

ENVIRONMENTAL INITIAL STUDY & MITIGATED NEGATIVE DECLARATION

Amendment 23-0003 and Amendment 23-0004
(Tullis, Inc. DBA Crystal Creek Aggregates)

August 7, 2023

ENVIRONMENTAL INITIAL STUDY &
MITIGATED NEGATIVE DECLARATION
WITH
References and Documentation

Prepared by
SHASTA COUNTY DEPARTMENT OF RESOURCE MANAGEMENT
PLANNING DIVISION
1855 Placer Street, Suite 103
Redding, California 96001

**Shasta County
Environmental Checklist Form**

1. **Project Title:** Amendment (AMND) 23-0003 and Amendment (AMND) 23-0004
2. **Lead Agency:**
Shasta County Department of Resource Management, Planning Division
1855 Placer Street
Redding, CA 96001
3. **Contact Person:**
Tara Petti, Senior Planner; (530) 225-5532; tpetti@co.shasta.ca.us
4. **Project Location:**
The project site is an existing quarry located south of the unincorporated community of Keswick, on the west side of Iron Mountain Road approximately one mile north of the intersection of Iron Mountain Road and State Route 299 (SR-299) and directly across from the intersection of Iron Mountain Road and Laurie Ann Lane. The project site is located at 10936 Iron Mountain Road (Assessor's Parcel Numbers (APNs) 065-250-031 and 065-250-032).
5. **Applicant's Name and Address:**
Tullis, Inc. DBA Crystal Creek Aggregates
P.O. Box 493416
Redding, CA 96049
6. **Consultant:**
SHN Consulting Engineers and Geologists
350 Hartnell Avenue, Suite B
Redding, CA 96002-1875
7. **General Plan Designation:** "MR" (Mineral Resource); "I-IMR" (Industrial – Interim Mineral Resource); "N-O" (Natural Resource Protection – Open Space)
8. **Zoning:** "MR" (Mineral Resource); "M-IMR" (General Industrial combined with Interim Mineral Resource); "U" (Unclassified)
9. **Description of Project:** Crystal Creek Aggregates (CCA) (herein referred to as "existing quarry" or "mine operator") proposes to expand its existing aggregate mining operation at its current location. The existing quarry was initially permitted in 1990 under Shasta County *Use Permit 24-90* and *Reclamation Plan 1-90*. Subsequently, in 2008 *General Plan Amendment GPA07-005*, *Zone Amendment Z07-020*, *Use Permit Amendment UP07-020*, and *Reclamation Plan Amendment RP07-002* were approved by the County. In addition, a California Environmental Quality Act (CEQA) Mitigated Negative Declaration, with findings specifically set forth in *Planning Commission Resolution Nos. 2008-066* and *2008-067* were adopted, for the various entitlements approved in 2008.

The mine operator proposes a primary project area of approximately 179.97 acres. In addition, an approximate area of 1.77 acres was evaluated as a project component at the intersection of SR-299 and Iron Mountain Road for potential project-related turn lane and bicycle improvements. The existing

approved Use Permit 07-020 and Reclamation Plan 07-002 areas will be maintained but modified to increase the amount of aggregate to be mined. The project proposes to amend Use Permit 07-020 to modify the design, but not the boundaries of the existing Mining Area or quarry of approximately 57.31 acres and the Plant Area of approximately 53.38 acres, which total 110.69 acres that will remain as the Reclamation Plan area with associated boundaries. In addition, the Use Permit area is proposed to be expanded by an additional 69.28 acres referenced as the remaining Mineral Resource Area (MR). Proposed uses within the expanded use permit area include, but are not limited to, providing access to and from the mining area via existing natural surfaced roads and trails; providing a shaded fuel break; and partially serving to buffer lands to the south, west, and north from noise, light, and other mining-related activities.

The total aggregate amount to be processed for sale yearly is proposed to increase from 250,000 to 500,000 tons. The estimated amount proposed to be mined will increase from 15.92 to 25.4 million tons over three phases. Extraction for Phases 1, 2, and 3 will be 4.84, 5.42, and 2.15 million cubic yards per phase, respectively. The estimated life of the mining operation will increase from the currently approved end of the Year 2072 by 30 years to the end of the Year 2102.

The proposed project also includes improvements at the SR-299/Iron Mountain Road intersection that would result in increasing the westbound right turn pocket length to 315 feet with a 120-foot taper. Additionally, with the right turn modification, a 5-foot bike lane adjacent to the outside westbound through lane will be provided to accommodate bike traffic through the intersection.

- 10. Surrounding Land Uses and Setting:** The existing quarry is located in an industrial area south of the community of Keswick. Surrounding land uses consist of industrial to the east, industrial and BLM to the north, low-density residential to the northeast and southeast, vacant BLM to the northwest, and undeveloped land to the south and west.

The topography of the existing quarry floor has been made relatively flat by the removal of the aggregate material over the years. The existing bowl-shaped quarry face extends upslope and to the west from the quarry floor with horizontal benches having been or to be established as excavation proceeds to the extent of the existing quarry boundary. There is an approximate 200-foot change in elevation from the existing quarry floor to what would be the top of the quarry face based on the current mining plan.

The project site is located within the boundary of the 2018 Carr Fire. Prior to the area being impacted by the Carr Fire, the primary vegetation type present in unmined portions of the project site and vicinity was predominantly knob cone pine and chaparral with scattered oaks and ponderosa pine. In areas where the fire burned with lesser intensity, the composition of species remains as it existed prior to the fire. Currently, in un-mined portions of the project site and vicinity where the fire burned with greater intensity, vegetation consists mostly of secondary successional vegetation.

- 11. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):**

California Department of Fish and Wildlife (CDFW)

California Department of Forestry and Fire Protection (CAL FIRE)

California Department of Resources Recycling and Recovery (CalRecycle)

California Department of Transportation (Caltrans)
California Department of Toxic Substances Control (DTSC)
California Division of Mine Reclamation (DMR)
California Division of Occupational Safety and Health (Cal OSHA)
California Regional Water Quality Control Board (RWQCB)
Shasta County Air Quality Management District (SCAQMD)
Shasta County Department of Public Works (DPW)
Shasta County Environmental Health Division (SCEHD)
Shasta County Building Division
Shasta County Fire Department (SCFD)
Shasta County Sheriff's Office (SCSO)

12. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

Consultation and correspondence with various culturally affiliated Tribal groups and agencies were conducted as in accordance with Public Resources Code (PRC) Section 21080.3.1 (AB 52). On October 7, 2019, the County initiated environmental review under the California Environmental Quality Act (CEQA) for the proposed Crystal Creek Aggregate project. The County sent certified project notification letters to the Wintu Tribe of Northern California, a California Native American Tribe that is traditionally and culturally affiliated with the geographic area of the proposed project, and the Toyon-Wintu Center, on October 7, 2019, pursuant to PRC Section 21080.3.1. The letters notified the Tribes that the project was under review and provided the Tribes 30 days from the receipt of the letter to request consultation on the project in writing. No responses were received requesting initiation of consultation under the provisions of AB 52.

Note: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process (see PRC Section 21080.3.2.). Information may also be available from the California Native American Heritage

Commission's Sacred Lands File per PRC Section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that PRC Section 21082.3(c) contains provisions specific to confidentiality.

Information contained in the Archaeological Inventory Survey – Crystal Creek Aggregate Licensing and Reclamation Project, 150 acres along Iron Mountain Road, Shasta County, California (Genesis, 2006); Cultural Resources Inventory Report – Crystal Creek Aggregate Licensing and Reclamation Project, circa 28.46 acres, Shasta County, California (Genesis, 2019); and Cultural Resources Inventory Report – SR-299/Iron Mountain Road Intersection Improvement Project, circa 15 acres, Shasta County, California (Genesis, 2020) related to the specific location of prehistoric and historic sites is confidential and exempt from the Freedom of Information Act (FOIA) and the California Public Records Act (CPR); therefore, site specific cultural resource investigations are not attached to this Initial Study. Professionally qualified

individuals, as determined by the California Office of Historic Preservation, may contact the Shasta County Department of Resource Management, Planning Division directly in order to inquire about its availability.

13. Purpose of this Document: This document analyzes the environmental effects of the proposed Crystal Creek Aggregate use permit and reclamation plan amendments and makes appropriate findings in accordance with Section 15070 of the State CEQA Guidelines. In addition, this document has been prepared to the degree of specificity appropriate to the current proposed action, as required by Section 15146 of the State CEQA Guidelines. The analysis considers the actions associated with the proposed project to determine the short-term and long-term effects associated with their implementation.

14. List of Attachments:

Attachment A – Comprehensive Project Overview

Attachment B – 2008 Approved Conditions

Attachment C – Agency Responses to Referrals

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact” as indicated by the checklist on the following pages.


	Aesthetics		Agricultural Resources		Air Quality
	Biological Resources		Cultural Resources		Energy
	Geology / Soils		Greenhouse Gas Emissions		Hazards & Hazardous
	Hydrology / Water Quality		Land Use / Planning		Mineral Resources
	Noise		Population / Housing		Public Services
	Recreation		Transportation		Tribal Cultural Resources
	Utilities / Service Systems		Wildfire		Mandatory Findings of Significance

DETERMINATION: (To be completed by the Lead Agency)

On the basis of the initial evaluation:

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

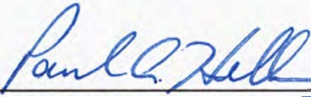
Copies of the Initial Study and related materials and documentation may be obtained at the Planning Division of the Department of Resource Management, 1855 Placer Street, Suite 103, Redding, CA 96001. Contact Tara Petti, Senior Planner, at (530) 225-5532.



Tara Petti
Senior Planner

8/7/23

Date



Paul A. Hellman
Director of Resource Management

8/7/23

Date

Section 1 – Introduction and Purpose

1.1 Introduction

Shasta County (County), as the Lead Agency, has prepared this Initial Study to provide the general public and interested public agencies with information about the potential environmental impacts of proposed Amendment (AMND) 23-0003 and Amendment (AMND) 23-0004 (proposed project). Details about the proposed project are included in Section 2.0, PROJECT DESCRIPTION, of this Initial Study. This Initial Study has been prepared in accordance with the California Environmental Quality Act (CEQA) of 1970 (as amended), codified in California Public Resources Code Section 21000 *et seq.*, and the State CEQA Guidelines (California Code of Regulations, Title 14, Division 6, Chapter 3). Pursuant to these regulations, this Initial Study identifies potentially significant impacts and, where applicable, includes mitigation measures that would reduce all identified environmental impacts to less than significant levels. Mitigation measures have been proposed to avoid or minimize any significant impacts that were identified. This Initial Study supports a MND pursuant to CEQA Guidelines Section 15070.

1.2 Lead Agency

The Lead Agency is “*the public agency which has the principal responsibility for carrying out or approving a project,*” which may be subject to CEQA (PRC Section 21067). Accordingly, the Shasta County is the CEQA Lead Agency.

1.3 Purpose of the Initial Study

CEQA requires that public agencies document and consider the potential environmental effects of the agency’s actions that meet CEQA’s definition of a “project.” Briefly summarized, a “project” is an action that has the potential to result in direct or indirect physical changes in the environment. A project includes the agency’s direct activities as well as activities that involve public agency approvals or funding. Guidelines for an agency’s implementation of CEQA are found in the “CEQA Guidelines” (Title 14, Chapter 3 of the California Code of Regulations).

Provided that a project is not exempt from CEQA, the first step in the agency’s consideration of its potential environmental effects is the preparation of an Initial Study. The purpose of an Initial Study is to determine whether the project would involve “significant” environmental effects, as defined by CEQA, and to describe feasible mitigation measures that would avoid significant effects or reduce them to a level that is less than significant. If the Initial Study does not identify significant effects, then the agency prepares a Negative Declaration. If the Initial Study notes significant effects but also identifies mitigation measures that would reduce these significant effects to a level that is less than significant, then the agency prepares a Mitigated Negative Declaration. If a project would involve significant effects that cannot be readily mitigated, then the agency must prepare an Environmental Impact Report. The agency may also decide to proceed directly with the preparation of an Environmental Impact Report without an Initial Study.

The proposed project is a “project” as defined by CEQA and is not exempt from CEQA consideration. The County has determined that the project may potentially have significant environmental effects and

therefore would require preparation of an Initial Study. This Initial Study describes the proposed project and its environmental setting, discusses the potential environmental effects of the project, and identifies feasible mitigation measures that would eliminate any potentially significant environmental effects of the project or reduce them to a level that would be less than significant.

This Initial Study is a public information document that describes the proposed project, existing environmental setting at the project site, and potential environmental impacts of construction and operation of the proposed project. It is intended to inform the public and decision-makers of the proposed project's potential environmental impacts and to document the lead agency's compliance with CEQA and the State CEQA Guidelines.

This Initial Study concludes that the project would have potentially significant environmental effects, all of which would be avoided or reduced to a level that would be less than significant with recommended mitigation measures. The project applicant has accepted all the recommended mitigation measures. As a result, the County has prepared a Mitigated Negative Declaration and has issued a Notice of Intent to adopt the Mitigated Negative Declaration for the project. The time available for public comment on the Initial Study and Mitigated Negative Declaration is shown on the Notice of Intent.

1.4 Incorporation by Reference

In accordance with Section 15150 of the State CEQA Guidelines to reduce the size of the report, the following documents are hereby incorporated by reference into this Initial Study and are available for public review at the Shasta County Planning Department. A brief synopsis of the scope and content of each of these documents is provided below.

Shasta County General Plan

The Shasta County General Plan (General Plan) is a statement of public policy reflecting the aspirations and values of Shasta County residents which is adopted by their elected representatives. The General Plan, amended 2004, identifies strategies, policies, and implementation recommendations for land use within its planning area. The General Plan is a long-range comprehensive plan that governs growth and development in the unincorporated areas of Shasta County. The function of the General Plan is to provide a policy framework that must be reflected in the zoning ordinance, specific plans, and other development guidelines.

Shasta County Zoning Ordinance

The Shasta County Zoning Plan, amended 2003, is a tool to assist the County in attaining goals identified in the Shasta County General Plan. The Shasta County Zoning Plan consists of the establishment of various zoning districts to be used within the unincorporated territory of the County. As a legal instrument, the zoning map has immediate force and effect and is one of the key tools in implementing the General Plan's policies. The purpose of the Shasta County Zoning Plan provisions is to promote and protect the public health, safety, peace, morals, comfort, convenience, and general welfare; to implement the Shasta County General Plan, and to facilitate and guide growth in accordance with the Shasta County General Plan; and to protect the social and economic stability of residential, commercial, industrial, resource production, and recreational.

Shasta County Multi-Jurisdictional Hazard Mitigation Plan

The purpose of the *Shasta County Multi-Jurisdictional Hazard Mitigation Plan (2023)* is to implement and sustain actions that reduce vulnerability and risk from hazards or reduce the severity of the effects of hazards on people and property. Mitigation actions are both short-term and long-term activities, which reduce the cause or occurrence of hazards; reduce exposure to hazards or reduce effects of hazards through various means to include preparedness, response, and recovery measures.

Regional Transportation Plan & Sustainable Communities Strategy for the Shasta Region

Shasta Regional Transportation Agency (SRTA) is the federally-designated metropolitan planning organization (MPO) and state-designated regional transportation planning agency (RTPA) for Shasta County. SRTA is required to prepare and adopt a comprehensive regional transportation plan (RTP) covering a minimum 20-year planning horizon. The RTP for Shasta County is updated every four years. The purpose of the RTP is to “encourage and promote the safe and efficient management, operations, and development of a regional intermodal transportation system that, when linked with appropriate land use planning will serve the mobility needs of goods and people.” The RTP is implemented by way of short-term transportation improvement and work programs. The 2018 *Regional Transportation Plan & Sustainable Communities Strategy for the Shasta Region* reflects the latest updated.

Shasta County 2010 Bicycle Transportation Plan

The Shasta County *2010 Bicycle Transportation Plan (BTP)* provides the long-term framework to improve and encourage bicycle transportation throughout Shasta County. The overall goal of the BTP is to provide a safe, effective, efficient, balanced, and coordinated bicycling system that serves the needs of the people within the unincorporated region of Shasta County. The BTP supports the bicycle transportation goals within the general plans of Shasta County, and the cities of Anderson, Redding, and Shasta Lake. Additionally, the BTP provides a transportation environment that encourages and promotes non-motorized means of transportation.

General Plan Amendment GPA07-005, Zone Amendment Z07-020, Use Permit Amendment UP07-020, and Reclamation Plan Amendment RP07-002

In 2008 the County approved a Mitigated Negative Declaration (SCH No. 2008052029) for *General Plan Amendment GPA07-005, Zone Amendment Z07-020, Use Permit Amendment UP07-020 and Reclamation Plan Amendment RP07-002*. The Mitigated Negative Declaration evaluated environmental impacts associated with amending the General Plan land use designation on 115 acres from “N-O” (Natural Resource Protection – Open Space) to “MR” (Mineral Resource); rezoning the same 115 acres from “U” (Unclassified) to “MR” (Mineral Resource); expanding the quarry area from 53.57 acres to 110.24 acres; extending the termination date of the operation from February 22, 2010, to December 31, 2072; amending the reclamation plan to include expansion of the quarry by 56.67 acres; and the processing of up to 250,000 tons per year. *Planning Commission Resolution Nos. 2008-066 and 2008-067* were also adopted, approving the entitlements. For evaluation purposes, the approved *General Plan Amendment GPA07-005, Zone Amendment Z07-020, Use Permit Amendment UP07-020, Reclamation Plan Amendment RP07-002*, and subsequent ongoing onsite mining activities authorized by the entitlements reflect the existing or baseline permitted condition of this Initial Study.

1.5 Project Environmental Studies

As part of the preparation of this Initial Study, the following studies were prepared or utilized to develop baseline information and project-related impact discussions and will be considered as part of the record of decision for the Mitigated Negative Declaration. Hard copies of these studies are available for inspection at the Shasta County Planning Department, 1855 Placer Street, Redding California 960001, during normal business hours (8:00 a.m. to 5:00 p.m. Monday through Friday).

- *Mining and Reclamation Plan Amendment for Crystal Creek Aggregate, Inc.*, prepared by The Land Designers, November 2022.
- *Air Quality Technical Report*, prepared by RCH Group, November 2022.
- *Biological Resource Assessment, Terrestrial and Aquatic Wildlife and Botanical Resources, Crystal Creek Aggregate Mine*, prepared by Gallaway Enterprises, October 2022.
- *Draft Delineation of Aquatic Resources, Crystal Creek Aggregate Mine*, prepared by Gallaway Enterprises, September 2022.
- *Highway 299 Intersection Improvements Project Biological Resource Assessment*, prepared by Gallaway Enterprises, July 2022.
- *Archaeological Inventory Survey – Crystal Creek Aggregate Licensing and Reclamation Project, 150 acres along Iron Mountain Road, Shasta County, California*, prepared by Genesis Society, November 1, 2006.
- *Cultural Resources Inventory Report – Crystal Creek Aggregate Licensing and Reclamation Project, circa 28.46 acres, Shasta County, California*, prepared by Genesis Society, August 28, 2019.
- *Cultural Resources Inventory Report – SR-299/Iron Mountain Road Intersection Improvement Project, circa 15 acres, Shasta County, California*, prepared by Genesis Society, January 17, 2020.
- *Geotechnical Report, Crystal Creek Aggregate Quarry Expansion, Shasta County, California*, prepared by Bajada Geosciences Inc., September 2, 2022.
- *Hydrologic Evaluation for Proposed Quarry Changes, Crystal Creek Aggregate, Inc.*, prepared by Lawrence & Associates, August 2020.
- *Environmental Noise and Vibration Assessment, Crystal Creek Aggregate Expansion Project, Shasta County, California*, prepared by Bollard Acoustical Consultants, Inc., August 24, 2022.
- *Final Draft Traffic Impact Analysis Report – Crystal Creek Aggregates Expansion*, prepared by GHD, Inc., December 7, 2022.

Information contained in the cultural resources inventory reports identified above (Genesis, 2006; 2019; 2020) related to the specific location of prehistoric and historic sites is confidential and exempt from the Freedom of Information Act (FOIA) and the California Public Records Act (CPRA); therefore, this information is not an attachment to this Initial Study. Qualified professions, as determined by the California Office of Historic Preservation, may contact the Shasta County Planning Department directly to inquire about its availability.

1.6 Environmental Review Process

This Initial Study is being circulated for public and agency review as required by CEQA. Because State agencies will act as responsible or trustee agencies, the County will circulate the Initial Study to the State Clearinghouse of the Governor's Office of Planning and Research for distribution and a 30-day review period. During the review period, written comments may be submitted to:

Shasta County
Department of Resource Management
Planning Division
1855 Placer Street
Redding, CA 96001

Tara Petti
tpetti@co.shasta.ca.us
Phone: (530) 225-5532

Section 2 – Project Description

2.1 Project Location and Setting

Regional Setting

The project is located in Shasta County in northern California, approximately 188 miles northeast of San Francisco and approximately 100 miles south of the Oregon border. Shasta County occupies the northern reaches of the Sacramento Valley, with portions extending into the southern reaches of the Cascade Range (see Figure 1, PROJECT LOCATION). Topography within the County ranges from the flat valley area in and around the City of Redding and project site, approximately 300 to 500 feet above mean sea level (msl), to steep mountainous areas including Mount Lassen which is 10,455 feet above msl. Mount Shasta is approximately 60 miles to the north and is within Siskiyou County which borders Shasta County to the north. The Sacramento River is the major watercourse within the County, flows out of the Cascade mountains to the north and through the center of the County and south into the Sacramento Valley.

Local Setting

The project area is located in the foothills transitioning between the northern Sacramento Valley and the Klamath Mountains in a rural area unincorporated area of Shasta County approximately two miles west of the City of Redding. The project site is located approximately one mile south of the unincorporated Community of Keswick which was severely impacted by the Carr Fire which started in July 2018 which destroyed 48 of the 50 residences in the town proper (Arthur, 2018). The Sacramento River is located approximately one mile east of the existing quarry (see Figure 2, SITE VICINITY).

Vacant U.S. Bureau of Land Management (BLM) lands are the predominant land use to the northwest and west of the project site comprising approximately 260 acres generally comprised of mixed chaparral and montane hardwood-conifer habitat. Similar to the areas north of the project site, the eastern area is comprised of mixed chaparral and montane hardwood-conifer habitat. Topography ranges from relatively level areas along Iron Mountain Road to generally hilly within the developed areas to very steep topography on the BLM lands. The French Fry Trail traverses BLM lands west of the site. Land abutting the southern boundary of the project site is primarily mixed chaparral with less area of montane hardwood-conifer habitat. Most of the undisturbed portion of the project site, including most of the surrounding area is currently in a state of regeneration after the Carr Fire.

Project Location

The project site is located at 10936 Iron Mountain Road (APNs 065-250-031 and 065-250-032) approximately one-mile northwest of the Iron Mountain Road and State Route 299 (SR-299) intersection. The Whiskeytown National Recreation Area is approximately 3.75 miles to the west via SR-299. The project site is situated approximately 550 feet west of the intersection of Iron Mountain Road and Laurie Anne Lane (see Figure 3, AERIAL PHOTOGRAPH). Rock Creek is located approximately 3,250 feet to the north and Middle Creek is located approximately 3,700 feet south of the property. The Sacramento River is located approximately one mile to the east.

Existing Conditions

The proposed project encompasses approximately 179.97 acres that includes the existing approved 110.69-acre Use Permit and Reclamation Plan areas and an additional 69.28 acres which results in the proposed expanded use permit area. The 110.69-acre area is comprised of the 57.31-acre area where currently approved aggregate mining activities take place and the existing 53.38-acre Plant Area where aggregate material processing occurs. The additional 69.28 acres are referenced as the remaining Mineral Resource Area (MR) (see Figure 4, COMPREHENSIVE PROJECT PLAN OVERVIEW, which identifies the existing Reclamation Plan boundary which includes the Existing Mining and Plant Areas; and Figure 5, USE PERMIT EXISTING PLAN, that identifies existing site conditions). The following provides a discussion of the project site, including the 57.31-acre Mining Area, 53.38-acre Plant Area, and the proposed 69.28-acre MR area.

Elevations within the project site range from 1,210 feet above mean sea level (msl) in the northwesterly area to 715 feet msl at the stormwater sampling point below Pond No. 3 in the southeastern portion, an elevation change of 495 feet msl. The property is comprised of two distinct topographic areas, the relatively level aggregate processing plant and stockpile areas in the eastern portion and hilly to steep slopes in the northern, western, and southern areas of the project site within which the Mining Area is located that is surrounded by the MR area along all but the eastern side where the Plant Area is located. The surrounding natural land is hilly to very steep mixed chaparral and montane hardwood-conifer habitat that is currently in a state of regeneration after the Carr Fire.

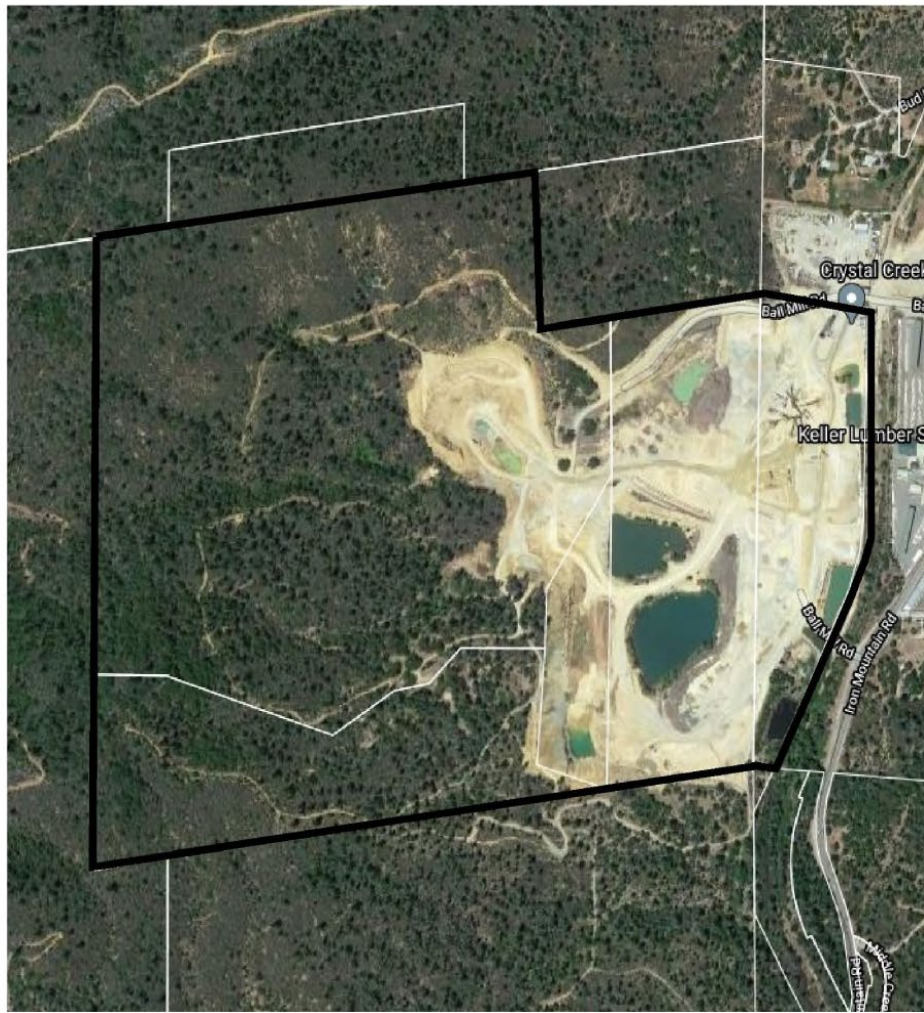
The Mining Area of 57.31 acres is configured as a bowl surrounded by hills and ridges on its western, southern, and northern sides which comprises the proposed MR area. The bowl has a number of hillocks and drainages traversing through it. The terrain ranges from moderate to steep slopes with the lesser steep areas having slopes of eight per cent, which then steepen to hillsides with slopes of up to 50 percent. Drainage flows from the hillsides to the lower central area of the mine site, which then conveys all runoff to Pond No. 4.

The proposed 69.28-acre MR area also has hillocks and drainages traversing through it; however, the terrain in the northern and western portions are steeper with slopes of over 40 percent whereas the southeast area has slopes of eight percent. Drainage flows from this area through the mine site conveying runoff to Pond No. 4.

The existing Plant Area of approximately 53.38 acres is a relatively level bench created by previous industrial uses and current mining activities. Aggregate material processing and stockpiling occurs in this area. This area slopes generally to the southeast, at about two percent, to where three settling ponds are located. These ponds capture and treat stormwater before flowing into an unnamed intermittent drainage which is tributary to Middle Creek, approximately 3,700 feet to the south.

A portion of the Plant Area drainage flows west to Ponds No. 4 and No. 5. Pond No. 5 does not have an above ground discharge point. The distance between the ponds is approximately 110 feet. Subsurface water flows between the two ponds through cracked rock. Pond No. 4 discharges into a 36-inch culvert on the eastern side of the pond. Whereas Pond No. 5 is used to provide supplemental water to the aggregate processing plant, the pump and pipeline at this pond convey water to the aggregate processing plants recycle ponds. Water from the recycle ponds is pumped back into the adjacent wash plant to clean the aggregate. The water then flows back to the recycle ponds where the sediment settles, and the process is repeated. Pond No. 5 also provides makeup water for the water loss during the washing of material at the wash plant (LAA, 2022).

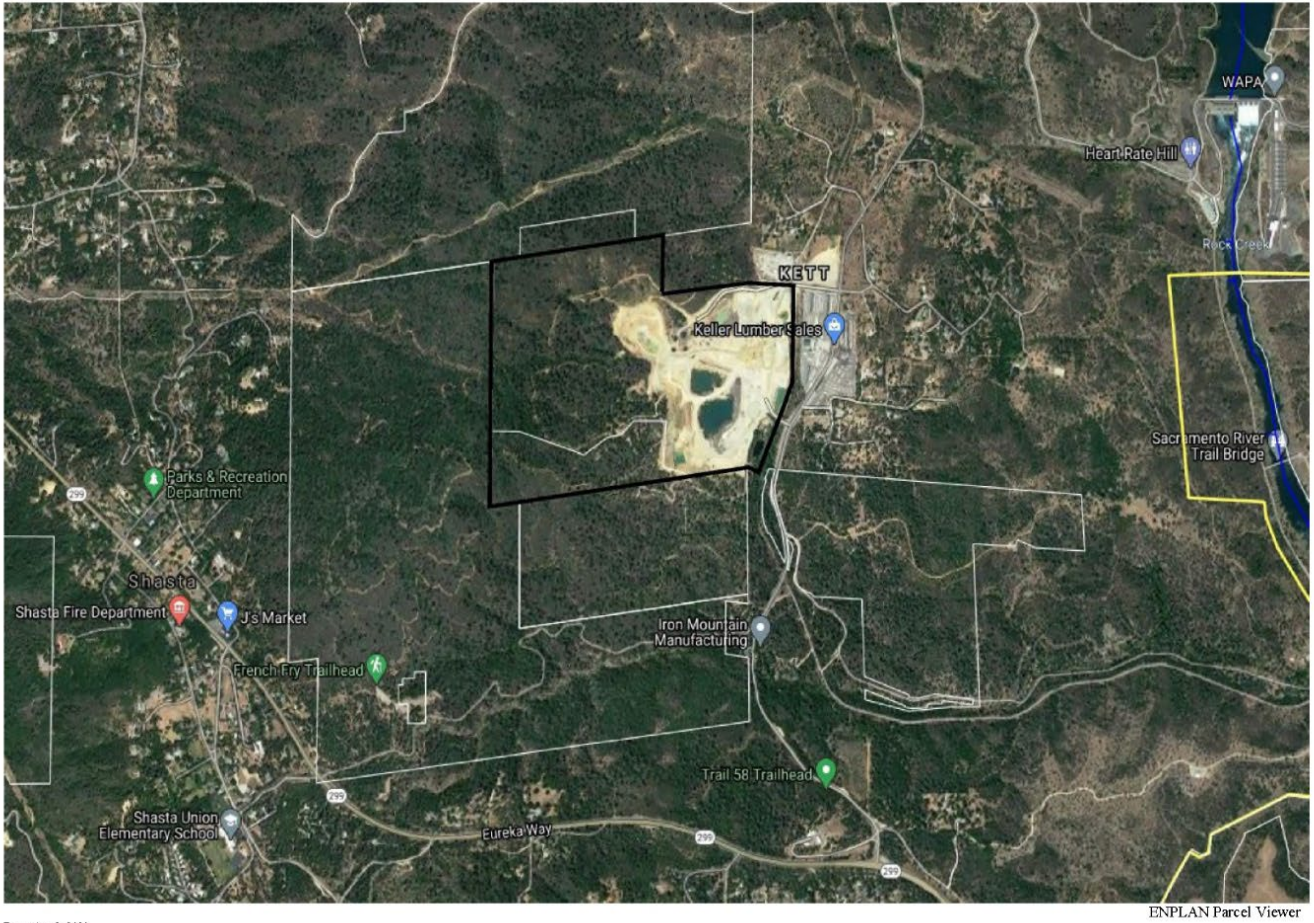
All structures, including the office, processing equipment and petroleum storage facilities are located in the northern half of the Plant Area. The primary vehicular access road is located at the northeastern corner of the property. This road ranges in width between 22 feet and 44 feet, which is paved with a lockable gate at the property line. A second access road also along the eastern property line is located about 1,400 feet south of the primary entrance. This road is also paved and has a lockable gate. Both roads connect to Iron Mountain Road, a County public road.



California & Shasta County Locations by rkBaron Geovisuals



FIGURE 1, PROJECT LOCATION



December 2, 2020

ENPLAN Parcel Viewer



FIGURE 2, SITE VICINITY



ENPLAN Parcel Viewer

December 2, 2020



FIGURE 3, AERIAL PHOTOGRAPH

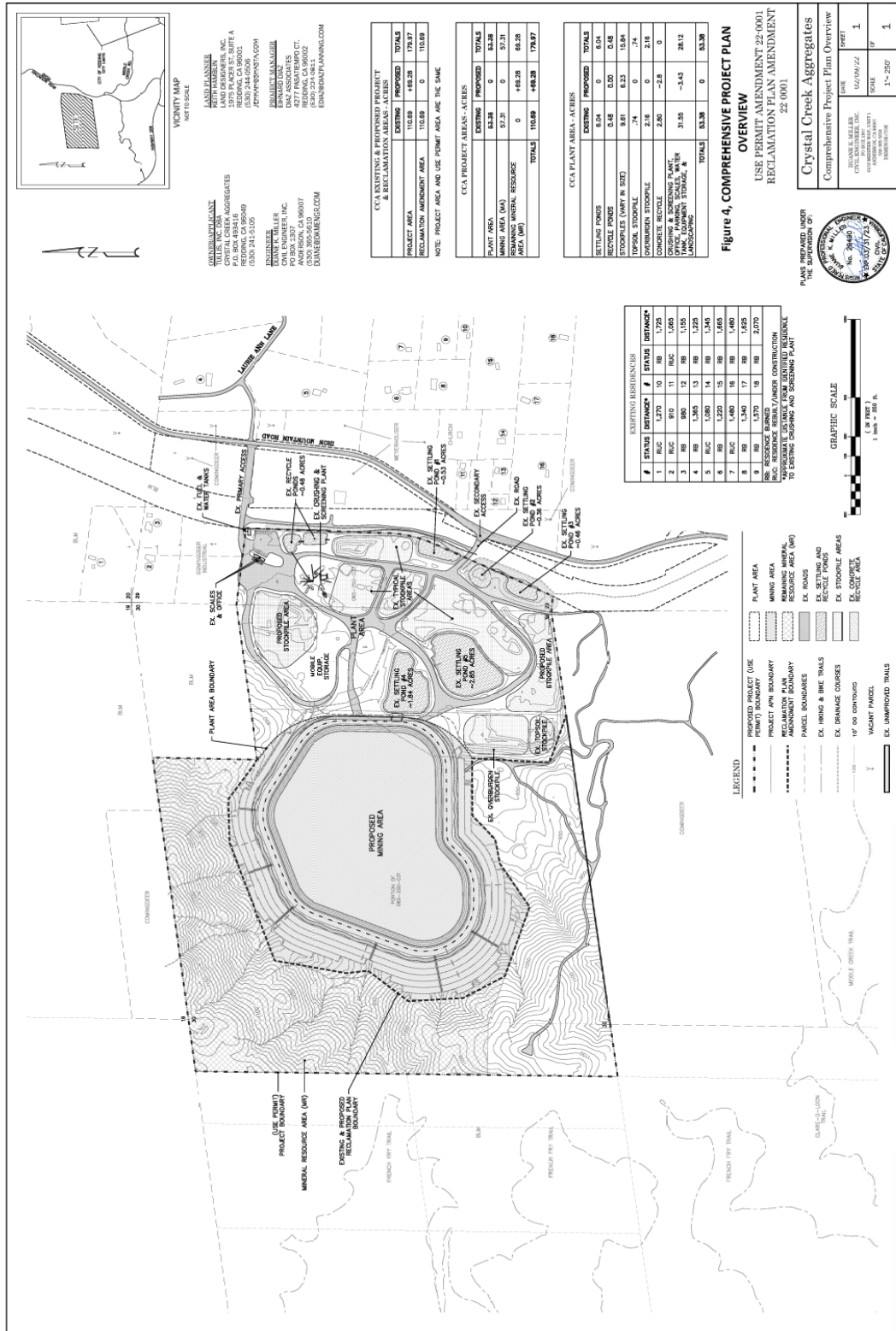


Figure 4, COMPREHENSIVE PROJECT PLAN OVERVIEW

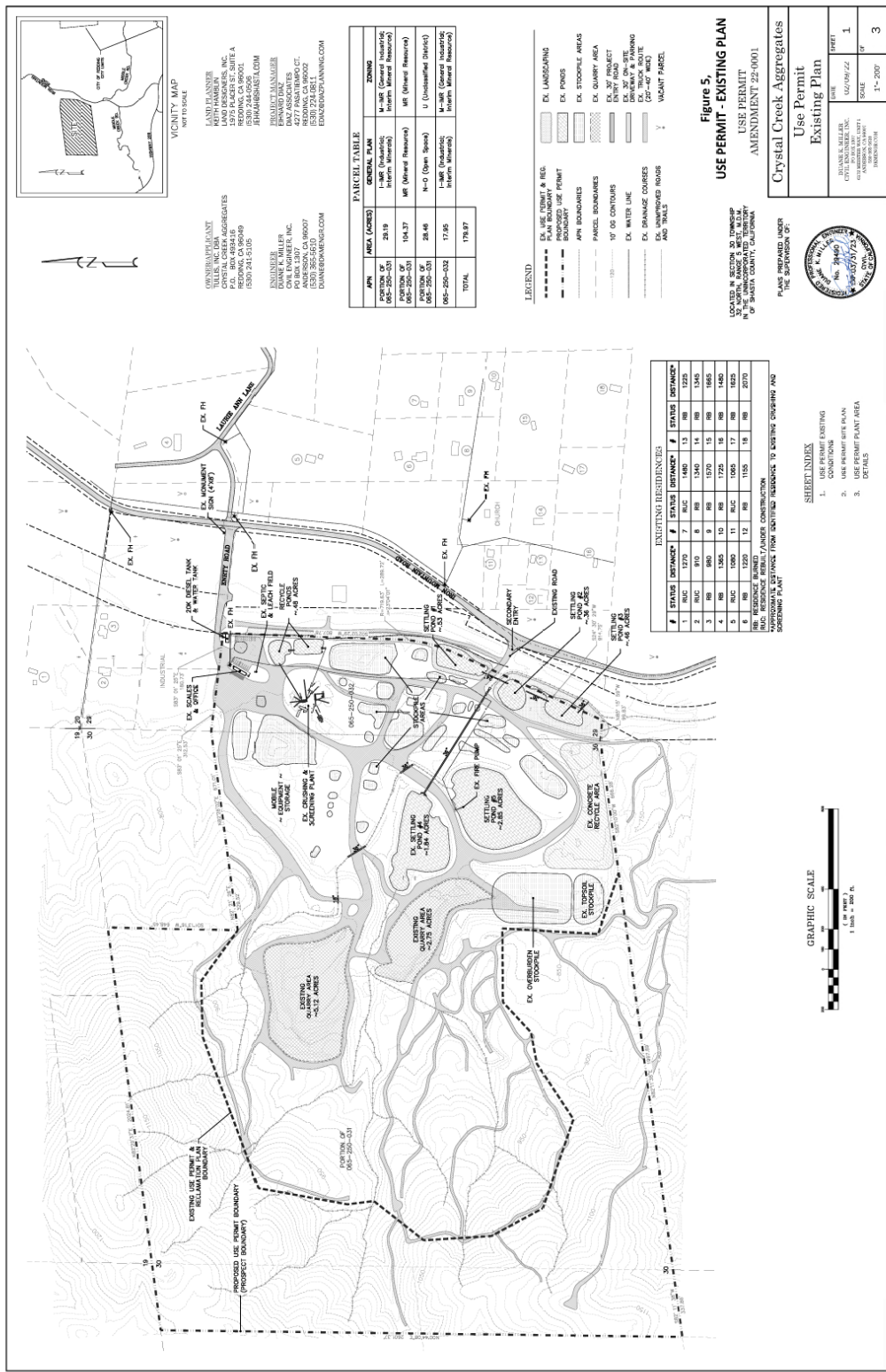


Figure 5, USE PERMIT-EXISTING PLAN

General Plan and Zoning

California Government Code Section 6586021 requires zoning to be consistent with the general plan. Consistency with the general plan is possible only if the local government, in this case Shasta County, has officially adopted a general plan. The current Shasta County General Plan was adopted in September 2004. The land uses authorized in the Shasta County Zoning Plan must then be compatible with the objectives, policies, general land uses, and programs specified in the Shasta County Zoning Plan.

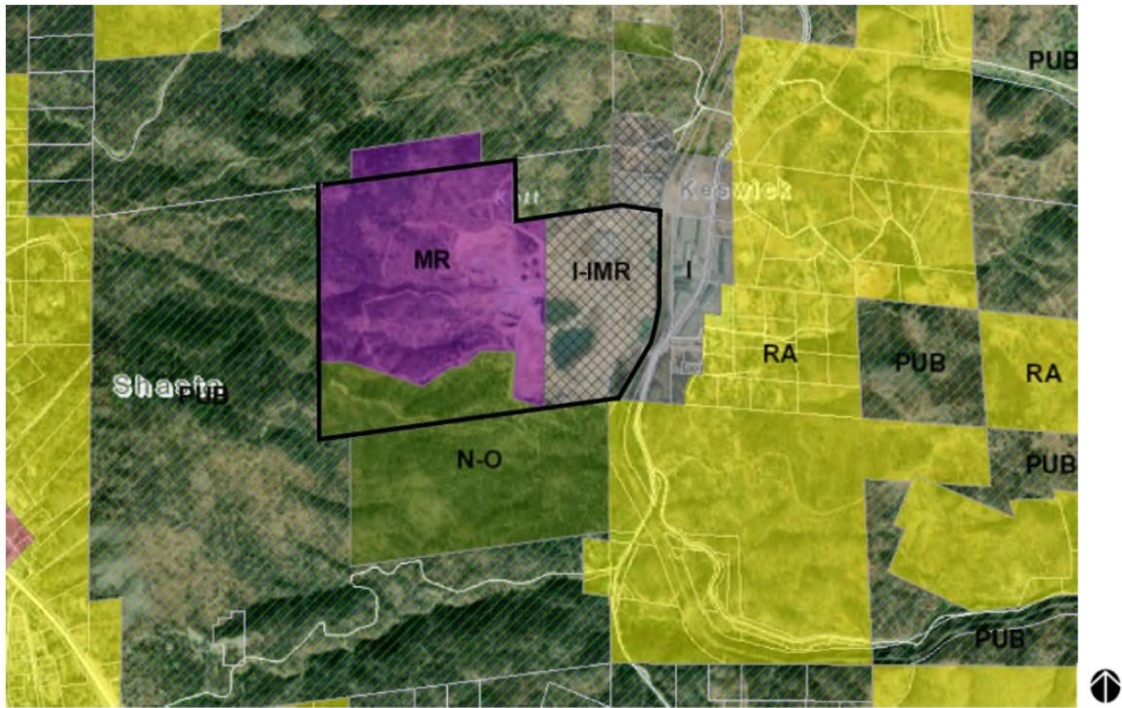
The existing general plan and zoning designations of the project area are supported by the *1997 Mineral Land Classification for Shasta County* by the State of California Department of Conservation (DOC) that classified the existing operation and adjacent lands to the west and south as “MRZ-2” (Mineral Resource Zone Category) “*wherein lands classified as MRZ-2 are areas that contain identified mineral resources.*” The following General Plan and zoning designations apply to the project site (see Figure 6, EXISTING GENERAL PLAN & ZONING).

Existing General Plan

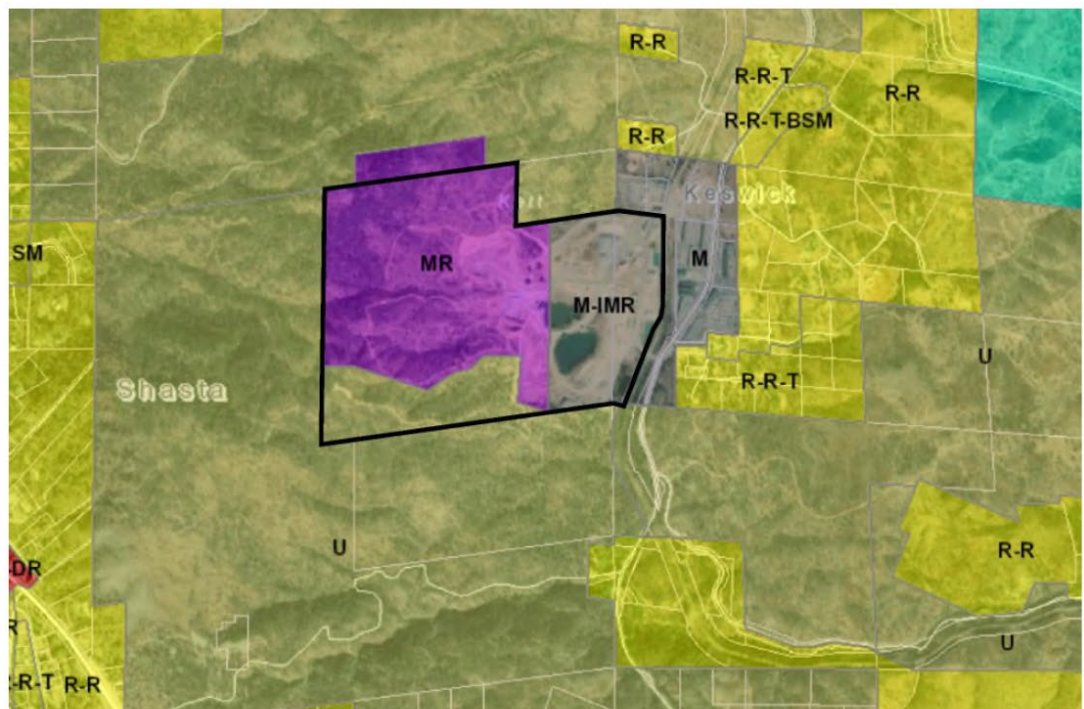
The Shasta County General Plan planning area is divided into 10 Planning Areas. The proposed project is located within the South-Central Region Planning Area. Chapter 3 of the Shasta County General Plan identifies three distinct types of communities: Urban Center, Town Center, and Rural Community Center. The proposed project site is not within any of these community types; however, it is located near the Rural Community Centers of Shasta/Keswick with Shasta being approximately 2.5 miles to the south and west via Iron Mountain Road and SR-299 and Keswick located approximately 1.5 miles north via Iron Mountain Road. The Shasta County General Plan designates the proposed project site as “I-IMR” (Industrial – Interim Mineral Resource), “MR” (Mineral Resource), and “N-O” (Natural Resource Protection – Open Space).

Existing Zoning

The Plant Area, including the office, crushing, screening, and washing facilities are all located in the “M-IMR” (General Industrial combined with Interim Mineral Resource) zone district. The mining area and the existing topsoil stockpiles are located in areas classified and classified as “MR” (Mineral Resource). The southern portion of the site is classified as “U” (Unclassified).



EXISTING GENERAL PLAN LAND USE CLASSIFICATIONS



EXISTING ZONING DESIGNATIONS



FIGURE 6, EXISTING GENERAL PLAN LAND USE CLASSIFICATIONS & ZONING DESIGNATIONS

2.2 2008 Initial Study / Mitigated Negative Declaration Findings

The existing quarry was initially permitted in 1990 under Shasta County *Use Permit UP24-90* and *Reclamation Plan RP1-90*. Subsequently, in 2008 *General Plan Amendment GPA07-005*, *Zone Amendment ZA07-020*, *Use Permit Amendment UP07-020*, and *Reclamation Plan Amendment RP07-002* were approved for the following:

- Amend the General Plan land use designation of two parcels totaling approximately 115 acres from “N-O” (Natural Resource Protection – Open Space) to “MR” (Mineral Resource).
- Rezone the same 115 acres from “U” (Unclassified) to the “MR” (Mineral Resource) zone district.
- Amend the use permit for an existing quarry mining operation to extend the termination date of the operation from February 22, 2010, to December 31, 2072, and to expand the quarry area from 53.57 acres to 110.69 acres.
- Amend the reclamation plan to include expansion of the quarry by 56.67 acres.
- Processing of up to 250,000 tons per year to occur in six phases encompassing approximately ten years per phase, except for the last phase which was for 15 years.

In addition, a California Environmental Quality Act (CEQA) Mitigated Negative Declaration, with findings specifically set forth in *Planning Commission Resolution Nos. 2008-066* and *2008-067* were also adopted, approving the various entitlements. Potential impacts were determined to have no impact, a less than significant impact, or result in a less than significant impact with mitigation incorporated. As previously discussed above under Section 1.0, INTRODUCTION AND PURPOSE, the approved *General Plan Amendment GPA07-005*, *Zone Amendment ZA07-020*, *Use Permit Amendment UP07-020*, *Reclamation Plan Amendment RP07-002*, and subsequent onsite mining activities authorized by these entitlements reflect the existing or baseline environmental condition for which impacts are assessed as part of this Initial Study.

2.3 Proposed Project

The mine operator proposes to expand its existing aggregate mining operation at its current location.

Project Characteristics

The mine operator proposes a primary project area of approximately 179.97 acres. In addition, an approximate area of 1.77 acres was evaluated as a project component at the intersection of SR-299 and Iron Mountain Road for potential project-related turn lane and bicycle improvements. The existing approved Use Permit 07-020 and Reclamation Plan 07-002 areas will be maintained but modified to increase the amount of aggregate to be mined. AMND23-0003 proposes to modify the design, but not the boundaries of the existing mining area or quarry of approximately 57.31 acres and the Plant Area of approximately 53.38 acres, which total 110.69 acres that will remain as the Reclamation Plan area with associated boundaries. In addition, the Use Permit area is proposed to be expanded by an additional 69.28 acres referenced as the remaining Mineral Resource area (MR). Proposed uses include, but are not limited to, providing access to and from the mining area via existing natural

surfaced roads and trails; providing a shaded fuel break; and partially serving to buffer lands to the south, west, and north from noise, light, and other mining-related activities.

The total aggregate amount to be processed for sale yearly is proposed to increase from 250,000 to 500,000 tons. The estimated amount proposed to be mined will increase from 15.92 million tons to 25.4 million tons over three phases. Extraction for Phases 1, 2, and 3 will be 4.84, 5.42, and 2.15 million cubic yards per phase, respectively. The estimated life of the mining operation will increase from the currently approved end of the Year 2072 by 30 years to the end of the Year 2102.

No additional project-related structures are proposed except for an approximate 200-square-foot hazardous materials storage shed. The existing Concrete Recycle Area location and operation for which an administrative permit was issued and subsequently reissued by the County due to the Carr Fire is proposed to be removed as a project component. The estimated 2.80-acre area is proposed to be used for aggregate stockpiling. The material and topsoil stockpiles will remain in their current general location, expanding and contracting as part of the mining operation.

The existing scales and office locations, rock crushing, screen and washing operational, primary, and secondary entrances/exits, diesel fuel storage tanks, waste oil tank, two motor oil and one lubricating oil tank, and five settling and two recycle ponds will remain. Employee and guest parking spaces are proposed to increase from nine to 18 spaces. The number of full-time employees will increase from eight to nine with one part-time employee. All existing and proposed uses are allowed under the current general plan and zoning designations.

Even though the amount of aggregate to be mined will increase, the existing hours of operation will not. Normal mining and processing activities occur up to 6 days per week, Monday through Saturday. Current hours of operation are from 6:00 a.m. to 5:00 p.m. during pacific standard time. During daylight savings time, hours are from 6:00 a.m. to 6:00 p.m., Monday through Friday and 6:00 a.m. to 5:00 p.m. on Saturdays. Yearly blasting maximums will increase from 12 to 24 times per year. The average height of the highwalls will increase from 22 feet high to 40 feet, except for one highwall at 44 feet. Bench widths are also being increased from 30 to 40 feet, except for the bench along the pond's perimeter, which will be increased to 60 feet in width. The pond surface area will increase from 23.49 acres to 32.67 acres.

Table 1, USE PERMIT & RECLAMATION PLAN AMENDMENTS CURRENT & PROPOSED USES & OPERATIONAL CHANGES compares the existing approved Use Permit and Reclamation Plan and the proposed amendments. Refer to Attachment A, COMPREHENSIVE PROJECT OVERVIEW, and Attachment B, MINING AND RECLAMATION PLAN AMENDMENT, for additional project details.

Reclamation Plan

As previously noted, the proposed use permit amendment also requires an amendment to the currently approved reclamation plan. The reclamation plan describes the final post-reclamation condition of the site and the procedures which will be employed to reclaim the site (see Figures 7a and 7b, RECLAMATION PLAN).

Reclamation Objectives

There are two types of end uses for the project site resulting in different reclamation prescriptions. The first is the eastern plant site area (53.38 acres) and the second is the middle and western (57.31 acres) portions of the project site. The prescriptions are:

- Plant Area. This area will be reclaimed to industrial uses after the mining extraction and processing terminates. This end use is consistent with the current “I” (Industrial) General Plan land use classification and zoning district designation.

Table 1
USE PERMIT & RECLAMATION PLAN AMENDMENTS
CURRENT & PROPOSED USES & OPERATIONAL CHANGES

Current	Proposed
Use Permit Area – 110.69 acres ¹ Reclamation Plan Area – 110.69 acres ² Plant Area – 53.38 acres Mining Area (MA) – 57.31 acres	Use Permit Area – 179.97 acres Reclamation Plan area – 110.69 acres Plant Area – 53.38 acres Mining Area (MA) – 57.31 acres Remaining Mineral Resource Area (MR) – 69.28 acres
Plant Area Uses Settling Ponds – 6.04 acres Recycle Ponds – 0.48 acres Stockpile Areas (Vary in Size) – 9.61 acres Topsoil Stockpile Area – 0.74 acres Overburden Stockpile Area – 2.16 acres Concrete Recycle Area – 2.80 acres Crushing & Screening Plant, Office, Roads, Parking, Scales, Water Tank, Equipment Storage, Landscaping – 32.38 acres	Plant Area Uses Settling Ponds – 6.04 acres Recycle Ponds – 0.48 acres Stockpile Areas (Vary in Size) – 13.04 acres Topsoil Stockpile Area – 0.74 acres Overburden Stockpile Area – Moved to Mining Area Concrete Recycle Area – 2.80 acres Crushing & Screening Plant, Office, Roads, Parking, Scales, Water Tank, Equipment Storage, Landscaping – 24.38 acres
Uses: 1. Aggregate mining 2. Aggregate crushing, screening, and washing ³ 3. Loading & off-site sale of sand, gravel & rock 4. Material stockpiling	Uses: 1. Aggregate mining 2. Aggregate crushing, screening, and washing 3. Loading & offsite sale of sand, gravel & rock 4. Material stockpiling 5. Importation of topsoil to the project site 6. Blasting

¹ The June 12, 2008 Staff Report for UP 07-020 to the Planning Commission identified a Use Permit Area of 110.24-acres, whereas the Reclamation Plan Maps identify a 108.87-acre area. Based on surveys undertaken for the Property Line Adjustment approved on December 13, 2019, the areas were revised to reflect new survey data. The difference is insignificant.

² Ibid.

³ Use Permit Minor Modification UP 07-020 M1 and Reclamation Plan Minor Modification RP 07-002 M1, dated May 16, 2012

Table 1
USE PERMIT & RECLAMATION PLAN AMENDMENTS
CURRENT & PROPOSED USES & OPERATIONAL CHANGES

Current	Proposed
5. Importation of topsoil to the Project site 6. Blasting	
Volume of aggregate to be mined – 7.96 MCYs or 15.92 MTs	Volume of aggregate to be mined – 12.7 million cubic yards (MCYs) or 25.4 million tons (MTs) ⁴
The maximum permitted annual tonnage of processed aggregate is limited to 250,000 tons (125,000 CYs)	Maximum annual tonnage of processed aggregate to be limited to 500,000 tons (250,000 CYs)
Importation of material restriction 50,000 CYs (100,000 tons) of topsoil/year	Importation of material from backhaul 50,000 CYs (100,000 tons) of topsoil/year
Mining termination date – December 31, 2072	Mining termination date – December 31, 2102
Final reclaimed cut slopes in excess of 2:1 – 25 ft. high and final quarry bench size – 25 ft. wide. No limitations on height or width during mine operation	Maximum quarry bench size – 44 ft. high and 60 ft. wide around Pond #6 perimeter. Average size is 40 ft. high x 40 ft. wide. No limitations on height or width during mine operation
Employees – 8 full-time & 1 part-time	Employees – 9 full-time & 1 part-time
Mining hours of operation: <ul style="list-style-type: none"> • 6 a.m. to 5 p.m. Monday – Saturday PST • 6 a.m. to 6 p.m. Monday – Friday PDT • 6 a.m. to 5 p.m. – Saturday PDT 	Mining hours of operation: <ul style="list-style-type: none"> • 6 a.m. to 5 p.m. Monday – Saturday PST • 6 a.m. to 6 p.m. Monday – Friday PDT • 6 a.m. to 5 p.m. – Saturday PDT
Blasting per year – 12 times only between 9:30 a.m. to 3:30 p.m., Monday – Friday	Blasting per year – 24 times only between 9:30 a.m. & 3:30 p.m., Monday – Friday, with a minimum two-week notice to the Planning Division
Daily Average Truck Trips <ul style="list-style-type: none"> • Daily – 92 (46 going in and out of the site) Traffic analysis used 110 • AM Peak – 20 & PM Peak – 24 	Daily Average Truck Trips <ul style="list-style-type: none"> • Daily – 184 (92 going in and out of the site) Traffic analysis used 220 • AM Peak – 33 & PM Peak – 33
Wastewater disposal – septic tank and leach field	Wastewater disposal – septic tank and leach field

⁴ The 12.7 MCYs is rounded up from 12.68 MCYs and 25.36 MTs calculated by Duane K. Miller Civil Engineer, Inc.

Table 1
USE PERMIT & RECLAMATION PLAN AMENDMENTS
CURRENT & PROPOSED USES & OPERATIONAL CHANGES

Current	Proposed
Water for operations, including water tank and tender – Two recycling and five settling ponds – no wells	Water for operations, including water tank and tender – Two recycling and five settling ponds – no wells
Potable water – Shasta Community Services District	Potable water – Shasta Community Services District
Power – originally propane & diesel – converted to PG&E power in 2011	Power –PG&E & propane.
Solid Waste – Waste Management	Solid Waste – Waste Management
Agreement with the Department of Public Works for extraordinary maintenance of Iron Mountain Road	Agreement with the Department of Public Works for extraordinary maintenance of Iron Mountain Road
Iron Mountain Road improvements – None proposed or required	Iron Mountain Road – Increasing the westbound right turn pocket length to 315 feet with a 120-foot taper at the SR 299 intersection. At the right-turn lane, modification for a 5-foot bike lane adjacent to the outside westbound through lane will be constructed to accommodate bike traffic through the intersection.

- Middle and Western Site Area. This area will be reclaimed as a mineral reserve area. This use is consistent with the California Department of Conservation’s designation of the site as a Mineral Resource Zone.

The primary objectives of the reclamation plan amendment are to 1) establish a new vegetative cover that provides future fire protection; 2) stabilize finished mined surfaces and prevent erosion; and 3) revegetate with plant species adapted to this locale.

Reclamation Prescriptions

To the maximum extent feasible, reclamation will occur concurrently with mining activity. Overburden and topsoil will be placed on each finished bench, and vegetation planted within two years after reaching final grade, except for those portions that serve as haul routes or other functions necessary for future mining phases of the quarry. The Revegetation Plan was revised to make the

mine more resistant to wildland fires. Tree and groundcover revegetation scheduled for the post mining upland habitat are:

- Tree planting prescription of ponderosa pine.
- Groundcover prescription includes meadow barley, slender wheatgrass, blue wild rye, and tomcat clover.

The revegetation planting prescription for the riparian/grassland bench around the perimeter of Pond No. 6 include native willow, Fremont's cottonwood, native cattails, native rushes, and tomcat clover.

Following the completion of reclamation, the progress of revegetation will be monitored until success standards are met without human intervention for two years. During monitoring, both natural regeneration and planted native plants will be counted toward meeting the revegetation standards as long as they are not noxious weeds. Non-native species will not be counted. Should the success of revegetation not seem attainable after two years of monitoring, the operator has the option of submitting an alternative vegetative planting program to the Shasta County Planning Division. The alternative vegetative planting program will provide the results of vegetation monitoring to date, identify where the success criteria have, and has not been met, and present an alternative native vegetation planting prescription and performance standard. The performance standard will address species richness, density, and percentage of cover as applicable to each revegetation area.

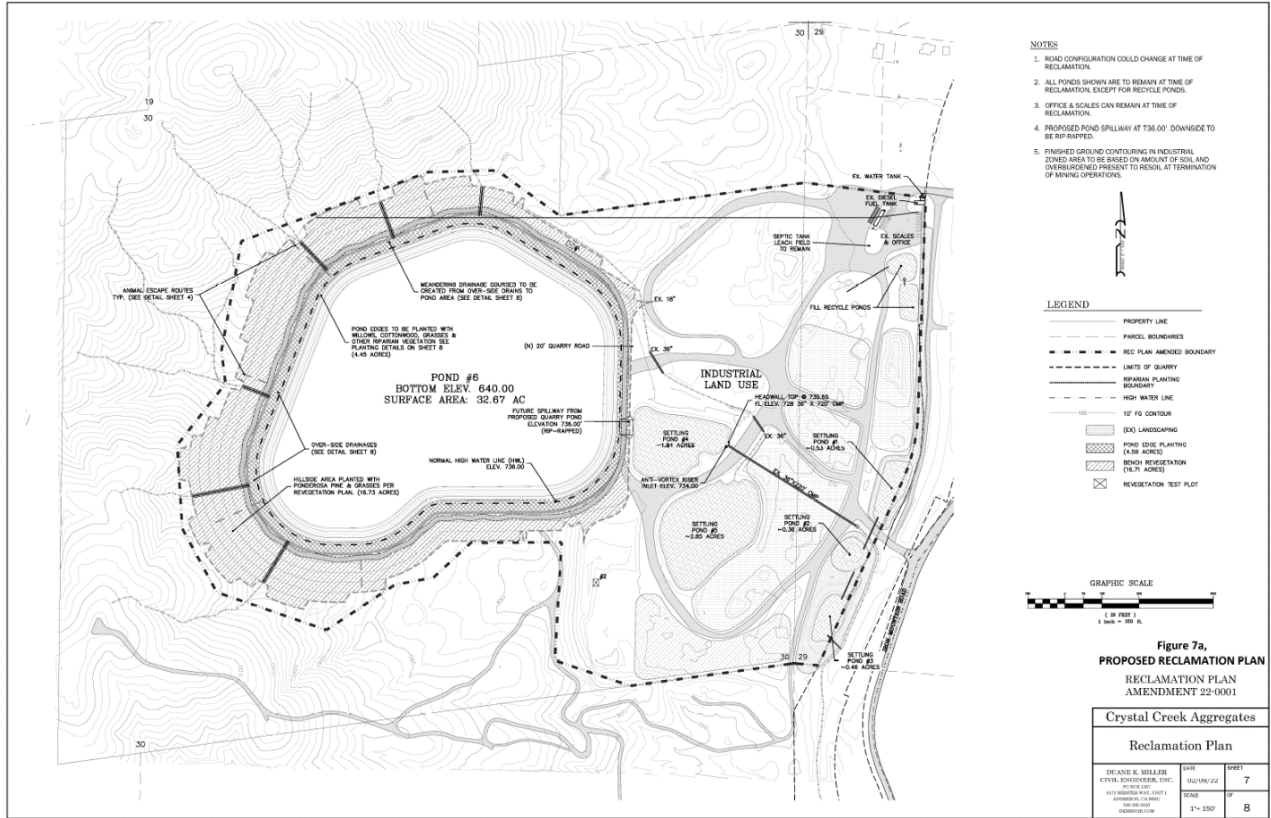


Figure 7A, PROPOSED RECLAMATION PLAN

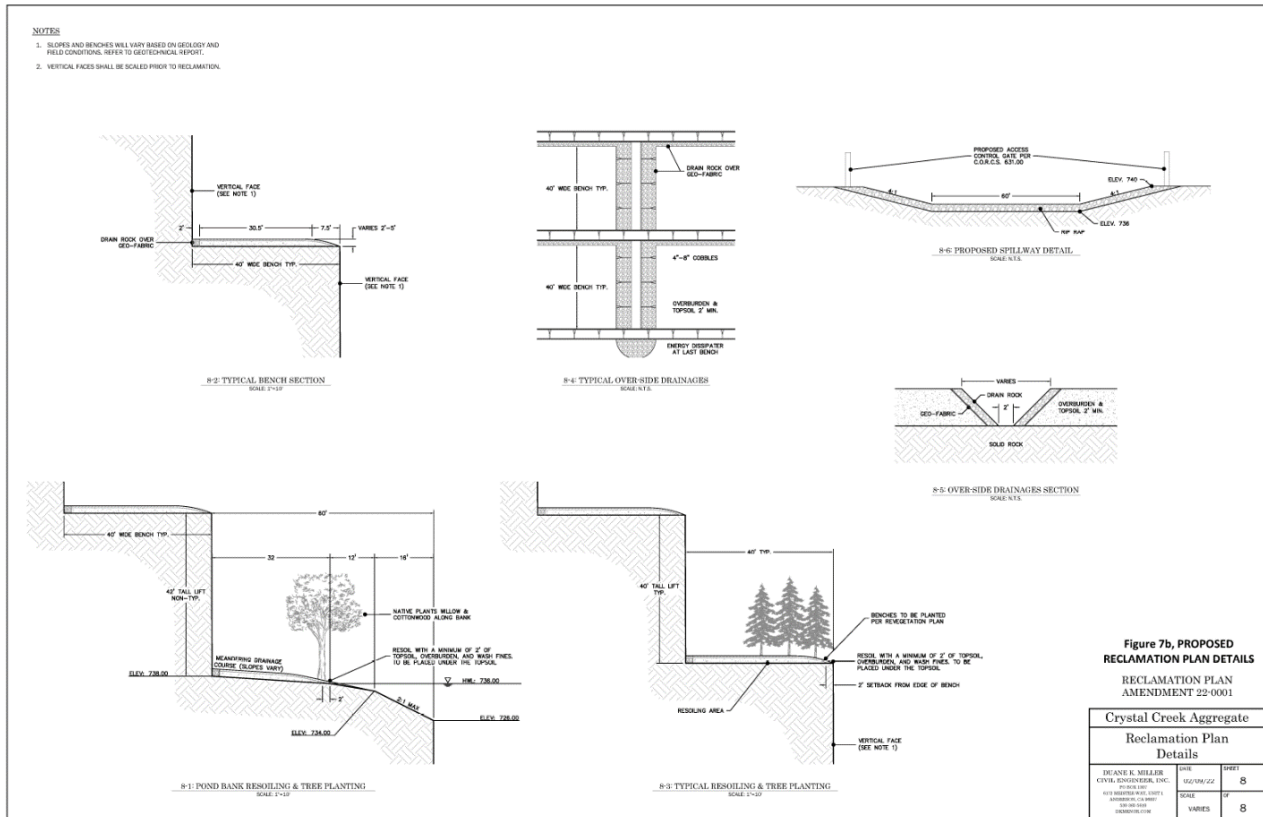


Figure 7b, PROPOSED RECLAMATION PLAN DETAILS

Offsite Improvements

Use Permit 07-020 (i.e., current operations) does not require improvements to Iron Mountain Road. However, an agreement with the Shasta County Department of Public Works was executed, which has been in effect since initial project approval, for the payment of a tonnage fee for extraordinary maintenance of Iron Mountain Road. Although not required based on the proposed project resulting in a deficient level of service at the intersection of SR-299 and Iron Mountain Road, to accommodate the added trucks through the intersection and provide the appropriate deceleration length, the mine operator proposes to implement the following offsite improvements:

- SR-299 and Iron Mountain Road Intersection Improvement: Increase the westbound right turn pocket length to 315 feet with a 120-foot taper. Additionally, with the right turn modification, a 5-foot bike lane adjacent to the outside westbound through lane will be provided to accommodate bike traffic through the intersection (see Figure 8, IMPROVEMENTS AT SR-299 & IRON MOUNTAIN ROAD).

It is important to note, that an assessment has been prepared to determine the project's fair share cost of the improvements (see Attachment I). While the calculation determined that the project's equitable share is 8% of total improvement costs the mine operator will fund and construct 100% of the above improvements within one year of entitlement approval.

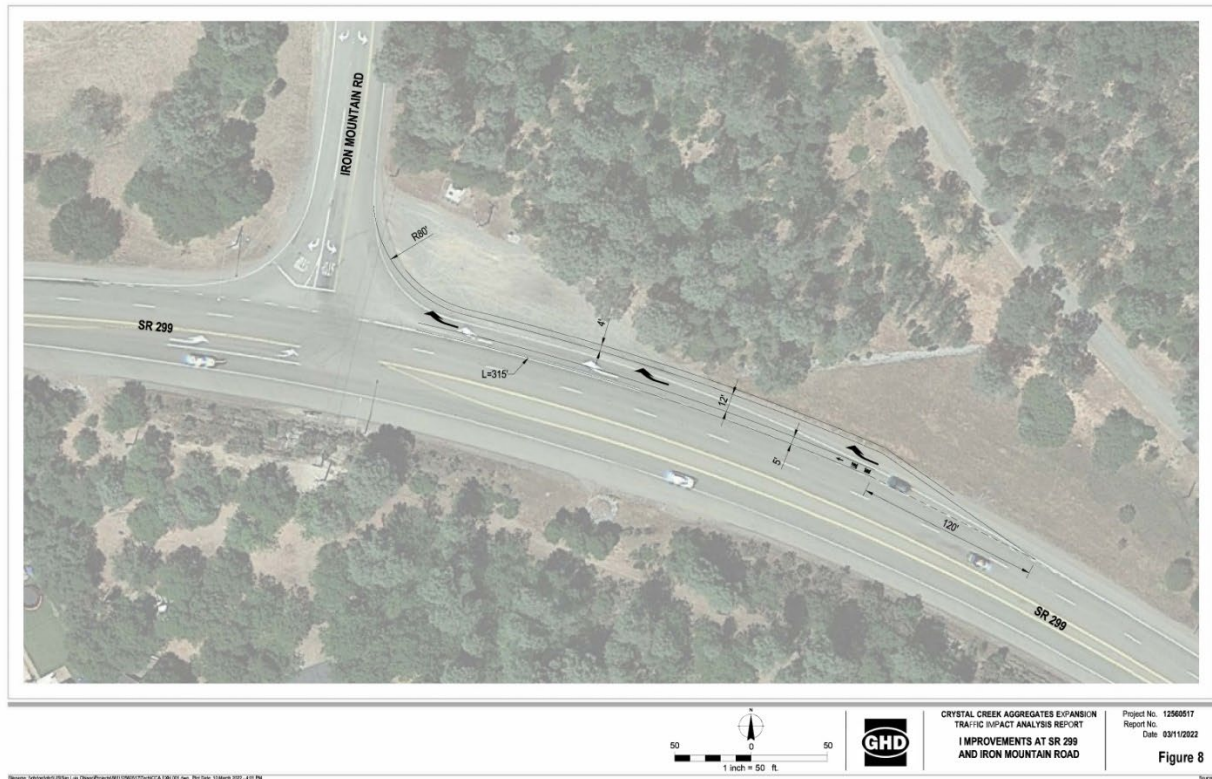


Figure 8, IMPROVEMENTS AT SR-299 & IRON MOUNTAIN ROAD

Documentation and References

Arthur, Damon. 2018. Record Searchlight. *Carr Fire 'obliterated' tiny community of Keswick*. August 6, 2018.

DOC (California Department of Conservation). 2018. *Surface Mining and Reclamation Act of 1975 Statutes and Regulations*. July 2018.

Gallaway (Gallaway Enterprises). 2022a. *Biological Resource Assessment, Terrestrial and Aquatic Wildlife and Botanical Resources, Crystal Creek Aggregate Mine*. October 2022.

Gallaway. 2022b. *Draft Delineation of Aquatic Resources, Crystal Creek Aggregate Mine*. September 2022.

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- LLA (Lawrence & Associates). 2022. *Hydraulic Evaluation for Proposed Quarry Changes, Crystal Creek Aggregate, Inc.* August 2022.
- Shasta (County of Shasta). 2008a. *Environmental Initial Study General Plan Amendment 07-005, Zone Amendment 07-020, Use Permit 07-020, and Reclamation Plan 07-002, Crystal Creek Aggregate, Comingdeer*. March 7, 2008.
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- Shasta. 2022. *Shasta County Municipal Code Title 17, Chapter 17.12 – Mineral Resource District; Chapter 17.58 – General Industrial District; Chapter 17.64 – Unclassified District; and Chapter 17.72 – Interim Mineral Resource District*. As amended through April 11, 2022.
- Shasta. 2008c. *Statement of Conditions - Use Permit 07-020*. August 5, 2008.
- TLD (The Land Designers). 2022. *Mining and Reclamation Plan Amendment for Crystal Creek Aggregate, Inc.* November 2022.

Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact” as indicated by the checklist on the following pages.

	Aesthetics		Agricultural Resources		Air Quality
	Biological Resources		Cultural Resources		Energy
	Geology and Soils		Greenhouse Gas Emissions		Hazards and Hazardous Materials
	Hydrology and Water Quality		Land Use and Planning		Mineral Resources
	Noise		Population and Housing		Public Services
	Recreation		Transportation		Tribal Cultural Resources
	Utilities and Service Systems		Wildfire		Mandatory Findings of Significance

DETERMINATION: (To be completed by the Lead Agency)

On the basis of the initial evaluation:

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

Copies of the Initial Study and related materials and documentation may be obtained at the Planning Division of the Department of Resource Management, 1855 Placer Street, Redding, CA 96001. Contact Tara Petti, Associate Planner, at (530) 225-5532.

Tara Petti
Senior Planner

Date

Paul Hellman
Director of Resource Management

Date

Section 3 – Evaluation of Environmental Impacts

This section provides an evaluation of the potential environmental impacts of the proposed Crystal Creek Aggregates Use Permit Amendment AMND23-0003 and Reclamation Plan Amendment AMND23-0004 (proposed project) located in unincorporated Shasta County, as well as the CEQA Mandatory Findings of Significance. A discussion of cumulative impacts is also included at the end of this chapter. The issue areas evaluated in this Initial Study include:

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology & Soils
- Greenhouse Gas Emissions
- Hazards & Hazardous Materials
- Hydrology & Water Quality
- Land Use & Planning
- Mineral Resources
- Noise
- Population & Housing
- Public Services
- Recreation
- Transportation
- Tribal Cultural Resources
- Utilities & Service Systems
- Wildfire

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the State CEQA Guidelines and used by the County in its environmental review process. This checklist has been updated with the revisions of the January 1, 2019 State CEQA Guidelines. For the preliminary environmental assessment undertaken as part of this Initial Study's preparation, a determination that there is a potential for significant effects indicates the need to more fully analyze the proposed project's impacts and identify mitigation.

For the evaluation of potential impacts, the questions in the Initial Study Checklist are stated and an answer is provided according to the analysis undertaken as part of the Initial Study. The analysis considers the long-term, direct, indirect, and cumulative impacts of the development. To each question, there are four possible responses:

- *No Impact.* The development will not have any measurable impact on the environment.
- *Less Than Significant Impact.* The development will have the potential for impacting the environment, although this impact will be below established thresholds that are considered to be significant.
- *Potentially Significant Impact Unless Mitigation Incorporated.* The development will have the potential to generate impacts which may be considered as a significant effect on the environment, although mitigation measures or changes to the development's physical or operational characteristics can reduce these impacts to levels that are less than significant.
- *Potentially Significant Impact.* The development will have impacts which are considered significant, and additional analysis is required to identify mitigation measures that could reduce these impacts to less than significant levels.

All answers must take into account the whole action involved, including potential off and onsite, indirect, direct, construction, and operation, except as provided for under State CEQA Guidelines Section 15183 and State CEQA Statute Section 21083. The setting discussion under each resource section in this chapter is followed by a discussion of impacts and applicable mitigation measures.

This Initial Study identifies several potentially significant environmental effects related to the proposed project. Some effects are mitigated by implementation of existing provisions of law and standards of practice related to environmental protection. Such provisions are considered in the environmental impact analysis, and the degree to which they would reduce potential environmental effects is discussed. Additional mitigation measures are specifically identified, when necessary, to avoid potential environmental effects or to reduce them to a level that is less than significant.

Format of the Environmental Analysis

Each topical section of this Initial Study is organized into the following subsections:

- *Environmental Setting.* The environmental settings present the existing environmental conditions, in accordance with CEQA Guidelines Section 15125. The subsection describes the baseline conditions against which the environmental impacts associated with the proposed project are assessed.
- *Regulatory Setting.* The regulatory settings describe the laws, regulations, and policies that affect the resource or the assessment of impacts on the specific resource. The regulatory setting subsection establishes the regulatory framework for the analysis of each resource.
- *Impact Analysis.* The impact analysis presents thresholds of significance used and discusses potential effects of the proposed project on the existing environmental conditions (in accordance with CEQA Guidelines sections 15126.2(a) and 15143).
- *Mitigation Measures.* Mitigation measures provide measures to reduce potentially significant effects associated with the proposed project to the extent feasible (in accordance with CEQA Guidelines sections 15002(a)(3), 15021(a)(2), and 15091(a)(1)).
- *Findings.* This subsection is presented in accordance with CEQA Guidelines Section 15091(a)(1), 15092(b)(2)A), and 15126.2(b), which require identification of impacts capable of avoidance or mitigation, as well as those that cannot be avoided.

Section I - Aesthetics

This section of the Initial Study describes the existing visual environment in and around the project area. The analysis assesses the potential for aesthetics impacts using accepted methods of evaluating visual quality, as well as identifying the type and degree of change the proposed project would likely have on the character of the surrounding area.

Environmental Setting

The existing quarry is located in the southwest quadrant of Shasta County and within the United States Geological Survey (USGS) Redding quadrangle, primarily within Sections 29 and 30 of Township 32N, Range 5W. The project site and surrounding area falls within the foothills at the transition between the northern Sacramento Valley and the Klamath Mountains in unincorporated Shasta County. Elevations within the project site range from 1,210 feet above mean sea level (msl) in the northwesterly area to 715 feet msl in the southeastern portion, an elevation change of 495 feet.

