Revegetation Plan
Stevens Creek Quarry

CUPERTINO, SANTA CLARA COUNTY, CALIFORNIA

Prepared For:
Andrew White
Benchmark Resources
2515 East Bidwell Street
Folsom, CA 95630
awhite@benchmarkresources.com

WRA Contact:
Kari Dupler
dupler@wra-ca.com

Date:
December 2020

WRA Project #:
30306

ENVIRONMENTAL CONSULTANTS

2169-G East Francisco Blvd., San Rafael, CA 94901 (415) 454-8868 tel info@wra-ca.com www.wra-ca.com

TABLE OF CONTENTS

APPENDICES

1.0 INTRODUCTION

This Revegetation Plan (Plan) describes the revegetation program for the Stevens Creek Quarry (Quarry) proposed Reclamation Plan Amendment (RPA) in Cupertino, Santa Clara County (Appendix B, Figure 1). This Plan provides specific guidance on soil amendments, species planting palette, and revegetation success criteria.

This plan provides recommendations for revegetation of 159 acres of an approximately 251-acre Reclamation Plan Amendment area ([Study Area], Appendix B, Figure 2). The recommendations in this Plan are intended to comply with the requirements of the California Surface Mining and Reclamation Act (SMARA), Public Resources Code section 2710 et seq., and SMARA's reclamation standards at Code of Regulations, Title 14, section 3705 et seq. (Reclamation Standards).

This Revegetation Plan includes a description of the following:

- Goals of the revegetation program;
- Site characteristics that influence revegetation;
- Proposed soil development and planting methods; and
- Performance standards.

Appendix A lists potential suitable plant species for revegetation of the Study Area. Appendix B includes Figures 1 and 2 as referenced in this Revegetation Plan.

1.1 Revegetation Goals and Objectives

The ultimate goal for revegetation efforts in the Study Area is self-sustaining revegetated cover that supports reclamation to an open space condition suitable for future development as allowed under the County Zoning Ordinance. The county Hillside district allows by right uses such as general agriculture, livestock, agricultural accessory structures and uses, nurseries, consumer recycling facilities and wineries. A variety of other uses are allowed subject to a use permit. Interim erosion control planting may be used to provide temporary protection for disturbed areas until such time that they may be reclaimed to the approved end use.

Revegetation should stabilize the site against erosion if and until post-mining land uses are developed. On-site test plots will be used to refine the planting plan such that the most successful plant species and soil blends will be used preferentially to facilitate revegetation of the site as quickly as possible.

1.2 Summary of Revegetation Tasks

Tasks described in this Plan will provide vegetative cover using predominantly native plants for final contours, thus controlling erosion and stabilizing slopes. Revegetation efforts will utilize plant materials capable of self-regeneration without continued dependence on irrigation, soil amendments, or fertilizer, in accordance with the Reclamation Standards. Seeding of the finished slopes with a mixture of grasses, herbaceous plants, and shrubs will provide surface cover and erosion control for the new slopes. Shrub planting areas will be located on mine benches between largely unvegetated highwalls that must remain for slope stability purposes. This Plan describes a test plot program, soil treatment and plant installation, maintenance and adaptive management guidelines, and verifiable monitoring standards to achieve the goals and objectives listed above.

2.0 EXISTING CONDITIONS

2.1 Native Soil Types

The USDA *Soil Survey of Santa Clara Area, California* (USDA 1958) indicates that the Study Area has six native soil types (map units) and depicts excavated Quarry areas as a "Pit" map unit. These map units are described in detail below. According to the soil survey, the native soils of the Study Area were subject to erosion and gullying, and were either generally quite shallow hosting a plant community dominated by scrub or deeper supporting a more robust bay or oak woodland community. Although historical Quarry activities have largely removed the native soils, successful revegetation is expected based on local experience.

Pit (Ec) - This map unit consists of areas large enough to map where excavations have been made and where the original soil has been removed. Excavations in this area have been principally for drain rock, aggregate base rock, and sand.

Merbeth-Literr complex, 30 to 65 percent slopes - The Merbeth-series soil consists of very deep, well-drained soils formed in old alluvium from mixed rock sources. These soils are on hills of dissected terraces. Soil temperatures range from 60 to 62ºF and are dry from about June 15 to October 15 (about 120 days). This series is geographically associated with Literr soils, which have mollic epipedons.

