24001 Stevens Creek Blvd.
Cupertino, CA 95014
(408) 996-4000

October 31, 2018

Christopher J. Hoem, AICP
Department of Planning and Development
County of Santa Clara
70 W. Hedding Street, 7th Floor
San Jose, CA 95110

**Re: Permanente Quarry, Mine ID # 91-43-0004**
**Proposed Schedule for Stipulated Order to Comply**

Dear Mr. Hoem:

This letter provides Santa Clara County ("County") with a second set of documents requested in connection with the August 17, 2018 Notice of Violation ("NOV").

As background, the County requested that Lehigh respond to the NOV by submitting certain documents concerning the use of a preexisting access road that connects to the Stevens Creek Quarry. On October 15, 2018, Lehigh submitted a first set of documents pursuant to the schedule contained in the County's September 28, 2018 letter. This transmits additional documents to the County in furtherance of that schedule.

Specifically, this letter attaches the following:

- Drawings showing the topographic changes associated with the improvements to the preexisting access road.

- A report by a certified arborist and biologist estimating the number of trees and cords of wood removed in the unincorporated area in connection with the improvements to the preexisting access road.

The final item requested by the County is an amendment to the Reclamation Plan addressing the portion of the access road within the County's jurisdiction. As you know, Lehigh believes its use of the access road is not a substantial deviation but nonetheless has agreed to file a Minor Amendment to the Reclamation Plan. Lehigh will submit the Minor Amendment application to the County on or before November 9, 2018.

Lehigh appreciates the opportunity to provide this response and to provide any further information that may be requested. Please do not hesitate to contact me at 408-996-4269 if you have questions or comments.

Sincerely,

Erika Guerra

Erika Guerra
Environmental Director
Lehigh Southwest Cement Company

Attachments

cc: Kirk Girard, Director of Planning and Development
Rob Eastwood, Planning Manager
Elizabeth G. Pianca, Lead Deputy County Counsel
Michael Rossi, Lead Deputy County Counsel
Steve Beams, Senior Construction Inspector
Jim Baker, County Geologist
Mark Harrison, Harrison Temblador et al.

# Memo

| | |
|---|---|
| **To:** | Erika Guerra and Tressa Jackson, Lehigh Southwest Cement Company |
| **From:** | Cindy Davis and Sarah Norris |
| **Date:** | October 12, 2018 |
| **Re:** | Tree Removal Assessment along improved existing access Road for the Lehigh Permanente Quarry |

This memorandum discusses tree removal along the improved existing access road on property owned by Lehigh Southwest Cement Company at the Lehigh Permanente Quarry in unincorporated Santa Clara County, California (**Figure 1**). This memorandum discusses the methodology and results of estimated number of trees and cords of wood removed as a result of improving the existing access road, as requested by Santa Clara County.

Based on geographic information system (GIS), the disturbance associated with the new haul road occurs on lands within unincorporated Santa Clara County (APN: 351-10-033) and within the City of Cupertino (APN 351-10-017) (**Figure 2**). The length of disturbance on property within unincorporated Santa Clara County is approximately 352 linear feet, totaling approximately 0.45 acre. The length of disturbance on property within the City of Cupertino is approximately 536 linear feet, totaling approximately 0.92 acre.

## Methods

GEI Consultants, Inc. (GEI) conducted a field survey on September 27, 2018. The field survey was conducted by International Society of Arboriculture (ISA) certified arborist Sarah A. Norris (WE-7726A) and biologist Brook Constantz along the improved existing access road and vicinity. The entire length of the improved existing access road within the unincorporated area was visually inspected via pedestrian survey, noting dominant tree and shrub species adjacent to the road. Debris piles from tree removal were inspected, but an accurate estimate of trees removed could not be obtained due to the number of small branches, abundance of slash wood, and unsystematic stacking of wood. Representative photos were taken along the length of the road and vicinity (**Attachment A**).

Because an accurate estimate of trees removed could not be obtained by inspection of debris piles, GEI utilized an alternative methodology to quantify the tree removal. Aerial imagery obtained from Google Earth (2018) was reviewed prior to conducting the field survey. Two distinct habitats, woodland and scrubland, were identified from aerial imagery within the study area boundary and verified in the field (**Figure 3**). A total of 1.14 acre of woodland total was removed. GEI established three (3) circular sample plots in woodland habitat adjacent to the improved existing access road to determine representative tree density. Sample plots were 0.1 acre in size, each plot has a radius of 37 feet. Sample plot locations were identified in-field based on accessibility. The steep slopes that characterize the study area prohibited pre-selecting sample plots in advance of the field survey. All sample plot were selected to have an aspect (east-facing slopes) and slope similar to the area that received direct impacts.