Land uses adjoining the study area are primarily rural, with industrial uses located immediately to the east across Iron Mountain Road. The surrounding natural land is hilly to very steep mixed chaparral and montane hardwood-conifer habitat that is currently in a state of regeneration after the fire. Incidental to the existing and historic mining operation on the site was the construction of multiple excavated ponds and pits. Further, numerous drainages occur on the site, the majority of which are ephemeral drainages that form along the steep hillsides. A steep ridgeline occurs along the western and northern boundary (Gallaway, 2022). The mine is east of the Old Shasta Community; however, the mine is not visible from this community since a ridge separates the two areas. The upper benches of the quarry are also below this ridge.

The property has three existing visual environments: The Plant Area in the eastern portion of the site; the active mining area in the northern part of the western mid-area; and the undeveloped lands in the most western and southern areas of the active quarry site. The Plant Area contains aggregate material stockpiles, office, scales, crushing, screening, and washing facilities.

Scenic Resources

Scenic vistas are defined as expansive views of highly-valued landscapes from publicly accessible viewpoints. Scenic vistas include views of natural features such as topography, water courses, outcrops, and natural vegetation, as well as man-made scenic structures. County has not designated specific scenic vistas in the immediate project area as a part of the General Plan (Shasta, 2004).

According to Caltrans' California Scenic Highway Program and the National Scenic Byways Program, the proposed project is not located near a highway which has been listed as a State or federal Scenic Highway (Caltrans, 2022; FHWA, 2018). However, State Route 299 (SR-299) located one mile to the south of the project site at the intersection with Iron Mountain Road is designated as an Eligible State Scenic Highway-Not Officially Designated (Caltrans, 2022).

Regulatory Setting

National Scenic Byways Program

The National Scenic Byways Program is part of the U.S. Department of Transportation, Federal Highway Administration (FHWA). Established in Title 23, Section 162 of the United States Code, the program is a grass-roots collaborative effort established to help recognize, preserve, and enhance selected roads throughout the

United States. FHWA’s May 18, 1995 interim policy sets forth the procedures for the designation by the U.S. Secretary of Transportation of certain roads as National Scenic Byways or All-American Roads based on their archaeological, cultural, historic, natural, recreational, and scenic qualities. There are 150 such designated byways in 46 states.

California Scenic Highway Program

California’s Scenic Highway Program was created by the legislature in 1963. Its purpose is to protect and enhance the natural scenic beauty of California highways and adjacent corridors, through special conservation treatment. The State laws governing the Scenic Highway Program are found in the Streets and Highways Code, Sections 260 through 263. Caltrans has compiled a list of State highways that are designated as scenic and county highways that are eligible for designation as scenic.

Shasta County General Plan

The Scenic Highways Element is an optional General Plan element authorized by Section 65303 of the Government Code. The Scenic Highways Element of the Shasta County General Plan is intended to establish and protect highways with scenic value, be they State or County roads. The following General Plan objectives related scenic highways are applicable to the proposed project:

- *SH-1.* Protection of the natural scenery along the official scenic highways of Shasta County from new development which would diminish the aesthetic value of the scenic corridor.
- *SH-2.* New development along scenic corridors of the official scenic highway should be designed to relate to the dominant character of the corridor (natural or natural and man-made contrast) or of a particular segment of the corridor. Relationships shall be achieved in part through regulations concerning building form, site location, and density of new development.
- *SH-3.* Recognition that the management practices of agriculture, timber, and other resource-based industries which may cause some degradation of the visual quality of the scenic corridor are inevitable, but their impacts are temporary.

Shasta County Municipal Code

Section 17.84.050 of the Shasta County Municipal Code (SCMC) contains the following policy related to aesthetics that would apply to the proposed project:

“All lighting, exterior and interior, shall be designed and located so as to confine direct lighting to the premises. A light source shall not shine upon or illuminate directly on any surface other than the area required to be lighted. No lighting shall be of the type or in a location such that constitutes a hazard to vehicular traffic, either on private property or on abutting streets.”

2008 Initial Study / Mitigated Negative Declaration Findings

In 2008 the County approved a Mitigated Negative Declaration (SCH No. 2008052029) for *General Plan Amendment GPA07-005, Zone Amendment GZ07-020, Use Permit Amendment UP07-020, and Reclamation Plan Amendment RP07-002*. As noted in Section 2.0, PROJECT DESCRIPTION, the Mitigated Negative Declaration evaluated environmental impacts associated with amending the General Plan land use designation on 115 acres from “N-O” (Natural Resource Protection – Open Space) to “MR” (Mineral Resource); rezoning the same 115 acres from “U” (Unclassified) to “MR” (Mineral Resource); expanding the quarry area from 53.57 acres to 110.24

acres; extending the termination date of the operation from February 22, 2010, to December 31, 2072; amending the reclamation plan to include expansion of the quarry by 56.67 acres; and the processing of up to 250,000 tons per year.

Making the appropriate findings, the County determined that impacts to *Aesthetics*, after implementation of mitigation measures, would be less than significant with mitigation incorporated (Shasta, 2008a; 2008b; 2008c). The following mitigation measures were required:

1. The highest level of the excavation shall be below the ridge line and/or skyline as shown on the reclamation plan.
2. The project site shall be revegetated according to the reclamation plan.
3. Concurrent reclamation, including revegetation shall be required.

Impact Analysis

Degradation of the visual character of a site is usually addressed through a qualitative evaluation of the changes to the aesthetic characteristics of the existing environment and the proposed project-related modification that would alter the visual setting. For the purpose of this analysis, visual impacts associated within the existing permitted mine boundary, including impacts to scenic vistas, degradation of visual character, and light and glare impacts have been previously addressed through the County’s 2008 Mitigated Negative Declaration (SCH No. 2008052029) for *General Plan Amendment GPA07-005, Zone Amendment Z07-020, Use Permit Amendment UP07-020, and Reclamation Plan Amendment RP07-002* and are therefore not considered further in this Initial Study.

Light spill is typically defined as the presence of unwanted light on properties adjacent to the property causing illumination and/or being illuminated. With respect to lighting, the degree of illumination may vary widely depending on the amount of light generated, height of the light source, presence of barriers or obstructions, type of light source, and weather conditions.

Glare is primarily a daytime occurrence caused by the reflection of sunlight or artificial light by highly polished surfaces such as window glass or reflective materials and, to a lesser degree, from broad expanses of light-colored surfaces. Daytime glare generation is common in urban areas and is typically associated with buildings with exterior facades largely or entirely comprised of highly reflective glass. Glare can also be produced during evening and nighttime hours by the reflection of artificial light sources such as automobile headlights.

The following includes an analysis of environmental parameters related to *Aesthetics* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Would the Project:	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?				X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?				X

Would the Project:	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
c) In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (<i>Public views are those that area experienced from publicly accessible vantage point</i>). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?			X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				X

a) *Have a substantial adverse effect on a scenic vista?*

The County’s General Plan identifies prominent natural or man-made features which immediately catch the eye, locations where the visual environment changes dramatically, and locations which mark the entrance to a community of geographic area as scenic assets. As previously mentioned above, the County has not designated specific scenic vistas in the immediate project area as a part of the Shasta County General Plan.

The proposed project is visible from sections of Iron Mountain Road, from residences and residential properties located in the community of Keswick, and from residential areas located to the south of SR-299. Implementation of the proposed project would increase the approved height of the final quarry highwalls and bench widths from 25 feet high and 25 feet wide to an average of 40 feet high and wide. However, this increase would not exceed the approved overall vertical and horizontal limits of the final quarry allowed in the approved Use Permit 07-020 and Reclamation Plan 07-002. Additionally, intersection improvements proposed at SR-299 and Iron Mountain Road would occur at grade and require limited site preparation and grading to extend the westbound right turn pocket and the incorporation of a 5-foot bike lane. No impact would occur in this regard.

b) *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?*

Refer to previous impact discussion under I.a. As mentioned above under *Environmental Setting*, there are no designated State or federal scenic highways or scenic highway corridors in the vicinity of the proposed project, including the intersection of SR-299 and Iron Mountain Road. Therefore, the proposed project would not substantially damage any scenic resource within a State scenic highway. No impact would occur in this regard.

c) *In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that area experienced from publicly accessible vantage*

point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Land immediately adjoining the proposed project to the north, west, and some lands further south and east are under the jurisdiction of the Bureau of Land Management (BLM) and in the vicinity of several of Shasta County's most popular mountain biking trails. Trail facilities are located generally to the north, south, and west of the project site and lands owned by the Comingdeer Trust, the adjacent BLM parcels and are associated with the Rock Creek – Middle Creek Trail System, and other regional trail facilities that connect to the Sacramento River Rail – Trial System.

The proposed project would not degrade the existing visual character or quality of the site and its surroundings as no expansion of the existing approved quarry footprint is proposed. In addition, no additional structures, or operations are proposed. The locations of the existing scales and office, rock crushing, screen and washing operations, primary and secondary entrances/exits, diesel fuel storage tanks, waste oil tank, two motor oil and one lubricating oil tank, and five settling and two recycle ponds will remain. The proposed reclamation plan boundary does not extend the current permitted mine boundary.

The proposed project includes a reclamation plan amendment for site reclamation and revegetation, including concurrent phased reclamation, as described in greater detail in Section 2.0, PROJECT DESCRIPTION, of this Initial Study. Reclamation prescriptions deal with various operational components which include the plant site, quarry benches and their revegetation, ponds, and reclamation within the plant area (such as removing equipment that will not be utilized for future permitted industrial uses), clean up, final grading, filling of the two recycle ponds, and post vegetation monitoring. The bench tops would be planted with native trees and grasses as part of the proposed reclamation plan. Reclamation would occur in phases, and for periods of time and/or until reclamation vegetation is established some rock faces would be exposed. The revegetation of benches meets one of the primary objectives of the reclamation program: to establish a new visually pleasing vegetative cover that provides future fire protection. Refer to Attachment A, COMPREHENSIVE PROJECT OVERVIEW, and Attachment B, MINING AND RECLAMATION PLAN AMENDMENT.

Also addressed as a reclamation prescription is the establishment of a self-sustaining population of wetland/riparian vegetative species on the waterside of the lower final bench, within 44 feet of a 1:1 slope embankment around the approximate 4,400 feet long shoreline of the new 32.67-acre quarry Pond No. 6. This would provide an approximate 4.55-acre area with a water course meandering throughout the bench area along with clusters of native willows and cottonwoods to be planted along the bank of Pond No. 6. Average spacing of the clusters is to be 110 feet on-center with 6 to 10 trees per cluster. Rock jetties would be placed along the bank, and woody debris would be placed along the waterline, where feasible.

Final reclamation occurs when all the aggregates in each mining phase have been exhausted and the finished grades have been attained. Interior haul roads, stockpiles, and plant sites will be reclaimed when they are no longer needed. Consistent with the existing "I" (Industrial) general plan land use classification and "M" (General Industrial) zoning district designation the Eastern Plant Site Area will be reclaimed to industrial uses after the mining extraction and processing terminates. The Middle and Western site areas will be reclaimed as a Mineral Reserve area. This use is consistent with the California Department of Conservation's designation of the site as a Mineral Resource Zone. Similar to the existing Reclamation Plan 07-002, implementation of proposed Reclamation Plan Amendment AMND23-0004 on a phased basis would serve to transform most of the project site back to naturalized condition. Impacts are considered less than significant.

Intersection improvements proposed at SR-299 and Iron Mountain Road would occur at grade and require limited site preparation and grading to extend the westbound right turn pocket and the incorporation of a 5-foot bike lane. Therefore, impacts associated with this limited intersection improvement would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. Impacts are considered less than significant.

- d) *Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*

No additional sources of lighting are proposed. Therefore, site lighting and illumination associated with the proposed project would not create new sources or intensify existing light trespass or glare onto adjoining properties. No impact would occur in this regard.

Mitigation Measures

No mitigation measures are required.

Findings

Based upon the review of the information above, implementation of the proposed project will have a less than significant impact with respect to *Aesthetics*.

Documentation and References

Caltrans (California Department of Transportation). 2022. *California State Scenic Highway System Map*. [Online]: <https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aaca> Accessed August 9, 2022.

FHWA (Federal Highways Administration) National Scenic Byways Program. 2018. [Online]: <https://www.fhwa.dot.gov/byways/states/CA>. Accessed August 9, 2022.

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National Wild and Scenic Rivers System. 2018. [Online]: <https://www.rivers.gov/california.php>. Accessed August 9, 2022.

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Shasta. 2008c. *Statement of Conditions - Use Permit 07-020*. August 5, 2008.

Shasta. 2004. *Shasta County General Plan*. September 2004.

Shasta. 2022. *Shasta County Municipal Code, Chapter 17.84 – General Development Standards, Section 17.84.050*. April 11, 2022.

TLD (The Land Designers). 2022. *Mining and Reclamation Plan Amendment for Crystal Creek Aggregate, Inc*. November 2022.

Section II – Agricultural Resources

The purpose of this section of the Initial Study is to determine the extent to which the project contributes to the physical deterioration of agricultural resources. This section describes the agricultural resources within the project study area, and the applicable regulations that govern those resources.

Environmental Setting

The Department of Conservation (DOC) Farmland Mapping and Monitoring Program (FMMP) maps and classifies farmland. Classifications are based on a combination of physical and chemical characteristics of the soil and climate that determine the degree of suitability of the land for crop production. The project site does not contain designated farmland. The site is not located within an area of Prime Farmland as identified by the California Department of Conservation's Important Farmland Series Mapping and Monitoring Program (DOC, 2018). In addition, the DOC's Important Farmland Map for Shasta County identifies the project site and the intersection of State Route 299 (SR-299) and Iron Mountain Road as Urban and Built-Up Land (DOC, 2022).

According to the U.S. Department of Agriculture, Natural Resources Conservation Service, the soils found within the project area, including the intersection of SR-299 and Iron Mountain Road belong to the Diamond Springs series (NRCS, 2022). This series consists of well drained soils that are underlain by granitic or light-colored metavolcanic rocks. These soils are on uplands near Shasta, Keswick, and Ingot. Slopes range from 8 to 50 percent with annual precipitation of between 40 and 50 inches.

The California Land Conservation Act of 1965, commonly known as the Williamson Act, allows local governments to form contracts with private landowners to restrict specific parcels of land to agricultural or open space use. The area involving *Use Permit Amendment UP-2022-001* is not under an active Williamson Act contract. Additionally, no timberlands or forest land are present within the project site or at the intersection of SR-299 and Iron Mountain Road.

Regulatory Setting

This section summarizes current federal, State, and local regulations relevant to the review of *Agricultural Resources* for this project. Ordinances, regulations, or standards that are applicable to the environmental review of agricultural resource impacts include the following:

California Farmland Mapping and Monitoring Program

The California Farmland Mapping and Monitoring Program (FMMP), which monitors the conversion of the State's farmland to and from agricultural use, relies on information from the NRCS soils surveys, NRCS land inventory and monitoring criteria, and land use and water availability. Topography, climate, soil quality, and available irrigation water all factor into the FMMP farmland classifications. The FMMP was established by the California DOC, under the Division of Land Resource Protection. Important Farmland Maps are compiled by the FMMP pursuant to §65570 of the California Government Code. The FMMP is an informational service only and does not constitute State regulation of local land use decisions. Under the FMMP, "Important Farmland Categories" were established based on soils characteristics that have significant agricultural production values.

California Land Conservation Act

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, is promulgated in California Government Code Section 51200-51297.4. The Williamson Act enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or

related open space uses in return for reduced property tax assessments. Private land within locally designated agricultural preserve areas is eligible for enrollment under Williamson Act contracts.

Farmland Security Zone Contract

The DOC passed the Farmland Security Zone legislation (Govt. Code Section 51296) in 1998. The Farmland Security Zone allows counties to establish an additional program for farmlands to enter into contracts with the State. This legislation allows landowners whose land is under a Williamson Act contract to petition to the county board of supervisors to annul the Williamson Act contract for a Farmland Security Zone Contract. A Farmland Security Zone Contract is a 20-year contract that allows the property owner to receive 35 percent more in tax savings than a Williamson Act contract. Both of these contracts require that lands be within an established Agricultural Preserve. Agricultural lands that are not in a preserve face the greatest threat of conversion, as they are assessed higher property taxes due to their proximity to urbanization.

Forest Land and Timberland

Public Resources Code section 12220(g) defines Forest Land as “*land that can support 10% native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits.*” Public Resources Code Section 4526 defines timberland as “*land, other than land owned by the federal government, which is available for, and capable of, growing a crop of trees of any commercial species used to produce lumber and other forest products, including Christmas trees.*” Government Code section 51104(g) defines Timberland Production Zone (TPZ) as “*an area which has been zoned pursuant to [Government Code] Section 51112 or 51113 and is devoted to and used for growing and harvesting timber, or for growing and harvesting timber and compatible uses, as defined in subdivision (h).*”

Shasta County General Plan

The Shasta County General Plan Agricultural Lands Element, as amended through September 2004, provides the following policies relative to the proposed project:

- *AG-3.* Recognition by Shasta County residents that the preservation of agricultural lands for agricultural uses, both large and small scale, is in the public interest because it preserves local and regional food supplies and is an important contributing industry to the Shasta County economy.
- *AG-4.* Recognition by Shasta County residents that preservation of agricultural lands, both large and small-scale, provides privately maintained open-space, facilitates a rural lifestyle, and requires Countywide understanding of the problems facing ranchers and farmers.
- *AG-5.* Protection of agricultural lands from development pressures and or uses which will adversely impact or hinder existing or future agricultural operations.
- *AG-6.* Protection of water resources and supply systems vital for the continuation of agriculture.
- *CO-4.* To guide development in a pattern that will minimize land use conflicts between adjacent land users.

The Shasta County General Plan Timberlands Element, as amended through September 2004, provides the following policies relative to the proposed project:

- *T-a.* Preservation of Timberland shall be achieved by the use of the Timberlands land use designation.
- *T-f.* The County should encourage and promote the utilization of wood waste produce in the County.

2008 Initial Study / Mitigated Negative Declaration Findings

In 2008 the County approved a Mitigated Negative Declaration (SCH No. 2008052029) for *General Plan Amendment GPA07-005, Zone Amendment GZ07-020, Use Permit Amendment UP07-020, and Reclamation Plan Amendment RP07-002*. As noted in Section 2.0, PROJECT DESCRIPTION, the Mitigated Negative Declaration evaluated environmental impacts associated with amending the General Plan land use designation on 115 acres from “N-O” (Natural Resource Protection – Open Space) to “MR” (Mineral Resource); rezoning the same 115 acres from “U” (Unclassified) to “MR” (Mineral Resource); expanding the quarry area from 53.57 acres to 110.24 acres; extending the termination date of the operation from February 22, 2010, to December 31, 2072; amending the reclamation plan to include expansion of the quarry by 56.67 acres; and the processing of up to 250,000 tons per year.

Making the appropriate findings, the County determined that no impact related to *Agricultural Resources* would occur with implementation of *General Plan Amendment 07-005, Zone Amendment 07-020, Use Permit Amendment, UP-07-020, and Reclamation Plan Amendment RP-07-002* (Shasta, 2008a; 2008b; 2008c). No mitigation measures were required.

Impact Analysis

CEQA Section 21095 and CEQA Guidelines Appendix G, together, define Prime, Unique, and Farmland of Statewide Importance as “Important Farmland,” whose conversion may be considered significant. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment (LESA) Model (1997, as updated) prepared by the California DOC as an optional model to use in assessing impacts on agriculture and farmland.

In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection (CAL FIRE) regarding the State’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board (CARB).

The following includes an analysis of environmental parameters related to *Agricultural Resources* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Would the Project:	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or 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?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act Contract?				X
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 5110(g))?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
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 land?				X

a) *Convert Prime Farmland, Unique Farmland, or 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?*

The project site has not been historically used for agricultural purposes, nor does it possess soils that are prime for agricultural production. The site is not located within an area of Prime Farmland as identified by the California Department of Conservation’s Important Farmland Series Mapping and Monitoring Program (DOC, 2022). The subject property is not identified as Prime Farmland, Unique Farmland, or Statewide Importance on the map titled Shasta County Important Farmland 2016. Therefore, the proposed project would not convert prime farmland, unique farmland, or farmland of statewide importance to nonagricultural use. No impact would occur in this regard.

b) *Conflict with existing zoning for agricultural use, or a Williamson Act Contract?*

The proposed project nor its surrounding lands are currently under a Williamson Act contract. In addition, the proposed project site is not under a Farmland Security Zone contract or within an agricultural preserve. Therefore, project implementation would not result in conflicts with existing agricultural zoning. No impact would occur in this regard.

c) *Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 5110(g))?*

The proposed project would not conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources 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)). The project site is not forest land, timberland, or zone Timberland Production. Therefore, the proposed project would not conflict with existing zoning or cause rezoning and would have no impact on timberlands zoned as Timber Production. No impact would occur in this regard.

d) *Result in the loss of forest land or conversion of forest land to non-forest use?*

The proposed project is not located within existing forest land. Therefore, the proposed project would not result in the loss of forest land or conversion of forest land to non-forest use. No impact would occur in this regard.

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 land?*

The proposed project would not result in the loss of forest land or conversion of forest land to non-forest use. The project site is not forest land. In addition, the proposed project is not located in an area of significant agricultural soils. No impact would occur in this regard.

Mitigation Measures

No mitigation measures are required.

Findings

In the course of the above evaluation, impacts associated with *Agricultural Resources* were found to not be significant because of the inability of a project of this scope to create such impacts or the absence of project characteristics producing effects of this type.

Documentation and References

DOC (California Department of Conservation). 2022. *Farmland Mapping and Monitoring Program*. [Online]: <https://maps.conservation.ca.gov/DLRP/CIFF/>. Accessed August 9, 2022.

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III. Air Quality

This section examines the air quality in the project area, includes a summary of applicable air quality regulations, and analyzes potential air quality impacts associated with the proposed project. Air quality impacts were assessed in accordance with methodologies recommended by the US Environmental Protection Agency (EPA), California Air Resources Board (CARB), and the Shasta County Air Quality Management District (SCAQMD). Where quantification was required, emissions were modeled using the California Emissions Estimator Model (CalEEMod).

Environmental Setting

The proposed project is located within an unincorporated portion of Shasta County at the northern area of the Northern Sacramento Valley Air Basin (NSVAB). The NSVAB consists of a total of seven counties: Sutter, Yuba, Colusa, Butte, Glenn, Tehama, and Shasta. The NSVAB is bounded on the north and west by the Coastal Mountain Range and on the east by the southern portion of the Cascade Mountain Range and the northern portion of the Sierra Nevada range. These mountain ranges reach heights in excess of 6,000 feet above mean sea level, with individual peaks rising much higher. The mountains form a substantial physical barrier to locally created pollution as well as pollution transported northward on prevailing winds from the Sacramento metropolitan area.

The environmental conditions of Shasta County are conducive to potentially adverse air quality conditions. The basin area traps pollutants between two mountain ranges to the east and the west. This problem is exacerbated by a temperature inversion layer that traps air at lower levels below an overlying layer of warmer air. Prevailing winds in the area are from the south and southwest. Sea breezes flow over the San Francisco Bay Area and into the Sacramento Valley, transporting pollutants from the large urban areas. Growth and urbanization in Shasta County have also contributed to an increase in emissions.

Shasta County, including the far northern Sacramento Valley, currently exceeds the State's ambient standards for ozone (smog) and particulates (fine, airborne particles). Consequently, these pollutants are the focus of local air quality policy, especially when related to land use and transportation planning. Even with application of measures to reduce emissions for individual projects, cumulative impacts are unavoidable when ozone and/or particulate emissions are involved. For example, the primary source of emissions contributing to ozone is from vehicles. Any project that generates vehicle trips has the potential of contributing incrementally to the problem.

Mitigation thresholds are established by the SCAQMD for the important regional/local pollutants, including: Reactive Organic Gases (ROG) and Oxides of Nitrogen (NO_x), which are ozone precursors, and particulate matter 10 microns in size or less (PM₁₀). The mitigation thresholds for these pollutants are tiered at two levels as follows:

Level "A"	Level "B"
25 pounds per day of NO _x	137 pounds per day of NO _x
25 pounds per day of ROG	137 pounds per day of ROG
80 pounds per day of PM ₁₀	137 pounds per day of PM ₁₀

If a project has unmitigated emissions less than the Level "A" threshold, then it is viewed as a minor project (from an air quality perspective) and only application of Standard Mitigation Measures (SMMs) is required to try to achieve at least a 20 percent reduction in emissions, or the best reduction feasible otherwise. Land uses that generate unmitigated emissions above Level "A" require application of appropriate Best Available Mitigation Measures (BAMMs), in addition to the SMMs, in order to achieve a net emission reduction of 20 percent or more.

If, after applying SMMs and BAMMs, a use still exceeds the Level "B" threshold, then a minimum of 25 percent of the unmitigated emissions exceeding 137 pounds per day must be offset by reducing emissions from existing sources of pollution. Projects that cannot mitigate emissions to levels below the Level B thresholds are considered significant, thereby requiring the preparation of an EIR.

Regulatory Setting

This section summarizes current federal, State, and local regulations relevant to the review of *Air Quality* for this project. Ordinances, regulations, or standards that are applicable to the environmental review of air quality impacts include the following:

Ambient Air Quality Standards

The federal Clean Air Act of 1971 and the Clean Air Act Amendments (1977) established the national ambient air quality standards (NAAQS), which are promulgated by the U.S. Environmental Protection Agency (EPA). The State of California has also adopted its own California ambient air quality standards (CAAQS), which are promulgated by CARB. Implementation of the project would occur in the Shasta County portion of the NSVAB, which is under the air quality regulatory jurisdiction of the SCAQMD and is subject to the rules and regulations adopted by the air district to achieve the NAAQS and CAAQS.

Shasta County Air Pollution Control District

The SCAQMD is designated by law to adopt and enforce regulations to achieve and maintain ambient air quality standards. The SCAQMD, along with other air districts in the Northern Sacramento Valley Air Basin (NSVAB), has committed to jointly prepare the NSVAB Air Quality Attainment Plan for the purpose of achieving and maintaining healthful air quality throughout the air basin. In addition, the SCAQMD adopts and enforces controls on stationary sources of air pollutants through its permit and inspection programs, and it regulates agricultural burning. Other responsibilities include monitoring air quality, preparing clean air plans, and responding to citizen complaints concerning air quality. All projects in Shasta County are subject to applicable SCAQMD rules and regulations in effect at the time of construction and operation. Descriptions of specific rules applicable to the proposed project may include, but are not limited to:

- Architectural coatings and solvents used at the project shall be compliant with SCAQMD Rule 3-31, Architectural Coatings.
- Cutback and emulsified asphalt application shall be conducted in accordance with SCAQMD Rule 3-15, Cutback and Emulsified Asphalt.
- SCAQMD Rule 3-16, Fugitive, Indirect, or Non-Traditional Sources, controls the emission of fugitive dust during earth-moving, construction, demolition, bulk storage, and conditions resulting in wind erosion.
- SCAQMD Rule 3-32, Adhesives and Sealants, limits the emissions of volatile organic compounds (VOCs) from adhesives and sealants and associated primers, and from related surface preparation solvents, cleanup solvents, and strippers.
- SCAQMD Rule 3-33, Wood Products Coating Operations, limits the emissions of volatile organic compounds (VOCs) from coatings and strippers used on wood products and from products used in surface preparation and cleanup.

Shasta County General Plan

The Shasta County General Plan, as amended through September 2004, provides the following air quality objectives and policies relative to the proposed project:

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- *AQ-1.* To protect and improve the County’s air quality in accordance with Federal and State clean air laws in order to: (1) safeguard human health, and (2) minimize crop, plant, and property damage.
 - *AQ-1a.* The County shall require builders/developers to limit fireplace installations in new development to low-emitting fireplaces conforming to a maximum emission limit of 7.5 grams per hour of total particulate matter by being equipped with an EPA-certified insert or by being individually certified to meet the above emission standard.
 - *AQ-1d.* The County shall require residential development projects and projects categorized as sensitive receptors to be located an adequate distance from existing and potential sources of toxic emissions such as freeways, major arterial, industrial sites, and hazardous material locations.
 - *AQ-2c.* Land use decisions, where feasible, should contribute to the improvement of air quality. New projects shall be required to reduce their respective air quality impacts to below levels of significance or proceed as indicated in Policy AQ-2e.
 - *AQ-2d.* Shasta County shall ensure that air quality impacts identified during CEQA review are: (1) consistently and fairly mitigated, and (2) mitigation measures are feasible.
 - *AQ-2e.* Shasta County will cooperate with the AQMD in assuring that new projects with stationary sources of emissions of non-attainment pollutants or their precursors that exceed 25 tons per year shall provide appropriate emission offsets. A comparable program which offsets indirect emissions of these pollutants exceeding 25 tons per year from development projects shall also be utilized to mitigate air pollution impacts. An Environmental Impact Report will be required for all projects that have unmitigated emissions of non-attainment pollutants exceeding 25 tons per year.
 - *AQ-2f.* Shasta County shall require appropriate Standard Mitigation Measures and Best Available Mitigation Measures on all discretionary land use applications as recommended by the AQMD in order to mitigate both direct and indirect emissions of non-attainment pollutants.
 - *AQ-2g.* Significance thresholds as proposed by the AQMD for emissions shall be utilized when appropriate for: (1) Reactive Organic Gases (ROG) and Oxides of Nitrogen (NOx), both of which are precursors of ozone, and (2) inhalable particulate matter (PM10) in determining mitigation of air quality impacts.
 - *AQ-4b.* The County’s development standards shall require the paving of roads as a part of new development permits to the extent necessary to meet access and air quality objectives. These requirements shall be designed to help mitigate potentially significant adverse air quality impacts created by particulate emissions on both an individual and cumulative basis.
 - *AQ-8a.* The County will encourage new development projects to reduce air quality impacts from area sources and energy consumption requirements for heating and cooling.
 - *AQ-8b.* The County will encourage use of energy conservation features and low-emission equipment for all new residential and commercial development.

2008 Initial Study / Mitigated Negative Declaration Findings

In 2008 the County approved a Mitigated Negative Declaration (SCH No. 2008052029) for *General Plan Amendment 07-005, Zone Amendment 07-020, Use Permit Amendment, UP-07-020, and Reclamation Plan*

Amendment RP-07-002. As noted in Section 2.0, PROJECT DESCRIPTION, the Mitigated Negative Declaration evaluated environmental impacts associated with amending the General Plan land use designation on 115 acres from “N-O” (Natural Resource Protection – Open Space) to “MR” (Mineral Resource); rezoning the same 115 acres from “U” (Unclassified) to “MR” (Mineral Resource); expanding the quarry area from 53.57 acres to 110.24 acres; extending the termination date of the operation from February 22, 2010, to December 31, 2072; amending the reclamation plan to include expansion of the quarry by 56.67 acres; and the processing of up to 250,000 tons per year.

Making the appropriate findings, the County determined that no impact related to *Air Quality* would occur with implementation of *General Plan Amendment GPA07-005*, *Zone Amendment Z07-020*, *Use Permit Amendment UP07-020*, and *Reclamation Plan Amendment RP07-002* (Shasta, 2008a; 2008b; 2008c). No mitigation measures were required.

Impact Analysis

The air quality analysis includes a review of criteria pollutant⁵ emissions such as carbon monoxide (CO)⁶, nitrogen oxides (NO_x)⁷, volatile organic compounds (VOC) as reactive organic gases (ROG)⁸, particulate matter less than 10 micrometers (coarse or PM₁₀), and particulate matter less than 2.5 micrometers (fine or PM_{2.5}).⁹ The air quality impacts due to proposed project operations are evaluated. The Air Quality Technical Report for Crystal Creek Aggregates Expansion (RCH Group, dated November 2022) provides details on emission calculations and health risk assessment results. Refer to Attachment C, Air Quality Technical Report.

The significance of potential impacts was determined based on State CEQA Guidelines, Appendix G, and the Shasta County Air Quality Management District’s (SCAQMD’s) *Protocol for Review, Land Use Permitting Activities, Procedures for Implementing the California Environmental Quality Act*.¹⁰ The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur. This section analyzes the short-term air quality impacts associated with construction activities as well as the long-term operational impacts that may result due to development of the proposed project.

⁵ Criteria air pollutants refer to those air pollutants for which the USEPA and CARB has established National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) under the Federal Clean Air Act (CAA).

⁶ CO is a non-reactive pollutant that is a product of incomplete combustion of organic material, and is mostly associated with motor vehicle traffic, and in wintertime, with wood-burning stoves and fireplaces.

⁷ When combustion temperatures are extremely high, as in aircraft, truck and automobile engines, atmospheric nitrogen combines with oxygen to form various oxides of nitrogen (NO_x). Nitric oxide (NO) and NO₂ are the most significant air pollutants generally referred to as NO_x. Nitric oxide is a colorless and odorless gas that is relatively harmless to humans, quickly converts to NO₂ and can be measured. Nitrogen dioxide has been found to be a lung irritant capable of producing pulmonary edema.

⁸ VOC means any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions and thus, a precursor of ozone formation. ROG are any reactive compounds of carbon, excluding methane, CO, CO₂ carbonic acid, metallic carbides or carbonates, ammonium carbonate, and other exempt compounds. The terms VOC and ROG are often used interchangeably.

⁹ PM₁₀ and PM_{2.5} consists of airborne particles that measure 10 microns or less in diameter and 2.5 microns or less in diameter, respectively. PM₁₀ and PM_{2.5} represent fractions of particulate matter that can be inhaled into the air passages and the lungs, causing adverse health effects.

¹⁰ Shasta County Air Quality Management District, *Protocol for Review, Land Use Permitting Activities, Procedures for Implementing the California Environmental Quality Act*, November 2003, <https://www.co.shasta.ca.us/docs/libraries/resource-management-docs/air-quality-docs/scaqmd-ceqa-land-use-protocol.pdf>

Would the Project:	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?			X	
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard.			X	
c) Expose sensitive receptors to substantial pollutant concentrations?			X	
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			X	

a) *Conflict with or obstruct implementation of the applicable air quality plan?*

The proposed project would not conflict with or obstruct implementation of the 2018 NSVPA *Air Quality Attainment Plan* as adopted by Shasta County on December 7, 2018, or any other applicable air quality plan. The 2018 NSVPA Air Quality Attainment Plan designates Shasta County as an area of nonattainment with respect to the ozone (of which VOC and NO_x are precursors to its formation along with sunlight) California Ambient Air Quality Standards. As described under impact discussion III.b, below, implementation of the proposed project with project design elements and required regulatory measures would not exceed SCAQMD significance thresholds. Impacts are considered less than significant in this regard.

b) *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard.*

Project operation would generate short-term emissions of air pollutants, including fugitive dust and equipment exhaust emissions. The SCAQMD’s *Protocol for Review, Land Use Permitting Activities, Procedures for Implementing the California Environmental Quality Act* recommends quantification of construction-related exhaust emissions and comparison of those emissions to significance thresholds. California Air Resources Board (CARB)’s EMFAC¹¹ and OFFROAD¹² were used to quantify operational-related pollutant emissions. The estimates were also prepared using the United States Environmental Protection Agency (USEPA) AP-42, *Compilation of Air Pollutant Emission Factors*.¹³ Table

¹¹ California Air Resources Board, EMFAC2021 User’s Guide, January 15, 2021, https://ww2.arb.ca.gov/sites/default/files/2021-01/EMFAC2021_Users_Guide_01112021_final.pdf

¹² California Air Resources Board, OFFROAD2021 Documentation, <https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/msei-road-documentation-0>

¹³ US Environmental Protection Agency, AP 42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Volume I, <https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-compilation-air-emissions-factors>

2 provides the estimated operational emissions associated with the proposed project with the application of mitigation measures. The maximum daily project-related operational emissions were compared to the SCAQMD significance thresholds.

Table 2
ESTIMATED MAXIMUM DAILY PROJECT-RELATED OPERATIONAL EMISSIONS (POUNDS)

Condition	ROG	CO	NOx	SO _x	PM ₁₀	PM _{2.5}
Project-Related	1.21	10.2	12.6	0.42	59.8	9.11
Significance Threshold (Level A)	25		25		80	-
Significance Threshold (Level B)	137		137		137	-
Significant Impact?	No		No		No	
Source: RCH Group, 2022. Refer to Attachment C, AIR QUALITY TECHNICAL REPORT.						

As shown in Table 2, the proposed project operational emissions would be less than the SCAQMD significance thresholds. In addition, the proposed project would continue to implement existing Use Permit 07-020 Statement of Conditions and the Permit To Operate 90-PO-65 to reduce air quality and fugitive dust impacts:

Use Permit 07-020 Statement of Conditions

The following are the existing Use Permit 07-020 Statement of Conditions (approved June 12, 2008) 46 through 49:

- 46. The applicant shall obtain an Authority to Construct/Permit To Operate from the SCAQMD.

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47. A dust palliative shall be placed and maintained on all stockpiles containing material that has the potential to create fugitive dust, according to criteria established by the SCAQMD, in order to prevent fugitive dust emissions from leaving the property boundaries. Types of palliatives may include physical restraints such as netting, tarping, or other covering, and water.
 48. Any secondary source of dust arising from transportation of any materials to and from the site shall be controlled by water spray or other means so as to eliminate any dust nuisance. Roads shall be maintained in a dust free condition.
 49. The following Air Quality Standard Mitigation Measures shall apply:
 - a. Alternatives to open burning of vegetative material on the project site shall be used by the project applicant unless otherwise deemed infeasible by the SCAQMD. Among suitable alternatives are chipping, mulching, or conversion to biomass fuel.
 - b. The applicant shall be responsible for ensuring that all adequate dust control measures are implemented in a timely and effective manner during all phases of project development and construction.
 - c. All material excavated, stockpiled, or graded should be sufficiently watered to prevent fugitive dust from leaving property boundaries and causing a public nuisance or a violation of an ambient air standard. Watering should occur at least twice daily with complete site coverage, preferably in the mid-morning and after work is completed each day.
 - d. All areas (including unpaved roads) with vehicle traffic should be watered periodically or have dust palliatives applied for stabilization of dust emissions.
 - e. All on-site vehicles should be limited to a speed of 15 miles per hour on unpaved roads.
 - f. All land clearing, grading, earth moving or excavation activities on a project shall be suspended when winds are expected to exceed 20 miles per hour.
 - g. All inactive portions of the development site should be seeded and watered until a suitable vegetative cover is established.
 - h. All trucks hauling dirt, sand, soil, or other loose material should be covered or should maintain the minimum required amount of freeboard (i.e., minimum vertical distance between top of the load and the trailer) in accordance with the requirements of CVC Section 23114. This provision shall be enforced by local law enforcement agencies.
 - i. All material transported off-site shall be either sufficiently watered or securely covered to prevent a public nuisance.

Permit To Operate 90-PO-65

The following are the Permit To Operate 90-PO-65 (dated December 20, 2021) applicable air quality related conditions issued by the Department of Resource Management Air Quality Management District:

General Permit Conditions

- The Permit To Operate shall be posted in a conspicuous location within the control center of the facility for which it was issued. [Rule 2:23]

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- Acceptance of the permit is deemed acceptance of all conditions as specified. Failure to comply with any condition of this permit or the Rules and Regulations of the SCAQMD shall be grounds for revocation, either by the Air Pollution Control Officer (APCO) or the Air Quality Management District Hearing Board. [Rule 2:26]
 - The SCAQMD reserves the right to amend the permit, if the need arises, in order to ensure compliance of this facility or to abate any public nuisance. [Rule 2:1 Part 600; CH&SC §41700]
 - If any provision of the permit is found invalid, such finding shall not affect the remaining provisions. [Rule 2:1 Part 600]
 - All equipment, facilities, and systems shall be designed to be operated in a manner that minimizes air pollutant emissions and maintains compliance with the conditions of this permit and the regulations of the SCAQMD. [Rule 2:1 Part 600]
 - Periods of excess emission levels with respect to emission limitations specified in the permit shall be reported to the SCAQMD within four (4) hours of the occurrence. In no event, shall the equipment be operated in a manner that creates excessive emissions beyond the end of the first shift or twenty-four (24) hours, whichever occurs first. [Rule 3:10]
 - The operating staff of this facility shall be advised of and familiar with all the conditions of this permit. [Rule 2:1 Part 600]
 - The facility is subject to all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act of 1987, as cited in the CH&SC Sections 44300 et seq.

Operating Conditions

- Fugitive dust from the screening and crushing plant shall be controlled by water sprays as necessary to prevent a public nuisance or opacity violation. [Rule 3:16]
- Fugitive dust from storage piles, processing area, and disturbed areas shall be controlled by periodic cleanup and/or use of sprinklers, tarps, or dust palliative agents as necessary to prevent a public nuisance or opacity violation. [Rule 3:16]
- Fugitive dust generated from access and on-site roads shall be controlled by application of water, dust palliative, chip-sealing, or paving so as to prevent a public nuisance or violation of any applicable ambient air quality standard. [Rule 3:16]
- A water mist system shall be used in the drilling process to prevent fugitive emissions from leaving the property boundary and creating a public nuisance. [Rule 3:16]
- The Federal New Source Performance Standards for Non-Metallic Mineral Processing Plants (40 CFR, Part 60, Chapter 1, Subpart 000) shall be complied with at all times. Fugitive emissions from any transfer point on belt conveyors shall not exceed seven percent opacity in accordance with Section 60.672.(b). Fugitive emissions from any crusher at which a capture system is not used shall be limited to twelve percent opacity in accordance with Section 60.672(c).
- All water bars, wet suppression systems must be inspected monthly to check that water is flowing to the discharge spray nozzles in the wet suppression system. Corrective action must be taken immediately if

water is not flowing properly to the discharge spray nozzles. A logbook shall be maintained that includes the date of each inspection and any corrective actions taken. The logbook shall be kept on file for a period of two years and made available to the Air District upon request. [40 CFR, Part 60, Subpart 000]

- The total Crystal Creek Aggregate facility emissions of particulate matter less than 10 microns in size (PM₁₀), nitrogen oxides, reactive organic compounds, and sulfur oxides, shall be limited to 25 tons per year of each pollutant. For purposes of this condition, the facility shall include all emissions units associated with this permit. If any of the above-mentioned nonattainment or precursor pollutants for the facility exceed 25 tons per year, based on SCAQMD calculations of emissions, the permittee will be required to apply for a modified Permit To Operate which shall require emission offsets.
- All mobile rock crushing and screening equipment brought onsite shall maintain valid In-Use Off-Road Diesel-Fueled Fleets Regulation (DOORS) registrations.
- All portable or mobile rock crushing and screening equipment brought onsite shall maintain valid Portable Equipment Registration Program (PERP) registrations.
- Portable/mobile equipment working under this permit shall comply with all General Requirements, Emission Limitations and Operating Requirements of the equipment units PERP operating conditions.
- Daily records of operating hours and material processed shall be maintained and kept on file for a period of two years to verify compliance with PERP operating conditions. Records shall be maintained for each mobile/portable equipment unit. [Rule 2:27 and PERP]
- Annual reporting shall be as follows:
 1. Portable equipment working under this permit shall report hours of operation and throughput to the SCAQMD.
 2. Portable equipment working under this permit shall not report hours of operation and throughput to the PERP.
 3. Mobile equipment shall report engine operation to the DOORS. [Rule 2:27] [PERP] [DOORS]
- Testing and maintenance of the Deutz Model F6L912, 88 HP Diesel engine shall be limited to operate the number of hours necessary to comply with the testing requirements of National Fire Protection Association 25 — "Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection System," 1998 edition. [CCR 17 § 93115.3]

Based on the above evaluation, implementation of the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard. Impacts are considered less than significant in this regard.

c) *Expose sensitive receptors to substantial pollutant concentrations?*

Health risk from exposure to air pollutants is evaluated based on the potential for exposure to toxic air contaminants (TAC), such as diesel particulate matter (DPM) and crystalline silica, the pollutant which poses the most significant threat to human health. TACs are a set of airborne pollutants that may pose a present or potential hazard to human health and are separated into carcinogens and non-carcinogens. State and local regulatory programs are intended to limit exposure to TAC and the associated health risk.

Project impacts related to increased health risk can occur either by introducing a new sensitive receptor, such as a residential use, in proximity to an existing source of TAC or by introducing a new source of TAC, such as industrial activities, with the potential to adversely affect existing sensitive receptors in the project vicinity. Several air districts recommend using a 1,000-foot radius around a project site for purposes of identifying community health risk from siting a new sensitive receptor or a new source of TAC.

The proposed project would create a new long-term emission source of DPM due to operational activities. Studies have demonstrated that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic health risk. The maximum project-related cancer risk would be 0.54 persons per million. The maximum concentrations would occur at a residential receptor (also known as the maximum exposed individual or MEI) to the south of the project site. Therefore, the cancer risk due to proposed project activities are below the significance threshold of 10 per million and thus, would be less than significant.

Both acute (short-term) and chronic (long-term) adverse health impacts unrelated to cancer are measured against a hazard index (HI). The impact is considered to be significant if the overall HI for the highest-impacted organ system is greater than 1.0. The chronic HI associated with the project would be 0.54 which is below the significance threshold of 1.0.

Based on the health risk evaluation, cancer risk and non-cancer health hazard impacts would be less than significant

d) *Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, there are no quantitative or formulaic methodologies to determine the presence of a significant odor impact. Rather, often air districts recommend that odor analyses strive to fully disclose all pertinent information. The intensity of an odor source's operations and its proximity to sensitive receptors influences the potential significance of odor emissions. For example, San Joaquin Valley Unified Air Pollution Control District has identified some common types of facilities that have been known to produce objectionable odors.¹⁴ The proposed project is not one of the common types of facilities that have been known to produce objectionable odors.

Generally, an odor source with five or more confirmed complaints per year averaged over three years could be considered to have a significant impact. However, it should be recognized that there is not one piece of information that can solely be used to determine the significance of an odor impact. For example, a project that would be located near an existing odor source may not discover any odor complaints for the existing odor source. It is possible that factors such as a small number of existing nearby receptors, predominate wind direction blowing away from the existing receptors, and/or seasonality of the odor source has prevented any odor complaints from being filed about the existing odor source.

Odor emissions are highly dispersive, especially in areas with higher average wind speeds. However, odors disperse less quickly during inversions or during calm conditions, which hamper vertical mixing and dispersion. The existing facility has not received any odor complaints over the last three years. Odor impacts are considered less than significant in this regard.

Mitigation Measures

No mitigation measures are required.

Findings

¹⁴ San Joaquin Valley Unified Air Pollution Control District, Final Draft Guidance for Assessing and Mitigating Air Quality Impacts, March 19, 2015, <https://www.valleyair.org/transportation/GAMAQI-2015/FINAL-DRAFT-GAMAQI.PDF>

Based upon the review of the information above, with implementation of mitigation measures the proposed project will have a less than significant impact with respect to *Air Quality*.

Documentation and References

RCH (RCH Group). 2022. *Air Quality Technical Report for the Crystal Creek Aggregates Expansion*. November 4, 2022.

SCAQMD (Shasta County Air Quality Management District). 2022. *Air Quality Maintenance Plan and Implementing Measures*. 2022.

Shasta (County of Shasta). 2008a. *Environmental Initial Study General Plan Amendment 07-005, Zone Amendment 07-020, Use Permit 07-020, and Reclamation Plan 07-002, Crystal Creek Aggregate, Comingdeer*. March 7, 2008.

Shasta. 2008b. *Planning Commission Resolution Nos. 2008-066 and 2088-067*. July 12, 2008.

Shasta. 2004. *Shasta County General Plan*. September 2004.

Shasta. 2008c. *Statement of Conditions - Use Permit 07-020*. August 5, 2008.

IV. Biological Resources

This section of the Initial Study describes the affected environment for biological resources and is based upon the *Biological Resource Assessment Terrestrial and Aquatic Wildlife and Botanical Resources, Crystal Creek Aggregate Mine* (Gallaway, 2022a); *Draft Delineation of Aquatic Resources, Crystal Creek Aggregate Mine* (Gallaway, 2022b); and the *Highway 299 Intersection Improvements Project Biological Resource Assessment* (Gallaway, 2022c). These technical documents are provided in Attachment D. The assessments summarize the results of biological field surveys of the project area and describes the potential impacts on biological resources that would result from implementation of the proposed project. Additionally, this section provides mitigation measures that would reduce the impacts identified.

Environmental Setting

A map depicting the different habitat types present as of the date of this report within the biological study area is provided as Figure 4 of Biological Resources Assessment (Gallaway, 2022a) (refer to Attachment D). These habitat types are described further below. The habitats depicted within the existing Use Permit area of the Mine are actively being altered pursuant to the Use Permit. The proposed Amendments to the Use Permit and Reclamation Plan will not alter or expand the existing limits of impact.

Montane Hardwood-Conifer

The Mineral Resource Area and areas currently outside of the active mining area are co-dominated by montane hardwood-conifer woodland. This habitat type is typically diverse in structure, with a mix of hardwoods, conifers, and shrubs. Historically the tree canopy varied from moderately dense to sparse but following the Carr Fire, the tree canopy has been decimated and is now fairly sparse with many standing dead trees. The tree layer present is composed of black oaks (*Quercus kelloggii*), knobcone pine (*Pinus attenuata*) and ponderosa pine (*Pinus ponderosa*). The shrub component is composed of toyon (*Heteromeles arbutifolia*), whiteleaf manzanita (*Arctostaphylos vicida*), coffeeberry (*Frangula californica*) and snowdrop bush (*Styrax redivivus*).

Mixed Chaparral

The Mineral Resource Area and areas currently outside of the active mining area are co-dominated by mixed chaparral habitat. Prior to the Carr Fire, it was evident that the mixed chaparral habitat present was dominated by a dense shrub layer of whiteleaf manzanita; however, post-fire, the dominate shrub observed was toyon. Whiteleaf manzanita, coffeeberry and snowdrop bush were also present with an understory layer comprised of lemmon's ceanothus (*Ceanothus lemmonii*), poison oak (*Toxicodendron diversilobum*), silver hairgrass (*Aira caryophyllea*), goldwire (*Hypericum concinnum*), medusahead (*Elymus caput-medusae*), tall willowherb (*Epilobium brachycarpum*), Spanish lotus (*Acmispon americanus*), wild oats (*Avena barbata*), six-weeks fescue (*Festuca myuros*), winter vetch (*Vicia villosa*) and prickly lettuce (*Lactuca serriola*). Mixed chaparral habitat provides escapement and nesting areas, and food, shelter, and water for a variety of species of resident and migrating wildlife species.

Annual Grassland

Annual grassland habitat occurs in only a few small areas within the biological study area where a historic residence was once located and where the area was disturbed from historic mining activities. Annual grassland habitats and species composition depend largely on annual precipitation, fire regimes, and grazing practices (Mayer and Laudenslayer, 1988). Species observed in the annual grasslands in the biological study area include rip-gut brome (*Bromus diandrus*), wild oat, silver hairgrass, soft chess (*Bromus hordeaceus*), Spanish lotus, six-weeks fescue, winter

vetch, prickly lettuce and medusahead. Most wildlife species use grassland habitat for foraging, but generally require some other habitat characteristic such as rocky out crops, cliffs, caves, or ponds in order to find shelter and cover for escapement. Some rodents, such as ground squirrels (*Otospermophilus beecheyi*), utilize annual grasslands for burrowing.

Riverine

Riverine habitat is characterized by intermittent or continually running water. There are many ephemeral drainages within the biological study area as well as three intermittent drainages. The ephemeral drainages only function to convey precipitation during the wet season. The three intermittent drainages are seep fed and convey water during winter and into the early summer months. Later in the year, flows subside and only portions of these drainages contain low amounts of water while other sections dry completely. All of the drainages converge from the north and south into a central channel which flows east into Pond #4. Its substrate is composed of stone and cobble, and abundant vegetation, including patches of riparian vegetation, was present within the streambed of only the intermittent drainages. Riverine habitat provides food for waterfowl, herons (*Ardeidae* sp.), and many species of insectivorous birds, hawks, and their prey.

Lacustrine – Wetlands and Active Mining Ponds

Lacustrine habitats are inland depressions or dammed riverine channels containing standing water (Cowardin, 1979 cited in Mayer and Laudenslayer, 1988). Within the biological study area lacustrine habitat includes natural wetlands, historic mining ponds and active mining ponds. The natural wetlands observed included seeps and seasonal wetlands. The historic mining ponds are small ponds that were constructed as part of the historic mining operations that took place on the site in the 1960s and have since been undisturbed and function currently as naturalized wetlands. All of the active mining ponds are man-made incidental to the ongoing mining operations and either have controlled outfalls or have no direct or natural connection to a tributary and are completely isolated. Some of the ponds are perennial while some dry during the summer months. There are 1.58 acres of wetlands, including the historic mining ponds, within the biological study area and 6.95 acres of active mining ponds. The typical dominant vegetation found within the various wetlands present within the Mine included a variety of rushes (*Juncus* sp.), Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), perennial ryegrass (*Festuca perennis*), hawkbit (*Leontodon saxatilis*), seep monkeyflower (*Erythranthe guttata*), sweet vernal grass (*Anthoxanthum odoratum*), Fremont cottonwood (*Populus fremontii*) saplings and various willow species (*Salix* sp.). Lacustrine habitat provides breeding and foraging habitat for a number of amphibians, reptiles, and birds.

Barren

Barren habitat is typified by non-vegetated soil, rock, and gravel. The entire active mine area as well as the various dirt access roads within the biological study area are barren. The barren habitat type typically provides low quality habitat to wildlife. Some ground-nesting birds, such as killdeer (*Charadrius vociferus*), will nest in gravelly, barren substrate.

Critical Habitat

There is no designated critical habitat within the biological study area. Although the one controlled outfall present within the biological study area is hydrologically connected to an unnamed tributary of Middle Creek, which is designated as critical habitat for steelhead, none of the drainages within the biological study area can support anadromous fishes and there are barriers present which prevent occurrences, even during high flow events (Gallaway, 2022a).

Sensitive Natural Communities

No California Department of Fish and Wildlife (CDFW) designated sensitive natural communities occur within the biological study area (Gallaway, 2022a).

Regulatory Setting

This section summarizes current federal, State, and local regulations relevant to the review of *Biological Resources* for this project. Ordinances, regulations, or standards that are applicable to the environmental review of biological resource impacts include the following:

Wetlands and Waters

The United States Army Corps of Engineers (USACE) has primary federal responsibility for administering regulations that concern waters of the U.S. (including wetlands). Section 404 of the Clean Water Act (CWA), regulates the discharge of dredged or fill material into waters of the U.S. The USACE requires that a permit be obtained prior to the placement of structures within, over, or under navigable waters and/or discharges dredged or fill material into waters below the ordinary high-water mark (OHWM). The USACE has established a series of nationwide permits (NWP) that authorize certain activities in waters of the U.S. Under CWA Section 401, a project requiring a USACE Section 404 permit is also required to obtain a State Water Quality Certification (or waiver) to ensure that the project will not violate established State water quality standards. The RWQCB regulates waters of the State and has a policy of no-net-loss of wetlands. The Regional Water Quality Control Board (RWQCB) typically requires mitigation for all impacts to wetlands before it will issue a water quality certification.

Federal Endangered Species Act

The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) implement the federal Endangered Species Act (FESA) of 1973. Under FESA, threatened and endangered species on the federal list and their habitats are protected from “take” unless a Section 10 Permit is granted to an individual or a Section 7 consultation and a Biological Opinion with incidental take provisions are rendered from the lead federal agency. Under FESA, habitat loss is considered to be an impact to the species. Under Section 7 of the FESA, all federal agencies (including the USFWS and NMFS) are required to ensure that any action they authorize, fund, or carry out will not likely jeopardize the continued existence of federally listed species or result in the destruction or adverse modification of critical habitat.

Federal Migratory Bird Treaty Act

Most bird species, (especially those that are breeding, migrating, or of limited distribution) are protected under federal and/or State regulations. Under the Migratory Bird Treaty Act (MBTA) of 1918, migratory bird species, their nests, and their eggs are protected from injury or death, and any project-related disturbances during the nesting period.

Federal Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act, also known as the Sustainable Fisheries Act (Public Law 104-297), requires that all federal agencies consult with NMFS on projects authorized, funded, or undertaken by that agency that may adversely affect Essential Fish Habitat of commercially managed marine and anadromous fish species.

Federal Bald and Golden Eagle Protection Act

This Act provides for the protection of the bald eagle and the golden eagle by prohibiting, except under certain specified conditions, the taking, possession, and commerce of such birds and their occupied and unoccupied nests.

California Fish and Game Code §1600-1616 (Streambed Alteration)

California Fish and Game Code §1600 *et seq.*, requires that a project proponent notify the California Department of Fish and Wildlife (CDFW) prior to any work that would divert or obstruct the natural flow of any river, stream, or lake; change the bed, channel, or bank of any river, stream, or lake; use material from any river, stream, or lake; and/or deposit or dispose of material into any river, stream, or lake. The project proponent and the CDFW must enter into a Lake and Streambed Alteration Agreement (LSAA) prior to an action that would result in such an impact. The LSAA will include conditions that minimize/avoid potentially significant adverse impacts to riparian habitat and waters of the state.

California Fish and Game Code §3503 and 3503.5 (Nesting Bird Protections)

These sections of the Code provide regulatory protection to resident and migratory birds and all birds of prey within the State and make it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the Code.

California Endangered Species Act

The California Endangered Species Act (CESA) prohibits the take of State-listed threatened and endangered species. Under CESA, state agencies are required to consult with the CDFW when preparing CEQA documents. The CDFW can authorize take if an incidental take permit is issued by the Secretary of the Interior in compliance with the FESA, or if the director of the CDFW issues a permit under §2080 in those cases where it is demonstrated that the impacts are minimized and mitigated.

California Native Plant Protection Act

The California Native Plant Protection Act (NPPA) (California Fish and Game Code §1900 – 1913) includes measures to preserve, protect, and enhance rare and endangered native plants. The list of native plants afforded protection pursuant to the Native Plant Protection Act includes those listed as rare and endangered under the CESA. The NPPA states that no person will take, possess, sell, or import into the state, any rare or endangered native plant, except in compliance with provisions of the act.

Shasta County General Plan

The Shasta County General Plan provides goals, policies, and implementation measures to reduce impacts of projects on biological resources. Applicable goals and policies relative to the proposed project site are listed as follows:

- *FW-1.* Protection of significant fish, wildlife, and vegetation resources.
- *FW-2.* Provide for a balance between wildlife habitat protection and enhancement and the need to manage and use agricultural, mineral extraction, and timber land resources.
 - *Policy FW-b.* Recognition that classification of some fish, wildlife, and vegetation resources designated and used as Timberlands, Mineral Resource, Croplands, or Grazing lands does, in most cases, protect habitat resources. However, if there is a conflict, the timber, mineral extraction, or agricultural land use classifications mentioned above shall prevail in a manner consistent with State and Federal laws.
 - *Policy FW-c.* Projects that contain or may impact endangered and/or threatened plant or animal species, as officially designated by the California Fish and Game Commission and/or the U. S. Fish and Wildlife Service, shall be designed or conditioned to avoid any net adverse project impacts on those species.

2008 Initial Study / Mitigated Negative Declaration Findings

In 2008 the County approved a Mitigated Negative Declaration (SCH No. 2008052029) for *General Plan Amendment GPA07-005, Zone Amendment GZ07-020, Use Permit Amendment UP07-020, and Reclamation Plan Amendment RP07-002*. As noted in Section 2.0, PROJECT DESCRIPTION, the Mitigated Negative Declaration evaluated environmental impacts associated with amending the General Plan land use designation on 115 acres from “N-O” (Natural Resource Protection – Open Space) to “MR” (Mineral Resource); rezoning the same 115 acres from “U” (Unclassified) to “MR” (Mineral Resource); expanding the quarry area from 53.57 acres to 110.24 acres; extending the termination date of the operation from February 22, 2010, to December 31, 2072; amending the reclamation plan to include expansion of the quarry by 56.67 acres; and the processing of up to 250,000 tons per year.

Making the appropriate findings, the County determined that impacts to *Biological Resources*, after implementation of mitigation measures, would be less than significant with mitigation incorporated (Shasta, 2008a; 2008b; 2008c). The following mitigation measures were required:

Western Pond Turtles

1. To the extent practicable, project activities shall be conducted during the dry season to reduce the likelihood of the presence of western pond turtles in project areas.
2. If a western pond turtle is encountered during project construction, activities in the vicinity shall cease until appropriate protective measures have been implemented or it has been determined that the turtle will not be harmed. Any western pond turtles encountered shall be allowed to move away on their own or shall be relocated to suitable habitat by a qualified biologist.
3. Any trapped, injured, or killed pond turtles shall be reported immediately to the California Department of Fish and Game.

Cooper’s Hawks and Other Raptor Species

4. Removal of trees shall be conducted outside of the nesting season to the extent practicable. The nesting season is approximately March 1st through August 31st.
5. If removal of trees outside of the nesting season is not practicable, all trees proposed for removal shall be surveyed by a qualified biologist for active raptor nests within two weeks prior to initiation of project activities. If any active raptor nests are identified, a qualified biologist shall be consulted to determine appropriate conservation measures prior to the initiation of project activities. Conservation measures may include, but are not limited to, the establishment of buffers and biological monitoring. No active nest trees shall be removed until young have fledged or appropriate "take" permits have been obtained from the California Department of Fish and Game and/or U.S. Fish and Wildlife Service.
6. If initiation of project activities is to occur during the nesting season, all trees within 250 feet of proposed project activities shall be surveyed by a qualified biologist for active raptor nests within two weeks prior to initiation of project activities. If any active raptor nests are identified within the buffer area, a qualified biologist shall be consulted to determine appropriate conservation measures prior to the initiation of project activities. Measures may include, but are not limited to, delaying project activities until young have fledged, establishment of buffers, or monitoring of active nests during project activities. Project activities within 250 feet of active nests shall not be initiated until the conservation measures have been implemented.

Suitable Nesting Habitat for Birds Protected Under the Migratory Bird Treaty Act

7. Removal of trees, shrubs, and other vegetation shall be conducted outside of the nesting season to the extent practicable. The nesting season is approximately March 1st through August 31st.
8. If removal of vegetation is to occur during the nesting season, pre-construction surveys for nesting migratory birds shall be conducted by a qualified biologist with proposed vegetation disturbance areas. Surveys shall be conducted within two weeks prior to initiation of vegetation disturbance. If any active nests (more than half completed) are identified, a qualified biologist shall be consulted to determine appropriate conservation measures prior to the initiation of project activities. Conservation may include, but are not limited to, the establishment of buffers and biological monitoring. No active nest trees shall be removed until young have fledged or appropriate "take" permits have been obtained from the U.S. Fish and Wildlife Service.

Pallid Bat Maternity Colonies

9. To the extent practicable, removal of trees capable of supporting maternity colonies shall occur before maternity colonies form (i.e., prior to March 1st) or after young are volant (flying) (i.e., after August 15th).
10. If removal of trees must be conducted during maternity season, a pre-demolition survey for roosting bats shall be conducted prior to any removal of potential roost trees. The survey shall be conducted by a qualified biologist. No activities that would result in disturbance to the potential roost trees shall proceed prior to the completed surveys. If no active roosts are found, then no further measures are required. If an active maternity roost is present, a construction-free buffer shall be established until the young are volant. A qualified biologist shall determine the required extent of the construction-free buffer zone.

Ephemeral Drainages, Intermittent Streams, Perennial Marshes, and Seasonal Wetlands

11. Impacts caused by the removal of ephemeral drainages, intermittent streams, perennial marshes, and seasonal wetlands shall be mitigated by reclamation of the site which would include the creation of approximately 1.8 acres of marshes, wetlands and riparian habitat in a strip surrounding the proposed pond.

Impact Analysis

Gallaway Enterprises conducted biological and botanical habitat assessments in the biological study area (BSA) to evaluate site conditions and potential for biological and botanical species to occur (see Figure 2 in Biological Resources Assessment [Gallaway, 2022a], Attachment D). The biological study area includes the active mine including the aggregate plant (Mine), approximately 110 acres, and adjacent Mineral Resource Area, approximately 70 acres. The Biological Resources Assessment also describes potential project-related impacts to sensitive biological resources, including wetlands and waters. Other primary references consulted include species lists and information gathered from the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC), National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS), California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB), the California Native Plant Society (CNPS) inventory of rare and endangered plants, and literature review.

Gallaway Enterprises also conducted an aquatic resources assessment to determine the extent of any aquatic feature(s) that would be considered waters of the United States (WOTUS) or waters of the State (WOTS) for the proposed project consisting of 179.97 acres. The determination of WOTUS is based on the current definition of

WOTUS as defined by the Clean Water Act (CWA) and the determination of WOTS is based on the final definition adopted April 2, 2019 (Gallaway, 2022b) (Attachment D).

In addition, Gallaway Enterprises prepared an assessment to document the endangered, threatened, sensitive, and rare species and their habitats that could potentially occur on an approximate 1.77-acre area located at the intersection of Iron Mountain Road and State Route 299 (SR-299) (Gallaway, 2022c). This assessment was prepared in response to comments received by the County from Caltrans on May 7, 2021 via e-mail due to increased truck traffic resulting from the proposed Crystal Creek Aggregates Use Permit and Reclamation Plan Amendments. The Amendments would result in an increase in aggregate extraction, that would “considering the grade of SR-299 approaching the intersection from the east,” necessitate the need of improvements at the intersection, including that “the right turn lane needs to be lengthened and the taper shortened to handle the additional truck volume.” The required improvements to address the Caltrans comments are addressed in the Biological Resources Assessment (Gallaway, 2022c) (Attachment D).

Literature Records Searches

Gallaway Enterprises obtained lists of special-status species that occur in the vicinity of the biological study area. The CNDDDB Geographic Information System (GIS) database was also consulted and showed special-status species within a 5-mile radius of the biological study area (Gallaway, 2022a). Other primary sources of information regarding the occurrence of State or federally listed threatened, endangered, proposed, and candidate species and their habitats within the biological study area used in the preparation of the Biological Resources Assessment are:

- The USFWS IPaC Official Species List for the Project area, July 8, 2020, Consultation Code 08ESMF00-2020-SLI-2334 and updated on May 13, 2022, Project Code: 2022-0042796;
- The results of a species record search of the CDFW CNDDDB, RareFind 5, for the 7.5-minute USGS Whiskeytown (4012265), Shasta Dam (4012264), Project City (4012263), Igo (4012255), Redding (4012254), and Enterprise (4012253) quadrangles;
- The CNPS Inventory of Rare and Endangered Vascular Plants of California for the 7.5-minute USGS Whiskeytown (4012265), Shasta Dam (4012264), Project City (4012263), Igo (4012255), Redding (4012254), and Enterprise (4012253) quadrangles;
- USFWS Critical Habitat Portal, June 1, 2020 and May 13, 2022;
- Results from North State Resources 2006 botanical surveys and 2007 wildlife assessments for the Mine site;
- Results from multiple field surveys conducted by Wildland Resource Managers (WRM) within the Mine site between April and June 2019;
- Results from the protocol-level surveys and habitat assessment conducted by Gallaway Enterprises on May 21 and 27 and June 2 and 4, 2020 and April 28, 2022; and
- Results from the Delineation of Aquatic Resources conducted by Gallaway Enterprises on May 21 and 27 and June 2 and 4, 2020 and April 28, 2022.

Special-Status Species

Special-status species that were considered in the Biological Resources Assessment (Gallaway, 2022a) are those that fall into one of the following categories:

- Listed as threatened or endangered, or are proposed or candidates for listing under the California Endangered Species Act (CESA, 14 California Code of Regulations 670.5) or the Federal Endangered Species Act (ESA, 50 Code of Federal Regulations 17.12);
- Listed as a Species of Special Concern (SSC) by CDFW or protected under the California Fish and Game Code (CFGC) (i.e., Fully Protected Species);
- Ranked by the CNPS as 1A, 1B, or 2;
- Protected under the Migratory Bird Treaty Act (MBTA);
- Protected under the Bald and Golden Eagle Protection Act; or
- Species that are otherwise protected under policies or ordinances at the local or regional level as required by the California Environmental Quality Act (CEQA, §15380).

Critical Habitat

The ESA requires that critical habitat be designated for all species listed under the ESA. Critical habitat is designated for areas that provide essential habitat elements that enable a species' survival, and which are occupied by the species during the species' listing under the ESA. For the purposes of designating critical habitat only, habitat is the abiotic and biotic setting that currently or periodically contains the resources and conditions necessary to support one or more life processes of a species. The USFWS Critical Habitat Portal was accessed on June 1, 2020 and May 13, 2022 to determine if critical habitat occurs within the biological study area. Appropriate Federal Registers were also used to confirm the presence or absence of critical habitat.

Sensitive Natural Communities

Sensitive Natural Communities (SNCs) are monitored by CDFW with the goal of preserving these areas of habitat that are rare or ecologically important. Many SNCs are designated as such because they represent a historical landscape and are typically preserved as valued components of California's diverse habitat assemblage.

Waters of the United States

A delineation of waters of the United States was conducted within the biological study area on May 27 and June 2 and 4, 2020 and April 28, 2022. The delineation is pending a jurisdictional determination from the US Army Corps of Engineers (Corps). The delineation is included in Attachment D (Gallaway, 2022b).

Habitat Assessments

Habitat assessments were conducted by Gallaway Enterprises staff on May 21 and 27 and June 2 and 4, 2020 and April 28, 2022. Habitat assessments for botanical and wildlife species were conducted to determine the presence of suitable habitat elements for special-status species within the biological study area. The habitat assessment was conducted by walking the entire biological study area, where accessible, and recording specific habitat types and elements. If habitat was observed for special-status species it was then evaluated for quality based on vegetation composition and structure, physical features (e.g., soils, elevation), micro-climate, surrounding area, presence of predatory species and available resources (e.g., prey items, nesting substrates), and land use patterns. A list of wildlife species observed within the biological study area is included in Attachment D (Gallaway, 2022a; 2022c).

Rare Plant Survey

Protocol-level rare plant surveys and habitat evaluations for rare plants were conducted on May 21 and 27 and June 2 and 4, 2020 and April 28, 2022. The surveys and evaluations were conducted by walking meandering transects through the entire biological study area and taking inventory of observed botanical species. The protocol-level surveys were conducted for species with blooming periods that overlapped the survey dates. Complete lists of the plant species observed within the BSA is included in Attachment D (Gallaway, 2022a; 2022c).

The following includes an analysis of environmental parameters related to *Biological Resources* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Would the Project:	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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 Wildlife or U.S. Fish and Wildlife Service?		X		
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 Wildlife or U.S. Fish and Wildlife Service?			X	
c) Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?		X		
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?			X	

Would the Project:	Potentially Significant Impact	Less-Than-Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			X	
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community, Conservation Plan, or other approved local, regional, or State habitat conservation plan?				X

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 Wildlife or U.S. Fish and Wildlife Service?*

Endangered, Threatened, and Rare Plants

There were no endangered, threatened, or rare plants observed within the biological study area during the protocol-level rare plant surveys conducted on May 21 and 27 and June 2 and 4, 2020 and April 28, 2022. A complete list of plant species observed within the biological study area during protocol-level surveys can be found in Attachment D (Gallaway, 2022a). Additionally, no special-status botanical species were observed within the site during previous site surveys conducted by North State Resources in 2006, or during surveys conducted by WRM in 2019. No impact would occur in this regard.

Endangered, Threatened, and Special Status Wildlife

A wildlife habitat assessment was conducted within the biological study area on June 4, 2020. One Species of Special Concern, the western pond turtle, was observed within the biological study area. Additionally, potentially suitable habitat was identified for pallid bat, Townsend’s big-eared bat, and various avian species protected under the Migratory Bird Treaty Act (MTBA). A complete list of wildlife species observed within the biological study area can be found in Attachment D (Gallaway, 2022a). No special-status wildlife species were observed within the site by North State Resources in 2007 nor by WRM in 2019.

Western pond turtle

The western pond turtle is a Species of Special Concern in California. There are two (2) CNDDDB occurrences of western pond turtle within 5 miles of the biological study area, the closest being located approximately 3.5 miles southwest of the biological study area.

Western pond turtles are known to bask on banks and woody debris, such as logs, along the sides of perennial aquatic features. They are also known to travel up to 400 meters from aquatic habitat into upland areas to nest, and they may aestivate in upland areas along intermittent drainages for several months during dry periods (Gallaway, 2022a). During the field surveys conducted, a few western pond turtles were observed within the perennial historic

created ponds in the Mineral Resource Area (where no mining or project related impacts will occur), including in ponds PO15 and PO16 (Galloway, 2022b). When water is present all of the manmade ponds in the biological study area provide suitable habitat for western pond turtles; however, due to regular disturbance and steeply engineered banks, the active mining ponds do not provide high-quality habitat for western pond turtles. With implementation of Mitigation Measure BIO-1, impacts to Western pond turtles would be less than significant.

Pallid bat

Pallid bats are designated as a CDFW Species of Special Concern. There are four (4) CNDDDB occurrences of pallid bat in Shasta County. Three (3) of the occurrences positively identify bridges as the known roost sites and the fourth occurrence does not describe a roost site or type. The nearest CNDDDB occurrence is just over 5 miles to the west of the biological study area, under the Brandy Creek bridge on Kennedy Memorial Drive.

Mature oak trees within the biological study area that contain suitable habitat elements (e.g., cavities, peeling bark) may provide suitable day-roosting habitat; however, there are very few large oak trees present, and the few large oak trees present have largely been impacted by the Carr Fire, resulting in poor quality of habitat within the site. Due to the small amount of potentially suitable habitat present and the lack of CNDDDB occurrences within 5 miles, there is low potential for pallid bats to occur within the biological study area. Implementation of Mitigation Measure BIO-2 would reduce potential impacts to Pallid bats to less than significant levels.

Townsend's big-eared bat

Townsend's big-eared bat is designated as a Species of Special Concern. The nearest CNDDDB occurrence is located just northwest of the biological study area and was observed in 1997 at the Rock Creek Mine.

The biological study area is the site of a historic and active mining operation. The historic mining activities included some tunneling and excavation. One (1) small tunnel was observed within the Mine during the field survey. Due to the small size of the tunnel and the noise and disturbance from the adjacent active mining, there is a low potential for Townsend's big-eared bats to occur within the tunnel in the biological study area. Implementation of Mitigation Measure BIO-2 would reduce potential impacts to Townsend's big-eared bats to less than significant levels.

Migratory Birds and Raptors

Nesting birds are protected under the MBTA (16 USC 703) and the CFGC (Section 3503). The MBTA (16 USC Section 703) prohibits the killing of migratory birds or the destruction of their occupied nests and eggs except in accordance with regulations prescribed by the USFWS. The bird species covered by the MBTA includes nearly all of those that breed in North America, excluding introduced (i.e., exotic) species (50 Code of Federal Regulations Section 10.13). Activities that involve the removal of vegetation including trees, shrubs, grasses, and forbs or ground disturbance has the potential to affect bird species protected by the MBTA.

The CFGC (Section 3503.5) states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks, eagles, and falcons) or Strigiformes (owls) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Take includes the disturbance of an active nest resulting in the abandonment or loss of young. The CFGC (Section 3503) also states that "it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto."

The majority of migratory birds and raptors protected under the MBTA and CFGC are not recorded on the CNDDDB because they are abundant and widespread. There is suitable nesting habitat for avian species within and adjacent to the biological study area. Implementation of Mitigation Measure BIO-3 will reduce the potential of mining activities to impact migratory birds and raptors. Less than significant impacts would occur in this regard.

Existing Bullfrog Population

The iNaturalist database was reviewed <https://www.inaturalist.org/> for observations of bullfrogs by the general public, and the results indicated that the presence of bullfrogs is widespread in Shasta County. It should be noted that the occurrence of bullfrogs from inaturalist.org are all focused around perennial aquatic environments. The California Natural Diversity Database (CNDDDB), a professional-grade database of documented occurrences of special status and listed species accounts, includes a threat attribute column that indicates a wide distribution of bullfrogs occurring in perennial aquatic environments throughout Shasta County. Neither of these databases included observations of Bullfrogs downstream of the project site. Based on a review of aerial photos and topographic maps, it does not appear that there are suitable habitats in the form of perennial (year-round) waterbodies in the vicinity of the project site, nor are there perennial drainages that would provide suitable habitat for bullfrogs to use migration corridors to other perennial drainages downstream of the project site.

The biological resource assessment of the project site, completed by Gallaway Enterprises, identified that there is currently a significant bullfrog population within the ponds at the site. The mining operation will result in the eventual creation of Pond #6. As excavation proceeds within the existing approved mining area, smaller ponds PO10 – PO14, which range in size between 804 and 5,266 square feet, will be removed or “decommissioned.” It is anticipated that the decommissioning of these smaller older ponds and creating new ponds as excavations proceeds, would reduce the available habitat for bullfrogs that may inhabit the mining area. However, the existing Settling Ponds #1 - #5 and the two Recycle Ponds will not increase or decrease in area and would appear to maintain the available habitat for aquatic organisms that may inhabit these ponds, thereby having no net increase or decrease in suitable bullfrog habitat over many future years. The Amended Reclamation Plan shows that settling ponds #1-#5 will be filled and reclaimed by the end of 2102 for industrial land uses, thereby eventually removing these potential bullfrog habitats. No new outfalls or culverts that drain to offsite watercourses will be installed as part of the proposed project. Additionally, the proposed activities and the mining excavations to create Pond #6 will be situated further away from the existing outfalls/culverts that exit the site, thereby increasing the distance between future suitable aquatic habitat and offsite habitats and, in turn, reducing the probability of bullfrogs escaping offsite. As previously noted, the filling and reclamation of Settling Ponds #1 - #5 and the two Recycle Ponds will eliminate the potential of bullfrogs escaping offsite from these sources. Based upon the aforementioned statements, there is not expected to be an increase, but rather a decrease in population, habitat, or likelihood of escape offsite in a significant manner over existing conditions.

- 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 Wildlife or U.S. Fish and Wildlife Service?*

As previously described above under *Environmental Setting*, there is no designated critical habitat within the biological study area. Although the one controlled outfall present onsite is hydrologically connected to an unnamed tributary of Middle Creek, which is designated as critical habitat for steelhead, none of the drainages within the biological study area can support anadromous fishes and there are barriers present which prevent occurrences, even during high flow events. Additionally, no CDFW designated sensitive natural communities or riparian areas occur within the biological study area (Gallaway, 2022a). Impacts are considered less than significant in this regard.

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- c) *Have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

Wetlands under federal jurisdiction (Waters of the U.S. – WOTUS) are defined as “areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3 [b], 40 CFR 230.3). To be considered under potential federal jurisdiction, a wetland must support positive indicators for hydrophytic vegetation, hydric soil, and wetland hydrology.

Wetlands are also subject to state jurisdiction where Waters of the State (WOTS) is broadly defined in the Water Code as including “any surface water or groundwater, including saline waters, within the boundaries of the state” and include all WOTUS. The State Implementation Guidance further states that WOTS “include both historic and current definitions of waters of the United States.” Under state jurisdiction, only one of the positive indicators for hydrophytic vegetation, hydric soil, and wetland hydrology needs to be present. No new evaluations were undertaken to determine what wetland features at the property are subject to state jurisdiction.

Per the active Use Permit (07-020) and the previous Lake and Streambed Alteration Agreement obtained for the Mine (LSAA No. 1600-2012-0018-R1), onsite mitigation was approved to compensate for impacts to wetlands. Use Permit Mitigation Measure 41.a reads:

“Impacts caused by the removal of ephemeral drainages, intermittent streams, perennial marshes, and seasonal wetlands shall be mitigated by reclamation of the site which would include the creation of approximately 1.8 acres of marshes, wetlands, and riparian habitat in a strip surrounding the proposed pond.”

Since the Use Permit Amendment is not proposing any changes to the previously approved limits of mining activities, no revision to the proposed onsite mitigation previously approved is anticipated.

As previously discussed, the approved use permit area is proposed to be expanded by an additional approximate 69.28 acres, referenced as the Mineral Resource Area (MR). Gallaway Enterprises conducted an aquatic resources assessment to determine the extent of any aquatic feature(s) that would be considered WOTUS or WOTS for the use permit amendment survey area consisting of 179.97 acres¹⁵. Within the 179.97 acres are the MR 69.28 acres, which had not been previously surveyed.

