However, some upland tree mortality is evident, likely due to logging, fires, and bark beetle disease. A total of approximately 19.7 acres of this upland biological community was identified and mapped within the study area.

CEQA Environmental Checklist Item	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**	**Reference Source (Appendix A)**
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		✓			A, 7, 9, 10, 46, 47
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service?		✓			A, 7, 9, 10, 46, 47

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?		✓			A, 7, 9, 10, 46, 47
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?		✓			A, 7, 9, 10, 31 46, 47
e. Conflict with any local policies or ordinances, or other approved local, regional, or state habitat conservation plan, protecting biological resources, such as a tree preservation policy or ordinance?			✓		A, 7, 9, 10, 46, 47
f. Introduce any factors (light, fencing, noise, human presence, and/or domestic animals), which could hinder the normal activities of wildlife?			✓		A, 7, 9, 10, 46, 47

Impact Discussion 4a: During March 2015 two Stantec biologists conducted reconnaissance-level biological surveys of a 66-acre area in and around the proposed mining expansion areas. In response to OMR comments, these surveys were updated in April 2016 to include additional surrounding upland habitat along Greenhorn Creek, for a total survey area of approximately 82 acres. The 82-acre survey area is referenced in this section as the Biological Survey Area (BSA) and encompasses and is more extensive than the proposed mining expansion area, which is approximately 38 acres. An additional quantitative protocol-level vegetation assessment was also conducted in October 2016 in accordance with an OMR-approved Study Plan. The results of this assessment are included in a December 1, 2016 Stantec report.

To describe the habitat types and identify associated wildlife resources, a botanist and wildlife biologist conducted reconnaissance-level field surveys of the BSA. The assessment included a vegetation field method called the California Native Plant Society (CNPS) Relevé Protocol (pursuant to OMR requirements), which characterizes habitats by documenting the dominant naturally occurring community to determine baseline biological composition of native overstory. The streambed, riparian, and upland area along Greenhorn Creek are suitable wildlife habitat in most areas. Common wildlife species that were observed (or for which signs of presence such as tracks/scat were observed) in the operation and proposed expansion area include foothill yellow-legged frog (FYLF) (*Rana boylii*), California newt (*Taricha torosa*), garter snake (*Thamnophis sirtalis*), Pacific treefrog (*Pseudac regilla*), mule deer (*Odocoileus hemionus*), raccoon (*Procyon lotor*), black bear (*Ursus americanus*), common raven (*Corvus corax*), osprey (*Pandion haliaetus*), and great blue heron (*Ardea Herodias*). Greenhorn Creek also contains fish species such as rainbow (*Oncorhynchus spp.*) and brown trout (*Salmo spp*.) upstream from Rollins Reservoir to approximately the You Bet Road Bridge.

Special-Status Plant Species

A species site-suitability analysis evaluating the potential for each special-status plant species to occur within and near the proposed project area was completed for all plant species that were identified through background research prior to field surveys. A level of potential of occurrence within the proposed project area was applied to each identified species, which was then augmented and verified through a mid-bloom field survey on May 11, 2015. Additionally, an early bloom survey was conducted in April 2016 within

test plot areas, and a late-bloom survey was conducted on October 11, 2016 for specific transects within the reclamation area. Of the 65 species identified during background research, one species, the State-listed Brandegee's clarkia (*Clarkia biloba ssp. brandegeeae*), has a high potential to occur within or near the proposed project area. Brandegee's clarkia was observed close to the You Bet Bridge next to the Greenhorn Creek Bridge in 2004, approximately three miles downstream from the proposed project area. Fourteen special-status species also have a moderate chance of potentially occurring in the proposed project area: brownish beaked-rush (*Rhynchospora capitellata*), Butte County fritillary (*Fritillaria eastwoodiae*), Cedar Crest popcorn-flower (*Plagiobothrys glyptocarpus* var. *modestus*), clustered lady's-slipper (*Cypripedium fasciculatum*), elongate copper moss (*Mielichhoferia elongata*), finger rush (*Juncus digitatus*), giant checkerbloom (*Sidalcea gigantea*), inundated bog club-moss (*Lycopodiella inundata*), long-fruit jewel-flower (*Streptanthus longisiliquus*), Scadden Flat checkerbloom (*Sidalcea stipularis*), Sierra blue grass (*Poa sierrae*), Sierra foothills brodiaea (*Brodiaea sierra*), tripod buckwheat (*Eriogonum tripodum*), and Van Zuuk's morning glory (*Calystegia vanzuukiae*). None of the special-status species with a high or moderate potential to occur in the BSA were observed during botanical surveys conducted on May 11, 2015. Nonetheless, protective measures to reduce impacts to special-status plant species are provided in Mitigation Measure 4A, which requires a late-season plant survey and avoidance and minimization measures for late-blooming special-status plant species not covered in the previous surveys.

Special-Status Wildlife Species

There are no known occurrences of State- or federally listed wildlife species within the project area, and there are no listed fish species in the project area. Downstream, Camp Far West Reservoir prevents anadromous fish passage. However, foothill yellow-legged frog (FYLF) (*Rana boylii*), a State Species of Special Concern being considered for State listing, is known to occur onsite. Through the existing Streambed Alteration Agreement, protections for this species are in place for existing operations in accordance with CDFW protocols.

Under the Streambed Alteration Agreement, the operation is required to ensure that aquatic life is not stranded in dewatered areas, and reasonable efforts are to be made to capture and move all stranded aquatic life observed in the dewatered areas. An approved biological monitor must be onsite during relocation of stranded aquatic life and is responsible for monitoring all activities related to channelizing the stream. The biological monitor has the authority to immediately stop any non-compliant activity and/or to order any reasonable measure to avoid or minimize impacts to fish and wildlife resources. Captured aquatic life is required to be released immediately within the main channel closest to the work site. The operation is prohibited from the take or disturbance of any State- or federally listed species. The operation is responsible for having a survey for FYLF (including egg masses, tadpoles, subadults, and adults) conducted by the biological monitor at an appropriate time as identified by CDFW prior to beginning of each work season. A report of the survey results must be submitted to CDFW before beginning work. If FYLF egg masses and/or amplexing adults are found during the egg mass surveys, the operation must work with CDFW to revise the project to avoid negative impacts to the breeding area(s), including, but not limited to the installation of exclusionary or high visibility fencing, and a breeding area avoidance plan must be submitted to demonstrate how the project will be altered or redesigned to avoid negative impacts to breeding areas.

The project operation and expansion area also contain habitat that has a moderate potential to support the coast horned lizard (*Phrynosoma coronatum*), a State species of special concern. This species can be found in open sandy areas, scattered low bushes, riparian habitat, chaparral, and oak woodlands. The nearest known occurrence is from 1995 and is four miles southeast of the project area near Hwy 80. Coast horned lizard was not observed during the May 11, 2015, field survey, and the closest known occurrence, recorded in 1995, occurred approximately four miles southeast of the project area. Based on the annual bedload movement through Greenhorn Creek and the fact that the creek was extensively

surveyed by biologists without any observation of this species, impacts to coast horned lizard are not considered substantially adverse.

Also under the Streambed Alteration Agreement, if any other special-status species are found, the approved biological monitor is required to inform CDFW. If there is a threat of harm to any sensitive species, or other aquatic wildlife, the biologist must halt construction and notify CDFW immediately. Continued compliance with these measures and the Streambed Alteration Agreement is required in Mitigation Measure 4B.

Relative to avian species, the project area contains potential habitat for tree and ground nesting migratory birds protected under the Migratory Bird Treaty Act (MBTA). No special-status or nesting raptors and migratory birds were observed nesting during the biological survey on May 11, 2015. However, suitable nesting habitat exists within/adjacent to the proposed project area, and 16 bird species protected under the MBTA were observed within or adjacent to the proposed expansion area. Mitigation Measure 4C therefore requires pre-construction nesting surveys and proper precautions to be taken when work will occur within nesting season.

With the implementation of Mitigation Measures 4A-4C, which require pre-operational plant surveys and minimization strategies, compliance with Streambed Alteration Agreement requirements, and pre-operational nesting surveys, potential impacts to special-status species would be ***less than significant with mitigation***.

Impact Discussion 4b,c: Riparian vegetation exists along the low flow channel and in the floodplain of Greenhorn Creek. For all disturbance within watercourses, wetlands, and riparian, Nevada County LUDC Sec. L-II 4.3.3 requires a Management Plan to reduce impacts to water quality, habitat, and special-status species that could occur in these areas. The project's management plan consists of the Streambed Alteration Agreement, which includes numerous protections for water quality, habitat, and special-status within Greenhorn Creek that could be affected by the project's harvesting operations. For impacts to creek banks and slopes, the project's Reclamation Plan would serve as a management plan in the reclamation phase of the project. The current Streambed Alteration Agreement does not permit the disturbance of riparian habitat, but the proposed harvesting expansion area may include the removal of some riparian vegetation, depending on where the riparian vegetation is growing from year to year. Mitigation Measure 4D is therefore provided to avoid impacts to riparian habitat and incorporate performance measures and standards into the Streambed Alteration Agreement if riparian habitat is impacted.

Typical site operations consist of removing layers of sand and gravel from the current stream bed at the bottom of the canyon, which results in the exposure of the native walls of the canyon. Therefore, ongoing natural revegetation would occur to some extent as the native walls are exposed. Nonetheless, to assist with rapid revegetation and prevention of establishment and spread of invasive species such as Scotch broom which also occur in the canyon, a site-specific quantitative baseline study was implemented in accordance with OMR-recommended protocols. Specifically, the project biologist developed a stratified random sampling study plan, which was then submitted it for review and approval by OMR along with the final revegetation plan. The vegetative cover proposed for the end use is anticipated to be self-regenerating without dependence on irrigation, soil amendments, or fertilizer. With implementation of this revegetation plan which would be required with approval of the proposed Use Permit and Reclamation Plan, impacts to riparian habitat would not be substantially adverse.

Additionally, under the existing Streambed Alteration Agreement, the conditions of which would apply to the expanded operation area, vegetation removal is limited to areas which must be cleared for operational purposes. The removal of vegetation in advance of mining is required to be kept to a

minimum. Established riparian zones are prohibited from being disturbed in Section 25. The operation is responsible for restoring any fish and wildlife habitat which was impaired or damaged either directly or, incidentally to the project, as a result of failure to properly implement or complete documented requirements. As discussed in Impact Discussion 4a above, measures are also in place to ensure that impacts to riparian species such as FYLF are minimized. Before starting work, the work area and environmentally sensitive areas are required to be clearly delineated. Work is required to be restricted to the delineated, mapped, and approved boundaries.

With regard to impacts to Waters of the U.S., the proposed expansion area is within the floodplain of Greenhorn Creek, and the site excavation areas are below the ordinary high water mark of the creek. Currently, the permitted areas of Greenhorn Creek (south of the project area) is covered under an Streambed Alteration Agreement, which would be extended to cover the proposed Project expansion as noted in Mitigation Measure 4D. Although the US Army Corps of Engineers (Corps) regulates the placement of dredge and fill material in waters of the U.S., per the project biologist they do not regulate "clean excavation," meaning excavation with no incidental fall back or fill placement. As such, HBE operates without Clean Water Act Section 404 permits from the Corps.

Because the project would be required to minimize impacts to riparian habitat under the Streambed Alteration Agreement as noted in Mitigation Measure 4D and because no Section 404 permits are required, this impacts would be ***less than significant with mitigation***.

Impact Discussion 4e: A number of local policies and ordinances that protect biological resources exist, including policies protecting deer habitat; rare, threatened, and endangered species and their habitats; timber resources; landmark and heritage trees and groves; and watercourses, wetlands, and riparian areas. The project would not impact any upland species such heritage or landmark oaks that are protected by local ordinances. Special-status species are discussed in Impact Discussion 4a above. The site is mapped within a deer migration corridor and within the Deer Winter Range on the Master Environmental Inventory; however, the project would not create obstacles for wildlife movement such as fences or walls. Deer and other wildlife movement through the Greenhorn Creek corridor would not be inhibited by the project, and streamside travel corridors would remain open. Therefore, the proposed would not conflict with any local policies or ordinances protecting biological resources, and this impact is ***less than significant***.

Impact Discussion 4f: The proposed project could temporarily result in light sources, noise, and human activity. However, the project area is already subjected to human activity consisting of illicit OHV use. Additionally, while there would be daytime activity on the site, much wildlife activity occurs at dusk, dawn, and nighttime, when operations would not be active. Therefore, this impact would be ***less than significant***.

Mitigation Measures: To offset the potential impacts to biological resources associated with the project activities, the following mitigation measures shall be required:

Mitigation Measure 4A. Avoid and Minimize Impacts on Special-Status Plant Populations: Surveys shall be conducted for late-season blooming special-status plants not covered under the May 11, 2015 plant survey, including brownish-beaked rush, elegant groundsel, Follett's monardella, Gevers panicum, grass lead plantain, inundated bog club-moss, Scadden Flat checkerbloom, and white beaked rush as follows:

1. Pre-construction botanical surveys for the late-blooming special-status plants shall be conducted in the appropriate blooming periods, and shall be performed by a qualified botanist following CDFW

and CNPS protocols for surveying special-status native plants. The survey results shall be submitted to the Planning Department within one week of survey completion.