Each tree trunk located within the sample plot was measured at diameter breast height (DBH) at 54 inches (or 4.5 feet) above surrounding grade using steel DBH tape obtained from Forestry Suppliers, Inc. Trees below 12 inches DBH were not included in the dataset, since a tree is defined in the Santa Clara County Tree Preservation and Removal Ordinance as having a circumference of 37.7 inches or more, corresponding to 12 inches at DBH. Trunk diameter was rounded to the nearest inch. Forestry tables were used to estimate cord volume per tree based on DBH (University of New Hampshire 2005). A cord of wood corresponds to compact stack of wood filling a volume of 128 cubic feet, corresponding to 4 feet in width, 4 feet in height, and 8 feet in length (4x4x8).

## Results

The raw data collected is provided below in **Table 1**. The number of individual trees sampled per plot varied from 4 to 6. The mean (average) DBH of each sample plot ranged from 16 to 25 inches (**Table 2**), plot 3 was the only sampling plot to have a multi-trunk tree. Sample plots with fewer individual trees tend to have a larger DBH ranges, which translates to a larger canopy that limits light penetration and reduces the number of neighboring trees via increased competition for resources (i.e., sunlight, nutrients, water, etc.).

**Table 1. Sample Plot Data**

| Plot ID | DBH/tree | [a]Cords/tree | Sum DBH/plot | Sum Cords/plot |
|---|---|---|---|---|
| 1 | 16 | 0.5 | 70 | 2.70 |
| 1 | 14 | 0.4 | | |
| 1 | 14 | 0.4 | | |
| 1 | 26 | 1.4 | | |
| 2 | 17 | 0.59 | 98 | 3.37 |
| 2 | 14 | 0.4 | | |
| 2 | 17 | 0.59 | | |
| 2 | 16 | 0.5 | | |
| 2 | 12 | 0.3 | | |
| 2 | 22 | 1 | | |
| 3 | 14 | 0.4 | 76 | 3.09 |
| 3 | 16 | 0.5 | | |
| 3[b] | 22+24 | 1 | | |

Notes:
DBH = diameter at breast height measured from 54 inches above ground surface level
In= inches
[a] Cord estimate based on DBH obtained from Gevorkiantz and Olsen 1955
[b] Plot 3 contained the only multi-trunked tree encountered in the sample universe.
Source: Data compiled by GEI Consultants, Inc. 2018

**Table 2. Statistical Summary of Sample Plots**

| Plot ID | # Individuals | Mean DBH | DBH Range (in) | DBH Total | Calculated Cords per 0.1 acre[a] |
|---|---|---|---|---|---|
| 1 | 4 | 18 | 14-26 | 70 | 2.70 |
| 2 | 6 | 16 | 12-22 | 98 | 3.37 |
| 3 | 4 | 25 | 14-46[b] | 76 | 3.09 |

Notes:
DBH = diameter at breast height measured from 54 inches above ground surface level
In= inches
[a] Cord estimate based on DBH obtained from Gevorkiantz and Olsen 1955
[b] Plot 3 contained the only multi-trunked tree encountered in the sample universe.
Source: Data compiled by GEI Consultants, Inc. 2018

The mean number of trees per 0.1 acre was calculated to be 4.6 trees. The number of cords per 0.1 acre sample plot ranged from 2.7 to 3.4, with a mean of 3.0 cord per 0.1 acre. The number of cords per 0.1 acre sample plot is fairly uniform (standard deviation equal to +/-0.3).

## Conclusions

Woodland habitats are variable based on slope, aspect, elevation, location, and climate. The sample plots established for this study were situated in close proximity to the area of impact, located on a similar slope, aspect, and elevation.

Section C16-6 of Santa Clara County Tree Preservation and Removal Ordinance describes that tree removal may occur on private property in the Hillsides (HS) zoning District. A woodland clearance permit is required when 1) the removal of more than 10 percent of trees per year on any parcel are removed; 2) the cutting of trees for wood in the amount of more than 10 cords per year on any parcel of 100 acres or less; 3) the cutting of trees for wood in the amount of more than 25 cords per year on any parcel larger than 100 acres.