There are four wetland features totaling 0.566 acres located in the 69.28-acre MR Area that would be considered WOTUS and WOTS. In addition, there are approximately 1.086 acres of “Other Waters” within the MR Area. All of the WOTUS and WOTS wetland features and “Other Waters” within the MR Areas will be avoided as part of the proposed use permit amendment. The results of the assessment are provided in the September 2022 *Draft Delineation of Aquatic Resources Crystal Creek Aggregate Mine* (Attachment D).

Per the active Use Permit (07-020) and the previous Lake and Streambed Alteration Agreement obtained for the Mine (LSAA No. 1600-2012-0018-R1), onsite mitigation was approved to compensate for impacts to wetlands. Since the Use Permit Amendment is not proposing any changes to the previously approved limits of mining activities, no changes to the proposed onsite mitigation previously approved is anticipated. As part of the Reclamation Plan Amendment (Attachment B) a meandering intermittent drainage course will be created within the bench area around proposed Pond No. 6 with planting of riparian vegetation within and along the drainage course which also extends into the edges of Pond No. 6, creating 4.45 acres of riparian habitat. Upon reclamation, Pond No. 6 will create a 32.67-acre freshwater body with a shallow edge environment transitioning into the deeper pond

¹⁵ The 179.97 acre survey area includes the existing approved 110.69 acre Use Permit Mining and Reclamation Plan Area. The 110.69 acre Mining Reclamation Plan Area comprises the existing Plant Area where aggregate material processing occurs and the area where currently approved aggregate mining activities occur.

water area. The new pond area is 32.23 acres larger than the existing 0.438 acres of ponds being removed via excavation. In addition, the revegetation planting prescription for the riparian/grassland bench around the perimeter of Pond No. 6 include native willow, Fremont's cottonwood, native cattails, native rushes, and tomcat clover. Since these two proposed habitats are adjacent to one another, a multihabitat ecosystem will be created to provide a variety of integrated wetland features.

No impact to aquatic resources is anticipated within the Mineral Resource Area (see Attachment A and Attachment D; Gallaway, 2022a; 2022b) as no mining would occur. However, in the event that mining activities result in activities within the ordinary high-water mark and/or result in fill or discharge to any WOTUS or WOTS, the mine operator will need to comply with all applicable CWA and CFGC regulations. The project is conditioned to require the applicant to obtain the following permits to ensure compliance with all applicable CWA and CFGC regulations:

- Authorization under a Nationwide Permit or Individual Permit from the Corps (Clean Water Act Section 404) prior to any discharge of fill material into waters of the U.S.
- A Lake and Streambed Alteration Agreement from the CDFW (CFGC Section 1602) prior to any activities that would obstruct the flow of or alter the bed, channel, or bank of any perennial, intermittent or ephemeral creeks. The active Lake or Streambed Alteration Agreement (No. 1600-2010-0018-R1) for this project expired on December 31, 2014. A current Lake and Streambed Alteration Agreement will need to be obtained if there are any ongoing impacts to CDFW jurisdictional drainage features.
- Authorization under a water quality certification by the Regional Water Quality Control Board (Clean Water Act Section 401) prior to any discharge of dredged or fill material into waters of the State.

With implementation of Mitigation Measure BIO-4 and compliance with applicable CWA and CFGC regulations, impacts to State or federally protected wetlands would be less than significant.

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?*

California Department of Fish and Wildlife-mapped riparian corridors are named water features from the National Hydrography Dataset (NHD) that connect landscape blocks for the northern Sierra Nevada foothills wildlife connectivity project. Although CDFW has several riparian corridors mapped adjacent to the biological study area; there are no CDFW designated corridors that overlap the biological study area (Gallaway, 2022a). The existing reclamation area is actively being mined and thus has continuously and regularly been disturbed. The additional mining activities proposed in Use Permit and Reclamation Plan Amendments will not expand the existing Mine boundary; therefore, there will be no impacts to adjacent wildlife corridors. Proposed activities in the currently undisturbed Mineral Reserve Area will be limited to access and fuel reduction, with no lasting impacts anticipated. Impacts are considered less than significant in this regard.

e) *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

Shasta County does not currently have a tree preservation ordinance. Oaks within the biological study area were largely devastated by the Carr Fire and the few live black oaks remaining onsite are in various states of health. A revegetation plan for the quarry benches has been prepared to create not only an aesthetically pleasing reclamation feature but also to establish a fire-resistant plant community on the quarry benches (see Attachment B). The reclamation plan presents an opportunity to lower the fire danger in the area.

One of the main methods to achieve this goal is to eliminate fuel ladders where fire proceeds from lower vegetation into the crowns of trees. Reducing the amount of flammable material present (fuel load) reduces the spread of fires. To achieve these goals, brush species are eliminated from the plant palette. In its place, the planting of ponderosa pines, grasses and forbs is proposed. Ponderosa pines have been selected since they are indigenous to the area and grow in many nearby locations. The trees will be initially planted with 8 foot by 8-foot spacing and then thinned out at a future date. The final upland bench planting would be pines trees spaced 20 to 30 feet apart with grasses and forbs as the understory species. The spacing of the trees reduces the fuel load and the fuel ladder, which could result in fire spreading from one tree to another.

Reclamation shall occur, to the maximum extent feasible, concurrently with mining activity. Overburden and topsoil will be placed on each finished bench and vegetation planted within two years after reaching final grade, except for those portions that serve as haul routes or other functions necessary for mining future phases of the quarry. Impacts are considered less than significant in this regard.

f) *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community, Conservation Plan, or other approved local, regional, or State habitat conservation plan?*

A Habitat Conservation Plan (HCP) is a federal planning document that is prepared pursuant to Section 10 of the Federal Endangered Species Act (FESA). A Natural Community Conservation Plan (NCCP) is a State planning document administered by CDFW. There are no HCPs, NCCPs or other habitat conservation plans that apply to the proposed project. No impact would occur in this regard.

Mitigation Measures

The following mitigations measures have been developed to reduce potential impacts related to *Biological Resources* to less than significant levels:

Mitigation Measure BIO-1

The following measures shall be implemented to reduce or eliminate current and future Mine-associated impacts to Western pond turtles:

- a) Identification material for western pond turtles shall be permanently posted in prominent locations to make workers aware of the possible presence of the species on the site and what to do if they are encountered.
- b) If a western pond turtle is encountered during project activities, activities in the vicinity (within 25 feet) shall cease until the turtle moves out of the area on its own, or a good-faith effort is made by a qualified biologist to capture and relocate turtles to nearby suitable habitat.
- c) Any trapped, injured, or killed pond turtles shall be reported immediately to the California Department of Fish and Wildlife via RICEQARedding@wildlife.ca.gov.
- d) The operator shall install exclusion barriers (such as ERTEC Environmental Systems smooth Ridged Polymer Matrix fencing or similar product) along the roadway in the vicinity of ponds PO15, PO16, PO17, PO18, and PO19 to minimize the risk of western pond turtles entering the active mining site.
- e) Any future land modification or habitat disturbance proposed within or directly adjacent to PO15, PO16, PO17, PO18, or PO19 should occur outside of the known nesting and incubation season, between March and October.
- f) Any future land modification or habitat disturbance proposed within or directly adjacent to PO15,

PO16, PO17, PO18, or PO19, surveys for western pond turtle shall be conducted by a qualified biologist. IF western pond turtles are observed, a good-faith effort shall be made by a qualified biologist to capture and relocate turtles to nearby suitable habitat.

- g) For any future land modification or habitat disturbance on the project site, erosion control materials used onsite shall be made of loose-weave mesh, such as jute, hemp, coconut (coir) fiber or other products without welded weaves. Synthetic materials such as plastic and nylon shall not be used.
- h) Escape ramps shall be installed on all reclamation ponds with a greater than 2:1 slope to allow wildlife to exit the steep walled ponds. The ramps will be mechanically cut into the banks of the ponds using heavy equipment. Dimensions of the ramps will be a minimum of 12 inches wide and will not exceed a 2:1 slope.

Mitigation Measure BIO-2

The following measures shall be implemented to reduce or eliminate current and future Mine-associated impacts to Pallid Bats, Townsend's Big-Eared Bats, and other bats:

- a) Conduct removal and disturbance of trees outside of the bat maternity season and bat hibernacula (September 1 to October 31).
- b) If removal or disturbance of trees will occur during the bat maternity season, when young are non-volant (March 1 - August 31), or during the bat hibernacula (November 1 - March 1), large trees (those greater than 6 inches in diameter) shall be thoroughly surveyed for cavities, crevices, and/or exfoliated bark that may have high potential to be used by bats within 14 days of tree removal or disturbance. The survey shall be conducted by a qualified biologist or arborist familiar with these features to determine if tree features and habitat elements are present. Trees with features potentially suitable for bat roosting should be clearly marked prior to removal and humane evictions must be conducted by or under the supervision of a biologist with specific experience conducting exclusions. Humane exclusions could consist of a two-day tree removal process whereby the non-habitat trees and brush are removed along with certain tree limbs on the first day and the remainder of the tree on the second day.

Mitigation Measure BIO-3

The following measures shall be implemented to avoid impacts to nesting migratory birds and/or raptors protected under federal Migratory Bird Treaty Act and California Fish and Game Code Section 3503 and Section 3503.5, including their nests and eggs:

- a) Vegetation removal and other ground-disturbance activities associated with construction shall occur between September 1 and January 31 when birds are not nesting; or
- b) If vegetation removal or ground disturbance activities occur during the nesting season (February 1 through August 31), a pre-construction nesting survey shall be conducted by a qualified biologist within 14 days of vegetation removal or construction activities. If an active nest is located during the preconstruction surveys, a non-disturbance buffer shall be established around the nest by a qualified biologist in consultation with the Department of Fish and Wildlife (CDFW). No vegetation removal or construction activities shall occur within this non-disturbance buffer until the young have fledged, as determined through additional monitoring by the qualified biologist. The results of the pre-construction surveys shall be sent electronically to CDFW at R1CEQARedding@wildlife.ca.gov

Mitigation Measure BIO-4

The following measures shall be implemented to reduce or eliminate current and future Mine-associated impacts to aquatic resources:

- a) Impacts caused by the removal of ephemeral drainages, intermittent streams, perennial marshes, and seasonal wetlands shall be mitigated by reclamation of the site which would include the creation of approximately 4.45 acres of marshes, wetlands and riparian habitat in a strip surrounding the proposed pond.

Findings

Based upon the review of the information above, with implementation of mitigation measures the proposed project will have a less than significant impact with respect to *Biological Resources*.

Documentation and References

- Gallaway (Gallaway Enterprises). 2022a. *Biological Resource Assessment, Terrestrial and Aquatic Wildlife and Botanical Resources, Crystal Creek Aggregate Mine*. October 2022.
- Gallaway. 2022b. *Draft Delineation of Aquatic Resources, Crystal Creek Aggregate Mine*. September 2022.
- Gallaway. 2022c. *Highway 299 Intersection Improvements Project Biological Resource Assessment*. July 2022.
- Shasta (County of Shasta). 2008a. *Environmental Initial Study General Plan Amendment 07-005, Zone Amendment 07-020, Use Permit 07-020, and Reclamation Plan 07-002, Crystal Creek Aggregate, Comingdeer*. March 7, 2008.
- Shasta. 2008b. *Planning Commission Resolution Nos. 2008-066 and 2088-067*. July 12, 2008.
- Shasta. 2004. *Shasta County General Plan*. September 2004.
- Shasta. 1984. *Shasta County General Plan Environmental Impact Report, SCH #80050918*. January 10, 1984.
- Shasta. 2019. *Shasta County Municipal Code Chapter 17.84 – General Development Standards*. Updated through April 11, 2022.
- Shasta. 1999. *Shasta County Municipal Code Chapter 17.14 – Habitat Protection (HP) District*. Updated through April 11, 2022.
- Shasta. 2008c. *Statement of Conditions - Use Permit 07-020*. August 5, 2008.

V. Cultural Resources

The purpose of the section of the Initial Study is to identify any potential cultural resources within or adjacent to the proposed project, and to assist the Lead Agency, in this case the Shasta County, in determining whether such resources meet the office definitions of “historical resources,” as provided in the California Public Resources Code (PRC), in particular under the California Environmental Quality Act (CEQA).

CEQA requires a lead agency to determine whether a project may have a significant effect on historical resources (Section 21084.1). If it can be demonstrated that a project will cause damage to resources eligible for or listed in the California Register of Historic Resources (CRHR), Tribal Cultural Resources (TCRs) and other resources on county or local lists, or those determined by the lead agency to be significant, the lead agency may require reasonable efforts be made to permit any or all of the resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (Section 21083.2[a], [b], and [c]).

The analysis in this section has been prepared in accordance with Section 15064.5 of the State CEQA Guidelines, which considers the potential impacts on prehistoric, historic, and paleontological resources. This section describes the potential cultural resources within the project study area, and the applicable regulations that govern those resources and is based on the following evaluations prepared by Genesis Society:

- *Archaeological Inventory Survey – Crystal Creek Aggregate Licensing and Reclamation Project, 150 acres along Iron Mountain Road, Shasta County, California.* November 1, 2006.
- *Cultural Resources Inventory Report – Crystal Creek Aggregate Licensing and Reclamation Project, circa 28.46 acres, Shasta County, California.* August 28, 2019.
- *Cultural Resources Inventory Report – SR-299/Iron Mountain Road Intersection Improvement Project, circa 15 acres, Shasta County, California.* January 17, 2020.

The information provided below is an abridged version of the 2006, 2019, and 2020 cultural resources reports and is provided here to afford a brief context of the potential cultural resources in the project area. Information on the specific location of prehistoric and historic sites is confidential and exempt from the Freedom of Information Act (FOIA) and the California Public Records Act (CPRA); therefore, this information has been redacted for use in this Initial Study and the cultural resource reports are not included as attachments. Professionally qualified individuals, as determined by the California Office of Historic Preservation (OHP), may contact the Shasta County Department of Resource Management, Planning Division directly in order to inquire about its availability.

Environmental Setting

Ethnographic

The project area is within the traditional territory of the Keswick Wintu, one of nine sub-groups of Wintu (Genesis, 2006). The essential social unit amongst the Wintu was the family, and the macro scale social unit was likely the village. Villages were typically occupied in the winter months and were situated on terraces above waterways. Residences were usually constructed from bark and housed three to seven people, and village sizes ranged from four to five homes up to several dozen. Larger villages often had a large earthen lodge structure. Warmer months were used for gathering food resources away from winter villages; during these times of year people used temporary encampments.

The Wintu relied on a variety of terrestrial and aquatic plant and animal resources. Primary among these were acorns, deer, and various fish species, which they collected and processed with an array of stone, bone, and wood tools. Perishable materials such as wood, fiber, and bone tools survive far less often in the archaeological record, so knowledge of these elements of Wintu material culture are derived largely from ethnographic studies. Based on these ethnographic studies and archaeological investigations conducted in the project vicinity, Wintu land use patterns in the project area will have resulted in a variety of site types in the project vicinity, ranging from light surficial lithic scatters to extensive subsurface deposits with bedrock milling features. However, this material culture signature has likely been heavily impacted by mining development in the area beginning in the historic era (1850) and continuing through the present day.

Archaeological

Occupation of pre-contact California is widely accepted to date back to at least 10,000 years ago. Shifts in cultural, social, economic, and demographic patterns through time up through the historic period (ca. 1850) is evident in associated changes in material culture and land use patterns represented in the archaeological record. In the project region, the earliest documented archaeological patterns begin with Hokan-speaking peoples living on the landscape approximately 6,000 to 7,000 years ago, whose material culture resembles the Borax Lake and Mendocino complexes. Common artifact types include milling slabs, hand stones, and large wide-stemmed projectile points, representing large-game hunting and processing of plant foods. It is thought that variation in the material culture signature during this time represents incursions by neighboring groups.

Sometime between approximately 1,400 and 1,100 years ago, Penutian-speaking groups entered the Redding and Red Bluff area and seemingly displaced the existing Hokan speakers, a demographic shift signaled by shifts in material culture patterns. Small stemmed and corner-notched projectile points replaced the larger-stemmed versions, and mortars and pestles became more common than milling slabs and hand stones. These shifts in tool type are related to the exploitation of a wider array of plant, aquatic, and smaller-bodied terrestrial foodstuffs by Penutian speakers, which required more labor-intensive processing. The diversified array of food resources used by the Penutian speakers is thought to have allowed for their population to expand, pushing out the Hokan speakers. The next demographic shift would occur with the incursion of Euroamericans into California beginning in the sixteenth century with Spanish explorer Cabrillo in 1542, changes which accelerated dramatically with the onset of the Gold Rush in the mid-nineteenth century.

Historic

Mining is the most influential historical theme shaping the project area, marked by Reading's discovery of gold in Clear Creek in 1848 (Genesis, 2006). Placer mining efforts rapidly expanded along surrounding waterways, and mining camps eventually grew up into more established communities, such as Kett (originally named Hogtown [Genesis 2006; 2019]). Intensive methods of ore extraction and processing were employed as the more surficial placer deposits ran dry, which required greater volumes of water and thus greater water management efforts. The Shasta County Mining and Water Company was established in 1853; the construction of the Clear Creek Ditch followed. Regional mining operations expanded to include the extraction of copper in the 1880s, which by 1896 had outmatched gold mining revenues. Copper mining continued until around 1969 (Genesis, 2006; 2019).

The California and Oregon Railroad also contributed to historical industrial development in the project region, establishing a spur in the early 1880s. This led to the construction of Middle Creek Road as a means to connect Shasta with the rail line. The new stop was named Waugh, or Middle Creek Station, built at the confluence of the Sacramento River and Middle Creek by Joseph Waugh, who had previously run a ferry operation upriver.

Within the project area and immediate vicinity, smaller mining efforts were consolidated into two major operations: the Pocket Hill Mine, and what would become the currently operating Crystal Creek Aggregates

project area. The Pocket Hill Mine claim was filed in 1948 and had multiple owners; the most recent is Crystal Creek Aggregates, whose property is adjacent the Pocket Hill Mine property. Operations at Pocket Hill were altered after the 1980s – 1990s to meet current environmental standards.

Regulatory Setting

This section summarizes current federal, State, and local regulations relevant to the review of *Cultural Resources* for this project. Ordinances, regulations, or standards that are applicable to the environmental review of cultural resource impacts include the following:

National Register of Historic Places

To be eligible for listing on the National Register, a resource must be significant in American history, architecture, archaeology, engineering, or culture, and generally must be greater than 50 years in age. Districts, sites, buildings, structures, and objects of potential significance must meet one or more of the following four established criteria (36 CFR Section 60.4):

- *Criterion A.* Properties that are associated with events that have made a significant contribution to the broad patterns of our history.
- *Criterion B.* Properties that are associated with the lives of persons significant to our past.
- *Criterion C.* Properties that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master; or that possess high artistic values; or that represent a significant and distinguishable entity whose components may lack individual distinction.
- *Criterion D.* Properties that have yielded, or may be likely to yield, information important in prehistory or history.

In addition to these criteria, a resource must retain integrity to be considered eligible for listing on the NRHP. Integrity is the authenticity of the physical identity that is evidenced by the survival of characteristics that existed during the resource’s period of significance. Resources must retain enough of their character or appearance to be recognizable as resources and to convey the reasons for their significance. Integrity is the ability of a property to convey its significance. To be listed in the NRHP, a property must not only be shown to be significant under the National Register criteria, but it must also possess integrity. The evaluation of a historic property’s integrity is sometimes a subjective judgment, but it must always be grounded in an understanding of the property’s physical elements and how they relate to its significance. National Register Bulletin 15 describes seven aspects of integrity used in order to determine a historic property’s integrity:

1. *Location.* The relationship between the property and its location is often important in understanding why the property was created.
2. *Design.* The design aspect includes the combination of elements that create the form, plan, space, structure, and style of a property.
3. *Setting.* The setting is defined as the physical environment of a historic property.
4. *Materials.* Materials are the physical elements combined during a particular period of time and in a particular configuration to form a historic property.

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5. *Workmanship.* Workmanship is the physical evidence of the crafts of a particular culture of people during any given period in history or prehistory.
 6. *Feeling.* Feeling is described as a property's expression of the aesthetic or historic sense of a particular period of time.
 7. *Association.* Association is the direct link between an important historic event or person and a historic property.

Section 101(d)(6)(A) of the National Historic Preservation Act (NHPA) allows properties of traditional religious and cultural importance to a Native American tribe to be determined eligible for NRHP inclusion. In addition, a broader range of Traditional Cultural Properties (TCPs) is also considered and may be determined eligible for or listed in the NRHP. A TCP is a property associated with the cultural practices or beliefs of a living community; TCPs are rooted in that community's history and are important in maintaining the continuing cultural identity of the community. In the NRHP programs, "culture" is understood to mean the traditions, beliefs, practices, lifeways, arts, crafts, and social institutions of any community, be it an Indian tribe, a local ethnic group, or the nation as a whole.

California Register of Historical Places

As provided in California Public Resources Code (PRC) Section 5020.4, the California Legislature established the CRHR in 1992. The CRHR is used as a guide by state and local agencies, private groups, and citizens to identify the state historical resources and properties to be protected, to the extent prudent and feasible, from substantial adverse change. The CRHR, as instituted by the California Public Resources Code, automatically includes all California properties already listed in the NRHP and those formally determined to be eligible for listing in the NRHP. The CRHR may also include various other types of historical resources that meet the criteria for eligibility, including the following:

- Individual historic resources.
- Resources that contribute to a historic district.
- Resources identified as significant in historic resource surveys.
- Resources with a significance rating of Category 3 through Category 5 in the State Inventory (Categories 3 and 4 refer to potential eligibility for the NRHP; Category 5 indicates a property with local significance).

The CRHR follows the lead of the NRHP in utilizing the 50-year threshold: a resource is usually considered for its historical significance only after it reaches the age of 50 years. This threshold is not absolute but was selected as a reasonable span of time after which a professional evaluation of historical value/importance should be made. The criteria for listing resources in the CRHR were expressly developed to be in accordance with previously established criteria developed for listing on the NRHP. Section 15064.5(a)(3) of the CEQA Guidelines states that "generally, a resource shall be considered by the lead agency to be 'historically significant' if the resource meets the criteria for listing on the California Register of Historical Resources" (PRC Section 5024.1; 14 CCR 4852), including if the resource:

PRC Section 5024.1 requires an evaluation of historical resources to determine their eligibility for listing in the CRHR. The purpose of the register is to maintain listings of the State's historical resources and to indicate which properties are to be protected from substantial adverse change. The criteria for listing resources on the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the

National Register of Historic Places (NRHP), enumerated below. According to PRC Section 5024.1(c) (1–4), a resource is considered historically significant if it (i) retains “substantial integrity,” and (ii) meets at least one of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of installation, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

A historical resource is a resource listed in, or determined to be eligible for listing, in the CRHR (Section 21084.1), a resource included in a local register of historical resources (Section 15064.5[a][2]), or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (Section 15064.5[a][3]).

2008 Initial Study / Mitigated Negative Declaration Findings

In 2008 the County approved a Mitigated Negative Declaration (SCH No. 2008052029) for *General Plan Amendment GPA07-005, Zone Amendment GZ07-020, Use Permit Amendment UP07-020, and Reclamation Plan Amendment RP07-002*. As noted in Section 2.0, PROJECT DESCRIPTION, the Mitigated Negative Declaration evaluated environmental impacts associated with amending the General Plan land use designation on 115 acres from “N-O” (Natural Resource Protection – Open Space) to “MR” (Mineral Resource); rezoning the same 115 acres from “U” (Unclassified) to “MR” (Mineral Resource); expanding the quarry area from 53.57 acres to 110.24 acres; extending the termination date of the operation from February 22, 2010, to December 31, 2072; amending the reclamation plan to include expansion of the quarry by 56.67 acres; and the processing of up to 250,000 tons per year.

Making the appropriate findings, the County determined that no impact related to *Cultural Resources* would occur with implementation of *General Plan Amendment 07-005, Zone Amendment 07-020, Use Permit Amendment, UP-07-020, and Reclamation Plan Amendment RP-07-002* (Shasta, 2008a; 2008b; 2008c). No mitigation measures were required.

Impact Analysis

Area of Potential Effects

Since the proposed project will involve physical disturbance to ground surface and sub-surface components in conjunction with aggregate quarrying and mining activities, it has the potential to impact cultural resources that may be located within the area of potential effects (APE). For the proposed project, three APEs were identified with each subjected to intensive pedestrian surveys by means of walking parallel transects, spaced at 30-meter intervals. It is important to note that the Carr Fire consumed a substantial portion of the project area. Consequently, vegetation was dramatically reduced, making examination of surface soils within the APE highly visible, and bladed fire breaks further exposed subsurface soils allowing careful examination

APE No. 1 consists of approximately 162 acres of the existing permitted mining operation (Genesis, 2006). APE No. 2 consists of approximately 28.46 acres of the Mineral Resource Area that had not been previously surveyed located south of the existing mining operation (Genesis, 2019). APE No. 3 consists of approximately 15 acres situated on the northeast side of State Route 299 (SR-299) at its intersection with Iron Mountain Road (Genesis, 2020).

Literature Review

A cultural resource literature review was conducted for the proposed project and surrounding area. The following sources were consulted to obtain information concerning known archaeological sites, historic properties, and historic activities within and/or adjacent to the project area:

- Review of maps, aerial photographs, and records for archaeological surveys, sites, and other cultural resources in this portion of Shasta County, as well as a review for the National Register of Historic Places (NRHP).
- A search of the records of the California Historic Resource Information System (CHRIS) for any previous surveys of prehistoric or historic archaeological sites, archaeological resources, or traditional cultural properties within or immediately adjacent to the project area.
- A review of historic maps and databases, including federal and State listings of historic places, land patent records from the Bureau of Land Management, and historic aerial photos to identify any known or suspected cultural properties at or near the proposed project site. Other databases include the CRHR; California Inventory of Historic Resources; California Historical Landmarks; and the California Points of Historical Interest.
- A search of the Sacred Lands File by the NAHC.
- Requests to the Shasta County Historical Society and past owners of the site to obtain any information about events, people, or resources of historical significance on the property.

Records and literature searches revealed that the entire mining property has been surveyed as part of four cultural resource studies over the past 30 years (Genesis, 2006; 2019). The most recent of these were conducted in 2006 and 2019. As a result of the studies predating 2006, a total of 11 historic-period cultural resources were identified within the project area, including two sites and nine isolates. The sites were historic Shasta Road (CA-SHA-1447-H) and a historic mining and habitation complex (CA-030-1398) mapped on historic GLO plats, which were previously determined to be not eligible for inclusion in the NRHP or CRHR. The isolates were largely mining-related, including building pads, tailings piles, and various mine features; historic-period fruit trees and fence

posts were also identified. Isolates, by definition, are not eligible for inclusion in the CRHP and are not unique archaeological resources. In addition, no prehistoric resources have been formally recorded within the 15-acre APE along located the northeast side of SR-299 at its intersection with Iron Mountain Road or within a 0.25-mile radius of the APE (Genesis, 2020).

A request for a Sacred Lands Search and a Native American contact list was sent to the NAHC for the 2006 study covering the northern half of the project area. The NAHC responded on September 28, 2006, that there were no sacred land listings within or adjacent to the project area (Genesis, 2006). On June 1, 2019, the NAHC was sent a Sacred Lands File search request for the 2019 study covering the southern portion of the project area. The NAHC responded on June 7, 2019, that the search returned positive findings and the Redding Rancheria was the appropriate tribe to contact regarding those findings. According to Genesis Society (personal comm., 2021), the positive findings of the Sacred Lands File search are related to the Kett Site, a known sacred site recorded by the Redding Rancheria that is located outside of the project area, and there are no Sacred Lands present within the current project area. On January 9, 2020, the NAHC indicated that a search of their Sacred Lands File was negative for the 15-acre APE at the intersection of SR-299 and Iron Mountain Road.

Field Review

Pedestrian surveys were conducted by professional archaeologists in October 2006, June 2019, and January 2020. The previously recorded historic sites in the project area (CA-SHA-1447-H and CA-030-1398) were not relocated during the 2006 or 2019 studies, nor were any additional resources identified. This was likely due to the extensive disturbance the project area has been subject to including wildfire, off-road vehicle use, newly graded roads, vegetation removal, and recreational camping (Genesis, 2006; 2019). No resources were encountered during field surveys conducted for improvements proposed at SR-299 and Iron Mountain Road (Genesis, 2020).

The following includes an analysis of environmental parameters related to *Cultural Resources* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Would the Project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?		X		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?		X		
c) Disturb any human remains, including those interred outside of dedicated cemeteries?		X		

a-b) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

Significant cultural resources, such as buildings, sites, structures, objects, and districts significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, must meet the criteria described in the *Regulatory Setting*, above. If no eligible resources are identified within the project area, then the project is not considered to have a significant impact on cultural resources. In addition, State regulations require that measures be taken to protect any resources that are uncovered during construction, and compliance with CEQA Guidelines Section 15064.5(f) requires that construction activities halt if potentially significant resources are discovered until the resources can be assessed by a qualified person.

Based on the results of the investigations described above, there are no resources in the project area with intact visible surface manifestations that qualify as historical or archaeological resources as defined by CEQA Guidelines Section 15064.5. However, there is the possibility of encountering buried archaeological or historical resources during project activities, including ground disturbing activities onsite and at offsite intersection improvements. Therefore, a condition of project approval will require that if, in the course of development, any archaeological, historical, or paleontological resources are uncovered, discovered or otherwise detected or observed, development activities in the affected area shall cease and a qualified archaeologist shall be contacted to review the site and advise the County of the site's significance. If the findings are deemed significant by the Environmental Review Officer, appropriate mitigation shall be required.

c) Disturb any human remains, including those interred outside of dedicated cemeteries?

There are no known burial sites on or immediately adjacent to the proposed project site.

The Wintu Tribe of Northern California has requested notification of proposed projects located within their geographic area of traditional and cultural affiliation in accordance with Public Resources Code section 21080.3(b), also known as AB52. The project is located within the Tribe's geographic area of traditional and cultural affiliation, and notification was sent via certified mail on October 7, 2019, and delivered to the designated Tribal Representative. Consultation was not requested by a representative of the Wintu Tribe of Northern California within the 30-day notification period ending November 7, 2019.

Pursuant to California Health and Safety Code Section 7050.5, in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, the project will be conditioned such that there shall be no further excavation or disturbance of the site until the coroner has determined if the remains are subject to his or her authority. If the coroner determines that human remains are not subject to his or her authority and recognizes or has reason to believe the remains to be those of a Native American, he or she shall contact the NAHC within 24 hours.

Mitigation Measures

No mitigation measures are required.

Findings

Based upon the review of the information above, implementation of the proposed project will have a less than significant with respect to *Cultural Resources*.

Documentation and References

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- Genesis (Genesis Society). 2006. *Archaeological Inventory Survey – Crystal Creek Aggregate Licensing and Reclamation Project, 150 acres along Iron Mountain Road, Shasta County, California*. November 1, 2006.
- Genesis. 2019. *Cultural Resources Inventory Report – Crystal Creek Aggregate Licensing and Reclamation Project, circa 28.46 acres, Shasta County, California*. August 28, 2019.
- Genesis. 2020. *Cultural Resources Inventory Report – SR-299/Iron Mountain Road Intersection Improvement Project, circa 15 acres, Shasta County, California*. January 17, 2020.
- Shasta (County of Shasta). 2008a. *Environmental Initial Study General Plan Amendment 07-005, Zone Amendment 07-020, Use Permit 07-020, and Reclamation Plan 07-002, Crystal Creek Aggregate, Comingdeer*. March 7, 2008.
- Shasta. 2008b. *Planning Commission Resolution Nos. 2008-066 and 2088-067*. July 12, 2008.
- Shasta. 2008c. *Statement of Conditions - Use Permit 07-020*. August 5, 2008.

VI. Energy

The purpose of the section of the Initial Study is to analyze the potential direct and indirect environmental impacts associated with the project's projected energy consumption. Such impacts can include the depletion of nonrenewable resources (e.g., oil, natural gas, coal, etc.). Analyses of emissions of air quality and Greenhouse Gas (GHG) pollutants during both the construction and long-term operational phases of the project are analyzed in Section III, AIR QUALITY, and Section VIII, GREENHOUSE GAS EMISSIONS.

Environmental Setting

Energy resources required for the proposed project would include electricity and petroleum fuels. These energy resources are currently consumed under the existing condition. Pacific Gas & Electric (PG&E) provides electrical power to the site and natural gas would not be required. The proposed project would increase the consumption of these energy resources to expand the project Use Permit Area and increase annual aggregate processing. Additional petroleum fuels would be consumed by the proposed project compared to the existing baseline through increased on-site equipment usage and vehicle trips (primarily heavy trucks). Additional electricity would also be consumed by the proposed project compared to the existing condition to increase annual aggregate processing. The Air Quality Technical Report (RCH, 2022) contained in Attachment C provides energy use calculations for the proposed project that are detailed in this section.

Regulatory Setting

This section summarizes current federal, State, and local regulations relevant to the review of *Energy* consumption for this project. Ordinances, regulations, or standards that are applicable to the environmental review of potential impacts related to energy consumption include the following:

California Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24)

Building energy efficiency standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the California Energy Commission (CEC)) in June 1977 and are updated every three years (CCR Title 24, Part 6). CCR Title 24, Part 6 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. On August 11, 2021, the CEC adopted the 2022 Energy Code. In December, it was approved by the California Building Standards Commission for inclusion into the California Building Standards Code. The 2022 Energy Code encourages efficient electric heat pumps, establishes electric-ready requirements for new homes, expands solar photovoltaic and battery storage standards, strengthens ventilation standards, and more. Buildings whose permit applications are applied for on or after January 1, 2023, must comply with the 2022 Energy Code.

California Green Building Standards

The California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, is a statewide mandatory construction code that was developed and adopted by the California Building Standards Commission and the California Department of Housing and Community Development. The CALGreen standards require new residential and commercial buildings to comply with mandatory measures under the topics of planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental quality. CALGreen also provides voluntary tiers and measures that local governments may adopt which encourage or require additional measures in the five green building topics. The most recent update to the CALGreen Code was adopted in 2019 and went into effect January 1, 2020.

2008 California Energy Action Plan Update

The California Public Utilities Commission and California Energy Commission *2008 Energy Action Plan Update* provides a status update to the *2005 Energy Action Plan II*, which is the State's principal energy planning and policy document. The plan continues the goals of the original *Energy Action Plan*, describes a coordinated implementation plan for State energy policies, and identifies specific action areas to ensure that California's energy is adequate, affordable, technologically advanced, and environmentally sound. First-priority actions to address California's increasing energy demands are energy efficiency, demand response (i.e., reduction of customer energy usage during peak periods in order to address system reliability and support the best use of energy infrastructure), and the use of renewable sources of power. If these actions are unable to satisfy the increasing energy and capacity needs, the plan supports clean and efficient fossil-fired generation.

Renewable Energy Standards/Renewable Portfolio Standard

In 2002, California established its Renewable Portfolio Standard program¹⁶ with the goal of increasing the annual percentage of renewable energy in the state's electricity mix by the equivalent of at least 1 percent of sales, with an aggregate total of 20 percent by 2017. The California Public Utilities Commission subsequently accelerated that goal to 2010 for retail sellers of electricity (Public Utilities Code Section 399.15(b)(1)). Then-Governor Schwarzenegger signed Executive Order S-14-08 in 2008, increasing the target to 33 percent renewable energy by 2020. In September 2009, then-Governor Schwarzenegger continued California's commitment to the Renewable Portfolio Standard by signing Executive Order S-21-09, which directs the CARB under its AB 32 authority to enact regulations to help the State meet its Renewable Portfolio Standard goal of 33 percent renewable energy by 2020. In September 2010, the CARB adopted its Renewable Electricity Standard regulations, which require all the State's load-serving entities to meet this target. In October 2015, then-Governor Brown signed into legislation Senate Bill 350, which requires retail sellers and publicly owned utilities to procure 50 percent of their electricity from eligible renewable energy resources by 2030. Signed in 2018, SB 100 revised the program's goal to achieve the 50 percent renewable resources target by December 31, 2026 and a 60 percent renewable resources target by December 31, 2030. SB 100 also established a further goal to have an electric grid that is entirely powered by clean energy by 2045. Under the bill, the State cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

2008 Initial Study / Mitigated Negative Declaration Findings

In 2008 the County approved a Mitigated Negative Declaration (SCH No. 2008052029) for *General Plan Amendment GPA07-005, Zone Amendment GZ07-020, Use Permit Amendment UP07-020, and Reclamation Plan Amendment RP07-002*. The 2008 Mitigated Negative Declaration did not contain a separate analysis related to *Energy* as this evaluation was not required at the time the previous environmental review was conducted.

Impact Analysis

The impact analysis for energy consumption focuses on the three sources of energy that are relevant to the proposed project: electricity, natural gas, and transportation fuel for vehicle and truck trips as well as the fuel necessary for project operations. The analysis of electricity/natural gas usage is based on California Emissions Estimator Model (CalEEMod) project specific data, which quantifies energy use for occupancy.

¹⁶ The Renewable Portfolio Standard is a flexible, market-driven policy to ensure that the public benefits of wind, solar, biomass, and geothermal energy continue to be realized as electricity markets become more competitive. The policy ensures that a minimum amount of renewable energy is included in the portfolio of electricity resources serving a state or country.

The following includes an analysis of environmental parameters related to *Energy* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Would the Project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			X	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?			X	

a) *Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

The proposed project would increase annual diesel fuel and gasoline usage by 230,000 gallons from the existing condition of 191,000 gallons to the proposed project of 421,000 gallons. The annual gasoline usage would increase by 590 gallons from 2,470 to 3,060 gallons, respectively. The proposed project would increase annual electrical usage by 3,310 megawatts-hour (MWh) from 3,310 to 6,620 MWh. The proposed project would not result in wasteful, inefficient, or unnecessary energy consumption as the site is an existing mining operation and it would provide a commodity of local and regional importance. The paving and building industries in California consume large quantities of aggregate and future demand is expected to increase. Over the next 50 years, the state will need approximately 11 billion tons of aggregate.¹⁷ Impacts would be less than significant in this regard.

b) *Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

The proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. State and local agencies regulate the use and consumption of energy through various methods and programs. The proposed project is a consumer and end user of electricity and fuel. It is assumed that electricity consumed by the proposed project would be provided by PG&E in accordance with state renewable energy plans and that equipment and vehicles used by the proposed project would conform with state regulations and plans regarding fuel efficiency. Impacts would be less than significant in this regard.

Mitigation Measures

No mitigation measures are required.

Findings

¹⁷ California Geological Survey, *Aggregate Sustainability in California*, 2018. https://www.conservation.ca.gov/cgs/Documents/Publications/Map-Sheets/MS_052_California_Aggregates_Report_201807.pdf

Based upon the review of the information above, implementation of the proposed project will have a less than significant with respect to *Energy*.

Documentation and References

RCH (RCH Group). 2022. *Air Quality Technical Report for the Crystal Creek Aggregates Expansion*. November 4, 2022.

Shasta (County of Shasta). 2008a. *Environmental Initial Study General Plan Amendment 07-005, Zone Amendment 07-020, Use Permit 07-020, and Reclamation Plan 07-002, Crystal Creek Aggregate, Comingdeer*. March 7, 2008.

Shasta. 2008b. *Planning Commission Resolution Nos. 2008-066 and 2088-067*. July 12, 2008

Shasta. 2004. *Shasta County General Plan*. September 2004.

Shasta. 2008c. *Statement of Conditions - Use Permit 07-020*. August 5, 2008.

VII. Geology and Soils

The purpose of this section of the Initial Study is to describe the geologic and seismic setting of the project area, identify potential impacts associated with implementation of the proposed project, and, as necessary, recommend mitigation to reduce the significance of impacts. The issues addressed in this section are risks associated with faults, strong seismic ground shaking, seismic-related ground failure such as liquefaction, landslides, and unstable geological units and/or soils.

Environmental Setting

The project site is located in the eastern Klamath Mountains within the Klamath Mountains Geomorphic Geologic Province of California. Based upon the mineral land classification conducted by the Department of Conservation (DOC), Division of Mines and Geology, the project site is located within an area designated as the Mule Mountain Stock (DOC, 1997). This formation is typically characterized by highly weathered granite materials.

Active faults are defined as faults that have had surface displacement in the Holocene epoch (in the past 11,000 years) based on California Code of Regulations (CCR) Division 2, Title 14, also known as the Alquist-Priolo Earthquake Fault Zoning Act (A-P Act). Potentially active faults are defined by the A-P Act as faults showing surface displacement during mid to late Quaternary time (about 1.6 million years before present) that have a relatively high potential for ground rupture. In general, Quaternary faults that do not record evidence of Holocene surface displacement are not considered as being active by the State. In addition, the California Geologic Survey (CGS) evaluates the activity rating of a fault in fault evaluation reports (FER). FERs compile available geologic and seismologic data and evaluate if a fault should be zoned as active, potentially active, or inactive. If a FER evaluates a fault as active, then it is typically incorporated into a Special Studies Zone in accordance with the Alquist-Priolo Earthquake Hazards Act. The project site is not located within an Alquist-Priolo Earthquake Fault Zone and no active faults are known to pass through the project site (DOC, 2022; DOC, 2015).

Based on the most recent available data, no active or potentially active faults are reported to be present within the boundaries of the project site (DOC, 2015). A number of regional faults are present in the project area. The closest mapped faults to the site are the pre-Holocene Hoadley and Spring Creek faults, both located within a few miles of the site. The closest mapped Holocene-active fault is the Hat Creek-McArthur fault zone, located about 39 miles east of the site (Bajada, 2022).

The soils found on the project area belong to the Diamond Springs series (Bajada, 2022). This series consists of well drained soils that are underlain by granitic or light-colored metavolcanic rocks. These soils are on uplands near Shasta, Keswick, and Ingot. Slopes range from 8 to 50 percent with annual precipitation of between 40 and 50 inches.

Elevations within the project site range from 1,210 feet above mean sea level (msl) in the northwesterly area to 715 feet msl at the stormwater sampling point below Pond No. 3 in the southeastern portion, an elevation change of 495 feet. According to DOC's *Fire Perimeters and Deep Landslide Susceptibility Mapping*, the majority of the project site is not identified as a very high landslide susceptibility area (DOC, 2022). However, there are some minor areas along the northwest, west, and southern portions of the undeveloped permitted quarry that are included in class IV and V which are considered landslide susceptible.

Regulatory Setting

This section summarizes current federal, State, and local regulations relevant to the review of *Geology and Soils* for this project. Ordinances, regulations, or standards that are applicable to the environmental review of potential impacts related to geology and soils include the following:

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 (originally enacted as the Alquist-Priolo Special Studies Zones Act and renamed in 1994) and is intended to reduce the risk to life and property from surface fault rupture during earthquakes. The main purpose of the law is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The law only addresses the hazard of surface fault rupture and is not directed toward other earthquake hazards. The Alquist-Priolo Act requires the State Geologist to establish regulatory zones known as “Earthquake Fault Zones” around the surface traces of active faults and to issue appropriate maps. The maps are distributed to all affected cities, counties, and state agencies for their use in planning efforts. Local agencies must regulate most development projects within the zones. Projects include all land divisions and most structures for human occupancy.

Seismic Hazard Mapping Act

The Seismic Hazard Mapping Act (SHMA) was adopted by the state in 1990 to protect the public from the effects of non-surface fault rupture earthquake hazards, including strong ground shaking, liquefaction, seismically induced landslides, or other ground failure caused by earthquakes. The goal of the act is to minimize loss of life and property by identifying and mitigating seismic hazards. The California Geological Survey prepares seismic hazard zone maps and provides them to local governments; these maps identify areas susceptible to amplified shaking, liquefaction, earthquake-induced landslides, and other ground failures. SHMA requires responsible agencies to only approve projects within seismic hazard zones following a site-specific investigation to determine if the hazard is present, and if so, the inclusion of appropriate mitigation(s). In addition, the SHMA requires real estate sellers and agents at the time of sale to disclose whether a property is within one of the designated seismic hazard zones.

2022 California Building Code

The California Building Code (CBC), which is codified in CCR Title 24, Part 2, was promulgated to safeguard the public health, safety, and general welfare by establishing minimum standards related to structural strength, egress facilities, and general building stability. The purpose of the CBC is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all building and structures within its jurisdiction. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under State law, all building standards must be centralized in Title 24 or they are not enforceable.

Surface Mining and Reclamation Act of 1975

The principal legislation addressing mineral resources in California is the State Surface Mining and Reclamation Act of 1975 (SMARA) (Public Resources Code Sections 2710 – 2719), which was enacted in response to land use conflicts between urban growth and essential mineral production. The stated purpose of SMARA is to provide a comprehensive surface mining and reclamation policy that will encourage the production and conservation of mineral resources while ensuring that adverse environmental effects of mining are prevented or minimized; that mined lands are reclaimed and residual hazards to public health and safety are eliminated; and that consideration is given to recreation, watershed, wildlife, aesthetic, and other related values.

Shasta County General Plan

The Shasta County General Plan Public Safety Element provides the following geologic and seismic hazards policies relative to the proposed project.

- *SG-1.* Protection of all development from seismic hazards, etc.
- *SG-2.* Protection of development on unstable slopes by developing standards for the location of development relative to these hazards.
- *SG-3.* Protection of development from other geologic hazards, such as volcanoes, erosion, and expansive soils.
- *SG-4.* Protection of waterways from adverse water quality impacts caused by development on highly erodible soils.
- *FL-1.* Protection of public health and safety, both onsite and downstream, from flooding through floodplain management, which regulates the types of land uses which may locate in the floodplain, prescribes construction designs for floodplain development, and requires mitigation measures for development which would impact the floodplain by increasing runoff quantities.

2008 Initial Study / Mitigated Negative Declaration Findings

In 2008 the County approved a Mitigated Negative Declaration (SCH No. 2008052029) for *General Plan Amendment GPA07-005, Zone Amendment GZ07-020, Use Permit Amendment UP07-020, and Reclamation Plan Amendment RP07-002*. As noted in Section 2.0, PROJECT DESCRIPTION, the Mitigated Negative Declaration evaluated environmental impacts associated with amending the General Plan land use designation on 115 acres from “N-O” (Natural Resource Protection – Open Space) to “MR” (Mineral Resource); rezoning the same 115 acres from “U” (Unclassified) to “MR” (Mineral Resource); expanding the quarry area from 53.57 acres to 110.24 acres; extending the termination date of the operation from February 22, 2010, to December 31, 2072; amending the reclamation plan to include expansion of the quarry by 56.67 acres; and the processing of up to 250,000 tons per year.

Making the appropriate findings, the County determined that no impact related to *Geology and Soils* would occur with implementation of *General Plan Amendment GPA07-005, Zone Amendment Z07-020, Use Permit Amendment UP07-020, and Reclamation Plan Amendment RP07-002* (Shasta, 2008a; 2008b; 2008c). No mitigation measures were required.

Impact Analysis

Project-related information provided by the applicant, as well as geologic maps and information available from Shasta County for the project area were reviewed. Evaluation of the potential impacts are based on information obtained from the *Geotechnical Report Crystal Creek Aggregate Quarry Expansion, Shasta County, California* (see Attachment E), the DOC, Shasta County USDA Soil Survey, applicable Shasta County policies and codes, and the 2022 California Building Code.

The following includes an analysis of environmental parameters related to *Geology and Soils* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Would the Project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: <ul style="list-style-type: none"> i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publications 42. ii) Strong seismic ground shaking? iii) Seismic-related ground failure, including liquefaction? iv) Landslides? 			X	
b) Result in substantial soil erosion or the loss of topsoil?			X	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?			X	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?				X
e) 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?				X

Would the Project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X

a) *Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:*

i. *Rupture of a known earthquake fault:*

There are no Alquist-Priolo earthquake faults designated in the subject area of Shasta County. A number of regional faults are present in the project area. As previously described above under *Environmental Setting*, the closest mapped faults to the site are the pre-Holocene Hoadley and Spring Creek faults, both located within a few miles of the site. The closest mapped Holocene-active fault is the Hat Creek-McArthur fault zone, located about 39 miles east of the site. There are no other documented earthquake faults in the immediate vicinity that pose a significant risk. Shasta County is entirely within Seismic Zone 3 of the Uniform Building Code, and the greater Redding area is located in an area designated in the Health and Safety Element Seismic and Geologic Hazards Element of the General Plan as an area of moderate seismicity (Shasta, 2004). Impacts would be less than significant.

ii. *Strong seismic ground shaking:*

The entire northern California region is subject to the potential for moderate to strong seismic shaking due to distant seismic sources. Seismic shaking can be generated on faults many miles from the project vicinity. An earthquake is caused by a sudden slip on a fault. Stresses in the earth's outer layer push the sides of the fault together. Stress builds up, and the rocks slip suddenly, releasing energy in waves that travel through the earth's crust and cause the shaking that is felt during an earthquake. Renewed activity at Mt. Shasta or Mt. Lassen, would presumably be associated with seismicity and potential strong ground shaking. Seismic shaking potential is, therefore, a regional hazard; the hazard is not higher or lower at the project site than throughout the region.

According to the *Shasta County and City of Anderson Multi-Jurisdictional Hazard Mitigation Plan*, the County is at a relatively low risk of exposure to strong seismic shaking (Shasta, 2017). It should be noted however that no region is immune from potential earthquake damage. Seismic shaking potential is considered minimal, and the hazard is not higher or lower at the project site than throughout the region. Impacts would be less than significant.

iii. *Seismic-related ground failure, including liquefaction:*

Liquefaction results from an applied stress on the soil, such as earthquake shaking or other sudden change in stress condition, and is primarily associated with saturated, cohesionless soil layers located close to the ground surface. During liquefaction, soils lose strength and ground failure may occur. This is most likely to occur in alluvial (geologically recent, unconsolidated sediments) and stream channel deposits, especially when the

groundwater table is high. Seismic ground settlement is not considered a hazard at the site due to the fact that the site is underlain by solid granitic rock and is not submit to seismic ground failure. No impact would occur in this regard.

iv. Landslides:

Landslides occur throughout Shasta County, although they have not been considered a major problem. Landslides are more prevalent in the eastern and northern portions of the County and are commonly related to the sedimentary and volcanic rocks in these vicinities. As described above, elevations within the project site range from 1,210 feet above msl to 715 feet msl. Minor portions of the northwest, west, and southern areas of the undeveloped permitted quarry area have been mapped by the DOC as class IV and V which are considered landslide susceptible (DOC, 2022). Based on the project's *Geotechnical Report*, the change in horizontal and vertical benching proposed has been evaluated and indicate that the proposed walls and benches as designed would remain stable (see Attachment E). Impacts would be less than significant.

b) Result in substantial soil erosion or the loss of topsoil?

As discussed above under *Environmental Setting*, the soils found within the project area belong to the Diamond Springs series. This series consists of well drained soils that are underlain by granitic or light-colored metavolcanic rocks. Slopes range from 8 to 50 percent with annual precipitation of between 40 and 50 inches (Bajada, 2022).

As discussed in greater detail below under impact discussion X.a in HYDROLOGY AND WATER QUALITY, the proposed project will continue to comply with Industrial Storm Water General Permit (Order No. 2014-0057-DWQ) requiring a NPDES permit regulating mining activity discharge and a SWPPP to reduce erosion impacts utilizing Best Available Technology/Best Control Technology (BAT/BCT). Erosion control BMPs contained in the *Mining and Reclamation Plan Amendment* (see Attachment B) includes extended detention times for sediment to settle out, interior basin vegetative cover for filtration, and cobble/filter fabric outlet structures. Surface water will continue to be directed toward the existing settling ponds, and additional retention basins will be constructed as required to contain the stormwater as expansion progresses. Erosion or siltation will not be conveyed offsite by stormwater. Potential impacts related to substantial soil erosion and loss of topsoil would be less than significant.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Refer to impact discussion VII.a. As noted above, based on the project's *Geotechnical Report*, the change in horizontal and vertical benching proposed has been evaluated and indicate that the proposed walls and benches as designed would remain stable (Bajada, 2022). Impacts would be less than significant.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Expansive soils have high shrink-swell potential that expand when wet and shrink when dry. This can result in damage to foundations and structures. Shasta County is characterized by moderate to low expansiveness in soils with small, scattered areas of high expansiveness. The proposed project is not located on expansive soils. No impact would occur in this regard.

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- e) *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?*

The proposed project does not propose any wastewater facilities or the development of any additional onsite septic systems, therefore will be no impact.

- f) *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

No paleontological resources or unique geologic features have been identified since the quarry began operations in 1990, and the potential for their occurrence is considered minimal. No impact is anticipated in this regard.

Mitigation Measures

No mitigation measures are required.

Findings

Based upon the review of the information above, implementation of the proposed project will have a less than significant impact with respect to *Geology and Soils*.

Documentation and References

- Bajada (Bajada Geosciences, Inc.). 2022. *Geotechnical Report Crystal Creek Aggregate Quarry Expansion, Shasta County, California*. September 2, 2022.
- DOC (California Department of Conservation). 2015. *Fault Activity Map of California (2010)*. [Online]: <https://gis.conservation.ca.gov/server/rest/services/CGS/FaultActivityMapCA/MapServer>. Accessed August 9, 2022.
- DOC. 2022. *EQ ZAPP: California Earthquake Hazards Zone Application*. [Online]: <https://maps.conservation.ca.gov/cgs/EQZApp/app/>. Accessed August 9, 2022.
- DOC. 2020. *Fire Perimeters and Deep Landslide Susceptibility*. [Online]: [https://Fire Perimeters and Deep-Seated Landslide Susceptibility \(ca.gov\)](https://Fire Perimeters and Deep-Seated Landslide Susceptibility (ca.gov)). Accessed August 9, 2022.
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- FEMA (Federal Emergency Management Agency). 2011. *Flood Insurance Rate Map Panel #06089C1530G*. March 17, 2011.
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- NRCS (Natural Resources Conservation Service). 2022. *Web Soil Survey Report- Shasta County Area, California*. [Online]: <https://websoilsurvey.nrcs.usda.gov/app/>. Accessed August 9, 2022.

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- Shasta (County of Shasta). 2008a. *Environmental Initial Study General Plan Amendment 07-005, Zone Amendment 07-020, Use Permit 07-020, and Reclamation Plan 07-002, Crystal Creek Aggregate, Comingdeer*. March 7, 2008.
- Shasta. 2008b. *Planning Commission Resolution Nos. 2008-066 and 2088-067*. July 12, 2008.
- Shasta. 2017. *Shasta County and City of Anderson Multi-Jurisdictional Hazard Mitigation Plan*. November 16, 2017.
- Shasta. 2004. *Shasta County General Plan*. September 2004.
- Shasta. 2008c. *Statement of Conditions - Use Permit 07-020*. August 5, 2008.
- USDA (United States Department of Agriculture, Soil Conservation Service and Forest Service). 1974. *Soil Survey of Shasta County Area*. August 1974.

VIII. Greenhouse Gas Emissions

This section of the Initial Study evaluates greenhouse gas (GHG) emissions associated with the proposed project and analyzes project compliance with applicable regulations. Consideration of the project's consistency with applicable plans, policies, and regulations, as well as the introduction of new sources of GHGs, is included in this section.

Environmental Setting

“Global warming” and “global climate change” are the terms used to describe the increase in the average temperature of the earth's near-surface air and oceans since the mid-20th century and its projected continuation. Warming of the climate system is now considered to be unequivocal, with global surface temperature increasing approximately 1.33 degrees Fahrenheit (°F) over the last 100 years. Continued warming is projected to increase global average temperature between 2 and 11°F over the next 100 years.

Natural processes and human actions have been identified as the causes of this warming. The International Panel on Climate Change (IPCC) concludes that variations in natural phenomena such as solar radiation and volcanoes produced most of the warming from pre-industrial times to 1950 and had a small cooling effect afterward.¹⁸ After 1950, however, increasing GHG concentrations resulting from human activity such as fossil fuel burning, and deforestation have been responsible for most of the observed temperature increase. These basic conclusions have been endorsed by more than 45 scientific societies and academies of science, including all the national academies of science of the major industrialized countries. Since 2007, no scientific body of national or international standing has maintained a dissenting opinion.

Increases in GHG concentrations in the earth's atmosphere are thought to be the main cause of human-induced climate change. The IPCC is now 95 percent certain that humans are the main cause of current global warming.¹⁹ GHG naturally trap heat by impeding the exit of solar radiation that has hit the earth and is reflected back into space. Some GHG occur naturally and are necessary for keeping the earth's surface habitable. However, increases in the concentrations of these gases in the atmosphere during the last 100 years have decreased the amount of solar radiation that is reflected into space, intensifying the natural greenhouse effect, and resulting in the increase of global average temperature.

Gases that trap heat in the atmosphere are referred to as GHG because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse does. The accumulation of GHG has been implicated as the driving force for global climate change. The primary GHG are carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O), ozone, and water vapor.

While the presence of the primary GHG in the atmosphere are naturally occurring, CO₂, CH₄, and N₂O are also emitted from human activities, accelerating the rate at which these compounds occur within earth's atmosphere. Emissions of CO₂ are largely by-products of fossil fuel combustion, whereas methane results from off-gassing associated with agricultural practices, coal mines, and landfills. Other GHG include hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, and are generated in certain industrial processes.

CO₂ is the reference gas for climate change because it is the predominant GHG emitted. The effect that each of the aforementioned gases can have on global warming is a combination of the mass of their emissions and their

¹⁸ IPCC, 2014: *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, https://www.ipcc.ch/site/assets/uploads/2018/05/SYR_AR5_FINAL_full_wcover.pdf

¹⁹ IPCC, 2014: *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, https://www.ipcc.ch/site/assets/uploads/2018/05/SYR_AR5_FINAL_full_wcover.pdf

global warming potential (GWP). GWP indicates, on a pound-for-pound basis, how much a gas is predicted to contribute to global warming relative to how much warming would be predicted to be caused by the same mass of CO₂. CH₄ and N₂O are substantially more potent GHG than CO₂, with GWP of 28 and 265 times that of CO₂, respectively.²⁰

In emissions inventories, GHG emissions are typically reported in terms of pounds or metric tons (MT) of CO₂ equivalents (CO₂e). CO₂e are calculated as the product of the mass emitted of a given GHG and its specific GWP. While CH₄ and N₂O have much higher GWP than CO₂, CO₂ is emitted in such vastly higher quantities that it accounts for the majority of GHG emissions in CO₂e.

Regulatory Setting

This section summarizes current federal, State, and local regulations relevant to the review of *Greenhouse Gas Emissions* for this project. Ordinances, regulations, or standards that are applicable to the environmental review of potential impacts related to greenhouse gases include the following:

California Renewable Portfolio Standard

In 2002, California established a Renewable Portfolio Standard (RPS) that requires a retail seller of electricity to include in its resource portfolio a certain amount of electricity from renewable energy sources, such as wind, geothermal, small hydro, and solar energy. The retailer can satisfy this obligation by using renewable energy from its own facilities, purchasing renewable energy from another supplier's facilities, using Renewable Energy Credits (RECs) that certify renewable energy has been created, or a combination of all of these. California's RPS requirements have been accelerated and expanded a number of times since the program's inception. Most recently, then-Governor Jerry Brown signed into law Senate Bill (SB) 100 in September 2018, which requires utilities to procure 60 percent of their electricity from renewables by 2030 and sets as a state policy that state agencies and end-use retail customers receive 100 percent of energy from renewable and zero-carbon resources by 2045. In addition, SB 350 requires California utilities to develop Integrated Resource Plans (IRPs) that incorporate a GHG emission reduction planning component. Compliance with the California RPS requires PG&E to develop and implement an IRP that demonstrates they are on schedule to comply with the goals of providing 60 percent renewable sources by 2030. To ensure retail sellers meet their RPS requirement, the California Public Utilities Commission (CPUC) is responsible for establishing enforcement procedures and imposing penalties for non-compliance with the program (CPUC, 2018).

Assembly Bill 1493 (California's Greenhouse Gas Vehicle Emission Standards)

In 2002, recognizing that global warming would impose compelling and extraordinary impacts on California, the legislature adopted, and the Governor signed Assembly Bill (AB) 1493. The bill recognized that global warming (climate change) is a public health concern, that motor vehicles are a major source of the state's greenhouse gas emissions, and that reducing these emissions will protect public health and the environment while stimulating the economy and enhancing job opportunities. Among other things, the bill directed the Air Resources Board (CARB) to adopt regulations that achieve the maximum feasible and cost-effective reduction of greenhouse gas emissions from passenger vehicles, beginning with the 2009 model year. (California Health and Safety Code § 43018.5.) The Board approved those regulations, sometimes called the Pavley regulations, at its September 2004 hearing, and they were adopted in their final form in August 2005. In December 2005, CARB submitted a request

²⁰ IPCC, 2014: *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, https://www.ipcc.ch/site/assets/uploads/2018/05/SYR_AR5_FINAL_full_wcover.pdf

to U.S. EPA for a waiver of preemption under the federal Clean Air Act to allow California to enforce its greenhouse gas emission standards.

Executive Order S-3-05

In 2005, in recognition of California's vulnerability to the effects of climate change, then-Governor Arnold Schwarzenegger established Executive Order S-3-05. This order sets forth target dates by which statewide GHG emissions would be reduced. These include by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels.

Assembly Bill 32 (California Global Warming Solutions Act of 2006)

The primary legislation that has driven GHG regulation and analysis in California is the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500 - 38599), which instructs CARB to develop and enforce regulations for the reporting and verifying of statewide GHG emissions. The act directed CARB to set a greenhouse gas emissions limit based on 1990 levels, to be achieved by 2020. The bill set a timeline for adopting a scoping plan for achieving GHG reductions in a technologically and economically feasible manner.

Executive Order B-30-15

In April 2015, Governor Edmund G. Brown, Jr. signed Executive Order B-30-15 in order to establish an interim GHG reduction goal for California of 40 percent below 1990 levels by 2030. This target GHG reduction by 2030 would make it possible for California to reach the ultimate goal of reducing GHG emissions by 80 percent under 1990 levels by the year 2050.

Senate Bill 32

On September 8, 2016, Governor Jerry Brown signed Senate Bill 32 (Pavley - Chapter 249, Stats. of 2016), requiring California to reduce GHG emissions to 40 percent below 1990 levels by 2030. SB 32 states that: "In adopting rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions authorized by this division, the state [air resources] board shall ensure that statewide greenhouse gas emissions are reduced to at least 40 percent below the statewide greenhouse gas emissions limit no later than December 31, 2030." SB 32 codifies the interim target created by EO B-30-15 for 2030.

CARB Climate Change Scoping Plan

The California Air Resources Board (CARB) adopted the Scoping Plan to achieve the goals of AB 32. The Scoping Plan establishes an overall framework for the measures that would be adopted to reduce California's GHG emissions. CARB determined that achieving the 1990 emissions level would require a reduction of GHG emissions of approximately 29 percent below what would otherwise occur in 2020 in the absence of new laws and regulations (referred to as "business-as-usual"). The Scoping Plan functions as a roadmap to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. AB 32 requires CARB to update the Scoping Plan at least once every five years. CARB adopted the first major update to the Scoping Plan on May 22, 2014. The updated Scoping Plan summarizes recent science related to climate change, including anticipated impacts to California and the levels of GHG reduction necessary to likely avoid risking irreparable damage. It identifies the actions California has already taken to reduce GHG emissions and focuses on areas where further reductions could be achieved to help meet the 2020 target established by AB 32.

On December 14, 2017 CARB adopted a second update to the Scoping Plan²¹. The 2017 Scoping Plan details how the State will reduce GHG emissions to meet the 2030 target set by Executive Order B-30-15 and codified by SB 32. Other objectives listed in the 2017 Scoping plan are to provide direct GHG emissions reductions; support climate investment in disadvantaged communities; and support the Clean Power Plan and other Federal actions.

California Building Energy Efficiency Standards and Green Building Standards

Title 24 of the California Code of Regulations regulates how each new home and business is built or altered in California. It includes requirements for the structural, plumbing, electrical, and mechanical systems of buildings, and for fire and life safety, energy conservation, green design, and accessibility in and about buildings. Two sections of Title 24 – Part 6, the California Energy Code, and Part 11, the California Green Building Standards Code or CalGreen Code – contain standards that address GHG emissions related to construction. The current 2019 Title 24 standards became effective January 1, 2020. Buildings constructed under the 2019 Title 24 standards are estimated to use about 30 percent less energy than those constructed under the 2016 Title 24 standards.

Shasta County Air Quality Management District (SCAQMD)

The SCAQMD does not have an adopted Climate Action Plan, greenhouse gas threshold of significance, or guidance document for assessing project-level greenhouse gas impacts under CEQA. The following SCAQMD rule is applicable to the project: “Rule 3:28 Stationary Internal Combustion Engines. This rule applies to any gaseous, diesel, or any other liquid-fueled stationary internal combustion engine within the boundaries of the air district, including emergency standby engines. Emergency standby internal engines may be operated only during emergencies and for testing and maintenance purposes. Testing and maintenance shall be limited to no more than 100 hours per year.”

In 2010, the SCAQMD initiated the regional climate action planning (RCAP) process and released a draft RCAP in 2011. The draft RCAP contains a 2008 baseline GHG emissions inventory for the community, business-as-usual emissions forecasts for year 2020, the adjusted business-as-usual forecasts for 2020, and emission reduction measures the County may implement. However, the draft RCAP has not been adopted and, therefore, is not used to assess the project’s greenhouse gas emissions.

The County’s current General Plan (2004) does not contain goals or policies directly aimed at reducing greenhouse gas emissions. Goals and policies within the Circulation Element, Air Quality Element affect or reduce greenhouse gas generation through requiring or promote alternative transit infrastructure.

There are currently no State, regional, or county guidelines or thresholds with which to direct project-level CEQA review. As a result, Shasta County reserves the right to use a qualitative and/or quantitative threshold of significance until a specific quantitative threshold is adopted by the state or regional air district. The United States Environmental Protection Agency (EPA) identifies four primary constituents that are most representative of the GHG emissions. They are:

- *Carbon Dioxide (CO₂)*. Emitted primarily through the burning of fossil fuels. Other sources include the burning of solid waste and wood and/or wood products and cement manufacturing.

²¹ California Air Resources Board, *California’s 2017 Climate Change Scoping Plan*, https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf. Accessed May 9, 2018.

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- *Methane (CH₄)*. Emissions occur during the production and transport of fuels, such as coal and natural gas. Additional emissions are generated by livestock and agricultural land uses, as well as the decomposition of solid waste.
 - *Nitrous Oxide (N₂O)*. The principal emitters include agricultural and industrial land uses and fossil fuel and waste combustion.
 - *Fluorinated Gases*. These can be emitted during some industrial activities. Also, many of these gases are substitutes for ozone-depleting substances, such as CFC's, which have been used historically as refrigerants. Collectively, these gases are often referred to as "high global-warming potential" gases.

The primary generators of GHG emissions in the United States are electricity generation and transportation. The EPA estimates that nearly 85 percent of the nation's GHG emissions are comprised of carbon dioxide (CO₂). The majority of CO₂ is generated by petroleum consumption associated with transportation and coal consumption associated with electricity generation. The remaining emissions are predominately the result of natural-gas consumption associated with a variety of uses.

2008 Initial Study / Mitigated Negative Declaration Findings

In 2008 the County approved a Mitigated Negative Declaration (SCH No. 2008052029) for *General Plan Amendment GPA07-005, Zone Amendment GZ07-020, Use Permit Amendment UP07-020, and Reclamation Plan Amendment RP07-002*. The 2008 Mitigated Negative Declaration did not contain a separate analysis related to *Greenhouse Gas Emissions* as this evaluation was not required at the time the previous environmental review was conducted.

Impact Analysis

At this time, neither the SCAQMD nor Shasta County has adopted numerical thresholds of significance for GHG emissions that would apply to the proposed project. The SCAQMD, however, recommends that all projects subject to CEQA review be considered in the context of GHG emissions and climate change impacts, and that CEQA documents include a quantification of GHG emissions from all project sources, as well as minimize and mitigate GHG emissions as feasible. The project would generate GHG emissions through long-term operational activities.

In light of the lack of established GHG emissions thresholds that would apply to the proposed project, CEQA allows lead agencies to identify thresholds of significance applicable to a project that are supported by substantial evidence. Substantial evidence is defined in the CEQA statute to mean "facts, reasonable assumptions predicated on facts, and expert opinion supported by facts" (14 CCR 15384(b)).²² Substantial evidence can be in the form of technical studies, agency staff reports or opinions, expert opinions supported by facts, and prior CEQA assessments and planning documents. Therefore, to establish additional context in which to consider the order of magnitude of the proposed project's GHG emissions, this analysis accounts for the following considerations by

²² 14 CCR 15384 provides the following discussion: "Substantial evidence" as used in the Guidelines is the same as the standard of review used by courts in reviewing agency decisions. Some cases suggest that a higher standard, the so called "fair argument standard" applies when a court is reviewing an agency's decision whether to prepare an EIR. Public Resources Code section 21082.2 was amended in 1993 (Chapter 1131) to provide that substantial evidence shall include "facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts." The statute further provides that "argument, speculation, unsubstantiated opinion or narrative, evidence which is clearly inaccurate or erroneous, or evidence of social or economic impacts which do not contribute to, or are not caused by, physical impacts on the environment, is not substantial evidence."

other government agencies and associations about what levels of GHG emissions constitute a cumulatively considerable incremental contribution to climate change:

- Sacramento Metropolitan Air Quality Management District established thresholds, including 1,100 metric tons of CO₂e per year for the construction or operational phase of land use development projects, or 10,000 direct metric tons of CO₂e per year from stationary source projects.²³
- Placer County Air Pollution Control District recommends a tiered approach to determine if a project's GHG emissions would result in a significant impact. First, project GHG emissions are compared to the de minimis level of 1,100 metric tons of CO₂e per year. If a project does not exceed this threshold, it does not have significant GHG emissions. If the project exceeds the de minimis level and does not exceed the 10,000 metric tons of CO₂e per year bright line threshold, then the project's GHG emissions can be compared to the efficiency thresholds. These thresholds are 4.5 metric tons of CO₂e per-capita for residential projects in an urban area, and 5.5 metric tons of CO₂e per-capita for residential projects in a rural area.²⁴
- Bay Area Air Quality Management District has adopted 1,100 metric tons of CO₂e per year as a project-level bright-line GHG significance threshold that would apply to operational emissions from mixed land-use development projects, a threshold of 10,000 metric tons of CO₂e per year as the significance threshold for operational GHG emissions from stationary-source projects, and an efficiency threshold of 4.6 metric tons of CO₂e per service population per year.²⁵

As described, the 1,100 metric tons of CO₂e per year threshold is used by other air districts for land use development projects that have distinct construction and operational phases. Mining operations, including aggregate processing, are more similar to stationary source of emissions such as factories and power plants. Therefore, the proposed project's GHG emissions were compared to the 10,000 metric tons of CO₂e per year quantitative threshold. The substantial evidence for this GHG emissions threshold is based on the expert opinion of various California air districts, which have applied the 10,000 metric tons of CO₂e per year threshold for stationary sources in numerous CEQA documents where those air districts were the lead agency.

The following includes an analysis of environmental parameters related to *Greenhouse Gas Emissions* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

²³ Sacramento Metropolitan Air Quality Management District, Guide to Air Quality Assessment in Sacramento County, May 2018, <http://www.airquality.org/Residents/CEQA-Land-Use-Planning/CEQA-Guidance-Tools>

²⁴ Placer County Air Pollution Control District, 2017 CEQA Handbook – Chapter 2, Thresholds of Significance. <https://placerair.org/DocumentCenter/View/2047/Chapter-2-Thresholds-of-Significance-PDF>

²⁵ Bay Area Air Quality Management District, CEQA Air Quality Guidelines, May 2017, http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

Would the Project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				X

a) *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*

The proposed project’s estimated operational GHG emissions are presented in Table 3. The Air Quality Technical Report (RCH, 2022) contained in Attachment C provides details on the greenhouse gas emission calculations.

**Table 3
ESTIMATED ANNUAL GREENHOUSE GAS EMISSIONS (METRIC TONS)**

Onsite Equipment	523
Employee Vehicles	2.75
Haul Trucks	1,415
Electrical Usage	306
Total Emissions	2,247
<i>Significance Threshold</i>	10,000
Potentially Significant?	No
Source: RCH Group, 2022.	

As noted in Table 3, the estimated GHG project-related operational emissions would be approximately 2,247 metric tons of CO₂e, which is below the significance threshold of 10,000 metric tons of CO₂e. Impacts would be less than significant in this regard.

b) *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500 - 38599). AB 32 establishes regulatory, reporting, and market mechanisms

to achieve quantifiable reductions in GHG emissions and establishes a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction will be accomplished by enforcing a statewide cap on GHG emissions that was phased in starting in 2012. To effectively implement the cap, AB 32 directs CARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires CARB to adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrived at the cap; institute a schedule to meet the emissions cap; and develop tracking, reporting, and enforcement mechanisms to ensure that the state reduces GHG emissions enough to meet the cap. AB 32 also includes guidance on instituting emissions reductions in an economically efficient manner, along with conditions to ensure that businesses and consumers are not unfairly affected by the reductions. Using these criteria to reduce statewide GHG emissions to 1990 levels by 2020 would represent an approximate 25 to 30 percent reduction in current emissions levels. However, CARB has discretionary authority to seek greater reductions in more significant and growing GHG sectors, such as transportation, as compared to other sectors that are not anticipated to significantly increase emissions.

In September of 2016, SB 32 extended the goals of AB 32 and set a goal to achieve reductions in GHG of 40 percent below 1990 levels by 2030. The new plan, outlined in SB 32, involves increasing renewable energy use, putting more electric cars on the road, improving energy efficiency, and curbing emissions from key industries. Since the proposed project will be operational post 2020, the principal State plan and policy adopted for the purpose of reducing GHG emissions is SB 32. Statewide plans and regulations such as GHG emissions standards for vehicles and the low carbon fuel standard are being implemented at the statewide level, and compliance at the specific plan or project level is not addressed.

The assumption is that SB 32 and other regulations will be successful in reducing GHG emissions and reducing the cumulative GHG emissions statewide. The State has taken these measures, because no project individually could have a major impact (either positively or negatively) on the global concentration of GHG. Therefore, the proposed project would result in a significant impact if it would conflict with State regulations such as AB 32 and SB 32. The proposed project has been reviewed relative to the climate change policies and measures in CARB's 2017 Climate Change Scoping Plan and it has been determined that the proposed project would not conflict with State GHG reduction goals. Furthermore, the proposed project would be below the GHG significance threshold, as discussed under impact discussion VIII.a, above. Impacts would be less than significant in this regard.

Mitigation Measures

No mitigation measures are required.

Findings

Based upon the review of the information above, implementation of the proposed project will have a less than significant impact with respect to *Greenhouse Gas Emissions*.

Documentation and References

IEA (International Energy Agency). 2008. *Energy Efficiency Requirements in Building Codes, Energy Efficiency Policies for New Buildings*. March 2008.

RCH (RCH Group). 2022. *Air Quality Technical Report for the Crystal Creek Aggregates Expansion*. November 4, 2022.

Shasta (County of Shasta). 2008a. *Environmental Initial Study General Plan Amendment 07-005, Zone Amendment 07-020, Use Permit 07-020, and Reclamation Plan 07-002, Crystal Creek Aggregate, Comingdeer*. March 7, 2008.

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SRTA (Shasta Regional Transportation Agency). 2018. *Regional Transportation Plan and Sustainable Communities Strategy for the Shasta Region*. October 9, 2018.

California Office of the Attorney General. 2010. *The California Environmental Quality Act Addressing Global Warming Impacts at the Local Agency Level*. Updated January 6, 2010.

IX. Hazards and Hazardous Materials

Hazards are those physical safety factors that can cause injury or death, and while by themselves in isolation may not pose a significant safety hazard to the public, when combined with development of projects can exacerbate hazardous conditions. Hazardous materials are typically chemicals or processes that are used or generated by a project that could pose harm to people, working at the site or on adjacent areas. Many of these chemicals can cause hazardous conditions to occur should they be improperly disposed of or accidentally spilled as part of project development or operations.

Hazardous materials refer generally to hazardous substances, hazardous waste, and other materials that exhibit corrosive, poisonous, flammable, and/or reactive properties and have the potential to harm human health and/or the environment. The term “hazardous materials” as used in this section includes all materials defined in the California Health and Safety Code Section 25501(n): *“A material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. ‘Hazardous materials’ include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the unified program agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.”*

The purpose of this section of the Initial Study is to identify, to the extent feasible, the potential for hazards associated with historic and current site uses, surrounding sites, and recognized environmental conditions in connection with the project site and to identify potential risks to human health.

Environmental Setting

Emergency Response

Shasta Area Safety Communications Agency (SHASCOM) is the consolidated 9-1-1 emergency response agency serving Shasta County. SHASCOM’s communications center provides emergency dispatching services to the Shasta County Fire Department, Shasta County Sheriff’s Office, Redding Police and Fire Departments, Anderson Police Department, California Highway Patrol (CHP), and ambulance services. The center is located at 3101 South Street, in Redding.

Emergency response plans include elements to maintain continuity of government, emergency functions of governmental agencies, mobilization and application of resources, mutual aid, and public information. Emergency response plans are maintained at the federal, State, and local levels for all types of disaster, both natural and human caused. Local governments have the primary responsibility for preparedness and response activities. Shasta County has numerous levels of emergency response and evacuation plans, including the Emergency Operations Plan, approved in 2014. The Emergency Operations Plan is used by all key partner agencies within the County to respond to major emergencies and disasters and describes the roles and responsibilities between the County and its departments with local jurisdictions within the County (Shasta, 2014). The California Department of Forestry and Fire Protection (CAL FIRE), Shasta County Fire Department (SCFD), Shasta County Office of Emergency Services (OES), and Shasta County Sheriff’s Office have not adopted a comprehensive emergency evacuation plan applicable to the project area.

Fire Protection

Fire protection services for the project area are provided by CAL FIRE, based in the Redding area. The SCFD contracts with CAL FIRE to manage and oversee the operation of SCFD. Both the SCFD and CAL FIRE maintain automatic and mutual aid agreements with adjacent fire districts, including the Redding Fire Department (RFD)

and the Anderson Fire Protection District. CAL FIRE is responsible for wildland fire protection and generally located in unincorporated areas is classified as a State Responsibility Area (SRA). Where local fire protection agencies, such as the SCFD, are responsible for wildfire protection, the land is classified as a Local Responsibility Area (LRA). CAL FIRE currently identifies the project site and surrounding area as a SRA (CAL FIRE, 2022).

CAL FIRE's *Fire and Resource Assessment Program* (FRAP) designates lands in three general classifications, "Moderate", "High" and "Very High" Fire Hazard Severity Zones. According to the FRAP, the project site and surrounding area is designated as a VHFHSZ (CAL FIRE, 2022). The closest fire station to the project site is CAL FIRE Station 58 located approximately 1.2 miles south of the site.

Hazardous Materials

The U.S. Environmental Protection Agency (EPA) maintains the Enforcement and Compliance History Online (ECHO) program. The ECHO website provides environmental regulatory compliance and enforcement information for approximately 800,000 regulated facilities nationwide. The ECHO website includes environmental permit, inspection, violation, enforcement action, and penalty information about EPA-regulated facilities. Facilities included on the site are Clean Air Act (CAA) stationary sources; Clean Water Act (CWA) facilities with direct discharge permits, under the National Pollutant Discharge Elimination System; generators and handlers of hazardous waste, regulated under the Resource Conservation and Recovery Act (RCRA); and public drinking water systems, regulated under the Safe Drinking Water Act (SDWA). ECHO also includes information about EPA cases under other environmental statutes. When available, information is provided on surrounding demographics, and ECHO includes other EPA environmental data sets to provide additional context for analyses, such as Toxics Release Inventory data. According to the ECHO program, the existing quarry is not listed as having a hazardous materials violation (EPA, 2022).