Mouser-Maymen complex, 30 to 75 percent slopes - The Mouser-series soils consist of deep and very deep, well-drained soils that formed in residuum weathered from sandstone, mudstone, and greenstone. They are on summits and side slopes of mountains and hills. Mean annual temperature is about 57ºF and are usually moist in between November and May, and have a xeric moisture regime. This series is geographically associated with Maymen soils, which are shallow, somewhat excessively drained soils found on mountains.

Katykat-Sanikara complex, 8 to 30 percent slopes - The Katykat series soils formed in residuum weathered from sandstone and mudstone of the Franciscan formation and are found on side slopes and summits of mountains and foothills. They are geographically associated with Sanikara soils, which are shallow to a lithic contact. The climate is subhumid, mesothermal with warm dry summers and cool moist winters. These soils are well drained, moderately permeable, with medium to rapid runoff. The mean annual soil temperature is about 57ºF.

Footpath-Mouser complex, 50 to 75 percent slopes - The Footpath-series soils consist of moderately deep to a paralithic contact, well drained soils that formed in residuum weathered from greenstone. These soils are found on hills, mountain slopes, and summits. The climate is subhumid, mesothermal with warm, dry summers and cool moist winters. Mean annual soil temperatures range from 55 to 59ºF. This series is geographically associated with Mouser soils, which are deep and very deep soils.

Sanikara-Footpath complex, 30 to 75 percent slopes - The Sanikara-series soil consists of very shallow and shallow to lithic contact, well-drained soils formed in residuum weathered from sandstone and greenstone. They are on hills, mountain slopes, and summits. The mean annual temperature is about 57ºF. This series is geographically associated with Footpath soils, which are moderately deep to a paralithic contact.

2.2 Climate

The Study Area lies within a semi-arid Mediterranean climate zone characterized by warm summer and mild winter temperatures with a substantial slope effect contributing to vegetative community differences on north- and south-facing slopes. Rainfall occurs mainly from

November through April. Average annual rainfall is about 22 inches; however, precipitation can range widely from year to year. On north-facing slopes, conditions are moister and less warm than on south-facing slopes, as evidenced by the differences in vegetative communities. The Study Area has both north-facing and south-facing slopes. The initially unvegetated slopes of the Study Area may experience relatively higher summer temperatures than would be expected for this region because sparse vegetative cover will be less effective in reflecting and absorbing sunlight until a denser cover of vegetation is established.

2.3 Vegetation

Vegetation in the Study Area is described in the Jurisdictional Delineation (LSA 2017) and biological constraints report (WRA 2020). A majority of the Study Area has been historically disturbed by Quarry operations; virtually all areas to be reclaimed have already been subjected to vegetation removal and mining. Northern mixed chaparral / scrub oak chaparral, and coast live oak woodland are presumably the natural communities that once dominated the Study Area. These biological communities form a mosaic on south-facing, dry, rocky slopes with thin soils dominated by chaparral species. North-facing slopes and shaded ravines are generally dominated by a mature tree and shrub-dominated canopy. These north facing slopes support oak woodland and bay forest in the canyons and scrub oak chaparral on the ridges.

Shrub species typical of the chaparral community on south-facing slopes include mainly native species: California sagebrush (*Artemisia californica*), chamise (*Adenostoma fasciculatum*), coyote brush (*Baccharis pilularis*), scrub oak (*Quercus berberidifolia*), buckbrush (*Ceanothus cuneatus*), toyon (*Heteromeles arbutifolia*), and poison oak (*Toxicodendron diversilobum*). On north-facing slopes, typical overstory species include coast live oak (*Q. agrifolia*), California bay (*Umbellularia californica*), scrub oak, toyon, and California buckeye (*Aesculus californica*), with scattered valley oak (*Q. lobata*), and blue oak (*Q. douglasii*). Scrub species in the understory on north-facing slopes are typically coyote brush and poison oak.

3.0 SOIL DEVELOPMENT

The conditions of this site limit the conventional SMARA regulation approach to soils salvage and redistribution. The different surfaces and substrate materials (cut and fill surfaces) that will remain at reclamation will have different growth capabilities and planting adaptability. The revegetation plan therefore provides options for the operator to employ. Existing stockpiles of soil, new topsoil generated during new mined surfaces (if any), and imported fill will be incorporated with the top layer of overburden rock when present to improve soil conditions. However, the majority of quarry surfaces have long been established, and new disturbance areas, which contain salvageable topsoil and vegetation, are limited if any. The overburden rock substrate and potential soil materials are characterized as follows:

Overburden: Overburden alone may not be an ideal substrate for certain plant communities given its texture and low organic content. Overburden would benefit from the addition of imported topsoil as available and/or organic amendments. Blending stockpiled overburden with topsoil and other materials is a consideration for improving texture and nutrient content.