2. If special-status plants are determined to have no presence in the project site, then no further mitigation is required.
3. If special-status plants are determined present within the project area during pre-construction field surveys and feasibly be avoided, the applicant shall implement the following measures:
   - Hire a qualified biologist to map the population and place flagging to identify the population location. Install environmentally sensitive exclusion fencing and appropriate signage at an appropriate buffer distance, starting from the edge of the special-status plant and/or plant population. Signage shall indicate the area is environmentally sensitive and not to be disturbed;
   - Adjust project activities away from special-status plants. The project work area shall be confined to areas outside a buffer acceptable to the project biologist; and
   - Supervision, guidance, and verification of the implementation of these measures shall be achieved by Hansen Bros. Enterprises and an agency-approved biological monitor (i.e., a qualified biologist or botanist approved by CDFW and/or USFWS).
4. If special-status plants are determined present within the project are during pre-construction field surveys and direct or unavoidable impacts to special-status plants would result from project activities, then the applicant shall consult with appropriate agencies (i.e., CDFW and/or USFWS) to develop acceptable mitigation which may include the successful translocation of individual plants, rectification of impact by seed collecting and stockpiling for replanting/replacement, mitigation fees, and/or permitting.

Timing: *Prior to start of mining operations during the late-bloom period (August-October)*
Reporting: *Prior to start of operations*
Responsible Agency: *Nevada County Planning Department; CDFW and USWFS as necessary*

Mitigation Measure 4B. Avoid Disturbance of Foothill Yellow-Legged Frog: The applicant shall comply with all California Department of Fish and Wildlife requirements to avoid or minimize the disturbance of FYLF. These include but are not limited to conducting worker environmental awareness trainings, delineating and avoiding sensitive habitat areas during work, conducting egg mass surveys, limiting project activities to April 1 to December 31, further limiting work during wet weather periods, ensuring that aquatic life is not stranded in dewatered areas, and having a biological monitor onsite with stop-work authorization during any relocation of stranded aquatic life. These measures may be modified as determined necessary by the California Department of Fish and Wildlife in their Streambed Alteration Agreement, as conditions change during the life of the project.
Timing: *Prior to the start of project operations each year and during project operations*
Reporting: *Prior to the start of project operations*
Responsible Agency: *CDFW*

Mitigation Measure 4C. Avoid and Reduce Impacts to Special-Status Bird Species, Nesting Raptors, and Migratory Birds: To the extent feasible all necessary vegetation removal shall be conducted between September 1 and February 28 of each year to avoid nesting birds that may be present in the construction area during construction activities (defined for the purposes of this mitigation measure as haul road construction, berm construction, and extraction). If all construction activities are conducted outside of nesting season, no further mitigation is necessary. If construction activities begin in an area prior to the start of the nesting season (March 1 to August 31) and inactivity in that area does not exceed two weeks, no further mitigation is necessary. If construction activities begin during the nesting season, the applicant shall have a pre-construction nesting survey conducted by a qualified wildlife biologist within the project area and within an approximate 300-foot buffer. Surveys shall be conducted within one week before initiation. In addition, if construction activities begin after a period of two weeks or more of inactivity in any given area during the nesting season (even if that area was already surveyed), the applicant shall re-survey the area prior to performing or continuing extraction activities. The results

of the survey shall be submitted to the Planning Department within one week of completion. If no active nests are detected, then no additional mitigation is required. If surveys indicate that migratory bird nests are found in any areas that would be directly affected by construction activities, the biologist shall establish a no-disturbance buffer around the site to avoid disturbance or destruction of the nest site until after the breeding season or after the biologist determines that the young have fledged (typically late June to mid-July). The extent of these buffers shall be determined by the biologist in consultation with the California Department of Fish and Wildlife and shall depend on the listing status of the species present, the level of noise or construction disturbance, line of sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers. The buffer zone and monitoring plan shall be reported to the California Department of Fish and Wildlife and to the Planning Department. Active sites shall be monitored by the biologist periodically until after the breeding season or after the young have fledged.
Timing: *Within two weeks prior to the start of project construction each year and as needed during any periods of inactivity exceeding two weeks*
Reporting: *Prior to the start of project construction each year*
Responsible Agency: *Nevada County Planning Department and CDFW*

Mitigation Measure 4D. Amend the Streambed Alteration Agreement to Provide Protections to Riparian Habitat. Prior to any work within the expansion area, the applicant shall obtain an amended Streambed Alteration Agreement from California Department of Fish and Wildlife that encompasses the expansion area and shall provide the Agreement to the Planning Department. The applicant shall adhere to all the Streambed Alteration Agreement requirements for the life of the project, which include but are not limited to providing an annual pre-extraction plan that delineates extraction areas for that season; an annual pre-extraction production data report to track cumulative extraction volumes from the stream channel; annual, temporary culvert crossings where heavy equipment will cross the creek; annual diversion channel and berms built in clean gravels; and erosion, sedimentation, turbidity, and siltation precautions.
Timing: *Prior to operation and pre-extraction annually*
Reporting: *Annually prior to extraction activities for the season*
Responsible Agency: *CDFW*

5. CULTURAL RESOURCES

Existing Setting: The project vicinity was home to the Nisenan or Southern Maidu Native American people. The Nisenan had permanent settlements along major rivers in the Sacramento Valley and foothills, and would travel yearly into higher elevations to hunt or gather seasonal plant resources. In the project vicinity, prehistoric-period habitation sites are primarily found adjacent to streams or on ridges or knolls, especially those with a southern exposure. The project site is predominantly within and along the banks of Greenhorn Creek and Missouri Canyon, which have been heavily impacted by past mining activities. The banks of Greenhorn are relatively steep, confined by bedrock and mined gravel debris, and are fairly unstable and unvegetated (Stantec 2015).

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the CEQA Guidelines?		✓			A, 39

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the CEQA Guidelines?		✓			A, 39
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		✓			A, 39
d. Disturb any human remains, including those interred outside of formal cemeteries?		✓			A, 39
e. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074?		✓			A, 39

Impact Discussion 5a-d: The North Central Information Center (NCIC) conducted a search of the California Historic Resources Information System within a 1/8-mile radius of the proposed project area. The records search indicates that the project area contains no recorded prehistoric-period cultural resource and two historic-period cultural resources, both of which correspond with hydraulic mining sites on the northern margins of the search area. The 1867 GLO plant for the project area shows evidence of a 19th century road or trail. The 1951 Chicago Park 7.5' USGS topographical map shows evidence of a 20th century unpaved road. Given the extent of known cultural resources and the environmental setting, NCIC indicates that there is a low potential for locating historic-era and prehistoric-period cultural resources in the project area. Further archival and field study by a cultural resources professional was therefore not recommended. Nonetheless, buried historical, archaeological, or paleontological resources may be discovered as the aggregate deposit is removed. Under the current use permit (U93-063) conditions, all discovered objects (metal, glass, wood, etc.) that may be of historical significance must be stored for later inspection by an official representative of the Nevada County Historical Society (NCHS). However, NCHS has not always been responsive in retrieving artifacts, and the 1993 condition is inconsistent with current practice. Mitigation Measure 5A therefore shifts the responsibility from NCHS to the County and/or a qualified archaeologist for the proposed project. This impact would be ***less than significant with mitigation*** that requires that if any artifacts are found, harvesting activities stop in the area of discovery and appropriate steps taken.

Mitigation Measures: To offset potentially adverse cultural or historical resources impacts associated with the proposed activities on site, the following mitigation measure shall be required:

Mitigation Measure 5A: Halt work and contact the appropriate agencies if human remains or cultural materials are discovered during project operations. All equipment operators shall be advised of the possibility of encountering cultural resources. If such resources are encountered or suspected, work shall be halted immediately within 200 feet of the suspected resource and the Nevada County Planning Department shall be contacted. A professional archaeologist shall be retained by the applicant and consulted to access any discoveries and develop appropriate management recommendations for archaeological resource treatment. If bones are encountered and appear to be human, California Law requires that the Nevada County Coroner and the Native American Heritage Commission be contacted and, if Native American resources are involved, Native American organizations and individuals recognized by the County shall be notified and consulted about any plans for treatment.
Timing: *During operations*
Reporting: *As needed if cultural resources found*
Responsible Agency: *Nevada County Planning Department*

6. GEOLOGY / SOILS

Existing Setting: The aggregate harvesting area is a stream canyon with steep, fairly heavily wooded sides rising several hundred feet to rounded ridge tops. The Soil Survey of Nevada County Area, California (USDA, 1993) indicates that the Greenhorn Creek corridor in the proposed harvesting expansion areas is classified as Placer Diggings (tertiary river deposits and placer mined areas). Upland slopes are mapped as Josephine-Mariposa complex 50 to 75 percent slopes, eroded; and Mariposa-Maymen complex, 2 to 50 and 50 to 75 percent slopes, eroded. Placer diggings consist of hydraulic diggings materials. The width of the aggregate deposit varies from approximately 40 feet wide to 600 feet wide, and has an estimated depth of approximately 30 to 70 feet. The typical Mariposa-Maymen profile consists of gravelly loam underlain by a gravelly clay loam, which is underlain by bedrock at 15 to 31 inches. Runoff is rapid, and erosion hazard is high. The Josephine-Mariposa complex also consists of gravelly loam underlain by gravelly clay loam, followed by bedrock at 40 to 72 inches. Rock outcrop typically covers 2 to 25 percent of the surface area. Runoff is medium to rapid, and erosion hazard is moderate to high. In their Reclamation Plan, HBE estimates that the typical depth to groundwater within the recent alluvial deposits ranges from approximately 0 to 20 feet in the Greenhorn Creek harvesting area, and estimates that the typical depth of the alluvial deposits is approximately 30 feet.

The California Geological Survey Open File Report 96-08, Probabilistic Seismic Hazard Assessment for the State of California and the 2002 update entitled California Fault Parameters, indicate the site location is within the Foothills Fault System. The Foothills Fault System is designated as a Type C fault zone, with low seismicity and a low rate of recurrence. The 1997 edition of California Geological Survey Special Publication 42, Fault Rupture Hazard Zones in California, describes active faults and fault zones (activity within 11,000 years), as part of the Alquist-Priolo Earthquake Fault Zoning Act. This document indicates the site is not located within an Alquist-Priolo active fault zone. The nearest active faults are located in eastern Nevada County near Truckee. The project site is not located within an Alquist-Priolo active fault zone.

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Expose people or structures to potential substantial adverse effects, including the risk or loss, injury, or death involving exposure to or production of unstable earth conditions such as landslides, earthquakes, liquefaction, soil creep, mudslides, ground failure (including expansive, compressible, collapsible soils), or similar hazards?		✓			A, D, 6, 25, 51
b. Result in substantial disruption, displacement, compaction, erosion, or over-covering of the soil by cuts, fills, extensive grading, or loss of topsoil?		✓			A, D, 6, 25, 51
c. Be located on a geologic unit or expansive soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?		✓			A, D, 6, 25, 51
d. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				✓	A, 6, 25, 51
e. Result in excessive grading on slopes of over 30 percent?		✓			A, 6, 25, 51

Impact Discussion 6a-c,e: Consulting engineers and geologists Holdredge & Kull performed a surface reconnaissance of the proposed harvesting expansion areas in July 2016 to observe existing slope gradients and surface conditions in the proposed harvesting areas. Their findings, which are used as the primary reference source in this section, are based on their review of project documents, observation of surface conditions at the proposed aggregate harvesting areas, and review of published maps and literature. Holdredge & Kull addressed two areas with regard to unstable conditions: the bank slopes that result from proposed mining activities, and the "Red Dog Narrows," a stream crossing that was substantially filled in by past hydraulicking aggregate materials, at the creek bend just north of the Red Dog Road crossing.

The project would remove sand and gravel that was deposited as a result of historic hydraulic gold mining and would return the Greenhorn and Missouri canyons to a setting similar to its pre-hydraulic mining configuration. If the bedrock canyon walls underlying the aggregate deposit to be removed are less than 35 percent, then no adjustments to the slope are planned. Sand and gravel would be left against slopes that are steeper than 35 percent, which is nearly a 3:1 slope and less steep than the current requirement of 2:1 slope before the winter season. See Figure 7 in the Project Description depicting current and proposed slope configurations.

Holdredge & Kull recommends that slope conditions in the active harvesting area be reviewed on an annual basis during the late summer to evaluate the soil and rock conditions exposed by aggregate removal. At the end of each harvesting season, an inspection of the mined areas is performed for current mining activities in Greenhorn Creek in conformance with SMARA Section 2774(b), and all eroded creek banks must be backfilled with a maximum 2:1 gravel slope and revegetated to stabilize those areas. This practice would continue as a condition of the proposed permit and Reclamation Plan with the implementation of Mitigation Measure 6A.

Holdredge & Kull did not observe evidence of landslides, nor conditions that would be prone to seismically induced landslides. They indicate that the hazard of seismically induced landslides is low, provided that the slopes at the aggregate harvesting areas are monitored and surveyed routinely as required under conditions and in Mitigation Measure 6A.

Sand and gravel extraction above the narrows would reduce the surcharge loading of the soil and rock conditions in the narrows. According to Holdredge & Kull engineers, aggregate removal would most likely redirect the channel over time back to its original alignment before hydraulic mining, which would direct flow east of the Narrows, decreasing the chances of erosion. Rock overhang in the narrows has collapsed in the past, and future rock fall is possible; however, it should not pose a hazard to surrounding residents, homes, or structures given their distance from the Narrows. Impacts related to unstable slope conditions would be ***less than significant with mitigation*** as identified in Mititgation Measure 6A.

Impact Discussion 6c: The project site is not within an Alquist-Priolo Earthquake Fault Zone, and there are no known faults that cross through the project site (California Department of Conservation, 2015). Generally, western Nevada County is located in the low-intensity zone for earthquake severity (Nevada County, 1991). The site may experience moderate ground shaking caused by earthquakes occurring along off-site faults, which could cause localized instability of slopes associated with the proposed aggregate harvesting areas. However, the localized instabilities would likely consist of shallow (less than 2 feet) raveling of sand and gravel that was left on the side slopes of the harvested areas. Holdredge & Kull has indicated that these instabilities would not pose a hazard. Ground motions may initiate secondary events such as liquefaction and landslides, but the likelihood of secondary seismic hazard impacts would be reduced by implementation of Mitigation Measure 6A, which requires annual inspections and slope stability and any necessary remediation measures. With Mitigation Measure 6A in place, this impact is considered ***less than significant with mitigation***.