Under Government Code Section 65962.5, both the California Department of Toxic Substances Control (DTSC) and the State Water Resources Control Board (SWRCB) are required to maintain lists of sites known to have hazardous substances present in the environment. Both agencies maintain up-to-date lists on their websites. A search of the DTSC and SWRCB lists identified no open cases of hazardous waste violations within one-mile of the existing quarry (DTSC, 2022; SWRCB, 2022).

The Shasta County Environmental Health Division (SCEHD) is the administering agency and the Certified Unified Program Agency (CUPA) for Shasta County with responsibility for regulating hazardous materials handlers, hazardous waste generators, underground storage tank facilities, above ground storage tanks, and stationary sources handling regulated substances. A Hazardous Materials Business Plan (HMBP) is required of businesses in Shasta County that handle, use, generate, or store hazardous materials. The primary purpose of this plan is to provide readily available information regarding the location, type, and health risks of hazardous materials to emergency response personnel, authorized government officials, and the public. Large cases of hazardous materials contamination or violations are referred to the Central Valley Regional Water Quality Control Board (CVRWQCB) and the DTSC.

Existing onsite hazardous materials include diesel fuel tanks of 20,000 and 1,000 gallons, one 350-gallon waste oil tank, two motor oil tanks and one lubricating oil tank (90 gallons each) and 2,000 pounds of bagged flocculent (used in the recycle ponds), domestic garbage, and sewage should the septic system fail. Storage, use, and dispensing of flammable/combustible liquids are conducted in accordance with the adopted edition of the California Fire Code. Since beginning operation in 1990, the existing facility has no reported hazardous materials violations, ignitions, or other hazardous materials incidents that have resulted in an emergency response.

Operations will continue to meet applicable State and County requirements related to the storage and use of hazardous materials onsite.

Blasting Activities

All mining operations at the existing quarry are conducted in compliance with the standards of the Mining Safety and Health Act (MSHA) and the California Occupational Safety and Health Act (CAL-OSHA) division of mines. Use Permit 07-020 also imposes conditions of approval with respect to blasting and fire protection. Specifically, Conditions 31 through 33 address blasting operations and Condition 54 identifies SCFD requirements. Currently blasting is permitting up to 12 times annually. The mine operator contracts for the drilling and blasting services, therefore no explosives are stored onsite.

Regulatory Setting

Hazardous materials and wastes can pose a significant actual or potential hazard to human health and the environment when improperly treated, stored, transported, disposed of, or otherwise managed. Many federal, State, and local programs that regulate the use, storage, and transportation of hazardous materials and hazardous waste are in place to prevent these unwanted consequences. These regulatory programs are designed to reduce the danger that hazardous substances may pose to people and businesses under normal daily circumstances and as a result of emergencies and disasters.

Current federal, State, and local regulations relevant to the review of *Hazards and Hazardous Materials* for this project are summarized below. Ordinances, regulations, or standards that are applicable to the environmental review of potential impacts related to hazards and hazardous materials include the following:

California Environmental Protection Agency

One of the primary agencies that regulate hazardous materials is the Cal EPA. The state, through Cal EPA, is authorized by the EPA to enforce and implement certain federal hazardous materials laws and regulations. The California DTSC, a department of the Cal EPA, protects California and Californians from exposure to hazardous waste, primarily under the authority of the RCRA and the California Health and Safety Code. The DTSC requirements include the need for written programs and response plans, such as Hazardous Materials Business Plans. DTSC programs include dealing with cleanups of improper hazardous waste management; evaluation of samples taken from sites; enforcement of regulations regarding use, storage, and disposal of hazardous materials; and encouragement of pollution prevention.

California Division of Occupational Safety and Health

Like OSHA at the federal level, the California Division of Occupational Safety and Health (Cal/OSHA) is the responsible State-level agency for ensuring workplace safety. Cal/OSHA assumes primary responsibility for the adoption and enforcement of standards regarding workplace safety and safety practices. In the event that a site is contaminated, a site safety plan must be crafted and implemented to protect the safety of workers. Site safety plans establish policies, practices, and procedures to prevent the exposure of workers and members of the public to hazardous materials originating from contaminated sites or buildings.

California Building Code

The State of California provided a minimum standard for building design through the California Building Code (CBC), which is in Part 2 of Title 24 of the California Code of Regulations. Commercial buildings are plan-checked by the County for compliance with the CBC. Typical fire safety requirements of the CBC included the installation of sprinklers, establishment of fire resistance standards for fire doors, certain building materials, and

particular types of construction, and the clearance of debris and vegetation within a prescribed distance from occupied structures in wildlife hazard areas.

California Vehicle Code

The State of California regulates the transportation of hazardous waste originating or passing through the state. Common carriers are licensed by the California Highway Patrol (CHP) pursuant to the California Vehicle Code, Section 32000. This section requires licensing for every motor (common) carrier who transports, for a fee, in excess of 500 pounds of hazardous materials at one time and every carrier, if not for hire, who carries more than 1,000 pounds of hazardous material of the type requiring placards. Common carriers conduct a large portion of the business in the delivery of hazardous materials.

California Department of Forestry and Fire Protection

The California Department of Forestry and Fire Protection (CAL FIRE) has mapped fire threat potential throughout California. CAL FIRE ranks fire threat based on the availability of fuel and the likelihood of an area burning (based on topography, fire history, and climate). The rankings include no fire threat, moderate, high, and very high fire threat. CAL FIRE produced the *2010 Strategic Fire Plan for California*, with goals, objectives, and policies to prepare for and mitigate the effects of fire on California's natural and built environments.

California Fire Code

The California Fire Code (CFC) is Part 9 of the California Building Standards Code (California Code of Regulations, Title 24). Updated every 3 years, the CFC includes provisions and standards for emergency planning and preparedness, fire service features, fire protection systems, hazardous materials, fire flow requirements, and fire hydrant locations and distribution. Similar to the CBC, the CFC is generally adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions.

Emergency Response to Hazardous Materials Incidents

California has developed an Emergency Response Plan pursuant to the Emergency Services Act. The Plan is administered by the state Office of Emergency Services to coordinate emergency services provided by local, state, and federal agencies. Local agencies are required to develop area plans for an organized response to releases of hazardous materials that are dependent on Business Plans submitted by handlers of hazardous materials and waste within that agency's area. Pursuant to California Health and Safety Code, Section 25503(a) and CCR Section 2729, any business handling hazardous material must establish and implement a Hazardous Materials Business Plan. These Business Plans are then submitted to the local administering agency. In the County, the administering agency is SCEHD.

Shasta County Emergency Operations Plan

This Shasta County *Emergency Operations Plan* is an all-hazard plan that describes how Shasta County will organize and respond to emergencies and disasters in the community. It is based on, and is compatible with, federal, State of California, and other applicable laws, regulations, plans, and policies, including Presidential Policy Directive 8, the National Response Framework, and California Governor's Office of Emergency Services plans. Consisting of a Basic Plan, Emergency Function Annexes, and Incident Annexes, the *Emergency Operations Plan* provides a framework for coordinated response and recovery activities during a large-scale emergency. The plan describes how various agencies and organizations in the County will coordinate resources and activities with other federal, State, local, tribal, community organizations, faith-based organizations, and private-sector partners.

Shasta County General Plan

The Public Safety Group, Hazardous Materials subsection, of the General Plan contains policies regarding contact and release of hazardous materials. These policies are intended protect persons and property from accidental release of hazardous materials. The following General Plan objectives and policies are applicable to the proposed project:

- *HM-1.* Protection of life and property from contact with hazardous materials through site design and land use regulations and storage and transportation standards.
- *HM-2.* Protection of life and property in the event of the accidental release of hazardous materials through emergency preparedness planning.
 - *Policy HM-a.* The County shall make every effort to inform applicants for discretionary and nondiscretionary projects which are located within potential border zone property of known hazardous waste facilities that they must comply with State requirements regarding hazardous waste facilities. A map shall be prepared and maintained which identifies these areas.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

In January 1996, Cal-EPA adopted regulations implementing a "Unified Hazardous Waste and Hazardous Materials Management Regulatory Program" (Unified Program). The six elements of the Unified Program are as follows: 1) hazardous waste generators and hazardous waste on-site treatment; 2) underground storage tanks; 3) above-ground storage tanks; 4) hazardous material release response plans and inventories 5) risk management and prevention programs; and 6) Unified Fire Code hazardous materials management plans and inventories. The Unified Program is implemented at the local level by a local agency — the Certified Unified Program Agency (CUPA). The CUPA is responsible for consolidating the administration of the six program elements within its jurisdiction. As mentioned above, the SCEHD is the designated CUPA in the County.

2008 Initial Study / Mitigated Negative Declaration Findings

In 2008 the County approved a Mitigated Negative Declaration (SCH No. 2008052029) for *General Plan Amendment GPA07-005, Zone Amendment Z07-020, Use Permit Amendment UP07-020, and Reclamation Plan Amendment RP07-002*. As noted in Section 2.0, PROJECT DESCRIPTION, the Mitigated Negative Declaration evaluated environmental impacts associated with amending the General Plan land use designation on 115 acres from “N-O” (Natural Resource Protection – Open Space) to “MR” (Mineral Resource); rezoning the same 115 acres from “U” (Unclassified) to “MR” (Mineral Resource); expanding the quarry area from 53.57 acres to 110.24 acres; extending the termination date of the operation from February 22, 2010, to December 31, 2072; amending the reclamation plan to include expansion of the quarry by 56.67 acres; and the processing of up to 250,000 tons per year.

Making the appropriate findings, the County determined that no impact related to *Hazards and Hazardous Materials* would occur with implementation of *General Plan Amendment GPA07-005, Zone Amendment Z07-020, Use Permit Amendment UP07-020, and Reclamation Plan Amendment RP07-002* (Shasta, 2008a; 2008b; 2008c). No mitigation measures were required.

Impact Analysis

Project related information provided by the applicant, as well as Fire Hazard Severity Zones and State Responsibility Areas maps and information available from Shasta County and State of California were reviewed. Evaluation of the potential impacts are based on information obtained from CAL FIRE, Shasta County, applicable General Plan objectives and policies, County Codes, and the California Building Code.

The following includes an analysis of environmental parameters related to *Hazards and Hazardous Materials* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Would the Project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
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?			X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
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, would it create a significant hazard to the public or the environment?				X
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 or excessive noise for people residing or working in the project area?				X
f) Impair implementation of or physically interfere with an adopted emergency response			X	

Would the Project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
plan or emergency evacuation plan?				
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?			X	

- a) *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

Hazardous materials are typically chemicals or processes that are used or generated by a project that could pose harm to people, working at the site or on adjacent areas. Many of these chemicals can cause hazardous conditions to occur should they be improperly disposed of or accidentally spilled as part of project development or operations. Hazardous materials are also those listed as hazardous pursuant to Government Code §65962.5.

The proposed project will result in the continued use of hazardous materials for mining operations. This includes 20,000 and a 1,000-gallon diesel tanks, two motor oil tanks and one lubricating oil tank (90 gallons each), a 350-gallon waste oil tank, and 2,000 pounds of bagged flocculent used in the recycle ponds. All fuel storage tanks onsite have secondary containment structures.

As discussed above under *Environmental Setting*, the SCEHD is the CUPA for Shasta County with responsibility for regulating hazardous materials handlers, hazardous waste generators, underground storage tank facilities, above ground storage tanks, and stationary sources handling regulated substances. The existing quarry and aggregate processing operation utilize small amounts of fuel and lubricants and is subject to the County’s HMBP program, which is regulated by the SCEHD as part of the Certified Unified Program. The program requires the preparation of a document that provides an inventory of hazardous materials onsite, emergency plans and procedures in the event of an accidental release, and training for employees on safety procedures for handling

hazardous materials and in the event of a release or threatened release. These plans are routine documents that are intended to disclose the presence of hazardous materials and provide information on what to do if materials are inadvertently released.

There is a business plan on file with the SCEHD which conducts periodic site inspections. Blasting of quarry rock has historically occurred onsite and the frequency of blasting will increase from 12 to 24 times annually with implementation of the proposed project. As mentioned above, explosives are handled by a licensed operator and are not stored onsite and are only onsite when a blast is being set up.

The proposed project does not include changes to the current storage or use of hazardous materials with exception of a new 200 square foot hazardous materials storage shed that will be permitted by the SCEHD. Operations will continue to follow the applicable laws and regulations regarding hazardous material transport, as defined in Section 353 of the California Vehicle Code. Therefore, the level of risk associated with the accidental release of hazardous substances is not considered significant. Onsite operations would be required to continue to use standard operational controls and safety procedures that would avoid and minimize the potential for accidental release of such substances into the environment. Standard practices would be observed such that any materials released are appropriately contained and remediated as required by local, State, and federal law. Implementation of the proposed project would result in less than significant impacts in this regard.

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?*

Refer to impact discussion IX.a. Impacts would be less than significant.

c) *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

The proposed project site is not located within a quarter mile of a school and will not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. No impact would occur in this regard.

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, would it create a significant hazard to the public or the environment?*

Under Government Code Section 65962.5, both the DTSC and the SWRCB are required to maintain lists of sites known to have hazardous substances present in the environment. Both agencies maintain up-to-date lists on their websites. A search of the DTSC and SWRCB lists identified no open cases of hazardous waste violations on the project site. Therefore, the site is not on a parcel included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (DTSC, 2022; SWRCB, 2022). As a result, implementation of the proposed project would not create a significant hazard to the public or to the environment. No impact would occur in this regard.

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 or excessive noise for people residing or working in the project area?*

The proposed project is not located within an airport land use plan or within two miles of a public airport or public use airport. The nearest airport to the project site is the Benton Airport located approximately 3.5 miles to the southeast. No impact would occur in this regard.

f) *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

Neither Iron Mountain Road nor Keswick Dam Road are identified as a designated evacuation route by the County. However, Iron Mountain Road provides the primary access from SR-299 for residents and emergency crews to the area, including the community of Keswick. Keswick Dam Road intersects with Iron Mountain Road approximately 0.5 miles north of the site and provides important emergency ingress and egress (WSRCD, 2016).

The Shasta County Sheriff's Office, CHP, and other cooperating law enforcement agencies have primary responsibility for evacuations. These agencies work with the Shasta County OES, and with responding fire department personnel who assess fire behavior and spread and other emergencies, which ultimately influence evacuation decisions. All evacuations in the County follow pre-planned procedures to determine the best plan for the type of emergency. The designated County emergency evacuation and law enforcement coordinator is the sheriff. The evacuation coordinator is assisted by other law enforcement and support agencies in emergency events. Law enforcement agencies, highway/street departments, and public and private transportation providers would conduct evacuation operations. Activities would include law enforcement traffic control, barricades, signal control, and intersection monitoring downstream of the evacuation area, all with the objective of avoiding or minimizing potential backups and evacuation delays.

It is important to note that the existing quarry has been used for local disaster response staging during fire emergencies over the last two decades. The quarry would continue to be available as a local staging area for emergency personal and/or be accessible to the public as a local safe zone during a wildfire or other local emergency. The SCFD reviewed the proposed project and determined that the project does not pose any major impacts to emergency response or evacuation of the area (SCDF, 2019; 2022). Impacts will be less than significant.

g) *Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?*

The proposed project is within the area served by CAL FIRE Station No. 58 located approximately 1.2 miles south of the site. As previously discussed above, CAL FIRE has designated the site and surround areas as a VHFHSZ (CAL FIRE, 2022). Property owners within this designated area are subject to the requirements of California Public Resources Code (PRC) sections 4125, 4142, and 4291. The proposed project will continue to maintain onsite fire suppression apparatus (i.e., water tender, water tank, and water truck) to assist in a fire-related response should an incident occur onsite

All mining operations are conducted in compliance with the standards of the Mining Safety and Health Act (MSHA) and the Cal/OSHA division of mines. Use Permit 07-020 also imposes conditions of approval with respect to fire protection. Specifically, Condition 54 identifies SCFD requirements (see Attachment J, 2008 APPROVED CONDITIONS). These requirements would continue to be imposed for the proposed use permit and reclamation plan amendments and would serve to continue to reduce the potential for fires to occur onsite. Impacts would be less than significant.

Refer to Section XX, WILDFIRE, below for a thorough analysis of potential wildfire impacts associated with the proposed project.

Mitigation Measures

No mitigation measures are required.

Findings

Based upon the review of the information above, implementation of the proposed project will have a less than significant impact with respect to *Hazards and Hazardous Materials*.

Documentation and References

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- Shasta. 2008b. *Planning Commission Resolution Nos. 2008-066 and 2088-067*. July 12, 2008
- Shasta. 2017. *Shasta County and City of Anderson Multi-Jurisdictional Hazard Mitigation Plan*. November 16, 2017.
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- Shasta. 2008c. *Statement of Conditions - Use Permit 07-020*. August 5, 2008.
- SWRCB (State Water Resources Control Board). 2022. *GeoTracker*. [Online]: <https://geotracker.waterboards.ca.gov>. Accessed August 10, 2022.
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X. Hydrology and Water Quality

The purpose of this section of the Initial Study is to describe the hydrologic and water quality setting of the proposed project site and surrounding area. This section also evaluates potential long-term and short-term water quality impacts associated with construction and long-term operation of the proposed project.

Environmental Setting

The project site is located within the northeasterly reaches of the 2,890-acre Middle Creek watershed and to the north is the Rock Creek watershed. The drainage area of the mining and plant areas (both existing and proposed) is approximately 160 acres. The quarry's drainage area represents approximately 5.5 percent of the Middle Creek drainage area. Drainage from the quarry eventually enters Middle Creek, approximately 1.3 miles upstream of its confluence with the Sacramento River.

Surface Water Resources

The existing quarry has two types of hydrologic regimes: the quarry area to the west and the existing Plant Area to the east. The quarry area is within a single watershed. Runoff from this area is mainly sheet flow from the various hillsides and ridges into small drainages converging from the north and south into a central channel, which flows east into Pond No. 4. The Plant Area receives stormwater from offsite uphill areas to the west, as well as onsite runoff from precipitation. Both of these sources discharge into five onsite settling ponds and are subject to treatment before leaving the property. The type of stormwater treatment is passive using Best Management Practices (BMPs) and includes extended detention times for sediment to settle out, interior basin vegetative cover for filtration, and cobble/filter fabric outlet structures.

Drainage is currently managed by a network of ponds, ditches, and piping. The major source of process water for the facility is from upland runoff to Pond No. 4 and Pond No. 5. These two ponds are hydraulically connected in the subsurface through a layer of crushed rock approximately 10 feet thick. The two ponds receive runoff from the upland hills west of the Plant Area, from the existing quarry, and from the Plant Area (equipment storage, stockpile areas, concrete recycle area, and topsoil stockpile area).

During regular operations, water is pumped from Pond No. 5 to Settling Pond No. 1 and Recycle Pond No. 2. During storm events, water can be released as needed from Pond No. 4 through a slide gate. Stormwater released from Pond No. 4 is routed through a 36-inch corrugated metal pipe (CMP) culvert to the drainage ditch immediate east of Settling Ponds No. 2 and No. 3; the valve at the point of discharge of the 36-inch CMP to the ditch is always closed, and only opened during large storm events. Just south of Settling Pond No. 3, the small drainage ditch connects with a larger drainage ditch, the larger ditch discharges to Middle Creek near where Iron Mountain Road crosses Middle Creek.

Water from Pond No. 4 is routed to Recycle Pond No. 2 from Settling Pond No. 1; Recycle Pond No. 2 also receives overflow from Recycle Pond No. 1. During operations, water for aggregate washing is pumped from Recycle Pond No. 2 by two centrifugal pumps (one 4-inch and one 6-inch). As needed, water for the wash bars for dust control at the transfer points of dry aggregate is provided by Shasta Community Services District (SCSD; formerly water was provided by Keswick CSD which is now part of SCSD), as is the potable water for the facility. Based on invoices from both Keswick CSD and SCSD for 2019 and 2020 (through October), the average amount of water purchased equates to between 0.25 and 0.27 gallons per minute (gpm). This amount is approximately one-quarter to one-half of what an average residence would use in a year.

The used wash water that has passed over the aggregate is returned to Recycle Pond No. 1 after the addition of flocculent to aid in settling the fine particulates. Approximately every three days, the fine material that is washed off the aggregate and into Recycle Pond No. 1 is cleaned out and moved to an overburden pile, to be used in site reclamation in the future. Washed aggregate is stored in various stockpile areas, in the eastern part of the site.

The two Recycle Ponds are connected by a 48-inch CMP. Recycle Pond No. 2 can overflow to a ditch which routes discharge to Settling Pond No. 1. Settling Ponds No. 1, No. 2, and No. 3 are connected in series, with Pond No. 3 the farthest downgradient. Settling Pond No. 3 discharge to the small ditch along the eastern side of the ponds, and thence to the larger ditch that is tributary to Middle Creek.

According to the mine operator, Ponds No. 4, No. 5, and Settling Pond No. 3 remain full year-round, without addition of water. This suggests that, at least in part, groundwater seepage occurs year-round and helps maintain pond water levels, in that there is no surface water runoff from the uplands in the summer.

Groundwater Resources

The proposed project is located within the Redding Groundwater Basin (RGWB). The RGWB underlies approximately 544 square miles in the north end of the Sacramento Valley. The County is a member of the Redding Area Water Council (RAWC), a consortium of water purveyors that operate in Shasta County. In 1998, the Shasta County Water Agency, on behalf of the RAWC, prepared the *Coordinated AB 3030 Groundwater Management Plan* for the RGWB. The groundwater management plan was prepared to provide a mechanism for both the public and private stakeholders in the RGWB to evaluate, manage, protect, and preserve local groundwater resources.

As described in the City of Redding's 2015 *Urban Water Management Plan*, the RGWB is not an adjudicated basin (COR, 2015). As the basin is not in overdraft, no legal pumping limit has been set; therefore, no overdraft mitigation efforts are currently underway. Though no safe yield has been established for the RGWB, groundwater modeling as part of the *Coordinated AB 3030 Groundwater Management Plan* indicates that the RGBW is resilient to severe drought conditions and is able to recover with one year of normal rainfall (COR, 2016). The entire RGWB groundwater storage capacity is 5.5-million-acre feet (AF) (DWR, 2004).

The County is also participating in a consortium of nearby groundwater users to form a Groundwater Sustainability Agency (GSA) pursuant to the requirements of AB 1739, SB 1168, and SB 1319 collectively known as the Sustainable Groundwater Management Act (SGMA). The proposed project is not located within a subbasin or other area that is monitored, reported, and managed by a GSA (DWR, 2022).

The predominant direction of groundwater movement in the project area is to the east, following the general topography towards the Sacramento River. There are 28 wells of record in the vicinity of the site on file with the Department of Water Resources (DWR). According to DWR's database, all of the wells of record are located to the north (within the Rock Creek drainage) and to the south of the quarry (mostly in the Salt Creek drainage). Four wells of record are within the Middle Creek drainage. These wells are all located close to Middle Creek, south to southwest of the site and approximately one-half to one mile away from the project site. There are no groundwater wells downgradient of the project site (LAA, 2022).

Water Quality

Water quality at the existing quarry has been regulated by the Central Valley Regional Water Quality Control Board (CVRWQCB) through a series of permits over the years. Prior to 2015, the facility was regulated under National Pollution Discharge Elimination System (NPDES) permits, which were renewed every five years. The

last NPDES permit was rescinded in 2015, and the facility currently is covered under the General Industrial Stormwater Permit. Monitoring of pond and runoff water quality was, and is, conducted under these permits.

Factors that can influence the water quality of stormwater runoff or stored water at the quarry include natural and man-made sources of particulates or chemicals. Natural sources of particulates are undeveloped or unpaved areas; currently, the main area of undeveloped runoff area is the upland watershed above the quarry area.

Stormwater runoff from the existing quarry is routed through the various ponds, with all but a small portion eventually discharged from Settling Pond No. 3. Stormwater from Pond No. 4 can be routed around the settling ponds and discharged directly to the ditch that is tributary to Middle Creek, but this has seldom occurred (LAA, 2022).

Flood Hazards

The Federal Emergency Management Agency (FEMA) has mapped the 100-year and 500-year floodplains along the Sacramento River and creeks in the vicinity of the project site. The site and surrounding area are located outside the mapped 100-year floodplain (FEMA, 2011).

Regulatory Setting

This section summarizes current federal, State, and local regulations relevant to the review of *Hydrology and Water Quality* for this project. Ordinances, regulations, or standards that are applicable to the environmental review of potential impacts related to hydrology and water quality include the following:

Clean Water Act

The Clean Water Act (CWA) is a federal law that protects the nation's surface waters, including lakes, rivers, coastal wetlands, and "waters of the United States." The CWA specifies that discharges to waters are illegal, unless authorized by an appropriate permit. The permits regulate the discharge of dredged and fill materials, construction-related stormwater discharges, and activities that may result in discharges of pollutants to waters of the United States. If waters of the U.S. are located on a project site, a proposed project is likely to discharge to them, and if impacts on them are anticipated, the project must obtain a CWA Section 401 Water Quality Certification from the appropriate Regional Water Quality Control Board (RWQCB).

Federal Anti-Degradation Policy

The federal Anti-Degradation Policy is part of the CWA (Section 303(d)) and is designed to protect water quality and water resources. The policy directs states to adopt a statewide policy that includes the following primary provisions: (1) existing instream uses and water quality necessary to protect those uses shall be maintained and protected; (2) where existing water quality is better than necessary to support fishing and swimming conditions, that quality shall be maintained and protected unless the state finds that allowing lower water quality is necessary for important local economic or social development; and (3) where high-quality waters constitute an outstanding national resource, such as waters of national and state parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

National Pollutant Discharge Elimination System (NPDES)

The NPDES program is administered by the U.S. Environmental Protection Agency (EPA), which delegated oversight in California to the Regional Water Quality Control Boards. The NPDES program provides general permits and individual permits. The general permits are for construction projects that disturb more than one acre of land. The general permit requires the applicant to file a public Notice of Intent (NOI) to discharge stormwater and to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP includes a site map, description of proposed activities, demonstration of compliance with applicable ordinances and regulations, and a description of Best Management Practices (BMPs) that would be implemented to reduce erosion and discharge of construction-related pollutants. The CWA-established NPDES permit program regulates municipal and industrial discharges to surface waters of the United States from their municipal separate storm sewer systems (MS4s). Under the NPDES program, all facilities that discharge pollutants into waters of the United States are required to obtain a NPDES permit. Requirements for stormwater discharges are also regulated under this program.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act acts in cooperation with the CWA to establish the SWRCB. The SWRCB is divided into nine regions, each overseen by a RWQCB. The SWRCB, and thus each RWQCB, is responsible for protecting California's surface waters and groundwater supplies. The Porter-Cologne Water Quality Control Act develops Basin Plans that designate the beneficial uses of California's rivers and groundwater basins. The Basin Plans also establish narrative and numerical water quality objectives for those waters. Basin Plans are updated every three years and provide the basis of determining waste discharge requirements, taking enforcement actions, and evaluating clean water grant proposals. The Porter-Cologne Water Quality Control Act is also responsible for implementing CWA Sections 401-402 and 303(d) to SWRCB and RWQCBs.

Safe Drinking Water Act

Under the 1974 Safe Drinking Water Act (Public Law 93-523), most recently amended in 1996, USEPA regulates contaminants of concern to domestic water supply, which are those that pose a public health threat or that alter the aesthetic acceptability of the water. These types of contaminants are classified as either primary or secondary Maximum Contaminant Levels (MCLs). MCLs and the process for setting these standards are reviewed triennially.

State Water Resources Control Board Waste Discharge Requirements

Waste discharges that can be exempted from the California Code of Regulations (CCR) requirements are issued waste discharge requirements (WDRs) and are regulated by the WDR Program. Typical discharge types include domestic or municipal wastewater, food processing related wastewater, and industrial wastewater.

Statewide General Construction Permit

Construction projects of one acre or more are regulated under the Construction General Permit, Order No. 2012-0006-DWQ, issued by the SWRCB. Under the terms of the permit, applicants must file permit registration documents with the SWRCB prior to the start of construction, including a Notice of Intent, risk assessment, site map, SWPPP, annual fee, and signed certification statement.

State Anti-Degradation Policy

In 1968, as required under the Federal Anti-Degradation Policy, the SWRCB adopted an Anti-Degradation Policy, formally known as the *Statement of Policy with Respect to Maintaining High Quality Waters in California* (State Water Board Resolution No. 68-16). Under the Anti-Degradation Policy, any actions that can adversely affect water quality in surface and ground waters must be consistent with maximum benefit to the people of the State, not unreasonably affect present and anticipated beneficial use of the water, and not result in water quality less than that prescribed in water quality plans and policies.

Sustainable Groundwater Management Act

In 2014, California enacted the Sustainable Groundwater Management Act (SGMA; Water Code Section 10720 et seq.). SGMA and related amendments to California law require all groundwater basins designated as high or medium priority in the DWR California Statewide Groundwater Elevation Monitoring (CASGEM) Program, and that are subject to critical overdraft conditions, must be managed under a new Groundwater Sustainability Plan (GSP) or a coordinated set of GSPs. High or medium priority basins that are not subject to a critical overdraft must be regulated under one or more GSPs by 2022. Where GSPs are required, one or more local Groundwater Sustainability Agencies (GSAs) must be formed to implement applicable GSPs. A GSA has the authority to

require registration of groundwater wells, measure and manage extractions, require reports, and assess fees, and to request revisions of basin boundaries, including establishing new subbasins.

Water Quality Control Plan, Fifth Edition, for the Sacramento and San Joaquin River Basins

The CVRWQCB adopted a Water Quality Control Plan, Fifth Edition (revised May 2018), for the Sacramento and San Joaquin River Basins (Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Waste discharge requirements (WDRs) were adopted in order to attain the beneficial uses listed for the Basin Plan area. Water quality objectives are established for numerous constituents, including bacteria; chemical constituents such as trace elements, mercury, and methylmercury; pH; dissolved oxygen; pesticides; and salinity.

2008 Initial Study / Mitigated Negative Declaration Findings

In 2008 the County approved a Mitigated Negative Declaration (SCH No. 2008052029) for *General Plan Amendment GPA07-005, Zone Amendment GZ07-020, Use Permit Amendment UP07-020, and Reclamation Plan Amendment RP07-002*. As noted in Section 2.0, PROJECT DESCRIPTION, the Mitigated Negative Declaration evaluated environmental impacts associated with amending the General Plan land use designation on 115 acres from “N-O” (Natural Resource Protection – Open Space) to “MR” (Mineral Resource); rezoning the same 115 acres from “U” (Unclassified) to “MR” (Mineral Resource); expanding the quarry area from 53.57 acres to 110.24 acres; extending the termination date of the operation from February 22, 2010, to December 31, 2072; amending the reclamation plan to include expansion of the quarry by 56.67 acres; and the processing of up to 250,000 tons per year.

Making the appropriate findings, the County determined that no impact related to *Hydrology and Water Quality* would occur with implementation of *General Plan Amendment GPA07-005, Zone Amendment Z07-020, Use Permit Amendment UP07-020, and Reclamation Plan Amendment RP07-002* (Shasta, 2008a; 2008b; 2008c). No mitigation measures were required.

Impact Analysis

The following includes an analysis of environmental parameters related to *Hydrology and Water Quality* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Would the Project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?			X	
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			X	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				

Would the Project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
i) Result in substantial erosion or siltation on- or off-site;			X	
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;			X	
iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or			X	
iv) Impede or redirect flood flows?			X	
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?			X	
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			X	

a) *Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?*

The existing quarry operates under a General Industrial Stormwater Permit (Order No. 2014-0057 DWQ) issued by the SWRCB. General Industrial Storm Water Permit Order No. 2014-0057-DWQ, as amended by Order No. 2015-0122-DWQ (General Industrial Permit) is a NPDES permit that regulates discharges associated with 10 broad categories of industrial activities, including mining activities like the proposed project. The General Industrial Storm Water Permit requires the implementation of management measures that will achieve the performance standard of best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT). Like the General Construction Permit, the General Industrial Storm Water Permit also requires the development of a Storm Water Pollution Prevention Plan (SWPPP) and a monitoring plan. Through the SWPPP, sources of pollutants are to be identified and the means to manage the sources to reduce storm water pollution are described.

Stormwater runoff from the quarry is routed through the various ponds, with all but a small portion eventually discharged from Settling Pond No. 3. During large storm events the operator can route stormwater from Pond No. 4 around the settling ponds and discharge it directly to the ditch that is tributary to Middle Creek, but this has seldom occurred (LAA, 2022).

Sampling of discharge from Settling Pond No. 3 and Middle Creek was conducted between 2004 and 2014, under previous NPDES permits. Sampling of Middle Creek is no longer required under the quarry's current General Industrial Permit. Based on review of these prior sampling results, it does not appear that historic runoff from the existing quarry has adversely affected surface water quality in Middle Creek (LAA, 2022) (see Attachment F).

The General Industrial Storm Water Permit requires the mine operator to perform stormwater quality monitoring, water testing, and reporting certain stormwater discharges from the property and submit an annual report to the SWRCB each July 1st. Since permitted, the mine operator has historically undertaken and will continue to conduct water quality monitoring and testing in accordance with NPDES permit conditions. Stormwater will continue to be covered under the General Industrial Stormwater Permit for the existing quarry. Therefore, impacts to surface and groundwater quality are considered to be less than significant.

b) *Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

Water for the proposed project would be provided by the Shasta Community Services District (SCSD) through an existing surface water contract with the Bureau of Reclamation (Contract No. 14-06-200-1307A). No groundwater resources would be utilized for potable purposes.

Groundwater inflow is currently routed to existing ponds or temporary detention basins. Once excavation in a phase proceeds such that deeper basins are developed, groundwater seepage into the basin will be pumped out for discharge to either temporary basins or existing ponds. Groundwater production from mined areas is not expected to be greater than current seepage rates because as the quarry is deepened, the potential for groundwater occurrence decreases (LAA, 2022).

Changes in inflow from groundwater are assumed to be minimal. Because of the nature of the geologic materials (relatively impermeable hard rock with few open fractures), it is unlikely that the Pond No. 6 would act as a groundwater sink. Some groundwater seepage zones may be intercepted by the expanded excavation, but the probability that more seepage zones than are currently observed is unlikely (LAA, 2022). Groundwater recharge will be slightly higher by approximately 3-acre feet per year (AFY) under post reclamation due to the greater area of Pond No. 6 relative to the existing ponds (LAA, 2022). Less than significant impacts are anticipated in this regard.

c) *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:*

i. *Result in substantial erosion or siltation on- or offsite:*

The proposed project does not include alteration of the course of a stream or river or include the addition of impervious surfaces. Erosion control BMPs contained in the *Mining and Reclamation Plan Amendment* (see Attachment B) includes the following sediment control features to reduce or eliminate erosion impacts:

- In re-soiled areas that exhibit an erosion rill with a cross section greater than five square inches and exceeding five feet in length will be arrested by graded rock interceptors.

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- Roads with erosion rills with a cross section area greater than five square inches and exceeding five feet in length will have the rills filled in with gravel or cobbles.
 - Ditches that have erosion rills with a cross section area greater than five square inches and exceeding five feet in length will have riprap placed in them.
 - Stockpiles that have erosion rills with a cross section area greater than five square inches and exceeding five feet in length will have those rills filled in with soil or overburden and covered with straw mulch. An alternative to mulching is installing silt fences around the stockpiles.
 - Culverts that have scouring greater than six inches in depth will have riprap placed in the scour area.
 - Eroding areas will have mulch applied at a minimum rate of two tons per acre.
 - Cut and fill slopes of 2:1 or less that have potential of eroding shall have straw mulch applied to them.
 - Fill slopes will be 2:1 or less unless specific geologic and engineering analysis demonstrates that a steeper slope will have a minimum factor of safety for the end use and that the slopes can be revegetated successfully.
 - Design erosion control measures to handle runoff from a 20-year, one hour intensity rain event.
 - Temporary mulching of erodible areas will occur prior to October 15th of each the year. This includes topsoil stockpiles that will not be used prior to April 15th of the following year.
 - Erosion and sedimentation control structures will be in place by October 15th of each year. Control structures will not be removed prior to April 15th of the following year and then only when necessary for ongoing operations.
 - Newly re-soiled benches may need to have a straw mulch or wood chips applied to their surface for erosion control until the grass is established. Straw mulch is to be applied at a rate of two tons per acre and the chips at six tons per acre.
 - Ditches and other manmade stormwater conveyances will be seeded with grasses where water velocities permit this type of bank and bed protection. In locations where water velocities are too great for grass installation the conveyances will be rock lined in areas with erodible soils.
 - The spillway from Pond No. 6 to Settling Pond No. 4 will have riprap armoring so there is no degradation of the outlet.
 - Stockpiled topsoil is used for re-soiling. The topsoil will be stored separately from the other salvaged materials. Signs will be placed to differentiate the topsoil stockpiles from the overburden stockpiles. As mining proceeds further west from the Plant Area, new topsoil stockpile areas can be created in the quarry area. These locations will meet the same requirements as the initial topsoil storage area.
 - During bench re-soiling, overburden and fines will first be laid down to at least 22 inches. A minimum of two inches of topsoil material will then be installed on top of the overburden.
 - Finished grades at the reclaimed sites will vary since there is no maximum depth of soil and overburden that can be placed on them. Greater fill depth is regulated by such factors as employee safety in re-soiling

a location, the potential of increased erosion, potential of increasing vegetation success and the availability of fill material.

- Where topsoil or overburden is used at locations sensitive to settlement, compaction of the material is required based on standard engineering practices. Fill shall be compacted per the Uniform Building Code, local grading ordinances or other methods approved by the lead agency which is Shasta County.

Surface water will continue to be directed toward the existing settling ponds, and additional retention basins will be constructed as required to contain the stormwater as expansion progresses. With implementation of the above erosion control measures, including revegetation activities outlined within the *Mining and Reclamation Plan Amendment*, the potential for erosion and siltation to be conveyed offsite by stormwater is considered to be less than significant.

- ii. *Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite:*

Water management and stormwater-runoff control in the future will be done similarly to the current operations. As noted above, during each phase, runoff from the disturbed areas will be routed to temporary detention basins within the phase footprint. This method of water and stormwater management has been in effect since the mine began operation in 1990. Therefore, it is unlikely that future mine operations will adversely affect offsite runoff.

Implementation of the proposed project would not expand mining activities beyond the existing permitted 57.31 acres, even though the amount of aggregate materials will increase. Extracting the additional materials will increase the surface area of Pond No. 6 in the mining area from 23.5 acres to 32.67 acres. Likewise, the pond's bottom depth elevation will be decreased by 60 feet from the previously approved Pond No. 6 bottom elevation of 700 feet to a proposed bottom elevation of 640 feet. The five existing settling ponds will remain, and the two water recycling ponds will be filled once aggregate from the mining area is depleted and as part of final site reclamation.

According to the *Crystal Creek Aggregate Hydrologic Evaluation of Quarry Changes* (LAA, 2022) after filling, Pond No. 6 would overflow in average years, and would have minimal to no overflow during dry years. Seasonal water level fluctuations would be less than 5 feet. There would be approximately 25% less runoff to the tributary to Middle Creek during the wet season representing a net 1.4% reduction of flow to Middle Creek below the quarry once the reclamation has been completed (LAA, 2022). Therefore, project implementation would not increase the rate or amount of surface runoff in a manner that would result in flooding on or offsite. Impacts are considered less than significant in this regard.

- iii. *Create or contribute runoff water which would exceed the capacity of existing planned stormwater drainage systems or provide substantial additional sources of polluted runoff:*

Refer to previous impact discussions under X.a, X.c.i, and X.c.ii. Impacts would be less than significant.

- iv. *Impede or redirect flood flows:*

Refer to previous impact discussion under X.c.ii. Impacts would be less than significant.

- d) *In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?*

There are no levees near the proposed project. The threat of a tsunami wave is not applicable to inland areas; there is no potential for the generation of a seiche. As previously described above, the proposed project is not located within a FEMA Special Flood Hazard Area (FEMA, 2011).

Two major dams are located in the general vicinity of the proposed project: Shasta Dam and Whiskeytown Dam. The Shasta County General Plan does not contain dam inundation maps, however, according to Figure 4-5 and Figure 4-6 of the Health and Safety Element of the City of Redding General Plan, the proposed project is located within the Shasta Dam Failure inundation area (COR, 2000).

Uncontrolled releases from Shasta Dam, although very unlikely, would devastate the entire northern Central Valley including the proposed project. The Sacramento River and its tributaries would overtop banks and levees. Massive flooding in the lowlands along the river would occur and Interstate 5 (I-5), the main west coast transportation artery, would be affected by closure and possible structural damage. As a result, large portions of Redding and some areas of unincorporated Shasta County along the Sacramento River, including the proposed project site, would be directly affected by a dam overflow or failure. Although these are two different types of events, the results are the same - uncontrolled releases from Shasta Dam.

Dam Overflow

Although it is highly unlikely, a dam overflow is more likely than a dam failure. A dam overflow would be characterized by an “overtopping” of the dam. The design of the structure includes three large spillway gates to minimize the possibility of a true overtopping of the dam. During an intense and prolonged storm period that might bring water levels near the top of the dam, these spillway gates would be lowered allowing water to be discharged down the spillway. Controlling, or funneling, the discharge down the spillway prevents structural erosion along the base and sides of the dam, protects the turbine power generation plant at the base of the dam, and allows control of the release in cubic feet per second. Shasta Dam has never overflowed in its 60-year history (COR, 2015).

Dam Failure

A dam failure is less likely than a dam overflow. A dam failure would be characterized by a structural breach of the dam. Flooding and overtopping, earthquakes, release blockages, landslides, lack of maintenance, improper operation, poor construction, vandalism, or terrorism typify dam failures. California has had about 45 failures of non-federal dams. These failures occurred for a variety of reasons, the most common being overtopping of earthen dams. Some of the other reasons include specific shortcomings in the dams themselves or inadequate assessment of the surrounding geomorphologic characteristics. Shasta Dam is a federal dam, one of the largest concrete dams in the world, and secured firmly on bedrock.

Although there is a history of 45 dam failures within the State of California, most of the failures were earthen dams. Of the concrete dams that failed, all were of the “thin-arch” design. Shasta Dam is a federally controlled and inspected dam and is considered a “thick arch.” Seismic activity is monitored, and tunnels throughout the dam itself allow inspectors to monitor for cracks and seepage. The dam is built on bedrock and is geomorphologically sound. The probability of a dam failure is extremely low (COR, 2015).

Conclusion

The proposed project, like many developed areas along in proximity to the Sacramento River, is located within the mapped inundation areas of Shasta Dam. As noted above, Shasta Dam has never overtopped, and the probability of dam failure is considered extremely low. In addition, the County maintains an Emergency

Operations Center (EOC), including communication and coordination with USBR, to help coordinate information and resources should the County experience a large event such as dam overflow or failure.

While the proposed project would result in the continuation of mining activities onsite, the risk of the release of pollutants from inundation of the project site as a result of a catastrophic failure or overtopping of Shasta Dam is not considered significant given the dam type, construction, the historical context of dam operations and management, and ongoing coordination between the County and USBR. In addition, refer to impact discussion under X.c.ii, above, regarding the minimization of floodplain impacts. Impacts would be less than significant.

e) *Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

The proposed project is located within the Sacramento River Basin. The *Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region (Fifth Edition)* was prepared for the Sacramento River Basin and the San Joaquin River Basin. The Basin Plan includes water quality objectives for the San Joaquin River. Implementation of the plan is conducted through the NPDES permits and waste discharge requirements for pollution (CVRWQCB, 2018). Implementation of the proposed project would not result in a conflict with Basin Plan for the Sacramento River Basin.

As previously discussed above under *Environmental Setting*, the project site and surrounding area is located within the Sacramento River hydrologic region of northern California within the Redding Groundwater Basin (DWR, 2021). It is important to note that the RGWB is not an adjudicated basin. As the basin is not in overdraft, no legal pumping limit has been set; therefore, no overdraft mitigation efforts are currently underway. Though no safe yield has been established for the RGWB, groundwater modeling as part of the *Coordinated AB3030 Groundwater Management Plan* indicates that the RGWB is resilient to severe drought conditions and is able to recover with one year of normal rainfall (COR, 2015). In addition, the existing quarry is not located within a subbasin or other area that is monitored, reported, and managed by a Groundwater Sustainability Agency (GSA) (DWR, 2022).

As mentioned above under impact discussion X.b, water for the proposed project would be provided by the Shasta Community Services District (SCSD) through an existing surface water contract with the Bureau of Reclamation (Contract No. 14-06-200-1307A). No groundwater resources would be utilized for potable purposes.

Changes in inflow from groundwater as a result of the proposed project are assumed to be minimal and groundwater production from mined areas is not expected to be greater than current groundwater seepage rates (LAA, 2022). Under post reclamation conditions, pond leakage, or groundwater recharge will be higher by approximately 3 AFY due to the greater area of Pond No. 6 relative to the existing ponds (LAA, 2022).

Given the current and foreseeable status of the RGWB as a non-adjudicated basin, the proposed project's lack of groundwater impacts, and the continued management of the RGWB pursuant to the SGMA Act, project implementation would not result in adverse impacts to groundwater resources. Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Findings

Based upon the review of the information above, implementation of the proposed project will have a less than significant impact with respect to *Hydrology and Water Quality*.

Documentation and References

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- DWR. 2004. *Sacramento River Hydrologic Region, Redding Groundwater Basin, Enterprise Subbasin Groundwater Bulletin 118*. Updated February 27, 2004.
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- RAWC (Redding Area Water Council). 1998. *Coordinated AB 3030 Groundwater Management Plan for the Redding Groundwater Basin*. Updated May 2007.
- Shasta (County of Shasta). 2008a. *Environmental Initial Study General Plan Amendment 07-005, Zone Amendment 07-020, Use Permit 07-020, and Reclamation Plan 07-002, Crystal Creek Aggregate, Comingdeer*. March 7, 2008.
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XI. Land Use and Planning

This section of the Initial Study describes the impacts on land use and planning that would result from implementation of the proposed project, including consistency with relevant local land use plans and compatibility with surrounding land uses.

Environmental Setting

Surrounding Uses

The existing quarry lies within a rural residential and industrial area of unincorporated Shasta south of the community of Keswick. Vacant U.S. Bureau of Land Management (BLM) lands are the predominant land use to the northwest and west of the project site comprising approximately 260 acres; however, an approximate 10-acre parcel owned by the Comingdeer Family Trust, but not a part of the proposed project, directly abuts the northern boundary of the project site. Four vacant private parcels are to the northeast. The two closest parcels (2.7 and 1.79 acres) are zoned “M” (General Industrial) and owned by the Comingdeer Family Trust. Two other parcels (1.95 and 1.48 acres) are located north of the Comingdeer parcels and are also zoned “M” (General Industrial) even though they have been developed with single-family residences. The Carr Fire destroyed these residences. An industrial use is being developed on one of the parcels instead of rebuilding a residence. The land use designation of adjoining properties is provided in Table 4, EXISTING LAND USE AND ZONING DESIGNATIONS, below.

Table 4

EXISTING LAND USE AND ZONING DESIGNATIONS

Direction from Proposed Project Site	Existing Land Uses	Existing General Plan Designation	Existing Zoning District
Northwest	Vacant Comingdeer Land Vacant BLM	“MR” (Mineral Resource) “PUB” (Public)	“MR” (Mineral Resource) “U” (Unclassified)
Northeast	Rural Residential Single-Family	“PUB” (Public) “I” (Industrial)	“M” (General Industrial)
East	Weyerhaeuser Lumber Rural Residential Single Family	“I” (Industrial) “RA” (Rural Residential A)	“M” (General Industrial) “R-R-T” (Rural Residential combined with Mobile Home)
South	Vacant Comingdeer Land Vacant BLM Rural Residential Single-Family	“N-O” (Natural Resource Protection – Open Space) “RA” (Rural Residential A)	“U” (Unclassified)
West	Vacant BLM	“PUB” (Public)	“U” (Unclassified)

Source: Shasta County General Plan as amended through September 2004; Shasta County Municipal Code Title 17; Google Earth 2022; and ENPLAN Map Port.

Existing General Plan Designations

The Shasta County General Plan planning area is divided into 10 Planning Areas. The proposed project is located within the South-Central Region Planning Area. Chapter 3 of the Shasta County General Plan identifies three distinct types of communities: Urban Center, Town Center, and Rural Community Center. The proposed project site is not within any of these community types; however, it is located near the Rural Community Centers of Shasta/Keswick with Shasta being approximately 2.5 miles to the south and west via Iron Mountain Road and State Route 299 (SR-299) and Keswick located approximately 1.5 miles north via Iron Mountain Road.

The Shasta County General Plan designates the proposed project site as “I-IMR” (*Industrial – Interim Mineral Resource*), “MR” (*Mineral Resource*) and “N-O” (*Natural Resource Protection – Open Space*). The following provides a brief description of the site’s existing General Plan land use classifications:

- “MR” (*Mineral Resource*). Mineral operations that are long-term (i.e., 30 years or more of expected operation) should be included in the “MR” (*Mineral Resource*) land use classification and in the “MR” (*Mineral Resource*) zone district. Included in this classification and zoning shall be areas used for extraction, processing, stockpiling, and shipping, and adjacent undeveloped areas within the same ownership as the mining operation site. Development and uses within “MR” (*Mineral Resource*) classifications and zone districts shall be regulated so that proposed future land uses will avoid or mitigate incompatibilities with mineral extraction operations.
- “I-IMR” (*Industrial – Interim Mineral Resource*). This is a combining land use classification whereby the “I” district is the principal district with which the “IMR” combines. The “I” (*Industrial*) land use classification provides for the intermixing of industrial uses with varying degrees of impacts, scales of operation, and service requirements (including rail access). This classification permits the inclusion of non-industrial uses providing materials and services primarily used by industrial uses. Other non-industrial uses may be permitted on an interim basis with conditions providing for reversion to industrial uses. This land use should be located along a freeway, highway or arterial and classified on the general plan land use map as “I” (*Industrial*).
- Mining operations, which are short-term (i.e., less than 30 years of expected operation) should be included in the “IMR” (*Interim Mineral Resource*) land use classification combined with the principal land use classification “I” district. The “IMR” (*Interim Mineral Resource*) combining zone district shall be designed to allow for compatible land uses while protecting the potential for mineral resource development.
- Onsite processing, including crushing, washing, screening, sorting, and stockpiling, should be allowed as much as possible at all mineral resource sites, subject to consideration of potential conflicts with adjacent and nearby land uses, and to mitigation of potential adverse environmental effects. However, concrete plants and asphalt plants should only be permitted in the “MR” (*Mineral Resource*) and “I” (*General Industrial*) zone districts, subject to approval of a use permit.
- “N-O” (*Natural Resource Protection – Open Space*). The purpose of the “N-O” (*Natural Resource Protection – Open Space*) classification is to recognize open space values by permitting low density residential development along with the resource uses. Typically, lands classified as “N-O” (*Natural Resource Protection – Open Space*) are adjacent to major landforms, riparian corridors, habitat areas, etc. Residential densities that do not exceed one dwelling per twenty acres may be permitted. In recognition of their resource or open space value, federally-owned lands shall be classified as “N-O” (*Natural Resource Protection – Open Space*). Land changed from public to private ownership shall remain in the “N-O” (*Natural Resource Protection – Open Space*) designation unless an approved General Plan amendment places the property in a more appropriate land use designation.

Existing Zoning Designations

The CCA plant area, including the office, crushing, screening, and washing facilities are all located in the “M-IMR” (*General Industrial – Interim Mineral Resource*) combining zone district as required by the Shasta County Zoning Code.²⁶ The mining area and the existing topsoil stockpiles are located in areas classified as “MR” (*Mineral Resource*). The southwest portion of the project site is classified as “U” (*Unclassified*). The following provides a brief description of the site’s existing zoning districts:

- “MR” (*Mineral Resource*). The purposed of the “MR” (*Mineral Resource*) district is to protect long-term mining operations (i.e., mines with thirty years or more of expected operation). This district is consistent with the “MR” (*Mineral Resource*) general plan classification. This district may also be applied to other areas where there are mineral deposits that can be mined commercially; provided, there are no conflicts with other general plan policies.
- “M-IMR” (*General Industrial – Interim Mineral Resource*). This is a combining district whereby the “M” (*General Industrial*) district is the principal district with which the “IMR” (*Interim Mineral Resource*) combines.²⁷ The purpose of the general industrial “M” (*General Industrial*) district is to provide areas for all types of industrial uses and uses that are accessory to industrial uses. The general industrial component of this district is consistent with the “I” (*Industrial*) general plan land use classification. This district allows the exploration, extraction and processing of minerals, rock, sand, gravel, topsoil or steam for commercial purposes and accessory uses may be allowed; provided, a use permit is issued in each case except that asphalt plants and Portland cement concrete plants shall be located only in “I” (*Industrial*) and “MR” (*Mineral Resource*) districts.
- The “IMR” (*Interim Mineral Resource*) district is intended to be combined with any principal district to protect mining operations which are short-term (i.e., less than thirty years of expected operation), and to allow for compatible land uses while protecting the potential for mineral resource development. Uses permitted in the “IMR” (*Interim Mineral Resource*) district are all uses permitted in the principal “M” (*General Industrial*) district with which the “IMR” (*Interim Mineral Resource*) district is combined; provided, the use does not conflict with existing mineral resource development nor preclude future mineral resource development.
- “U” (*Unclassified*). The “U” (*Unclassified*) zoning district is intended to be applied as a holding district until a precise zone district has been adopted for the property. All new uses in this district shall be consistent with all applicable policies of the general plan.

1997 Mineral Land Classification for Shasta County

The existing general plan land use classification and zoning district designation of the project area is supported by the *1997 Mineral Land Classification for Shasta County* by the State of California Department of Conservation (DOC) that classified the existing operation and adjacent lands to the west and south as “MRZ-2” (Mineral Resource Zone Category) “*wherein lands classified as MRZ-2 are areas that contain identified mineral resources.*”

²⁶ Shasta County Zoning Code. Chapter 17.88, Article 1. Uses Permitted in All Districts. Section 17.88.020. Mining A. states “The exploration, extraction and processing of minerals, rock, sand, gravel, top-soil or steam for commercial purposes and accessory uses may be allowed; provided, a use permit is issued in each case except that asphalt plants and portland cement concrete plants shall be located only in Industrial (I) and mineral resource (MR) districts.”

²⁷ A combining district is a designation applied to a property, or a portion of a property, indicating that special requirements apply in addition to the base zoning district requirements. If and when a combining district is applied to a property, it is shown on the zoning map with the combining district label attached to base zoning district label.

Regulatory Setting

This section summarizes current State and local regulations relevant to the review of *Land Use and Planning* for this project. Ordinances, regulations, or standards that are applicable to the environmental review of potential impacts related to land use and planning include the following:

Shasta County General Plan

The Shasta County General Plan is a statement of public policy reflecting the aspirations and values of Shasta County residents which is adopted by their elected representatives. The Shasta County General Plan, amended 2004, identifies strategies, policies, and implementation recommendations for land use within its planning area. The Shasta County General Plan is a long-range comprehensive plan that governs growth and development in the unincorporated areas of Shasta County. The function of the General Plan is to provide a policy framework that must be reflected in the zoning ordinance, specific plans, and other development guidelines.

Shasta County Zoning Ordinance

The Shasta County Zoning Plan, amended 2003, is a tool to assist the County in attaining goals identified in the Shasta County General Plan. The Shasta County Zoning Plan consists of the establishment of various zoning districts to be used within the unincorporated territory of the County. As a legal instrument, the zoning map has immediate force and effect and is one of the key tools in implementing the General Plan's policies. The purpose of the Shasta County Zoning Plan provisions is to promote and protect the public health, safety, peace, morals, comfort, convenience, and general welfare; to implement the Shasta County General Plan, and to facilitate and guide growth in accordance with the Shasta County General Plan; and to protect the social and economic stability of residential, commercial, industrial, resource production, and recreational.

Shasta County Community Plan Areas

Shasta County includes has a number of plans made specifically for designated community or plan areas (i.e., the Cottonwood Community Plan). These plans describe policies and objectives specifically related to that area. The proposed project is not located within a community plan.

2008 Initial Study / Mitigated Negative Declaration Findings

In 2008 the County approved a Mitigated Negative Declaration (SCH No. 2008052029) for *General Plan Amendment GPA07-005, Zone Amendment Z07-020, Use Permit Amendment UP07-020, and Reclamation Plan Amendment RP07-002*. As noted in Section 2.0, PROJECT DESCRIPTION, the Mitigated Negative Declaration evaluated environmental impacts associated with amending the General Plan land use designation on 115 acres from “N-O” (Natural Resource Protection – Open Space) to “MR” (Mineral Resource); rezoning the same 115 acres from “U” (Unclassified) to “MR” (Mineral Resource); expanding the quarry area from 53.57 acres to 110.24 acres; extending the termination date of the operation from February 22, 2010, to December 31, 2072; amending the reclamation plan to include expansion of the quarry by 56.67 acres; and the processing of up to 250,000 tons per year.

Making the appropriate findings, the County found that no impact related to *Land Use and Planning* would occur with implementation of *General Plan Amendment GPA07-005, Zone Amendment Z07-020, Use Permit Amendment UP07-020, and Reclamation Plan Amendment RP07-002* (Shasta, 2008a; 2008b; 2008c). No mitigation measures were required.

Impact Analysis

California Government Code Section 6586021 requires zoning to be consistent with the general plan. Consistency with the general plan is possible only if the local government, in this case Shasta County, has officially adopted a general plan. The land uses authorized in the Shasta County Zoning Plan must be compatible with the objectives, policies, general land uses, and programs specified in the Shasta County General Plan. General plan consistency does not mean strict conformity of a project with each and every general plan objective and policy. Rather, a

project is consistent if it is in agreement or harmony with the general plan considered as a whole. In other words, a project may not have to strictly or substantially conform to a particular general plan policy or policies.

For the purposes of this analysis, relevant planning documents, particularly the Shasta County General Plan and the Shasta County Municipal Code, Title 17, were consulted. The proposed project was qualitatively assessed to determine whether it would conflict with any applicable land use plan, policy, or regulations. If the proposed project was determined to conflict with a relevant plan, a determination was then made as to whether the conflict or inconsistency would result in a significant physical environmental impact that would otherwise be mitigated or avoided without implementation of the proposed project.

The following includes an analysis of environmental parameters related to *Land Use and Planning* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Would the Project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Physically divide an established community?				X
b) Cause a significant environmental impact due to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?			X	

a) *Physically divide an established community?*

The existing quarry is located on the southwestern edge of the community of Keswick, on the east side of the ridge that divides the communities of Keswick and Shasta. The proposed project does not include the creation of any road, ditch, wall, or other feature which would physically divide an established community. No impact would occur in this regard.

b) *Cause a significant environmental impact due to conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?*

The proposed project would not conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. As noted above, the existing onsite general plan land use designations are “MR” (Mineral Resource); “I-IMR” (Industrial – Interim Mineral Resource); “N-O” (Natural Resource Protection – Open Space) with corresponding zoning designations of “MR” (Mineral Resource); “M-IMR” (General Industrial – Interim Mineral Resource); “U” (Unclassified). The existing plant facilities including the office, crushing, screening, and washing facilities are all located in the “M-IMR” (General Industrial – Interim

Mineral Resource) as required by the Shasta County Zoning Code. The Mining Area and the existing topsoil stockpiles are located in areas classified and designated as “MR” (Mineral Resource).

The existing general plan and zoning designations of the project area is supported by the *1997 Mineral Land Classification for Shasta County* prepared by the State of California Department of Conservation (DOC) that classified the existing operation and adjacent lands to the west and south as Mineral Resource Zone Category MRZ-2 “wherein lands classified as MRZ-2 are areas that contain identified mineral resources.” North of the Mining Area is the 10-acre APN 065-250-019 classified and designated “MR” (Mineral Resource). To the south of the existing Mining Area are 28.46-acres and to the south of that area is the remaining 81.72 acres of APN 065-250-026. These last two parcels are classified as “N-O” (Natural Resource Protection – Open Space) and zoned “U” (Unclassified). The proposed project requests the following actions from the County which involves an overall project area of 110.69-acres:

- Use Permit 22-001 Amendment to modify the design of the existing mining area of approximately 57.31-acres as identified in the Reclamation Plan amendment, and the plant area of approximately 53.38-acres which together total 110.69-acres that will be maintained as the Reclamation Plan area.
- Reclamation Plan 22-001 Amendment will maintain the existing 110.69-acre Reclamation Plan area and associated boundaries. However, the amount of aggregate mined will be increased as will yearly blasting maximums. The height of the quarry highwalls and bench widths will be increased as will the pond size and depth upon reclamation of the site. The estimated amount of aggregate proposed to be mined increases from 15.92 million tons to 25.4 million tons. The estimated life of the mining operation will increase from the end of Year 2072 by 30 years to end of the Year 2102.

It is important to note that even though the amount of aggregate to be mined onsite will increase from 250,000 to 500,000 tons, the existing hours of operation will not change. Normal mining and processing activities will continue to occur up to 6 days per week, Monday through Saturday from 6:00 a.m. to 5:00 p.m. during pacific standard time. During daylight savings time, hours are from 6:00 a.m. to 6:00 p.m., Monday through Friday and 6:00 a.m. to 5:00 p.m. on Saturdays.

Existing land use and zoning designations provide for land use compatibility with the proposed use permit and reclamation plan amendments and overall mine operations. Furthermore, this compatibility preserves and protects a mineral resource of regional and local importance to meet the future needs of the north state and in particular Shasta County. In addition, the project is consistent with the policies of the Shasta County General Plan, in particular with Objectives MR-1, MR-5, and MR-7, and Policy MR-a. All existing and proposed uses are allowed under the existing general plan and zoning designations.

As discussed in each resource section of this Initial Study, the proposed project is consistent with applicable policies and objectives of the Shasta County General Plan and regulations of the regulatory agencies identified in the Environmental Checklist Form of this Initial Study. Where necessary, mitigation measures are included to reduce impacts to less than significant levels. Therefore, the proposed project would not conflict with any plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Findings

Based upon the review of the information above, implementation of the proposed project will have a less than significant impact with respect to *Land Use and Planning*.

Documentation and References

DOC (California Department of Conservation). 2018. *Surface Mining and Reclamation Act of 1975 Statutes and Regulations*. July 2018.

Shasta (County of Shasta). 2008a. *Environmental Initial Study General Plan Amendment 07-005, Zone Amendment 07-020, Use Permit 07-020, and Reclamation Plan 07-002, Crystal Creek Aggregate, Comingdeer*. March 7, 2008.

Shasta. 2008b. *Planning Commission Resolution Nos. 2008-066 and 2088-067*. July 12, 2008

Shasta. 2004. *Shasta County General Plan*. September 2004.

Shasta County. 2020. *Shasta County Municipal Code Title 17, Chapter 17.12 – Mineral Resource District; Chapter 17.58 – General Industrial District; Chapter 17.64 – Unclassified District; and Chapter 17.72 – Interim Mineral Resource District*. As amended through April 11, 2022.

Shasta. 2008c. *Statement of Conditions - Use Permit 07-020*. August 5, 2008.

XII. Mineral Resources

The purpose of this section of the Initial Study is to address potential impacts of the proposed project on mineral resources. This section also discusses the proposed project in the context of regional and local mineral resources and addresses the potential impacts to mineral resource deposits that may occur as a result of implementation of the proposed project.

Environmental Setting

A mineral resource is land on which known deposits of commercially viable mineral or aggregate deposits exist. This designation is applied to sites determined by the State Division of Mines and Geology as being a resource of regional significance and is intended to help maintain any quarrying operations and protect them from encroachment of incompatible uses. Mining and mineral resources are important to the economy of Shasta County. Each person in Shasta County requires about 20 tons of freshly mined non-fuel minerals each year. This amount includes about 8 tons of sand and gravel to make concrete for building homes, schools, offices, factories, bridges, and roads (Shasta, 2004).

The State-mandated Surface Mining and Reclamation Act of 1975 requires the identification and classification of mineral resources in areas within the State subject to urban development or other irreversible land uses that could otherwise prevent the extraction of mineral resources. The State Geologist has classified 63.3 square miles of land in Shasta County as Mineral Resource Zones (MRZs) of varying significance. MRZs are classified by the State as follows:

- *MRZ-1*: Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- *MRZ-2*: Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists.
- *MRZ-3*: Areas containing mineral deposits, the significance of which cannot be evaluated from available data.
- *MRZ-4*: Areas where available information is inadequate for assignment to any other MRZ.

The California Department of Conservation's (DOC) Division of Mine Reclamation (DMR) compiles data on the status of mines and the commodities produced. The California Geological Survey (CGS) produces Mineral Land Classification (MLC) studies that identify areas with potentially important mineral resources that should be considered in local and regional planning. Based on mapping prepared by the DOC, this area of Shasta County does not contain oil, natural gas, or geothermal fields (DOC, 2022a).

The existing quarry (Mine ID 91-45-0021) is located within an area designated as MRZ-2a. Areas classified as MRZ-2a are underlain by mineral deposits where geologic data indicate that significant measured or indicated resources are present. Land included within the MRZ-2a category is of prime importance because it contains known economic mineral deposits. The proposed expansion area has been classified as MRZ-2b. Areas classified MRZ-2b are underlain by mineral deposits where geologic data indicate that significant inferred resources are present. These resources are inferred by their lateral extension from proven deposits or by their similarity to prove deposits (DOC, 2022a; 1997).

Onsite Mineral Resources

The mined material at the existing quarry is a light-colored Middle Devonian (385 million years old) biotite-free trondhjemite and albite granite of the Mule Mountain Stock. This rock is hard, hirable, and highly siliceous with approximately 70% quartz and quartzose minerals (DOC, 1997). The deposit is moderately to deeply weathered and fractured within the surficial 10 to 20 feet. Overburden varies from a few inches to bare rock. The rock is first broken by drilling and blasting, then crushed, sized, stockpiled and trucked offsite (DOC, 1997). The materials quarried from the mine are used as aggregate for construction, decorative stone, and sand materials for various applications (Bajada, 2022).

Surface Mining and Reclamation Act Compliance

The Division of Mine Reclamation (DMR) periodically publishes a list of mines regulated under the Surface Mining and Reclamation Act (SMARA) that meet provisions set forth under California's Public Resources Code (PRC) Section 2717(b). This list is generally referred to as the Assembly Bill (AB) 3098 List, in reference to the 1992 legislation, that established it. Sections 10295.5 and 20676 of the Public Contract Code preclude mining operations that are not on the AB 3098 List from selling sand, gravel, aggregates, or other mined materials to State or local agencies.

The existing quarry site is included on the AB 3098 List dated August 10, 2022 (DOC, 2022b). The AB 3098 List is of mines that are currently operated in accordance with the required provisions of PRC Section 2717(b). For the DMR to place a mining operation on the AB 3098 List, the operation must meet all of the following conditions:

- A reclamation plan has been approved.
- A financial assurance mechanism that is at least equal to the current approved financial assurance cost estimate, as described in Section 2736, has been approved.
- A financial assurance cost estimate required under Section 2773.4 has been submitted, as indicated on a notice of completion of inspection submitted by the lead agency pursuant to subdivision (b) of Section 2774. Operators may also confirm submission of their annual financial assurance cost estimate as required by Section 2773.4 by providing a copy of the first page of the financial assurance cost estimate (FACE-1) form to the supervisor.
- The annual report required under Section 2207 has been submitted.
- All fees required under Section 2207, including all past-due fees, administrative penalties, and interest has been paid.
- The operation is not out of compliance with an order to comply or stipulated order to comply.

The existing quarry operation has had its annual inspection by Shasta County (2021) which reflects the operation is in full compliance with the above requirements (DOC, 2021).

Regulatory Setting

This section summarizes current State and local regulations relevant to the review of *Mineral Resources* for this project. Ordinances, regulations, or standards that are applicable to the environmental review of potential impacts related to mineral resources include the following:

Surface Mining and Reclamation Act

The Surface Mining and Reclamation Act of 1975 (SMARA, Public Resources Code, Sections 2710-2796) provides a comprehensive surface mining and reclamation policy with the regulation of surface mining operations to assure that adverse environmental impacts are minimized, and mined lands are reclaimed to a usable condition. SMARA also encourages the production, conservation, and protection of the state's mineral resources. Public Resources Code Section 2207 provides annual reporting requirements for all mines in the state, under which the State Mining and Geology Board is also granted authority and obligations. SMARA also requires the State Geologist to classify land into MRZs according to its known or inferred mineral potential. The primary goal of mineral land classification is to ensure that the mineral potential of land is recognized by local government decision makers and considered before land-use decisions are made that could preclude mining.

Division of Mine Reclamation

In 1991, the Division of Mine Reclamation (DMR) was created to provide a measure of oversight for local governments as they administer the Surface Mining and Reclamation Act (SMARA) within their respective jurisdictions. While the primary focus is on existing mining operations and the return of those mined lands to a usable and safe condition, issues relating to abandoned legacy mines are addressed through the Abandoned Mine Lands Unit.

Shasta County General Plan

The Minerals Element of the Shasta County General Plan is developed in a form that meets the County's land use planning needs, while still being consistent with the General Plan Guidelines and the objectives and requirements of SMARA. Through the provision of building materials, revenue, and employment opportunities, mineral resources contribute significantly to the economic and resource bases of Shasta County. The Minerals Element is a fundamental component of the Natural Resources Group. Applicable policies relative to the proposed project are summarized below:

- *MR-a.* Mineral operations that are long-term (i.e., 30 years or more of expected operation) should be included in the Mineral Resource (MR) land use designation and in the Mineral Resource (MR) zone district. Included in this designation and zoning shall be areas used for extraction, processing, stockpiling, and shipping, and adjacent undeveloped areas within the same ownership as the mining operation site. Development and uses within MR designations and zone districts shall be regulated so that proposed future land uses will avoid or mitigate incompatibilities with mineral extraction operations.
- *MR-b.* Land within up to one-half mile of MR designated and zoned mining operation sites, but outside the MR designation and zoning, should be included in the Mining Resource Buffer (MRB) land use designation combined with the principal land use designation, and in the Mineral Resource Buffer (MRB) Zone District combined with the principal zone district. Mining operation sites shall include the extraction, processing, stockpiling, and shipping areas of the mining operation, as defined in the reclamation plan. The MRB combining zone district shall be designed to allow for compatible land uses while protecting the potential for mineral resource development.
- *MR-c.* Mining operations which are short-term (i.e., less than 30 years of expected operation) should be included in the Interim Mineral Resource (IMR) land use designation combined with the principal land use designation, and in the Interim Mineral Resource (IMR) Zone District combined with the principal zone district. The IMR combining zone district shall be designed to allow for compatible land uses while protecting the potential for mineral resource development.
- *MR-d.* The County will initiate the redesignation and rezoning for existing mining operations which had reclamation plans approved prior to January 1, 1998, and which are not already so designated and zoned. Applicants shall initiate redesignation and rezoning for new mining operations.
- *MR-e.* All Portland cement concrete grade alluvial sand and gravel resource areas (classified as MRZ 2-b as shown on Plate 4 of the Mineral Land Classification study), and all diatomite resource areas (classified as MRZ 2-b as shown on Plate 8 of the same study), which are not presently occupied by existing incompatible land uses, should be designated and zoned Interim Mineral Resource (IMR). The designation and zoning of these specific mineral resource areas shall be initiated by the County.
- *MR-i.* All new or expanded mining operations shall have a use permit to ensure that they are conducted in a manner to protect the public health, safety, and welfare, and to minimize adverse impacts on adjacent land uses and the environment.
- *MR-j.* Onsite processing, including crushing, washing, screening, sorting, and stockpiling, should be allowed as much as possible at all mineral resource sites, subject to consideration of potential conflicts with adjacent and nearby land uses, and to mitigation of potential adverse environmental effects. However, concrete plants and asphalt plants should only be permitted in the Mineral Resource (MR) and General Industrial (M) zone districts, subject to approval of a use permit.
- *MR-n.* An operating term shall be required for each mining use permit. This would set a defined length of time during which mining may occur. Any extensions beyond the permit expiration would require further environmental review and discretionary approval. The term of mining should be balanced so as to allow sufficient time for the

operator to amortize investments, without sacrificing regulatory effectiveness. The maximum length of time for which any mining permit may be approved is 30 years.

- *MR-o.* Aggregate recycling facilities should be included as a use permitted subject to a use permit in General Industrial and Mineral Resource zone districts.
- *MR-q.* The County should maintain a Surface Mining and Reclamation Act regulatory program to provide current information on mineral resources and mining operations, to review applications for mining permits and reclamation plans, to review mine reclamation financial assurances, to perform annual mine inspections and file inspection reports, to monitor reclamation of mine sites, and to enforce compliance with State and County mining regulations.

Shasta County Municipal Code Chapter 18.04 – Surface Mining and Reclamation

The purpose of Chapter 18.04 is to implement the Surface Mining and Reclamation Act. This chapter acknowledges that the extraction of minerals is essential to the continued economic well-being of the County and to the needs of society. This chapter seeks to balance economic and environmental considerations with respect to surface mining, and to ensure that surface mining lands are reclaimed to a usable condition which readily adaptable for alternative land uses.

2008 Initial Study / Mitigated Negative Declaration Findings

In 2008 the County approved a Mitigated Negative Declaration (SCH No. 2008052029) for *General Plan Amendment GPA07-005, Zone Amendment GZ07-020, Use Permit Amendment UP07-020, and Reclamation Plan Amendment RP07-002*. As noted in Section 2.0, PROJECT DESCRIPTION, the Mitigated Negative Declaration evaluated environmental impacts associated with amending the General Plan land use designation on 115 acres from “N-O” (Natural Resource Protection – Open Space) to “MR” (Mineral Resource); rezoning the same 115 acres from “U” (Unclassified) to “MR” (Mineral Resource); expanding the quarry area from 53.57 acres to 110.24 acres; extending the termination date of the operation from February 22, 2010, to December 31, 2072; amending the reclamation plan to include expansion of the quarry by 56.67 acres; and the processing of up to 250,000 tons per year.

Making the appropriate findings, the County found that no impact related to *Mineral Resources* would occur with implementation of *General Plan Amendment GPA07-005, Zone Amendment Z07-020, Use Permit Amendment UP07-020, and Reclamation Plan Amendment RP07-002* (Shasta, 2008a; 2008b; 2008c). No mitigation measures were required.

Impact Analysis

The following includes an analysis of environmental parameters related to *Mineral Resources* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Would the Project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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?			X	
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?			X	

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?*

Regarding aggregate resources on the project site, because of productive use the proposed project would result in the utilization, not loss, of known mineral resources of value to the region through the extraction and sale of the aggregate resources onsite. The continued use of the mineral resources extracted as part of the proposed expansion would create local jobs and make available the raw materials for projects that would be of value to the region and residents of the State for the next 150 years. Further, this use would be from an area designated as MRZ-2 by the State recognizing the value of the aggregate as a significant mineral deposit. Because the proposed project would continue to produce and make these mineral resources available for beneficial use within Shasta County and residents of the State for up to 150 years, this loss is not considered adverse in terms of the County’s environmental review pursuant to the CEQA.

Because the proposed project would use mineral resources and would not preclude the future extraction of additional mineral resources and would not result in the loss of availability of any known statewide or regionally important mineral resources, this evaluation concludes that the project would have a less than significant impact associated with the loss of availability of a known mineral resources of value to the region or residents of the State.

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?*

As discussed above under impact discussion XII.a, regarding aggregate resources on the project site, as a result of productive use the proposed project would result in the utilization of a known mineral resource of value to the region through the extraction and sale of the aggregate resources present onsite. Because the project would produce and make these mineral resources available for beneficial use within Shasta County and surrounding areas, this loss is not considered adverse in terms of the County’s environmental review pursuant to CEQA. Further, this use would be from an area designated as MRZ-2 by the State, recognizing the value of the aggregate as a significant mineral deposit.

Because the proposed project would use mineral resources and would not preclude the future extraction of additional mineral resources and would not result in the loss of availability of any known statewide or regionally important mineral resources, this evaluation concludes that the project would have a less than significant impact associated with the loss of availability of a locally important mineral resource recovery site.

Mitigation Measures

No mitigation measures are required.

Findings

Based upon the review of the information above, implementation of the proposed project will have a less than significant impact with respect to *Mineral Resources*.

Documentation and References

- Bajada (Bajada Geosciences, Inc.) 2022. *Geotechnical Report Crystal Creek Aggregate Quarry Expansion Project, Shasta County, California*. September 2, 2022.
- DOC (California Department of Conservation). 2022b. *AB 3098 List*. [Online]: <https://www.conservation.ca.gov/dmr/SMARA%20Mines>. Accessed: August 10, 2022.
- DOC. 2021. *Surface Mining Inspection Report – Crystal Creek Aggregate*. December 1, 2021.
- DOC. 1997. *Mineral Land Classification of Alluvial Sand and Gravel, Crushed Stone, Volcanic Cinders, Limestone, and Diatomite within Shasta County, California – DMG Open File Report 97-03*. 1997.
- DOC. 1974. *Mines and Mineral Resources of Shasta County, California, County Report 6*. 1974.
- DOC. 2022a. *The CGS Information Warehouse: MLC*. [Online]: <https://maps.conservation.ca.gov/cgs/informationwarehouse/mlc/>. Accessed August 10, 2022.
- Shasta (County of Shasta). 2008a. *Environmental Initial Study General Plan Amendment 07-005, Zone Amendment 07-020, Use Permit 07-020, and Reclamation Plan 07-002, Crystal Creek Aggregate, Comingdeer*. March 7, 2008.
- Shasta. 2008b. *Planning Commission Resolution Nos. 2008-066 and 2088-067*. July 12, 2008
- Shasta. 2004. *Shasta County General Plan*. September 2004.
- Shasta. 2008c. *Statement of Conditions - Use Permit 07-020*. August 5, 2008.
- Shasta. 1999. *Shasta County Municipal Code Chapter 18.04 – Surface Mining and Reclamation*. Updated through April 11, 2022.

XIII. Noise

The purpose of this section of the Initial Study is to evaluate noise source impacts to onsite and surrounding land uses as a result of project implementation.

Environmental Setting

Overall Ambient Noise Environment

The existing ambient noise environment in the immediate project vicinity is defined by local traffic, industrial operations (including existing mine operations), and natural sounds (wind, birds, insects, etc.). To generally quantify the existing ambient noise environment in the project area at representative residential receivers nearest to the project site, continuous ambient noise level measurements were conducted at five locations (see Attachment H). The monitoring sites were selected due to their proximity to either the existing and proposed mine operations (crushing/screening/wash plant) and/or the project haul road. Numerical summaries of the ambient noise level measurement results are provided in Table 5, below. The table includes average noise levels recorded for both daytime and nighttime hours.

Table 5
AMBIENT NOISE SURVEY RESULTS¹

Site ²	Date	Daytime ³		Nighttime ³		Ldn ⁶
		Leq ⁴	Lmax ⁵	Leq ⁴	Lmax ⁵	
1	4/8/2020	46	57	42	58	49
	4/9/2020	52	62	39	51	51
2	4/8/2020	50	65	45	63	52
	4/9/2020	50	67	44	59	52
3	4/8/2020	57	71	50	62	58
	4/9/2020	56	72	45	60	56
4	4/8/2020	53	72	45	65	54
	4/9/2020	52	73	43	64	52
5	4/8/2020	52	67	46	66	54
	4/9/2020	52	69	44	62	53

Source: *Environmental Noise and Vibration Assessment, Crystal Creek Aggregate Expansion Project, Shasta County, California*. August 24, 2022.

1. All noise measurement results are A-weighted sound pressure levels (dBA)
2. Noise measurement locations are identified on Figure 1 in Attachment H.
3. Daytime hours are 7 AM – 10 PM. Nighttime hours are 10 PM – 7 AM.

4. Leq = Average noise level for the period.
5. Lmax = Average of the highest measured noise levels in each hour of the period.
6. Ldn = Day/Night Average Level. See definitions in Attachment H.