Native Topsoil: Planned new areas of mining are limited to marginal perimeter at the west boundary of Parcel B, where topsoil salvage and vegetation salvage and chipping may occur, producing little soil for overall site reclamation.

Rock Plant Fines: The Rock Plant fines material is a by-product of the rock processing activities at the quarry. It has a clay loam texture and contains a substantially greater amount of silt and clay compared to the overburden rock. The Rock Plant fines material are expected to have virtually no low organic matter content. Blending the Rock Plant fines material with the overburden may improve soil texture conditions.

Imported Soils: SCQ has long imported surplus construction soil that meets site-specific acceptance criteria and will continue to do so under the approved and amended reclamation plan. Sources of this material will continue to be evaluated for contamination and testing for pesticides, salts, and other impediments to plant growth where the materials would be used for final cover.

Areas to be revegetated in the Study Area will primarily consist of an overburden rock surface and cut and fill slopes. Overburden is typically fine-grained material that is not suitable as rock product. Slopes scheduled to undergo revegetation will be graded to a final contour ranging from 3:1 to 5:1 depending on the location within the Quarry. Where mining activities have resulted in compaction of the soil, ripping, discing, or other means will be used in revegetation areas to establish a suitable rooting zone in preparation for planting. Where access roads, haul roads, or other traffic routes are to be revegetated, all road base materials are recommended be stripped from the road, the substrate shall be ripped or disked as needed to promote establishment of an appropriate root zone, a soil mix containing topsoil or compost will be spread to promote plant growth, and the area will be revegetated.

3.1 Target Soil Characteristics

To augment growth media, imported surplus construction soil with higher organic matter content than on-site materials may be used in revegetation. Based on experience with soils and native plants, and considering the available and potential materials to develop a planting substrate, the soil preparation depth for areas targeted for scrub planting over the majority of the surfaces is 6 inches, though the depths will be evaluated in the test plots. The shrub plantings on highwall benches may require a deeper planting substrate, such as 12 inches to support root establishment. The importation of excess materials from local construction may occasionally include soils that could be stockpiled for placement on final reclamation surfaces.

4.0 REVEGETATION

Revegetation will focus on developing stable surfaces with self-sustaining cover of predominantly native plants. Revegetation efforts will be implemented following completion of overburden placement and preparation. Planting and maintenance will be conducted using an adaptive management approach, based on a revegetation test plot that will be initiated prior to revegetation activities. A preliminary erosion control stage may be incorporated prior to the revegetation tasks listed below. The native seed mix shown in Table 1 includes species that have proven successful in other local revegetation and is recommended to provide erosion control and initial establishment of native grasses and herbaceous species as needed in temporarily disturbed areas. Other similar species may be used as necessary to establish vegetative cover.

Table 1. Proposed erosion control seed mix.

SCIENTIFIC NAME	COMMON NAME
Bromus carinatus	California brome
Elymus glaucus	blue wildrye
Lupinus nanus	sky lupine
Nassella pulchra	purple needlegrass
Plantago erecta	California plantain
Trifolium willdenovii	tomcat clover
Vulpia microstachys	three weeks fescue

Appendix A provides an extensive list of native species that may be considered for revegetation use. Propagule availability, lead time needed for nursery production, and results of sampling within the Study Area will help to refine this list. When possible, the majority of seed and container plants used in the reclamation revegetation effort will come from commercial sources.

4.1 Seeding

In the Study Area, contoured surfaces will be covered with native grass, herb, and shrub species via broadcast seeding or hydroseeding (a homogenous slurry of mulch, fertilizer, seed, and a binding agent) over the areas to be revegetated. Access roads will be left bare until the completion of the contouring and slope seeding, at which time unneeded roads will be revegetated. A preliminary seed mix of shrubs and grasses is shown in Table 2.