Based on the sample data, it is estimated that 4.6 trees, or 3.0 cords per 0.1 acre of woodland were removed. A total of 0.45 acre of tree removal occurred in woodlands within unincorporated Santa Clara County. It is estimated that approximately 21 trees were removed, corresponding to approximately 13.7 cords of wood removed on lands within unincorporated Santa Clara County. Tree removal occurred on a parcel 159.4 acres in size within unincorporated Santa Clara County and therefore tree removal occurred on approximately 0.2 percent of the parcel. The tree removal impact is below the threshold of the county ordinance requiring that a woodland clearance permit be obtained if 10 percent of the woodland acreage of a parcel would be removed or more than 25 cords of wood removed.

Within the City of Cupertino, it is estimated that approximately 35 trees were removed, corresponding to approximately 22.6 cords of wood. Tree removal occurred on a parcel 40 acres in size within the City of Cupertino and therefore tree removal occurred on approximately 1.85 percent of the parcel.

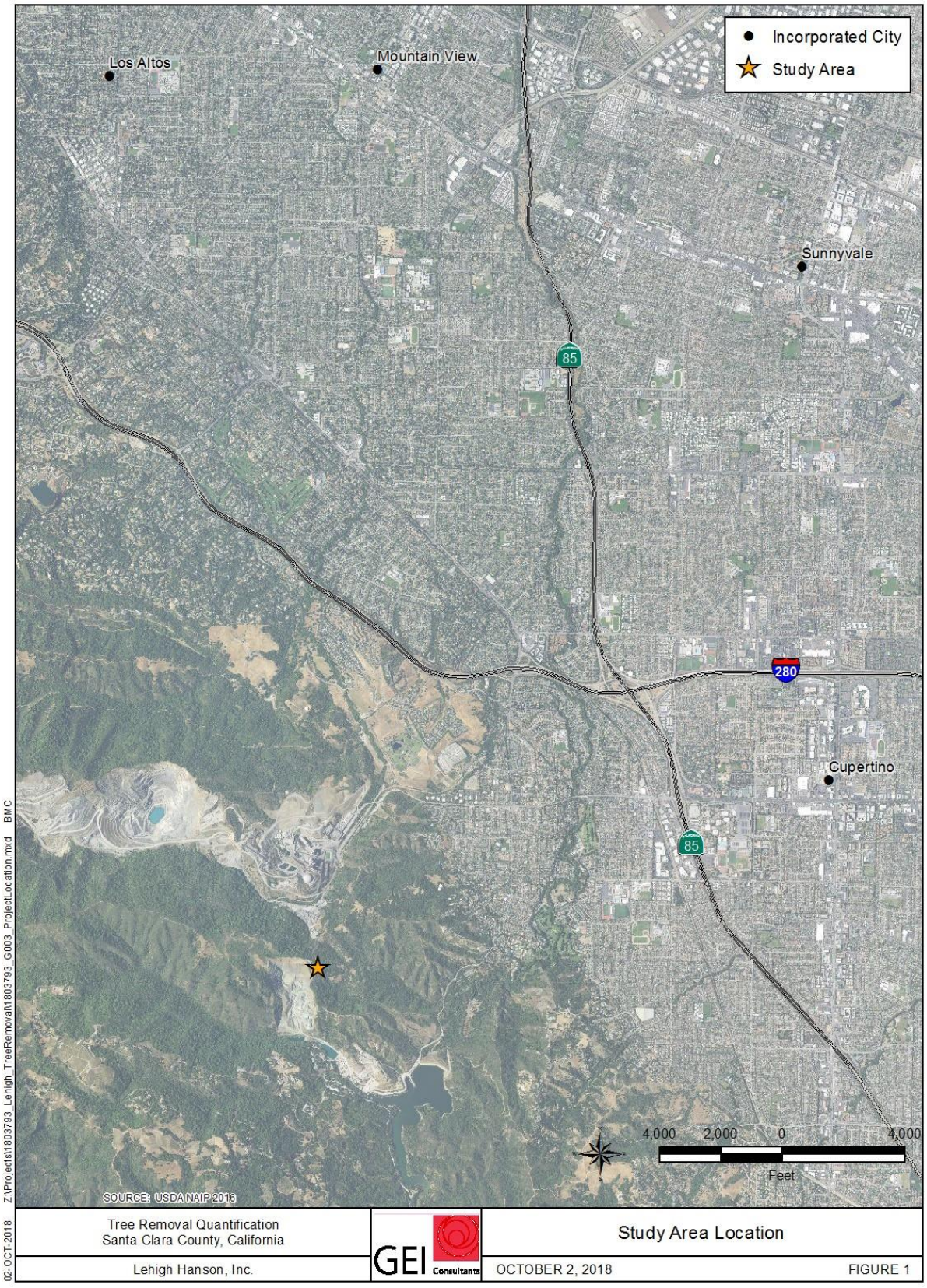
## References

Gevorkiantz, S.R., and L.P. Olsen. 1955. *Composite Volume Tables for Timber and Their Application in the Lake States*. Technical Bulletin No. 1104. Lake States Forest Experiment Station Forest Service. U.S. Department of Agriculture. Washington, D.C.

Google Earth. 37.307714° N, -122.090334°W. Image date May 9, 2018; Image date September 1, 2018. Accessed September 26, 2018.

University of New Hampshire. 2005. *Estimating Firewood from Standing Trees*. University of New Hampshire Cooperative Extension.