As noted in Table 5, baseline ambient noise levels present during the ambient noise measurement period were fairly low, with L_{dn} values ranging from 49 to 58 dBA at the measurement sites.

Baseline Traffic Noise Environment

The baseline traffic noise environment scenario represents opening year 2022 (existing) annual average non-project traffic volumes plus existing project truck trips (110 daily trips). Table 6, below, provides a summary of the modeled existing traffic noise environment.

Table 6
EXISTING (BASELINE) TRAFFIC NOISE LEVELS IN TERMS OF L_{dn}

Roadway	Segment	Computed L _{dn} (dBA) at Nearest Residences to Each Roadway Segment		
		Existing - No CCA Trucks ¹	CCA Trucks Only ²	Total Existing (Baseline) Traffic Noise Levels ³
Iron Mountain Rd	299 to Middle Creek	61	58	63
Iron Mountain Rd	Middle Creek to CCA South Driveway	52	49	54
Iron Mountain Rd	CCA S Driveway to Stubbs Lane	50	47	52
Iron Mountain Rd	Stubbs Lane to Lumber Mfr Driveway	47	44	49
Iron Mountain Rd	Lumber Mfr Driveway to Ball Mill Road	49	46	51
Iron Mountain Rd	Ball Mill Road to Keswick Dam Road	53	39	53
Iron Mountain Rd	North of Keswick Dam Road	60	49	60

Keswick Dam Rd	East of Iron Mountain Road	59	0	59
Highway 299	West of Iron Mountain Road	68	49	68
Highway 299	East of Iron Mountain Road	68	58	69

Source: *Environmental Noise and Vibration Assessment, Crystal Creek Aggregate Expansion Project, Shasta County, California*. August 24, 2022.

1. This column consists of existing traffic conditions without any project truck trips included. This is not the baseline as project trucks currently operate on these roadways under the current use permit. To arrive at the baseline condition, noise generated by project trucks are added to this column (i.e., column 5).
2. This column consists of existing 110 total daily project truck trips.
3. This column equals the addition of the Existing condition with no project trucks (column 3) to the daily truck noise generation (column 4 - 110 project truck trips).

Table 6 indicates that the traffic noise environment in the general project vicinity is more heavily influenced by non-project traffic than by project-generated traffic. The extent by which the existing ambient noise environment at existing noise-sensitive land uses located in the general project area are affected by existing traffic noise depends primarily on their proximity to the roadways shown in Table 6 and the degree of roadway shielding provided by intervening topography. As such, the Table 6 data is not intended to represent the actual noise exposure of each resident located near the roadways. Rather, it is provided to establish baseline noise levels at the nearest identified residences to each roadway segment assuming unshielded conditions.

Baseline Mine Noise Environment

Table 7 shows the predicted existing mine noise levels for the most significant noise sources at the nearest receptors. Refer to Attachment H for the noise contours for the existing onsite mine operations. As indicated in Table 7, predicted existing noise levels resulting from CCA operations range from approximately 19 to 55 dBA at the nearest noise-sensitive receptors (residences) to the project site.

Table 7

EXISTING CRYSTAL CREEK AGGREGATES NOISE LEVELS AT NEAREST REPRESENTATIVE RECEPTORS

AVERAGE DAYTIME NOISE LEVELS (Leq, dBA)

Receiver	Noise Source			Total
	Aggregate Plant	Excavation	Heavy Trucks	
1	30	22	22	31
2	33	27	13	34

3	43	27	23	43
4	39	31	24	39
5	53	27	41	53
6	51	41	40	52
7	53	43	44	54
8	46	39	36	47
9	53	43	41	53
10	53	44	43	54
11	53	45	48	55
12	20	20	44	44
13	29	29	41	41
14	28	29	29	33
15	28	28	40	40
16	3	5	35	35
17	8	9	19	20
18	16	17	0	19
19	25	11	0	25
20	30	13	14	30
Source: <i>Environmental Noise and Vibration Assessment, Crystal Creek Aggregate Expansion Project, Shasta County, California. August 24, 2022.</i>				

Baseline Vibration Environment

The existing ambient vibration environment beyond the project boundaries is extremely low. The baseline vibration environment in the immediate project vicinity was evaluated and determined as being imperceptible (BAC, 2022). Because the threshold of perception for vibration is approximately 0.01 inches/second, existing vibration levels are considered to be below that threshold.

Regulatory Setting

This section summarizes current State and local regulations relevant to the review of *Noise* for this project. Ordinances, regulations, or standards that are applicable to the environmental review of potential impacts related to noise include the following:

California Government Code

California Government Code Section 65302 (f) mandates that the legislative body of each county and city adopt a noise element as part of its comprehensive general plan. The local noise element must recognize the land use compatibility guidelines established by the State Department of Health Services. The guidelines rank noise land use compatibility in terms of “normally acceptable”, “conditionally acceptable”, “normally unacceptable”, and “clearly unacceptable” noise levels for various land use types. Single-family homes are “normally acceptable” in exterior noise environments up to 60 CNEL and “conditionally acceptable” up to 70 CNEL. Multiple-family residential uses are “normally acceptable” up to 65 CNEL and “conditionally acceptable” up to 70 CNEL. Schools, libraries, and churches are “normally acceptable” up to 70 CNEL, as are office buildings and business, commercial, and professional uses.

Title 24 - Building Code

The state’s noise insulation standards are codified in the California Code of Regulations, Title 24: Part 1, Building Standards Administrative Code, and Part 2, California Building Code. These noise standards are applied to new construction in California for the purpose of interior noise compatibility from exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, such as residential buildings, schools, or hospitals, are located near major transportation noise sources, and where such noise sources create an exterior noise level of 65 dBA CNEL or higher. Acoustical studies that accompany building plans must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new residential buildings, schools, and hospitals, the acceptable interior noise limit for new construction is 45 dBA CNEL.

Shasta County General Plan

The Shasta County General Plan Noise Element has the following Exterior Noise Standards, shown in Table 8, NOISE LEVEL PERFORMANCE STANDARDS FOR NEW PROJECTS. The Noise Element establishes 55 dB Ldn as the daytime standard acceptable exterior noise level and 50 dB Ldn for nighttime exterior noise levels.

2008 Initial Study / Mitigated Negative Declaration Findings

In 2008 the County approved a Mitigated Negative Declaration (SCH No. 2008052029) for *General Plan Amendment GPA07-005, Zone Amendment Z07-020, Use Permit Amendment UP07-020, and Reclamation Plan Amendment RP07-002*. As noted in Section 2.0, PROJECT DESCRIPTION, the Mitigated Negative Declaration evaluated environmental impacts associated with amending the General Plan land use designation on 115 acres from “N-O” (Natural Resource Protection – Open Space) to “MR” (Mineral Resource); rezoning the same 115 acres from “U” (Unclassified) to “MR” (Mineral Resource); expanding the quarry area from 53.57 acres to 110.24 acres; extending the termination date of the operation from February 22, 2010, to December 31, 2072; amending the reclamation plan to include expansion of the quarry by 56.67 acres; and the processing of up to 250,000 tons per year.

Table 8

NOISE LEVEL PERFORMANCE STANDARDS FOR NEW PROJECTS

Noise Level Descriptor	Day Time (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly L_{eq} , dB	55	50

Source: Shasta County General Plan. September 2004.

Making the appropriate findings, the County determined that implementation of *General Plan Amendment GPA07-005, Zone Amendment Z07-020, Use Permit Amendment UP07-020, and Reclamation Plan Amendment RP07-002* would result in less than significant impacts. No mitigation measures were required. (Shasta, 2008a; 2008b; 2008c). No mitigation measures were required.

Impact Analysis

Fundamentals of Sound and Environmental Noise

Sound is technically described in terms of amplitude (loudness) and frequency (pitch). The standard unit of sound amplitude measurement is the decibel (dB). The decibel scale is a logarithmic scale that describes the physical intensity of the pressure vibrations which make up any sound. The pitch of the sound is related to the frequency of the pressure vibration. Because the human ear is not equally sensitive to a given sound level at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) provides this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Noise, on the other hand, is typically defined as unwanted sound because of its potential to disrupt sleep, to interfere with speech communication, and to damage hearing. A typical noise environment consists of a base of steady “background” noise that is the sum of many distant and indistinguishable noise sources. Superimposed on

this background noise is the sound from individual local sources. These can vary from an occasional aircraft or train passing by to virtually continuous noise from, for example, traffic on a major highway.

Noise can mask important sounds and disrupt communication between individuals in a variety of settings. This process can cause anything from a slight irritation to a serious safety hazard, depending on the circumstance. Noise can disrupt face-to-face communication and telephone communication, and the enjoyment of music and television in the home. It can also disrupt effective communication between teachers and pupils in schools and can cause fatigue and vocal strain in those who need to communicate in spite of the noise.

Ground-Borne Vibrations

Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration. The peak particle velocity (PPV) or the root mean square (RMS) velocity is usually used to describe vibration amplitudes. PPV is defined as the maximum instantaneous peak or vibration signal, while RMS is defined as the square root of the average of the squared amplitude of the signal. PPV is typically used for evaluating potential building damage, whereas RMS is typically more suitable for evaluating human response. Typically, ground-borne vibration, generated by man-made activities, attenuates rapidly with distance from the source of vibration. Man-made vibration issues are therefore usually confined to short distances (i.e., 500 feet or less) from the source.

Both construction and operation of development projects can generate ground-borne vibration. In general, demolition of structures preceding construction generates the highest vibrations. Construction equipment such as vibratory compactors or rollers, pile drivers, and pavement breakers can generate perceptible vibration during construction activities. Heavy trucks can also generate ground-borne vibrations that vary depending on vehicle type, weight, and pavement conditions.

Criteria for Determining Significance of Project-Related Noise Increases

CEQA guidelines require assessment of a project's noise impacts relative to both established local noise standards and existing noise conditions present without the project. The local noise standards of Shasta County were described in the previous section. This section pertains to criteria for assessing the significance of project-related increases in existing ambient noise conditions.

While CEQA requires that noise impacts be assessed relative to ambient noise levels which are present without the project, CEQA does not provide guidance as to numeric thresholds which should be employed to evaluate impacts. Shasta County General Plan Policy N-g identifies thresholds for findings of significant noise increases related to roadway improvement projects, but that policy doesn't specifically pertain to increases in offsite traffic noise levels resulting from increased traffic resulting from a non-roadway improvement project, such as the proposed project. That said, the Shasta County thresholds for finding of significant noise increases in General Plan Policy N-g are consistent with recommendations made by the Federal Interagency Commission on Noise (FICON), which are described below.

FICON has developed a graduated scale for guidance in the identification of the significance of project-related noise level increases. Table 9 was developed by FICON as a means of establishing thresholds for impact identification for project-related noise level increases. The rationale for the graduated scale is that test subject's reactions to increases in noise levels varied depending on the starting ambient noise level prior to introducing the increase. Specifically, with lower ambient noise environments, such as those below 60 dB L_{dn}, a larger increase

in noise levels was determined to be required to achieve a negative reaction than was necessary in more elevated noise environments.

Based on the FICON research, a 5 dB increase in noise levels due to a project is required for a finding of significant noise impact where ambient noise levels without the project are less than 60 dB L_{dn} . Where pre-project ambient conditions are between 60 and 65 dB L_{dn} , a 3 dB increase is applied as the standard of significance. Finally, in areas already exposed to higher noise levels – specifically pre-project noise levels in excess of 65 dB L_{dn} – a 1.5 dB increase is considered by FICON as the threshold of significance. These thresholds are identical to those established in General Plan Policy N-g for assessing impacts related to roadway improvement projects. As a result, the Table 9 criteria are applied to this project for the evaluation of increases in noise levels resulting from the project.

Table 9

SIGNIFICANCE OF CHANGES IN CUMULATIVE NOISE EXPOSURE

<u>Ambient Noise Level (No Project), dB L_{dn}</u>	<u>Increase Required for Finding of Significance, dB</u>
<60	+5 or more
60-65	+3 or more
>65	+1.5 or more

Source: Federal Interagency Committee on Noise (FICON).

Summary of Noise Criteria Applied to this Study

For this analysis, it is assumed that a project-related noise impact would occur if noise level increases from onsite project-related activities would exceed the Shasta County Noise criteria presented in Table 8, or if project-generated noise levels would cause noise level increases in excess of the FICON thresholds shown above in Table 9

Criteria for Acceptable Vibration Exposure

Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 10 indicates that the threshold for damage to structures ranges from 2 to 6 in/sec peak particle velocity (ppv). One-half this minimum threshold, or 1 in/sec ppv is considered a criterion that would protect against significant architectural or structural damage. The general threshold at which human annoyance could occur is noted as one tenth of that level, or 0.1 in/sec ppv.

Table 10

GENERAL HUMAN AND STRUCTURAL RESPONSES TO VIBRATION LEVELS

Effects on Structures and People	Peak Vibration Threshold (in./sec. ppv)
Structural damage to commercial structures	6
Structural damage to residential structures	2
Architectural damage to structures (cracking, etc.)	1
General threshold of human annoyance	0.1
General threshold of human perception	0.01

Sources: Transit Noise and Vibration Impact Assessment Manual (FTA, 2018); Transportation and Construction Vibration Guidance Manual (Caltrans, 2013).

The following includes an analysis of environmental parameters related to *Noise* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Would the project result in:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
b) Generation of excessive ground-borne vibration or ground-borne noise levels?			X	
c) For a project located within the vicinity of a private airstrip or 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?			X	

This section discusses the noise source impacts to onsite and surrounding land uses as a result of project implementation. This includes evaluating short-term construction impacts as well as long-term project buildout impacts.

- a) *Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

Operational Noise Impacts

The Table 11 data indicate that noise generated by onsite noise sources due to increased aggregate production (excavation, aggregate plant processing, and heavy truck operations), would be below the County’s 55 dB L_{eq} daytime noise level standard at the nearest sensitive receptors. Table 11 also indicates that the increase in average noise levels at the nearest receptors would be less than significant. As a result, this analysis concludes that the noise impacts of the project would be less than significant.

Traffic Noise Impacts

To assess impacts relative to increases in 24-hour traffic noise levels resulting from the project, the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. Table 12 shows the project-related increases in offsite traffic noise levels at the nearest receptors located along each roadway segment, and whether or not those increases would be considered significant relative to the Table 9 criteria. As indicated in Table 12, no significant increases in traffic noise levels are predicted along any of the roadway segments as a result of the project. Impacts would be less than significant.

Table 11

EXISTING + PROJECT DAYTIME NOISE LEVELS AT NEAREST RESIDENCES (Leq, dBA)

Receiver	Existing CCA Noise Level (Table 3)	Aggreg ate Plant	Excavat ion	Heavy Trucks	Total Project	Incre ase over Existi ng	Signific ant Increas e
1	31	30	24	25	32	1	No
2	34	33	28	16	34	0	No
3	43	43	31	27	43	0	No
4	39	39	32	27	40	0	No
5	53	52	30	44	53	0	No
6	52	51	40	43	52	0	No
7	54	53	42	47	54	0	No
8	47	46	38	39	47	0	No
9	53	53	42	44	54	0	No
10	54	53	43	46	54	0	No
11	55	53	44	51	56	1	No
12	44	20	21	47	47	3	No
13	41	29	30	44	44	3	No
14	33	28	28	32	34	1	No
15	40	28	26	42	42	2	No
16	35	3	5	37	37	2	No

Table 11

EXISTING + PROJECT DAYTIME NOISE LEVELS AT NEAREST RESIDENCES (Leq, dBA)

Receiver	Existing CCA Noise Level (Table 3)	Aggreg ate Plant	Excavat ion	Heavy Trucks	Total Project	Incre ase over Existi ng	Signific ant Increas e
17	20	8	11	21	22	2	No
18	19	16	17	3	19	0	No
19	25	25	16	3	25	0	No
20	30	30	13	17	30	0	No

Source: *Environmental Noise and Vibration Assessment, Crystal Creek Aggregate Expansion Project, Shasta County, California.* August 24, 2022.

Table 12

PREDICTED OFF-SITE TRAFFIC NOISE LEVELS AND PROJECT RELATED TRAFFIC NOISE LEVEL INCREASES AT NEAREST RESIDENTS

Roadway	Segment	Total Existin g (Baseli ne) Traffic Noise Levels ¹	Additional CCA Project Trucks ²	Baselin e + Project Traffic Noise Levels ³	Project-Related Traffic Noise Level Increase ⁴	Signific ant Increas e? ⁵
Iron Mountain Rd	299 to Middle Creek	63	58	64	1.3	No
Iron Mountain Rd	Middle Creek to CCA South Driveway	54	49	55	1.3	No
Iron Mountain Rd	CCA S Driveway to Stubbs Lane	52	47	53	1.3	No

Iron Mountain Rd	Stubbs Lane to Lumber Mfr Driveway	49	44	50	1.3	No
Iron Mountain Rd	Lumber Mfr Driveway to Ball Mill Road	51	46	52	1.3	No
Iron Mountain Rd	Ball Mill Road to Keswick Dam Road	53	39	53	0.2	No
Iron Mountain Rd	North of Keswick Dam Road	60	49	61	0.3	No
Keswick Dam Rd	East of Iron Mountain Road	59	0	59	0.0	No
Highway 299	West of Iron Mountain Road	68	49	68	0.1	No
Highway 299	East of Iron Mountain Road	69	58	69	0.4	No

Source: *Environmental Noise and Vibration Assessment, Crystal Creek Aggregate Expansion Project, Shasta County, California*. August 24, 2022.

1. This column consists of existing traffic conditions including annual average truck trips.
2. This column consists of the noise generated due to the additional 250,000 tons of annual production under the proposed project (110 additional daily truck trips).
3. This column equals of the sum of the existing and project traffic noise levels.
4. This column represents the project-related increase in traffic noise levels due to the project on an annual average basis.
5. This column identified whether or not the increase is considered significant. This determination is made based on the Table 9 criteria, the baseline levels shown in Column 3, and on the project-related traffic noise level increase shown in Column 6.

b) *Generation of excessive ground-borne vibration or ground-borne noise levels?*

Ground-borne vibrations could result from either blasting or heavy truck traffic. The existing and proposed operation includes blasting to break up the rock in the sides and bottom of the quarry. Blasting has occurred at least several times a year since operations began in 1991. Currently blasting is permitted to occur up to 12 times per year. The project would not result in exposure of persons to or generation of excessive ground-borne vibration. The County has required that the ground vibrations from blasting be limited to a maximum peak particle velocity to prevent damage to structures, and that each blast be monitored with ground vibration monitoring equipment. Since these requirements have been implemented, no complaints about ground vibration have been received. No changes to the current blasting program are proposed other than increasing the maximum allowable blasting days from 12 to 24 per year. The new quarried area would be to the west of the current quarry area; therefore, the blasting area will move with the quarry. This area will be further away from the existing residences, thereby reducing the potential effects of ground vibration on the residences.

With the exception of vibration generated by blasting events, which are part of the current baseline environment, the project is not expected to produce any discernible increases in vibration levels at the nearest sensitive receptors (residences) in the project vicinity. This is due to the fact that heavy truck pass-bys are not impulsive in nature, due to the substantial intervening topography, and due to the relatively large distances between the project operations and nearest receivers.

Table 13 shows reference peak particle velocity (PPV) and VdB (rms) vibration levels for a variety of heavy earthmoving equipment. The Table 9 data is provided at a reference distance of 25 feet from the source.

Table 13

VIBRATION LEVELS OF HEAVY EARTHMOVING EQUIPMENT – 25 FOOT REFERENCE DISTANCE

Source	Peak Particle Velocity (PPV) inches/second	RMS Velocity in Decibels (VdB)
Water Trucks	0.001	57
Scraper	0.002	58
Bulldozer - Small	0.003	58
Backhoe	0.051	82
Excavator	0.051	82
Grader	0.051	82
Loader	0.051	82
Loaded Trucks	0.076	86
Bulldozer - Large	0.089	87
Source: <i>Environmental Noise and Vibration Assessment, Crystal Creek Aggregate Expansion Project, Shasta County, California.</i> August 24, 2022.		

The nearest receptor is about 800 feet from the proposed stockpile in which a bulldozer would operate. The nearest receptor to the haul routes is approximately 50 feet from Iron Mountain Road. Project vibration levels from the reference distance of 25 feet shown in Table 13 to the nearest receptors, the following formula is applied:

$$\text{PPV} = \text{PPV ref} * (25 / \text{D})^n \text{ (inches/second)}$$

Where:

PPV = Desired vibration level at receptor located D feet from the vibration source

D = Distance from vibration source to sensitive receptor (feet)

n = Vibration attenuation rate through ground.

According to Chapter 12 of the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment (Federal Transit Administration, 2006) manual, an “n” value of 1.5 is recommended to calculate vibration propagation through typical soil conditions.

Using the formula provided above, and the worst-case vibration level shown in Table 13 (Bulldozer - Large), the vibration level at the nearest sensitive receptor computes to 0.0005 inches/second PPV. For heavy truck pass-bys, the computed vibration level at the nearest receptor is 0.03 inches/second PPV. These levels are well below vibration levels required to cause damage to structures and below the threshold for annoyance at even the closest receptors. As such, the potential impact associated with project-generated vibration (i.e., increased mining and production, and increased offsite heavy truck traffic) is predicted to be less than significant.

c) *For a project located within the vicinity of a private airstrip or 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?*

The proposed project is not located within an airport land use plan or within two miles of a public airport or public use airport. The nearest airport to the project site is the Benton Airport located approximately 3.5 miles to the southeast. No impact would occur in this regard.

Mitigation Measures

No mitigation measures are required.

Findings

Based upon the review of the information above, implementation of the proposed project will have a less than significant impact with respect to *Noise*.

Documentation and References

BAC (Bollard Acoustical Consultants, Inc.). 2022. *Environmental Noise and Vibration Assessment, Crystal Creek Aggregate Expansion Project, Shasta County, California*. August 24, 2022.

Shasta (County of Shasta). 2008a. *Environmental Initial Study General Plan Amendment 07-005, Zone Amendment 07-020, Use Permit 07-020, and Reclamation Plan 07-002, Crystal Creek Aggregate, Comingdeer*. March 7, 2008.

Shasta. 2008b. *Planning Commission Resolution Nos. 2008-066 and 2088-067*. July 12, 2008

Shasta. 2004. *Shasta County General Plan*. September 2004.

Shasta. 2008c. *Statement of Conditions - Use Permit 07-020*. August 5, 2008.

XIV. Population and Housing

This section addresses potential impacts of the project on population, housing, and employment at the project site and provides an overview of current population estimates and projected population growth.

Environmental Setting

According to the Shasta Regional Transportation Agency's 2018 *Regional Transportation Plan* (RTP) for Shasta County, population in the County is anticipated to grow at a rate of 0.8 percent per year, with an estimated population of 214,364 persons in Shasta County by 2035 (SRTA, 2018).

The County of Shasta's population was 182,020 in January 2021 (DOF, 2022a). Between January 2021 and January 2022, the County's population shrunk from 182,020 to 180,531 (DOF, 2022a). This reflects a reduction by about -0.8% compared to about -1.0% for Redding. Redding's population consists of approximately 52% of the County's population (DOF, 2022a). Shasta County's population was 182,155 in 2020 and has consistently decreased -.30 percent annually since then (DOF, 2022b). Shasta County has an estimated 79,865 housing units, with a vacancy rate of 8.1% and an average of 2.41 persons per household (DOF, 2022b). Shasta County's growth rate is consistent with the growth rates of the cities within it. Median household income for the County in 2020 was \$28,442 (US Census, 2020).

Regulatory Setting

This section summarizes current federal, State, and local regulations relevant to the review of *Population and Housing* for this project. Ordinances, regulations, or standards that are applicable to the environmental review of potential impacts related to population and housing include the following:

State of California Housing Element Law

State law requires each city and county to adopt a general plan for future growth. This plan must include a housing element that identifies housing needs for all economic segments and provides opportunities for housing development to meet that need. At the State level, the California Department of Housing and Community Development (HCD) estimates the relative shares of California's projected population growth that could occur in each county in the State based on Department of Finance (DOF) population projections and economic projections.

Shasta County Housing Element

The County's 2000-2028 Housing Element includes policies and programs to address the County's housing needs through 2028, and provides a comprehensive analysis of the County's demographic, economic, and housing characteristics as required by State law. The Element also contain an evaluation of the County's progress in implementing its last Housing Element. Based on the County's housing needs, available resources, constraints and opportunities for housing production and preservation, and its past performance, the current Housing Element establishes a strategy of goals, measurable objectives, and related policies and programs to address present and future housing needs of the County.

2008 Initial Study / Mitigated Negative Declaration Findings

In 2008 the County approved a Mitigated Negative Declaration (SCH No. 2008052029) for *General Plan Amendment GPA07-005, Zone Amendment GZ07-020, Use Permit Amendment UP07-020, and Reclamation Plan Amendment RP07-002*. As noted in Section 2.0, PROJECT DESCRIPTION, the Mitigated Negative Declaration evaluated environmental impacts associated with amending the General Plan land use designation on 115 acres

from “N-O” (Natural Resource Protection – Open Space) to “MR” (Mineral Resource); rezoning the same 115 acres from “U” (Unclassified) to “MR” (Mineral Resource); expanding the quarry area from 53.57 acres to 110.24 acres; extending the termination date of the operation from February 22, 2010, to December 31, 2072; amending the reclamation plan to include expansion of the quarry by 56.67 acres; and the processing of up to 250,000 tons per year.

Making the appropriate findings, the County determined that no impact related to *Population and Housing* would occur with implementation of *General Plan Amendment GPA07-005, Zone Amendment Z07-020, Use Permit Amendment UP07-020, and Reclamation Plan Amendment RP07-002* (Shasta, 2008a; 2008b; 2008c). No mitigation measures were required.

Impact Analysis

The following includes an analysis of environmental parameters related to *Population and Housing* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Would the Project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (<i>for example, by proposing new homes and businesses</i>) or indirectly (<i>for example, through extension of roads or other infrastructure</i>)?				X
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X

a) *Induce substantial unplanned 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)?*

The proposed project would not induce substantial unplanned population growth in an area, either directly or indirectly. The proposed project would result in the continued operation of an existing quarry and does not include the development of new homes or businesses. Project implementation would only require the addition of one new full-time employee which would be derived from the local labor pool. The project would not induce unplanned population growth and does not propose the extension of any new roads or utilities not anticipated by the General Plan. No impact would occur in this regard.

b) *Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

The proposed project would not displace people or existing housing. The proposed project does not include the demolition of any existing housing. No impact would occur in this regard.

Mitigation Measures

No mitigation measures are required.

Findings

In the course of the above evaluation, impacts associated with *Population and Housing* were found to not be significant because of the inability of a project of this scope to create such impacts or the absence of project characteristics producing effects of this type.

Documentation and References

- DOF (California Department of Finance). 2022a. *Report E-1 Population Estimates for Cities, Counties, and the State January 1, 2021 and 2022*. August 9, 2022.
- DOF. 2022b. *Table E-5: City/County Population and Housing Estimates*. August 9, 2022.
- Shasta (County of Shasta). 2008a. *Environmental Initial Study General Plan Amendment 07-005, Zone Amendment 07-020, Use Permit 07-020, and Reclamation Plan 07-002, Crystal Creek Aggregate, Comingdeer*. March 7, 2008.
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- SRTA (Shasta Regional Transportation Agency). 2018. *Regional Transportation Plan and Sustainable Communities Strategy for the Shasta Region*. October 9, 2018.
- US Census (United States Census Bureau). 2020. *American Community Survey 5-Year Estimates- Table S0701 Geographic Mobility by Selected Characteristics in The United States*. [Online]: <https://data.census.gov/cedsci/table?q=Shasta%20County&tid=ACSST5Y2020.S0701&moe=false>. Accessed August 9, 2022.

XV. Public Services

This section of the Initial Study describes the affected environment for public services that serve the project area. It also describes the impacts on existing public services that would result from implementation of the proposed project and mitigation measures, if necessary, that would reduce these impacts.

Environmental Setting

Fire Protection

Fire protection services for the project area are provided by California Department of Forestry and Fire Protection (CAL FIRE), based in the Redding area. The Shasta County Fire Department (SCFD) contracts with CAL FIRE to manage and oversee the operation of SCFD. Both the SCFD and CAL FIRE maintain automatic and mutual aid agreements with adjacent fire districts, including the Redding Fire Department (RFD) and the Anderson Fire Protection District. The closest fire station to the project site is CAL FIRE Station 58 located approximately 1.2 miles south of the site.

The SCFD maintains fire protection requirements and standards for new development projects, including standards for defensible space, hydrant spacing, fire flow, access and roadway requirements, and limitations on building materials, as well as requiring adequate roadway widths. The Shasta County Fire Marshal reviews all projects wherein an entitlement is being sought by the County (maps, use permits, etc.) prior to any building permit approval of construction for compliance with State and local requirements.

Police Protection

Law enforcement for the proposed project is provided primarily by the Shasta County Sheriff's Office (SCSO), located at 300 Park Marina Circle Redding, CA 96001. The SCSO serves approximately 3,700 square miles of unincorporated area. The main patrol station is located in Redding with additional stations located in Burney and Shasta Lake.

Schools

The project site is located in the Shasta Union Elementary School District and Shasta Union High School District. Shasta Montessori Elementary School is located south of State Route 299 (SR-299) at 10446 Red Bluff Road approximately 1.2 miles southwest of the existing quarry.

Parks

Shasta County has a variety of recreational options available to its residents and visitors. The county contains extensive State and federal public lands, regional serving parks, and county public land (Balls Ferry Fishing Access, Battle Creek Fishing Access, French Gulch Park, Hat Creek Park, Lake Britton Fishing Access, Lake McCumber, and Pit River). In addition, there are tens of thousands of acres of rivers, lakes, forests, and other public land available for recreation in Lassen National Park, the Shasta and Whiskeytown National Recreation Areas, the National Forests, and other public land administered by Bureau of Land Management. There are no existing regional or local community parks in the immediate vicinity of the project site. The closest community parks are located east of the proposed project in the City of Redding.

Other Public Facilities

Shasta County provides library services throughout the County, including in the City of Redding. The County has three library branches: the Burney Branch Library (located at 37038 Siskiyou Street), the Anderson Branch

Library (located at 3200 West Center Street), and the Redding Branch Library (located at 1100 Parkview Avenue). The Burney Branch Library opened in 1949 and was the first of the Shasta County library branches. The Redding Branch library is the most recent library addition, having opened on March 3, 2007.

2008 Initial Study / Mitigated Negative Declaration Findings

In 2008 the County approved a Mitigated Negative Declaration (SCH No. 2008052029) for *General Plan Amendment GPA07-005, Zone Amendment GZ07-020, Use Permit Amendment UP07-020, and Reclamation Plan Amendment RP07-002*. As noted in Section 2.0, PROJECT DESCRIPTION, the Mitigated Negative Declaration evaluated environmental impacts associated with amending the General Plan land use designation on 115 acres from “N-O” (Natural Resource Protection – Open Space) to “MR” (Mineral Resource); rezoning the same 115 acres from “U” (Unclassified) to “MR” (Mineral Resource); expanding the quarry area from 53.57 acres to 110.24 acres; extending the termination date of the operation from February 22, 2010, to December 31, 2072; amending the reclamation plan to include expansion of the quarry by 56.67 acres; and the processing of up to 250,000 tons per year.

Making the appropriate findings, the County determined that no impact related to *Public Services* would occur with implementation of *General Plan Amendment GPA07-005, Zone Amendment Z07-020, Use Permit Amendment UP07-020, and Reclamation Plan Amendment RP07-002* (Shasta, 2008a; 2008b; 2008c). No mitigation measures were required.

Impact Analysis

The following includes an analysis of environmental parameters related to *Public Services* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
Fire Protection?				X
Police Protection?				X
Schools?				X
Parks?				X
Other Public Facilities?				X

Fire Protection

As described above, the proposed project is located approximately 1.2 miles from the nearest CAL FIRE station. The project site and surround area are currently served by CAL FIRE for fire protection and project

implementation would not increase the response time required for CAL FIRE not create an additional burden on existing fire facilities.

It should also be noted that the SCFD/CAL FIRE receives funding from the County's General Fund. Property taxes generated from the proposed project would result in increased property tax revenue to the General Fund that would assist in offsetting increased costs associated with fire protection services. The proposed project is required to pay a countywide fire facilities impact fee calculated to mitigate a project's fair share of cumulative impacts to the County's fire protection infrastructure based upon improvements necessary to accommodate new development under the Shasta County General Plan. The provision of new or physically altered fire facilities is not associated with providing service to the proposed project. No impact would occur in this regard.

Police Protection

Implementation of the proposed project would not result in a significant increase in demand for law enforcement resulting in new or expanded law enforcement facilities. The need for expanded facilities is based on the staffing levels these facilities must accommodate. Law enforcement staffing levels are generally based on the population/officer ratio, and an increase in population is usually the result of an increase in housing or employment. The proposed project would result in minimal employment opportunities. As the proposed project would neither increase the population nor result in substantial employment gains, project implementation would not result in the need for increase in law enforcement or related facilities.

Similar to fire protection services, law enforcement services are monitored by the County Board of Supervisors on a regular basis. If additional services are need, the County Board of Supervisors will allocate resources to address the need as funding is identified. There is nothing unique about the proposed project that would require significantly greater law enforcement service or result in a need for new facilities. It should be noted, however, that compliance with basic safety and security measures (i.e., onsite security cameras) would help to reduce incidents requiring law enforcement involvement. The provision of new or physically altered law enforcement facilities is not associated with providing service to the proposed project. The proposed project would not result in the need to alter or construct facilities for law enforcement services. No impact would occur in this regard.

Schools

The project site is located in the Shasta Union Elementary School District and Shasta Union High School District. The proposed project would not result in the construction of new residential uses; therefore, the proposed project would not directly require the construction of additional school facilities and/or expansion of existing school facilities. No impact would occur in this regard.

Parks

Refer to discussion under Section XVI, RECREATION, below. The project will not cause a physical deterioration of an existing park facility or cause an adverse physical impact associated with a new park facility. No impact would occur in this regard.

Other Public Facilities

The proposed project does not involve a substantial change in the land use, does not substantially increase the numbers of people employed in the region, and does not create or require new housing or related facilities, an increased demand on public facilities is unlikely to occur. No impact would occur in this regard.

Mitigation Measures

No mitigation measures are required.

Findings

In the course of the above evaluation, impacts associated with *Public Services* were found to not be significant because of the inability of a project of this scope to create such impacts or the absence of project characteristics producing effects of this type.

Documentation and References

Shasta (County of Shasta). 2008a. *Environmental Initial Study General Plan Amendment 07-005, Zone Amendment 07-020, Use Permit 07-020, and Reclamation Plan 07-002, Crystal Creek Aggregate, Comingdeer*. March 7, 2008.

Shasta. 2008b. *Planning Commission Resolution Nos. 2008-066 and 2088-067*. July 12, 2008

Shasta. 2004. *Shasta County General Plan*. September 2004.

Shasta. 2008c. *Statement of Conditions - Use Permit 07-020*. August 5, 2008.

XVI. Recreation

This section of the Initial Study discusses any increased demand for various recreational facilities and identifies any potential need for new recreational facilities generated by the proposed project. This section also describes the recreational resources within the project area.

Environmental Setting

Regional Recreational Facilities

A regional recreation facility is designed to appeal to residents from throughout the county and beyond. Regional facilities provide access to unique natural or cultural features and/or regional-scale recreation facilities. They can accommodate large group activities and often have infrastructure to support large gatherings such as tournaments, special events and festivals. Regional facilities enhance the economic vitality and identity of the region. These facilities may also include significant green space to preserve unique natural areas, tree canopy, riverfront corridors, wetlands, and remnant landscapes. These facilities include Shasta-Trinity National Forest, Whiskeytown National Recreation Area, Lassen Volcanic National Park, U.S. Department of Interior, Bureau of Land Management (BLM) holdings, McArthur-Burney Falls Memorial State Park, Castle Crags State Park, Shasta Historic Park, and several fishing access areas.

In addition to the above noted regional recreational facilities, multiple jurisdictions manage hundreds of miles of off-road trails within Shasta County. Shasta County provides an array of recreational opportunities through federal, State and County parks, forests, and fishing areas. These jurisdictions include the BLM, U.S. Forest Service (USFS), National Park Service (NPS), California State Parks, City of Redding, and the McConnell Foundation. It is also important to note that the City of Redding, Redding Trail Alliance, and numerous other local and regional agencies and organizations are working diligently to make Redding and Shasta County a “world-class mountain biking destination.”

Rural Community Parks

There are no existing regional or local community parks in the immediate vicinity of the proposed project site. The closest community parks are located north of the proposed project in the City of Redding.

Adjoining BLM Parcels

The Redding Field Office of the BLM manages approximately 250,000 acres of land across five northern California counties. Primary programs within the office include recreation, minerals, realty, botany, wildlife, fuels, and forestry. Land immediately adjoining the proposed project to the north, south, and west are under the jurisdiction of the BLM. There are extensive opportunities available for off-road riding, hiking, hunting, and horseback riding on these parcels.

The area of the proposed project is within the vicinity of several of Shasta County’s most popular mountain biking trails. These facilities are located generally to the north, south, and west of the project site on the adjacent BLM parcels and are associated with the Rock Creek – Middle Creek Trail System and other regional trail facilities that connect to the Sacramento River Rail – Trial System (see Figure 9, ROCK CREEK – MIDDLE CREEK TRAIL SYSTEM). Trailhead parking is provided at various locations along Iron Mountain Road between State Route 299 (SR-299) and Keswick Dam Road. Iron Mountain Road is popular with on-road bicyclists and many off-road bicyclists use the segment of Iron Mountain Road adjacent to the proposed project to connect to French Fry and Trail 58/Middle Creek.

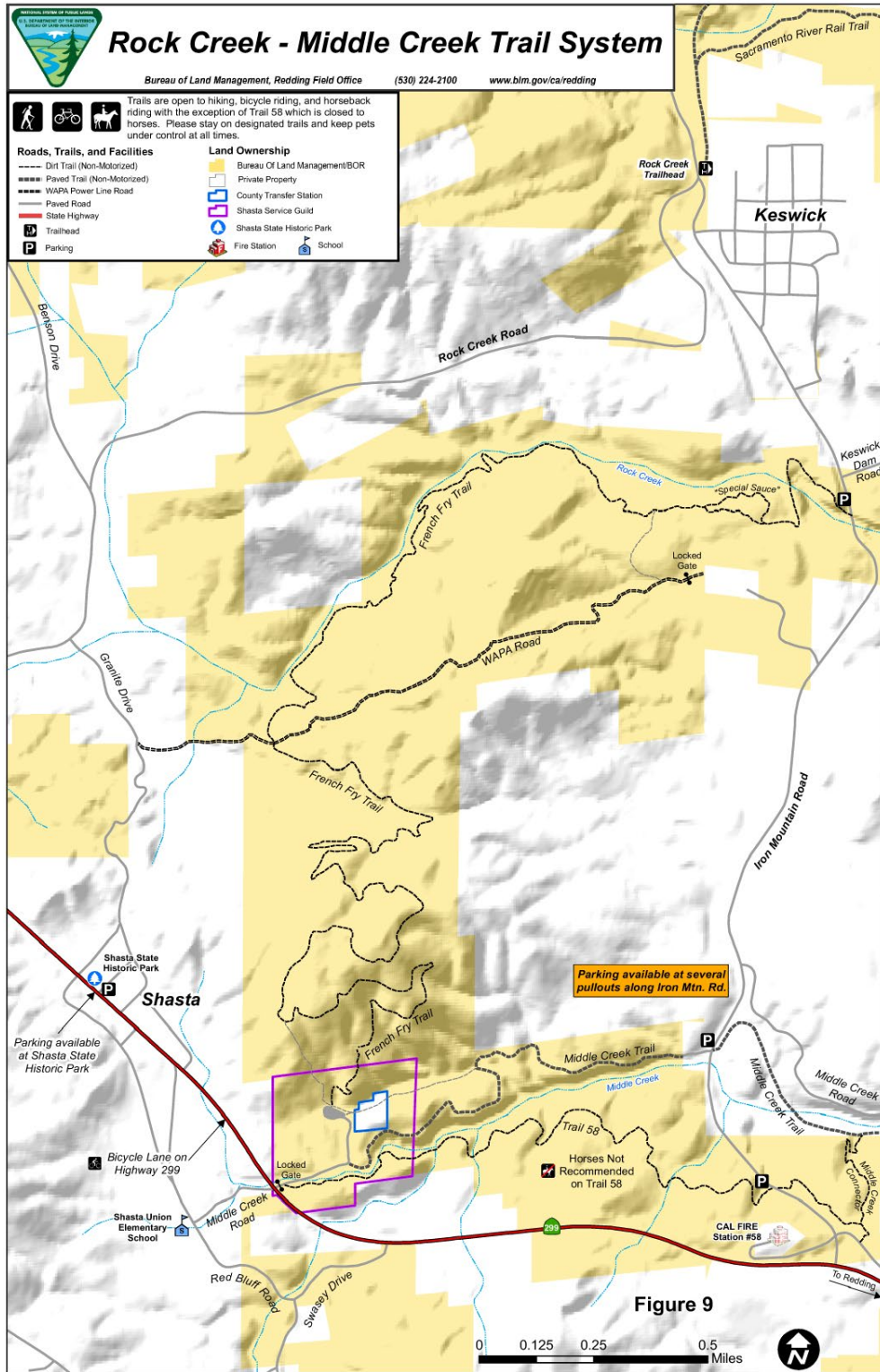


Figure 9, ROCK CREEK – MIDDLE CREEK TRAIL SYSTEM

Regulatory Setting

This section summarizes current State and local regulations relevant to the review of *Recreation* for this project. Ordinances, regulations, or standards that are applicable to the environmental review of potential impacts related to recreation include the following:

Quimby Act

The Quimby Act provides for a maximum of three acres of park dedication/fee per 1,000 persons unless the amount of existing neighborhood and community parkland exceeds that limit. If a jurisdiction exceeds the three acres per 1,000 persons, then the jurisdiction is eligible to adopt the higher five acres per 1,000 persons standard. Given that the proposed project is not a residential subdivision, it is not subject to the requirements of the Quimby Act.

Shasta County Parks, Trails, and Open Space Plan

The Shasta County *Parks, Trails and Open Space Plan* addresses issues and opportunities for improving the provision of parks, trails, and open space throughout Shasta County. The plan outlines a set of strategies and recommendations for meeting current and future community needs based on changing trends in recreation, new patterns for recreation participation, and new areas of growth and development in the County. The plan has a minimum local parkland of 40 acres for the four designated town centers, including Burney/Johnson Park, Cottonwood, Fall River Mills/McArthur, and Palo Cedro. The minimum local parkland for the 25 designated rural community centers is a total of 125 acres. The proposed project is not located within a designated town center or rural community center.

Shasta County General Plan

The Shasta County General Plan addresses recreation needs as part of community development. While urban residents have established park agencies working to provide a variety of developed recreation opportunities, residents in rural areas lack the facilities that provide a place to gather and play. The General Plan requires town centers to develop community plans to include planning and implementation strategies for park and recreation facilities. The Open Space and Recreation Element deals with recreation at the countywide level and recreation as it relates to the County tourist industry. The Element includes a discussion of the resources and facilities provided by federal, State and County governments, as well as private interests, which are designed to accommodate users from the entire County. Applicable goals relative to the proposed project within these elements are below:

- *Policy OSR-a.* Protection of the open space resources under Shasta County jurisdiction shall be achieved primarily through policies recognizing the contributions of these resources to the economy of the County. Specifically, the Timber, Croplands, Grazing, and Small-Scale Croplands/Grazing, and Natural Resource Protection Habitat land use designations shall be used for this purpose. Other open space resources generally with no known economic value for timber, croplands, or grazing shall be classified as Natural Resources Protection – Open Space (N-O). The purpose of this N-O classification is to recognize open space values by permitting low density residential development along with the resource uses. Typically, lands classified as N-O are adjacent to major landforms, riparian corridors, habitat areas, etc. Residential densities that do not exceed one dwelling per twenty acres may be permitted. In recognition of their resource or open space value, federally-owned lands shall be classified as N-O. Land changed from public to private ownership shall remain in the N-O designation unless an approved General Plan amendment places the property in a more appropriate land use designation.

2008 Initial Study / Mitigated Negative Declaration Findings

In 2008 the County approved a Mitigated Negative Declaration (SCH No. 2008052029) for *General Plan Amendment GPA07-005, Zone Amendment GZ07-020, Use Permit Amendment UP07-020, and Reclamation Plan Amendment RP07-002*. As noted in Section 2.0, PROJECT DESCRIPTION, the Mitigated Negative Declaration evaluated environmental impacts associated with amending the General Plan land use designation on 115 acres from “N-O” (Natural Resource Protection – Open Space) to “MR” (Mineral Resource); rezoning the same 115 acres from “U” (Unclassified) to “MR” (Mineral Resource); expanding the quarry area from 53.57 acres to 110.24 acres; extending the termination date of the operation from February 22, 2010, to December 31, 2072; amending the reclamation plan to include expansion of the quarry by 56.67 acres; and the processing of up to 250,000 tons per year.

Making the appropriate findings, the County determined that no impact related to *Recreation* would occur with implementation of *General Plan Amendment GPA07-005, Zone Amendment Z07-020, Use Permit Amendment UP07-020, and Reclamation Plan Amendment RP07-002* (Shasta, 2008a; 2008b; 2008c). No mitigation measures were required.

Impact Analysis

The following includes an analysis of environmental parameters related to *Recreation* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Would the Project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
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?				X
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X

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?*

As described under impact discussion XIV.a, above, the proposed project would require up to one new full-time employee. The increase is considered insignificant. The proposed project does not result in a significant increase in housing or population in the County resulting in an increased use of neighborhood or regional parks. No impact would occur in this regard.

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- b) *Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

The proposed project does not include recreational facilities, or would it require the construction or expansion of recreational facilities which might have an adverse effect on the environment. School facilities are typically used for sports and recreation. The City of Redding, located east of the project, also has a number of recreational facilities. In addition, there are tens of thousands of acres of rivers, lakes, forests, and other public lands available for recreation in Lassen National Park, the Shasta and Whiskeytown National Recreation Areas, the National Forests, and other public land administered by the Bureau of Land Management. Additionally, as stated above under impact discussion XVI.a, implementation of the proposed project would not result in substantially increased use of any area recreational facilities and would therefore not require construction of new or expansion of any other existing recreational facilities. No impact would occur in this regard.

It is important to note that the project proposes intersection improvements at SR-299 and Iron Mountain Road that includes a 5-foot bike lane adjacent to the outside westbound through lane to accommodate bike traffic through the intersection (see Figure 8, IMPROVEMENTS AT SR-299 & IRON MOUNTAIN ROAD). This improvement is planned for implementation within one year of entitlement approvals for this project. This is seen as a positive project contribution.

Mitigation Measures

No mitigation measures are required.

Findings

In the course of the above evaluation, impacts associated with *Recreation* were found to not be significant because of the inability of a project of this scope to create such impacts or the absence of project characteristics producing effects of this type.

Documentation and References

Shasta (County of Shasta). 2008a. *Environmental Initial Study General Plan Amendment 07-005, Zone Amendment 07-020, Use Permit 07-020, and Reclamation Plan 07-002, Crystal Creek Aggregate, Comingdeer*. March 7, 2008.

Shasta. 2009. *Parks, Trails, and Open Space Plan*. August 2009.

Shasta. 2008b. *Planning Commission Resolution Nos. 2008-066 and 2088-067*. July 12, 2008

Shasta. 2004. *Shasta County General Plan*. September 2004.

Shasta. 2008c. *Statement of Conditions - Use Permit 07-020*. August 5, 2008.

XVII. Transportation

The purpose of the evaluation is to address traffic and transportation impacts of the proposed project on surrounding streets and intersections, as well as provide an assessment of Vehicle Miles of Travel (VMT). This section also discusses the proposed project in the context of roadway, bicycle, and pedestrian safety; emergency access; and potential hazards due to geometric design features as a result of implementation of the proposed project.

Environmental Setting

Local Access

Within the project area there are three main roadways that provide access, State Route 299 (SR-299), Iron Mountain Road, and Keswick Dam Road. The other roadways in the study area are local roadways and therefore not described below:

- SR-299 is currently an undivided 2-lane facility in the project vicinity. The highway is under the jurisdiction of Caltrans. The highway operates as a high-speed rural highway. The posted speed limit is 55 miles per hour (MPH). SR-299 begins in the City of Arcata at Highway 101 and stretches easterly through Trinity, Shasta, Lassen, and Modoc Counties. SR-299 is an important interregional transportation facility. SR-299, in the vicinity of the project, is an important route for recreation traffic and a commuter route serving the greater Redding area.
- Iron Mountain Road is a 2-lane collector, beginning at SR-299 approximately 2 miles west of the western limits of the City of Redding and ending several miles north of SR-299. The road is under the jurisdiction of the County of Shasta and serves as primary access to portions of Keswick Lake and the community of Keswick. The County has no reasonably foreseeable plans for improvement of the facility in the vicinity of the project.
- Keswick Dam Road is a 2-lane arterial road from Iron Mountain Road to Quartz Hill Road and a 4-lane arterial from Quartz Hill Road to where it terminates at Lake Boulevard. This road is under the jurisdiction of Shasta County and serves as primary access to Keswick Dam and Lake Keswick Estates. Currently, the road over the dam has a 20-ton weight limit. The County has no reasonably foreseeable plans for improvement of the facility in the vicinity of the project.

Bicycle Facilities

Currently, Iron Mountain Road and SR-299 have consistent on-road bicycle use. Within Shasta County the goals for bicycle and trail facilities are contained in the *2010 Bicycle Transportation Plan* (Shasta, 2010) and *Regional Transportation Plan* (SRTA, 2018). These planning documents identify the following existing and future bicycle facilities within the project's study area:

- SR-299 is designated Class III bicycle route and identified as an “existing freeway with bikes allowed.”
- Iron Mountain Road is designated as a Class III bicycle route and identified as an “existing local road with bikes allowed.”
- Keswick Dam Road is a designated bicycle route and identified as “Other Bike Plan” from Keswick Dam to Lake Boulevard.

In addition, Shasta Regional Transportation Agency's *Regional Active Transportation Plan* lists Iron Mountain Road and Keswick Dam Road as a Bike Route (SRTA, 2019).

The Shasta County General Plan identifies SR-299 as a bicycle planning corridor. Near Iron Mountain Road, SR-299 has varying shoulder widths. For the eastbound direction on SR-299, there are shoulders approximately 12 to 13 feet wide and in the westbound direction they ranged from 4 to 9 feet wide. On Iron Mountain Road at Middle Creek Road west leg, Middle Creek Trail crosses Iron Mountain Road (with no markings). The Middle Creek Trail is a paved bicycle and pedestrian trail with centerline striping that originates on the east side just north of SR-299 on Middle Creek Road and continues southeast to connect with the Sacramento River Trail. The Sacramento River Trail then continues east to Redding and more specifically Lake Redding.

In addition, the proposed project is located in the vicinity of several of Shasta County's most popular mountain biking trails. These facilities are located generally to the north, south, and west of the project site on the adjacent BLM parcels and are associated with the Rock Creek – Middle Creek Trail System and other regional trail facilities that connect to the Sacramento River Rail – Trail System. Trailhead parking is provided at various locations along Iron Mountain Road between SR-299 and Keswick Dam Road. Iron Mountain Road is popular with on-road bicyclists and many off-road bicyclists use the segment of Iron Mountain Road adjacent to the proposed project to connect to French Fry and Trail 58/Middle Creek.

Transit Service

Transit service provided by the Redding Area Bus Authority (RABA) is not currently available near the project area or along roadways anticipated to carry the majority of additional project trips (GHD, 2022). In addition, bus routes for Shasta Union High School District transportation in the region were reviewed for the study. Currently there are no school bus services to the project area (GHD, 2022).

Collisions

Collision data for unincorporated Shasta County roadways and Caltrans roadways were collected from Statewide Integrated Traffic Records System (SWITRS) between January 1, 2016, and December 31, 2020. In total, 17 collisions were identified to be within the study area. The intersections of Iron Mountain Road/SR-299, Iron Mountain Road/Ball Mill Road, and Iron Mountain Road/Keswick Dam Road all had at least one collision in the last five years. The intersection of Iron Mountain Road/SR-299 experienced four collisions in the last five years. There were no pedestrian or bicycle collisions at the study intersections. None of the collisions resulted in a severe injury or fatality (GHD, 2022).

The roadway segment on Iron Mountain Road between SR-299 and Keswick Dam Road was also analyzed. There were no bicycle or pedestrian collisions, but one severe injury collision occurred in 2016 on Iron Mountain Road. It was a single vehicle collision 790 feet north of SR-299. The vehicle was an overturned collision due to improper turning (GHD, 2022).

Regulatory Setting

This section summarizes current State and local regulations relevant to the review of *Transportation* for this project. Ordinances, regulations, or standards that are applicable to the environmental review of potential impacts related to transportation include the following:

California Department of Transportation

The California Department of Transportation (Caltrans) policies are applicable to SR-299 and are summarized in the *Guide for the Preparation of Traffic Impact Studies* (December 2002). These guidelines identify when a traffic impact study is required, what should be included in the study, analysis scenarios, and guidance on acceptable

analysis methodologies. Caltrans endeavors to maintain a target service level of between LOS C and LOS D on State highway facilities; however, this may not always be feasible, and a lower service level may be acceptable.

Shasta County General Plan

The Shasta County General Plan Circulation Element sets forth future plans for the transportation systems in the County and represents the County's overall transportation plan to accommodate the movement of people and goods within and through the County. It establishes goals and policies to achieve a balanced transportation system that adequately serves the growth and development anticipated in the Land Use Element. The transportation plan consists not only of the physical transportation system itself, such as streets, highways, bicycle routes, and trails, but also the various modes of transportation, such as cars, rail, buses, trucks (goods movement), bicycles, and walking. The following General Plan policy related transportation is applicable to the proposed project:

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- *C-6l.* New development which may result in exceeding LOS E on existing facilities shall demonstrate that all feasible methods of reducing travel demand have been attempted to reach LOS C. New development shall not be approved unless traffic impacts are adequately mitigated. Such mitigation may take the form of, but not limited to, the following:
 - Provision of capacity improvements to the specific road link to be impacted, the transit system, or any reasonable combination; and
 - Provision of demand reduction measures included as part of the project design or project operation or any feasible combination.
 - *C-5c.* The County shall work with RTPA to implement the recommendations for development and improvement of bikeways and bicycle facilities as described in the County’s adopted Bikeway Plan. New development projects should be evaluated for their consistency with the County Bikeway Plan. Where appropriate, new development should dedicate land and/or construct/install bicycle facilities.

Shasta County Regional Transportation Plan

Shasta Regional Transportation Agency (SRTA) is the federally-designated metropolitan planning organization (MPO) and state-designated regional transportation planning agency (RTPA) for Shasta County. SRTA is required to prepare and adopt a comprehensive regional transportation plan (RTP) covering a minimum 20-year planning horizon. The RTP for Shasta County is updated every four years. The purpose of the RTP is to “encourage and promote the safe and efficient management, operations, and development of a regional intermodal transportation system that, when linked with appropriate land use planning will serve the mobility needs of goods and people” (California Transportation Commission 2010 RTP Guidelines). The RTP is implemented by way of shorter-term transportation improvement and work programs.

Shasta County 2010 Bicycle Transportation Plan

The Shasta County *Bicycle Transportation Plan* (BTP) provides the long-term framework to improve and encourage bicycle transportation throughout the Shasta County. The overall goal of the BTP is to provide a safe, effective, efficient, balanced, and coordinated bicycling system that serves the needs of the people within the unincorporated region of Shasta County. The BTP supports the bicycle transportation objectives of the general plans of Shasta County, and the cities of Anderson, Redding, and Shasta Lake. Additionally, the BTP provides a transportation environment that encourages and promotes non-motorized means of transportation.

Senate Bill 743

Passed in 2013, SB 743 changes the focus of transportation impact analysis in the California Environmental Quality Act (CEQA) from measuring impacts to drivers, to measuring the impact of driving. The change has been made by replacing level of service (LOS) with Vehicle Miles Traveled or VMT. This shift in transportation impact focus is intended to better align transportation impact analysis and mitigation outcomes with the State’s goals to reduce greenhouse gas (GHG) emissions, encourage infill development, and improve public health through more active transportation. Level of Service or other delay metrics may still be used to evaluate the impact of projects but is not used to determine a significant impact under CEQA.

2008 Initial Study / Mitigated Negative Declaration Findings

In 2008 the County approved a Mitigated Negative Declaration (SCH No. 2008052029) for *General Plan Amendment 07-005, Zone Amendment 07-020, Use Permit Amendment, UP-07-020, and Reclamation Plan*

Amendment RP-07-002. As noted in Section 2.0, PROJECT DESCRIPTION, the Mitigated Negative Declaration evaluated environmental impacts associated with amending the General Plan land use designation on 115 acres from “N-O” (Natural Resource Protection – Open Space) to “MR” (Mineral Resource); rezoning the same 115 acres from “U” (Unclassified) to “MR” (Mineral Resource); expanding the quarry area from 53.57 acres to 110.24 acres; extending the termination date of the operation from February 22, 2010, to December 31, 2072; amending the reclamation plan to include expansion of the quarry by 56.67 acres; and the processing of up to 250,000 tons per year.

Making the appropriate findings, the County determined that no impact related to *Transportation* would occur with implementation of *General Plan Amendment 07-005*, *Zone Amendment 07-020*, *Use Permit Amendment, UP-07-020*, and *Reclamation Plan Amendment RP-07-002* (Shasta, 2008a; 2008b; 2008c). No mitigation measures were required.

Impact Analysis

With the introduction of the California Governor’s Office of Planning and Research (OPR) Technical Advisory, VMT has become an important indicator for determining if a new development will result in a “significant transportation impact” under CEQA. Passed in 2013, SB 743 changes the focus of transportation impact analysis in CEQA from measuring impacts to drivers, to measuring the impact of driving. The change has been made by replacing Level of Service (LOS) with VMT. This shift in transportation impact focus is intended to better align transportation impact analysis and mitigation outcomes with the State’s goals to reduce greenhouse gas (GHG) emissions, encourage infill development, and improve public health through more active transportation (GHD, 2022). Level of Service or other delay metrics may still be used to evaluate the impact of projects but is not used to determine a significant impact under CEQA.

A *Traffic Impact Analysis Report* was prepared for the proposed project (Attachment I). Existing mine operations generates a daily average of 92 truck trips (46 trucks going in and out of the site) with 250,000 tons of yearly aggregate sale. However, for purposes of this Initial Study, a conservative average of 110 truck trips is used for the existing daily average for trip generation. In addition, the 110 daily truck trips were also used to evaluate impacts in the October 2005 Traffic Impact Analysis Report for current operations (UP 07-020). The current use permit limits truck traffic to and from the project site to maximum 220 daily truck trips.

In doubling the sale of aggregate from 250,000 tons to 500,000 tons as proposed, the number of daily trips could also double to 220 truck trips which, as previously noted, is currently the maximum number of allowable round truck trips per day. However, the average is more likely to be 184 truck trips based on current operations, In capturing a conservative approach, the traffic analysis evaluated the maximum 220 daily truck trips.

The proposed project would also increase its full-time employees from 8 to 9 full and the number of part-time employees remains at one. The proposed daily light duty trips would therefore add 2 additional trips from existing conditions. Therefore, the proposed project is projected to generate 88 net daily vehicle trips. Implementation of the proposed project will not degrade the LOS at study intersections or roadway segments to unacceptable levels and therefore, no improvements are necessary (GHD, 2022). However, as noted below, Caltrans has recommended limited improvements at the intersection of SR-299 and Iron Mountain Road to accommodate bicycle traffic through the intersection.

The following includes an analysis of environmental parameters related to *Transportation* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for

environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Would the Project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?			X	
b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b)?			X	
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			X	
d) Result in inadequate emergency access?			X	

a) *Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?*

The proposed project will generate 88 net new daily trips, 13 AM peak hour trips and 9 PM peak hour trips. The increase in daily trips does not require roadway or other safety improvements along Iron Mountain Road (GHD, 2022). As a result, implementation of the proposed project would not conflict with implementation of the County’s 2010 Bicycle Transportation Plan (Shasta, 2010), the Regional Transportation Plan (SRTA, 2018), or Regional Active Transportation Plan (SRTA, 2019).

In addition, implementation of the proposed project would not affect RABA operations or existing transit facilities. The insignificant amount of vehicle trips (2 additional light duty trips) generated by the proposed project are not anticipated to generate sufficient demand to warrant transit network expansion. Therefore, implementation of the proposed project will not conflict with a program plan, ordinance or policy addressing the circulation systems, including transit, roadway, bicycle, and pedestrian facilities. Impacts would be less than significant.

b) *Conflict or be inconsistent with CEQA Guidelines Section 15064.3, Subdivision (b)?*

SB 743 was signed into law in 2013, with the intent to better align CEQA practices with statewide sustainability goals related to efficient land use, greater multimodal choices, and greenhouse gas reductions. The provisions of SB 743 became effective statewide on July 1, 2020. Under SB 743, impacts will be determined by changes to VMT. VMT measures the number and length of vehicle trips made on a daily basis. VMT is a useful indicator of overall land use and transportation efficiency, where the most efficient system is one that minimizes VMT by encouraging shorter vehicle trip lengths, more walking and biking, or increased carpooling and transit.

Because of SB 743, for a CEQA analysis, determining the potential for exceeding an agency's LOS thresholds transportation/traffic impacts is no longer valid and VMT thresholds are used instead. However, Shasta County has not yet established VMT thresholds. In order to assist in this type of circumstance, in December 2018, the California Governor's Office of Planning and Research (OPR) released its final *Technical Advisory on Evaluating Transportation Impacts* in CEQA (OPR, 2018). Generally, the OPR recommends that a reduction of 15 percent or more in existing VMT should be the target.

Absent of any adopted or screening criteria for threshold values for VMT, the County has assumed screening thresholds for land use projects from OPR's Technical Advisory (December 2018). These types of development projects are presumed to have a less than significant impact on vehicle miles traveled and therefore, a less than significant adverse impact on transportation. OPR's Technical Advisory suggests that lead agencies may screen out VMT impacts using project size, maps, transit availability, and provision of affordable housing based on the following:

- Projects that are consistent with the Sustainable Communities Strategy (SCS) or General Plan and generate or attract fewer than 110 light duty vehicle daily trips (per CEQA). Therefore, absent substantial evidence otherwise, it is reasonable to conclude that the addition of 110 light duty vehicle trips or fewer trips could be considered not to lead to a significant impact. VMT is not applicable to heavy vehicle trips
- Map-based screening for residential and office projects located in low VMT areas, and incorporate similar features (density, mix of uses, transit accessibility).
- Certain projects within ½ mile of an existing major transit stop or an existing stop along a high-quality transit corridor. However, this will not apply if information indicates that the project will still generate high levels of VMT.
- Affordable Housing Development in infill locations.
- Locally-serving retail projects, typically less than 50,000 square feet.

The net daily trip generation for light duty vehicle strip from the proposed project is estimated to be 2 vehicle trips. Therefore, implementation of the proposed use permit and reclamation plan amendment is assumed to cause a less than significant transportation impact, and no further VMT analysis is required.

c) *Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

As noted above under *Environmental Setting*, a total of 17 collisions were identified in the study area between January 1, 2016, and December 31, 2020. None of the collisions resulted in a severe injury or fatality (GHD, 2022). In addition, the roadway segment on Iron Mountain Road between SR-299 and Keswick Dam Road was analyzed and there were no bicycle or pedestrian collisions reported between 2016 and 2020 (GHD, 2022). Historical crash data as well as observed conditions indicates that commercial vehicles are successfully using Iron Mountain Road and no safety improvements are recommended (GHD, 2022).

The intersection of Iron Mountain Road/SR 299 is currently a two-way stop-controlled intersection with SR-299 being uncontrolled. Per the Shasta County General Plan, SR-299 is a bicycle planning corridor. In the vicinity of Iron Mountain Road, SR-299 has varying shoulder widths and no bike lanes. Currently, there is an eastbound left turn and a westbound right turn lane at the intersection. The westbound right turn pocket is 165 feet with a 300

feet taper length. The SR-299 approaches to the intersection are also in a crest vertical curve, vehicles will experience a slight uphill grade as they approach the intersection.

The proposed project will add 4 vehicles in the AM peak hour and 2 vehicles in the PM peak hour to westbound right turn movement at this intersection. The proposed project will add 1 vehicle trip in the AM and PM peak hours to the eastbound left turn movement. Most of the trips generated by the proposed project are heavy vehicle trips. To accommodate the added trucks through the intersection and provide the appropriate deceleration length, the project proposes to increase the westbound right turn pocket length to 315 feet with a 120 feet taper. Additionally, with this right turn modification, a 5-foot bike lane adjacent to the outside westbound through lane will be provided to accommodate bike traffic through the intersection. These improvements are illustrated in Figure 8 and in Section 2.0, PROJECT DESCRIPTION. Impacts would be less than significant.

With the implementation of the proposed project the vehicle access points would remain the same as existing conditions. The main access will remain at Ball Mill Road with direct access to the existing scales, office, and the mining area. Based on current operations, the existing main access and internal circulation, are sufficient in providing the necessary driveway widths and truck turning radii. The intersections on Iron Mountain Road at Stubbs Lane and Lumber Manufacture are not significantly utilized in the peak hours and have minimal traffic due to the limited uses.

The proposed project would not substantially increase hazards to vehicle safety due to increased traffic at locations with geometric design features (e.g., sharp curves or dangerous intersections). The project does not introduce incompatible users (e.g., farm equipment) to a roadway or transportation facility not intended for those users. The project's impact with regard to roadway design and users is not considered significant. Impacts would be less than significant.

d) *Result in inadequate emergency access?*

Refer to impact discussion under IX.f. Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Findings

Based upon the review of the information above, implementation of the proposed project will have a less than significant impact with respect to *Transportation*.

Documentation and References

GHD (GHD, Inc.) 2022. *Final Draft Traffic Impact Analysis Report – Crystal Creek Aggregates Expansion*. December 7, 2022.

OPR (Governor's Office of Planning and Research). 2018. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. December 2018.

RABA (Redding Area Bus Authority). 2022. *Redding Area Bus Authority (RABA) Ride Guide*. 2022.

SCFD (Shasta County Fire Department). 2019. *Response to Fire Service Questionnaire*. December 4, 2019.

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- Shasta. 2008a. *Environmental Initial Study General Plan Amendment 07-005, Zone Amendment 07-020, Use Permit 07-020, and Reclamation Plan 07-002, Crystal Creek Aggregate, Comingdeer*. March 7, 2008.
- Shasta. 2008b. *Planning Commission Resolution Nos. 2008-066 and 2088-067*. July 12, 2008
- Shasta. 2004. *Shasta County General Plan*. September 2004.
- Shasta. 2008c. *Statement of Conditions - Use Permit 07-020*. August 5, 2008.
- SRTA (Shasta County Regional Transportation Agency). 2018. *Regional Active Transportation Plan*. Updated August 2019.

XVIII. Tribal Cultural Resources

This section of the Initial Study describes the affected environment and regulatory setting for Tribal Cultural Resources (TCRs) on the project site. Ethnographic information is presented for the Wintu, the larger cultural group identified for the project location.

Environmental Setting

Ethnographic Context

The following ethnographic context was drawn from literature and maps by Du Bois (1935); Kroeber (1925), and La Pena (1978) as cited Genesis Society (Genesis, 2006; 2019; 2020). The project area is within the traditional territory of the Keswick Wintu, one of nine sub-groups of Wintu identified by ethnographers (Kroeber 1925; DuBois 1935; and La Pena 1978 in Jensen 2006). The essential social unit among the Wintu was the family, and the macro scale social unit was likely the village. Villages were typically occupied in the winter months and were situated on terraces above waterways. Residences were usually constructed from bark and housed three to seven people, and village sizes ranged from four to five homes up to several dozen. Larger villages often had a large earthen lodge structure. Warmer months were used for gathering food resources away from winter villages; during these times of year people used temporary encampments.

The Wintu relied on a variety of terrestrial and aquatic plant and animal resources. Primary among these were acorns, deer, and various fish species, which they collected and processed with an array of stone, bone, and wood tools. Only fragmentary evidence of their cultural remains due in part to most material culture being organic and perishable, and in part to impacts historic period land uses have had on archaeological sites. The results of previous studies indicated the potential range of pre-contact site types include sites ranging from surface lithic scatters, surface features and subsurface deposits, to simple bedrock milling stations and light-density surface scatters. Impacts to the ground surface and subsurface components within the project area are known to have been extensive and intensive, and pedestrian surveys indicate pre-contact ethnographic materials may be absent from this area on account of historic through contemporary mining and mining-related impacts.

The Wintu population prior to contact with Europeans is estimated to have been over 14,000; however, as a result of a malaria epidemic that swept through the central and upper Sacramento Valley from 1830 to 1833, approximately 75 percent of the indigenous population died. This epidemic severely hampered the ability of the Wintu to resist further occupation into their territory by settlers.

Regulatory Setting

This section summarizes current State and local regulations relevant to the review of *Tribal Cultural Resources* for this project. Ordinances, regulations, or standards that are applicable to the environmental review of potential impacts related to Tribal Cultural Resources include the following:

Assembly Bill 52

Assembly Bill 52 (AB 52) amended CEQA to require that: 1) a lead agency provide notice to any California Native American tribes that have requested notice of projects proposed by the lead agency; and 2) for any tribe that responded to the notice within 30 days of receipt with a request for consultation, the lead agency must consult with the tribe. Topics that may be addressed during consultation include tribal cultural resources, the potential significance of project impacts, type of environmental document that should be prepared, and possible mitigation measures and project alternatives.

Pursuant to AB 52, Section 21073 of the Public Resources Code defines California Native American tribes as “a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of the Statutes of 2004.” This includes both federally and non-federally recognized tribes. Section 21074(a) of the Public Resource Code defines TCRs for the purpose of CEQA as:

-
- 1) Sites, features, places, cultural landscapes (geographically defined in terms of the size and scope), sacred places, and objects with cultural value to a California Native American tribe that are either of the following:
 - (a) included or determined to be eligible for inclusion in the California Register of Historical Resources; and/or
 - (b) included in a local register of historical resources as defined in subdivision (k) of Section 5020.1; and/or
 - 2) a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Because criteria (a) and (b) also meet the definition of a Historical Resource under CEQA, a TCR may also require additional consideration as a Historical Resource. TCRs may or may not exhibit archaeological, cultural, or physical indicators.

Recognizing that California tribes are experts in their tribal cultural resources and heritage, AB 52 requires that CEQA lead agencies provide tribes that requested notification an opportunity to consult at the commencement of the CEQA process to identify TCRs. Furthermore, because a significant effect on a TCR is considered a significant impact on the environment under CEQA, consultation is used to develop appropriate avoidance, impact minimization, and mitigation measures.

Shasta County General Plan

Applicable cultural resource policies in the Shasta County General Plan Heritage Resource Element relative to the proposed project are provided below:

- *Policy HER-a.* Development projects in areas of known heritage value shall be designed to minimize degradation of these resources. Where conflicts are unavoidable, mitigation measures which reduce such impacts shall be implemented. Possible mitigation measures may include clustering, buffer, or non-disturbance zones, and building siting requirements.

Tribal Consultation

As of October 7, 2019, the County had received written requests to receive notices of CEQA projects from two California Native American Tribes, which identified themselves as being traditionally and culturally affiliated with lands subject to County jurisdiction: the Wintu Tribe of Northern California & Toyon Wintu Center and the Pit River Tribe. In accordance with Public Resources Code (PRC) Section 21080.3.1(d), the County sent a letter by certified mail on October 7, 2019, to Wintu Tribe of Northern California & Toyon Wintu Center, which in its prior written request to received notices of CEQA project identified that it is traditionally and culturally affiliated with the project site and afforded them 30 days to respond. The County received no response to the letters within that time frame, and therefore, tribal consultation was not, nor is required to be initiated for this project.

In addition, and separately from AB 52, the County notified the following tribes on February 19, 2021: Pit River Tribe; Madesi / Atsuge / Ajumawi / Aporige; Pit River Tribe of Historical Preservation; Roaring Creek Indian Rancheria; Redding Rancheria; Winnemem Wintu Tribe; Wintu Tribe of Northern California; Wintu Educational and Cultural Council; Wintu Tribe and Toyon Wintu Center; United Tribe of Northern California, Inc.; Native

American Heritage Commission; Greenville Indian Rancheria; Nor Rel Muk Nation; Quartz Valley Indian Community; and Shasta Nation.

As part of the *Cultural Resources Inventory Survey* for the proposed SR-299/Iron Mountain Road intersection improvements (Genesis, 2020), the following tribes were contacted on January 10, 2020: Nor-Rel-Muk Nation; Redding Rancheria; Winnemem Wintu Tribe; and Wintu Tribe of Northern California.

In the absence of tribes requesting consultation, information about potential impacts to TCRs was drawn from: 1) the results of a search of the NAHC Sacred Lands File, 2) existing ethnographic maps and information about pre-contact life ways and settlement patterns; 3) information on archaeological site records obtained from the California Historical Resource Information System and archaeological field survey (Genesis 2006; 2019; 2020), and 4) existing information about buried pre-contact archaeological site sensitivity in the project area.

A search of the Sacred Lands File was performed by the NAHC for the cultural resources study of the northern portion of the project area (Genesis, 2006). The NAHC responded on September 28, 2006, that there were no sacred land listings within or adjacent to the project area. On June 1, 2019, the NAHC was sent a Sacred Lands File search request for the 2019 cultural resources study of the southern portion of the project area (Genesis, 2019). The NAHC responded on June 7, 2019, that the search returned positive findings and the Redding Rancheria was the appropriate tribe to contact regarding those findings. According to Genesis (personal communication, 2021), the positive findings of the Sacred Lands File search are related to the Kett Site, a known sacred site recorded by the Redding Rancheria that is located outside of the project area, and there are no Sacred Lands present within the current project area. Additionally, no Sacred Lands are present within the study area of the proposed SR-299/Iron Mountain Road intersection improvements (Genesis, 2020).

Review of the ethnographic background information for the project area, as summarized by Genesis (Genesis, 2006; 2019; 2020) did not indicate the presence of ethnohistoric-era village sites in the vicinity. Following a near-collapse of the local indigenous population due to disease introduced by Euroamericans, lands previously occupied by the Wintu were claimed by these Euroamerican settlers, and subsequent impacts to the landscape were extensive. Any habitation sites which may have at one time existed in the project area would have been destroyed prior to ethnographers' efforts to document indigenous lifeways.

The cultural resources technical studies (Genesis, 2006; 2019; 2020) noted the presence of 11 historic-era cultural resources within the project area, but of these, none were prehistoric or pre-contact resources, traditional cultural places, or ethnographic locations. Due to extensive ground disturbance from the historic to the modern era, it is unlikely that any intact buried Native American sites would be encountered within the project area boundaries. Although unlikely, it is still possible that pre-contact archaeological deposits may exist subsurface, which may constitute TCRs.

2008 Initial Study / Mitigated Negative Declaration Findings

In 2008 the County approved a Mitigated Negative Declaration (SCH No. 2008052029) for *General Plan Amendment GPA07-005, Zone Amendment GZ07-020, Use Permit Amendment UP07-020, and Reclamation Plan Amendment RP07-002*. The 2008 Mitigated Negative Declaration did not contain a separate analysis related to impacts to *Tribal Cultural Resources* as this evaluation was not required at the time the previous environmental review was conducted. However, cultural resource impacts were evaluated and determined to result in no impacts related to historical, archaeological, paleontological, or unique geologic resources (Shasta, 2008a; 2008b; 2008c). No mitigation measures were required.

Impact Analysis

The following includes an analysis of environmental parameters related to *Tribal Cultural Resources* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or		X		
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.		X		

i-ii) No TCRs were identified within or immediately adjacent to the project area. Therefore, the project would not cause a substantial adverse change in the significance of a tribal cultural resource as there is no evidence of historical resources at the site that are listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources; or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1.

The Wintu Tribe of Northern California has requested notification of proposed projects located within their geographic area of traditional and cultural affiliation in accordance with Public Resources Code section 21080.3(b), also known as AB52. The project is located within the Tribe’s geographic area of traditional and cultural affiliation, and notification was sent via certified mail on October 7, 2019, and delivered to the designated Tribal Representative. Consultation was not requested by a representative of the Wintu Tribe of Northern California within the 30-day notification period ending November 7, 2019.

Although no California Native American tribe submitted a written request to the County for formal consultation pursuant to PRC Section 21080.3.1, Genesis Society contacted the NAHC and several Native American representatives and organizations and requested information related to cultural resources that could be impacted by the proposed project. Responses received requested onsite monitoring and consultation should unanticipated discovery of resources occur, and the project will be conditioned in accordance with this request.

Mitigation Measures

No mitigation measures are required.

Findings

Based upon the review of the information above, implementation of the proposed project will have a less than significant with respect to *Tribal Cultural Resources*.

Documentation and References

Genesis (Genesis Society). 2006. *Archaeological Inventory Survey – Crystal Creek Aggregate Licensing and Reclamation Project, 150 acres along Iron Mountain Road, Shasta County, California*. November 1, 2006.

Genesis. 2019. *Cultural Resources Inventory Report – Crystal Creek Aggregate Licensing and Reclamation Project, circa 28.46 acres, Shasta County, California*. August 28, 2019.

Genesis. 2020. *Cultural Resources Inventory Report – SR-299/Iron Mountain Road Intersection Improvement Project, circa 15 acres, Shasta County, California*. January 17, 2020.

Shasta (County of Shasta). 2008a. *Environmental Initial Study General Plan Amendment 07-005, Zone Amendment 07-020, Use Permit 07-020, and Reclamation Plan 07-002, Crystal Creek Aggregate, Comingdeer*. March 7, 2008.

Shasta. 2008b. *Planning Commission Resolution Nos. 2008-066 and 2088-067*. July 12, 2008

Shasta. 2008c. *Statement of Conditions - Use Permit 07-020*. August 5, 2008.

XIX. Utilities and Service Systems

This section of the Initial Study addresses the proposed project's potential impacts on certain utilities and services: electric, water, wastewater, stormwater, and solid waste.

Environmental Setting

Water

Prior to the Carr Fire Incident in 2018 County Service Area (CSA) No. 25 - Keswick Water provided potable water to approximately 209 customers, including the existing quarry. The Carr Fire destroyed most of the homes in CSA No. 25 and a majority of those in the Shasta Community Services District (SCSD). The SCSD operates a parallel water system and at the time of the Carr Fire, the district served approximately 770 customers. On December 11, 2018, the SCSD Board adopted a resolution to submit an application to the Shasta Local Area Formation Commission (LAFCO) to formerly dissolve CSA No. 25, annexing the entire territory to the SCSD. On April 4, 2019, LAFCO adopted Resolution No. 2019-05 determining that it was proper to proceed with annexation and ordered that the annexation proceed without an election (Shasta, 2019). This included surface water assets of 500-acre feet annually from Whiskeytown Lake pursuant to the Master Agreement between Shasta County Water Agency (SCWA) and SCSD (SCWA, 2019). These surface water assets were originally authorized and allotted to CSA No. 25 in 1964 under Bureau of Reclamation Contract No. 14-06-200-1307A. The annexation has since been completed with all assets transferred to the SCSD. Currently, the SCSD water system provides potable water for residential and commercial uses to a total of 940 metered service line connections including the existing quarry (RCAC, 2020).

Based on invoices from both Keswick CSD and SCSD for 2019 and 2020 (through October), the average amount of water purchased by the mine operator equates to between 0.25 and 0.27 gallons per minute (gpm) or 360 to 389 gallons per day (gpd). This amount is approximately one-quarter to one-half of what an average residence would use in a year or approximately 45 to 48.6 gallons per day per employee.

Wastewater

The existing quarry is not connected to a municipal wastewater system. Wastewater for the existing quarry is treated through a permitted onsite wastewater treatment system.