Table 2. Preliminary species for general seeding

SHRUBS	
Artemisia californica	California sagebrush
Baccharis pilularis	coyote brush
Eriogonum fasciculatum	California buckwheat
Salvia leucophylla	purple sage
Salvia mellifera	black sage
GRASSES AND HERBS	
Achillea millefolium	yarrow
Artemisia douglasiana	mugwort
Bromus carinatus	California brome
Elymus glaucus	blue wildrye
Eschscholzia californica	California poppy
Heterotheca grandiflora	telegraph weed
Lotus purshianus	Spanish clover
Lotus scoparius	deerweed
Lupinus nanus	sky lupine
Melica californica	California melic
Nassella pulchra	purple needlegrass
Poa secunda	one-sided bluegrass
Trifolium willdenovii	tomcat clover

4.2 Shrub Plantings

Shrubs will be planted as container plants or seeds in the revegetation areas. To the extent feasible, shrubs to be planted will be obtained from seeds collected from the Quarry property or from local sources. Shrubs will be planted at approximately 4.5-foot spacing in designated planting areas or at a spacing suitable for the location and species of the plantings. The remaining slopes and benches will be covered with shallower topsoil and/or soil-building materials and seeded with a grass/herb/shrub seed mix, without containerized shrub plantings.

The need for herbivory protection for specific species will be evaluated based on the results of the early stages of the proposed reclamation project. Weed mats or several inches of mulch may be placed around planted shrubs to reduce competition and retain moisture.

This plan is designed to provide appropriate conditions for native species so that they are not dependent upon irrigation. The need for irrigation during initial establishment will be assessed during the adaptive management reclamation efforts. If monitoring during the first five years of the early revegetation stages indicate significant losses of plant material that threatens achievement of performance standards, the need for irrigation will be re-evaluated during each year to assure long term success.

Shrub species in undisturbed adjacent habitats or observed to perform well in previous revegetation areas and test plot results described below in Section 5.0 will be selected for planting. A list of shrubs to be planted on benches of the Study Area is provided in Table 3. Species selection and numbers will depend on propagule collection and availability, other similar species may be utilized to meet vegetation cover requirements.

Table 3. Shrubs for planting on Study Area benches.

SCIENTIFIC NAME	COMMON NAME
SHRUBS	
Heteromeles arbutifolia	toyon
Rhamnus californica	California coffeeberry
Rhamnus crocea	redberry
Ribes californicum	hillside gooseberry
Ribes malvaceum	chaparral currant

4.3 Timing

Seeding should be performed and completed between September 1 and December 1 to take advantage of warm soil temperatures and winter rains for successful germination and establishment. Container planting should be performed during the winter season and completed by approximately the end of January to improve plant establishment.

5.0 TEST PLOT PROGRAM

As part of the revegetation effort, a minimum of four 100-foot x 100-foot test plots, as well as control and no seed areas will be established. These plots will be representative of the substrate conditions at reclamation. The test plots will be maintained and monitored once annually following establishment, and tests will be conducted to refine revegetation techniques and seeding rates to meet performance standards. Additional tests will be conducted if the initial tests and active revegetation are not successful. This may include modification of the amount of seed, soil preparation, or amendments, as necessary.

6.0 MONITORING

6.1 Installation Monitoring

To ensure adherence to the guidelines of this revegetation plan, all implementation activities will be monitored by a qualified individual. Records will be kept of soil-building treatments applied, addition of soil amendments as determined to be necessary, and all plant and seed installation. Seeding records will include identification of the date of application and a description and map of the location where various seed mixes are applied. Additionally, installation of shrub plantings will be documented to identify the location and approximate area planted, and the number of shrubs planted or seeded.

6.2 Vegetation Monitoring

Monitoring must be performed to document revegetation success. Following installation, each revegetation area should be monitored as necessary to determine if reseeding, irrigation, or soil amendments are necessary to demonstrate the performance criteria at the earliest possible time. Revegetation will be monitored annually until the area meets performance standards for two consecutive years without intervention. Revegetation sites shall be identified on a map and monitored to assure that standards are adequately achieved to within a minimum 80 percent confidence level as required by Reclamation Standards.

Soil Surface Treatment Differentiation – Due to available topsoil volumes, soil surface treatments will differ. Because these soil surface treatments are anticipated to influence plant growth due to differences in organic matter availability, water holding capabilities, and compaction rates, plant establishment will predictably vary between growth media types. All vegetation monitoring plots shall be stratified to include multiple plots within each soil surface treatment area.

Shrub Planting Areas – Randomly selected plots will be monitored in planting areas, with the number of plots sampled suitable to attain 80 percent confidence in data results. In addition, both north- and south-facing areas should be represented in sampling. All container planting areas will be sampled using a nested approach as utilized in reference site data collection; other sampling methods may be used but will require appropriate conversion of native species richness standards. The nested approach means that once a plot center is randomly selected, , shrubs within a five meter radius and herbs within a one meter radius from the plot center. Monitors will identify and count all shrubs surviving in their respective plots. Cover of all shrub and herb species within each layer will be estimated within each respective plot, and all species will be identified to the extent possible.