**Figure 1. Study Area Location**

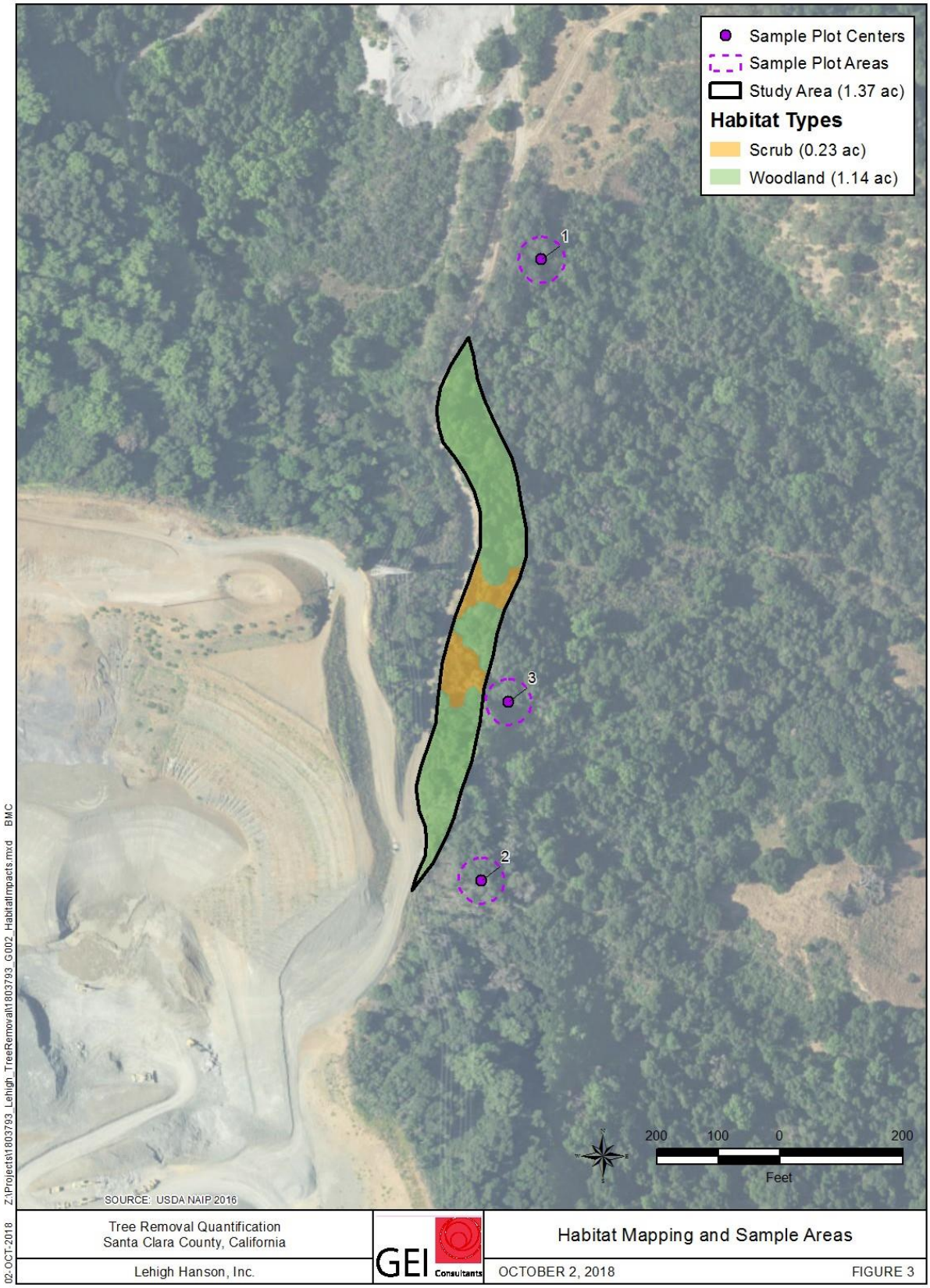



Source: GEI Consultants, Inc., 2018

**Figure 2. Unincorporated Santa Clara County