Impact Discussion 6d: The project would not result in any additional need for sewage capacity or septic system infrastructure. Therefore, the project would have ***no impact*** related to inadequate soils for septic systems.

Mitigation Measures: To offset the potential for adverse soils or erosion impacts to result from project harvesting activities, the following mitigation measures shall be required:

Mitigation Measure 6A: Perform annual inspections of mined areas for creek bank slope and stability. During the fall season of each year and prior to the rainy season (generally prior to October 15), a geotechnical engineer shall assess the soil and rock conditions and slopes exposed by aggregate removal, along the creek and within the Red Dog Narrows, to identify potential slope configurations that could be vulnerable to erosion and/or increase the risk of localized flooding. If conditions are identified that could constrict flow in the creek, additional grading may be necessary to reduce the potential for localized flooding. All eroded creek banks identified during the inspection shall be backfilled with a 2:1 gravel fill slope or shallower and revegetated as necessary to stabilize those areas, upon the recommendation of the mine inspector. If specific geotechnical recommendations are required during the course of the project as determined by the mine inspector, subsurface investigation and analysis shall be required to develop specific geotechnical design criteria.
Timing: *Close of operational season each year*
Reporting: *Close of operational season*
Responsible Agency: *Nevada County Planning Department*

7. GREENHOUSE GAS EMISSIONS

Existing Setting: Greenhouse gases (GHGs) are those gases that trap heat in the atmosphere. GHGs are emitted by natural and industrial processes, and the accumulation of GHGs in the atmosphere regulates the earth's temperature. GHGs that are regulated by the State and/or EPA are carbon dioxide (CO2), methane (CH4), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF6) and nitrous oxide (NO2). CO2 emissions are largely from fossil fuel combustion. In California, approximately 43 percent of the CO2 emissions come from cars and trucks. Most HFC emissions come from refrigerants, solvents, propellant agents and industrial processes, and persist in the atmosphere for longer periods of time and have greater effects at lower concentrations compared to CO2. The adverse impacts of global warming include impacts to air quality, water supply, ecosystem balance, sea level rise (flooding), fire hazards, and an increase in health related problems. The existing mining operations in Greenhorn Creek currently contribute to greenhouse gas emissions in the project area.

Assembly Bill 32 (AB 32), the California Global Warming Solutions Act, was adopted in September 2006 and requires that statewide GHG emissions be reduced to 1990 levels by the year 2020. This reduction would be accomplished through regulations to reduce emissions from stationary sources and from vehicles. The California Air Resources Board (ARB) is the State agency responsible for developing rules and regulations to cap and reduce GHG emissions. In addition, the Governor signed Senate Bill 97 in 2007 directing the California Office of Planning and Research to develop guidelines for the analysis and mitigation of the effects of greenhouse gas emissions and mandating that GHG impacts be evaluated in CEQA documents (California Attorney General's Office, 2010). *CEQA Guidelines Amendments for GHG Emissions* were adopted by OPR on December 30, 2009. The NSAQMD has also prepared a guidance document that includes mitigations for general air quality impacts that can be used to mitigate GHG emissions, *Guidelines for Assessing Air Quality Impacts of Land Use Projects* (Northern Sierra Air Quality Management District, 2009).

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?		✓			A, 20
b. Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?		✓			A, 20

Impact Discussion 7a-b: Existing mining operations in Greenhorn Creek currently contribute to greenhouse gas emissions; implementation of the proposed project which consists of an expansion of the harvesting area and potentially a longer operational timeframe would increase these local GHG emissions. Estimated GHG emissions attributable to the proposed project would be primarily associated with increases of CO2 and other GHGs, such as methane (CH4) and nitrous oxide (N20), from mobile sources and utility usage. CO2e is Carbon Dioxide Equivalent, a measurement that expresses units of different greenhouse gases as equivalent to units of carbon dioxide in the ability to affect global warming. For that reason, CO2e is evaluated here. It is anticipated that the proposed project would result in approximately 1,002.44 and 634.36 MT/yr of CO2e related to the consumption of energy for harvesting and processing activities, respectively, for the life of the project (CalEEMod Version 2013.2.2 2016), for a total of 1,636.8 MT/yr of CO2e per year. Harvesting activities include all expansion areas covered under the current use permit, while processing activities were evaluated at current processing levels for 30 years, the proposed lifespan of the use permit to extract materials out of expansion areas.

Typically, cumulative impacts are analyzed and mitigated in a county's General Plan and associated EIR. In this case, the General Plan for Nevada County does not address GHG emissions. Additionally, no thresholds have been adopted by the County, the NSAQMD, or the State for project-specific greenhouse gas emission impacts. Thresholds for greenhouse gases have not been adopted by any relevant agencies, including the California Air Resources Board, the NSAQMD, Nevada County, or the State of California. However, several air districts around the state, including the neighboring Placer Air Pollution Control District, have adopted thresholds in the range of 1,100 MT CO2e/year for *de minimis* impacts (i.e., project impacts below 1,100 MT CO2e/year would be less than significant) and 10,000 MT CO2e/year for significant and unavoidable impacts. Mitigation Measure 3A requires emissions-reducing measures during harvesting activities to help reduce greenhouse gas emissions during the project's construction phase. This mitigation would reduce the overall GHG impact to a level that is ***less than significant with mitigation***.

Mitigation Measures: See Mitigation Measure 3A.

8. HAZARDS / HAZARDOUS MATERIALS

Existing Setting: The project area is designated as a Very High Fire Hazard Area for wildland fire. The property is not within or adjacent to any hazardous materials sites compiled pursuant to Government Code Section 65962.5, and is not located on an abandoned solid waste disposal site known to the County. However, Greenhorn Creek was the subject of a 2005 USGS report, Scientific Investigations Report 2004-5251, that analyzed water, sediment, and invertebrate samples in throughout the Greenhorn Creek drainage system and identified specific levels of mercury and methylmercury contamination at various sites throughout the drainage. The results document several hot spots of mercury contamination that represent areas for ongoing and future remediation efforts at abandoned mine sites.

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			✓		B, 11, 26, 27, 52
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			✓		B, 11, 26, 27, 52
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				✓	B, 11, 26, 27, 52
d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment?				✓	B, 11, 26, 27, 52
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				✓	D
f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				✓	D
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			✓		I, 37
h. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?			✓		I, 27

Impact Discussion 8a: The operation does not utilize herbicides, pesticides, or radiation in any facility processes, nor does it utilize any portals, shafts, tunnels, or other surface openings that would create a public entry hazard or threat to public safety. Materials with explosive risk and potential risk of release of hazardous substances are limited to fuel, lubricants, and other operational fluids. Storage and/or use of hazardous material is required to comply with Nevada County LUDC Chapter XI. Materials storage must comply with the California Health and Safety Code Chapter 6.95, and if threshold quantities are triggered, the applicant is required by State law to file a chemical business plan and inventory with the Environmental Health Department within 30 days.

Under the existing Streambed Alteration Agreement for current operational areas, which would be extended to the proposed harvest expansion areas if the project is approved, staging and storage areas for equipment, materials, fuels, lubricants, and solvents must be located outside of the stream's high water channel. Stationary equipment such as motors, pumps, generators, compressors, and welders located in the dry portion of the stream channel or adjacent to the stream are required to be positioned over drip-pans. Vehicles must be moved a minimum of 50 feet from the flowing water of the stream prior to refueling and lubricating. The operation is prohibited from dumping any litter or construction debris within the stream zone and preventing disposal of any rinse/wash waters or industrial materials into the storm water conveyance system.

Under existing Use Permit U93-063, industrial waste disposal containers and industrial material storage containers that contain industrial materials must be covered when not in use. Industrial type wastes are prohibited from being disposed of onsite, unless a specific method of disposal and design has been approved by the Nevada County Department of Environmental Health, in compliance with Chapter 6.5 of the California Health and Safety Code, Hazardous Waste Control. All waste is disposed of in accordance with state and local health and safety ordinances. Equipment is also required to be monitored for conditions that could result in the development of leaks and an appropriate schedule for prompt maintenance of equipment is required to be established. The facility maintains and implements a Spill Prevention, Control, and Countermeasure (SPCC) Plan as required by the U.S. Code of Federal Regulations, Title 40, which is submitted to the County of Nevada Environmental Health Department for review and approval.

With compliance with state and federal statutes, there would therefore be a ***less than significant*** impact associated with the use of hazardous materials during project operation.

Impact Discussion 8b: Due to the proximity to the Starr Tunnel portal and the location of the aggregate deposit within Greenhorn Creek which has several mercury contamination "hot spots" (USGS 2005), aggregate sampling and mercury analysis was performed in 2015 by consulting engineers Holdredge & Kull. At the request of the RWQCB, Holdredge & Kull performed additional surface water sampling and analysis on May 5, 2016. Locations of soil and water sampling are shown in Figures 9 and 10 below and include two soil and two surface water samples in the vicinity of the Starr Tunnel (Figure 9), and one additional surface water sample downstream of the processing plant (Figure 10).

The Starr Tunnel portal and immediate downstream areas are already approved for mining under the existing Use Permit U93-063, so the nearest possible location currently required to be evaluated under CEQA was sampled (Sample A location). The Sample B location captures any mercury that may been transported downstream from other mining sites upstream of this location, such as the Poore Mine, Buckeye Mine, and Boston Mine. The results of the analysis were compared to Human Health Screening Levels developed by the United States Environmental Protection Agency (US EPA) and the California Department of Toxic Substances Control (DTSC). The total mercury concentrations detected in the four samples were all below 0.1 milligrams per kilogram (mg/kg), which is typical of river-run sand and gravel in Nevada County and well below the screening levels (9.4 mg/kg for residential soils and 40 mg/kg in industrial soils for US EPA Region 9 Regional Screening Levels; and 0.89 mg/kg for residential soils and 3.9 mg/kg for commercial soils for new California Department of Toxic Substances Control screening levels). The highest concentration detected in the samples (0.089 mg/kg) is ten times lower than the most conservative of these screening levels (0.89 mg/kg).

Given that mercury levels were found to be well below human health screening levels in Greenhorn Creek and in the vicinity of the Starr Tunnel portal, it is not anticipated that the aggregate harvesting operation would result in the substantially adverse release of mercury into the waterway.

Holdredge & Kull also conducted surface water sampling for dissolved metals, as shown in their report dated July 14, 2016. The results show that the existing aggregate extraction and processing activities do not appear to threaten water quality with respect to mercury or other sampled constituents. The Regional Water Quality Control Board reviewed the results and concurred with the sampling methods and results. It should also be noted that wastewater discharge from the existing processing facility is currently regulated by Waste Discharge Requirements (WDRs) Order No. 98-185, which were adopted on September 11, 1998. WDRs are routinely updated every 5 to 15 years due to changes in State laws, regulations, and revised Water Quality Control Plans which have been adopted since 1998. With existing

permits in place, the project would result in ***less than significant*** impacts related to accidental or reasonably foreseeable release of hazardous materials into the environment.

Impact Discussion 8c: The project area is not within one-quarter mile of an existing or proposed school. Therefore, there would be ***no impact*** related to hazardous emissions or substances near a school.

Impact Discussion 8d: The property is not within or adjacent to any hazardous materials sites compiled pursuant to Government Code Section 65962.5 (Department of Toxic Substances Control, 2016). Therefore, there would be ***no impact*** in terms of a significant hazard to the public from placement of the project on a Cortese-listed hazardous waste site.