Stormwater

Stormwater is managed by a network of ponds, ditches, and piping. Two ponds, Pond No. 4 and Pond No. 5 receive runoff from the upland hills west of the Plant Area, from the existing quarry, and from the Plant Area (equipment storage, stockpile areas, concrete recycle area, and topsoil stockpile area) (LLA, 2022). Stormwater runoff from the project site is routed through the various ponds, with all but a small portion eventually discharged from Pond No 3. Stormwater from Pond No. 4 can be routed around the settling ponds and discharged directly to the ditch that is tributary to Middle Creek, but this has seldom occurred (LAA, 2022). Refer to Section, X, HYDROLOGY AND WATER QUALITY, above, for a detailed summary on onsite stormwater management.

Solid Waste

Solid waste collection service in the area is provided by Waste Management Agency (WM). Solid waste generated by the proposed project would be disposed of at Shasta County's West Central Landfill located south of the community of Igo, 9.2 miles west of State Route 273 (SR-273). Total capacity of the landfill is 13 million cubic yards (cy) with a remaining capacity of 5.2 million cy. The California Department of Resources Recycling and Recovery (CalRecycle) provides solid waste disposal and recycling information for jurisdictions in the State,

including the WM. In 2019 (the most recent year with available data) the majority of WM's solid waste was disposed of at the West Central Landfill (CalRecycle, 2022a). According to the figures published by the CalRecycle in 2019, the West Central Landfill received approximately 56 percent of WM's solid waste, or 52,144 tons (CalRecycle, 2022a).

Utilities

Electricity service in the project area is provided by Pacific Gas & Electric Company (PG&E). PG&E is regulated by the California Public Utilities Commission (CPUC) and is required to update existing systems to meet PG&E electrical service and additional demand. PG&E has overhead electric lines running along Iron Mountain Road. The existing quarry utilizes onsite propane tanks rather than natural gas. Existing phone lines are located adjacent to the project site. Telecommunication will be through the existing facility land line and personal cell phones. No new telecommunication facilities will be required to serve the proposed project.

Regulatory Setting

This section summarizes current State and local regulations relevant to the review of *Utilities and Service Systems* for this project. Ordinances, regulations, or standards that are applicable to the environmental review of potential impacts related to utilities and service systems include the following:

California Integrated Waste Management Act

The California Integrated Waste Management Act of 1989, or Assembly Bill (AB) 939, required the implementation of integrated waste management plans, and mandated that local jurisdictions divert at least 50 percent of all solid waste generated (from 1990 levels), beginning January 1, 2000, and divert at least 75 percent by 2010. Projects that would have an adverse effect on waste diversion goals are required to include waste diversion mitigation measures to assist in reducing these impacts to less than significant levels. With the passage of Senate Bill (SB) 1016 (the Per Capita Disposal Measurement System) in 2006, only per capita disposal rates are measured to determine if a jurisdiction's efforts are meeting the intent of AB 939.

California Solid Waste Reuse and Recycling Access Act

The California Solid Waste Reuse and the Recycling Access Act of 1991 (AB 1327) is codified in Public Resources Code Sections 42900-42911. As amended, AB 1327 requires each local jurisdiction to adopt an ordinance requiring commercial, industrial, or institutional building, marina, or residential buildings having five or more living units to provide an adequate storage area for the collection and removal of recyclable materials. The size of these storage areas is to be determined by the appropriate jurisdictions' ordinance. If no such ordinance exists in the jurisdiction, the Cal Recycle model ordinance shall take effect.

2008 Initial Study / Mitigated Negative Declaration Finding

In 2008 the County approved a Mitigated Negative Declaration (SCH No. 2008052029) for *General Plan Amendment GPA07-005, Zone Amendment GZ07-020, Use Permit Amendment UP07-020, and Reclamation Plan Amendment RP07-002*. As noted in Section 2.0, PROJECT DESCRIPTION, the Mitigated Negative Declaration evaluated environmental impacts associated with amending the General Plan land use designation on 115 acres from "N-O" (Natural Resource Protection – Open Space) to "MR" (Mineral Resource); rezoning the same 115 acres from "U" (Unclassified) to "MR" (Mineral Resource); expanding the quarry area from 53.57 acres to 110.24 acres; extending the termination date of the operation from February 22, 2010, to December 31, 2072; amending the reclamation plan to include expansion of the quarry by 56.67 acres; and the processing of up to 250,000 tons per year.

Making the appropriate findings, the County determined that no impact related to *Utilities and Service Systems* would occur with implementation of *General Plan Amendment GPA07-005, Zone Amendment Z07-020, Use Permit Amendment UP07-020, and Reclamation Plan Amendment RP07-002* (Shasta, 2008a; 2008b; 2008c). No mitigation measures were required.

Impact Analysis

The following includes an analysis of environmental parameters related to *Utilities and Service Systems* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

Would the Project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?			X	
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?			X	
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has				X
d) Generate solid waste in excess of State or local standards, or infrastructure, or otherwise impair the attainment of solid waste reduction goals?			X	
e) Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?			X	

- a) *Require or result in the relocation or construction of new or expanded water or wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*

Water

With the addition of one full-time employee, the proposed project would result in a potable water consumption increase of approximately 45 to 48.6 gpd. Utilizing the higher range of water demand, the project's increased water demand is equivalent to approximately 17,082 gallons per year or 0.05-acre feet per year (AFY). This

increase in annual potable water demand represents 0.0001 percent of surface water allocations authorized under Bureau of Reclamation Contract No. 14-06-200-1307A and the insignificant demands of the proposed project can be accommodated as sufficient water supplies are available to continue to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years. Therefore, implementation of the proposed project would have a less than significant impact on water supply.

Wastewater

Wastewater production is limited to employees and visitors to the site. Because the proposed project will not connect to any water or wastewater treatment facilities, there would be no impact on the capacity of an existing water or wastewater treatment facilities. No impact would occur in this regard.

Stormwater

With implementation of the proposed project, water management and stormwater-runoff control in the future will be completed similarly to the current quarry operations utilizing existing ponds and temporary detention basins. During each phase, runoff from the disturbed areas will be routed to temporary detention basins within the phase footprint. This process has been utilized onsite since beginning in 1990 and continues today. As a result, the proposed project would not require the relocation or the construction of new or expanded stormwater facilities. No impact would occur in this regard.

Utilities

Implementation of the proposed project would not require the relocation or construction of expanded electricity, gas, or telecommunication facilities. No impact would occur in this regard.

- b) *Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?*

Refer to previous impact discussion XIX.a. Impacts would be less than significant.

- c) *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?*

Refer to previous impact discussion XIX.a. No impact would occur in this regard.

- d) *Generate solid waste in excess of State or local standards, or infrastructure, or otherwise impair the attainment of solid waste reduction goals?*

The proposed project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. According to CalRecycle, the estimated solid waste generation rates for employees is 11.9 pounds per employee per day (CalRecycle, 2022b). Based on this information and the project's addition of one full-time employee, the proposed project would produce approximately 1.85 tons annually.²⁸

The West Central Landfill has approximately 120 to 320 tons per day of capacity; therefore, the landfill would support the increase in solid waste during construction and operation of the proposed project. Onsite recycling

²⁸ 11.9 x 312 days/2,000 lbs/ton = 1.85 tons per year.

would reduce the potential amount of waste disposed of at the West Central Landfill and would contribute to the recycling goals set forth by the County, California Building Code, and Assembly Bill (AB) 939. Operational activities would be required to comply with all federal, State, and local statutes and regulations related to solid waste. Impacts would be less than significant.

e) *Comply with federal, State, and local management and reduction statutes and regulations related to solid waste?*

The proposed project would comply with federal, State, and local management and reduction statutes and regulations related to solid waste. The County regulates and operates programs that promote the proper disposal of toxic and hazardous materials from households and businesses throughout the County, including those created by the project. AB 939 requires the County to attain specific waste diversion goals and the California Solid Waste Reuse and Recycling Access Act of 1991, as amended, requires expanded or new development projects to incorporate storage areas for recycling bins into the proposed project design. Reuse and recycling of waste materials would reduce operating expenses and save valuable landfill space.

Project implementation would continue to generate solid waste during operation. Common waste may include trash, metals, masonry, plastic pipe, rocks, dirt, cardboard, or green waste. AB 939, SB 1016, AB 341, and AB 1826 require the County to meet specific waste diversion goals. The West Central Landfill has available capacity to accommodate solid construction waste generated by the proposed project. In addition, the Anderson Landfill also has available capacity to accommodate solid construction waste generated by the proposed project. Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Findings

Based upon the review of the information above, implementation of the proposed project will have a less than significant impact with respect to *Utilities and Service Systems*.

Documentation and References

CalRecycle (California Department of Resources Recycling and Recovery). 2022a. *Disposal Reporting System (DRS): Jurisdiction Disposal and Alternative Daily Cover (ADC) Tons by Facility*. [Online]: <https://www2.calrecycle.ca.gov/LGCentral/DisposalReporting/Destination/DisposalByFacility>. Accessed August 10, 2022.

CalRecycle. 2022b. *Jurisdiction Diversion/Disposal Rate Summary*. [Online]: <https://www2.calrecycle.ca.gov/LGCentral/DiversionProgram/JurisdictionDiversionPost2006>. Accessed August 10, 2022.

LLA (Lawrence & Associates). 2022. *Hydraulic Evaluation for Proposed Quarry Changes, Chrystal Creek Aggregate, Inc.* August 2022.

RCAC (Rural Community Assistance Corporation). 2020 *Shasta Community Services District Water Rate Analysis – Water System #4510013, Assistance Referral Number 6150*. December 2020.

Shasta (County of Shasta). 2019. *Report to Shasta Water Agency – Shasta Community Services District Project Water Contract*. November 5, 2019.

Shasta. 2008a. *Environmental Initial Study General Plan Amendment 07-005, Zone Amendment 07-020, Use Permit 07-020, and Reclamation Plan 07-002, Crystal Creek Aggregate, Comingdeer*. March 7, 2008.

Shasta. 2008b. *Planning Commission Resolution Nos. 2008-066 and 2088-067*. July 12, 2008

Shasta. 2008c. *Statement of Conditions - Use Permit 07-020*. August 5, 2008.

XX. Wildfire

This section of the Initial Study provides an analysis of potential wildfire impacts. The analysis considers potential impacts of the project on emergency access and evacuation routes to, through, and from the project area and the exacerbation of fire risk or that may result in temporary or ongoing impacts to the environment during or following a fire.

Environmental Setting

Human activities such as equipment operation cause the vast majority of wildland fires that occur on average each in throughout the State. According to the *Shasta County Multi-Jurisdictional Hazard Mitigation Plan*, wildland fire is an ongoing concern for County (Shasta, 2023). Generally, the fire season extends from early spring through late fall of each year during the hotter, dryer months. Drought may extend the fire season in Shasta County, including its cities.

Fire conditions arise from a combination of high temperatures, low moisture content in the air and fuel, accumulation of vegetation, and high winds. The outbreak and spread of wildland fires within the project area is a potential danger, particularly during the hot, dry summer and fall months. Various factors contribute to the intensity and spread of wildland fires: humidity, wind speed and direction, vegetation type, the amount of vegetation (fuel), and topography. The topography, climate, and vegetation of much of the area are conducive to the spread of wildland fires once started.

In July 2018 the Carr Fire swept across the entire project area with varying degrees of fire intensity onsite and within the area surrounding the existing mining operation. In the southern portion of the site, the fire burned cooler resulting in the survival of some of the overstory tree species and lesser amounts of the mid and understory shrub species. In the northern portion of the site and existing mining area, the fire burned extremely hot resulting in nearly completed consumption of the upper, mid and understory vegetation. In the eastern area where plant operations are conducted fire did not encroach in this area due to the lack of vegetation.

Fire Protection

Fire protection services for the project area are provided by the Shasta County Fire Department (SCFD) pursuant to a contract with the California Department of Forestry and Fire Protection (CAL FIRE), based in the Redding area. Under the contracts CAL FIRE manages and oversees the operations of SCFD. Both the SCFD and CAL FIRE maintain automatic and mutual aid agreements with adjacent fire districts, including the Redding Fire Department and Anderson Fire Protection District.

The closest fire station to the project site is CAL FIRE Station 58 located approximately 1.2 miles south of the site. SCFD Station 53, located in the community of Keswick, was lost during the Carr Fire, and currently responds out of CAL FIRE Station 58. Station 53 was staffed by volunteers and is unlikely that this station will be rebuilt (SCFD, 2019; 2022). Station 58 has two Type II engines, staffed with 3 to 4 firefighters per engine and one transport/dozer staffed by one operator. In 2018, there were 130 calls for service in the Keswick area. The proposed project is within a Class 5 service area which is defined as an area that is serviced by a creditable water system and within 5 road miles of a fire station. Response time from Station 58 to the project site is less than 5 minutes (SCFD, 2019; 2022).

Fire Hazard Severity Zone

CAL FIRE has mapped areas of significant fire hazards in the state through its Fire and Resources Assessment Program (FRAP). These maps place areas of the state into different fire hazard severity zones (FHSZ) based on a hazard scoring system using subjective criteria for fuels, fire history, terrain influences, housing density, and occurrence of severe fire weather where urban conflagration could result in catastrophic losses. This classification system designates lands in three general classifications, “Moderate”, “High” and “Very High” Fire Hazard Severity Zones.

As part of this mapping system, land where CAL FIRE is responsible for wildland fire protection and generally located in unincorporated areas is classified as a State Responsibility Area (SRA). Where local fire protection agencies are responsible for wildfire protection, the land is classified as a Local Responsibility Area (LRA). CAL FIRE currently identifies the project site as an SRA (CAL FIRE, 2022). In addition to establishing local or state responsibility for wildfire protection in a specific area, CAL FIRE designates areas as very high fire hazard severity zones (VHFHSZ) or non-VHFHSZ. The project site is designated as VHFHSZ (CAL FIRE, 2022).

Onsite Fire Hazard Management

Over the past 20 years water has been extracted from two project created ponds to fight an estimated six fires, primarily in the Old Shasta area southwest of the proposed project and most recently during the 2018 Carr Fire Incident. Immediately after the Carr Fire, water remained in both ponds and they continue to provide water to fire suppression resources to firefighting personnel, as necessary to combat fires, or fire threatening incidents.

In addition to the utilization of onsite ponds as a fire suppression resource, existing onsite operations include safety procedures to minimize the risk of wildland fires to onsite personnel and adjacent properties. These include the following:

- An evacuation plan identifying routes to be taken throughout the project site for any emergency, whether operation related or from offsite conditions.
- Vegetation removal for a minimum distance of 150 feet from the edge of the projected work area for that ensuing year.
- A water tender, water tank, containing a minimum of 8,000 gallons, and a 4,000-gallon water truck provided onsite every day of operation. The tender/tank and truck are filled at the end of every day of operation.

Regulatory Setting

This section summarizes current federal, State, and local regulations relevant to the review of *Wildfire* for this project. Ordinances, regulations, or standards that are applicable to the environmental review of potential impacts related to wildfire hazards include the following:

California Department of Forestry and Fire Protection

CAL FIRE protects the people of California from fires, responds to emergencies, and protects and enhances forest, range, and watershed values providing social, economic, and environmental benefits to rural and urban citizens. The Office of the State Fire Marshal supports CAL FIRE’s mission by focusing on fire prevention. It provides support through a wide variety of fire safety responsibilities including regulating buildings in which people live, congregate, or are confined; controlling substances and products which may, in and of themselves, or by their misuse, cause injuries, death, and destruction by fire; providing statewide direction for fire prevention in wildland areas; regulating hazardous liquid pipelines; reviewing regulations and building standards; and providing training and education in fire protection methods and responsibilities.

California Fire Code

The California Fire Code (CFC) is contained within Title 24, Chapter 9 of the California Code of Regulations. Based on the International Fire Code, the CFC is created by the California Buildings Standards Commission and regulates the use, handling, and storage requirements for hazardous materials at fixed facilities. Similar to the International Fire Code, the CFC and CBC use a hazards classification system to determine the appropriate measures to incorporate to protect life and property.

California Public Resources Code

California Public Resources Code Section 4290 requires minimum fire safety standards related to defensible space that are applicable to SRA lands and lands classified and designated as VHFHSZs. California Public Resources Code Section 4291 requires a reduction of fire hazards around buildings, which requires 100 feet of vegetation management around all buildings and is the primary mechanism for conducting fire prevention activities on private property within CAL FIRE jurisdiction.

Shasta County General Plan

The Public Safety Group, Fire Safety and Sheriff Protection subsection, of the Shasta County General Plan contains policies regarding fire protection and development practices within an identified high risk fire hazard area. These policies are intended to protect persons and structures from fires and ensure that development minimizes the risk of creating fire hazards or defending against those hazards. The following General Plan objectives and policies are applicable to the proposed project:

- *FS-1.* Protect development from wildland and non-wildland fires by requiring new development projects to incorporate effective site and building design measures commensurate with level of potential risk presented by such a hazard and by discouraging and/or preventing development from locating in high-risk fire hazard areas.
- *FS-2.* Protection of life and property from crime by encouraging new development projects to incorporate effective defensible space design techniques.
 - *Policy FS-a.* All new land use projects shall conform to the County Fire Safety Standards.
 - *Policy FS-b.* Known fire hazard information should be reported as part of every General Plan amendment, zone change, use permit, variance, building site approval, and all other land development applications subject to the requirements of the California Environmental Quality Act (CEQA).
 - *Policy FS-e.* Development in areas requiring expanded levels of police and fire services shall participate in adopted County programs designed to offset the added costs for providing the expanded level of services.

Shasta County Multi-Jurisdictional Hazard Mitigation Plan

The *Shasta County Multi-Jurisdictional Hazard Mitigation Plan* includes resources and information to assist in planning for hazards. The plan provides a list of actions that may assist Shasta County and the City of Anderson in reducing risk and preventing loss from future hazard events. The emphasis of the *Shasta County Multi-Jurisdictional Hazard Mitigation Plan* is on the assessment and avoidance of identified risks, implementing loss reduction measures for existing exposures, and ensuring critical services and facilities survive a disaster. Hazard mitigation strategies and measures avoid losses by limiting new exposures identified in hazard areas, alter the hazard by eliminating or reducing the frequency of occurrence, avert the hazard by redirecting the impact by means of a structure or adapt to the hazard by modifying structures or standards.

Shasta County Fire Safety Standards

The Shasta County Board of Supervisors has adopted Fire Safety Standards for development projects in Shasta County. The standards meet or exceed the State’s standards and are inclusive of “State Responsibility Area Fire Safe Regulations.” These development standards address access, road widths, bridges, building construction, and hydrant and water systems and include a section on mitigation measures. All standards would be administered and implemented by the County Fire Warden, any designees, and as otherwise authorized by the Board of Supervisors by adoption of the standards.

Shasta County Municipal Code Section 8.08 – Fire Hazard Regulations

Shasta County Municipal Code Section 8.08 regulates outdoor burning and fire hazard abatement for properties within the county designated as local responsibility under the provisions of Section 4125 of the Public Resources Code (Shasta, 2020a).

Shasta County Municipal Code Section 8.10 – Defensible Space for Fire Protection

Shasta County Municipal Code Section 8.10 regulates the accumulation of combustible materials, including petroleum-based products and wildland fuels on private properties. Section 8.10 specifics the following: For any parcel that lies entirely or partially within an urban lands area, a responsible party shall maintain defensible space of up to thirty feet from the property line of the responsible party's parcel when the accumulation of fuel on the parcel endangers or encroaches on a defensible space of one hundred feet from the exterior perimeter of any improvement on an adjacent property that also lies entirely or partially within an urban lands area. The fire warden may require a distance greater than thirty feet but not to exceed one hundred feet when it is determined that the greater distance is necessary to provide defensible space for improvements on an adjacent property (Shasta, 2020b).

Community Wildfire Protection Plan Keswick Basin Planning Area

In 2016, the Western Shasta Resource Conservation District (WSRCD) prepared the *Community Wildfire Protection Plan for the Keswick Basin Planning Area*. This plan lists priority fuel reduction projects for the community of Keswick, northwest Redding, western City of Shasta Lake, and Buckeye, including defensible space for homes and roadside and ridgeline shaded fuel breaks to create safe ingress and egress. The proposed project is located immediately south of the Community Wildfire Protection Plan for the Keswick Basin Planning Area (WSRCD, 2016).

2008 Initial Study / Mitigated Negative Declaration Findings

In 2008 the County approved a Mitigated Negative Declaration (SCH No. 2008052029) for *General Plan Amendment GPA07-005, Zone Amendment GZ07-020, Use Permit Amendment UP07-020, and Reclamation Plan Amendment RP07-002*. The 2008 Mitigated Negative Declaration did not contain a separate analysis of *Wildfire* impacts as this resource was not required at the time the previous environmental review was conducted. A brief analysis of the wildfire risk of existing operations at the project site was included in the Hazards and Hazardous Materials section of the 2008 Mitigated Negative Declaration. The current mining operation was determined to have a less than significant impact related to the exposure of people or structures to a significant risk of loss involving wildland fires (Shasta, 2008a; 2008b; 2008c). No mitigation measures were required.

Impact Analysis

Publications obtained from Shasta County, SCFD, and CAL FIRE were reviewed and evaluated in an effort to assess the proposed project's overall contribution to wildfire risk. The following includes an analysis of environmental parameters related to *Wildfire* based on Appendix G of the State CEQA Guidelines. The discussion not only includes the areas for which there is potential for environmental impacts but also provides justification for the conclusions that either no impacts, less than significant impacts, or less than significant impacts with mitigation could occur.

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?			X	
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose projects occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of wildfire?			X	
c) Require installation or maintenance of associated infrastructure (such as roads, fuel sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?			X	
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result, post-fire slope instability, or drainage changes?			X	

a) *Substantially impair an adopted emergency response plan or emergency evacuation plan?*

Refer to impact discussion under IX.f, above. Impacts would be less than significant.

b) *Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose projects occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of wildfire?*

Slope and wind speed and can also influence the spread of fires. Upslope topography eventually increases the spread rate of the fire in all fuel beds over flat conditions (IJWF, 2010). Research as indicated that approximately 95% of all wildfire ignitions are controlled during initial attack (Smalley, 2008).

Elevations within the project site range from 1,210 feet above mean sea level (msl) in the northwesterly area of the site to 715 feet above msl at Pond No. 3 in the southeastern portion of the site. The surrounding natural land is hilly to very steep mixed chaparral and montane hardwood-conifer habitat that is currently in a state of regeneration after the Carr Fire. The proposed project would add 1 full-time employee onsite for a total of 9 permanent employees and 1 part-time employee.

The project site is located within a VHFHSZ and SRA for fire protection. Property owners within this designated area are subject to the requirements of California Public Resources Code (PRC) sections 4125 and 4142. PRC Section 4291 establishes six maintenance requirements for any person that owns, leases, controls, operates, or maintains any buildings or structure in, upon, or adjoining any mountainous or forest-covered lands, brush-covered lands, or grass-covered lands, or any land covered in flammable material. These maintenance requirements include fuel management activities, maintenance of defensible space, and providing emergency access.

Although areas surrounding the project site have been largely impacted by the Carr Fire, vegetation has begun to regenerate and over the life of the project will continue to re-establish within the immediate burn scare area. Given the site and surrounding topography, the scattered remaining natural vegetation, and the ongoing re-establishment of vegetation, the area will likely continue to be designated as a VHFHSZ by the State.

The risk of potential ignitions resulting from mining activities onsite would be considered very low for the existing cleared areas of the site with non-combustible land cover (mine production areas, rock crushing/screening plant, washing operations, mobile office trailer, truck scales, and settling/recycling ponds). The mining and the processing areas would be cleared and graded prior to mining and processing activities. The clearing and grading activities would remove nearly all vegetation and fire fuels from these active areas of the site. However, areas on the project site outside of the current mining area would continue to be vegetated.

The proposed project will continue to maintain onsite fire suppression apparatus (i.e., water tender, water tank, and water truck) to assist in a fire-related response should an incident occur onsite. As noted above, over the last two decades water from the onsite water ponds have been utilized by fire personnel to fight an estimated six fires, primarily within the Old Shasta area. Onsite water ponds will continue to be available for fire suppression purposes onsite and local fire suppression, if needed. It is important to note that water recharge for these ponds is continual and is achieved from precipitation and groundwater seepage. As a result, it is anticipated that available water for fire suppression from these ponds would range between 4 acre-feet (AF) to 14 AF and 5 AF to 30 AF, respectively.

All mining operations are conducted in compliance with the standards of the Mining Safety and Health Act (MSHA) and the California Occupational Safety and Health Act (CAL-OSHA) division of mines. Use Permit 07-020 also imposed conditions of approval with respect to fire protection. Specifically, Condition 54 identified the following SCFD requirements.

- a. Access roadways shall be a minimum of 16 feet wide and dead-end roadways shall be provided with an approved turnaround.
- b. The facility shall be provided with street address markers located with respect to the nearest roadway and to be clearly visible at all times. Numbers shall be a minimum of four inches in height, reflectorized, and shall contrast in color with the background.
- c. The applicant shall dispose of any vegetation cleared for construction and/or land development purposes. Disposal shall be in accordance with Air Quality Management Regulations and State or local Fire Department Burning Permit Regulations.
- d. Storage, use, and dispensing of flammable/combustible liquids shall be in accordance with the adopted edition of the California Fire Code. Plans shall be submitted to CAL FIRE / SCM) for review and approval prior to construction, storage, or use.

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- e. Accumulations of wastepaper, weeds, combustible waste material, waste petroleum products, tires, or rubbish of any type shall be prohibited.
 - f. All mobile and stationary equipment with non-turbocharged internal combustion engines shall be equipped with a properly functioning, approved spark arrestor.
 - g. Each vehicle shall be equipped with a portable fire extinguisher.

In addition to new requirements imposed by SCFD, the above requirements would continue to be imposed for the proposed use permit and reclamation plan amendments and would serve to continue to reduce the potential for fires to occur onsite.

The existing facility includes diesel fuel storage tanks of 1,000 and 20,000 gallons, one waste oil tank of 350 gallons, and two motor oil tanks and one lubricating oil tank (90 gallons each). Since beginning operation in 1990, the existing facility has no reported hazardous materials violations, ignitions, or other hazardous materials incidents that have resulted in an emergency response. Operations will continue to meet applicable County and SCFD requirements related to the storage and use of hazardous materials onsite. As described in Section IX, HAZARDS AND HAZARDOUS MATERIALS, the existing quarry is subject to the County's Hazardous Materials Business Plan (HMBP) program, which is regulated by the Shasta County Environmental Health Division (EHD) as part of the Certified Unified Program (CUPA). The existing quarry maintains a current business plan on file with the Shasta County EHD which conducts periodic site inspections. The mine operator will continue to manage and update the HMBP to the satisfaction of Shasta County EHD. Therefore, it is not anticipated that the handling, storage, and use of hazardous materials onsite would result in a significant impact related to wildfire risk. Impacts are less than significant.

Mining and Reclamation Plan Amendments

The proposed *Mining and Reclamation Plan Amendment* (Attachment B) has been prepared in an effort to increase the mine's resistance to wildland fires. As noted above, both the surrounding area and portions of the project site were greatly affected by the Carr Fire, which killed most of the vegetation in the area outside of the current mining areas.

The intent of the proposed *Mining and Reclamation Plan Amendment* is to create a forest setting that reduces the fire danger in the area as well as creating a treed landscape, which would be an aesthetically pleasing view. The proposed revegetation effort is consistent with one of the primary objectives of the reclamation program to establish a new vegetative cover that is fire resistant, to the maximum extent feasible, to provide future fire protection.

The *Mining and Reclamation Plan Amendment* presents an opportunity to lower the fire danger in the area. The main methods to achieve this goal are by eliminating fuel ladders where fire proceeds from lower vegetation into the crowns of trees and by reducing the amount of burnable material present (fuel load). To achieve these goals, brush species are eliminated from the plant palette. This action reduces both the fuel load and potential future fuel ladders. In its place, the planting of ponderosa pines and native grasses is proposed. "Volunteer" revegetation of oaks, native shrubs, and forbs less than two-feet high would be permitted.

Ponderosa pines are included in the plan since they are indigenous to the area and grow in many locations. The trees will initially be planted on 8-foot by 8-foot spacing initially and then thinned out at a future date. The final setting is pines trees 20 feet to 30 feet apart interspersed with grasses and "volunteer" native shrubs and forbs as the understory species. The spacing of the trees reduces the chance of a fire spreading from one tree to the other. The native grass to be planted is described in the *Mining and Reclamation Plan Amendment* (Attachment B).

The project site's existing proximity to County firefighting resources in addition to the onsite water resources available for fire suppression would serve to reduce the potential for the project to exacerbate existing fire hazard risks. Compliance with PRC Section 4290 and Section 4291, Shasta County Code Section 8.08 and Section 8.10, and continuance of County conditions of approval related to fire safety, long-term operational impacts related to wildfire hazards are considered to be less than significant. Additionally, implementation of the *Mining and Reclamation Plan Amendment* as each mine phase is completed would also provide a long-term opportunity to lower the fire danger in the area through spacing of tree plantings and eliminating fuel ladders. Therefore, potential impacts related to slope, prevailing winds, and other factors that could exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire are considered less than significant.

- c) *Require installation or maintenance of associated infrastructure (such as roads, fuel sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

The proposed project is required to comply with defensible space standards outlined within California Public Resources Code 4291, including the standards outlined within Shasta County Municipal Code Section 8.08 and Section 8.10. The proposed project would also comply with all applicable California Fire Code requirements for constructing and operating extraction and processing activities in a VHFHSZ, including, but not limited to, specific requirements for water supply, signage, and fire department access.

The existing facility maintains two points of access that would continue to facilitate site access by responding fire agency personnel and other emergency responders, if necessary. In addition, the proposed project does not include the addition of new overhead power lines or other infrastructure or features that are expected to exacerbate wildfire risk or result in additional temporary or permanent impacts.

Development of the proposed project, in compliance with applicable with defensible space standards, reduces the potential for the proposed project to impact adjacent residences from wildfire events and also reduces the potential that the proposed project would be significantly damaged from offsite wildfires burning onto the project site. The proposed use permit and reclamation plan amendments would continue to be subject to all applicable Shasta County Code requirements and defensible space requirements pursuant to California Public Resources Code 4291 (Shasta, 2008c). As a result, the proposed project would not require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. Impacts are less than significant in this regard.

d) *Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result, post-fire slope instability, or drainage changes?*

The proposed project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.²⁹ The location of the proposed project does not fall within a Federal Emergency Management Agency (FEMA) flood zone (FEMA, 2011), nor do sheer or unstable cliffs exist in the immediate area. Topography is relatively level in the plant area whereas in areas to the south, west, and north topography is hilly to very steep slopes.

Development of the proposed project would not significantly alter existing onsite drainage patterns or impervious services compared to existing conditions. During each mine phase stormwater runoff will continue to be routed through the various ponds, with all but a small portion eventually discharged from Settling Pond No. 3. Stormwater from Pond No. 4 can also be routed around the settling ponds and discharged directly to the ditch that is tributary to Middle Creek, but this has seldom occurred (LAA, 2022). As a result, overall water management and stormwater runoff control of the proposed project will be similar to current operations. The proposed project will continue to be covered under the General Industrial Storm Water Permit Order No. 2014-0057-DWQ and implement Best Management Practices (BMPs) to reduce impacts to storm water quality. In addition, during the mine's operational history there have been no significance surface failures and the proposed finished mine slope of 45 degrees is considered stable (Bajada, 2022). Therefore, the proposed project does not pose a significant risk of landslides.

Considering these project site features and characteristics, potential future post-fire conditions are not expected to increase risks associated with runoff and erosion. Considering the project's phased reclamation and implementation of erosion control BMPs, potential impacts associated with runoff, post-fire slope instability, or drainage changes are considered to be less than significant.

Mitigation Measures

No mitigation measures are required.

Findings

²⁹ Cooksley Geophysical. May 12, 2008, Revised August 19, 2008. *Geologic Report to Accompany the Global Slope Stability Analyses for The Crystal Creek Aggregate Expansion.*

Based upon the review of the information above, implementation of the proposed project will have a less than significant impact with respect to *Wildfire*.

Documentation and References

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- Shasta. 2008b. *Planning Commission Resolution Nos. 2008-066 and 2088-067*. July 12, 2008
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- Shasta. 2022b. *Shasta County Municipal Code Chapter 8.10 – Defensible Space for Fire Protection*. As amended through April 11, 2022.

Shasta. 2008c. *Statement of Conditions - Use Permit 07-020*. August 5, 2008.

Smalley. 2008. *Wildfires and Climate Change: An American Perspective on a Global Issue*. Fire Interdisciplinary Research on Ecosystem Services (Seminar). June 24, 2008.

WSRCD (Western Shasta Resource Conservation District). 2016. *Community Wildfire Protection Plan Keswick Basin Planning Area*. 2016.

XXI. Mandatory Findings of Significance

Based on the analysis undertaken as part of this Initial Study, the following findings can be made:

Would the Project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Does the project have the potential to substantially 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 the self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number, or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		X		
b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?		X		
c) Does the project have potential environmental effects which may cause substantial adverse effects on human beings, either directly or indirectly?			X	

Impact Analysis

- a) *Does the project have the potential to substantially 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 the self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number, or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

Evaluation of the proposed project as provided in Section IV, BIOLOGICAL RESOURCES, has shown that the activities of the proposed project do not have the potential to degrade the quality of the environment and will not substantially reduce the habitat or cause wildlife populations to drop below self-sustaining levels. Mitigation measures for biological resources have been developed to reduce potential impacts on sensitive habitats and species to less than significant levels. Refer to Mitigation Measures BIO-1, BIO-2, BIO-3, BIO-4, BIO-5, and BIO-6 in Section IV, BIOLOGICAL RESOURCES.

Based on the discussion and findings in Section V. Cultural Resources, there is no evidence to support a finding that the project would have the potential to eliminate important examples of the major periods of California history or prehistory.

- b) *Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

In all instances where the project has the potential to contribute to cumulatively considerable impacts to the environment (including the resources listed above) mitigation measures have been imposed to reduce the potential effects to less than significant levels. As such, with incorporation of the mitigation measures described in this Initial Study, and compliance with local, State, and federal rules and regulations, the proposed project would not contribute to environmental effects that are individually limited, but cumulatively considerable, and impacts would be less than significant.

- c) *Does the project have potential environmental effects which may cause substantial adverse effects on human beings, either directly or indirectly?*

Based on the discussion and findings in all Sections above, there is no evidence to support a finding that the project would have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly.

Mitigation/Monitoring: With the mitigation measures being proposed, the impacts from the project would be less-than-significant. See the attached Mitigation Monitoring Program (MMP) for a complete listing of the proposed mitigation measures, timing/implementation of the measures, and enforcement/monitoring agent(s).

Mitigation Measures

Mitigation Measure BIO-1

The following measures shall be implemented to reduce or eliminate current and future Mine-associated impacts to Western pond turtles:

- a) Identification material for western pond turtles shall be permanently posted in prominent locations to make workers aware of the possible presence of the species on the site and what to do if they are encountered.
- b) If a western pond turtle is encountered during project activities, activities in the vicinity (within 25 feet) shall cease until the turtle moves out of the area on its own, or a good-faith effort is made by a qualified biologist to capture and relocate turtles to nearby suitable habitat.
- c) Any trapped, injured, or killed pond turtles shall be reported immediately to the California Department

of Fish and Wildlife via R1CEQARedding@wildlife.ca.gov.

- d) The operator shall install exclusion barriers (such as ERTEC Environmental Systems smooth Ridged Polymer Matrix fencing or similar product) along the roadway in the vicinity of ponds PO15, PO16, PO17, PO18, and PO19 to minimize the risk of western pond turtles entering the active mining site.
- e) Any future land modification or habitat disturbance proposed within or directly adjacent to PO15, PO16, PO17, PO18, or PO19 should occur outside of the known nesting and incubation season, between March and October.
- f) Any future land modification or habitat disturbance proposed within or directly adjacent to PO15, PO16, PO17, PO18, or PO19, surveys for western pond turtle shall be conducted by a qualified biologist. IF western pond turtles are observed, a good-faith effort shall be made by a qualified biologist to capture and relocate turtles to nearby suitable habitat.
- g) For any future land modification or habitat disturbance on the project site, erosion control materials used onsite shall be made of loose-weave mesh, such as jute, hemp, coconut (coir) fiber or other products without welded weaves. Synthetic materials such as plastic and nylon shall not be used.
- h) Escape ramps shall be installed on all reclamation ponds with a greater than 2:1 slope to allow wildlife to exit the steep walled ponds. The ramps will be mechanically cut into the banks of the ponds using heavy equipment. Dimensions of the ramps will be a minimum of 12 inches wide and will not exceed a 2:1 slope.

Mitigation Measure BIO-2

The following measures shall be implemented to reduce or eliminate current and future Mine-associated impacts to Pallid Bats, Townsend's Big-Eared Bats, and other bats:

- a) Conduct removal and disturbance of trees outside of the bat maternity season and bat hibernacula (September 1 to October 31).
- b) If removal or disturbance of trees will occur during the bat maternity season, when young are non-volant (March 1 - August 31), or during the bat hibernacula (November 1 - March 1), large trees (those greater than 6 inches in diameter) shall be thoroughly surveyed for cavities, crevices, and/or exfoliated bark that may have high potential to be used by bats within 14 days of tree removal or disturbance. The survey shall be conducted by a qualified biologist or arborist familiar with these features to determine if tree features and habitat elements are present. Trees with features potentially suitable for bat roosting should be clearly marked prior to removal and humane evictions must be conducted by or under the supervision of a biologist with specific experience conducting exclusions. Humane exclusions could consist of a two-day tree removal process whereby the non-habitat trees and brush are removed along with certain tree limbs on the first day and the remainder of the tree on the second day.

Mitigation Measure BIO-3

The following measures shall be implemented to avoid impacts to nesting migratory birds and/or raptors protected under federal Migratory Bird Treaty Act and California Fish and Game Code Section 3503 and Section 3503.5, including their nests and eggs:

- a) Vegetation removal and other ground-disturbance activities associated with construction shall occur between September 1 and January 31 when birds are not nesting; or

b) If vegetation removal or ground disturbance activities occur during the nesting season (February 1 through August 31), a pre-construction nesting survey shall be conducted by a qualified biologist within 14 days of vegetation removal or construction activities. If an active nest is located during the preconstruction surveys, a non-disturbance buffer shall be established around the nest by a qualified biologist in consultation with the Department of Fish and Wildlife (CDFW). No vegetation removal or construction activities shall occur within this non-disturbance buffer until the young have fledged, as determined through additional monitoring by the qualified biologist. The results of the pre-construction surveys shall be sent electronically to CDFW at R1CEQARedding@wildlife.ca.gov

Mitigation Measure BIO-4

The following measures shall be implemented to reduce or eliminate current and future Mine-associated impacts to aquatic resources:

- a) Impacts caused by the removal of ephemeral drainages, intermittent streams, perennial marshes, and seasonal wetlands shall be mitigated by reclamation of the site which would include the creation of approximately 4.45 acres of marshes, wetlands and riparian habitat in a strip surrounding the proposed pond.

INITIAL STUDY COMMENTS

AMND23-0003 & AMND23-0004 (Crystal Creek Aggregates)

GENERAL COMMENTS:

Special Studies: The following project-specific studies have been completed for the proposal and will be considered as part of the record of decision for the Mitigated Negative Declaration. These studies are available for review through the Shasta County Planning Division and online at [CEQA Documents and Notices \(non-EIR documents\) | Shasta County California](#) with the exception of the Cultural Resources Inventory Reports, which may be determined exempt from the Public Records act or other laws.

1. Mining and Reclamation Plan Amendment, prepared by The Land Designers and Diaz Associates, December 26, 2022.
2. Air Quality Technical Report, prepared by RCH Group, November 4, 2022.
3. Biological Resources Assessment, prepared by Gallaway Enterprises, October 2022, revised July 27, 2023, and Wetland Delineation, prepared by Gallaway Enterprises, September 2022.
4. Geotechnical Report, prepared by Bajada Geosciences, Inc., September 2, 2022.
5. Hydrology Study, prepared by Lawrence & Associates Engineers & Geologists, August 2022.
6. Cultural Resources Inventory Reports, prepared by Sean Michael Jensen, M.A., Genesis Society, November 1, 2006 and January 17, 2020.
7. Environmental Noise and Vibration Assessment, prepared by Bollard Acoustical Consultants, Inc., August 24, 2022.
8. Traffic Impact Analysis, prepared by GHD, December 7, 2022.

Agency Referrals: Prior to an environmental recommendation, referrals for this project were sent to agencies thought to have responsible agency or reviewing agency authority. The responses to those referrals (attached), where appropriate, have been incorporated into this document and will be considered as part of the record of decision for the Mitigated Negative Declaration. Copies of all referral comments may be reviewed through the Shasta County Planning Division. To date, referral comments have been received from the following State agencies or any other agencies which have identified CEQA concerns:

1. California Department of Fish and Wildlife
2. United States Bureau of Land Management

Findings

Based on a field review by the Planning Division and other agency staff, early consultation review comments from other agencies, information provided by the applicant, and existing information available to the Planning Division, the project, as revised and mitigated, is not anticipated to result in any significant environmental impacts.

Documentation and References

Refer to section I through section XX of this Initial Study.

MITIGATION MONITORING PROGRAM (MMP)
FOR AMND23-0003 & AMND23-0004-Crystal Creek Aggregates

Mitigation Measure/Condition	Timing/Implementation	Enforcement/Monitoring	Verification (Date & Initials)
Section IV. Biological Resources			
<i>Western Pond Turtle</i>			
BIO-1			
a) Identification material for western pond turtles shall be permanently posted in prominent locations to make workers aware of the possible presence of the species on the site and what to do if they are encountered.	Duration of Mining	Resource Management, Planning Division	
b) If a western pond turtle is encountered during project activities, activities in the vicinity (within 25 feet) shall cease until the turtle moves out of the area on its own, or a good-faith effort is made by a qualified biologist to capture and relocate turtles to nearby suitable habitat.	Duration of Mining	Planning Division	
c) Any trapped, injured, or killed pond turtles shall be reported immediately to the California Department of Fish and Wildlife via RICEQARedding@wildlife.ca.gov .	Duration of Mining	Planning Division / California Department of Fish and Wildlife	
d) The operator shall install exclusion barriers (such as ERTEC Environmental Systems smooth Ridged Polymer Matrix fencing or similar product) along the roadway in the vicinity	Duration of Mining	Planning Division	

Mitigation Measure/Condition	Timing/Implementation	Enforcement/Monitoring	Verification (Date & Initials)
<p>of ponds PO15, PO16, PO17, PO18, and PO19 to minimize the risk of western pond turtles entering the active mining site.</p> <p>e) Any future land modification or habitat disturbance proposed within or directly adjacent to PO15, PO16, PO17, PO18, or PO19 should occur outside of the known nesting and incubation season, between March and October.</p> <p>f) Any future land modification or habitat disturbance proposed within or directly adjacent to PO15, PO16, PO17, PO18, or PO19, surveys for western pond turtle shall be conducted by a qualified biologist. IF western pond turtles are observed, a good-faith effort shall be made by a qualified biologist to capture and relocate turtles to nearby suitable habitat.</p> <p>g) For any future land modification or habitat disturbance on the project site, erosion control materials used onsite shall be made of loose-weave mesh, such as jute, hemp, coconut (coir) fiber or other products without welded weaves. Synthetic materials such as plastic and nylon shall not be used.</p> <p>h) Escape ramps shall be installed on all reclamation ponds with a greater than 2:1 slope to allow wildlife to exit the steep walled ponds. The ramps will be mechanically cut into the banks of the ponds using heavy equipment. Dimensions of the ramps will be a minimum of 12 inches wide and will not exceed a 2:1 slope.</p>	<p>Duration of Mining</p> <p>Duration of Mining</p> <p>Duration of Mining</p> <p>Duration of Mining</p>	<p>Planning Division</p> <p>Planning Division / California Department of Fish and Wildlife</p> <p>Planning Division</p> <p>Planning Division</p>	

Mitigation Measure/Condition	Timing/Implementation	Enforcement/Monitoring	Verification (Date & Initials)
<p><i>Pallid Bats, Townsend's Big-Eared Bats, and other bats</i></p> <p>BIO-2</p> <p>a) Conduct removal and disturbance of trees outside of the bat maternity season and bat hibernacula (September 1 to October 31).</p> <p>b) If removal or disturbance of trees will occur during the bat maternity season, when young are non-volant (March 1 - August 31), or during the bat hibernacula (November 1 - March 1), large trees (those greater than 6 inches in diameter) shall be thoroughly surveyed for cavities, crevices, and/or exfoliated bark that may have high potential to be used by bats within 14 days of tree removal or disturbance. The survey shall be conducted by a qualified biologist or arborist familiar with these features to determine if tree features and habitat elements are present. Trees with features potentially suitable for bat roosting should be clearly marked prior to removal and humane evictions must be conducted by or under the supervision of a biologist with specific experience conducting exclusions. Humane exclusions could consist of a two-day tree removal process whereby the non-habitat trees and brush are removed along with certain tree limbs on the first day and the remainder of the tree on the second day.</p>	<p>Duration of Mining</p> <p>Duration of Mining</p> <p>Duration of Mining</p>	<p>Planning Division</p> <p>Planning Division/ California Department of Fish and Wildlife</p> <p>Planning Division</p>	

Mitigation Measure/Condition	Timing/Implementation	Enforcement/Monitoring	Verification (Date & Initials)
<p><i>Waters of the U.S and Waters of the State</i></p> <p>BIO-4</p> <p>a) Impacts caused by the removal of ephemeral drainages, intermittent streams, perennial marshes, and seasonal wetlands shall be mitigated by reclamation of the site which would include the creation of approximately 4.45 acres of marshes, wetlands and riparian habitat in a strip surrounding the proposed pond.</p>			

List of Attachments

Attachment A – Comprehensive Project Overview

Attachment B – 2008 Approved Conditions

Attachment C – Agency Responses to Referrals

Attachment A

Comprehensive Project Overview

CRYSTAL CREEK AGGREGATES PROJECT DESCRIPTION

USE PERMIT AMENDMENT 23-0003 RECLAMATION PLAN AMENDMENT 23-0004



CRYSTAL CREEK AGGREGATES

Tullis, Inc. DBA Crystal Creek Aggregates, Owner/Operator
10936 Iron Mountain Road
Redding, CA 96001
(530) 244-7263
info@tullisinc.com

Diaz Associates
Eihnard Diaz, Project Manager
4277 Pasatiempo Court
Redding, CA 96002
(530) 224-0811
(530) 949-9810 – Cell
ediaz@diazplanning.com

Duane K. Miller Engineering
Duane Miller, P.E. Civil Engineer
6172 Meister Way Unit 1
Anderson, CA 96007
(530) 365-5610 Ext. 101
(530) 604-5375 – Cell
duane@dkmengr.com

December 16, 2022

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PROJECT LOCATION AND SETTING

REGIONAL SETTING

The proposed project within which the existing Crystal Creek Aggregates (CCA) aggregate mining and processing operation are sited is located in a rural unincorporated area of Shasta County approximately two miles west of the City of Redding, located in central Shasta County in northern California, on the north end of the Central Valley. The project site is situated approximately 155 miles north of the City of Sacramento and approximately 215 miles northeast of the City of San Francisco (refer to **Figure 1, PROJECT LOCATION**). The project is located approximately one mile south of the unincorporated Community of Keswick, which was severely impacted by the Carr Fire, which started in July 2018 and destroyed 48 of the 50 residences in the town proper.¹

PROJECT LOCATION

The project area is located in the foothills transitioning between the northern Sacramento Valley and the Klamath Mountains. The project site at 10936 Iron Mountain Road (APNs 065-250-002, 065-250-024, 065-250-025, and 065-260-010) is located approximately one mile northwest of the Iron Mountain Road and State Route 299 W (SR-299). The Whiskeytown National Recreation Area is approximately three and three-quarters miles to the west via SR 299 and, as previously noted, is about two miles west of the City of Redding. The property is about 550 feet west of the intersection of Iron Mountain Road and Laurie Anne Lane. Rock Creek is approximately 3,250 feet to the north, and Middle Creek is approximately 3,700 feet south of the property (refer to **Figure 2, SITE VICINITY**).

EXISTING CONDITIONS

The proposed project encompasses approximately 179.97 acres, including the existing approved 110.69-acre use permit and reclamation plan areas and an additional 69.28 acre, including the existing approved 110.69-acre use permit and reclamation plan areas and an additional 69.28 acres, resulting in the proposed use permit amendment area.² The 110.69-acre area comprises the 57.31-acre area where currently approved aggregate mining activities take place and the existing 53.38-acre plant area where aggregate material processing occurs.³ The additional 69.28 acres are referenced as the remaining Mineral Resource Area (MR) (refer to **Figure 3, COMPREHENSIVE PROJECT PLAN OVERVIEW**, which identifies the existing reclamation plan boundary which includes the existing mining and plant areas; and, **Figure 4, USE PERMIT – EXISTING PLAN** that identifies existing site conditions). The following provides a discussion of the project site, including the 57.31-acre mining area, 53.38-acre plant area, and the proposed 69.28-acre MR area.

Incidental to the existing and historic mining operation on the project site was the construction of multiple excavated ponds and pits. Further, numerous drainages occur on the site, most of which are ephemeral drainages that form along the steep hillsides. A steep ridgeline exists along the western and northern boundary; as such, all but a few ephemeral drainages located in the southwestern corner of the site boundary flow to the east and into the controlled mining ponds. Soils within the site are rocky and sandy loams with a restrictive bedrock layer ranging from 0 to 54 inches deep.

¹ Arthur, Damon. August 6, 2018. Record Searchlight. Carr Fire 'obliterated' tiny community of Keswick. <https://www.redding.com/story/news/2018/08/06/carr-fire-obliterated-tiny-community-keswick/919230002/>

² Synonymous with the project area/site.

³ The use permit and reclamation plan areas are one and the same.

Elevations within the project site range from 1,210 feet in the northwesterly area to 715 feet at the stormwater sampling point below Pond #3 in the southeastern portion, an elevation change of 495 feet. The property is comprised of two distinct topographic areas, the relatively level aggregate processing plant and stockpile areas in the eastern portion and hilly to steep slopes in the northern, western, and southern areas of the project site within which the mining area is located that is surrounded by the MR area along all but the eastern side where the Plant area is located. The surrounding natural land is hilly to very steep mixed chaparral and montane hardwood-conifer habitat that is currently in a state of regeneration after the Carr Fire. (refer to **Figure 5, USGS TOPOGRAPHIC MAP**). The average annual precipitation is 60.8 inches, and the average annual temperature is 62.45° F (Western Regional Climate Center 2020).

The mining area of 57.31 acres is configured as a bowl surrounded by hills and ridges on its western, southern, and northern sides, which comprises the proposed MR area. The bowl has a number of hillocks and drainages traversing through it. The terrain ranges from moderate to steep slopes, with the lesser steep areas having slopes of eight percent, which then steepen to hillsides with slopes of up to 50 percent. Drainage flows from the hillsides to the lower central area of the mine site, which then conveys all runoff to Pond #4. The mid-and western portion of the mining area is mainly undeveloped except for the two existing quarry areas located in the mid-and northern portions of this area. There are also various natural surface roads that provide access throughout the overall project site.

The proposed MR area of 69.28 acres also has hillocks and drainages traversing through it; however, the terrain in the northern and western portions is steeper, with slopes of over 40 percent, whereas the southeast area has slopes of eight percent. Drainage flows from this area through the mine site conveying runoff to Pond #4.

The existing plant area of approximately 53.38 acres is a relatively level bench created by previous industrial uses and current CCA mining activities. Aggregate material processing and stockpiling occur in this area. This area generally slopes to the southeast, at about two percent, to where three settling ponds are located. These ponds capture and treat stormwater before flowing into an unnamed intermittent drainage which is tributary to Middle Creek, approximately 3,700 feet to the south.

A portion of the plant area drainage flows west to Ponds #4 and #5. Pond #5 does not have an above-ground discharge point. The distance between the ponds is approximately 110 feet. Subsurface water flows between the two ponds through cracked rock. Pond #4 discharges into a 36-inch culvert on the eastern side of the pond. Whereas Pond #5 is used to provide supplemental water to the aggregate processing plant, the pump and pipeline at this pond convey water to the aggregate processing plant's recycle ponds. Water from the recycle ponds is pumped back into the adjacent wash plant to clean the aggregate. The water then flows back to the recycle ponds, where the sediment settles, and the process is repeated. Pond #5 also provides makeup water for the water loss during the washing of material at the wash plant.

All structures, including the office, processing equipment, and petroleum storage facilities, are located in the northern half of the Plant area. The primary vehicular access road is located at the northeastern corner of the property. This road ranges in width between 22 and 44 feet which is paved with a lockable gate at the property line. A second access road also along the eastern property line is located about 1,400 feet south of the primary entrance. This road is also paved and has a lockable gate. Both roads connect to Iron Mountain Road, a County public road (refer to **Figure 4, USE PERMIT – EXISTING PLAN** for the location of the existing plant area components and **Figure 6, USE PERMIT DETAILS** providing additional details of the existing office and scale and the existing crushing, screening, and wash plant).

SURROUNDING LAND USES

Vacant U.S. Bureau of Land Management (BLM) lands are the predominant land use to the northwest and west of the project site comprising approximately 260 acres; however, an approximate 10-acre parcel owned by the Comingdeer Family Trust but not a part of the proposed project, directly abuts the northern boundary of the project site. Four vacant private parcels are to the northeast, where the two closest parcels (2.7 and 1.79 acres) are zoned Industrial and owned by the Comingdeer Family Trust, whereas the two parcels (1.95 and 1.48 acres) are north of the Comingdeer parcels and are also zoned Industrial even though they have been developed with single-family residences. The Carr Fire destroyed these residences that are in the process of being rebuilt. Approximately 110 acres of vacant land, also owned by the Comingdeer Trust, is located to the south. Single-family residential parcels varying in size from approximately 0.58 acres to 5.06 acres are located to the south, southeast, and east of the Weyerhaeuser Lumber facilities on about 15 acres adjacent to the eastern boundary of the project site. The Carr Fire destroyed most of the residences in the vicinity of the project site. Refer to **Table 1, EXISTING SURROUNDING LAND USES**, and **Figure 7, EXISTING GENERAL PLAN CLASSIFICATIONS & EXISTING ZONING DESIGNATIONS**.

**Table 1
EXISTING SURROUNDING LAND USES**

Direction from Proposed Project Site	Existing Land Uses	Existing General Plan Designation	Existing Zoning District
Northwest	Vacant Comingdeer Land, Vacant BLM	MR (Mineral Resource) PUB (Public Facilities)	MR (Mineral Resource) U (Unclassified)
Northeast	Rural Residential Single-Family	PUB (Public Facilities), I (Industrial)	U (Unclassified) M (General Industrial)
East	Weyerhaeuser Lumber, Rural Residential Single-Family	I (Industrial), RA (Rural Residential A)	M (General Industrial), R-R-T (Rural Residential)
South	Vacant Comingdeer Land, Vacant BLM, Rural Residential Single-Family	N-O (Natural Resource Protection – Open Space), RA (Rural Residential A)	U (Unclassified)
West	Vacant BLM	PUB (Public Facilities)	U (Unclassified)
Source: Shasta County. <i>Shasta County General Plan</i> as amended through September 2004; <i>Shasta County Zoning Code, Title 17</i> ; Google Earth 2020; and <i>ENPLAN Map Port</i> .			

North

Areas to the north of the project area consist of undeveloped BLM vacant land generally comprised of mixed chaparral and montane hardwood-conifer habitat that is currently in a state of regeneration after the Carr Fire on generally hilly to very steep topography. Elevations vary between 1,240 feet in the southern mid-portion of the area to 720 feet in the northeastern area. Western Area Power Administration (WAPA) electrical transmission line bisects the area in a generally east-west direction. In addition to various dirt roads and trails, the French Fry Trail, located along portions of Rock Creek, provides a loop connection from Iron Mountain Road near the community of Keswick to the French Fry Trailhead located adjacent to the Shasta County Old Shasta Transfer Station providing access to either SR 299 or the Middle Creek Trail along portions of Middle Creek that then intersects with Iron Mountain Road.

The BLM land is classified as “PUB” (Public Facilities), and the existing zoning district is “U” (Unclassified). However, there is an existing 10 acre parcel owned by the Comingdeer Trust that is classified in the General Plan as “MR” (Mineral Reserve) immediately north of the proposed MR reserve area with a BLM parcel immediately to the east. Further to the east along the northern boundary are the two parcels north of the plant area owned by the Comingdeer Family Trust classified as “I-IMR

(General Industrial – Interim Mineral Reserve) and zoned “M” (General Industrial). Three private parcels are north of the Comingdeer parcels, two of which are also classified “I-IMR (General Industrial – Interim Mineral Reserve) and zoned “M” (Industrial) even though they have been developed with single-family residences. The third parcel to the north of these two parcels is classified “I-IMR (General Industrial – Interim Mineral Reserve); however, it is zoned “R-R” (Rural Residential). An approximate 40.6-acre BLM parcel lies north of this parcel.

East

Similar to the areas north of the project site, the eastern area is comprised of mixed chaparral and montane hardwood-conifer habitat also currently in a state of regeneration after the Carr Fire, except that due to the residential development that has occurred in this area, non-native vegetation was introduced into the area. Topography ranges from relatively level areas along Iron Mountain Road to generally hilly within the developed areas to very steep topography on the BLM lands. Elevations within the middle area of the developed area range from approximately 800 to 720 feet along Iron Mountain Road to the west and to the east, where elevations on BLM properties increase to up to 720 feet and then decrease to 520 feet along the Sacramento River, which is approximately 1.1 miles east of the eastern project boundary.

BLM land within which the Southern Pacific Railroad right-of-way was located forms the eastern boundary of the project site. Immediately east are of the BLM land are the Weyerhaeuser Lumber facilities on approximately 15 acres which is bifurcated by Iron Mountain Road running in a north-south direction. In the northern portion of these eastern lands, parcels to the east of the Weyerhaeuser facilities and Iron Mountain Road consists of a 14-lot rural single-family residential subdivision with lot sizes ranging from 2.0 to 10.3 acres and undeveloped BLM lands further to the east. Nine of the 14 residences were destroyed by the Carr Fire.

In the southern portion of these eastern lands are approximately 22 parcels ranging in size from 0.57 acres to 4.62 acres. Of the 22 parcels, all but five were developed. Five of the parcels (including a portion of one parcel) are classified as “I” (Industrial); however, two of the five are zoned “M” (General Industrial), and the remaining three are zoned “R-R-T” (Rural Residential Mobile Home). The remaining 17 parcels (and a portion of the one parcel previously noted) are single-family residential parcels except for the Church of the First Born located on the 4.62-acre parcel. Of the 22 parcels, the Carr Fire appears to have destroyed 14 of the residences and the church. These parcels were created via parcel map lot splits commonly referenced as “four by lot splits.” The General Plan classification for 17 of the parcels is “RA” (Rural Residential A); however, the zoning district for 20 of the parcels is “R-R-T” (Rural Residential Mobile Home). All of the BLM lands are classified as “PUB” (Public Facilities) and zoned “U” (Unclassified).

South

There are approximately 100 acres of land owned by the Comingdeer Trust abutting the southern boundary of the project site that was not sold to Tullis. The area is primarily mixed chaparral with less area of montane hardwood-conifer habitat. As with other areas, the habitat is currently in a state of regeneration after the Carr Fire. As series of dirt roads and trails traverse the area primarily in an east-west direction. Topography ranges from generally hilly along Iron Mountain Road to very steep topography along the western boundary. Elevations range from approximately 740 feet along Iron Mountain Road to 1,180 feet in the northwest area. The *General Plan* classifies these lands as “N-O” (Natural Resource Protection – Open Space) and zoned “U” (Unclassified). To the south of this parcel

are additional BLM vacant land classified as “PUB” (Public Facilities) and zoned “U” (Unclassified). Within this BLM land is the Middle Creek Trail.

West

Land immediately west of the proposed project are vacant BLM lands. Similar to the other areas in the vicinity of the project site, the area is comprised of mixed chaparral and montane hardwood-conifer habitat, also currently in a state of regeneration after the Carr Fire. The French Fry Trail traverses this area. Topography ranges from generally hilly in the eastern portion of the area to very steep to the south. Elevations range from approximately 1,300 feet in the central portion of the area to 840 feet to the south and 900 to the northwest. The *General Plan* classifies properties west of the site as “PUB” (Public Facilities), and the existing zoning district is “U” (Unclassified). Located within this area is the French Fry Trail.

BACKGROUND AND HISTORY

CRYSTAL CREEK AGGREGATES

Background is provided discussing how Crystal Creek Aggregates evolved to acquire and develop the lands they currently own and operate for mining and aggregate material processing. Since the land acquisition for the plant and the mining areas differ significantly, the background for each area is provided separately and then how they eventually became one comprehensive operation.

Mining Area

“The primary historic theme for the project area is mining. In the earliest days of mining, placer gold was sought by individuals and small parties, and undoubtedly gold pans and sluices were utilized all along Rock Creek, Middle Creek, and the smaller unnamed streams and arroyos in the area into the 1850s. As the easily recovered placer deposits were depleted, however, the focus shifted to lode mining with its attendant mills and more sophisticated methods of ore processing and extraction.

Eventually, these more involved processes required larger associations of miners to undertake and fund more expensive operations and more expensive equipment. An underlying requirement for operational success was, of course, available water supply, and it is no accident, therefore that one of the first and most important of the early associations was that which led to the Shasta County Mining and Water Company (April 1853) and eventually to the construction of the Clear Creek Ditch. This important feature is not located within the project area but indicates the scale of operations during even the earliest days of gold mining. Generally, smaller operations were undertaken within the project area, although consolidation led in some cases to relatively larger operations in terms of the land area held. One of the largest of these was the Pocket Hill Mine.

Filed in 1948, the Pocket Hill claim on BLM lands changed hands several times. Don Orr had an estimated 22 claims and operations that were ongoing in the 1980s and 1990s. While actual processing of recovered ore was minimal to non-existent due to environmental prohibitions against the use of chemicals needed to recover ore from the low-grade deposits, Orr nevertheless utilized mechanized equipment during this period to clear vegetation, modify and expand access roads, create settling ponds, and generally re-contour lands within the claim boundary.”⁴ Orr eventually sold his claims to Ed Stevenson, who then sold the mining claims to Jerry Comingdeer.

In the early 1990s, Jerry Comingdeer recognized that the aggregate reserves remaining within the approximate 53 acre existing project area would be depleted by 2010. He began to evaluate the potential of acquiring adjacent lands owned by the U.S. Bureau of Land Management (BLM) due to the known geology of the area along with the proven quality of the aggregate material. CCA initiated an exchange for 225 acres owned by BLM adjacent to the CCA operation. BLM permitted CCA to use approximately 6.74 acres of their land as a barrow site for the CCA operation. The ENTITLEMENT HISTORY provides an overview of the applications and approvals CCA obtained beginning in 1990.

Upon acquisition of the BLM lands, Jerry Comingdeer proceeded to undertake additional projects within the boundaries of the old claims to attempt to halt erosion, remove earthen barriers which Orr had bulldozed to create ponds, remove a variety of trash and debris items that Orr had imported into the claim boundary, and generally undertake a “clean up” throughout portions of the 225 acres.

⁴ The majority of the discussion was derived from the November 1, 2006 *Archaeological Inventory Survey, Crystal Creek Aggregate Licensing and Reclamation Project* by Sean Michael Jensen, M.A.

In October 2021, Jerry Comingdeer sold CCA to Tullis, Inc. (Tullis), 189.02 acres (refer to **Figure 8, APNs 065-250-031 and 032**) who renamed the operation Crystal Creek Aggregates. Ten acres of APN 065-250-031's 172.02 acres are not included in the project area of 179.02 acres. Tullis is also locally owned founded by Lyle Tullis and has operated in Northern California for over 40 years. Tullis is a general engineering contractor specializing in grading and paving operations.

Tullis owns and operates Shasta Ranch Aggregates manufacturing and supplying aggregate materials at their quarry located at 4999 Balls Ferry Road in Anderson. Tullis also operates Lotona Aggregates, an aggregate mining operation off Latona Road near Eastside Road. In addition to the aggregate mining operations, they own and operate Northstate Asphalt located at 16939 Clear Creek Road in Redding.

Plant Area

In 1966-1967, JD Comingdeer owned and operated Crystal Creek Logging. In concert with other local individuals, including Don Blanchard and Arthur Coggins they consolidated a sawmill in French Gulch and a planing mill in Keswick and established a new mill on 9.87 acres on the east side of the Southern Pacific Railroad tracks that JD Comingdeer purchased. He also owned two other parcels of 29.19 and 17.10 acres on the west side of the railroad tracks, where the majority of the current plant area is located. In about 1967-1968, JD Comingdeer sold the 9.87 acres to L & B Lumber and Gregory Keller who purchased an additional 5.29 acres to expand the mill to 15.16 acres where the current Weyerhaeuser Lumber facilities are located.

JD and his son, Jerry Comingdeer evaluated the potential to develop an industrial park on the west side of the railroad tracks totaling 46.29 acres where the majority of the current plant area is located; however, fire flow requirements rendered the development unfeasible. JD Comingdeer then sold the parcels to Tom McDonald, who undertook mass grading of the parcel, but in 1989 JD Comingdeer purchased back the land. During this time period, JD Comingdeer was an excavation, road, and bridgebuilding contractor, and in about 1989, he purchased back the two parcels.

In 1990 JD Comingdeer sold the 46.29 acres to Jerry Comingdeer and jointly started Crystal Creek Aggregate, Inc. Jerry Comingdeer became the owner and operator of CCA. In 1990, a use permit was approved for permitting the excavation and processing of up to 500,000 cubic yards of aggregate over a 10 year time period. In 2000, the use permit time period was extended again by another 10 years.

As previously discussed, Jerry Comingdeer sold CCA to Tullis, who renamed the operation to Crystal Creek Aggregates.

ENTITLEMENT HISTORY

The following provides a history of the various entitlements, use permit and reclamation plan modifications and the property lot line adjustments associated with the CCA project.

Crystal Creek Aggregate, Inc. was originally permitted on February 22, 1990 by the Shasta County Planning Commission's approval of Use Permit UP-24-90 and Reclamation Plan 1-90. Permitted were: the extraction of 500,000 cubic yards of aggregate over ten years on approximately 29.19 acres; installation of a portable crushing, screening, and wash facility; construction of settling ponds and stockpile areas; and installation of truck scales on the adjacent 17.1 Acre parcel. A project area of about 46.29 acres.

August 22, 1991 – Use Permit 24-90 A – Planning Commission approval of an amendment to allow periodic blasting on approximately 29 acres.

August 11, 1994 – Use Permit 24-90 A – Planning Commission approval of an amendment regarding new blasting requirements and Reclamation Plan 1-90 – An amendment to the reclamation plan grading plan to either adhere to either Grading Plan “A” With Water Rights, or Grading Plan “B” Without Water Rights.

July 28, 1994 – Use Permit 24-90. Planning Commission approval of an amendment.

February 23, 1995 – Use Permit 24-90 – Planning Director approval of a minor modification to the blasting requirements.

December 26, 1996 – Use Permit 24-90 and Reclamation Plan 1-90 – Approval by the Director of Resource Management of a minor modification approving minor changes to the monitoring and grading plans.

January 3, 1997 – Use Permit 24-90 – Approval by the Director of Resource Management of a minor modification to allow the extension of operating hours so that emergency work could be performed on Iron Mountain Road at the Flat Creek Bridge.

September 3, 1998 – Property Line Adjustment (PLA) 98-036

July 8, 1999 – Use Permit 24-90 and Reclamation Plan 1-90 – Approval by the Planning Commission extending the use permit and reclamation plan for an additional 10 years to February 22, 2010.

May 11, 2004 – Acquisition of BLM lands. As previously noted, in the early 1990s, CCA recognized that the aggregate reserves remaining within their existing land ownership could potentially be depleted by 2010. CCA began to evaluate the potential of acquiring adjacent lands owned by the U.S. Bureau of Land Management (BLM) due to the area's known geology and the proven quality of the aggregate material. CCA initiated an exchange for 225.40 acres owned by BLM adjacent to the CCA operation. The exchange was possible since it conformed to the *Redding Resource Management Plan* (RMP) approved in July 1993. The decision to approve the land exchange was issued on May 11, 2004. An environmental assessment under the National Environmental Policy Act (NEPA) was prepared and a Finding of No Significant Impact (FONSI) decision was also made on May 11, 2004.

Property Line Adjustment (PLA) 05-033 was approved by the Planning Director in 2005. The PLA adjusted the 225.40-acre parcel acquired from BLM by reducing it to 218.66 acres. The 6.74-acre reduction increased the CCA mining and plant area from 46.26 to 53.03 acres.

Property Line Adjustment (PLA) 06-034 was approved by the Planning Director on May 17, 2006. The PLA was necessary to separate the use permit and reclamation plan areas from other properties owned by the Comingdeer Family that were not a part of the CCA mining and processing operations.

After CCA was able to obtain the 225 acres from BLM, an application was made in July 2007 for the following entitlements:

- Amend the *General Plan* land use designation of two parcels totaling approximately 115 acres from “N-O” (Natural Resource Protection – Open Space) to “MR” (Mineral Resource).

- Rezone the same 115 acres from “U” (Unclassified) to the “MR” (Mineral Resource) zone district.
- Amend the use permit for an existing quarry mining operation to extend the termination date of the operation from February 22, 2010, to December 31, 2072, and to expand the quarry area from 53.57 acres to 110.24 acres.
- Amend the reclamation plan to include the expansion of the quarry by 56.67 acres.

In 2008 the following entitlements were approved; General Plan Amendment 07-005, Zone Amendment 07-020, Use Permit Amendment, UP-07-020, and Reclamation Plan Amendment RP-07-022.⁵ A California Environmental Quality Act (CEQA) Mitigated Negative Declaration, with findings as specifically set forth in Planning Commission Resolution Nos. 2008-066 and 2008-067 were also adopted, approving the various entitlements.

The additional 56.67 acre area approved to be mined extended the life of the operation another 65 years beyond 2007 to December 31, 2072. Processing of up to 250,000 tons per year was approved to occur in six phases encompassing approximately ten years per phase, except for the last phase, which was for 15 years. Estimates for completion of each phase were calculated based on the volume which could be sold at maximum production during an average ten-year period. However, the actual completion of each phase was not time-dependent since the depletion of permitted reserves was based on market demand.

May 16, 2012 – Use Permit Minor Modification UP 07-020 M1 and Reclamation Plan Minor Modification RP 07-002 M1 – Approval by the Director of Resource Management permitting the importation of up to 50,000 cy of topsoil to be used solely for mine reclamation.

December 13, 2019 – PLA 19-0014 – Approval by the Director of Resource Management to separate 28.46 acres from APN 065-250-026 within which the mining area is located. The primary purpose of the PLA was to “straighten” the southern property line to follow the section line. Assessor's Parcel Number 065-250-031 was created by the PLA which is shown on **Figure 8, APNs 065-250-031 and 032.**

⁵ All the entitlements were approved by the Planning Commission on June 12, 2008 whereas, the General Plan and Zone amendments were also approved, as required by State law, by the Board of Supervisors on August 5, 2008.

GENERAL PLAN CLASSIFICATIONS, ZONING DESIGNATIONS & MINERAL LAND CLASSIFICATION

California Government Code §6586021 requires zoning to be consistent with the general plan. Consistency with the general plan is possible only if the local government, in this case, Shasta County, has officially adopted a general plan. The current Shasta County *General Plan* was adopted in September 2004. The land uses authorized in the Shasta County Zoning Plan must then be compatible with the objectives, policies, general land uses, and programs specified in the Shasta County Zoning Plan.

EXISTING GENERAL PLAN LAND USE CLASSIFICATIONS

The Shasta County *General Plan* planning area is divided into 10 Planning Areas. The proposed project is located within the South Central Region Planning Area. Chapter 3 of the Shasta County *General Plan* identifies three distinct types of communities: Urban Center, Town Center, and Rural Community Center. The proposed project site is not within any of these community types; however, it is located near the Rural Community Centers of Shasta/Keswick, with Shasta being approximately 2.5 miles to the south and west via Iron Mountain Road and SR-299 and Keswick located approximately 1.5 miles north via Iron Mountain Road.

The Shasta County *General Plan* designates the proposed project site as “M-IMR” (Manufacturing – Interim Mineral Resource overlay), “MR” (Mineral Resource), and “NO” (Natural Resource Protection – Open Space) (refer to **Figure 7, EXISTING GENERAL PLAN CLASSIFICATIONS & EXISTING ZONING DESIGNATIONS**).

The following provides a brief description of the site’s existing general plan land use designations:⁶

- “MR” (Mineral Resource). Mineral operations that are long-term (i.e., 30 years or more of expected operation) should be included in the Mineral Resource (MR) land use designation and in the “MR” (Mineral Resource) zone district. Included in this designation and zoning shall be areas used for extraction, processing, stockpiling, and shipping and adjacent undeveloped areas within the same ownership as the mining operation site. Development and uses within MR designations and zone districts shall be regulated, so that proposed future land uses will avoid or mitigate incompatibilities with mineral extraction operations.
- “I-IMR” (General Industrial – Interim Mineral Resource) is a combining land use designation whereby the “I” district is the principal district with which the “IMR” combines. The “I” land use designation provides for the intermixing of industrial uses with varying degrees of impacts, scales of operation, and service requirements (including rail access). Permits the inclusion of non-industrial uses providing materials and services primarily used by industrial uses. Other non-industrial uses may be permitted on an interim basis with conditions providing for reversion to industrial uses. This land use should be located along a freeway, highway or arterial and designated on the General Plan Land Use Map as “I” (General Industrial).

Mining operations, which are short-term (i.e., less than 30 years of expected operation) should be included in the “IMR” (Interim Mineral Resource) land use designation combined with the principal land use designation “I” district. The “IMR” combining zone district shall

⁶ Definitions derived from Shasta County *General Plan* as amended through September 2004.

be designed to allow for compatible land uses while protecting the potential for mineral resource development.

On-site processing, including crushing, washing, screening, sorting, and stockpiling, should be allowed as much as possible at all mineral resource sites, subject to consideration of potential conflicts with adjacent and nearby land uses and to mitigation of potential adverse environmental effects. However, concrete plants and asphalt plants should only be permitted in the “MR” (Mineral Resource) and (M) (General Industrial) zone districts, subject to approval of a use permit.

EXISTING ZONING DISTRICT DESIGNATIONS

The CCA Plant area, including the office, crushing, screening, and washing facilities are located in the “M-IMR” (General Industrial – Interim Mineral Resource) combining zone district as required by the Shasta County *Zoning Code*.⁷ The mining area and the existing topsoil stockpiles are located in areas classified and designated as “MR” (Mineral Resource) (refer to **Figure 7, EXISTING GENERAL PLAN CLASSIFICATIONS & EXISTING ZONING DESIGNATIONS**).

The following provides a brief description of the site’s existing zoning districts:⁸

- “MR” (Mineral Resource). The “MR” District purpose is to protect long-term mining operations (i.e., mines with thirty years or more of expected operation). This district is consistent with the mineral resource (MR) general plan designation. This district may also be applied to other areas where there are mineral deposits that can be mined commercially; provided, there are no conflicts with other general plan policies.
- “M-IMR” (General Industrial and Interim Mineral Resource) is a combining district whereby the “M” district is the principal district with which the “IMR” combines.⁹ The purpose of the general industrial (M) district is to provide areas for all types of industrial uses and uses that are accessory to industrial uses. The general industrial component of this district is consistent with the industrial (I) general plan land use designation. This district allows the exploration, extraction and processing of minerals, rock, sand, gravel, topsoil or steam for commercial purposes and accessory uses may be allowed; provided, a use permit is issued in each case except that asphalt plants and Portland cement concrete plants shall be located only in industrial (I) and mineral resource (MR) districts. The provisions of Chapter 18.04 of this code (Surface Mining and Reclamation Act) shall apply to all mineral extraction activities. Aggregate recycling facilities are also permitted with a use permit.

The “IMR” district is intended to be combined with any principal district to protect mining operations which are short-term (i.e., less than thirty years of expected operation), and to allow for compatible land uses while protecting the potential for mineral resource development. Uses permitted in the IMR district are all uses permitted in the principal “M”

⁷ Shasta County Zoning Code. Chapter 17.88, Article 1. Uses Permitted in All Districts. Section 17.88.020. Mining A. states “The exploration, extraction and processing of minerals, rock, sand, gravel, top-soil or steam for commercial purposes and accessory uses may be allowed; provided, a use permit is issued in each case except that asphalt plants and portland cement concrete plants shall be located only in industrial (I) and mineral resource (MR) districts.”

⁸ Definitions derived from Shasta County Zoning Code. Title 17 Chapters 17.12 (Mineral Resource District), 17.58 (General Industrial District), 17.64 (Unclassified District) and 17.72 (Interim Mineral Resource District).

⁹ A combining district is a designation applied to a property, or a portion of a property, indicating that special requirements apply in addition to the base zoning district requirements. If and when a combining district is applied to a property, it is shown on the zoning map with the combining district label attached to base zoning district label

district with which the IMR district is combined; provided, the use does not conflict with existing mineral resource development nor preclude future mineral resource development.

- “U” (Unclassified). The “U” zoning district is intended to be applied as a holding district until a precise zone district has been adopted for the property. All new uses in this district shall be consistent with all applicable policies of the general plan.

1997 MINERAL LAND CLASSIFICATION FOR SHASTA COUNTY

The existing *General Plan* Land Use Classification and Zoning District Designation of the project area is supported by the *1997 Mineral Land Classification for Shasta County* by the State of California Department of Conservation that classified the existing operation, and adjacent lands to the west and south as “MRZ-2” (*Mineral Resource Zone Category*) “wherein lands classified as MRZ-2 are areas that contain identified mineral resources.” This classification extends beyond the limits of the proposed reclamation plan and use permit amendment area to lands owned by Tullis. Of these Tullis owned lands, north of the mining area is a 10-acre portion of APN 065-250-031 classified and designated “MR” (Mineral Resource) that is not a part of the proposed project.

PROJECT CHARACTERISTICS

EXISTING ACTIVITIES AND OPERATIONS OVERVIEW

CCA sells about twenty aggregate products. These products include base rock, drain rock, decorative stone, riprap, structural backfill, sand, plaster sand, and specialty products. The stone products are desired due to their attractive surfaces, and the sand is requested for its appealing golden color. The specialty products are utilized by businesses/public agencies for projects such as golf courses, walking paths, and landscaping. A local company uses the sand as a component of a product used as substitute pavement for asphalt and concrete surfaced parking lots. The market area for CCA's products ranges from Portland, Oregon, to the San Francisco Bay Area.

CCA plant facilities include but are not limited to a rock crushing/screening plant, washing operation, mobile office trailer (14 feet by 70 feet), truck scales, diesel fuel storage tanks of 1,000 and 20,000 gallons, one waste oil tank of 350 gallons, two motor oil and one lubricating oil tanks (90 gallons each), and five settling¹⁰ and two recycle ponds. The submitted reclamation plan addresses the reclamation of the existing and proposed mining and processing areas.¹¹ Based on the *County Assessors Annual Production Report* submitted by CCA between the year 1990 and 2019, gravel sold ranged between a low of approximately 48,000 tons in 1990 and a high of approximately 265,900 tons in 2019. Of the total 265,900 tons processed in 2019, approximately 202,800 tons were fine sand, coarse sand, rock, and crushed rock (144,460 tons), 20,950 tons were decomposed granite, and 21,850 tons were filled dirt. In addition, approximately 20,300 tons were recycled aggregate from the approximate 55,000 tons of concrete rubble imported in 2018 and 2019 from Carr Fire concrete foundations, slab flooring, walkways, and driveways.