Jurisdiction**


Source: GEI Consultants, Inc., 2018

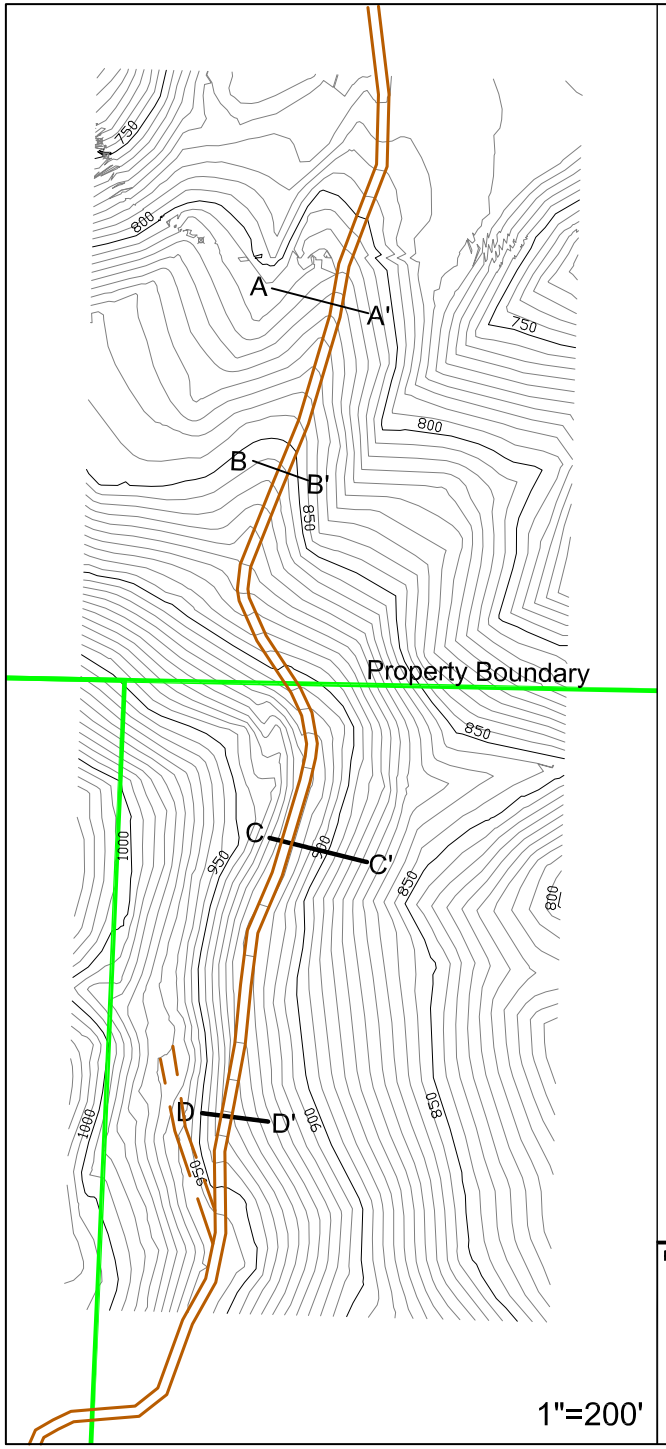
**Figure 3. Habitat Map and Sample Areas in Unincorporated Area**