Figure 9: Soil and Surface Water Sampling Locations in Northern Expansion Area

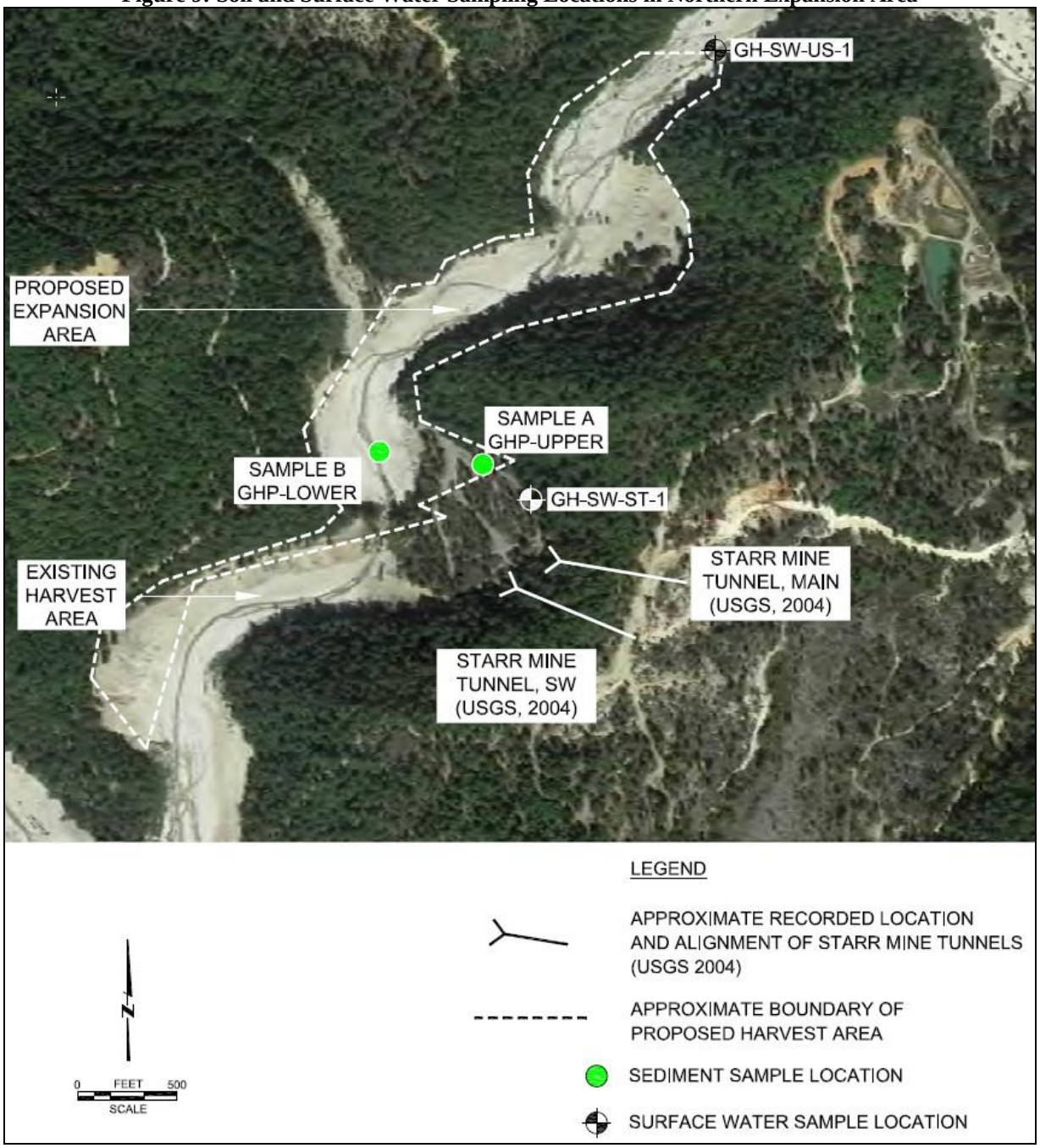


Figure 10: Surface Water Sampling Location Downstream of Processing Plant

Impact Discussion 8e-f: The project is not within the vicinity any private or public airport or airstrip. Therefore, there would be ***no impact*** related to safety of the public in the project area.

Impact Discussion 8g: The proposed project would not alter any allowable residential density in the nearby area, change any of the existing road networks, or alter any existing emergency evacuation plans. The Fire Marshal's Office has reviewed the project proposal and did not comment on any adverse impacts to emergency response or evacuation plans. The proposed project would not impair or physically interfere with the adopted emergency response and evacuation plans, resulting in a ***less than significant*** impact.

Impact Discussion 8h: The project site is within a Very High Fire Hazard Severity Zone as mapped by CalFire, a zone which requires the preparation of a Fire Protection Plan per LUDC Sec. L-II 4.3.18.C.4. Fire District approval of the Fire Protection Plan would therefore be a required condition of approval for the project. The Fire Marshal's Office has indicated that all roads within the facility would be required to meet Fire Safe Road standards and that all dead end roads in excess of 150 feet must provide an approved area for turning around fire apparatus. These requirements would also be conditions of project approval for the project. The project would not result in the construction of new structures or the introduction of

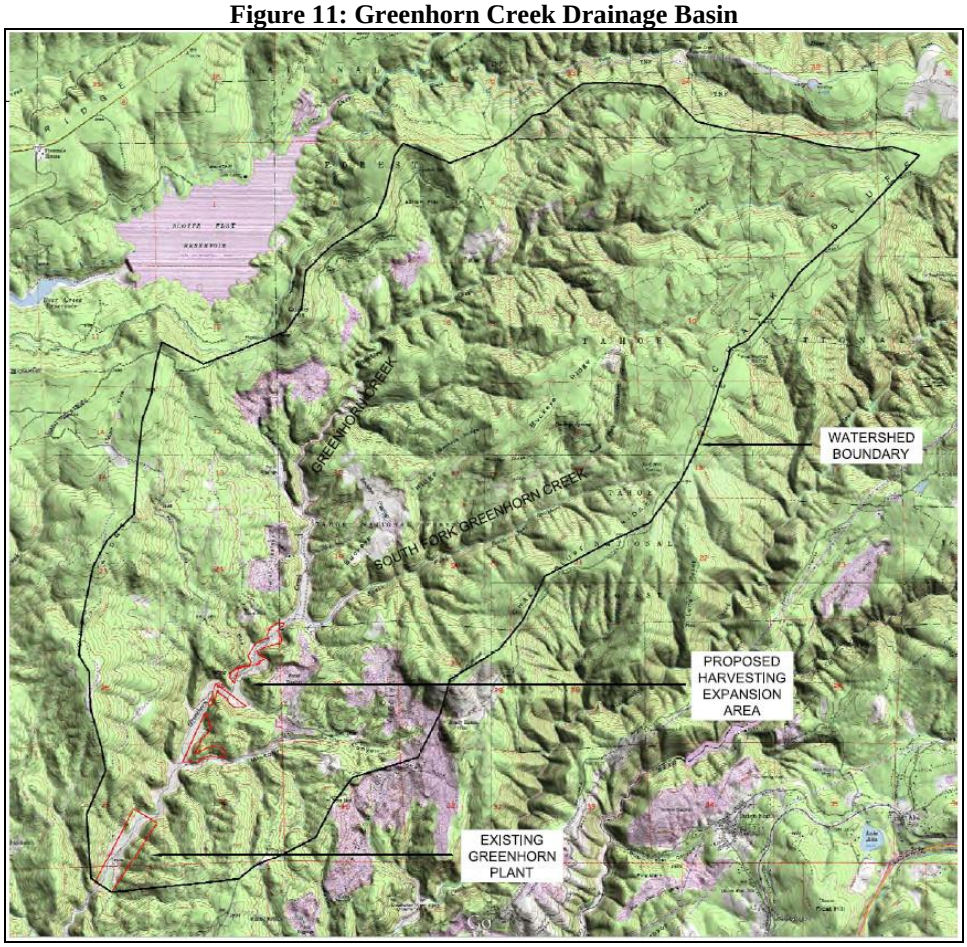
new residents into the Very High Fire Hazard Severity Zone. With compliance with Fire Marshal and Zoning Ordinance requirements, the project would not adversely expose unexpected volumes of people or structures to possible wildland fires, and there would be ***less than significant*** impacts.

Mitigation Measures: None required.

9. HYDROLOGY / WATER QUALITY

Existing Setting: The proposed project operations are predominantly within Greenhorn Creek, a major tributary to the Bear River in the Upper Bear Watershed, feeding Rollins Reservoir. The project also extends into Missouri Canyon and Arkansas Ravine. The Greenhorn Creek basin includes Greenhorn Creek, South Fork Greenhorn Creek and several unnamed tributaries, and is roughly bounded by Quaker Hill on the northwest and Chalk Bluff on the southeast, as shown on Figure 11. The drainage area comprises approximately 14,300 acres. Surface water hydrology is dominated by Greenhorn Creek and its tributaries, and hydrogeology is characterized by shallow alluvial deposits in the creek canyons and underlying fractured bedrock (Holdredge & Kull 2015). No streamflow data are available for Greenhorn Creek, and no gauging station data are available from the National Water Information System or Nevada Irrigation District (NID). The existing beneficial uses of Rollins Reservoir and the Bear River downstream of the discharge are municipal and agricultural supply; industrial supply; water contact and noncontact recreation; aesthetic enjoyment; groundwater recharge; fresh water replenishment; and preservation and enhancement of fish, wildlife and other aquatic resources (Holdredge & Kull 2016).

Figure 11: Greenhorn Creek Drainage Basin



Greenhorn Creek can be classified as a meandering perennial stream that generally has continuous year-round flows during years with normal rainfall. The banks of Greenhorn Creek within the project area are relatively steep, confined by bedrock and mined gravel debris, and are fairly unstable and unvegetated. The streambed consists of a mosaic of cobble, gravel, sand and some silt. The bedload is highly mobile due to minimal, yet flashy, winter and spring flows as evidenced by the scour and lack of riparian vegetation (Stantec 2015). Greenhorn Creek and Missouri Canyon are within the 100-year floodplain (no base flood elevations determined), which is on average 600 to 700 feet wide. An approximately 1,200-foot length of Arkansas Ravine is also designated as having a 0.2 percent annual chance of flood hazard. Typical depth to groundwater ranges from approximately 0 to 20 feet in the proposed harvesting area (Hansen Brothers 2017).

CEQA Environmental Checklist Item	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**	**Reference Source (Appendix A)**
a. Violate any water quality standards or waste discharge requirements?		✓			A, D, G, 7, 8, 10, 16, 24
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level, which would not support existing land uses or planned uses for which permits have been granted)?			✓		28
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?		✓			A, D, 7, 9, 10, 16
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?		✓			A, D, 7, 9, 16, 24
e. Create or contribute to runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?		✓			A, D, 7, 9, 16, 24
f. Otherwise substantially degrade water quality?		✓			A, 7, 9, 16, 24, 30
g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?		✓			A, D, 25
h. Place within a 100-year flood hazard area structures that would impede or redirect flood flows?		✓			A, D, 25
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?		✓			A, D, 25
j. Create inundation by mudflow?		✓			A, D, 25

Impact Discussion 9a,c-f: The applicant's current mining operations within Greenhorn Creek, which includes in-stream sand and gravel harvesting and processing, would be expanded into new areas under the proposed project. The proposed project does not include any new processing components or increase in aggregate materials to be mined. As such, current regulations and requirements of the County, Regional Water Quality Control Board, and CDFW, which ensure that surface and groundwater is protected from siltation and pollutants, are anticipated to remain the same or substantially similar for the expanded harvesting areas. Water quality must be protected onsite and for downstream beneficial uses of water during all phases of the project. The three primary components of the project are harvesting, processing, and reclamation activities. These three components are discussed in further detail below.

Harvesting

Gravel harvesting impacts to the water quality of Greenhorn Creek are protected by Nevada County and by the Streambed Alteration Agreement 1600-2007-0142-R2 dated June 12, 2007 and amendments thereto dated May 2, 2012 and June 20, 2014. The Streambed Alteration Agreement includes but is not limited to the following provisions to protect the creek from siltation, erosion, and turbidity:

- At least two surveyed cross sections within the creek bed gravel extraction area and immediately adjacent terrace/slope surfaces are required at five-year intervals.
- The installed berms along the channel are required to be at a height that is the lowest possible to contain the creek. Before the winter period, the berms are required to be lowered to a height that will allow the channel to meander.
- Temporary stream channels are required to be built in clean gravels and not excavated in silts or soil.
- Gravel extraction is prohibited within 25 feet of the main channel of Greenhorn Creek to prevent dewatering of the creek channel. If the 25-foot distance results in dewatering of the channel, the distance shall be increased. Monitoring of extraction activities is required to prevent or cease any action that may result in dewatering of the creek.
- Operations shall not result in a feature that will result in the ponding of water or entrainment of aquatic species in a location separate from the main channel during high flows. Natural wetland features may not be backfilled.
- No heavy equipment may operate in the live stream, except for occasional stream crossings that are authorized in locations where the stream channel is free of sediment.
- Structures and associated materials not designed to withstand high season flows are required to be removed to areas above the high water mark before such flows occur.
- All temporary culverts and the top 6 inches (or depth necessary) of gravel must be removed when 2 inches or more of rain is forecast in a 24-hour period.
- If there is a 30 percent chance of rainfall over ½ inch, all temporary crossings are required to be removed, unless the crossing devices have been designed to pass the expected flow without impounding water or impacting the integrity of the watercourse.
- Mining within Greenhorn Creek is restricted to periods of low stream flow and dry weather during the period of April 1 to December 31 of the same calendar year. Mining activities must be timed with awareness of precipitation forecasts and likely increases in stream flow. Mining activities within the floodplain are required to cease until all reasonable erosion control measures, inside and outside of the floodplain, have been implemented prior to all storm events. Work is prohibited when there has been two inches of rain or more in a 24-hour period.

The Streambed Alteration Agreement also contains a number of criteria and standards for the processing portion of the project, which are described below under "Processing."

Storm water within the aggregate material harvesting area is permitted to flow into Greenhorn Creek. Though the surface of the streambed is continuously changing, the operation removes layers of sand and

gravel which only expose lower levels of sand and gravel, resulting in storm water conveyance to the creek that is substantially similar to the original flow. The removal of sand and aggregate material from the proposed upper reaches of Greenhorn Creek also reduces the further migration of these materials to Rollins Reservoir downstream, where these materials would otherwise settle and replace valuable storage capacity (Nevada Irrigation District 2015). The removal of these materials therefore has a beneficial impact on downstream water storage capacity.

Processing

The RWQCB issues, monitors, and enforces Waste Discharge Requirements (WDRs) for the processing plant within the existing mining operation (Order No. 98-185, adopted September 11, 1998). The WDRs include but are not limited to the following requirements for the processing facility:

- Waste and/or waste water is prohibited from being discharged into surface waters, drainage courses, or wetlands.
- By-pass or overflow of untreated or partially treated waste is prohibited.
- Discharge of hazardous waste is prohibited.
- Pond levees must be constructed and maintained to prevent scouring and failure due to elevated flows in Greenhorn Creek.
- Objectionable odors originating at this facility may not be perceivable beyond the limits of the property owned by HBE.
- Water quality standards for dissolved oxygen and pH must be met.
- Two feet of freeboard must be maintained in the settling ponds at all times.
- Waste discharges are prohibited from causing underlying groundwater degradation or any water supply degradation.