Seeded areas - Sampling plots will be selected randomly throughout the areas seeded with grasses, herbs, and shrubs to determine native species richness and percent cover of each species. As with the planting areas, sampling will occur in nested plots, with shrubs assessed within five meter radius and herbs within a one meter radius from the plot center. The number of plots for each installation stage will be selected in order to achieve an 80 percent confidence level in the performance results. Stratification of sampling areas may be necessary if the mix of shrubs and herbs varies greatly in different areas either due to variation in seed applications or soil or other site conditions. For example, areas strongly dominated by herbs and grasses may instead be monitored using smaller sampling plots appropriate to grasslands.

Revegetated areas should be monitored in late spring or early summer to ensure that most plants will be identifiable to the species level. Monitoring will be conducted by a qualified biologist with experience in plant identification. After monitoring data has been collected, a report summarizing the success of revegetation efforts, comparison of data to Year 5 performance standards, any observed obstacles to achieving performance standards, and any remedial actions recommended will be prepared and submitted by October 15 of that year. This will allow for proper timing of remedial plantings and/or seeding if determined to be necessary.

6.3 Performance Standards

Performance standards describe the minimum targets for species richness and percent cover for seeding and planting areas. Performance standards represent anticipated conditions five years after installation. SMARA requirements state that performance standards must be met for two consecutive years without significant human intervention prior to release of financial assurances.

Site data will be used to choose appropriate reference sites and develop an achievable set of performance standards considering differences associated with different soil surface treatments. The standards in Table 9 will be adapted to create achievable performance standards. Native species richness targets have been chosen to reflect data collected from the reference sites and test plot results and then adjusted for anticipated soil surface treatments.

Table 9. Proposed five-year performance standards for Study Area revegetation

	North- and East-facing benches		South-facing benches		Seeded Areas shrub/grassland mix	
	Shrub	Herb	Shrub	Herb	Shrub	Herb
Richness *(avg. native species per plot)***	50%	75%	50%	75%	50%	75%
Canopy Cover	15%	20%	15%	20%	15%*	20%*

*Performance standards for seeded areas may need to be adjusted to reflect the species mix ultimately selected based on reference sites and test plot results. In particular, the balance between shrub and herbaceous species cover may vary.

**Richness standards will be based on a percentage of natives observed in reference plots. 5m-radius plots for shrubs, and 1m-radius plots for herbs/grasses.

6.4 Performance Standards for Weed Control

In addition to vegetation monitoring to assess the success of revegetation efforts, the density of weeds (non-native invasive plants) will be assessed as part of vegetation sampling described in Section 6.2.

Reference plots will be surveyed by WRA in undisturbed natural mixed chaparral / scrub oak chaparral adjacent to the Quarry property to assess native and non-native species richness and cover. For the purposes of Study Area maintenance and monitoring, non-native plants listed in the Cal-IPC Inventory (2020) as highly invasive will be considered invasive weeds subject to control and performance standards. If invasive weeds are found to exceed a combined 10 percent relative cover over all sampled quadrats, weed abatement activities will commence. The following species should be included as subject to this performance standard: yellow star thistle (*Centaurea solstitialis*, annual), black mustard (*Brassica nigra*, annual), stinkwort (*Dittrichia graveolens*, annual), pampas grass (*Cortaderia* spp., perennial), and fennel (*Foeniculum vulgare*, perennial). Some of these species are only listed as moderately invasive by Cal-IPC, but they should be managed promptly because they are currently present in large numbers near the Study Area and may impede establishment of native cover.

6.5 Adaptive Management

The planting strategy described above may prove to be less efficient than other strategies developed through site specific test plots. Therefore, if a different planting strategy is implemented in the Study Area in which the above performance standards and monitoring guidelines cannot be followed, a revision to this revegetation plan will be submitted as a substitute for this document or portions thereof.

7.0 MAINTENANCE

Maintenance of revegetation areas shall consist of reseeding or replanting unsuccessful revegetation efforts, weed control to limit the extent of noxious weeds, and repair of erosion damage. If any significant rills or gullies are identified in the Study Area, remedial actions will include reseeding of the area with an approved erosion control seed mix, and if necessary, slope stabilization measures will be undertaken.