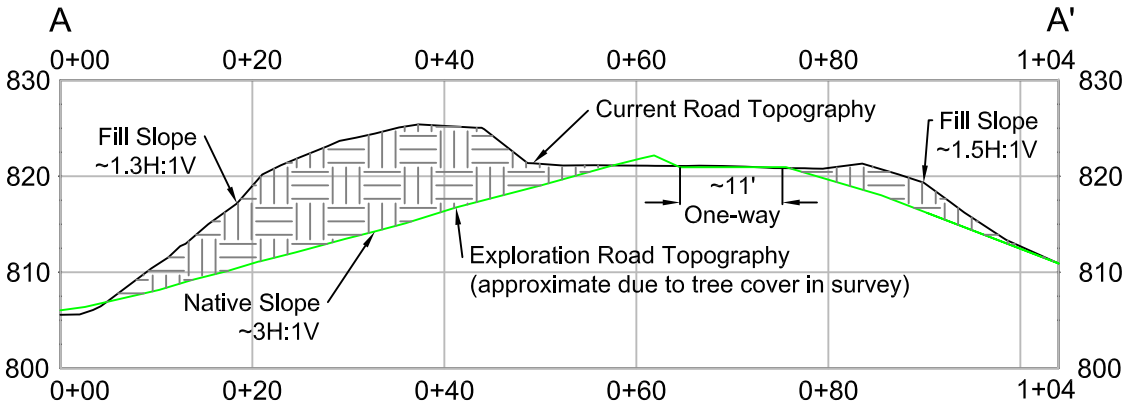



Source: GEI Consultants, Inc., 2018

View of the primary debris pile.

View to the north along the improved existing access road.

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PREPARED BY:
Stantec
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Suite 2-300
Denver CO 80222 stantec.com

# PERMANENTE QUARRY
# STEVENS CREEK QUARRY ROAD
# CROSS-SECTION

| FOR: | LEHIGH HANSON | DATE: | 10/30/18 | SHEET | 1 OF 1 |
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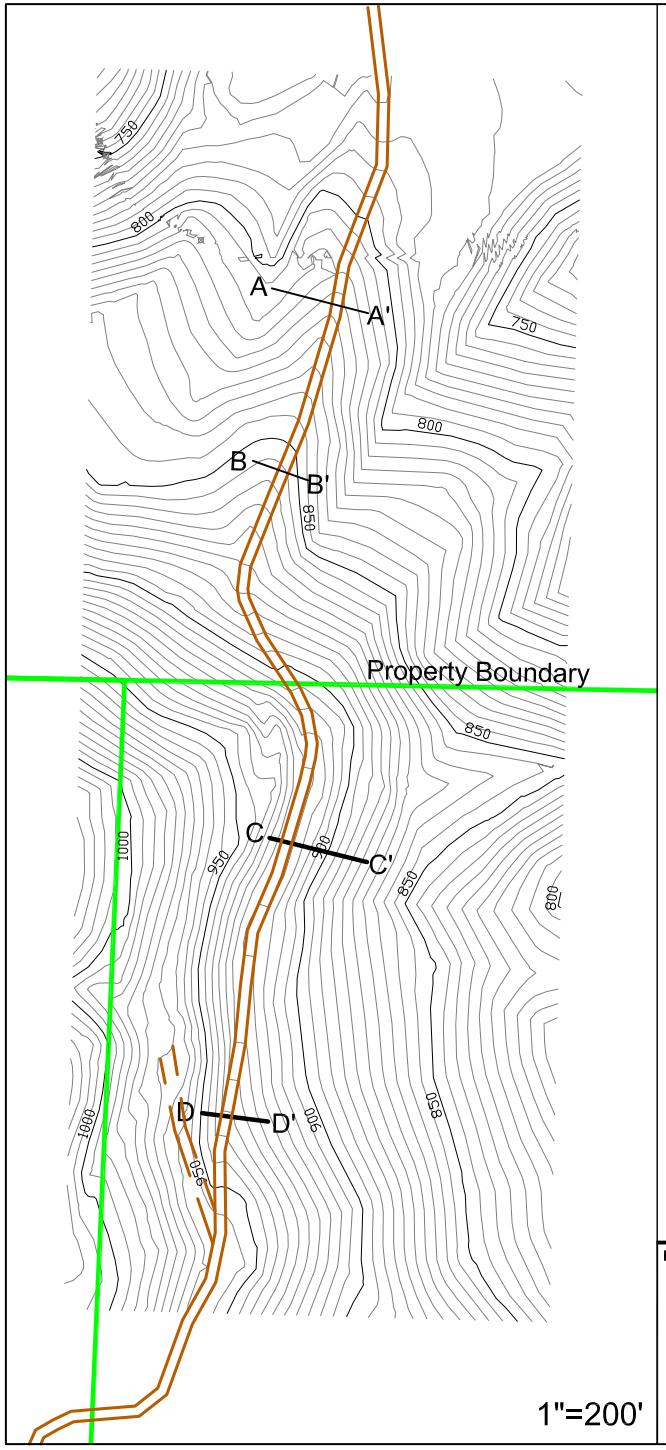