The operation can draw a maximum of 528,000 gallons per day of water from Greenhorn Creek under the WDRs, but is prohibited by the Streambed Alteration Agreement from drafting more than 20 percent of the flow in Greenhorn Creek as measured immediately upstream of the diversion point. At no time may the diversion cause flows to go below two cubic feet per second (cfs) below the diversion point. CDFW requires in the Streambed Alteration Agreement that water drafting activities are monitored to ensure compliance. Intake valves for water drafting must be screened to prevent the entrainment of amphibians and all age classes of fish, including eggs. Structures implemented to facilitate diversion or drafting of water are prohibited from impeding the passage of fish at any time. Turbid water from drafting activities is also not allowed to enter the stream.

This facility is also regulated under the California General Permit for Storm Water Discharges Associated with Industrial Activities (Industrial General Permit) and an attendant Storm Water Pollution Prevention Plan (SWPPP). The site must maintain the following erosion and sediment control best management practices:

- Implement effective wind erosion controls.
- Provide effective stabilization for inactive areas, finished slopes, and other erodible areas prior to a forecasted storm event.
- Maintain effective perimeter controls and stabilize all site entrances and exits to sufficiently control discharges of erodible materials from discharging or being tracked off the site.
- Divert run-on and storm water generated from within the facility away from all erodible materials.
- Implement and maintain any advanced best management practices necessary to reduce or prevent discharges of pollutants in its storm water discharge.

Storm water discharges are permitted and monitored under the Industrial General Permit and SWPPP. Storm water from around the plant is conveyed to a settling/infiltration pond which occasionally discharges to Greenhorn Creek. Storm water from the stockpiles south of the plant drain via surface flow to an underground storm drain pipe that discharges to Greenhorn Creek. Storm water from the stockpiles north of the plant drains via surface flow to Greenhorn Creek and/or the freshwater intake channel. Erosion caused by storm water and storm water discharges are minimal at this facility due to the nature of the sand and gravel material that forms the operational areas, roads, and surface around the plant. Most runoff infiltrates in a short period of time.

With the existing controls in place by the RWQCB and CDFW, which would continue to apply to the proposed project, water quality impacts from the processing facilities would not be substantially adverse.

Reclamation

Erosion and sedimentation controls are required during all phases of construction, operation, reclamation, and closure of the mining operation to minimize siltation of lakes and watercourses, including the following:

- Erosion and sedimentation is required to be controlled during all phases of construction, operation, reclamation, and closure of the mining operation to minimize siltation of lakes and watercourses. The operation must ensure that surrounding land and water resources are protected from erosion, gullying, sedimentation, and contamination.
- Precautions to minimize turbidity and siltation are required to be taken, and adequate erosion and siltation controls measures must be used to prevent turbid or silt-laden water from entering the stream.

Reclamation would also be conducted as each portion of the project is mined to its full extent. Natural or passive revegetation would be given an opportunity to establish for two seasons before active revegetation would occur. Based on current natural revegetation success, the vegetative cover proposed for the end use is anticipated to be self-regenerating without continued dependence on irrigation, soil amendments, or fertilizer. This would prevent soil amendments from contaminating the water quality within and downstream of Greenhorn Creek.

Other

Where the Streambed Alteration Agreement does not distinguish among harvesting, processing, and reclamation activities, its measures apply to any phase or portion of the project. For example, the Streambed Alteration Agreement requires that precautions be taken "to minimize turbidity and siltation [. . .] during operations. Adequate erosion and siltation control measures shall be used to prevent turbid or silt-laden water from entering the stream." Additionally, "no debris, soil, silt, sand, rubbish, cement or concrete washings thereof, petroleum products, or other organic or inorganic materials from any construction or associated activity of whatever nature shall be allowed to enter into [. . .] waters of the State." These standards apply to any portion of the operation, including harvesting, processing, and reclamation activities.

Nevada County also has the following conditions of approval on the existing operation:

- Inspection of the mined areas and mitigation of potential erosion concerns is required during the fall season of each year.
- The materials to be mined are limited to Placer diggings surface type.

It should also be noted that there is a permitted well on APN 38-430-02 which must be surveyed and fully protected from the mining activities. This requirement would be included as a condition of approval from the Environmental Health Department as noted in their September 1, 2015 memo (Karim 2015).

Summary

With compliance with the Streambed Alteration Agreement required in Mitigation Measure 4D, WDRs which would continue to be applied to the existing processing facility, and County conditions in place, the operation would not result in degradation of water quality over existing conditions, nor would it result in increased storm water runoff. The project would therefore have an impact that is ***less than significant with mitigation*** impact on water quality and alteration of stream channels.

Impact Discussion 9b: Under certain project criteria, SB 610 requires an assessment of whether available water supplies are sufficient to serve project demands and reasonably foreseeable cumulative demands. The proposed Greenhorn Creek harvesting expansion project meets the definition of a project requiring a Water Supply Assessment (WSA) under SB 610 because the aggregate harvesting area occupies more than 40 acres of land and demands an amount of water similar to the amount of water required by a 500 dwelling-unit project. Holdredge & Kull prepared a WSA for the project dated November 4, 2015. The WSA considers estimates of projected surface water and groundwater consumptive uses associated with the project, as well as other estimated consumptive groundwater uses projected for the surrounding site vicinity. The following discussion is based on the WSA.

Project Consumptive Water Use

Groundwater resources used at the HBE Greenhorn Creek aggregate mine operation include one domestic well used for water supply to the bathrooms, the office/maintenance building, and scale house. The restroom is used on average by four to seven employees, five days per week plus one weekend per month (approximately 284 days per year), working 8- to 10-hour days. No shower facilities, food service or industrial wastes are associated with the facility. No groundwater use is associated with the existing aggregate harvesting operations, and no groundwater use is proposed for expansion of the aggregate harvesting area.

All other water use at the Greenhorn aggregate mine is from surface water sources, which make up the vast majority of the consumptive project water use. Processing at the plant includes screening, washing and crushing of aggregate materials. Surface water consumptive water uses associated with the gravel washing operation include evaporation from the surfaces of the ponds and plant; water lost with the processed gravel; and evaporative losses associated with dust control.

Under the proposed use permit the Greenhorn plant would continue to process 200,000 to 600,000 tons of aggregate per year, in keeping with historical production figures, depending on the market conditions and weather. During peak summer processing months, a maximum of 528,000 gallons per day (gpd) of surface water from Greenhorn Creek are used for cleaning this extracted gravel. This maximum extraction rate corresponds to 11 hours of pumping fresh water at 800 gallons per minute (gpm). However, gravel extraction and wash operations are typically limited and often ceased during several winter months each year.

Haul routes between the harvesting areas and the Greenhorn plant would be watered with a water truck when needed with water from Greenhorn Creek. Water for dust control is expected to range from 10,000 to 20,000 gallons per day (gpd), with up to 40,000 gpd during peak months.

Wash water resulting from the wet aggregate production process is discharged onsite to unlined settling ponds adjacent to Greenhorn Creek. Up to five ponds are in operation at one time including a freshwater pond, two process water ponds, and two evaporation ponds. The surface area of the five ponds is

approximately 61,000 square feet (1.4 surface acres). The typical storage capacity of the ponds is estimated to be 6 acre-feet. Although pond water may not directly discharge back into Greenhorn Creek or other surface water drainage courses under the facility's WDRs, water that percolates from the unlined ponds flows through the alluvial deposits and recharges Greenhorn Creek.

HBE does not propose to increase the scope of the existing gravel extraction and washing plant operations, and does not propose to increase water usage above the current/historical permitted rates. The project would not increase the number of employees or the amount of aggregate being harvested and processed. Rather, HBE proposes to permit additional harvesting area with the intent to continue the operation in its current and historic permitted capacity.

Peak water use at the Greenhorn plant and harvesting area is estimated to be up to 0.528 million gallons per day (MGD). Conservatively assuming that this peak water usage takes place every day, 24 days per month, 12 months per year, an upper bound water use estimate would be approximately 500 acre-feet per year. However, much of the surface water use is not consumptive, because the surface water pumped from Greenhorn Creek subsequently recharges the creek. As shown in Table 4 below, once recharge is accounted for, the project consumptive uses of both surface water and groundwater totals approximately 77.7 acre-feet per year (ac-ft/yr).

Table 4: Annual Project Consumptive Use Water Demand

Location	Source	Consumptive Use (ac-ft/yr)
Greenhorn plant, restrooms	Groundwater	0.09
Greenhorn plant, wet processing	Surface water	29.6
Greenhorn Plant, evaporative loss	Surface water	7.9
Greenhorn Plant, dry processing	Surface water	22.3
Harvesting area, dust control	Surface water	17.8
Total		77.7

Groundwater use was estimated using County guidelines as to the number of gallons per day (gpd) per employee (15 gpd), which is similar to the US EPA (2002) estimate of typical consumptive use (13 gpd per employee) for industrial buildings, sanitary waste only. Surface water use was estimated using monthly records kept by HBE and the type and number of pieces of equipment and processes methods and practices. These assumptions are outlined in detail in the WSA.

Nearby Water Use

SB 610 also requires an analysis of nearby residential water use in the WSA. Domestic water use data was obtained from an Urban Water Management Plan (UWMP) prepared for the nearby NID service area. The data indicates that annual per-household usage is 0.34 ac-ft/yr. Approximately 107 residences exist within a one-mile radius of the Greenhorn plant; therefore, the corresponding residential water usage is estimated to be 36.4 ac-ft/yr for this approximately 2,011-acre area. A significant increase in consumptive water use is not expected in the near future, because the land in the vicinity of the project includes Tahoe National Forest and low-density zoning designations. However, this assessment conservatively assumes that the residential water demand will increase by 61 percent by 2035, pursuant to the high-growth scenario established in the UWMP for the adjacent service area.

Surface water uses on other adjacent properties are expected to be low. Water demand for the Blue Lead Mine is expected to be 29 acre-feet per year (ac-ft/yr). Of this total, 15 ac-ft/yr would be supplied by storm water runoff, which would be captured from within the mine site and not diverted from Greenhorn Creek, while 14 ac-ft/yr would be supplied by groundwater. During dry years, pumping of up to 16 ac-ft/yr of groundwater is expected at the mine. The groundwater extraction associated with the Blue Lead Mine takes place two miles northeast of the Greenhorn plant.

Summary

The groundwater supply for the approximately 2,011-acre project area (comprised of the project site and all uses within a 1-mile radius) during the normal, multiple dry and critical dry year are estimated to be approximately 2,288 ac-ft/yr, 1,444 ac-ft/yr and 853 ac-ft/yr, respectively. The total annual 2015 critical dry-year demand is estimated to be approximately 53 ac-ft/yr, and the projected total annual 2035 critical dry-year demand is estimated to be approximately 68 ac-ft/yr. During the critical dry year the project-only groundwater demand is estimated to be approximately 0.1 ac-ft/yr, while the local recharge supply on the 50-acre Greenhorn Plant area is estimated to be approximately 21 ac-ft/yr. Both surface water and groundwater supplies are therefore sufficient to meet project demands given normal historical rainfall distribution, and when considering single and multiple dry years. Given these reasons, this impact is considered ***less than significant.***

Impact Discussion 9g-j: Greenhorn Creek and its tributaries within the project area are within the 100-year floodplain, which is on average 600 to 700 feet wide. The processing plant is within the floodplain as well. An approximately 1,200-foot length of Arkansas Ravine is also designated as having a 0.2 percent annual chance of flood hazard. Holdredge & Kull prepared a Geotechnical and Hydrological Feasibility Assessment dated October 7, 2016, to determine what impacts to the floodplain and upstream and downstream flows, if any, could result from the proposed project. According to the report, surface water velocities would likely increase as the sand and gravel is removed, due to the decrease in channel width. The channel would continue to shape into more of the natural channel that existed before hydraulic mining. However, even with increased velocities, the chance of flooding habitable structures or the downstream bridge would not be increased because the nearest residences are located above and laterally far enough away from Greenhorn Creek that flooding would not occur. There are also no adverse impacts anticipated to the You Bet Bridge because, though velocities may be increased at the bridge, the distance between the proposed activities and the bridge is such that the water would have the same hydraulic elevation by the time it reaches the bridge. The existing requirements of the WDRs include constructing levees around the processing plant before each winter season, and the Streambed Alteration Agreement requires the applicant to remove structures and associated materials not designed to withstand high season flows to areas above the high water mark before such flows occur. The Streambed Alteration Agreement also helps to reduce potential flooding impacts of harvesting activities by restricting mining activities to periods of low stream flow and dry weather, and between April 1 and December 31 of any year. Work is also prohibited when it has rained two inches or more in a 24-hour period.

The Red Dog Narrows area would also be excavated and mined as part of the proposed project. Holdredge & Kull assessed the potential for the proposed excavation to result in any hydrological impacts to sensitive uses such as residences. They have indicated that the sand and gravel above and upstream of the Red Dog Narrows is blocking the Narrows by acting as a dam. If this material were not removed, as in a no-project scenario, there would be a potential for catastrophic failure of this dam, which could increase flooding downstream. The project's removal of the sand and gravel above the Narrows would decrease the chance of blockage within the Narrows and decrease the chance of flooding downstream. The project would therefore have a beneficial impact on potential flooding conditions related to the Red Dog Narrows. Additionally, although slope configurations left within the Narrows and within other expansion areas along the banks of the creek could contribute to localized flooding or constrict flow in such a way that could increase the potential for localized flooding, Mitigation Measure 6A would reduce this impact by requiring an annual assessment and remediation measures as part of the mining inspection process at the end of each mining season (in the fall). As such this impact would be ***less than significant with mitigation*** with the implementation of Mitigation Measure 6A.