Existing operations produce finished aggregate involving several steps, which are constantly repeated as mining progresses. These steps are:

- Removal of woody vegetation.
- Salvage and storage of topsoil/overburden.
- Extraction of marketable material from the ground.
- Aggregate transport to the processing area.
- Mechanical processing of rock into a finished product and final sale.
- Reclamation of mined areas.

Hydrology & Water Quality

A key technical characteristic that applies to the existing and proposed project deals with hydrology and water quality specifically associated with the mining and plant areas. The following discussion is derived primarily from the August 2022 *Hydrologic Evaluation for Proposed Quarry Changes Crystal Creek Aggregates* prepared by Lawrence & Associates and is often verbatim.¹²

The project site is located within the northeasterly reaches of the 2,890 acre Middle Creek watershed, and to the north is the Rock Creek watershed. The mining and plant areas (both existing and proposed) is approximately 160 acres. The CCA drainage area represents approximately 5.5% of the Middle Creek

¹⁰ Referenced as Settling Ponds #1 through #5.

¹¹ The Land Designers. December 2020. *Mining and Reclamation Plan Amendment for Crystal Creek Aggregate, Inc.*

¹² The evaluation report is on file with the Shasta County Department of Resource Management Planning Division. Refer to the report for additional information.

drainage area. Drainage from the CCA site eventually enters Middle Creek, approximately 1.3 miles upstream of its confluence with the Sacramento River.

“Drainage and water is managed by a network of ponds, ditches, and piping. The facility's major source of process water is from upland runoff to Ponds #4 and #5. These two ponds are hydraulically connected in the subsurface through a layer of crushed rock approximately 10 feet thick. The two ponds receive runoff from the upland hills west of the Plant Area, from the Existing Quarry, and from the Plant Area (equipment storage, stockpile areas, concrete recycle area and topsoil stockpile area).” Refer to **Figure 4, USE PERMIT – EXISTING PLAN.**

“During regular operations, water is pumped from Pond #5 to Settling Pond #1 and Recycle Pond #2. During storm events, water can be released as needed from Pond #4 through a slide gate. Stormwater released from Pond #4 is routed through a 36-inch corrugated metal pipe (CMP) culvert to the drainage ditch immediate east of Settling Ponds #2 and #3; the valve at the point of discharge of the 36-inch CMP to the ditch is always closed, and only opened during large storm events. Just south of Settling Pond #3, the small drainage ditch connects with a larger drainage ditch, the larger ditch discharges to Middle Creek near where Iron Mountain Road crosses Middle Creek.

Water from Pond #4 is routed to Recycle Pond #2 from Settling Pond #1; Recycle Pond #2 also receives overflow from Recycle Pond #1. During operations, water for aggregate washing is pumped from Recycle Pond #2 by two centrifugal pumps (one 4-inch and one six-inch). As needed, water for the wash bars for dust control at the transfer points of dry aggregate is provided by Shasta Community Services District (SCSD; formerly, water was provided by Keswick CSD, which is now part of SCSD), as is the potable water for the Facility. Based on invoices from both Keswick CSD and SCSD for 2019 and 2020 (through October), the average amount of water purchased equates to between 0.25 and 0.27 gallons per minute (GPM). This amount is approximately one-quarter to one-half of what an average residence would use in a year.

The used wash water that has passed over the aggregate is returned to Recycle Pond #1 after the addition of flocculent to aid in settling the fine particulates. Approximately every three days, the fine material that is washed off the aggregate and into Recycle Pond #1 is cleaned out and moved to an overburden pile, to be used in site reclamation in the future. Washed aggregate is stored in various stockpile areas in the eastern part of the Site.

The two Recycle Ponds are connected by a 48-inch corrugated metal pipe (CMP). Recycle Pond #2 can overflow to a ditch which routes discharge to Settling Pond #1. Settling Ponds #1, #2, and #3 are connected in series, with Pond #3 the farthest downgradient. Settling Pond #3 discharge to the small ditch along the eastern side of the ponds, and thence to the larger ditch that is tributary to Middle Creek.”

“Based on the description of the rocks in the quarry area, it is likely that both the porosity and hydraulic conductivity of the quarry rocks are low. Groundwater seepage was observed in only two locations within the existing quarry area, along fault planes and near the weathered-fresh bedrock interface. CCA staff report that Ponds #4, #5, and Settling Pond #3 remain full year-round, without the addition of water. This suggests that, at least in part, groundwater seepage occurs year-round and helps maintain lake water levels, in that there is no surface-water runoff from the uplands in the summer.”

Well logs for water wells in the vicinity of the site, on file with the Department of Water Resources (DWR), show similar geologic materials as described in the Geotechnical Report. There were 28 wells of record in the DWR database. All of the wells of record are located to the north (within the Rock Creek

drainage) and to the south of the Site (mostly in the Salt Creek drainage). There appear to be only four wells of record within the Middle Creek drainage in the Site vicinity. These wells are all located close to Middle Creek, south to southwest of the Site and approximately one-half to one mile from the Site.

Based on the geologic mapping of the Site in the Geotechnical Report, it assumes that the predominant direction of groundwater movement is to the east, following the trend of the faults and lineations and the general feel of the topography towards the Sacramento River. Based on this, there are no groundwater wells downgradient of the Site. Potable water in the vicinity, and at the Site, is provided by the Shasta CSD (and previously, the Keswick CSD, which is now part of the Shasta CSD)."

Based on the hydrological evaluation, it can be concluded that the existing CCA operation does not affect existing groundwater resources.

"Water quality at the Facility (site) has been regulated by the Central Valley Regional Water Quality Control Board (CVRWQCB) through a series of permits over the years. Prior to 2015, the Facility was regulated under National Pollution Discharge Elimination System (NPDES) permits, which were renewed every five years. The last NPDES permit was rescinded in 2015, and the Facility is currently covered under the General Industrial Stormwater Permit (GISP). Monitoring of pond and runoff water quality was, and is, conducted under all of these permits.

Factors that can influence the water quality of stormwater runoff or stored water at the Facility include natural and man-made sources of particulates or chemicals. Natural sources of particulates are undeveloped or unpaved areas; currently, the main area of undeveloped runoff area is the upland watershed above the quarry area."

Stormwater runoff from the Facility (site) is routed through the various ponds, with all but a small portion eventually discharged from Settling Pond #3. Stormwater from Pond #4 can be routed around the Settling Ponds and discharged directly to the ditch that is tributary to Middle Creek, but this has seldom occurred (pers. comm., J. Comingdeer to B. Lampley, 2020).

An evaluation of the existing total suspended solids, pH, hardness, and metals results in a conclusion that "it does not appear that historic runoff from CCA has adversely affected surface-water quality in Middle Creek, and there is evidence of other influences that affect the creek's water quality."

EXISTING MINING AREA OPERATIONS

Before CCA mines a new location, the topsoil is removed and stored in the plant's stockpile area. Topsoil is stored separately from other materials with clear signage to prevent its loss or disturbance during storage. As mine excavation moves further away to the west and south of the Plant area, it is anticipated that the storing of topsoil and overburden will occur in the quarry area to reduce travel distance. Stockpiling of topsoil for future reclamation will normally not occur earlier than one year from the date that the area is mined (SMARA §3711 (a)).

The mined aggregate is more heavily weathered closer to the surface and becomes harder and denser with increased depth. A bulldozer with rippers breaks up the softer upper layers of the material. As mining progresses deeper and the rock becomes too hard for ripping, drilling and blasting practices are employed. This mining method involves drilling holes in a particular sequence and depth to access a predetermined volume of rock. The holes are then filled with explosives and stemmed (topped off) with crushed stone, which acts to direct the blast downward into the quarry wall. The use of stemming materials also prevents the blast from discharging into the air, thereby significantly reducing the amount

of noise and dust produced. After blasting, the freshly broken rock can be transported. This mining method results in the creation of numerous benches on the hillsides with a central depression on the quarry floor. The loosened material is then transported from the quarry to the plant area in haul trucks.

The key components of the existing use permit and reclamation plan, which includes the mining and plant areas, were as follows:

- The total use permit and reclamation plan area is 110.69 acres, of which the mining area is 57.31 acres, and the plant area is 53.38 acres.
- The total volume of aggregate that could be extracted is 7,960,000 cubic yards (15,920,000 tons).
- Approximately up to 125,000 cubic yards (250,000 tons) of aggregate per year could be processed over a 30 year period.
- Six mining phases were proposed over a 30 year period. Extraction for phase 1 was 1.29 million cubic yards, Phases 2 and 3 were 1.23 million cubic yards each, Phases 4, 5, and 6 were 1.32, 1.16, and 1.73 million cubic yards per phase, respectively.
- Pond #6 in the quarry would have a surface area of 23.49 acres.
- The depth of the mine would be a bottom elevation of 640 feet in Pond #6.
- Final quarry benches are to be 25 feet high and 25 feet wide.
- The quarry face between benches is to be 1-¼:1.
- Blasting is permitted 12 times per year.
- Tree and groundcover revegetation scheduled for the post-mining upland habitat area are:
 - Tree planting prescriptions, including ponderosa pine, coulter pine, Incense cedar, California black oak, interior live oak, and red bud.
 - Groundcover prescription includes common barley, annual rye grass, crimson clover, blue wild rye, and purple needle grass.
- The revegetation planting prescription for the riparian/grassland bench around the perimeter of Pond #6 are cattails, pacific rush, iris-leaved rush, willow, and cottonwood.
- Final reclamation is to be completed within three years after the 30 year mining period.

All mining operations are conducted in compliance with the standards of the Mining Safety and Health Act (MSHA) and the California Occupational Safety and Health Act (CAL-OSHA) division of mines. Use Permit 07-020 also imposed conditions of approval with respect to blasting and fire protection. Specifically, Conditions 31 through 33 address blasting operations, and Condition 54 identifies Shasta County Fire Department requirements.

EXISTING PLANT AREA OPERATIONS

Once the rock from the quarry is transported to the plant area, the material is deposited into a vibrating grizzly feeder and jaw crusher unit. Following primary crushing, the material is fed onto a three-deck dry screening unit, which sorts and distributes material via conveyor to either finish stockpiles or to a cone crusher for additional crushing and screening. Depending on the type and size of material being produced, the three screens allow for the production of different sizes of material. Water sprays control dust during the crushing operation.

Fifty percent of the material generated by the crushing and screening plant is transported by a loader to the screening and wash plant for further processing. Material is loaded into a hopper that feeds material onto a conveyor then onto a three-deck material screen unit with a water weir to clean the material. This screen unit contains spray bars and screens to separate fine and coarse material. The

materials are sorted into finished products ranging from sand to 3-inch washed aggregate. Process water is collected and channeled via an underground 18-inch corrugated metal pipe to settling ponds where heavy sediments and flocculent materials are discharged. The heavy sediments essentially fall to the bottom of the pond. The water is continuously recycled back into the system. Makeup water is added as needed to replace water, which remains in the final product, or is lost due to evaporation.

The production rates of both the crushing and screening operation and the wash plant could be up to 150 tons per hour. The wash ponds are periodically cleaned with sediment removed using an excavator. The sediment is placed in the topsoil stockpile area, where it can be used for final reclamation.

The crushing, screening, and washing processing operations run on shore power supplied by PG&E. A 20,000-gallon diesel tank is used to fuel CCA equipment and vehicles. Another 350-gallon tank is used to store waste oil. The waste oil is transported off-site by a hazardous waste company. All tanks have secondary containment. A Spill Prevention Control and Countermeasure Plan (SPCC) has been prepared in accordance with 49 CFR 112.

Figure 4, USE PERMIT EXISTING PLAN, identifies the location of the existing quarry areas, settling and recycling ponds, and the aggregate crushing, screening, and wash sites in addition to the various materials stockpiles. **Figure 6, USE PERMIT DETAILS**, provides an enlarged version of this particular operation.

Operating Schedule & Equipment

Currently, normal mining and processing activities occur up to six days per week, Monday through Saturday. Current hours of operation are from 6 a.m. to 5 p.m. during Pacific Standard Time. During Daylight Savings Time, hours are from 6 a.m. to 6 p.m., Monday through Friday, and 6 a.m. to 5 p.m. on Saturdays. Permitted hours for blasting are from 9:30 a.m. to 3:30 p.m., Monday through Friday. No change in these hours is proposed.

Existing Equipment List

Mobile Equipment:

- 3 Excavators
- 1 Motor Grader
- 1 Backhoe
- 2 Forklifts
- 2 Haul trucks
- 3 Water Trucks
- 1 Dozers
- 1 Skid Steer
- 4 Front End Loaders

Primary Crushing & Dry Screening Plant

- 1 Vibrating Grizzly Feeder
- 1 Jaw Crusher
- 1 Dozer Trap
- 1 Cone Crusher
- 3 Deck Dry Screening Unit
- Associated Conveyors
- Material Stockpiles

Wash Plant

- 1 Variable Speed Feeder
- 1 Wet Screening Unit with Three Screening Decks
- 1 Water Weir with 36" Twin Sand Screws
- 1 Ionic Flocculant Tank
- 1 Sand Pump & Hydrocyclone Separator
- 1 Catch Basin
- Associated Conveyors
- Material Stockpiles

A control room and a storage facility are also located immediately north of the primary crushing and dry screening plant and west of the wash plant. There is an approximately 30-foot high dual LED light standard between the desire trap and the 3-deck screening unit and an approximate 40-foot high photoelectric LED light standard, providing security lighting (refer to **Figure 6, USE PERMIT DETAILS**).

Office and Scale Facilities

Located in the northeast corner of the project area are the scale office and truck scales. The scales weigh both incoming and outgoing trucks. The office is a mobile office trailer 14 feet by 70 feet. The office trailer contains a restroom that is connected to an existing septic tank and leach field. Potable water is provided by the Shasta Community Services District. An existing fire hydrant is located approximately 20 feet northeast of the office trailer (refer to **FIGURE 6, USE PERMIT DETAILS**).

Topsoil and Overburden Storage

The existing topsoil/overburden storage area is approximately three acres in size. The topsoil storage area is a separate stockpile from the overburden storage at this location. Approximately 0.74 acres of land is set aside for the storage of topsoil and 2.16 acres is devoted to overburden storage. The difference in stockpile sizes is that the volume of overburden used to resoil the benches is much larger than the topsoil layer placed on them. There are 22 inches of overburden being applied instead of 2 inches of topsoil (refer to **Figure 4, USE PERMIT EXISTING PLAN**).

A five-foot-high topsoil stockpile on the 0.74 acres is large enough to store the 4,479 cubic yards of topsoil. The 2.16-acre overburden stockpile can store approximately 60,800 cubic yards of overburden at a height of 20 feet. Both stockpile areas have a maximum of 1.5:1 slope on their banks. Any excess overburden would be stored in the existing aggregate stockpile locations in the plant area.

Soil and overburden stockpile areas will be protected if there is the potential for erosion. If necessary, an erosion control barrier would be placed around the perimeter of the stockpiles. The erosion barrier can be straw bales, silt fences, fiber rolls, gravel berms, or other devices, as identified in CCA's Industrial Stormwater Pollution Prevention Plan (SWPPP)¹³. Stockpiles are considered to be eroding if they have erosion rills greater than six inches deep and exceed five feet in length. Topsoil stockpiles are segregated from overburden stockpiles. The Topsoil stockpile(s) will have a sign designating them as topsoil.

Potential erosion in other plant site areas is expected to be minimal due to the relatively flat gravel-surfaced areas. No other areas besides the stockpiles are expected to create potentially significant erosion impacts.

¹³ CCA is covered under the State of California General Industrial Storm Water Permit. Order Number 2014-0057-DWQ and not an individual NPDES permit.

Aggregate Stockpile Storage

There are approximately 9.61 acres of land, which vary in size devoted to the stockpiling of aggregates. The stockpiles are situated in the plant site area (refer to **Figure 4, USE PERMIT EXISTING PLAN**). The stockpiles consist of processed aggregates awaiting off-site transport. In addition, there is usually a stockpile of raw aggregate near the screening and washing plant for processing. The stored aggregates vary in size from sand to riprap boulders. The stockpiles are segregated into areas of the similar-sized product. The location and size of the stockpiles vary over the season based on market demand and the resultant type of product created. The largest of the stockpiles could encompass up to an acre of land and can be 30 to 40 feet in height. The 30-40 foot stockpile height is usually the exception since most stockpiles are 20-25 high which is the distance a loader can reach to dump their bucket load.

Potential erosion concerns for most stockpiles are minimal since the particle size of most of the product is large enough that it cannot be transported by wind or stormwater. The exception is sand stockpiles in which wind can move the particles. To counter wind erosion, water is applied to the stockpiles by either the use of a water truck or sprinklers along the top of the stockpiles. An existing additional measure to treat stormwater runoff at the plant site are the five settling ponds that receive runoff from the stockpile areas.

Potential Contaminants

Potential contaminants include diesel fuel tanks of 20,000 and 1,000 gallons, one 350 gallon waste oil tank, two motor oil tanks and one lubricating oil tank (90 gallons each) and 2,000 pounds of bagged flocculent (used in the recycle ponds), domestic garbage, and sewage should the septic system fail.

Storage, use, and dispensing of flammable/combustible liquids comply with the adopted edition of the California Fire Code. Plans were submitted to Cal FIRE and the Shasta County Fire Department for review and approval prior to construction, storage, or use. Storage and use of explosives are in accordance with California State Law and Article 77 of the current edition of the Uniform Fire Code. Since CCA contracts for the drilling and blasting services, no explosives are stored on-site.

PROPOSED ACTIVITIES AND OPERATIONS

The majority of the technical characteristics applicable to the existing project with respect to the mining and plant areas are applicable to the proposed project. These include but are not limited to the types of aggregate products sold, market area, and plant area facilities. However, proposed project modifications are proposed include, but are not limited to, the amount of aggregate to be processed, quarry design, and the number of yearly blasting days. More detailed information is provided in the Development Summary and the Mining Area and Plant Area discussions.

Proposed operations are similar to existing operations that produce finished aggregate. The operations involve several steps, constantly repeated as mining progresses. These steps are:

- Removal of woody vegetation.
- Salvage and storage of topsoil/overburden.
- Extraction of marketable material from the ground.
- Aggregate transport to the processing area.
- Mechanical processing of rock into a finished product and final sale.
- Reclamation of mined areas.

Hydrology & Water Quality

“Drainage features in the plant area will remain the same as the existing project, with the Recycle Ponds, Settling Ponds #1, #2, and #3, and Ponds #4 and #5 unchanged. Drainage in the mining area (will be modified because of the expansion of the quarry footprint. Overall, drainage areas will remain the same, but the distribution of the drainage areas will change. For the project site as a whole, the existing and future total drainage areas are the same.”

“The major changes to the water budget¹⁴ are as follows:

- Increase in water stored in Site water bodies. The increase would range from approximately 500 to 3,100 acre-feet more than currently held.
- Higher total inflow to the system because of the increase in the relative area of open water to that of the upland watershed. Conceptually, each acre of open water and the upland surface will receive the same precipitation. Still, there is less resulting available water (runoff) from the upland watershed because of evapotranspiration (ET) and infiltration (modeling herein assumes a 50% loss of total precipitation to ET and infiltration). The open-water surface of the new lake does not experience these effects (the lake will experience evaporation). The increase could be approximately 40 acre-feet per year.
- Because there is less total “undeveloped” watershed, the amount of upland runoff into the system will be between approximately 75 and 100 acre-feet per year less.
- Leakage to groundwater will be higher in the future because of the greater area of the new lake relative to the existing ponds. The total leakage, however, will remain an insignificant percentage of the total water budget.
- More evaporation because of the greater surface area of the new lake. The increase could be approximately 65 to 130 acre-feet per year.
- Less offsite runoff (denoted as “overflow”) in both drought average periods. The decrease could average approximately 75 acre-feet/year.

The decrease in offsite runoff during droughts represents approximately 25% less runoff to the tributary to Middle Creek. This would represent a net 1.4% reduction in flow to Middle Creek below CCA (25% less offsite discharge over 5.5% of the total Middle Creek drainage area). The reduction in offsite discharge would occur only during the wet season.

Changes in inflow from groundwater are assumed to be minimal. Because of the nature of the geologic materials (relatively impermeable hard rock with few open fractures), it is unlikely that the new lake would act as a groundwater sink. The expanded excavation may intercept some groundwater seepage zones, but the probability that more seepage zones than are currently observed will be encountered at depth is unlikely in that fractures generally become less prevalent with depth and the existing seepage zones are associated with the contact between the weathered overburden and more competent bedrock.

¹⁴ “A water budget takes into account the storage and movement of water between the four physical systems of the hydrologic cycle, the atmospheric system, the land surface system, the river and stream system, and the groundwater system. A water budget is a foundational tool used to compile water inflows (supplies) and outflows (demands). It is an accounting of the total groundwater and surface water entering and leaving a basin or user-defined area. The difference between inflows and outflows is a change in the amount of water stored.” Source: California Department of Water Resources Sustainable Groundwater Management Program. December 2016. *Best Management Practices for the Sustainable Management of Groundwater Water Budget BMP*. Website: https://groundwaterexchange.org/wp-content/uploads/2020/08/BMP-4-Water-Budget_ay_19.pdf. Website accessed November 29, 2020.

Water management and stormwater-runoff control in the future will be done similarly to the current operations. During mining in each phase, runoff from the disturbed areas will be routed to temporary detention basins within the phase footprint, as has been done historically and currently.

Groundwater inflow into each phase also will be routed to the temporary detention basins, as currently done. Once excavation in a phase proceeds such that deeper basins are developed, groundwater seepage into the basin will be pumped out for discharge to either temporary basins or existing ponds. Groundwater production from mined areas is not expected to be greater than current seepage rates because as the quarry is deepened, the potential for groundwater occurrence decreases.

Overall, there will be less offsite discharge once the new lake is developed than currently occurs.

There is no evidence that historic runoff from CCA has adversely affected surface-water quality in Middle Creek, and there is evidence of other influences that affect the creek's water quality. Therefore, it is unlikely that future operations will adversely affect water quality in Middle Creek."¹⁵

Traffic & Circulation

The July 7, 2022 *Crystal Creek Aggregates Expansion Final Traffic Impact Analysis Report* (TIAR) prepared by GHD evaluated safety and Vehicle Miles Traveled (VMT) impacts of the proposed project.¹⁶ Per CEQA requirements, the TIAR determined that there "are no foreseeable safety impacts from the project. The project is screened out of VMT analysis due to low number of net light duty vehicle project trips."

The existing project did not propose or require improvements to Iron Mountain Road. However, an agreement with the Department of Public Works was executed, which has been in effect since initial project approval, for the payment of a tonnage fee for extraordinary maintenance of Iron Mountain Road. The proposed continued agreement is a component of the proposed project.

Per the TIAR, "The intersection of Iron Mountain Road/SR 299 is currently a Two-Way Stop-Controlled (TWSC) intersection with SR 299 uncontrolled. Per the Shasta County General Plan, SR 299 is a bicycle planning corridor. In the vicinity of Iron Mountain Road, SR 299 has varying shoulder widths and no bike lanes. Currently, there is an eastbound left turn and a westbound right turn lane at the intersection. The westbound right turn pocket is 165 feet with a 300 foot taper length. The SR 299 approaches to the intersection are also in a crest vertical curve, vehicles will experience a slight uphill grade as they approach the intersection.

The proposed project will add 4 vehicles in the AM peak hour and 2 vehicles in the PM peak hour to westbound right turn movement at this intersection. The project will add 1 vehicle trip in the AM and PM peak hours to the eastbound left turn movement. Most of the trips generated by the project are heavy vehicle trips. "

¹⁵ Over the years there have been numerous complaints filed particularly from one nearby neighbor; however, CCA has never been cited. As recent as March 2021 the Central Valley Regional Water Quality Board staff received a complaint regarding turbid water being discharged from CCA at the northern drainage. Staff inspected the facility the same day the complaint was received. Discharge was observed and was moderately turbid appearing to be adversely impacting the receiving water. Stormwater drainage from the road and associated erosion flows into the on-site settling basins. The basins prevent the discharge of sediment to the receiving water thereby implementing Best Management Practices. Staff concluded that "the facility appeared to be in compliance with the Industrial General Permit during time of inspection." The Central Valley Regional Water Quality Board March 18, 2021 *Inspection Report* is on file with the Shasta County Planning Division.

¹⁶ The GHD, July 7, 2022, *Crystal Creek Aggregates Expansion Final Traffic Impact Analysis Report* is on file with the Shasta county Department of Resource Management, Planning Division.

Whereas the proposed project will add to the cumulative impact at the intersection, the project is only required to pay or provide its fair share of the cost of improvements. The determination of “fair share” is based on “the method for calculating equitable mitigation measures outlined in the Caltrans Guide for the Preparation of Traffic Impact Studies (State of California, DOT, June 2001).

Based on project trips through the intersections, the fair share contribution of the project to this intersection improvement is 8% in Cumulative Year 2042 Plus Project Scenario.”¹⁷

Separate from the intersection potential cumulative impacts, Caltrans, in their review of the Draft TIAR, noted that the TIAR “does include bikeway improvement per our recommendation, but fair share is 8%. So, actual construction by the project may not happen.”¹⁸ In response to this e-mail, Ms. Tamy Quigley , Caltrans Lead the Office of Complete Streets & Livable Communities D2, Complete Streets Program Advisor, commented that:

“I understand that this project being scaled back may result in removing the once purposed bike lane, which is frustrating given the shoulders on Iron Mountain Road are narrow and this project will increase truck trips. Thankfully SR 299 has wide paved shoulders and I don’t think we can suggest improvements to Iron Mountain. A Share the Road campaign should be suggested for the drivers. This is a high volume bike area, both Iron Mountain and SR 299 can we make sure they know this so if any sections of SR 299 are closed or detoured enough advance notice is made for safe accommodations. Also, there are several trail connections along this corridor that connect to SR 299, this may be worth mentioning so accommodations can be made if impacted.”¹⁹

After consultation with the County, CCA incorporated the requested Caltrans improvements into the project to accommodate the added trucks through the intersection and provide the appropriate deceleration length by increasing the westbound right turn pocket length to 315 feet with a 120 feet taper. Additionally, with this right-turn lane modification, a five-foot bike lane adjacent to the outside westbound through lane will be provided to accommodate bike traffic through the intersection. CCA proposes to make the improvements one year after the use permit amendment approval.

The GHD TIAR determined that “the historical crash data as well as observed conditions indicates that commercial vehicles are successfully using Iron Mountain Road.” No safety improvements are currently recommended based on crash rates.

DEVELOPMENT SUMMARY

Crystal Creek Aggregates (CCA) proposes to expand the existing aggregate mining operation established in 1990 at the current location in Shasta County at 10936 Iron Mountain Road, approximately one mile northeast of State Route 299 W (refer to **Figure 1, PROJECT LOCATION**). CCA proposes to maintain the existing approved use permit and reclamation plan area of 110.69 acres; however, they are applying to modify the design of the existing mining area or quarry of approximately 57.31 acres and the plant area of approximately 53.38 acres. The use permit area is proposed to be expanded by an additional approximate 69.28 acres referenced as the remaining mineral resource Area (MR), resulting in an overall project area of 179.97 acres within which use permit and reclamation plan amendment approvals are

¹⁷ Ibid. Pages 39 and 40.

¹⁸ Marcelino Gonzalez, Caltrans Local Development Review Coordinator, May 16, 2022 E-mail to various Caltrans personnel. On June 28, 2022 the e-mail was provided to Tara Petti, Associate Planner, Shasta County Department of Resource Management, Planning Division, as a response to Caltrans’s review of the Draft TIAR.

¹⁹ Ms. Tamy , Caltrans Lead the Office of Complete Streets & Livable Communities D2, Complete Streets Program Advisor. May 16, 2022 e-mail to Marcelino Gonzalez.

requested (refer to **Figure 3, COMPREHENSIVE PROJECT PLAN OVERVIEW**; **Figure 9, USE PERMIT – PROPOSED PLAN**; and **Figure 10, PROPOSED MINING PLAN**).

The major project elements proposed are an increase in the total amount of aggregate to be processed yearly from 250,000 to 500,000 tons and the removal of a concrete recycle area, which was a temporary use. The concrete recycle area is proposed for the stockpiling of aggregate material.

The additional use permit amendment area of 69.28 acres identified as the MR area also has hillocks and drainages traversing through it; however, the terrain in the northern and western portions is steeper, about 40 percent, whereas the southeast area has slopes in the range of 10 percent. Drainage flows from this area through the mine site conveying runoff to Pond #4.

Table 2, USE PERMIT & RECLAMATION PLAN AMENDMENTS – CURRENT & PROPOSED USES & OPERATIONAL CHANGES, provides an overview and comparison of the current project-related areas, uses, and operations and those proposed by the use permit and reclamation plan amendments. Following the table, the narrative describes the proposed mining and plant area operations and the reclamation plan. Finally, a detailed discussion of the proposed permanent concrete recycle area is provided as topics discussed under PROPOSED PLANT AREA OPERATIONS.

**TABLE 2
USE PERMIT & RECLAMATION PLAN AMENDMENTS
CURRENT & PROPOSED USES & OPERATIONAL CHANGES**

Current	Proposed
Use Permit Area – 110.69 acres ²⁰ Reclamation Plan Area – 110.69 acres ²¹ Plant Area – 53.38 acres Mining Area (MA) – 57.31 acres	Use Permit Area – 179.97 acres Reclamation Plan area – 110.69 acres Plant Area – 53.38 acres Mining Area (MA) – 57.31 acres Remaining Mineral Resource Area (MR) – 69.28 acres
Plant Area Uses Settling Ponds – 6.04 acres Recycle Ponds – 0.48 acres Stockpile Areas (Vary in Size) – 9.61 acres Topsoil Stockpile Area – 0.74 acres Overburden Stockpile Area – 2.16 acres Concrete Recycle Area – 2.80 acres Crushing & Screening Plant, Office, Roads, Parking, Scales, Water Tank, Equipment Storage, Landscaping – 32.38 acres	Plant Area Uses Settling Ponds – 6.04 acres Recycle Ponds – 0.48 acres Stockpile Areas (Vary in Size) – 13.04 acres Topsoil Stockpile Area – 0.74 acres Overburden Stockpile Area – To be removed Concrete Recycle Area – 2.80 acres Crushing & Screening Plant, Office, Roads, Parking, Scales, Water Tank, Equipment Storage, Landscaping – 24.38 acres
Uses: 1. Aggregate mining 2. Aggregate crushing, screening, and washing ²² 3. Loading & off-site sale of sand, gravel & rock 4. Material stockpiling 5. Importation of topsoil to the Project site 6. Blasting	Uses: 1. Aggregate mining 2. Aggregate crushing, screening, and washing 3. Loading & off-site sale of sand, gravel & rock 4. Material stockpiling 5. Importation of topsoil to the Project site 6. Blasting
Volume of aggregate to be mined – 7.96 MCYs or 15.92 MTs	Volume of aggregate to be mined –12.7 million cubic yards (MCYs) or 25.4 million tons (MTs) ²³

²⁰ The June 12, 2008 Staff Report for UP 07-020 to the Planning Commission identified a Use Permit Area of 110.24-acres, whereas the Reclamation Plan Maps identify a 108.87-acre area. Based on surveys undertaken for the Property Line Adjustment approved on December 13, 2019, the areas were revised to reflect new survey data. The difference is insignificant.

²¹ Ibid.

²² Use Permit Minor Modification UP 07-020 M1 and Reclamation Plan Minor Modification RP 07-002 M1, dated May 16, 2012

²³ The 12.7 MCYs is rounded up from 12.68 MCYs and 25.36 MTs calculated by Duane K. Miller Civil Engineer, Inc.

Current	Proposed
The maximum permitted annual tonnage of processed aggregate is limited to 250,000 tons (125,000 CYs)	Maximum annual tonnage of processed aggregate to be limited to 500,000 tons (250,000 CYs)
Importation of material restriction 50,000 CYs (100,000 tons) of topsoil/year	Importation of material from backhaul 50,000 CYs (100,000 tons) of topsoil/year
Mining termination date – December 31, 2072	Mining termination date – December 31, 2102
Final reclaimed cut slopes in excess of 2:1 – 25 ft. high and final quarry bench size –25 ft. wide. No limitations on height or width during mine operation	Maximum quarry bench size – 44 ft. high and 60 ft. wide around Pond #6 perimeter. Average size is 40 ft. high x 40 ft. wide. No limitations on height or width during mine operation
Employees – 8 full-time & 1 part-time	Employees – 9 full-time & 1 part-time
Mining hours of operation: <ul style="list-style-type: none"> • 6 a.m. to 5 p.m. Monday – Saturday PST • 6 a.m. to 6 p.m. Monday – Friday PDT • 6 a.m. to 5 p.m. – Saturday PDT 	Mining hours of operation: <ul style="list-style-type: none"> • 6 a.m. to 5 p.m. Monday – Saturday PST • 6 a.m. to 6 p.m. Monday – Friday PDT • 6 a.m. to 5 p.m. – Saturday PDT
Blasting per year – 12 times only between 9:30 a.m. to 3:30 p.m., Monday – Friday	Blasting per year – 24 times only between 9:30 a.m. & 3:30 p.m., Monday – Friday, with a minimum two-week notice to the Planning Division
Daily Average Truck Trips <ul style="list-style-type: none"> • Daily – 92 (46 going in and out of the site) Traffic analysis used 110 • AM Peak – 20 & PM Peak – 24 	Daily Average Truck Trips <ul style="list-style-type: none"> • Daily –184 (92 going in and out of the site) Traffic analysis used 220 • AM Peak – 33 & PM Peak – 33
Wastewater disposal – septic tank and leach field	Wastewater disposal – septic tank and leach field
Water for operations, including water tank and tender – Two recycling and five settling ponds – no wells	Water for operations, including water tank and tender – Two recycling and five settling ponds – no wells
Potable water – Shasta Community Services District	Potable water – Shasta Community Services District
Power – originally propane & diesel – converted to PG&E power in 2011	Power –PG&E & propane.
Solid Waste – Waste Management	Solid Waste – Waste Management
Agreement with the Department of Public Works for extraordinary maintenance of Iron Mountain Road	Agreement with the Department of Public Works for extraordinary maintenance of Iron Mountain Road
Iron Mountain Road improvements – None proposed or required	Iron Mountain Road – Increasing the westbound right turn pocket length to 315 feet with a 120-foot taper at the SR 299 intersection. At the right-turn lane, modification for a 5-foot bike lane adjacent to the outside westbound through lane will be constructed to accommodate bike traffic through the intersection.

PROPOSED MINING AREA OPERATIONS

As discussed under EXISTING MINING AREA OPERATIONS, the preparation of the new areas to be mined will be the same as what is proposed. The discussion of the mining operations, including ripping, drilling, and blasting practices, will be similar as is the transport of the rock for processing.

The key components of the proposed use permit and reclamation plan for the mining area are as follows:

- The Reclamation Plan area will remain at 110.69 acres, of which the mining area is 57.31 acres, and the plant area is 53.38 acres.
- The volume of aggregate to be extracted is increasing from 7,960,000 cubic yards to 12,680,000 cubic yards, an increase of 4,720,000 cubic yards.
- Approximately up to 250,000 cubic yards (500,000 tons) of aggregate per year could be processed over an 81-year period.

- Three mining phases are proposed over an 81-year period. Extraction for Phases 1, 2, and 3 is to be 4.84, 5.42, and 2.15 million cubic yards per phase, respectively.
- Pond #6 in the quarry is increasing in surface area from 23.49 surface acres to 32.67 surface acres, an increase of 9.18 acres.
- The depth of the mine is increased by 60 feet from a bottom elevation of 700 feet to 640 feet in Pond #6.
- The final quarry benches are increasing from 25 feet high and 25 feet wide to 40 feet high and 40 feet wide. However, around the pond perimeter, the maximum quarry bench size will be 44 feet high and 60 feet wide.
- The quarry face between benches changes from 1-¼:1 to 1:1.
- Blasting days are to be increased from 12 to 24 per year.
- The Revegetation Plan was revised to make the mine more resistant to wildland fires.
- Tree and groundcover revegetation scheduled for the post-mining upland habitat are:
 - Tree planting prescription of ponderosa pine.
 - Groundcover prescription includes meadow barley, slender wheatgrass, blue wild rye and tomcat clover.
- The revegetation planting prescription for the riparian/grassland bench around the perimeter of Pond #6 is native willow, Fremont’s cottonwood, native cattails, native rushes, and tomcat clover.
- Reclamation shall occur concurrently with mining activity to the maximum extent feasible. Overburden and topsoil will be placed on each finished bench, and vegetation will be planted within two years after reaching the final grade, except for those portions which serve as haul routes or other functions necessary for mining the quarry’s future phases.

To review illustrative information regarding the above, refer to **Figure 10, PROPOSED MINING PLAN; Figure 11, PROPOSED QUARRY CROSS-SECTIONS; Figure 12, PROPOSED PHASING PLAN OVERVIEW; Figure 13, PROPOSED PHASING CROSS-SECTIONS; Figure 14, PROPOSED RECLAMATION PLAN; and Figure 15, PROPOSED RECLAMATION PLAN DETAILS.**

As noted for existing mining operations, all operations shall comply with the Mining Safety and Health Act (MSHA) standards and the California Occupational Safety and Health Act (CAL-OSHA) division of mines. Use Permit 07-020 also imposes blasting and fire protection conditions that will also apply to the proposed mining operations. Specifically, Conditions 31 through 33 address blasting operations, and Condition 54 identifies Shasta County Fire Department requirements. However, it is recognized that the County may impose additional requirements.

PROPOSED PLANT AREA OPERATIONS

The proposed plant area operations will be similar to the existing operations except for the amount rock to be processed. Other proposed changes include additional office parking to accommodate additional employees and a hazardous material storage shed. The increased amount of aggregate to be processed would create additional truck traffic with resultant potential air quality and noise impacts.

Figure 9, USE PERMIT PROPOSED PLAN, and Figure 6, USE PERMIT DETAILS, identify the locations of the existing aggregate crushing, screening, and wash site; and the additional office parking area and proposed hazardous materials storage.

Operating Schedule & Equipment

Currently, normal mining and processing activities occur up to 6 days per week, Monday through Saturday. Current hours of operation are from 6 a.m. to 5 p.m. during pacific standard time. During daylight savings time, hours are from 6 a.m. to 6 p.m., Monday through Friday and 6 a.m. to 5 p.m. on Saturdays. The proposed days and hours of operation will not change.

Permitted hours for blasting are from 9:30 a.m. to 3:30 p.m., Monday through Friday. No change to these hours is proposed. Blasting is proposed to increase from 12 to 24 times per year.

At this stage, there does not appear to be a need to increase the equipment currently used for the CCA operation.

Office and Scale Facilities

No changes are proposed for the office and scale facilities; however, additional parking will be provided across from the office to the east of the driveway to accommodate additional employees. There will be 10 spaces proposed, increasing the total number of parking spaces to 18. Also proposed immediately north of the new parking area is an approximate 10 ft. by 16 ft. hazardous materials metal storage shed (refer to **FIGURE 6, USE PERMIT DETAILS**).

Topsoil and Overburden Storage

The existing topsoil/overburden storage area of approximately three acres in size will remain in the same location. The topsoil storage area is a separate stockpile from the overburden storage at this location. Approximately 0.74 acres of land is set aside for the storage of topsoil and 2.16 acres is devoted to overburden storage (refer to **Figure 4, USE PERMIT EXISTING PLAN**).

Aggregate Stockpile Storage

There are currently 9.61 acres of land, which will vary in size devoted to the stockpiling of aggregates in the plant site area. It is envisioned that there will be a need for an additional 3.43 acres for stockpiling; however, there is a sufficient amount of area within the plant to accommodate additional stockpiles. Normally, suppose there is a projected market demand and/or project for a particular type(s) of aggregate. In that case, CCA could process the aggregate ahead of when it needs to be delivered to a project site so that a backlog for aggregate material does not occur.

Erosion protection measures currently used will also be applicable to any additional stockpiles that may be created due to the type of product produced. Water will be applied to the stockpiles by either a water truck or sprinklers along the top of the stockpile(s). The existing additional measure to treat stormwater runoff at the plant site are the five settling ponds that receive runoff from the stockpile areas.

Potential Contaminants

Potential contaminants include 20,000 and 1,000-gallon diesel tanks, two motor oil tanks and one lubricating oil tank (90 gallons each), a 350-gallon waste oil tank, 2,000 pounds of bagged flocculent used in the recycle ponds, domestic garbage, and sewage if the septic system fails

Storage, use, and dispensing of flammable/combustible liquids shall be in accordance with the adopted edition of the California Fire Code. Plans shall be submitted to Cal FIRE and the Shasta County Fire Department for review and approval before construction, storage, or use. Storage and use of explosives are in accordance with California State Law and Article 77 of the current edition of the Uniform Fire Code. Since CCA contracts for the drilling and blasting services, no explosives are proposed to be stored on-site.

CONCRETE RECYCLE AREA

Also located within the plant area, the CCA Project has an approximate 2.80-acre area designated as the concrete recycle area, previously used for storing rubble and concrete byproducts from the Carr Fire. The recycling activity will cease, and the area will be used for additional aggregate stockpiles. It is estimated that this area could provide for the storage of 50,000 CYs of aggregate material.

RECLAMATION PLAN AREA

In addition to the concrete recycle areas located within the overall use permit and reclamation plan areas, the CCA mining, crushing, screening, and washing operations will function as they currently do with the following exception. The mining area will not be expanded beyond the approximate 57.31 acres, even though aggregate mined will increase. This will increase the surface area of Pond #6 in the Mining Area from 23.5 acres to 32.67 acres. Likewise, the pond's bottom depth elevation will be decreased by 60 feet from the previously approved Pond #6 bottom elevation of 700 feet to a proposed bottom elevation of 640 feet. The five existing settling ponds will remain. The two water recycling ponds will be filled once aggregate from the Mining Area is depleted and as part of the final Project site reclamation (refer to **Figure 14, PROPOSED RECLAMATION PLAN**).

The additional area to be mined will extend the life of the operation another 29 years beyond the current approved 2072 termination year based on the removal of approximately 25.4 million tons or 12.7 million cubic yards. However, even though a projected termination date of December 31, 2102, is identified, CCA requests that there be no fixed termination date and instead utilize the processing of up to the approximate 25.4 million tons of aggregate as the basis for determining when the mining operation would cease. It is anticipated that extraction will occur in three phases encompassing approximately 30, 35, and 14 years per phase. Estimates of completion of each phase are calculated based on the volume which could be sold based on maximum production over the phasing periods. However, as previously noted, the actual completion of each phase is not time-dependent since the depletion of permitted reserves is based on market demand. Refer to the Reclamation Phasing discussion under RECLAMATION PLAN TOPICS for additional information related to phasing.

The overburden and topsoil stockpile areas contain material stripped from the quarry as well as reject material from the crushing and screening operation, which includes fines generated by the wash plant. Since reclamation is dependent on the availability of finished benches, there could be up to five years' worth of material stored at any given time. Both topsoil and overburden stockpile areas will be subject to best management practices for erosion control to be specified in the Storm Water Pollution Prevention Plan (SWPPP) for the operation. The topsoil and overburden stockpile area will be sited to facilitate reclamation.

As previously discussed, the existing Pond #6 in the quarry will increase in surface area from approximately 23.5 acres to 32.67 acres, and the depth will be decreased by 60 feet. The existing five settling ponds will remain, and the two water recycling ponds will be filled once aggregate from the Mining Area is depleted as part of the final Project site reclamation. Within the existing mining area,

CCA proposes retaining Pond #6 and adding and protecting riparian habitat by constructing a meandering waterway feature around the pond as part of the project reclamation plan.

RECLAMATION PLAN TOPICS

As previously noted, the proposed use permit amendment also requires an amendment to the currently approved reclamation plan. The reclamation plan describes the final post-reclamation condition of the site and the procedures employed to reclaim the site. In addition, the reclamation plan addresses the following post-reclamation topics. The topics discussed in this project description include the reclamation objectives, phasing, reclamation prescriptions, wetland mitigation, and post-vegetation monitoring. Refer to the proposed reclamation plan amendment report for a discussion regarding the other topics.²⁴

- Reclamation Objectives
- Existing Conditions
- Establishment of Test Plots
- Phasing
- Reclamation Prescriptions
- Wetland Mitigation
- Post-vegetation Monitoring

Reclamation Objectives

There are two types of end uses for the project site resulting in different reclamation prescriptions. The first is the eastern plant site area (53.38-acres), and the second is the middle and western (57.31-acres) portions of the project site. The prescriptions are:

Plant Area: This eastern area will be reclaimed for industrial uses after the mining extraction and processing terminates. This end-use is consistent with the current “I” (Industrial) general plan land use classification and zoning district designation.

Mining Area: This area located within the middle and western areas of the project site, will be reclaimed as a mineral reserve area. This use is consistent with the California Department of Conservation’s designation of the site as a *Mineral Resource Zone*.

The primary objectives of the reclamation plan amendment are to:

1. Establish a new vegetative cover that provides future fire protection.
2. Stabilize finished mined surfaces and prevent erosion.
3. Revegetate with plant species adapted to this locale.

Reclamation Phasing

Phasing for the proposed project is limited to the reclamation plan amendment area, specifically the mining area. Phasing divides the progression of mining into clearly identifiable mining segments and not sequentially over a time period. This allows reclamation to be started as soon as finished mining surfaces are completed and no longer needed by the operation except under

²⁴ The December 16, 2020. *Mining and Reclamation Plan Amendment Report for Crystal Creek Aggregate, Inc.* is on file with the Shasta County Department of Resource Management, Planning Division.

some circumstances.²⁵ Phasing also assists responsible agencies in determining compliance with the reclamation plan since defined areas for reclamation are identified. The actual completion of each phase is not time-dependent since the depletion of permitted reserves is based on market demand, which is difficult to forecast.

Figure 12, PROPOSED PHASING PLAN OVERVIEW, shows the three mining phases and how mining progresses over the 81-year life of the quarry. Phase 1 contains land that is presently disturbed and being mined under the current Reclamation Plan. Phase 2 advances mining into the southern portion of the quarry. Phase 3 is the smallest area located in the northwest corner of the quarry. Portions of Pond #6 will be created as each phase is mined.

Table 3, MINE PHASES, VOLUMES & YEARS OF EACH PHASE, identifies the three mining phases for the quarry. The extraction area, volume of material, and cumulative materials extracted in each phase are identified. The quantity of aggregate to be extracted varies from 2.15 to 5.42 million cubic yards per phase. The table also indicates the estimated life of each phase. The life of each phase is based upon the percent of aggregate in each phase to the total amount of aggregate in the mine. Phase 1 contains thirty-nine percent of the available material, so the life of this phase is thirty-nine percent of the 81-year life of the mine, which is thirty years.

**Table 3
MINE PHASES, VOLUMES & YEARS OF EACH PHASE**

Phase	Area (Acres)	Volume (MCY)	Cumulative (MCY)	Life of Phase (Years)
1	22.66	4.84	4.84	30
2	21.26	5.42	10.26	35
3	8.82	2.15	12.41	14
Totals	52.74	12.41	12.41	79

All phases encompass quarry benches that are reclaimed by resoiling and revegetation. Within each phase, the operator intends to begin creating the top quarry benches as soon as possible. The top benches are the most visible feature of the quarry to outside observers. The operator wants vegetation growing in these locations to minimize visual impacts.

Most aggregate products sold by CCA require a blending of sand and other loosely consolidated materials with the mine’s harder rock. The sand and loosely consolidated aggregate are found near the ground surface, whereas the harder material is deeper underground, where it is less subject to weathering. For this reason, it is not feasible to mine solely hard rock or just weathered rock. It must be noted that a particular location in the mine might not provide this variety of material and that a number of sites in the quarry may require some excavation within all phases to provide this blend. This is necessary since, as previously noted, CCA sells about twenty aggregate products. These products include base rock, drain rock, decorative stone, riprap, structural backfill, sand, plaster sand, and specialty products. The specialty products are utilized by businesses, public agencies, and organizations for golf courses, walking paths, and landscaping projects. For this reason, mining may occur throughout any of the three phases during the reclamation plan amendment period based on the need for a particular type of aggregate sought for construction activities. However, the phases proposed identify those particular areas within which the majority of mining will be undertaken.

²⁵ An example would be a quarry bench still needed by the mining operation if the location is still used by equipment and employees to access a future mining area.

Reclamation Prescriptions

Reclamation prescriptions deal with various operational components, which include the plant site, quarry benches and their revegetation, ponds, and reclamation within the plant area (such as removing equipment that will not be utilized for future permitted industrial uses), clean up, final grading, filling of the two recycle ponds, and post vegetation monitoring. The revegetation of benches provides a fulfillment of one of the primary objectives of the reclamation program: to establish a new visually pleasing vegetative cover that provides future fire protection.

A revegetation plan for the quarry benches was prepared to create not only an aesthetically pleasing reclamation feature but also to establish a fire-resistant plant community on the quarry benches.²⁶ The 2018 Carr Fire devastated most of the vegetation and homes in the area, and efforts need to be undertaken to not repeat the event that occurred. The reclamation plan presents an opportunity to lower the fire danger in the area.

One of the main methods to achieve this goal is to eliminate fuel ladders where fire proceeds from lower vegetation into the crowns of trees. Reducing the amount of flammable material present (fuel load) reduces the spread of fires. To achieve these goals, brush species are eliminated from the plant palette. In its place, the planting of ponderosa pines, grasses and forbs is proposed. Ponderosa pines were selected since they are indigenous to the area and grow in many nearby locations. The trees will be initially planted with 8 foot by 8-foot spacing and then thinned out at a future date. The final upland bench planting would be pines trees spaced 20 to 30 feet apart with grasses and forbs as the understory species. The spacing of the trees reduces the fuel load and the fuel ladder, which could result in fire spreading from one tree to another.

Also addressed as a reclamation prescription is the establishment of a self-sustaining population of wetland/riparian vegetative species on the waterside of the lower final bench, within 44 feet of a 2:1 slope embankment around the approximate 4,500 feet long shoreline of the new 32.67-acre quarry Pond #6. This would provide an approximate 4.55-acre area with a watercourse meandering throughout the bench area along with clusters of native willows and cottonwoods to be planted along the bank of Pond #6. The average spacing of the clusters is to be 110 feet on-center with 6 to 10 trees per cluster. In addition, rock jetties would be placed along the bank, and woody debris would be located along the waterline, where feasible.

Reclamation shall occur, to the maximum extent feasible, concurrently with mining activity. Overburden and topsoil will be placed on each finished bench, and vegetation planted within two years after reaching final grade, except for those portions that serve as haul routes or other functions necessary for mining future phases of the quarry.

Final reclamation occurs when all the aggregates in each mining phase have been exhausted, and the finished grades have been attained. Interior haul roads, stockpiles, and plant sites will be reclaimed when they are no longer needed. **Table 4, RECLAMATION SCHEDULE**, sets the timing of specific reclamation activities. Refer to the reclamation plan amendment for other reclamation actions not listed in Table 4.

²⁶ Wildland Resource Managers surveyed the site and consulted with Keith Hamblin of the Land Designers regarding a revegetation plan for the bench areas in May and June 2019.

**Table 4
RECLAMATION SCHEDULE**

Item #	Reclamation Action	Timing
1	Create Pond #6.	Last phase of mining.
2	Resoiling and planting of benches.	Concurrent reclamation with each phase of mining. Reclamation starts when finished grade is achieved and a bench is no longer needed for future mining activities.
3	Permanent road in the quarry on Bench #2.	Concurrent reclamation as the final grade of Bench #2 is achieved, and the location is resoiled.
4	Safety fence around the quarry perimeter highwall.	Install fence at the time each section of the top of the finished highwall is completed.
5	Finish grading of the plant site.	At the cessation of mining activities and when final reclamation has begun.
6	Removal of temporary mining roads.	When a road is no longer needed to support mining activities. All temporary roads will be removed before final reclamation is completed.
7	Fill in wash ponds.	When ponds are no longer needed to wash aggregate.
8	Removal of mining equipment, facilities and machinery inconsistent with the industrial zoning of the property.	At the cessation of mining activities and when final reclamation has begun.

Wetlands

Wetlands under federal jurisdiction (Waters of the U.S. – WOTUS) are defined as “areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3 [b], 40 CFR 230.3). To be considered under potential federal jurisdiction, a wetland must support positive indicators for hydrophytic vegetation, hydric soil, and wetland hydrology.

Wetlands are also subject to state jurisdiction where Waters of the State (WOTS) is broadly defined in the Water Code as including “any surface water or groundwater, including saline waters, within the boundaries of the state” and include all WOTUS. The State Implementation Guidance further states that WOTS “include both historic and current definitions of waters of the United States.” Under state jurisdiction, only one of the positive indicators for hydrophytic vegetation, hydric soil, and wetland hydrology needs to be present. No evaluations were undertaken to determine what property wetland features are subject to state jurisdiction.

Per the active Use Permit (07-020) and the previous Lake and Streambed Alteration Agreement obtained for the Mine (LSAA No. 1600-2012-0018-R1), onsite mitigation was approved to compensate for impacts to wetlands. Use Permit Mitigation Measure 41.a. reads:

“Impacts caused by the removal of ephemeral drainages, intermittent streams, perennial marshes, and seasonal wetlands shall be mitigated by reclamation of the site which would include the creation of approximately 1.8 acres of marshes, wetlands, and riparian habitat in a strip surrounding the proposed pond.”

Since the Use Permit and Reclamation Plan Amendments are not proposing any changes to the previously approved limits of mining activities, no revision to the proposed onsite mitigation previously approved is anticipated.

As previously discussed, the approved use permit area is proposed to be expanded by an additional approximate 69.28 acres, referenced as the Mineral Resource Area (MR). Gallaway Enterprises conducted an aquatic resources assessment to determine the extent of any aquatic feature(s) that would be considered waters of the United States (WOTUS) or waters of the State (WOTS) for the Crystal Creek Aggregate Mine Use Permit Amendment (Project) survey area consisting of 179.97 acres. Within the 179.97 acres are the MR 69.28 acres, which had not been previously surveyed.

There are four wetland features totaling 0.566 acres located in the 69.28-acre MR Area that would be considered WOTUS and WOTS. In addition, there are approximately 1.086 acres of "Other Waters" within the MR Area. All of the WOTUS and WOTS wetland features and "Other Waters" within the MR Areas will be avoided as part of the proposed use permit amendment. The results of the assessment are provided in the September 2022 Draft Delineation of Aquatic Resources Crystal Creek Aggregate Mine (Draft Delineation).

As part of the Reclamation Plan Amendment, a meandering intermittent drainage course will be created within the bench area around the proposed Pond #6 with the planting of riparian vegetation within and along the drainage course, which also extends into the edges of Pond #6, creating 4.45 acres of riparian habitat. Upon reclamation, Pond #6 will create a 32.67-acre freshwater body with a shallow edge environment transitioning into the deeper pond water area. The new pond area is 32.23 acres larger than the existing 0.438 acres of ponds being removed via excavation. In addition, the revegetation planting prescription for the riparian/grassland bench around the perimeter of Pond #6 includes native willow, Fremont's cottonwood, native cattails, native rushes, and tomcat clover. Since these two proposed habitats are adjacent to one another, a multihabitat ecosystem will be created to provide a variety of integrated wetland features (refer to **Figure 14, PROPOSED RECLAMATION PLAN** and **Figure 15, PROPOSED RECLAMATION PLAN DETAILS**).

Refer to the following reports prepared by Gallaway Enterprises for discussions regarding wetlands and other biological resource topics.²⁷

- September 2022 *Draft Delineation of Aquatic Resources Crystal Creek Aggregate Mine*
- October 2022 *Biological Resource Assessment Terrestrial and Aquatic Wildlife and Botanical Resources*

Post Vegetation Monitoring

Planted vegetation may require protection from grazing deer and other animals. Protective screening such as plastic cones or tubes will be provided, as necessary. Overall fencing of the reclamation plan amendment boundary is not necessary since there is no grazing by cattle or other livestock in this area. However, CCA does have the option to fence the boundary.

Following the completion of reclamation, the progress of revegetation will be monitored until success standards are met without human intervention. During monitoring, both natural

²⁷ The reports are on file with the Shasta County Department of Resource Management, Planning Division.

regeneration and planted native plants will be counted toward meeting the revegetation standards as long as they are not noxious weeds. Non-native species will not be counted. Should the success of revegetation not seem attainable after two years of monitoring, the operator has the option of submitting an alternative vegetative planting program to the Shasta County Planning Division. The alternative vegetative planting program will provide the results of vegetation monitoring to date, identify where the success criteria have and has not been met, and present an alternative native vegetation planting prescription and performance standard. The performance standard will address species richness, density, and percentage of cover as applicable to each revegetation area. Valid sampling techniques will be used to measure vegetative success, and sample sizes must be sufficient to produce at least an 80 percent confidence level. Standard statistical methods for achieving the 80 percent confidence level can be found in “Measurements of Terrestrial Vegetation” by C.D. Bonham, 1988, as well as other publications.

MINERAL RESOURCE AREA

As previously discussed, the use permit area is proposed to be expanded by an additional approximate 69.28 acres referenced as the remaining mineral resource Area (MR), resulting in an overall project area of 179.97 acres within which use permit and reclamation plan amendment approvals are requested. Proposed uses include, but are not limited to, providing access to and from the mining area; providing a shaded fuel break; and partially serving to buffer lands to the south, west, and north from noise, light, and other mining-related activities (refer to **Figure 3, COMPREHENSIVE PROJECT PLAN OVERVIEW**; **Figure 9, USE PERMIT PROPOSED PLAN**; and **Figure 10, PROPOSED MINING PLAN**).

PROPOSED PROJECT ENTITLEMENTS

Crystal Creek Aggregates proposed project application to Shasta County is for the following actions, which involve an overall Project area of 179.97 acres:

- Use Permit UP 22-0001 Amendment to modify the design of the existing mining area or quarry of approximately 57.31 acres as identified in the reclamation plan amendment and the plant area of approximately 53.38 acres, which total 110.69 acres that will be maintained as the reclamation plan area. In addition, the use permit area will include the additional 69.28-acre Remaining Mineral Resource Area (MR). Refer to **Figure 9, USE PERMIT PROPOSED PLAN**, and **Table 2, USE PERMIT & RECLAMATION PLAN AMENDMENTS – CURRENT & PROPOSED USES & OPERATIONAL CHANGES**.²⁸
- Reclamation Plan RP 22-0001 Amendment will maintain the existing 110.69-acre Reclamation Plan Area and associated boundaries. However, the amount of aggregate mined will be increased, as will yearly blasting maximums. The height of the quarry highwalls and bench widths will be increased, as will the pond size²⁹ and depth upon site reclamation. The estimated amount of aggregate proposed to be mined increases from 15.92 million tons to 25.4 million tons. The estimated life of the mining operation will increase from the end of the Year 2072 by

²⁸ Accompanying the Use Permit Amendment Application on file with the Shasta County Planning Division are *Sheet 1 – Use Permit Existing Conditions* and *Sheet 2 – Use Permit Site Plan*, which are incorporated herein as part of the Project Description.

²⁹ Referenced as Pond #6.

29 years to end of the Year 2102 (refer to **Figure 10, PROPOSED MINING PLAN**) and **Figure 14, PROPOSED RECLAMATION PLAN**.³⁰

³⁰ Accompanying the Reclamation Plan Amendment Application on file with the Shasta County Planning Division are *Sheet 1 – Cover Sheet, Sheet 2 – Mining Plan, Sheet 3 – Cross Section A-A, Sheet 4 – Phasing Plan, Sheet 5 – Reclamation Plan, and Sheet 6 – Standard Details* which are incorporated herein as part of the Project Description.

FIGURES

Figure 1, PROJECT LOCATION

Figure 2, SITE VICINITY

Figure 3, COMPREHENSIVE PROJECT PLAN OVERVIEW

Figure 4, USE PERMIT EXISTING PLAN

Figure 5, USGS TOPOGRAPHIC MAP

Figure 6, USE PERMIT DETAILS

Figure 7, EXISTING GENERAL PLAN CLASSIFICATIONS & ZONING DESIGNATIONS

Figure 8, APNs 065-250-031 & 032

Figure 9, USE PERMIT PROPOSED PLAN

Figure 10, PROPOSED MINING PLAN

Figure 11, PROPOSED QUARRY CROSS-SECTIONS

Figure 12, PROPOSED PHASING PLAN OVERVIEW

Figure 13, PROPOSED PHASING PLAN CROSS-SECTIONS

Figure 14, PROPOSED RECLAMATION PLAN

Figure 15, PROPOSED RECLAMATION PLAN DETAILS



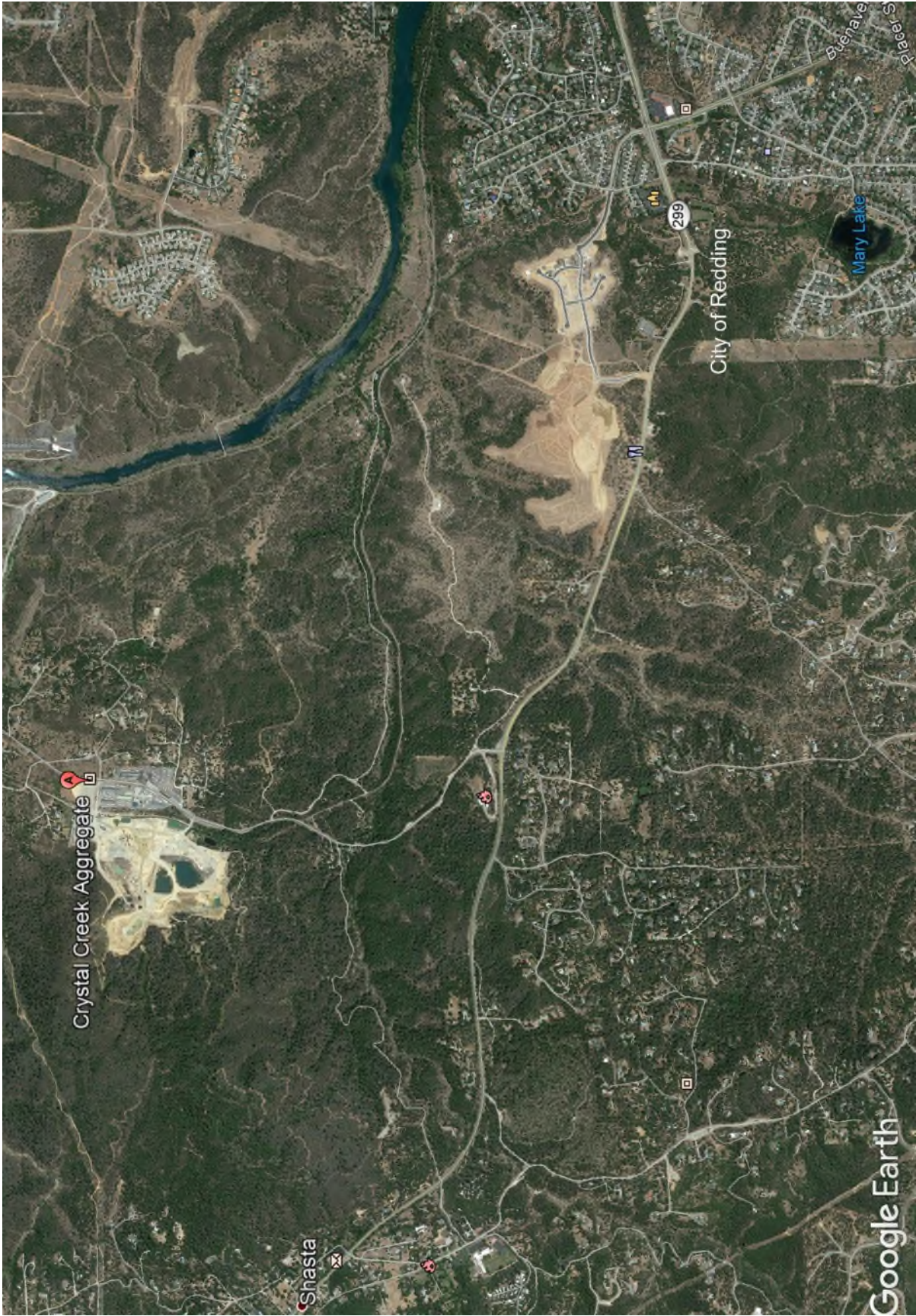
December 05, 2022



California & Shasta County Locations by rkBaron Geovisuals



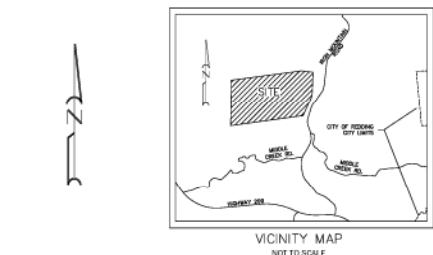
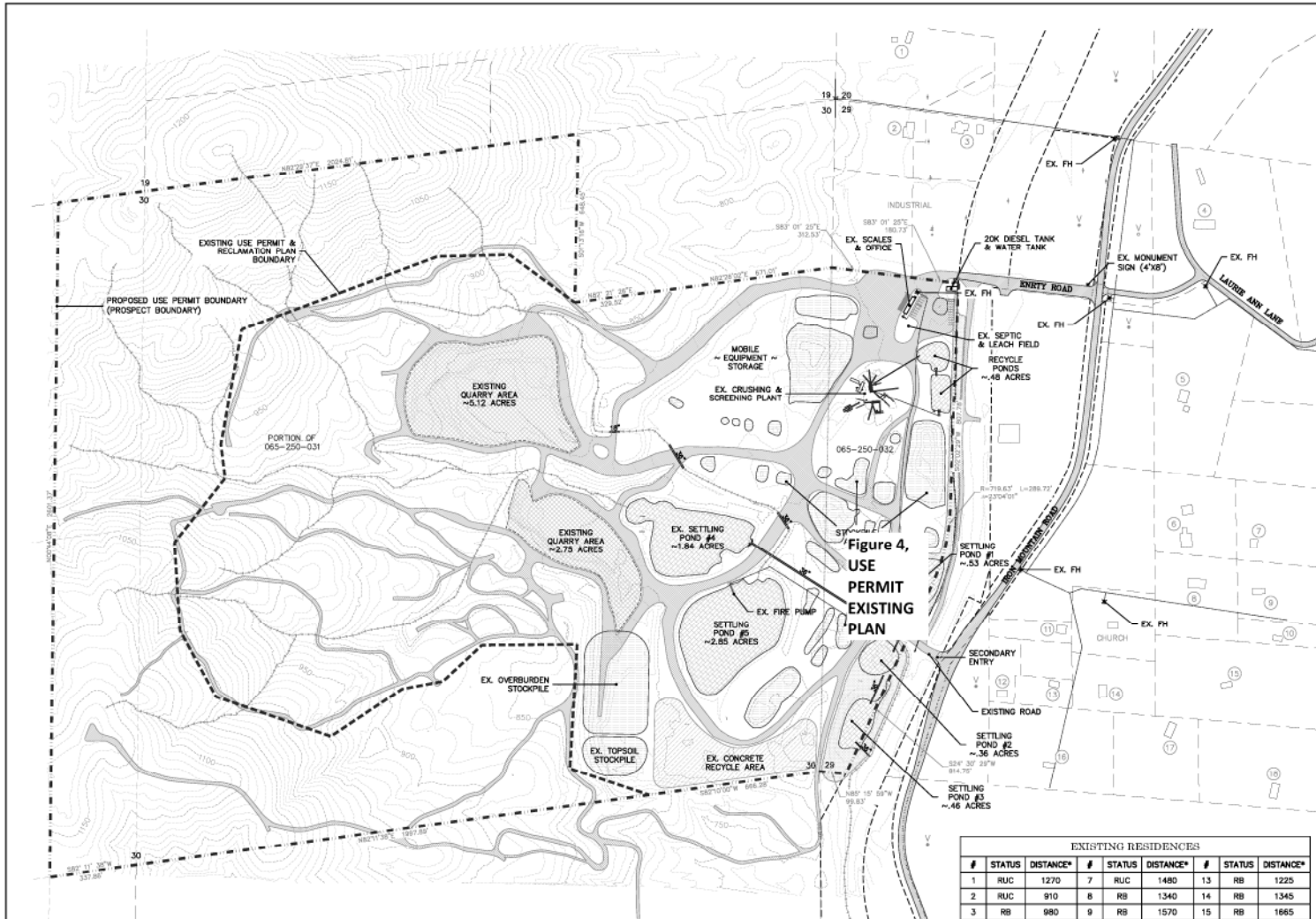
FIGURE 1, PROJECT LOCATION



December 5, 2022



FIGURE 2, SITE VICINITY



OWNER/APPLICANT
 TULLIS, INC. DBA
 CRYSTAL CREEK AGGREGATES
 P.O. BOX 493416
 REDDING, CA 96049
 (530) 241-5105

LAND PLANNER
 KEITH HAMBLIN
 LAND DESIGNERS, INC.
 1975 PLACER ST., SUITE A
 REDDING, CA 96001
 (530) 244-0505
 JEMKAKESHASTA.COM

ENGINEER
 DUANE K. MILLER
 CIVIL ENGINEER, INC.
 PO BOX 1307
 ANDREWS, CA 96007
 (530) 365-5610
 DUANE@DKMENGRR.COM

PROJECT MANAGER
 ERNARD DIAZ
 DIAZ ASSOCIATES
 4277 PASATIEMPO CT.
 REDDING, CA 96002
 (530) 224-0811
 EDIAZ@DIAZPLANNING.COM

PARCEL TABLE			
APN	AREA (ACRES)	GENERAL PLAN	ZONING
PORTION OF 065-250-031	29.19	I-MR (Industrial; Interim Mineral)	M-MR (General Industrial; Interim Mineral Resource)
PORTION OF 065-250-031	104.37	MR (Mineral Resource)	MR (Mineral Resource)
PORTION OF 065-250-031	28.48	N-O (Open Space)	U (Unclassified District)
065-250-032	17.95	I-MR (Industrial; Interim Mineral)	M-MR (General Industrial; Interim Mineral Resource)
TOTAL	179.97		

LEGEND	
--- (dashed line)	EX. USE PERMIT & REC. PLAN BOUNDARY
--- (dashed line)	PROPOSED USE PERMIT BOUNDARY
---	APN BOUNDARIES
---	PARCEL BOUNDARIES
---	10' OG CONTOURS
---	EX. WATER LINE
---	EX. DRAINAGE COURSES
---	EX. UNIMPROVED ROADS AND TRAILS
---	EX. LANDSCAPING
---	EX. PONDS
---	EX. STOCKPILE AREAS
---	EX. QUARRY AREA
---	EX. 30' PROJECT ENTRY ROAD
---	EX. 30' ON-SITE DRIVEWAY & PARKING
---	EX. TRUCK ROUTE (20'-40' WIDE)
---	VACANT PARCEL

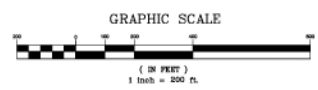
EXISTING RESIDENCES					
#	STATUS	DISTANCE*	#	STATUS	DISTANCE*
1	RUC	1270	7	RUC	1480
2	RUC	910	8	RB	1340
3	RB	980	9	RB	1570
4	RB	1365	10	RB	1725
5	RUC	1080	11	RUC	1065
6	RB	1220	12	RB	1155
			13	RB	1225
			14	RB	1345
			15	RB	1665
			16	RB	1480
			17	RB	1625
			18	RB	2070

RB: RESIDENCE BURNED
 RUC: RESIDENCE REBUILT/UNDER CONSTRUCTION
 *APPROXIMATE DISTANCE FROM IDENTIFIED RESIDENCE TO EXISTING CRUSHING AND SCREENING PLANT

Figure 4, USE PERMIT - EXISTING PLAN
 AMENDMENT 22-0001

LOCATED IN SECTION 30 TOWNSHIP 32 NORTH, RANGE 5 WEST, M.D.M., IN THE UNINCORPORATED TERRITORY OF SHASTA COUNTY, CALIFORNIA

PLANS PREPARED UNDER THE SUPERVISION OF:

SHEET INDEX

1.	USE PERMIT EXISTING CONDITIONS
2.	USE PERMIT SITE PLAN
3.	USE PERMIT PLANT AREA DETAILS

Crystal Creek Aggregates		
Use Permit Existing Plan		
DUANE K. MILLER CIVIL ENGINEER, INC. PO BOX 1307 ANDREWS, CA 96007 DUK@DKMENGRR.COM	DATE 02/09/22	SHEET 1
	SCALE 1" = 200'	OF 3