If revegetation efforts are not successful with regard to the performance standards outlined in Section 6.3 of this report within five years following initial seeding, the under-performing areas will be reevaluated to determine the measures necessary to improve performance. If necessary, these areas will be reseeded and/or replanted with methods modified as needed. This may include the use of container stock and irrigation or simply additional seeding during a wet winter season. Prior to reseeding, the operator shall evaluate previous revegetation practices to identify cultural methods to benefit the overall revegetation effort. If, after a site is reseeded, revegetation efforts still do not yield satisfactory results, additional reseeding or other intervention methods may be required.

Weed control is necessary to reduce the occurrence of undesirable invasive and noxious species of plants that may invade and where weeds could interfere with revegetation efforts or increase fire hazards, as specified in SMARA regulations. Weeds are undesired, generally introduced, and invasive plants that can compete with revegetation efforts. However, many introduced species occur widely in the region and are common in both the surrounding active

Quarry and adjacent natural open space lands. Eradication of all weeds is therefore unachievable; therefore, specific noxious plant species are targeted for control.

As described in Section 6.4, species listed by Cal-IPC (2020) as highly invasive will be considered problematic and will be targeted during maintenance of this revegetation effort if they exceed the designated threshold of ten percent cover. Invasive plant species typically found in the Study Area and in surrounding lands include yellow star thistle, black mustard, stinkwort, pampas grass, and fennel.

Weed control methods may include chemical and mechanical removal techniques depending on the species and number of individuals encountered. Priorities in weed abatement should focus on those species listed as highly invasive, in addition to other weeds that directly threaten the successful establishment and survival of native species. The percent cover of weeds, abatement measures recommended and undertaken, and other observations on weed control will be included in vegetation monitoring reports. Weed abatement responsibilities may cease once performance standards have been met for each phase of revegetation efforts, unless invasive species in completed revegetation areas are deemed a threat to nearby efforts still in progress.

8.0 REFERENCES

Cal-IPC. 2020. California Invasive Plant Inventory. Cal-IPC Publication 2006-02. California Invasive Plant Council: Berkeley, CA. Available: www.cal-ipc.org/inventory

LSA. 2017. Approved Jurisdictional Delineation. Stevens Creek Quarry. Santa Clara County, California

U.S. Department of Agriculture, Soil Conservation Service.1958. Soil Survey of Santa Clara Area, California. In cooperation with the University of California Agricultural Experiment Station.

WRA, Inc. 2010a. Biological Resources Assessment for the Permanente Quarry, Cupertino, Santa Clara County, California. March.

WRA, Inc. 2010b. Revegetation Test Plot Program As-built Report for the Permanente Quarry, Cupertino, Santa Clara County, California. March.

WRA, Inc. 2010c. Revegetation Plan Permanente Quarry. Cupertino, Santa Clara County, California. May

WRA, Inc. 2020. Biological Resources Constraints Assessment of Stevens Creek Quarry, Cupertino, California. December

.

APPENDIX A

PLANT LIST FOR REVEGETATION

Appendix A. Potential native plant palette for Stevens Creek Quarry upland revegetation. Species in bold were successfully established in previous revegetation efforts on the nearby Permanente Quarry, or have colonized revegetation sites effectively at Permanente Quarry, and were included in seed mixes or planting palettes.