Mitigation Measures: See Mitigation Measures 4D and 6A.

10. LAND USE / PLANNING

Existing Setting: The proposed expansion area is located within Greenhorn Creek and its tributaries from Missouri Canyon and Arkansas Ravine, where the project applicant currently operates an existing permitted aggregate extraction and processing mine operation. With the exception of occasional off-highway vehicle use by trespassers, the project lands are currently unoccupied and unused for human purposes. Surrounding land uses include timber/forest land, low-density single family homes and recreational uses at Rollins Reservoir and Greenhorn Creek. The Tahoe National Forest is located immediately north of the operation area. Several active and/or historic mine sites are also location within the vicinity of the operation. The land in which the proposed expansion area is located is zoned Forest and Forest with Mineral Extraction combining zoning designation with 40-acre maximum density (FR-40 and FR-40-ME). All land surrounding the operation property is zoned Agricultural, Forest, or Timber Production Zone, with densities ranging from 20 acres in the southerly area to 160 acres on the Tahoe National Forest land to the northeast. The Blue Lead Mine site to the east also has the Mineral Extraction combining district.

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Result in structures and/or land uses incompatible with existing land uses?		✓			A, 35
b. The induction of growth or concentration or population?				✓	A, 35
c. The extension of sewer truck lines or access roads with capacity to serve new development beyond this proposed project that would result in growth inducement?				✓	A
d. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?		✓			A, 35
e. Physically divide an established community?		✓			A

Impact Discussion 10a: Although the proposed project would not result in the construction of any additional structures, it would result in a change of land use in the proposed expansion areas from unused, undeveloped areas to the site of aggregate harvesting uses. Where the project would result in physical impacts, the project's conflicts with surrounding land uses are identified in this Initial Study and mitigated in Mitigation Measures 3A, 6A, 12A, and 16A-16C. As such, the project's incompatibility with existing surrounding residential uses would be ***less than significant with mitigation***.

Impact Discussion 10b-c: The proposed project would not result in growth-inducing impacts because it would not construct any infrastructure or other physical development that could serve additional development. Therefore, the project will have ***no impact*** related to future development potential offsite.

Impact Discussion 10d: A portion of the project in the northern area is currently zoned Forest and requires a rezone to add the Mineral Extraction combining district in order to comply with the Zoning Ordinance. Properties proposed for mining are required to have a Mineral Extraction zoning district overlay. With the approval of this rezone by the Board of Supervisors, the project would be consistent with the zoning districts established for the project area. The project has been evaluated relative to the County's standards regarding work within floodplain and watercourse setbacks. Impacts to the floodplain

are evaluated in Section 9 of this Initial Study and found to be less than significant with implementation of Mitigation Measure 6A and the Reclamation Plan for the project, which would ensure that biological resources are protected as required by the LUDC. With the implementation of the Reclamation Plan and the Streambed Alteration Agreement, and Mitigation Measure 6A related to increased localized flooding, the proposed project would be compatible with adopted land use plans and impacts would be ***less than significant with mitigation***.

Impact Discussion 10e: Most of the proposed project would not disrupt or divide the physical arrangement of any established community as it would occur within Greenhorn Creek. However, the northerly portion of the proposed expansion area includes the Red Dog Road crossing, and maintenance of this crossing is imperative to emergency access and circulation within the Red Dog-You Bet community. Mitigation to ensure access and circulation across Red Dog is predominantly a transportation and circulation issue, however; therefore, mitigation to reduce circulation impacts is included in the Transportation/Circulation section of this Initial Study to reduce land use impacts related to the division of an established community. Mitigation Measures 16A and 16B require annual maintenance of the crossing, reclamation of the road post-mining, and an offer of dedication to the County. With these measures in place, this impact would be ***less than significant with mitigation***.

Mitigation Measures: See Mitigation Measures 6A, 16A, and 16B.

11. MINERAL RESOURCES

Existing Setting: The project area is mapped within a Mineral Resource Zone (MRZ), or area of known valuable mineral deposits (Nevada County, 2016).

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				✓	A, D
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				✓	A, D, 35

Impact Discussion 11 a-b: The project would utilize and mine aggregate resources to the fullest extent possible within the project boundaries, resulting in a beneficial impact regarding mineral resources. The project would not result in any adverse impacts to mineral resources such as the loss of their availability for future use. Therefore, there would be ***no impact*** to mineral resources.

Mitigation Measures: None required.

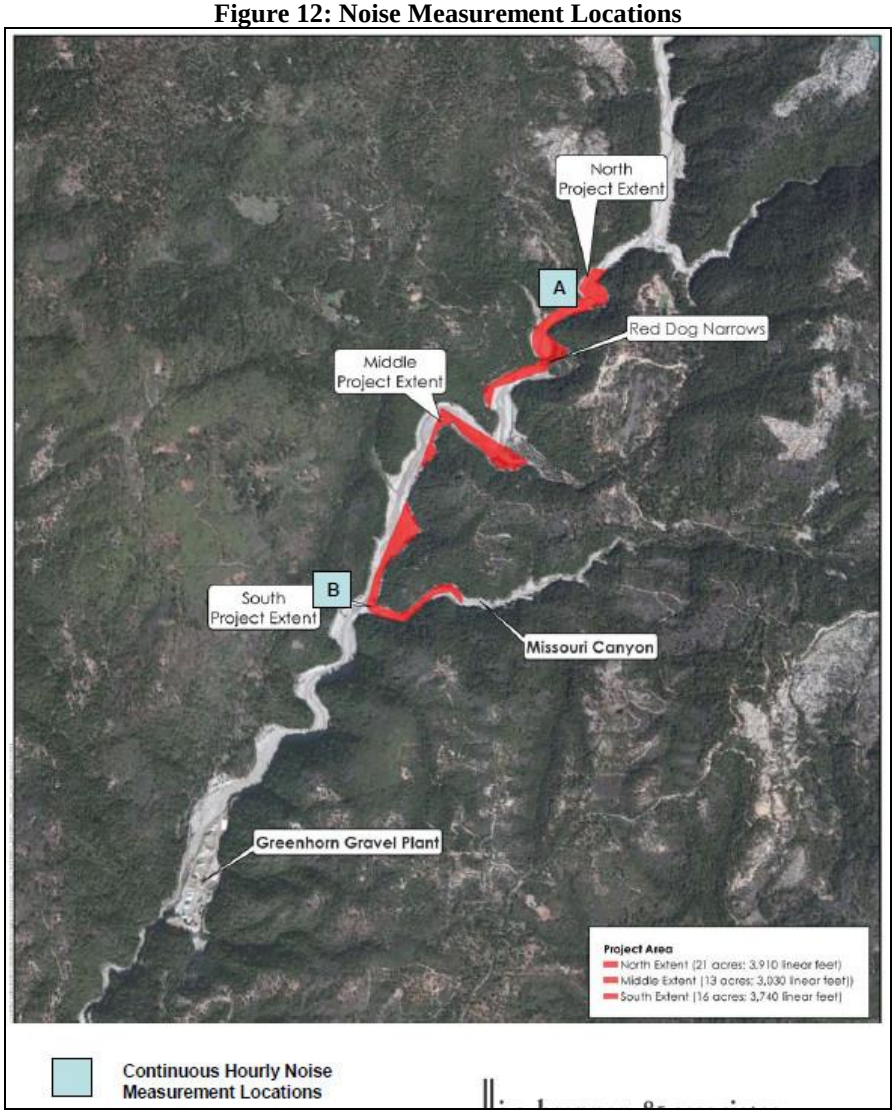
12. NOISE

Existing Setting: Existing noise in the project area is from the existing permitted Greenhorn Creek sand and gravel mining and processing operation which occurs adjacent to much of the proposed expansion area. Harvesting operations include belly-scrapers which harvest the aggregate material and transport it to the processing plant. The processing plant includes two cone crushers with screens and one jaw crusher

with screens. Front-end loaders move the processed sand and gravel to stockpiles and load trucks, which transport the material. At any given time, up to three bellyscrapers, and three front-end loaders and load-out trucks are operating at the existing plant, along with the crushers and screens. The existing noise environment in the processing area and existing harvest areas is defined primarily by existing plant and harvesting operations. The northern portion of the proposed harvesting expansion is rural and can be characterized as fairly quiet.

On October 14-16, 2015, J.C. Brennan & Associates conducted continuous noise measurements on the project site to determine the existing baseline for CEQA purposes. Noise Monitoring Site A was located adjacent to the northern portion of the proposed harvesting expansion area. It represents a portion of the site that is considered fairly quiet. There are some rural residential structures which are approximately 1,200 feet from the proposed harvest expansion areas. Noise Monitoring Site B was located adjacent to the project area where future harvesting will occur. The nearest residence is approximately 1,000 feet from the harvest area.

Figure 12: Noise Measurement Locations



The results of the continuous noise measurements are summarized in Table 5 below and shown in Figure 13. Improved parcels (those with at least one residential or non-residential/agricultural structure currently

being assessed by the Nevada County Assessor's Office) are also shown in relation to existing mining areas in Figure 13 below.

Figure 13: Existing Noise Levels

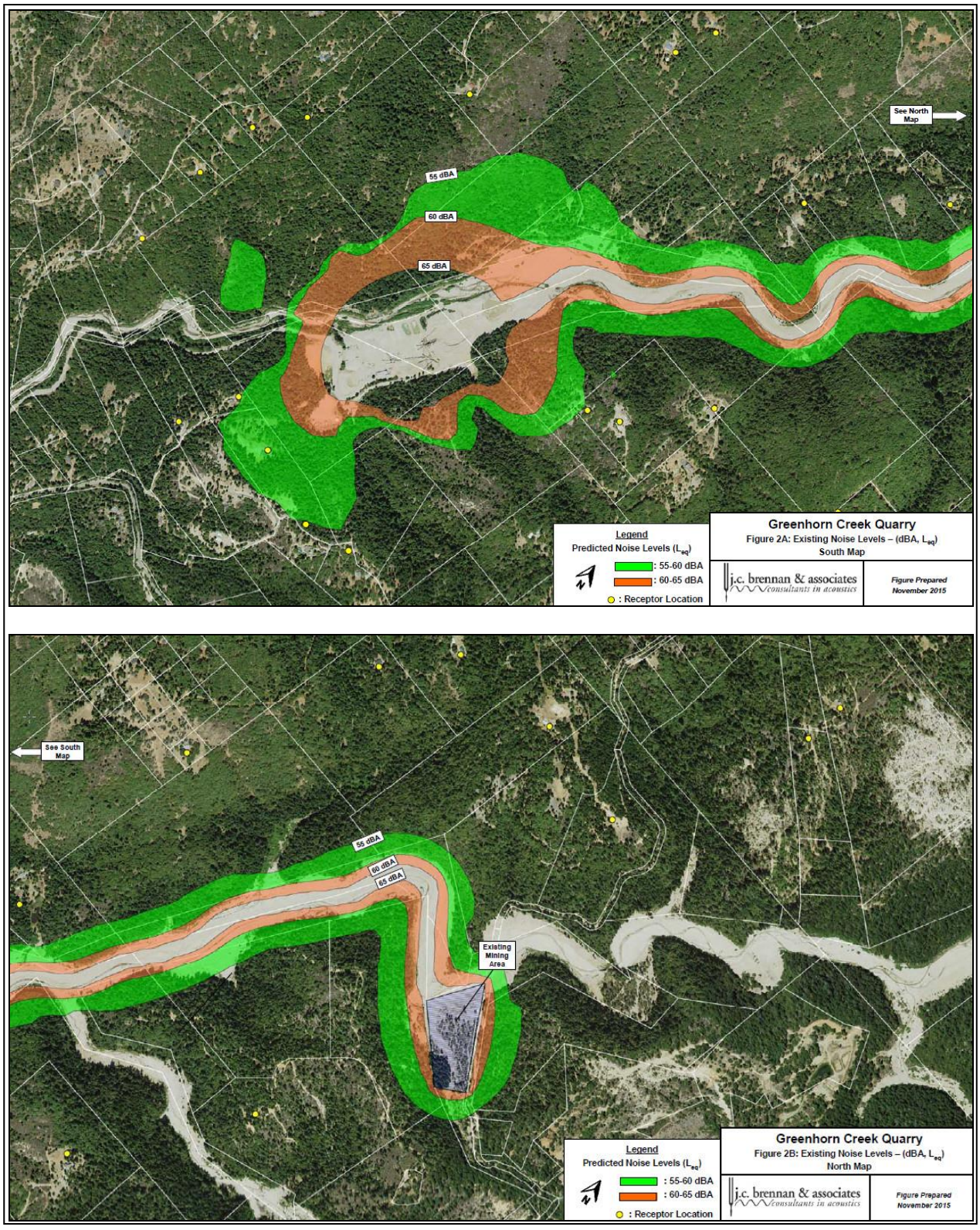


Table 5: Summary of Existing Ambient Noise Measurement, October 14-16, 2015

Site	Date	Ldn	Average Measured Hourly Noise Levels, dBA					
			Daytime (7 am -10 pm)			Nighttime (10pm – 7 am)		
			Leq	L50	Lmax	Leq	L50	Lmax
Site A	October 14-15, 2015	45 dBA	40	30	54	38	25	47
	October 15-16, 2015	41 dBA	37	29	52	33	29	39
Site B	October 14-15, 2015	44 dBA	46	29	58	26	23	38
	October 15-16, 2015	41 dBA	43	27	58	25	22	39

All surrounding parcels, including the nearby residences, are within the Agricultural (AG) and Forest (FR) zoning districts, for which the General Plan and LUDC have established the following exterior noise limits:

Table 6: Exterior Noise Limits for Rural Zoning Districts (AG, FR, TPZ, OS)

Time Period	Noise Level, dBA	
	Leq	Lmax
7 am – 7 pm	55	75
7 pm – 10 pm	50	65
10 pm – 7 am	40	55

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Expose persons to or generation of noise levels in excess of the County's adopted standards established in the General Plan and Land Use and Development Code?		✓			A, 29, 35
b. Expose persons to or generate excessive ground borne vibration or ground borne noise levels?			✓		A, 29
c. Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?		✓			A, 29, 35
d. Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?		✓			A, 29, 35
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				✓	A
f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				✓	A

Impact Discussion 12a,c,d: The project would expand the excavation area by approximately 38 acres, with the expansion area located to the north of the existing processing plant. The land uses adjacent to the proposed excavation areas are either existing quarry area or forested lands. The Tahoe National Forest boundary is located immediately adjacent to the northeast boundary of the proposed excavation area. The Blue Lead Mine, an approved but not yet operational project, is located approximately 500 feet

east of the excavation area, and four residences are located between 1,200 feet and 2,400 feet from the proposed excavation areas.