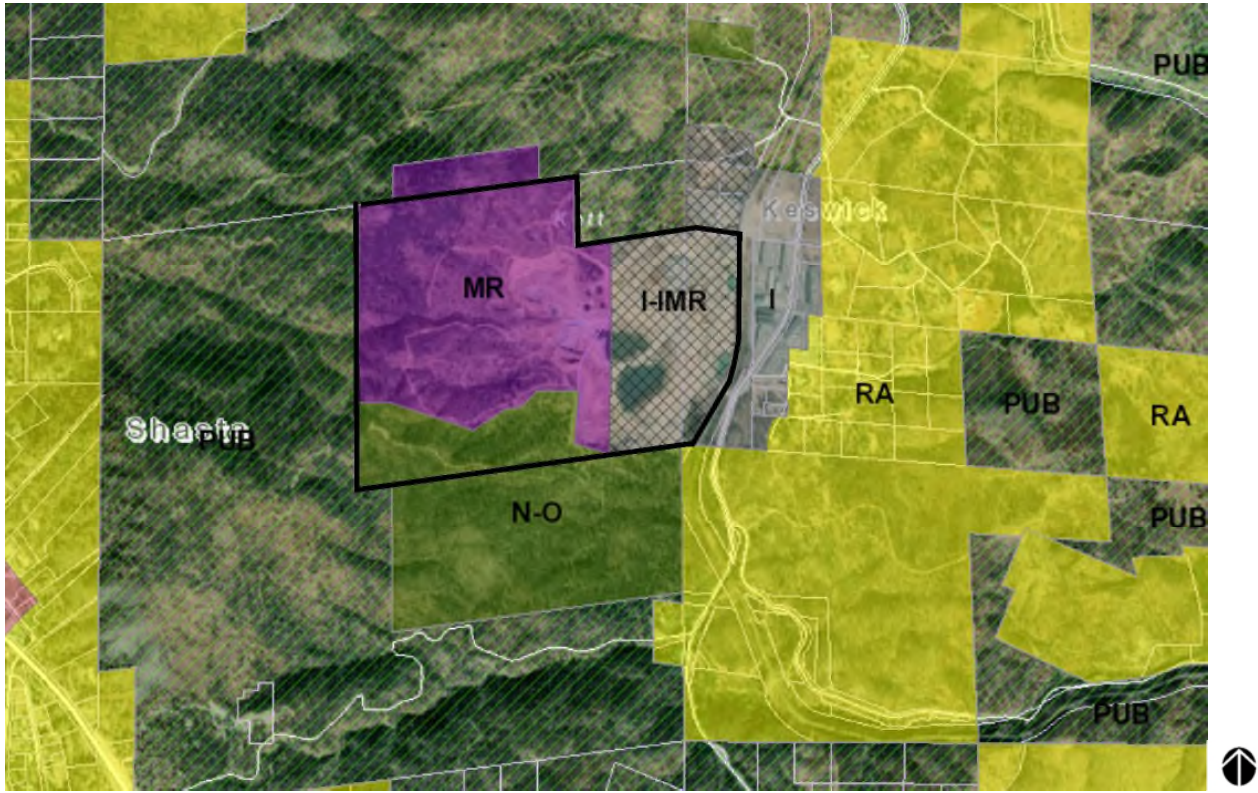


December 5, 2022

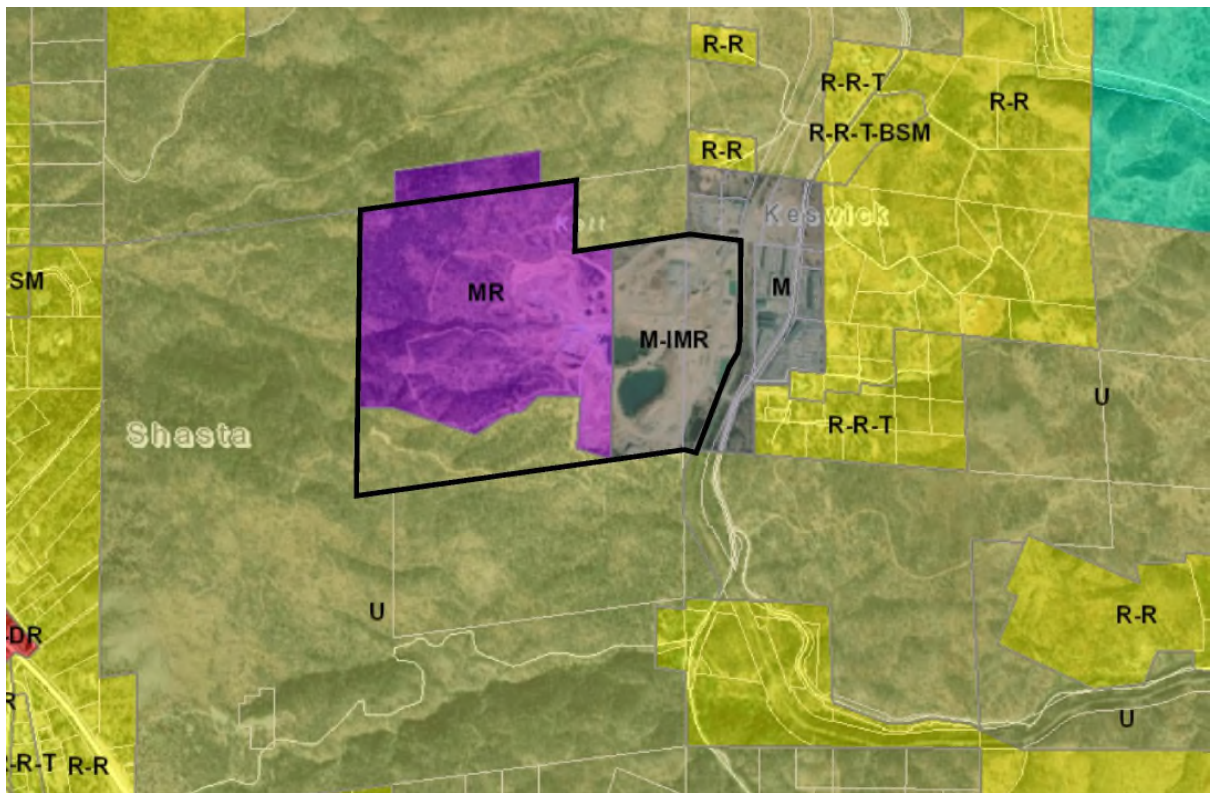
The Land Designers



FIGURE 5, USGS TOPOGRAPHIC MAP



EXISTING GENERAL PLAN LAND USE CLASSIFICATIONS

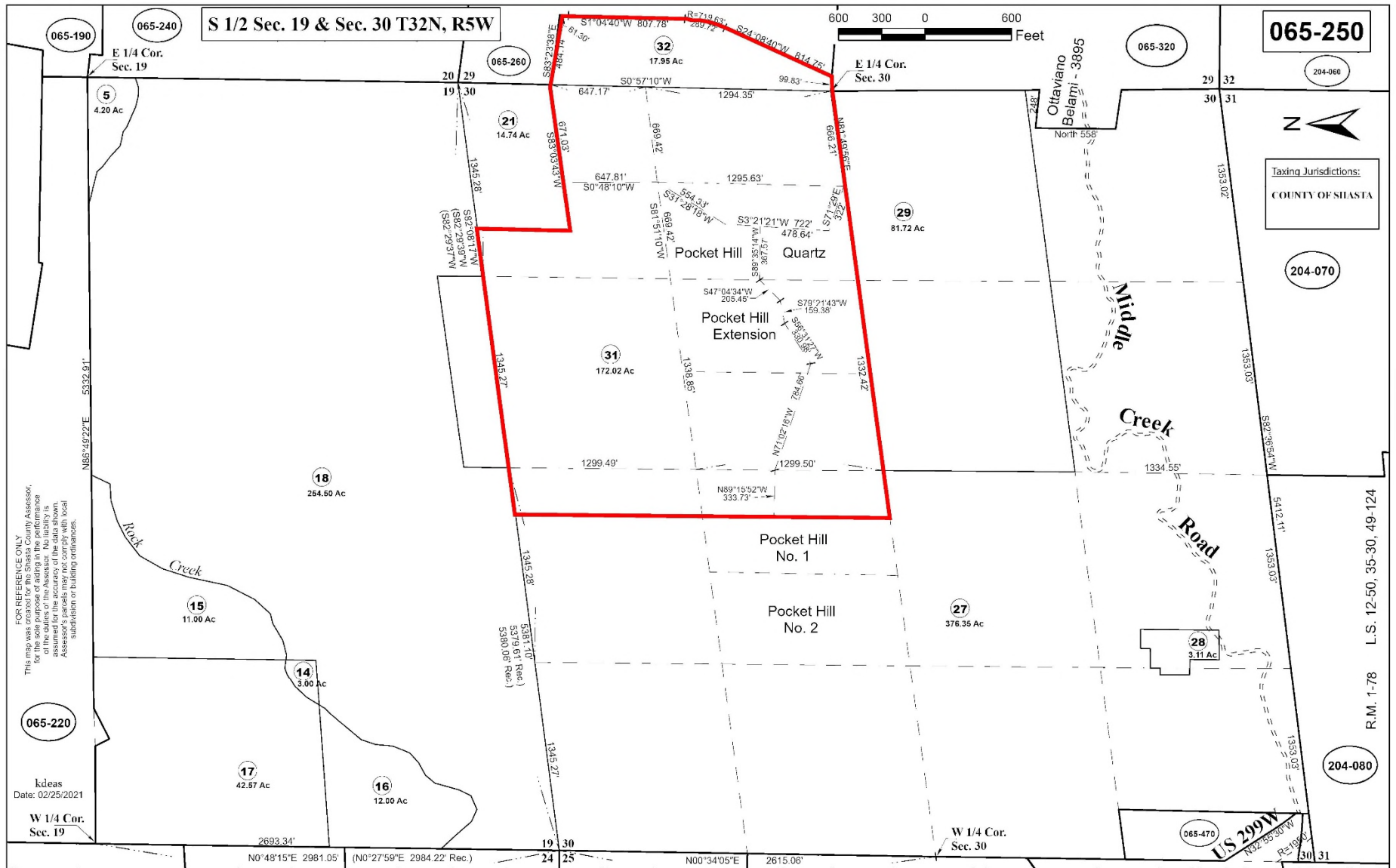


EXISTING ZONING DESIGNATIONS

December 5, 2022



FIGURE 7, EXISTING GENERAL PLAN LAND USE CLASSIFICATIONS & ZONING DESIGNATIONS



December 5, 2022



FIGURE 8, APNs 065-025-031 & 032

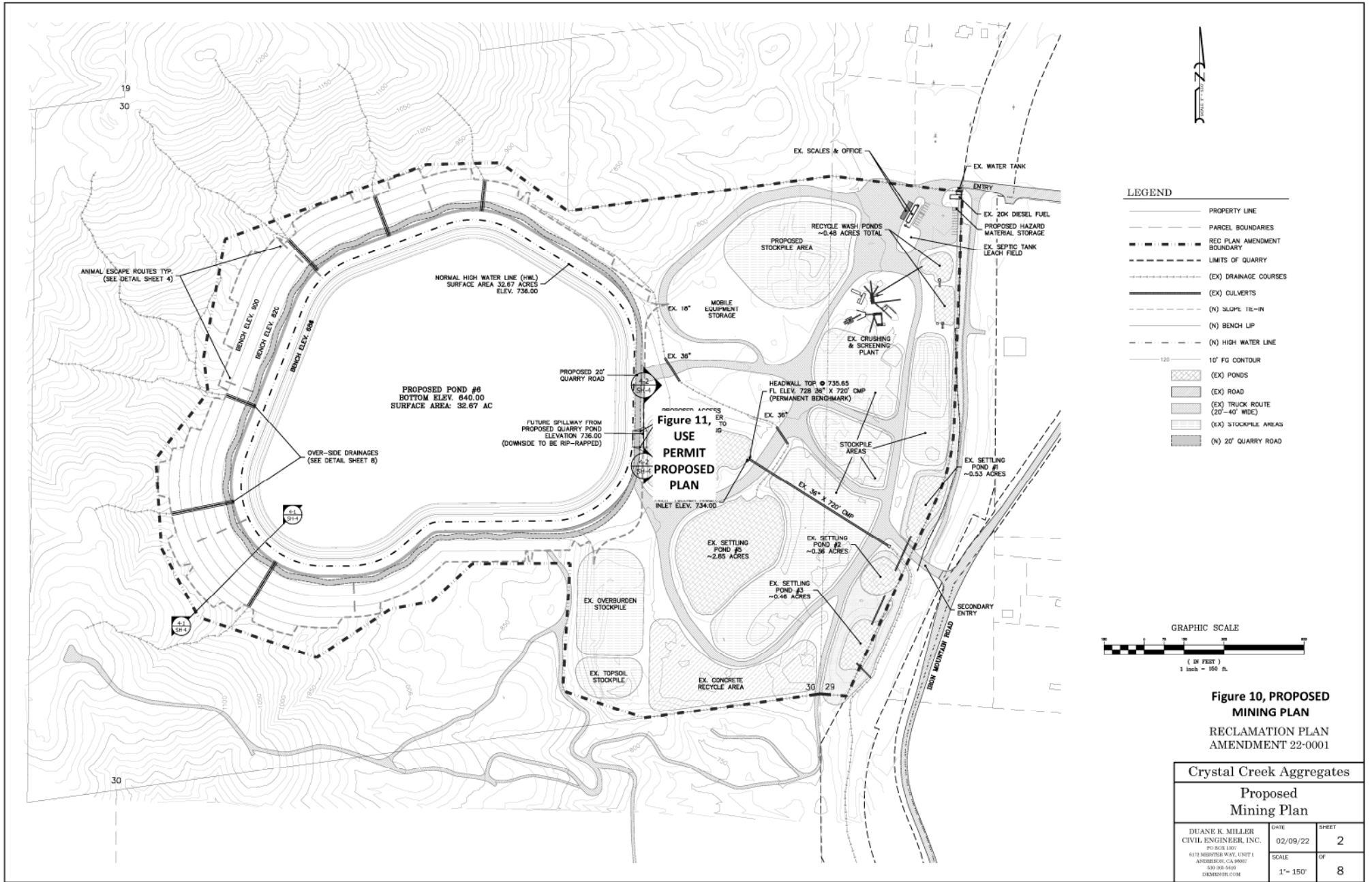
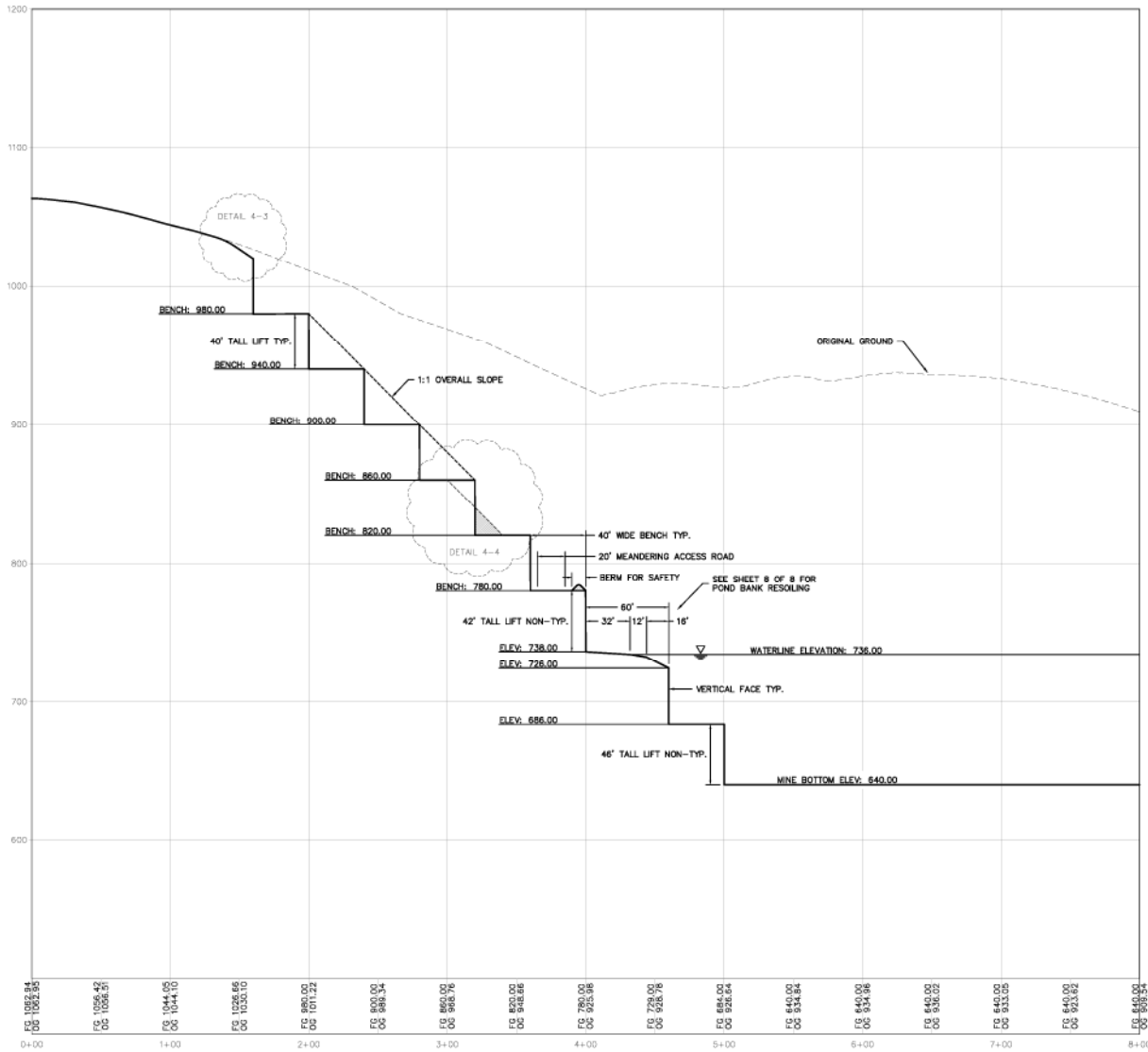
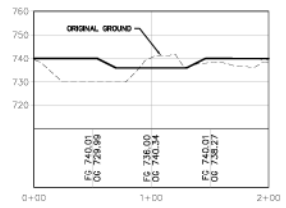


Figure 10, PROPOSED MINING PLAN RECLAMATION PLAN AMENDMENT 22-0001

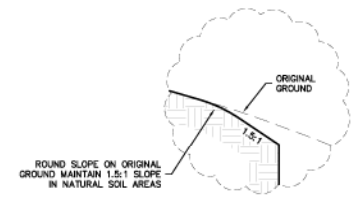
Crystal Creek Aggregates		
Proposed Mining Plan		
DUANE K. MILLER CIVIL ENGINEER, INC. P.O. BOX 1907 6119 MERRITT WAY, UNIT 1 ANNEBORO, CA 94027 530.506.5910 DKM@DUKOR.COM	DATE 02/09/22	SHEET 2
SCALE 1" = 150'		OF 8



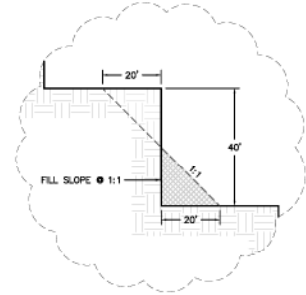
4-1: TYPICAL QUARRY SECTION
SCALE: 1"=40'



4-2: TYPICAL SPILLWAY SECTION
SCALE: 1"=50'

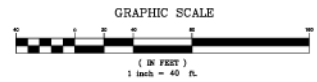


NOTE:
PARENT MATERIAL TO DICTATE FINAL SLOPE.
4-3: SLOPE ROUNDING DETAIL
SCALE: 1"=20'



NOTE:
THE LOCATION OF ANIMAL ESCAPE ROUTES DOWN TO AND AWAY FROM THE 780' BENCH MAY VARY TO MAKE ROOM FOR 20' QUARRY ACCESS ROAD.
4-4: ANIMAL ESCAPE ROUTE DETAIL
SCALE: 1"=20'

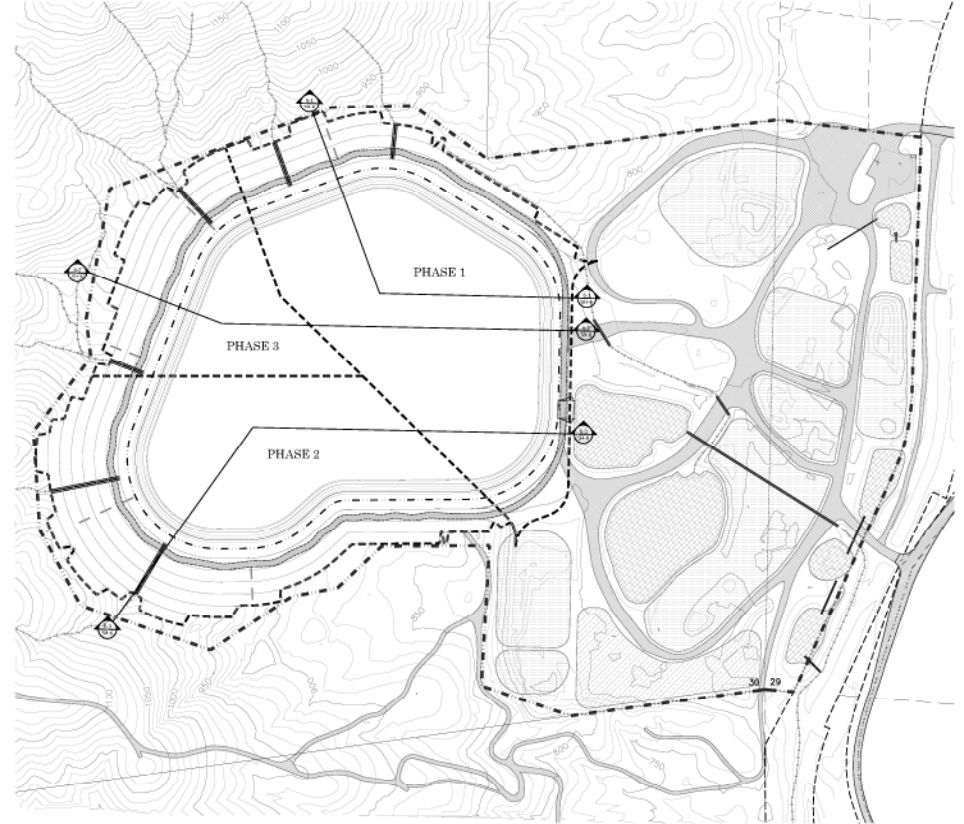
Figure 11, PROPOSED QUARRY CROSS-SECTIONS
RECLAMATION PLAN
AMENDMENT 22-0001



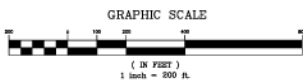
Crystal Creek Aggregates			
Proposed Quarry Cross-Sections			
DUANE K. MILLER CIVIL ENGINEER, INC. PO BOX 1207 6112 MERRIFIELD WAY, UNIT 1 AMESBURY, CA 95007 916-938-5900 DKM@DKM.COM	DATE 02/09/22	SHEET 4	
	SCALE 1"= 40'	OF 8	



UNDERLYING AERIAL PHOTOGRAPH DATE OF JUNE 9, 2020



PHASING PLAN



PHASE QUANTITIES			
PHASE	AREA (ACRES)	VOLUME (MCY)	CUMULATIVE (MCY)
1	22.66	4.84	4.84
2	21.26	3.42	10.26
3	8.82	2.15	12.41
TOTAL	52.74		



LEGEND

- PHASING BOUNDARY
- - - REC PLAN BOUNDARY
- - - ADJACENT PARCEL
- 10' FG CONTOURS
- (N) BENCH LIP

Figure 12, PROPOSED PHASING PLAN OVERVIEW

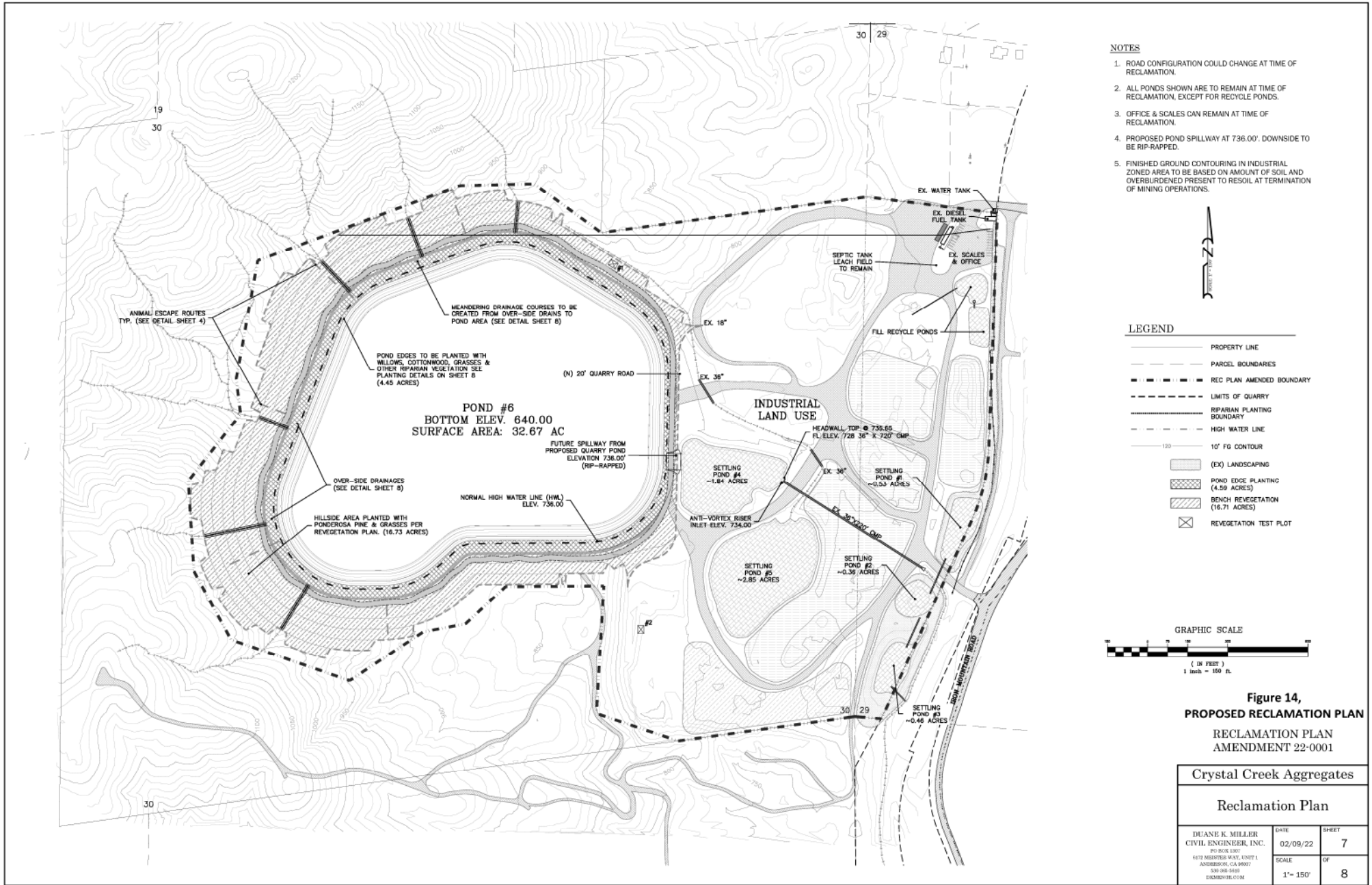
RECLAMATION PLAN AMENDMENT 22-0001

Crystal Creek Aggregates

Proposed Phasing Plan Overview

DUANE K. MILLER CIVIL ENGINEER, INC. P.O. BOX 1207 6419 MERRITT WAY, UNIT 1 AMERICO, CA 94007 415.356.5600 DKM@DKM.COM	DATE	02/09/22	SHEET	5
	SCALE	1" = 200'	OF	8

P:\Projects\18 000 000\18 000 000\18 000 000\RECLAMATION\MAPS\18 000 000\VA 00 20 001



- NOTES**
1. ROAD CONFIGURATION COULD CHANGE AT TIME OF RECLAMATION.
 2. ALL PONDS SHOWN ARE TO REMAIN AT TIME OF RECLAMATION, EXCEPT FOR RECYCLE PONDS.
 3. OFFICE & SCALES CAN REMAIN AT TIME OF RECLAMATION.
 4. PROPOSED POND SPILLWAY AT 736.00'. DOWNSIDE TO BE RIP-RAPPED.
 5. FINISHED GROUND CONTOURING IN INDUSTRIAL ZONED AREA TO BE BASED ON AMOUNT OF SOIL AND OVERBURDENED PRESENT TO RESOIL AT TERMINATION OF MINING OPERATIONS.



- LEGEND**
- PROPERTY LINE
 - - - PARCEL BOUNDARIES
 - · - · - REC PLAN AMENDED BOUNDARY
 - - - LIMITS OF QUARRY
 - · - · - RIPARIAN PLANTING BOUNDARY
 - - - HIGH WATER LINE
 - 120 10' FG CONTOUR
 - (EX) LANDSCAPING
 - ▨ POND EDGE PLANTING (4.59 ACRES)
 - ▩ RIPARIAN VEGETATION (16.71 ACRES)
 - ⊠ VEGETATION TEST PLOT

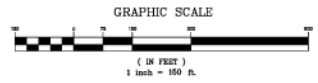
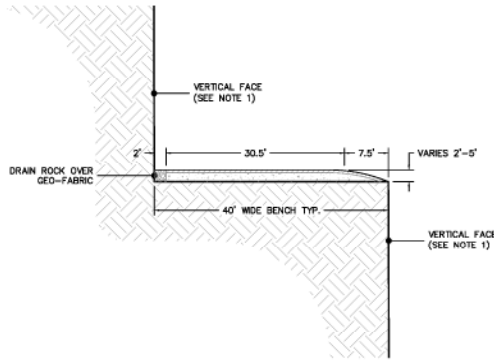


Figure 14,
PROPOSED RECLAMATION PLAN
 RECLAMATION PLAN
 AMENDMENT 22-0001

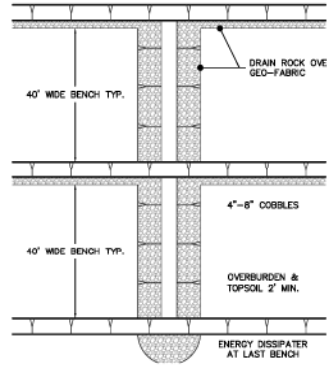
Crystal Creek Aggregates			
Reclamation Plan			
DUANE K. MILLER CIVIL ENGINEER, INC. PO BOX 1207 6112 MERRIFIELD WAY, UNIT 1 AMERICO, CA 94007 530.506.5600 DKM@DUKOR.COM	DATE 02/09/22	SHEET 7	
	SCALE 1" = 150'	OF 8	

NOTES

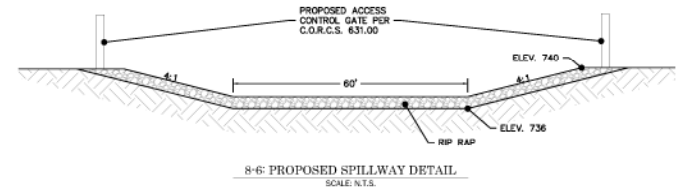
1. SLOPES AND BENCHES WILL VARY BASED ON GEOLOGY AND FIELD CONDITIONS. REFER TO GEOTECHNICAL REPORT.
2. VERTICAL FACES SHALL BE SCALED PRIOR TO RECLAMATION.



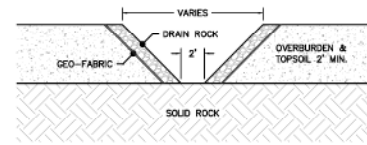
8-2: TYPICAL BENCH SECTION
SCALE: 1"=10'



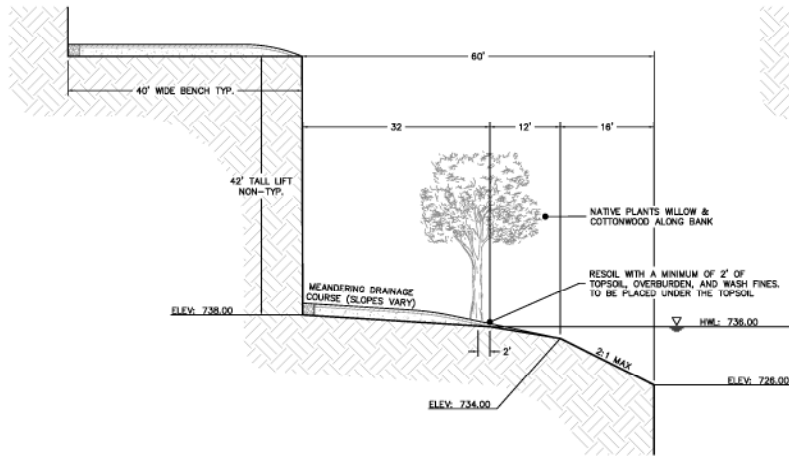
8-4: TYPICAL OVER-SIDE DRAINAGES
SCALE: N.T.S.



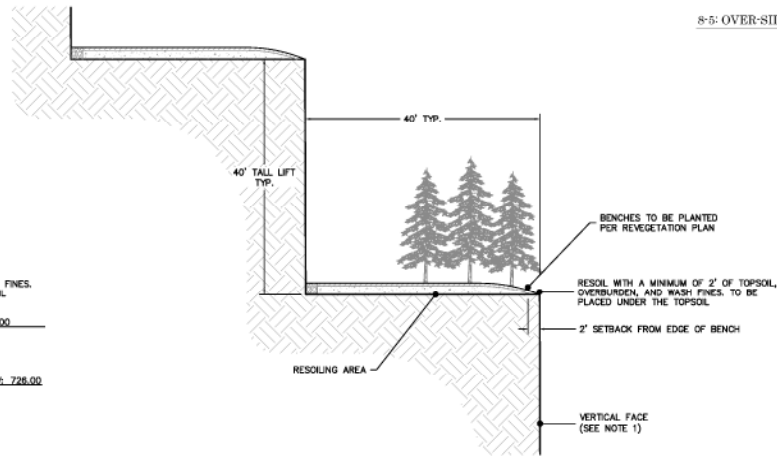
8-6: PROPOSED SPILLWAY DETAIL
SCALE: N.T.S.



8-5: OVER-SIDE DRAINAGES SECTION
SCALE: N.T.S.



8-1: POND BANK RESOILING & TREE PLANTING
SCALE: 1"=10'



8-3: TYPICAL RESOILING & TREE PLANTING
SCALE: 1"=10'

Figure 15, PROPOSED RECLAMATION PLAN DETAILS

RECLAMATION PLAN
AMENDMENT 22-0001

Crystal Creek Aggregate

Reclamation Plan
Details

DUANE K. MILLER CIVIL ENGINEER, INC. PO BOX 1207 6112 HERRINGTON WAY, UNIT 1 ANDERSON, CA 96007 530.266.5600 DKM@DKMILLER.COM	DATE	02/09/22	SHEET	8
	SCALE	VARIES	OF	8

Attachment B
2008 Approved Conditions

STATEMENT OF CONDITIONS

Use Permit 07-020 Crystal Creek Aggregate (Jerry and Kerry Comingdeer)

The following conditions shall be applied to the identified project:

GENERAL:

1. The requirements of all concerned governmental agencies having jurisdiction by law, including but not limited to the issuance of appropriate permits, shall be met.
2. This Use Permit is granted for the following listed uses and structures which are to be located as shown on the approved plot plan (Exhibit A). Minor modifications may be approved by the Planning Director. Any substantial revisions will require either amendment to this permit or a new use permit.

Removal of soil and overburden, blasting, extraction, crushing, screening, washing, stockpiling, loading, and off-site sale of sand, gravel and rock, as described in the description of the mining operation and the reclamation plan on a 110.24-acre area of five parcels.
3. The following documents are incorporated as part of this reclamation plan and shall be complied with. However, if there is a conflict between the reclamation plan and any of the conditions of approval listed in this resolution, the conditions of approval shall prevail.

Amended Mining and Reclamation Plan for Crystal Creek Aggregate Inc., October 29, 2007
Amendment to Reclamation Plan No. 1-90 Crystal Creek Aggregate for Jerry Comingdeer, prepared by Duane K. Miller, Civil Engineering Inc., May 27, 2008, Sheets 1 through 6.
4. This Use Permit is approved subject to approval by the Board of Supervisors of General Plan Amendment 07-005 and Zone Amendment 07-020.
5. These conditions replace and supercede all previous conditions, amendments and minor modifications of Use Permit 24-90 and Use Permit 05-013.
6. At any time the Planning Director finds that one or more grounds exist for revocation, revocation proceedings may be initiated in accordance with applicable provisions of the Shasta County Ordinance Code.
7. Failure to comply with the conditions of this permit will result in the initiation of abatement proceedings pursuant to Division 2, Part 1 of the Shasta County Ordinance Code in which all County costs and expenses incurred in investigating and physically resolving the problem shall be recoverable as a lien against the property.
8. This Use Permit authorizes only one operating entity at a time on this site. Any change in ownership or operator shall require an amended or new use permit, or the new owner or operator shall send a signed and notarized statement to the Planning Division within 30 days of the change of ownership or transfer of operations stating that they have read and understand this Use Permit and agree to each and every condition. The operating entity shall be responsible for compliance with all Use Permit conditions by all subcontractors.

9. This Use Permit shall be valid until December 31, 2072, after which time a new use permit will be required. The new use permit shall be subject to the standards in effect at the time the application is submitted. This Use Permit and related reclamation plan may be subject to a compliance review by the Planning Division Staff prior to the 10 year and the 20 year anniversaries of the date of approval. No public hearing is required. If a review is performed, the operator shall be required to reimburse the County for the cost of the review. The fee for review shall be equal to the fee required for a use permit amendment as adopted by the Board of Supervisors at the time of review, or shall be equal to the fee required for compliance review if such a fee has been adopted by the Board.
10. This Use Permit is approved subject to approval of, and compliance with, the conditions of Reclamation Plan Number 07-002. An amendment of this Use Permit may require an amendment of the reclamation plan.
11. This Use Permit shall not be issued until the County has received and approved the financial assurance as required by Reclamation Plan Number 07-002. No mining operations shall take place without approved financial assurances in effect. Mining operations include removal of soil and overburden, blasting, extraction, crushing, screening, washing, stockpiling, loading, and off-site sale of sand, gravel and rock, as described in the description of the mining operation and the reclamation plan.
12. A copy of this Use Permit and conditions of approval shall be kept at the mine site at all times when the mine is in operation. The mine operator shall review the Use Permit with each equipment operator on the site prior to the equipment operator beginning work at the site, and at least annually thereafter, for the life of the mining operation.
13. All reclamation, including recontouring, resoiling, mulching, seeding and revegetation shall be completed in conformance with the Reclamation Plan Number 07-002, prior to the expiration of this Use Permit.
14. The owner/operator shall submit an annual report to the Department of Conservation and the Shasta County Planning Division as prescribed in Public Resources Code Section 2207.
15. The owner/operator shall pay all annual fees required for the Shasta County Surface Mining and Reclamation Act SMARA program as established by the County Board of Supervisors.
16. The mining operation shall be conducted in compliance with the standards of the Mining Safety and Health Act (MSHA) and the California Occupational Safety and Health Act (CAL-OSHA) division of mines.
17. If, in the course of development, any archaeological, historical, or paleontological resources are uncovered, discovered or otherwise detected or observed, construction activities in the affected area shall cease and a qualified archaeologist shall be contacted to review the site and advise the County of the site's significance. If the findings are deemed significant by the Environmental Review Officer, appropriate mitigation shall be required.
18. Extraction shall be limited to approved cross-sectional lateral and vertical ultimate extraction limits as shown on the approved site plan and cross-section plan. The maximum final height of any section of the vertical cut slope shall be 25 feet, and the minimum final horizontal width of a terrace shall be 25 feet. There are no limitations on the height or width of benches during operation of the mine, other than limits required by federal and/or state mine safety regulations. The stability of all final cut and fill slopes shall be certified by a licensed civil engineer. At the completion of reclamation, a six foot high fence shall be placed along the top of the cut slope to

prevent accidental falls. Said fence shall be posted with warning signs.

19. No rock, gravel, sand, or other earth material shall be imported to or recycled on the site without prior approval from the Planning Director or Planning Commission as appropriate.
20. All areas not identified on the site plan as areas designated for extraction, stockpiles, processing equipment, structures, settling ponds, parking, roads, etc., shall be designated as non-disturbance areas. No vegetation removal, grading, stockpiles, equipment storage, building of structures or other disturbance shall take place in the designated non-disturbance areas. The boundaries of the non-disturbance areas shall be marked by stakes, flagging and/or fencing to prevent disturbance. Said markings shall be maintained throughout the duration of the Use Permit. . This condition shall not apply to areas for which a Timber Harvest Plan is approved by the California Department of Forestry, nor to areas for which a shaded fuel break is approved by the Planning Director.
21. The boundaries of all non-disturbance areas shall be flagged or fenced to be clearly identifiable to equipment operators. The flags or markings shall be spaced a maximum of 50 feet apart, with each marker clearly visible from the immediately adjacent markers. Said flagging or fencing shall be installed prior to commencement of operations and maintained until reclamation is completed. The operator shall submit to the Planning Division an aerial photograph of the site at a scale of 1 inch = 200 feet or larger (for example 1 inch = 100 feet) showing the limits of the disturbance area.
22. Deleted.
23. Prior to October 15 of each year, all areas where finished grade has been achieved shall be mulched, and seeded with grass or planted with native vegetation. Prior to October 15 of each year all erosion and sediment control structures for the entire project site shall be in place. Erosion and sediment control structures shall not be removed until April 15 and then only when necessary for further project development.
24. Noxious weeds listed by the Federal, State and County governments shall be eradicated as required under the respective government regulations.
25. Truck traffic to and from the project site shall be limited to a monthly average of 45 truck round-trips per day, with a maximum of 220 truck round-trips per day.
26. Annual tonnage of processed aggregate shall be limited to 250,000 tons.

Hours of Operation

27. The hours of operation shall be from 6 a.m. to 5 p.m. Monday through Saturday during Pacific standard time, and from 6 a.m. to 6 p.m. Monday through Friday and 6 a.m. to 5 p.m. on Saturdays during Pacific daylight savings time.
28. Heavy equipment including, but not limited to, trucks, the crushing, screening and washing equipment, loaders, excavators, caterpillar tractors, drilling equipment, transportation equipment, etc., shall be operated on site only during the permitted hours of operation. No heavy equipment shall be operated on the site, or moved to or from the site, and no repair or maintenance work on heavy equipment shall be performed, except during the permitted hours of operation, or during an emergency to respond to immediate health, safety or environmental hazards. Operator and employee personal passenger vehicles and office work are exempt from the limits of the hours of operation.

Noise

29. The maximum noise level during operation shall be limited to daytime hourly Leq dB of 55 (7 a.m. to 10 p.m.) and nighttime hourly Leq dB of 50 (10 p.m. to 7 a.m.) at the nearest off-site residence. Noise levels will be monitored by the Planning Division as part of its annual mine inspection program. In the event that complaints about noise are received by the Planning Division, staff is available with noise testing equipment to evaluate any alleged noise violations. The Planning Director shall review each complaint and determine whether it can be verified. If so, the Director shall inform the owner/operator that a report must be submitted to the Planning Division from an acoustical engineer or other qualified professional including actual measurements of noise from project operations. The Director may choose to have the Planning Division hire the acoustical engineer or other qualified professional to perform the study. In that event, the owner/operator shall deposit monies with the Division to cover the cost of the study and the Division's associated administration costs.

If the results of that monitoring indicate that the County's noise standards are exceeded, additional noise control measures shall be implemented as needed. Such measures could include modifications of project hours of operations, the use of localized noise barriers in the form of aggregate stockpiles, portable sound attenuating blankets suspended in close proximity to the processing equipment, or other barrier configurations as may be appropriate.

30. All off-road vehicles shall meet State regulations for noise abatement.

Blasting

31. a. Blasting shall take place only between the hours of 9:30 a.m. to 3:30 p.m., Monday through Friday, up to a total of 12 times per year.
- b. The operator shall notify all residents and businesses within 1/2 mile (2,640 feet) of the blast site at least 24 hours prior to the blast.
- c. The operator shall obtain a blasting permit from the Shasta County Sheriff's Office.
- d. Explosives may be stored on-site, provided that their transportation, handling and storage complies with all applicable federal, state and local regulations.
- e. The blasting shall comply with all applicable air quality standards established by the Shasta Air Quality Management District.
- f. Storage and use of explosives shall be in accordance with California State Law and Article 77 of the current edition of the Uniform Fire Code. Plans for the storage of explosives shall be submitted to the CDF/SCFD for review, and written approval by the CDF/SCFD shall be received by the applicant prior to any storage or use of explosives on the site.
32. Blasting shall be conducted to meet the following requirements. If there is a discrepancy between standards, the most restrictive standard shall apply:
- a. The minimum distance between the nearest shot hole and the site of damage concern (i.e. residential structures) shall be 600 feet.
- b. The maximum total amount of explosive used in a detonation sequence shall be 15,000 pounds, using a standard dynamite equivalent.
- c. The depth of the holes shall be from 10 feet to 50 feet.
- d. All holes containing explosive shall be stemmed with gravel (1/8 inch to 1/2 inch in

- diameter) to a minimum depth of six feet above the explosive.
- e. The spacing of the hole grid shall be from 9 feet by 9 feet to 10 feet by 10 feet.
 - f. The maximum number of pounds of explosive per hole shall be 154 pounds of explosive, using a standard dynamite equivalent.
 - g. The maximum number of pounds of explosive per (time) delay shall be 616 pounds, using a standard dynamite equivalent.
 - h. The (time) delays shall be a minimum of 40 milliseconds in one direction on the grid and minimum 25 milliseconds in the other direction.
 - i. Notwithstanding the parameters listed above, if, based on analysis from a qualified professional, the Director of Resource Management determines that damage may have resulted from these amended parameters, then these parameters shall be suspended, and the original parameters listed in Condition Number 5 of Planning Commission Resolution Number 92-7 shall be followed, except that the depth of the holes shall not exceed 30 feet.
 - j. The peak particle velocity generated from any blast shall not exceed 0.5 inches per second for vibration frequencies below 40 hertz, and 2.0 inches per second for vibration frequencies of 40 hertz or more, measured directly between the nearest residence and the blast site (Based recommendations of U.S. Bureau of Mines Report of Investigations 8507 (1980) "Structure Response and Damage Produced by Ground Vibrations from Surface Mine Blasting").
 - k. The maximum air over-pressure generated from this blast shall not exceed 0.014 pounds per square inch (psi), measured directly between the nearest residence and the blast site (Based recommendations of U.S. Bureau of Mines Report of Investigations 8485 (1980) "Structure Response and Damage Produced by Airblast from Surface Mining")."
33. If complaints about blasting are received by the Planning Division, to assure compliance with the blasting criteria requirements, the blasting shall be monitored as follows:
- a. The operator shall notify the County a minimum of two weeks prior to each blast.
 - b. The operator shall provide ground vibration and air blast monitoring equipment acceptable to the County and shall operate said equipment.
 - c. The operator shall monitor every blast for the remainder of the project.
 - d. The operator shall record the effect of the blast with a minimum of one seismometer and one air pressure blast recording instrument set up at each required location between the blast site and nearby residential structures.
 - e. The operator shall prepare a monitoring report of each blast, including all blast monitoring data, indicating how each blast was performed in compliance with all of the criteria listed in Condition Number 7 of Resolution 95-027, and shall submit a copy of said report to the Planning Division and a copy to the independent consultant. Both copies shall be submitted within 30 days of the subject blast.

- f. One County staff member shall be trained by the monitoring equipment manufacturer or other qualified instructor at the operator's expense to understand the calibration, set-up and all other requirements necessary for operation of monitoring equipment.
- g. The trained County staff member shall witness monitoring of blasts at random unannounced intervals. When witnessing a blast, the staff member shall inspect the depth of the drill holes prior to filling, shall witness the filling and stemming of the holes, witness the layout of the blasting detonation system, witness the blast, and obtain a copy of all monitoring data from the operator.
- h. County staff time shall be paid by operator at the established hourly rate. Staff shall monitor the blasting up to 6 times a year at the operator's expense. Additional blasts may be monitored at County expense.
- i. A qualified independent consultant shall visit the site one time to determine the appropriate location(s) for the monitoring equipment during the blasts. The number of monitoring locations shall be determined by the consultant, but shall not exceed three locations. The consultant shall review all recorded monitoring data and report to the Planning Division whether each blast is within parameters established by the Use Permit.
 - 1. The independent consultant shall be selected using the adopted Planning Division consultant selection process.
 - 2. The independent consultant shall work for, and be paid by, the County, using funds deposited by the operator.
 - 3. The operator shall pay for the cost of monitoring review by the independent consultant.
 - 4. The operator shall deposit a sum of money, in an amount to be determined by the County, into an account controlled by the County for use to pay the cost of the independent consultant and the County administration of the monitoring.
- j. The operator shall keep a complete record of all of the information listed above for each blast conducted on the site to show compliance with the above parameters. The record shall also include the date and time of the blast, the names of the company and the specific persons conducting the blast. The operator shall provide a copy of said record to the County with the annual report, and also at any time that the County requests a copy of said records.

Biological Resource Impact Mitigations

- 34. The following mitigations apply regarding western pond turtles:
 - a. To the extent practicable, project activities shall be conducted during the dry season to reduce the likelihood of the presence of western pond turtles in project areas.
 - b. If a western pond turtle is encountered during project construction, activities in the vicinity shall cease until appropriate protective measures have been implemented or it has been determined that the turtle will not be harmed. Any western pond turtles encountered shall be allowed to move away on their own, or shall be relocated to suitable habitat by a qualified biologist.
 - c. Any trapped, injured, or killed pond turtles shall be reported immediately to the

California Department of Fish and Game.

35. The following mitigations apply regarding Cooper's hawks and other raptor species:
- a. Removal of trees shall be conducted outside of the nesting season to the extent practicable. The nesting season is approximately March 1st through August 31st.
 - b. If removal of trees outside of the nesting season is not practicable, all trees proposed for removal shall be surveyed by a qualified biologist for active raptor nests within two weeks prior to initiation of project activities. If any active raptor nests are identified, a qualified biologist shall be consulted to determine appropriate conservation measures prior to the initiation of project activities. Conservation measures may include, but are not limited to, the establishment of buffers and biological monitoring. No active nest trees shall be removed until young have fledged or appropriate "take" permits have been obtained from the California Department of Fish and Game and/or U.S. Fish and Wildlife Service.
 - c. If initiation of project activities is to occur during the nesting season, all trees within 250 feet of proposed project activities shall be surveyed by a qualified biologist for active raptor nests within two weeks prior to initiation of project activities. If any active raptor nests are identified within the buffer area, a qualified biologist shall be consulted to determine appropriate conservation measures prior to the initiation of project activities. Measures may include, but are not limited to, delaying project activities until young have fledged, establishment of buffers, or monitoring of active nests during project activities. Project activities within 250 feet of active nests shall not be initiated until the conservation measures have been implemented.
36. The following mitigations apply regarding suitable nesting habitat for birds protected under the federal Migratory Bird Treaty Act:
- a. Removal of trees, shrubs, and other vegetation shall be conducted outside of the nesting season to the extent practicable. The nesting season is approximately March 1st through August 31st.
 - b. If removal of vegetation is to occur during the nesting season, pre-construction surveys for nesting migratory birds shall be conducted by a qualified biologist with proposed vegetation disturbance areas. Surveys shall be conducted within two weeks prior to initiation of vegetation disturbance. If any active nests (more than half completed) are identified, a qualified biologist shall be consulted to determine appropriate conservation measures prior to the initiation of project activities. Conservation may include, but are not limited to, the establishment of buffers and biological monitoring. No active nest trees shall be removed until young have fledged or appropriate "take" permits have been obtained from the U.S. Fish and Wildlife Service.
37. The following mitigations apply regarding pallid bat maternity colonies:
- a. To the extent practicable, removal of trees capable of supporting maternity colonies shall occur before maternity colonies form (i.e., prior to March 1) or after young are volant (flying) (i.e., after August 15th).

- b. If removal of trees must be conducted during maternity season, a pre-demolition survey for roosting bats shall be conducted prior to any removal of potential roost trees. The survey shall be conducted by a qualified biologist. No activities that would result in disturbance to the potential roost trees shall proceed prior to the completed surveys. If no active roosts are found, then no further measures are required. If an active maternity roost is present, a construction-free buffer shall be established until the young are volant. A qualified biologist shall determine the required extent of the construction-free buffer zone.
38. The following mitigation applies regarding ephemeral drainages, intermittent streams, perennial marshes, and seasonal wetlands:
- a. Impacts caused by the removal of ephemeral drainages, intermittent streams, perennial marshes, and seasonal wetlands shall be mitigated by reclamation of the site which would include the creation of approximately 1.8 acres of marshes, wetlands and riparian habitat in a strip surrounding the proposed pond.

General Conditions

- 39. Any on-site lighting shall be shielded from surrounding property.
- 40. There shall be no storage or accumulation of wrecked or dismantled vehicles or parts thereof, discarded items, or junk.
- 41. All residual equipment, structures, refuse etc. shall be removed from the site and disposed of in a lawful manner prior to the expiration of this Use Permit.
- 42. This use shall not generate microwave or radio signals which may create radio interference for aircraft communication and navigation systems, and shall not produce electromagnetic interference with normal radio or television reception in residential districts or with the function of electronic equipment beyond the property line.

AIR QUALITY MANAGEMENT DISTRICT

- 43. The applicant shall obtain an Authority to Construct/Permit to Operate from the Shasta County Air Quality Management District.
- 44. A dust palliative shall be placed and maintained on all stockpiles containing material that has the potential to create fugitive dust, according to criteria established by the Air Quality Management District, in order to prevent fugitive dust emissions from leaving the property boundaries. Types of palliatives may include physical restraints such as netting, tarping, or other covering, and water.
- 45. Any secondary source of dust arising from transportation of any materials to and from the site shall be controlled by water spray or other means so as to eliminate any dust nuisance. Roads shall be maintained in a dust free condition.
- 46. The following Air Quality Standard Mitigation Measures shall apply:
 - a. Alternatives to open burning of vegetative material on the project site shall be used by the project applicant unless otherwise deemed infeasible by the AQMD. Among suitable alternatives are chipping, mulching, or conversion to biomass fuel.

- b. The applicant shall be responsible for ensuring that all adequate dust control measures are implemented in a timely and effective manner during all phases of project development and construction.
- c. All material excavated, stockpiled, or graded should be sufficiently watered to prevent fugitive dust from leaving property boundaries and causing a public nuisance or a violation of an ambient air standard. Watering should occur at least twice daily with complete site coverage, preferably in the mid-morning and after work is completed each day.
- d. All areas (including unpaved roads) with vehicle traffic should be watered periodically or have dust palliatives applied for stabilization of dust emissions.
- e. All on-site vehicles should be limited to a speed of 15 miles per hour on unpaved roads.
- f. All land clearing, grading, earth moving or excavation activities on a project shall be suspended when winds are expected to exceed 20 miles per hour.
- g. All inactive portions of the development site should be seeded and watered until a suitable vegetative cover is established.
- h. All trucks hauling dirt, sand, soil or other loose material should be covered or should maintain the minimum required amount of freeboard (i.e., minimum vertical distance between top of the load and the trailer) in accordance with the requirements of CVC Section 23114. This provision shall be enforced by local law enforcement agencies.
- i. All material transported off-site shall be either sufficiently watered or securely covered to prevent a public nuisance.

DEPARTMENT OF WATER RESOURCES

- 47. The applicant shall obtain from the Department of Water Resources, Division of Waters Rights, all required water rights required for the proposed future pond.

REGIONAL WATER QUALITY CONTROL BOARD:

- 48. The applicant shall obtain and comply with all required permits from the Regional Water Quality Control Board.

MOSQUITO ABATEMENT DISTRICT

- 49. All grading and drainage plans and plans for the pond shall be reviewed and approved by the Mosquito Abatement District.

ENVIRONMENTAL HEALTH DIVISION:

- 50. A Hazardous Materials Business Plan is required for facilities such as this at the time that hazardous materials are stored onsite that are equal to, or in excess of, 55 gallons for a liquid, 200 cubic feet of a compressed gas, or 500 pounds of a solid. The existing Plan shall be updated to reflect any proposed changes in storage locations, quantities or methods of storage, and submitted to EHD.

51. The following activities are exempt from the requirement to obtain a grading permit from EHD: Mining, quarrying, excavating, processing, or stockpiling of rock, sand, gravel aggregate, or clay as granted by an approved use permit and reclamation plan. All other activities and any offsite improvements are subject to a requirement to obtain a grading permit. No exemption is allowed for any grading that will adversely affect any off-site drainage or that will adversely affect the lateral or subjacent support of any property not owned by the owner of the land upon which such grading is performed. A grading permit would then be required for this facility.
52. Sanitary facilities shall be constructed and maintained in conformance with the requirements of the Environmental Health Division.

DEPARTMENT OF PUBLIC WORKS:

53. Continue an agreement with the County to pay for extraordinary maintenance of Iron Mountain Road caused by traffic from this operation. This will include annual maintenance as well as the possible resurfacing of the road at a later time.

SHASTA COUNTY FIRE DEPARTMENT:

54.
 - a. Access roadways shall be a minimum of 16 feet wide and dead-end roadways shall be provided with an approved turnaround.
 - b. The facility shall be provided with street address markers located with respect to the nearest roadway and to be clearly visible at all times. Numbers shall be a minimum of four inches in height, reflectorized, and shall contrast in color with the background.
 - c. The applicant shall dispose of any vegetation cleared for construction and/or land development purposes. Disposal shall be in accordance with Air Quality Management Regulations and State or local Fire Department Burning Permit Regulations.
 - d. Storage, use, and dispensing of flammable/combustible liquids shall be in accordance with the adopted edition of the California Fire Code. Plans shall be submitted to CAL FIRE / SCFD for review and approval prior to construction, storage, or use.
 - e. Accumulations of waste paper, weeds, combustible waste material, waste petroleum products, tires, or rubbish of any type shall be prohibited.
 - f. All mobile and stationary equipment with non-turbocharged internal combustion engines shall be equipped with a properly functioning, approved spark arrestor.
 - g. Each vehicle shall be equipped with a portable fire extinguisher.

Advisory note: The project is located in an area designated as a "MODERATE" and "VERY HIGH" Fire Hazard Severity Zone under Section 4203 of the Public Resources Code of the State of California.

Department of Fish and Game Fees

55. The applicant shall pay the Shasta County Clerk a documentary handling fee for posting a Notice of Determination or Notice of Exemption for this project pursuant to the California Environmental Quality Act (CEQA), section 15075. The applicant shall also pay the appropriate fees pursuant to Fish and Game Section 711.4 (AB 3158). Said fees shall be paid within five (5) days following the end of any final appeal period, or in the event of a timely appeal within five (5) days following any

final decision on the appeal, before the project approval will be considered final. Failure to pay the required fees will render this contingent project approval null and void.

Attachment C
Agency Responses to Referrals



State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Northern Region
601 Locust Street
Redding, CA 96001
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director



March 17, 2023

Tara Petti, Senior Planner
Shasta County Department of Resource Management
Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001

Subject: Early Consultation Request for the Crystal Creek Aggregates Project, Use Permit 22-0001 and Reclamation Amendment Plan 22-0001, Shasta County

Dear Tara Petti:

The California Department of Fish and Wildlife (CDFW) has received the early consultation request for Shasta County Use Permit 22-0001 and Reclamation Plan Amendment 22-0001, a proposal to expand an existing aggregate mining operation within existing geographic mining and Reclamation Plan boundary, to increase annual volume of processed aggregate from 250,000 tons to 500,000 tons and extend the termination date from 2072 to 2099 (Project). CDFW appreciates this opportunity to offer consultation recommendations with regard to biological resources.

CDFW's Role

CDFW is California's Trustee Agency for fish and wildlife resources and holds those resources in trust by statute for all the people of the State (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a)). CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (Id., § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW may also act as a Responsible Agency under CEQA (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. Likewise, "take" authorization, as outlined by the applicable Fish and Game code, may be required if the Project as proposed may result in "take", as defined by state law, of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), or state-listed rare plant pursuant to the Native Plant Protection Act (NPPA; Fish and G. Code § 1900 et seq.).

Conserving California's Wildlife Since 1870

Tara Petti, Senior Planner
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Consultation Recommendations

Species of Special Concern (SSC)

Potential impacts to SSC warrants implementing appropriate avoidance and minimization and/or mitigation measures (AMMs). Take of an SSC could require a mandatory finding of significance by the Lead Agency (CEQA Guidelines, § 15065). For additional information regarding SSC, please visit this link:

<https://wildlife.ca.gov/Conservation/SSC>

Please note, to relocate SSC, a scientific collecting permit is required. This link will provide additional details: <https://wildlife.ca.gov/Licensing/Scientific-Collecting>

Western Pond Turtle

Western Pond Turtle is a Priority 3 SSC. The Crystal Creek Aggregates Biological Resource Assessment (BRA) indicates that several western pond turtles were observed in two nearby, historic mining ponds which are not proposed for disturbance. The BRA also indicates that active reclamation ponds provide suitable habitat for western pond turtle. Historic mining ponds known to be occupied by western pond turtles, including PO15 and PO16 are approximately 240 meters from reclamation ponds proposed for disturbance. This distance is within western pond turtles known traveling distance.

The proposed AMM's, as outlined in the BRA, are inadequate to avoid and minimize potential impacts to western pond turtles. To reduce potential impacts, CDFW strongly recommends the lead agency adopt the following AMMs, in place of those described in the BRA:

1. An environmental tailboard should be conducted, as needed, to ensure all on-site Project workers can identify and avoid western pond turtle, should they traverse the Project site or bask in reclamation ponds during active mining operations.
2. If western pond turtle is encountered during Project activities, activities in the immediate vicinity (within 25 feet) shall cease until the turtle moves out of the area on its own, or a good-faith effort made by a qualified biologist to capture and relocate turtles to nearby suitable habitat. Any trapped, injured, or killed pond turtles shall be reported immediately to CDFW via R1CEQARedding@wildlife.ca.gov.
3. Project activities, including stockpiling, shall not occur within 200 meters of occupied western pond turtle habitat, including PO15, PO16, PO17, PO18 or PO19, between March and October, the known nesting and incubation season, when western pond turtles are anticipated to traverse surrounding uplands for egg laying.

Tara Petti, Senior Planner

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4. Any future land modification or habitat disturbance proposed within or directly adjacent to PO15, PO16, PO17, PO18 or PO19, should occur outside of the known nesting and incubation season, between March and October.
5. Prior to any future land modification or habitat disturbance proposed within or directly adjacent to PO15, PO16, PO17, PO18 or PO19, surveys for western pond turtle should be conducted by a qualified biologist. If western pond turtles are observed, a good-faith effort by a qualified biologist to capture and relocate turtles to nearby suitable habitat.
6. Erosion control materials used throughout the Project site (e.g., geotextiles, fiber rolls) shall be made of loose-weave mesh, such as jute, hemp, coconut (coir) fiber, or other products without welded weaves. Synthetic (plastic or nylon) materials should not be used.
7. Escape ramps shall be installed on all reclamation ponds to allow wildlife to exit. Dimensions of the ramps shall be a minimum of 12 inches wide (e.g., 2-inch x 12-inch timber), fastened to the soil for stability and not exceeding a 2:1 slope. If the dynamics of the reclamation ponds change throughout time, so should the exit ramps, to ensure continued functionality. Ramps shall be evaluated monthly to ensure proper function.

Bats

Pallid bat and Townsend's big-eared bat are SSC. The BRA indicates suitable habitat for pallid bat and Townsend's big-eared bat occur onsite, within areas of potential disturbance. To reduce potential impacts to bats, CDFW recommends the lead agency adopt the following AMMs:

1. Mature trees that contain cavities, crevices and/or exfoliated bark shall be retained to the maximum extent possible.
2. Mature trees that must be removed, but contain cavities, crevices and/or exfoliated bark, shall be modified and/or removed between September 1 and October 31, outside of the bat maternity season, when young are non-volant, and outside of bat hibernacula.
3. Project activities, which include disturbance, demolition, and/or removal of any existing tunnels within the mine expansion area, shall be initiated between September 1 and October 31, outside of the bat maternity season, when young are non-volant, and outside of known bat hibernacula.
4. Prior to Project activities which include disturbance, demolition, and/or removal of any existing tunnels within the mine expansion area, a qualified bat biologist shall conduct pre-construction surveys for roosting bats within

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7 days prior to the start of mining activities. If bats are observed during pre-construction surveys, CDFW shall be consulted prior to commencement of Project activities.

Nesting Birds

While CDFW concurs with the BRA's assessment and proposed MMM's for nesting birds, to avoid impacts to nesting birds and/or raptors protected under FGC sections 3503 and 3503.5 and the federal Migratory Bird Treaty Act, CDFW recommends the lead agency adopt the following AMMs:

- a. Vegetation removal and other ground-disturbing activities associated with construction should occur between September 1 and January 31, when birds are not nesting; or
- b. If vegetation removal and other ground-disturbance activities occur during the nesting season, a pre-construction nesting bird survey should be conducted by a qualified biologist to identify active nests in and adjacent to the Project area, no more than 7 days prior to the commencement of construction activities.

Surveys should begin prior to sunrise and continue until vegetation and nests have been sufficiently observed. The survey should consider acoustic impacts and line-of sight disturbances occurring because of the Project to determine a sufficient survey radius to maximize observations of nesting birds. A nesting bird survey report should be prepared and at a minimum, the report should include a description of the area surveyed, date and time of the survey, ambient conditions, bird species observed, a description of any active nests observed, any evidence of breeding behaviors (e.g., courtship, carrying nest materials or food, etc.), and a description of any outstanding conditions that may have impacted the survey results (e.g., weather conditions, excess noise, the presence of predators, etc.).

If an active nest is located during preconstruction surveys, a non-disturbance buffer shall be established around the nest by a qualified biologist in consultation with the Department and U.S. Fish and Wildlife Service to comply with FGC sections 3503 and 3503.5 and the Migratory Bird Treaty Act. Compliance measures may include, but are not limited to, exclusion buffers, sound-attenuation measures, seasonal work closures based on the known biology and life history of the species identified in the survey, as well as ongoing monitoring by biologists.

Control of Invasive Wildlife

It has been noted from past field reviews performed by CDFW staff that several invasive wildlife species are known to occur, or thought to occur, in the Project area including bullfrog, red-eared slider, and non-native bass. The BRA details a brief description for onsite bullfrog management, which includes a recommendation to screen outfalls and culverts to prevent all life stages of

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bullfrogs from unintentionally discharging offsite. CDFW does not concur with this recommendation, as screens may impede native species movement.

CDFW understands that bullfrog management and eradication is challenging; however, with persistence, control has been obtained from small-scale efforts. Therefore, CDFW strongly encourages the preparation of an invasive wildlife species management plan to control onsite populations of bullfrogs and red-eared sliders. The management plan should consider active management strategies, such as seasonal egg mass removal for bullfrogs and detail specifics for performing management strategies. The invasive wildlife species management plan should be included in the Initial Study prior to Project approval.

As stated in the California Regulations for Private Stocking of Aquatic Plants and Animals¹, a Private Stocking Permit from CDFW is required to stock live aquatic plants and animals in any state waters². Additionally, certain fish species including non-native bass may not be stocked in waters that drain into salmon and steelhead streams. Due to the connection of onsite aquatic resources and the Sacramento River, stocking fish should not be performed in any of the aquatic features found throughout the Project site.

Aquatic Resources

CDFW has adopted the United States Fish and Wildlife Service approach regarding the Primary Indicators Method for distinguishing wetlands³. While CDFW believes that the Draft Delineation of Aquatic Resources (DDAR) and the Technical Memorandum (TM) for aquatic resources are adequate in their identification and appraisal of waters throughout the Project area, two wetland determination forms, TP-01 and TP-02, describes the presence of at least one wetland indicator: hydrophytic vegetation. Therefore, a discussion of CDFW's recognition of these resources, and an assessment for their inclusion in the total acreage of potential waters of the state, is appropriate to include.

While the DDAR, TM and BRA discuss waters occurring throughout the Project area in detail, none discuss anticipated direct and indirect impacts of the Project as it is proposed. The BRA states "*...the previous Lake and Streambed Alteration Agreement obtained for the Mine (LSAA No. 1600-2012-0018-R1); onsite mitigation was approved to compensate for impacts to wetlands. Since the Use Permit Amendment is not proposing any changes to the previously approved limits of mining activities, no changes to the proposed onsite mitigation previously approved is anticipated.*" Although changes are not proposed from past mining limits, direct and indirect impacts to waters should be clearly identified and an analysis of these impacts should be included in the Initial Study. Without a clearly defined impacts analysis, it is impossible for the Project proponent to determine, and CDFW to advise, adequate mitigation for impacts.

¹ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=3252>

² <https://wildlife.ca.gov/Organization/FB/Permitting>

³ Cowardin, Lewis M., et al. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, U.S. Fish and Wildlife Service.

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Once impacts are identified, AMMs for adverse Project-related impacts to waters should be developed and thoroughly discussed in the Initial Study. AMMs should first emphasize avoidance and reduction of Project impacts. The Project proponent should determine final mitigation and initiate coordination with the appropriate entity to enable prerequisite aquatic resource mitigation implementation, including securing and contributing the required funds if applicable, prior to Project approval.

If the County does not have a standard water-feature setback, then CDFW recommends a 50-foot no-disturbance buffer around all water features, including wetlands and streams, outside of the approved Reclamation Plan Area. This buffer should be maintained in perpetuity of Project operations.

Lake and Streambed Alteration Agreement

Fish and Game Code section 1602 requires any person, state or local governmental agency, or public utility to notify CDFW prior to beginning any activity that may do one or more of the following:

1. substantially divert or obstruct the natural flow of the bed, channel, or bank of any river, stream, or lake; or
2. substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or
3. deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

To obtain information about the 1600 Notification process, please access CDFW's website at: <https://www.wildlife.ca.gov/Conservation/LSA>.

Submitting Data

CEQA requires that information developed in environmental documents be incorporated into a database, which may be used to make subsequent or supplemental environmental determinations. (Public Resources Code section 21003(e)). Please report any special status species observations and natural communities detected during Project surveys to the CNDDDB. The CNDDDB field survey form can be found at the following link:

<https://www.wildlife.ca.gov/Data/CNDDDB/Submitting-Data>

Reclamation Prescriptions

A section describing reclamation prescriptions is included in the Draft Crystal Creek Aggregates Project Description Report (DPD). This section describes a broad approach to reclamation prescriptions after the decommissioning of specific mining activities. CDFW recommends the preparation of a detailed reclamation plan prepared by a qualified landscape architect, or similar, who is familiar with the ecology of the area. The detailed reclamation plan should be included as an

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appendix to the Initial Study and should be written with an adaptive management approach to allow for the flexibility of future environmental conditions and climate.

The DPD states “*The revegetation of benches provides a fulfillment of one of the primary objectives of the reclamation program: to establish a new visually pleasing vegetative cover that provides future fire protection.*”. While CDFW concurs with the addition of vegetative cover resistant to fire, the area should also be restored with the intent to reestablish natural functions, ecological values and enhance habitat suitable to native species.

Trenching, Excavation and Pipe Staging

If trenching and excavation will be included in Project activities, any open trench and excavation areas should be covered securely prior to stopping work each day and/or a wildlife exit ramp should be provided in the trench to prevent wildlife entrapment. If pipes are left out onsite, they should be inspected for wildlife prior to burying, capping, moving, or filling.

Native Vegetation in Landscaping

CDFW recommends utilizing vegetation native to the local area in landscaping whenever possible. Benefits of utilizing native vegetation in landscaping include providing resources for native wildlife including beneficial pollinators, conserving water, reducing pesticide use, and reducing landscaping maintenance. The California Native Plant Society (CNPS) website (<https://www.cnps.org>) includes a variety of useful information and tools to help determine which native species occur in a particular area, information on care and maintenance of native species, and contacts for purchasing native plants or seeds. The CNPS tool Calscape (<https://calscape.org/>) generates a list of native plants that grow in an area based on a specific address, and can be used to develop a planting palette for landscaping plans. A search of Calscape returned a wide variety of plants native to the Project site and surrounding landscapes. For more information regarding the importance of using native species in landscaping, please see the CNPS Guidelines for Landscaping to Protect Native Vegetation from Genetic Degradation at: <https://www.cnps.org/wpcontent/uploads/2018/04/landscaping.pdf>.

CDFW appreciates the opportunity to offer early consultation recommendations that may assist Shasta County in adequately analyzing and minimizing impacts to biological resources. If you have any questions, please contact Erika Iacona, Environmental Scientist, by email at R1CEQARedding@wildlife.ca.gov.

Sincerely,
DocuSigned by:



CF3ACB4B353D420
Debra Hawk

Senior Environmental Scientist (Supervisory)

July 14, 2023

Tara Petti
Shasta County Department of Resource Management
Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001

RE: Response to CDFW Letter dated March 17, 2023 – Early Consultation Request for the Crystal Creek Aggregates Project (Project), Use Permit 22-0001 and Reclamation Amendment Plan 22-0001, Shasta County

Ms. Petti,

On behalf of our client and use permit applicant, Crystal Creek Aggregates, we are responding to the California Department of Fish and Wildlife (CDFW) comment letter dated March 17, 2023 regarding the content of the October 2022 Crystal Creek Aggregates Biological Resource Assessment (BRA) and recommended avoidance and minimization measures (AMMs). The following content reviews and addresses each statement/consultation recommendations in the letter.

Species of Special Concern:

Take of Species of Special Concern (SSC) is not anticipated through the implementation of AMMs. The ability to relocate SSC to adjacent suitable habitat are typically covered under Streambed Alteration Agreements and thus a scientific collecting permit is not required to relocate a SSC.

Western Pond Turtle:

CDFW recommended changes and additions to the AMMs that were proposed in the BRA. The AMMs in the BRA were consistent with those previously approved by the CDFW as part of the conditions of the Lake and Streambed Alteration Agreement (SAA) that the Project has been continuously working under. CDFW notes that western pond turtles were observed in two nearby historic mining ponds that are not proposed for disturbance. While the BRA states *“When water is present all of the manmade ponds in the BSA provide suitable habitat for western pond turtles; however, due to regular disturbance and steeply engineered banks, the active mining ponds do not provide high-quality habitat for western pond turtles.”*, it is highly unlikely that western pond turtle will utilize the active mining sites when there is suitable (and occupied PO15 and PO16) habitat elsewhere on the site. The individually numbered recommendations are addressed below:

1. We recommend that instead of a tailboard (training), that identification material be posted in prominent locations to make workers aware of the possible presence of pond turtles on the site and what to do if they are encountered. Using permanent signage will allow for all workers and potential contractors who enter the site to be aware of the presence of western pond turtles as opposed to providing training for new personnel, which will likely not be implemented after the first training occurs.
2. This measure is similar to what is provided in the BRA with more detailed wording. It is recommended that this language be included in the AMMs
3. This is not feasible for the mine operator to continue operation. There is less than 200 meters between the ponds and the roads within the permitted work area. Due to the barriers (terrain and vegetation) present between suitable habitat PO15, PO16, PO17, PO18 and PO19, mining operations should be allowed to continue as they currently do. It is likely that western pond turtles will choose to inhabit the drainage corridor of PO15, PO16, PO17, PO18 and PO19 rather than traverse slopes, thick vegetation and downed trees. Alternative AMMs to address potential western pond turtle movements may include installing exclusion barriers (such as ERTEC Environmental Systems Smooth Ridged Polymer Matrix fencing or similar product) along the roadway in the vicinity of the aforementioned ponds to minimize the risks associated with western pond turtles entering an active mining site.
4. CDFW's statement is noted. It is recommended that this language be included in the AMMs.
5. CDFW's statement is noted. It is recommended that this language be included in the AMMs.
6. As work has been ongoing within the permitted area, we recommend that this AMM apply only to future land modification or habitat disturbance. It is recommended that this language be included in the AMMs with a revision to apply to future land modifications.
7. The CCA mining operations do not include trenching activities but rather undertakes excavation of large areas. The edge conditions of the excavation areas are typically graded at a 2:1 slope or less which is an acceptable slope for wildlife to use for exiting excavated areas. If there are slopes in excess of 2:1 in excavation areas then exit ramps will be installed. It is recommended that language be included in the AMMs to encourage the use of exit ramps in excavated areas that are steeper than 2:1 slopes.

Bats:

The CDFW recommended some minor changes in the avoidance timelines to those that were proposed in the BRA. The individually numbered recommendations are addressed below:

1. CDFW bat avoidance timeline is noted and it is recommended that this language be included in the AMMs. The majority of trees are in a state of regeneration due to the Carr Fire and do not provide suitable roosting habitat. In light of this, AMM 1-2 should be modified as follows:
"A qualified bat biologist shall conduct a preconstruction survey prior to tree removal. If suitable roosting habitat is found where bats may be impacted by work activities, then the following shall be implemented:
Mature trees that contain cavities, crevices and/or exfoliated bark shall be retained, to the maximum extent feasible. If these trees must be removed, they shall be modified and/or removed between September 1 and October 31, outside of the bat maternity season, when young are nonvolant, and outside of bat hibernacula."
2. This issue has been addressed in Item 1 above.
3. This AMM is the same as in the BRA with more detailed wording and the addition of an avoidance timeline. It is recommended that this language be included in the AMMs.

4. This AMM is the same as in the BRA with more detailed wording and the addition of the sentence, “If bats are observed during preconstruction surveys, CDFW shall be consulted prior to commencement of Project activities.” It is recommended that this language be included in the AMMs.

Nesting Birds:

The AMMs proposed in the BRA are almost identical to those recommendations that CDFW have identified. The individually numbered recommendations are addressed below:

- a. This is essentially the same language as in the BRA. No changes are necessary as a result of this comment.
- b. The first and third paragraphs are the same as in the BRA. The survey techniques outlined in the second paragraph are standard methodology employed during nesting bird surveys and are unnecessary to be included in the AMMs. The description of how the report is written in the second paragraph, while important, seems out of place in the AMM. No changes are necessary as a result of this comment.

Control of Invasive Wildlife:

The CDFW did not concur with the bullfrog management methods proposed in the BRA and were concerned that the use of screens on the outfall culverts would impede native species movement. CDFW acknowledges that bullfrog management and eradication is challenging and recommends the inclusion of an invasive species management plan into the Initial Study.

All but three of the drainages flow directly into ponds that are contained within the site and only two of the three drainages flow offsite into an unnamed tributary of Middle Creek. The three drainages that discharge offsite are too shallow and ephemeral to support native fish species or special status frog species. There is a possibility that these drainages could support bullfrog; however, preferred habitat would be in the slow stagnant ponds which do not have any outlet drainages outside the site and are not hydrologically connected the three drainages with offsite discharge. Given that bullfrogs are abundant and widespread throughout California, the degraded state of the mining site, and lack of a known mechanism in CEQA to require an invasive species control plan, the bullfrog management section in the BRA is not recommended to be included in the CEQA document.

Paragraph three regarding the stocking of aquatic plants and animals is noted. There are no known incidents of pond stocking. Crystal Creek Aggregates representatives concur that ponds are not stocked. Additionally, the drainages that flow into salmon and steelhead streams are ephemeral and do not support fish species or migration corridors.

Aquatic Resources:

The CDFW stated that they have “adopted the United States Fish and Wildlife Service approach regarding the Primary Indicators Method for distinguishing wetlands.” However, we are currently unaware of any documented ‘adoption’ of a definition of wetlands by CDFW or a change in their Fish and Game Code (Section 1602) that provides CDFW jurisdiction over anything other than the bed, channel or bank of rivers, streams, or lakes. Furthermore, the United States Fish and Wildlife Service approach for

distinguishing wetlands as detailed in the *Classification of Wetlands and Deepwater Habitats of the United States* that CDFW referenced has been misapplied to the Project area.

The CDFW makes the statement that because one of the three wetland indicators were met at TP01 and TP02 that these areas should be considered waters of the State. However, the methodology detailed in the *Classification of Wetlands and Deepwater Habitats of the United States* 2nd edition states:

‘For purposes of this classification wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes; 1 (2) the substrate is predominantly undrained hydric soil;2 and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year.’

Attribute 1 is not met in TP01 or TP02. Although there is hydrophytic vegetation present the predominance test of the USFWS guidelines is not met (TP01=30% and TP02=15%).

Attribute 2 is not met in TP01 or TP02. The soils sample evaluated at these locations did not meet hydric soil indicators.

Attribute 3 is not met in TP01 or TP02. The substrate is soil (not nonsoil) therefore the remainder of the test regarding saturation with water or covered by shallow water at some time during the growing season of each year is not applicable. Furthermore, wetland hydrology was not present at TP01 and TP02.

Additionally, the *Classification of Wetlands and Deepwater Habitats of the United States* 2nd edition goes on to clarify the information that should be used when making a wetland identification:

‘Cowardin et al. (1979) intended that all available information should be used in making a wetland identification, as follows:

- *If plants and soil are present at a site, then both a predominance of hydrophytes and a predominance of undrained hydric soil, as well as wetland hydrology, should be required for positive wetland identification.*
- *If plants are present but soil is absent (e.g., Algal Aquatic Beds on rock substrates), then a predominance of hydrophytic vegetation, as well as wetland hydrology, should be required for a positive wetland identification.*
- *If plants are absent but soil is present, then a predominance of undrained hydric soil, as well as wetland hydrology, should be required for positive wetland identification.*
- *If neither plants nor soil is present, then the wetland identification must be made strictly on the basis of hydrology. In this case, the substrate should be “saturated with water or covered by shallow water at some time during the growing season of each year.”*

In these examples, three (3) indicators – hydrophytic vegetation, undrained hydric soil, and wetland hydrology; two (2) indicators—hydrophytic vegetation and wetland hydrology or undrained hydric soil and wetland hydrology; and one (1) indicator—

wetland hydrology, respectively, would be used to make the identification, based on the features available at the particular site.'

Therefore, neither of these areas meet any definition of a wetland currently used by any regulatory agency, including the Regional Water Quality Control Board's definition of wetland waters of the State.

In the second paragraph CDFW indicates that direct and indirect impacts of the Project to waters are not discussed. Detailing proposed impacts to waters of the State is not a component of the content of a BRA. The BRA is intended to establish baseline conditions of the biological habitats and species and provide recommendations to avoid, minimize and mitigation for potential impacts resulting from Project activities, often prior to knowing what the final proposed Project activities are. The appropriate venue for identifying potential impacts to waters is through a preliminary impact assessment that can inform the Initial Study in a general sense and then subsequently in permit applications (1602, 401 and 404) in specific detail. Potential impacts to waters of the State and U.S. are discussed in the Draft Initial Study developed by Shasta County. It should be noted that identifying specific details on the impacts to waters and mitigation methods in a CEQA document often results in conflicts with the results of permits from regulatory agencies that may be issued at a much later time. It is our recommendation that the CEQA document discusses potential impacts but defer specifics to the results of the regulatory agencies and permits.

Lake and Streambed Alternation Agreement:

This comment includes an overview of the Fish and Game Code Section 1602 and does not identify specific issues with the proposed Project.

Submitting Data:

This comment encourages the Project proponent to report any special status species observations to the California Natural Diversity Database and does not identify specific issues with the proposed Project.

Reclamation Prescriptions:

CDFW recommends the preparation of a detailed reclamation plan prepared by a qualified landscape architect, or similar, who is familiar with the ecology of the area. This plan was prepared for the proposed Project. It is our understanding that CDFW was provided with a copy of the reclamation plan for review and comment

Trenching, Excavation and Pipe Staging:

CDFW recommends open trench and excavation areas should be covered securely prior to stopping work each day and/or a wildlife exit ramp should be provided in the trench to prevent wildlife entrapment. If pipes are left out onsite, they should be inspected for wildlife prior to burying, capping, moving, or filling. The CCA mining operations do not include trenching activities but rather undertakes excavation of large areas. The edge conditions of the excavation areas are typically graded at a 2:1 slope or less which is an acceptable slope for wildlife to use for exiting excavated areas. If there are slopes in excess of 2:1 in excavation areas then exit ramps will be installed. The CCA mining operations do not include the use of

pipes. It is recommended that language be included in the AMMs to encourage the use of exit ramps in excavated areas that are steeper than 2:1 slopes.

Native Vegetation in Landscaping:

CDFW recommends utilizing vegetation native to the local area in landscaping whenever possible. Based on discussions with CCA representatives, there is no proposed additional landscaping in areas outside the mining area. The Reclamation Plan identifies, beginning on page 36, that “landscaping within Pond #6 benches, as they are completed, will be “to create a fire-resistant plant community on the quarry benches.” “Ponderosa pine is chosen since it is native to the area.” Furthermore, “the establishment of “volunteer” pines, grasses, and forbs from the surrounding area will count towards determining vegetative success as long as there are no noxious weeds, non-native species, or plants present that increase the fire danger. “

Thank you for the opportunity to review and comment on this project. If there are questions or concerns regarding the content of this letter please don't hesitate to contact me at (530) 332-9909 or kevin@gallawayenterprises.com.

Sincerely,



Kevin Sevier
Vice President and Senior Planner
Gallaway Enterprises, Inc.

Attached: Copy of Letter from CDFW To Tara Petti dated March 17, 2023



United States Department of the Interior



BUREAU OF LAND MANAGEMENT
Redding Field Office
6640 Lockheed Drive
Redding, CA 96002
www.blm.gov/office/redding-field-office

Tara Petti
Associate Planner, Shasta County
tpetti@co.shasta.ca.us

Dear Tara Petti,

As an adjacent landowner, the Bureau of Land Management Redding Field Office appreciates the opportunity to provide comments for the Initial Study on the Crystal Creek Aggregate Use Permit Amendment (UP 22-0001) and Reclamation Plan Amendment (RP 22-0001). The Redding Field Office interdisciplinary team reviewed the proposed project and supporting information. We have identified several areas of concern that the Redding Field Office would like to see considered: land ownership, cultural site impacts, and weed management impacts.

Land Ownership:

The BLM urges Crystal Creek Aggregate to continue to carefully observe the boundaries between their property and public lands. Stockpile areas and access routes are located immediately adjacent to BLM lands in the north part of the project area. The area adjacent to the new bike lane and modified turn lane on SR299 is BLM managed public lands. Please provide a map or engineering drawing that depicts the proposed changes, land ownership, and right-of-way or easement information for this part of the project.

Cultural site impacts:

The BLM would like to see a continuation of Native American Indian access to the Kett archaeological site and to the extent possible activities directed as far away from the site as possible. This would help ameliorate any visual, auditory, and/or air quality issues with respect to visiting tribal members who hold the site as sensitive and sacred. Perhaps activity timing issues could be considered in this regard as well.

Weed management impacts:

Non-native invasive plants are a continuing issue in this area of Shasta County, on BLM lands and on adjacent private property. The BLM works to keep trails, roads, and other vector areas free of new weeds that are threatening to establish in the area such as stinkwort (*Dittrichia graveolens*) and keep more prevalent weeds from spreading. Applicable measures such as routine surveys and treatments of non-native invasive species by the operators could help improve the cross-boundary weed management in this area.

If you would like to discuss these comments further, please reach out to Laura Brodhead, Assistant Field Manager at lbrodhead@blm.gov or 530-224-2176.

Sincerely,

Jennifer Mata