FAMILY	SCIENTIFIC NAME	COMMON NAME
NATIVE GRASSES		
Poaceae	*Bromus carinatus*	California brome
Poaceae	***Elymus glaucus***	**blue wildrye**
Poaceae	*Elymus multisetus*	big squirreltail grass
Poaceae	*Festuca occidentalis*	western fescue
Poaceae	*Festuca rubra*	red fescue
Poaceae	*Leymus triticoides*	creeping wild rye
Poaceae	*Melica californica*	California melic grass
Poaceae	***Nassella pulchra***	**purple needle grass**
Poaceae	*Vulpia microstachys*	three-weeks fescue
Poaceae	*Poa secunda*	one-sided bluegrass
NATIVE HERBS		
Asteraceae	*Achillea millefolium*	common yarrow
Asteraceae	*Achyrachaena mollis*	blow wives
Asteraceae	*Eriophyllum confertiflorum*	golden yarrow
Asteraceae	***Heterotheca grandiflora***	**telegraph weed**
Asteraceae	*Wyethia glabra*	smooth mule ears
Brassicaceae	*Streptanthus glandulosus* ssp. *glandulosus*	bristly jewelflower
Caryophyllaceae	*Silene californica*	California windmill pink
Fabaceae	*Lotus purshianus* var. *purshianus*	Spanish clover
Fabaceae	***Lotus scoparius***	**deerweed**
Fabaceae	*Lupinus bicolor*	miniature lupine
Fabaceae	*Lupinus microcarpus* var. *densiflorus*	chick lupine
Fabaceae	*Lupinus nanus*	sky lupine
Fabaceae	*Lupinus succulentus*	succulent lupine
Fabaceae	*Trifolium willdenovii*	tomcat clover
Hydrophyllaceae	*Nemophila menziesii*	baby blue eyes
Hydrophyllaceae	*Phacelia campanularia*	desert bells
Iridaceae	*Sisyrinchium bellum*	blue-eyed grass
Lamiaceae	*Salvia columbariae*	chia
Liliaceae	*Chlorogalum pomeridianum*	soap plant
Linaceae	*Linum grandiflorum*	flowering flax
Nyctaginaceae	*Mirabilis californica*	California four o'clock
Onagraceae	*Camissonia ovata*	sun cup

FAMILY	SCIENTIFIC NAME	COMMON NAME
Onagraceae	*Clarkia purpurea* ssp. *Quadrivulnera*	winecup clarkia
Onagraceae	*Epilobium canum*	California fuchsia
Onagraceae	*Oenothera elata* var. *hookeri*	evening primrose
Papaveraceae	***Eschscholzia californica***	**California poppy**
Papaveraceae	*Stylomecon heterophylla*	wind poppy
Plantaginaceae	*Plantago erecta*	California plantain
Polemoniaceae	*Navarretia squarrosa*	skunkweed
Polygonaceae	*Eriogonum nudum*	naked buckwheat
Portulacaceae	*Calandrinia ciliata*	red maids
Rosaceae	*Fragaria vesca*	woodland strawberry
Scrophulariaceae	*Antirrhinum kelloggii*	Kellogg's snapdragon
Scrophulariaceae	*Castilleja exserta*	purple owl's clover
Scrophulariaceae	*Scrophularia californica*	bee plant
NATIVE SHRUBS		
Asteraceae	***Artemisia californica***	**California sagebrush**
Asteraceae	*Artemisia douglasiana*	California mugwort
Asteraceae	***Baccharis pilularis***	**coyote brush**
Caprifoliaceae	*Sambucus mexicana*	blue elderberry
Ericaceae	*Arctostaphylos glauca*	big berry manzanita
Ericaceae	*Arctostaphylos viscida*	white-leaf manzanita
Fabaceae	*Lupinus albifrons var. albifrons*	silver bush lupine
Grossulariaceae	*Ribes californicum*	hillside gooseberry
Grossulariaceae	*Ribes malvaceum*	chaparral currant
Lamiaceae	***Salvia leucophylla***	**purple sage**
Lamiaceae	***Salvia mellifera***	**black sage**
Malvaceae	*Malacothamnus fasciculatus*	chaparral bushmallow
Malvaceae	*Malacothamnus fremontii*	Fremont's bushmallow
Polygonaceae	***Eriogonum fasciculatum***	**California buckwheat**
Rhamnaceae	*Ceanothus cuneatus*	buckbrush
Rhamnaceae	*Ceanothus integerrimus*	deer brush
Rhamnaceae	*Ceanothus leucodermis*	chaparral whitethorn
Rhamnaceae	*Rhamnus californicus*	coffeeberry
Rhamnaceae	*Rhamnus crocea*	redberry
Rosaceae	***Adenostoma fasciculatum***	**chamise**
Rosaceae	*Cercocarpus betuloides*	birch-leaf mountain mahogany
Rosaceae	*Heteromeles arbutifolia*	toyon
Rosaceae	*Holodiscus discolor*	ocean spray

FAMILY	SCIENTIFIC NAME	COMMON NAME
Rosaceae	*Prunus ilicifolius*	holly-leaf cherry
Rosaceae	*Rosa californica*	wild rose
Scrophulariaceae	*Mimulus aurantiacus*	bush monkey flower
Sterculiaceae	*Fremontodendron californica*	flannel-bush