The harvesting plan includes running no more than two scrapers at any given time between the harvesting areas and the existing plant. The operations occur Monday through Friday between the hours of 7:00 AM and 6:00 PM. This plan is consistent with current operations. The project does not increase the production capacity or result in additional truck traffic on the roadway.

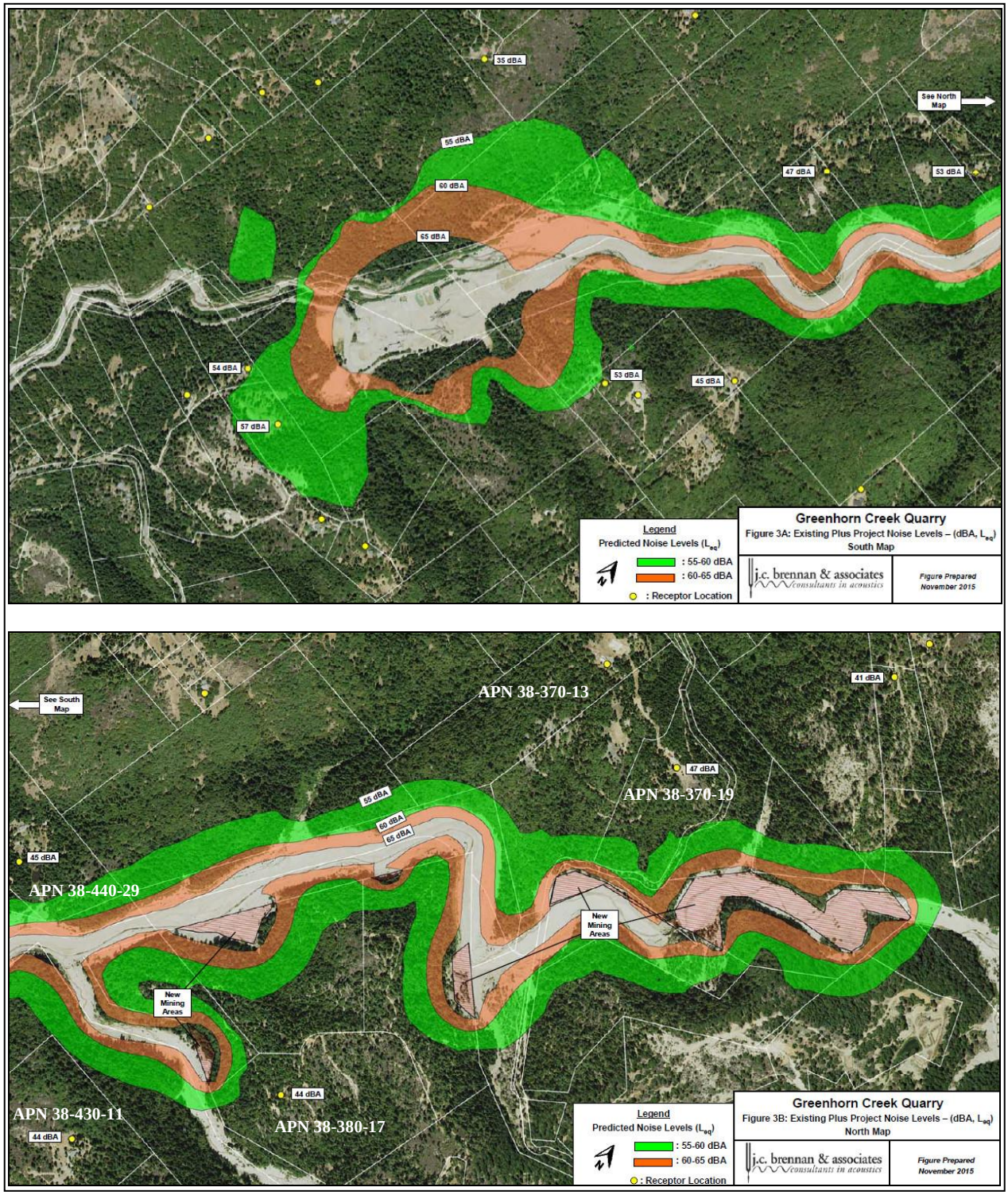
To quantify the existing ambient noise environment in the project vicinity, J.C. Brennan & Associates, Inc. conducted continuous hourly noise level measurements for a period of two days at two locations adjacent to the expansion areas, as shown in Figure 13. The noise level measurements were conducted between October 14 (a Wednesday) and October 16, 2015 (a Friday). In addition, noise level measurements were conducted at the existing plant site and harvesting area to quantify the existing operations, as well as to acquire reference data for analysis of the existing and future operations. The primary receptors in the region of the operational noise are residents. The results of these measurements are shown in Table 7.

Table 7: Measured Quarry Operational Noise Levels

Operation	Measured Noise Levels		Distance
	SEL/Leq	Lmax	
Belly scraper operations at the harvesting area	92.2 dBA SEL 95.6 dBA SEL	77.4 dBA 79.3 dBA	120 feet 85 feet
Belly scraper operations on the haul road	84.7 dBA SEL (full/downhill) 88.9 dBA SEL (empty/uphill)	77.1 dBA 74.7 dBA	50 feet 50 feet
Water truck operations on the haul road	93.6 dBA SEL	86.2 dBA	50 feet
Quarry plant operations ▪ 2 cone crushers ▪ 1 jaw crusher ▪ All screens ▪ Scraper deliveries ▪ Truck loading and haul-out	74.7 dBA Leq	81.6 dBA	245 feet to jaw crusher and screens 300 feet to middle cone crusher and screens 160 feet to south cone crusher and screens

Based upon this data and the assumptions that existing conditions on the 1982 and 1993 use permits would continue for this project (for hours of operations, minimization of number of scrapers, use of mufflers, etc.), noise impacts from the proposed expansion areas would not result in an exceedance of the Nevada County 55 dBA Leq and 75 dBA Lmax noise level standards for Rural areas. All of the residences are located far enough away, and there is enough topographic relief and vegetation, to significantly reduce noise levels from the operation. The project would also not result in a substantial adverse noise increase above existing Leq noise levels (Brennan 2015). Results from the noise analysis are shown in Figure 14.

Figure 14: Existing Plus Project Noise Levels



Although not all areas of expansion are in the noise model shown in Figure 14, for the purposes of determining impacts to the nearest residences, the closest areas of mining were factored into the model. The model therefore shows a worst-case scenario. As shown in the figures above, there are several properties (APNs 38-370-13, 38-370-19, 38-380-17, 38-430-11, and 38-440-29) where noise levels would exceed the 55 dBA Leq threshold at the border or within a small portion of the residential parcels closest to the mining operations, but this exceedance would not occur at the residences themselves, so this

impact is not considered substantially adverse. Daytime average noise levels from the proposed new harvesting areas at the nearest residences would be up to approximately 47 dBA (APN 38-370-19), which is well below the 55 dBA Leq threshold. Predicted noise levels at the processing plant are the same as existing noise levels, so no impacts would occur in that area of the operation.

As noted above, the results of the noise analysis rely on the existing use permit conditions to reach the conclusion that noise impacts would not be substantially adverse. Therefore, these conditions should continue to apply to the current project to ensure these impacts remains less than significant. These measures are therefore provided in Mitigation Measure 12A to ensure that noise levels remain at current levels within both Sections 25 and 36 (proposed new harvesting areas). It should also be noted that existing Occupational Safety and Health Administration (OSHA) standards must also be met for the protection of employees from noise impacts in the work environment, and that these standards are enforced and monitored by OSHA. With continued implementation of these measures in Mitigation Measure 12A, noise impacts from the proposed project are anticipated to be ***less than significant with mitigation***.

Impact Discussion 12b: According to the Environmental Noise Analysis, during the noise measurement survey, no noticeable vibrations were noticeable during the equipment operations. Additionally, per OHSA standards, the operation is required to provide noise and vibration insulation at all metal-to-metal contact points where feasible. Any rock hoppers or bins must also be rubberized or insulated to reduce noise vibration. Finally, as noted above, blasting is prohibited in the mining operation. Based upon the considerable distances between the quarry expansion areas and the nearest homes, no vibration impacts are expected to occur, and this impact is ***less than significant***.

Impact Discussion 12e,f: The project site is not within the vicinity of a private or public airport, nor within any airport noise contour areas; therefore, there would be ***no impacts*** related to airport noise.

Mitigation Measures: To offset the potential for noise impacts at nearby residences, the following mitigation measures shall be required:

Mitigation Measure 12A: Limit Noise-Generating Uses. The following measures shall be implemented during all project operations to protect surrounding residents from operational noise:

- Plant operation, gravel harvest, truck loading, and truck hauling are limited to the hours of 7 AM to 6 PM, Monday through Friday, except for plant repairs which may take place outside those hours. Exceptions may also be made for emergency operation as determined by the Planning Director and defined in the Section 15269 of the State CEQA Guidelines.
- The operation is required to provide mufflers which meet the standards of the California Highway Patrol on all trucks belonging to the operator and used on public roadways.
- Noise emissions from the plant site at any residential property line shall not exceed 65 decibels.
- Aggregate harvesting is prohibited within 20 feet from any neighboring property.
- Noise levels associated with the operation in the new harvest areas shall not exceed County noise standards at the nearest residential property lines.
- When paddle-wheel scrapers are used for excavation in Sections 25 and 36, no more than two shall be permitted to operate. Scrapers shall be staggered to avoid simultaneous operation in the same area.
- Retail sales and rock processing is prohibited in Sections 25 and 36.
- Blasting associated with the mining operation is prohibited.

Timing: *During project operation*
Reporting: *Enforced through the code complaint process*
Responsible Agency: *Nevada County Planning Department*

13. POPULATION / HOUSING

Existing Setting: The proposed expansion areas are currently undeveloped and unused. Surrounding lands are undeveloped to a large extent in the northern project area and developed with rural residential uses in the southern project area.

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				✓	A, 35
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				✓	A, 35
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				✓	A, 35

Impact Discussion 13a-c: The proposed project includes extraction of aggregate materials on property with a Forest zoning district. The project would not result in population growth or displacement of housing or people. Therefore, the proposed project would have ***no impact*** related to these issues.

Mitigation Measures: None required.

14. PUBLIC SERVICES

Existing Setting: The following public services are provided to this site:

Fire: The project site is within a State Responsibility Area, and CalFire provides fire protection services to the site.
Police: The Nevada County Sheriff provides law enforcement services.
Water: The site is served by an existing well for plumbing facilities and by surface water for aggregate processing facilities and dust control.
Transit: There is no transit route serving the project site or environs.
Sewer: Sewage treatment occurs via a private septic system.

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Result in substantial adverse physical impacts associated with the provision of or need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following the public services:					
i) Fire protection?			✓		A, I, 37
ii) Police protection?			✓		A

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
iii) Schools?			✓		A
iv) Parks?			✓		A
v) Other public services or facilities?			✓		A

Impact Discussion 14a.1-5: The proposed project consists of the expansion of an in-stream aggregate mining facility and would thus not result in a new substantial need for additional schools, parks, and police protection because it would not result in increased population. No new structures are proposed, and the processing facility would continue to handle the same amounts of aggregate material, with no increase in quantity of processed material. The Fire Marshal has indicated that all access roads would be required to meet Fire Safe Road standards. Therefore, the proposed project would have a ***less than significant*** impact related to public services.

Mitigation Measures: None required.

15. RECREATION

Existing Setting: The project site is located within the Nevada City Recreation Benefit Zone. No formal recreation facilities are located on or near the project site, although off-highway vehicles often recreate without the landowner's permission within and in the vicinity of Greenhorn Creek.

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			✓		A
b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?			✓		A
c. Conflict with established recreation uses of the area, including biking, equestrian and/or hiking trails.			✓		A

Impact Discussion 15a-c: As a mining project, the project would not result in development that would affect recreational uses or increase demand for recreational uses. The project may affect illegal off-highway vehicle use within Greenhorn Creek. However, because this use is illegal and done without Hansen Brothers' permission, impacts to recreationists are not considered substantially adverse and the impact is ***less than significant***.

Mitigation Measures: None required.