APPENDIX B

FIGURES

Path: L:\Acad 2000 Files\30000\30306\GIS\ArcMap\30306Base.aprx

Sources: National Geographic, WRA | Prepared By: JSChuster, 12/8/2020

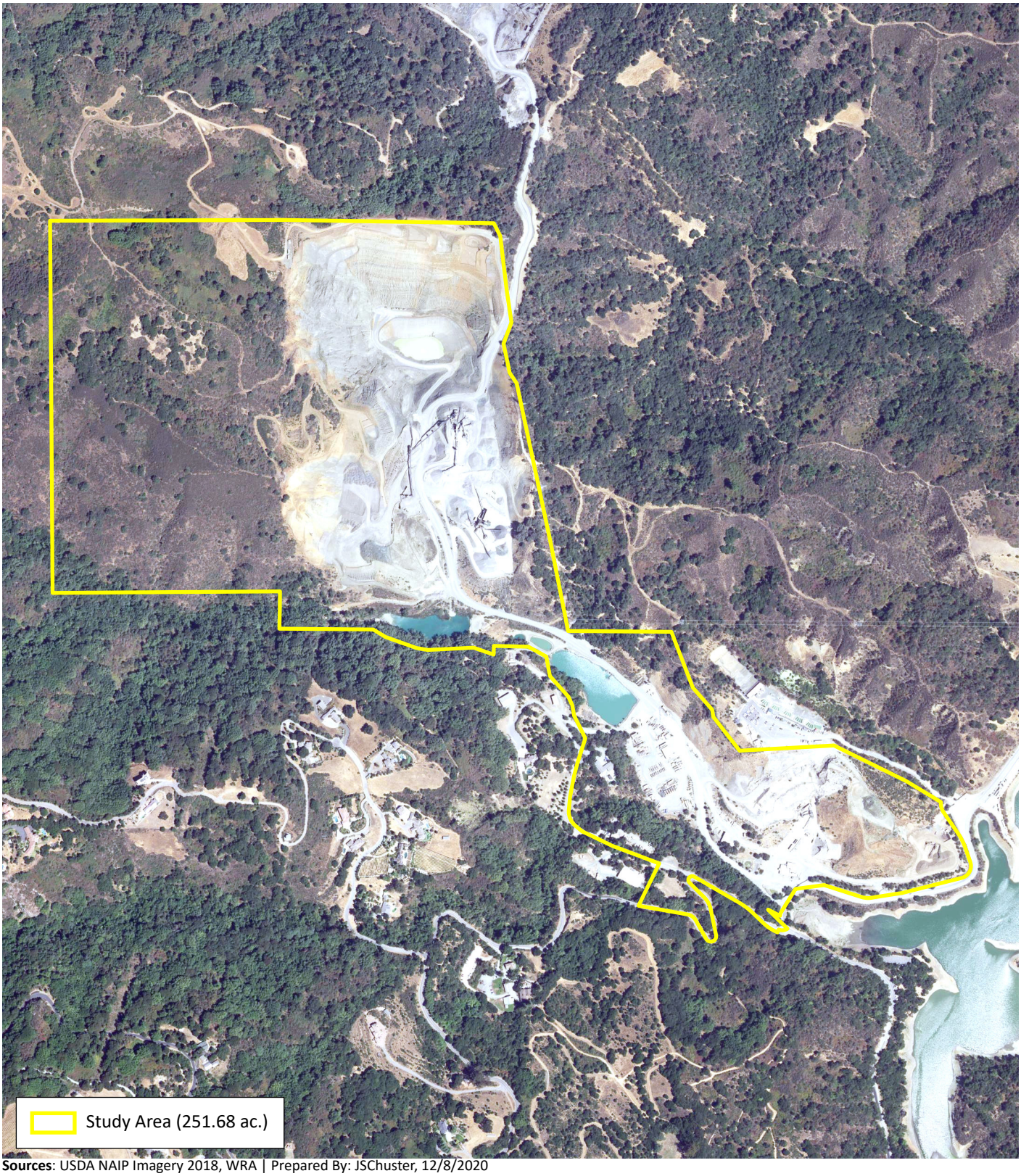
Figure 1. Study Area Regional Location Map

Stevens Creek Quarry
Biological Constraints
Cupertino, Santa Clara County, California

0 1 2 Miles

N

wra
ENVIRONMENTAL CONSULTANTS



Sources: USDA NAIP Imagery 2018, WRA | Prepared By: JSChuster, 12/8/2020

Figure 2. Study Area Overview

Stevens Creek Quarry
Biological Constraints
Cupertino, Santa Clara County, California

wra
ENVIRONMENTAL CONSULTANTS