16. TRANSPORTATION / CIRCULATION

Existing Setting: Access to the site is from State Route 174, to the County-maintained You Bet Road, to the privately maintained Hansen Gravel Road just past the Greenhorn Creek crossing. From the

processing plant off the Hansen Gravel Road, access to the in-stream mining areas is north up the Greenhorn Creek canyon. Proposed areas of expansion extend from approximately one mile north of the processing plant two miles north up the Greenhorn Creek canyon to the boundary of the Tahoe National Forest. The expansion area includes the Red Dog Road crossing and the Red Dog Narrows. Red Dog Road in the vicinity of the stream crossing is public from the middle of the creek running west; and a public, non-County maintained road from the middle of the creek running east. HBE is conditioned under Use Permit U93-063 to maintain the Red Dog Road crossing, while the County maintains the western portion of Red Dog Road within the public right-of-way. The eastern portion of Red Dog Road is not maintained by the County because the County does not have easements through this segment. Red Dog Road and You Bet Road are both Minor Collectors currently functioning at Level of Service (LOS) A with 2,483 and 2,087 average daily trips (ADT), respectively, according to the latest traffic counts in 2013 and 2014. The site is not served by public transit, the Nevada County-operated Gold Country Stage.

CEQA Environmental Checklist Item	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**	**Reference Source (Appendix A)**
a. Result in an increase in traffic that is substantial in relation to the existing traffic load and capacity or the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio, on roads, or congestion at intersections.			✓		A, H, 21
b. Result in a need for private or public road maintenance, or new roads?		✓			A, H, 44, 45
c. Substantially increase hazards due to a design feature (e.g., a sharp curve or dangerous intersection) or incompatible uses (e.g., farm equipment)?			✓		A, H, 44, 45
d. Result in a substantial impact upon existing transit systems (e.g., bus service) or alteration of present patterns of circulation or movement of people and/or goods?		✓			A, H
e. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				✓	A
f. Result in an increase in traffic hazards to motor vehicles, bicyclists, or pedestrians, including short-term construction and long-term operational traffic?		✓			A
g. Result in inadequate: Sight distance? Ingress/egress? General road capacity? Emergency access (4290 Standard)?		✓			A, H, 37
h. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?			✓		A

Impact Discussion 16a: The proposed project is not anticipated to generate additional traffic on a day-to-day basis because the amount of aggregate being mined and processed would remain the same as under the existing Use Permit U93-063. Traffic from the existing and proposed operation are largely driven by market forces and can therefore fluctuate broadly in any given year depending on demand for aggregate

materials. An estimated 4,000 tons of material is hauled to the plant daily and varies substantially based on the current market demand. However, the existing operation functions under the same principle, so the proposed project relative to that baseline would not contribute to additional traffic on a daily or yearly basis. Existing traffic levels on Red Dog Road and You Bet Road are at approximately 2,483 and 2,087 average daily trips (ADT), according to the latest traffic counts in 2013 and 2014, respectively. These levels of traffic are considered Level of Service (LOS) A and would have to reach 8,550 ADT to degrade to LOS D, the level that is considered unacceptable under the General Plan LOS standard for Rural Regions (Policy LU-4.1.1). The current Use Permit is conditioned with a maximum daily cap of 492 truck trips, which may be exceeded up to thirty days in any calendar year. However, the average number of daily one-way haul trips to the Plant is approximately 120, well under the 492 trip cap (HBE 2017). This amount of trips would continue at the same rate as under existing conditions. Because the project would not result in a substantial increase in traffic, this impact would be ***less than significant***.

Impacts Discussion 16b,d,f,g: The northerly portion of the proposed expansion area includes the Red Dog Road crossing, which is part of the emergency access route and circulation for the Red Dog-You Bet community. The existing Use Permit conditions of approval require maintenance of the crossing, but the new expansion area directly affects it and as such should be included in any maintenance prescriptions to prevent dividing the communities on the west and east of Greenhorn Creek. Mitigation Measure 16A requires that Red Dog Road be maintained in a passable condition during all periods of the year when the stream is passable. Mitigation Measure 16B requires reclamation of the road post-mining and an offer of dedication to the County. It should also be noted that the annually maintained haul road traversing Greenhorn Creek could also be used as an emergency access route in the event of a wildlife or other emergency.

Although the project would not result in an increase of traffic on a daily or even yearly basis, the project would extend the life of the existing operation and continue to contribute to degradation of public access roads. Mitigation Measure 16C is therefore provided to ensure that impacts to roads are reduced with adequate road mitigation fees, which are charged on a tonnage basis. With implementation of Mitigation Measures 16A-16C, impacts related to road maintenance and access would be reduced to a level that is ***less than significant with mitigation***.

Impact Discussion 16c,h: There is currently no transit route in the vicinity of the project, and staff arrive to the site by driving their personal vehicles or carpooling with others. The proposed expansion of harvesting areas would not result in an increase of employees over existing conditions that might require transit. Project operation would not interfere with transit services which are located closer to central Grass Valley, with the nearest stop over four air-miles west of the site in the Loma Rica area. The project would not conflict with rideshare programs or other policies supporting multi-modal transportation. Therefore, impacts to transit, pedestrian, and bicycle facilities are considered ***less than significant***.

Impact Discussion 16e: The proposed project does not include any components that would impact airport operations or other travel patterns. Therefore, there would be ***no impact*** related to airport operations and traffic patterns.

Mitigation Measures: To offset the potential for road impacts, the following mitigation measures shall be required:

Mitigation Measure 16A. Maintain the Red Dog Road Crossing: The applicant shall maintain the Red Dog Crossing and approaches in a passable condition during the operational season, within two weeks following haul road construction and in compliance with other County and State requirements such as pre-construction nesting surveys and Streambed Alteration Agreement requirements. This mitigation is not dependent on mining operations in the vicinity of the area because current and past upstream and

adjoining mining activities can have long-term effects on the crossing. This condition shall be monitored during annual inspections and enforced other times of the year through a public complaint-driven process.
Timing: *Annual inspection and on a complaint basis*
Reporting: *Annual inspection*
Responsible Agency: *Nevada County Public Works, Planning, and Code Compliance*

Mitigation Measure 16B. Provide Red Dog Road Reclamation and Offer for Dedication: During reclamation of the Red Dog crossing area, the applicant shall ensure that it is left in a passable condition. The applicant shall also offer for dedication to Nevada County any portion of the Red Dog Road crossing that is owned by the applicant, in order to provide the County the opportunity to consider whether that portion should become part of the County-maintained mileage system at that time.
Timing: *Prior to release of the Financial Assurance for reclamation*
Reporting: *Approval of FACE release*
Responsible Agency: *Nevada County Public Works Department*

Mitigation Measure 16C. Pay Fair Share toward Public Access Road Maintenance and Improvements: The applicant shall contribute $0.05 per ton of aggregate materials on a quarterly basis for the proposed expansion areas for County road maintenance and improvement. The tonnage rates and annual maximum amount shall be adjusted annually based on the California Construction Cost Index (CCCI) so that these fees can keep with the anticipated rate of inflation.
Timing: *To be paid quarterly during project operations*
Reporting: *Quarterly invoicing by Fiscal Department*
Responsible Agency: *Nevada County Public Works Department*

17. UTILITIES / SERVICE SYSTEMS

Existing Setting: Electrical service is provided to this area by Pacific Gas & Electric and is currently available and used on the site. Potable water is provided by a private well. The applicant maintains a dumpster for solid waste which is picked up by Waste Management and hauled to the McCourtney Road Transfer Station on a regular basis. There are a number of wireless telephone services available in southwestern Nevada County but with variable coverage depending upon the carrier. AT&T provides land line phone service to this area. Sewage treatment and disposal are provided via an onsite system.

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Result in a need for the extension of electrical power, natural gas, or communication systems?				✓	A
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				✓	A
c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				✓	A
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?				✓	A, 28

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
e. Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?				✓	A
f. Be served by a landfill or transfer station with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			✓		A, H
g. Comply with federal, state, and local statutes and regulations related to solid waste?			✓		A

Impact Discussion 17a-e: The proposed project is an expansion of the harvesting area for an existing in-stream aggregate mining operation and as such would not result in development that would create a need for the extension of electrical power, storm drainage facilities, or water or wastewater treatment facilities. The same amount of aggregate materials would continue to be processed, so no expansion in the processing facilities or number of employees is proposed. Services are already provided to or adjacent to the site. Therefore, the project would have ***no impact*** related to these issues.

Impact Discussion 17f,g: The site contains a dumpster that is picked up by Waste Management on a regular basis. All materials are subject to State standards for safe disposal, which are implemented at the Transfer Station. Solid waste generated during the development of the site or after occupancy is processed at the McCourtney Road Transfer Site, which is maintained by a solid waste disposal company contracted by Nevada County to haul material to a permitted sanitary landfill. The existing mining project already permitted under U93-063 typically results in the generation of solid waste in the form of tree stumps and vegetative material which is burned under a permit with the NSAQMD. Impacts related to solid waste disposal are therefore considered ***less than significant***.

Mitigation Measures: None required.

18. MANDATORY FINDINGS OF SIGNIFICANT ENVIRONMENTAL EFFECT

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of major periods of California's history or prehistory?		✓			A

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact	Reference Source (Appendix A)
b. Does the project have environmental effects that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of the project are considered when viewed in connection with the effects of past, current, and probable future projects.)			✓		A
c. Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?			✓		A

Impact Discussion 18a: Development of the proposed project would comply with all local, state, and federal laws governing general welfare and environmental protection. Project implementation would result in potentially adverse impacts to air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, land use, noise, and transportation/circulation. Each of those impacts is mitigated to levels that are ***less than significant levels with mitigation*** as outlined in each section. No additional mitigation is required.

Impact Discussion 18b: A project's cumulative impacts are considered significant when the incremental effects of the project are "cumulatively considerable," meaning that the project's incremental effects are considerable when viewed in connection with the effects of past, current, and probable future projects. The proposed project would expand aggregate mining areas along Greenhorn Creek and its tributaries, resulting in continued impacts to the resources described in Impact Discussion 18a.

The project would not develop land but would remove aggregate material that was washed downstream by past hydraulic mining activities and that now overlies much of the riparian corridor along Greenhorn Creek and its tributaries. Although there would be short-term impacts to biological resources during project operation (as mitigated in Mitigation Measures 4A-4D), the ultimate and cumulative biological impacts of the project, once revegetation and reclamation has taken place, would be beneficial. The project would remove most of the aggregate material and bringing the sand and gravel layer to 18 inches, enabling the riparian vegetation to ultimately recover and the canyon to take on its former natural contours and habitats. Therefore the proposed project would not result in a cumulatively considerable contribution to cumulative impacts on surrounding biological resources.

Daily operational traffic would not increase as a result of the project. Existing conditions in place today would continue with regard to daily and yearly traffic because no new employees would be added, and the amount of materials being harvested and processed would remain the same as under the existing Use Permit U93-063. However, the project would increase the long-term amount of traffic by adding to the harvesting area, such that mining and processing would occur over a longer period of time. However, with Mitigation Measure 16C in place to pay a fair share toward road maintenance, longer operation of the project would not impact local roads. Traffic impacts to air quality and greenhouse gas emissions would also be reduced over the long term with the implementation of Mitigation Measure 3A which requires compliance with diesel equipment regulations and reduction of overall emissions. Noise impacts would not be cumulative as noise does not accumulate but would simply occur for a longer period of time. Noise impacts from the project would be well below County thresholds at the nearest sensitive receptors and are thus not cumulatively considerable.

Reasonably foreseeable projects that could have similar impacts to the proposed project include other future projects within the project vicinity that could be constructed or operated within the same

timeframe as the project. The Blue Lead Mine is a reasonably foreseeable project that has been approved but has not started operations as of this writing. However, other than potential traffic on You Bet Road and the resulting air quality and GHG impacts, which are not anticipated to be substantial from either project (and in the case of the proposed project to be the same as under existing conditions), none of the impacts would be considered cumulative. Cumulatively with the Blue Lead Mine project, these impacts would remain less than significant. Where the project would have no impact, it would not contribute to cumulative impacts. In addition, issues specific to site conditions, such as site geology and soils, do not have cumulative effects. Therefore, the proposed project would have ***less than significant*** environmental effects that are individually limited but cumulatively considerable.

Impact Discussion 18c: Project operations could result in temporary impacts to human beings from dust, noise, and traffic. However, implementation of the mitigation measures in this Initial Study, in addition to compliance with existing federal, state, and local regulations, would reduce any adverse direct or indirect effects on human beings to a level that is ***less than significant with mitigation***.

Impact Discussion 18d: The basic objective of the project is to expand an existing aggregate mining operation to increase overall harvesting potential and meet market demand for aggregate products. The project could accomplish this objective by relocating to a different site, but this would involve moving the entire base of operations which is already established on the project site. Depending on the alternative site, situating the project elsewhere could result in greater environmental impacts. Therefore, this impact is considered ***less than significant***.

Mitigation Measures: To offset potentially adverse impacts to air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hydrology and water quality, land use, noise, and transportation/circulation, see Mitigation Measures 3A, 4A-4D, 5A, 6A, 12A, and 16A-C.

RECOMMENDATION OF THE PROJECT PLANNER

On the basis of this initial evaluation:

_____ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

__X__ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

_____ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

_____ I find that the proposed project MAY have a "potentially significant impact" or a "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

_____ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Original Signed

_____ _____

Jessica Hankins, Senior Planner Date

REFERENCES

A. Planning Department
B. Department of Public Works
C. Environmental Health Department
D. Building Department
E. Nevada Irrigation District
F. Natural Resource Conservation Service/Resource Conservation District
G. Northern Sierra Air Quality Management District
H. Caltrans
I. Nevada County Consolidated Fire District
J. Regional Water Quality Control Board *(Central Valley* Region)
K. North Central Information Service, Anthropology Department, California State University, Sacramento
L. California Department of Fish & Wildlife
M. Nevada County Geographic Information Systems
N. California Department of Forestry and Fire Protection (Cal Fire)
O. Nevada County Transportation Commission/Nevada County Airport Land Use Commission
P. Nevada County Agricultural Advisory Commission
Q. Nevada Joint Union School District

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