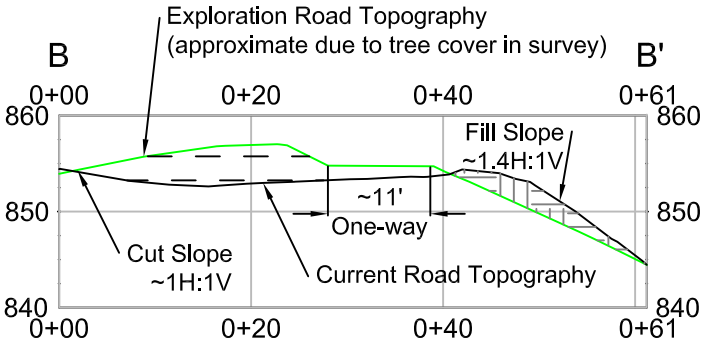


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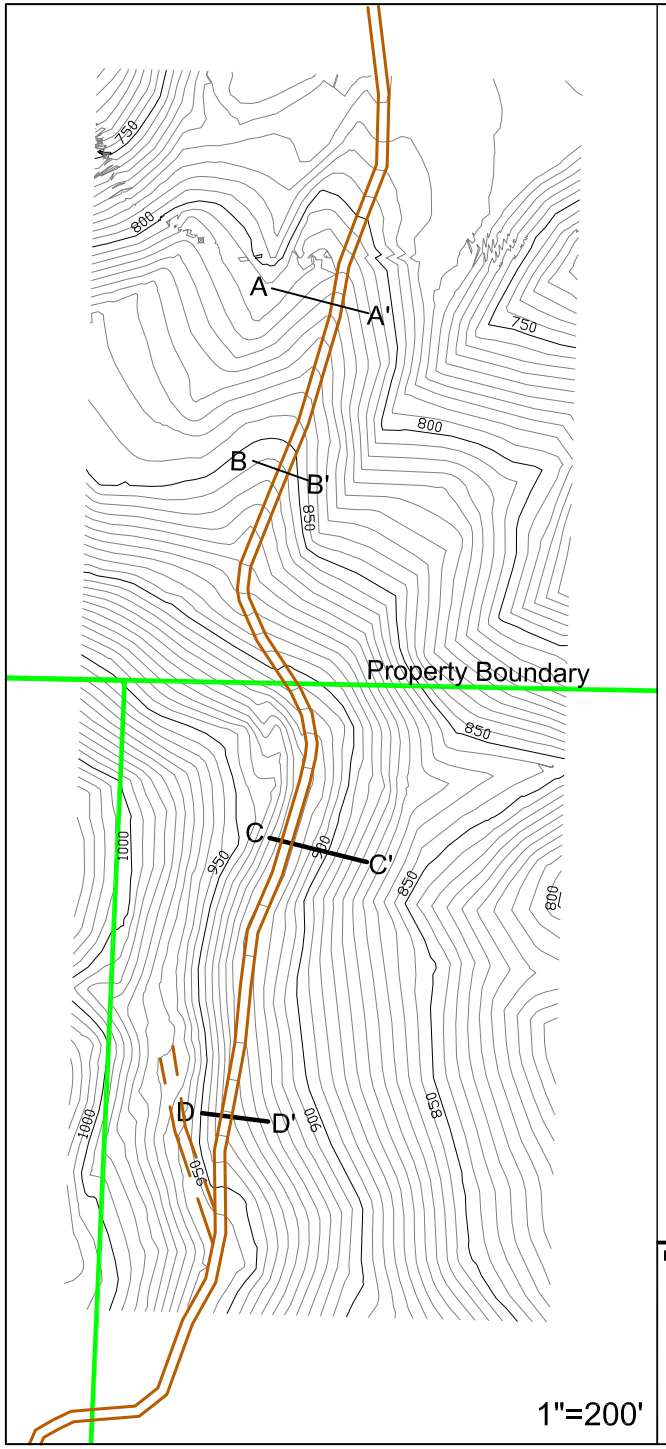


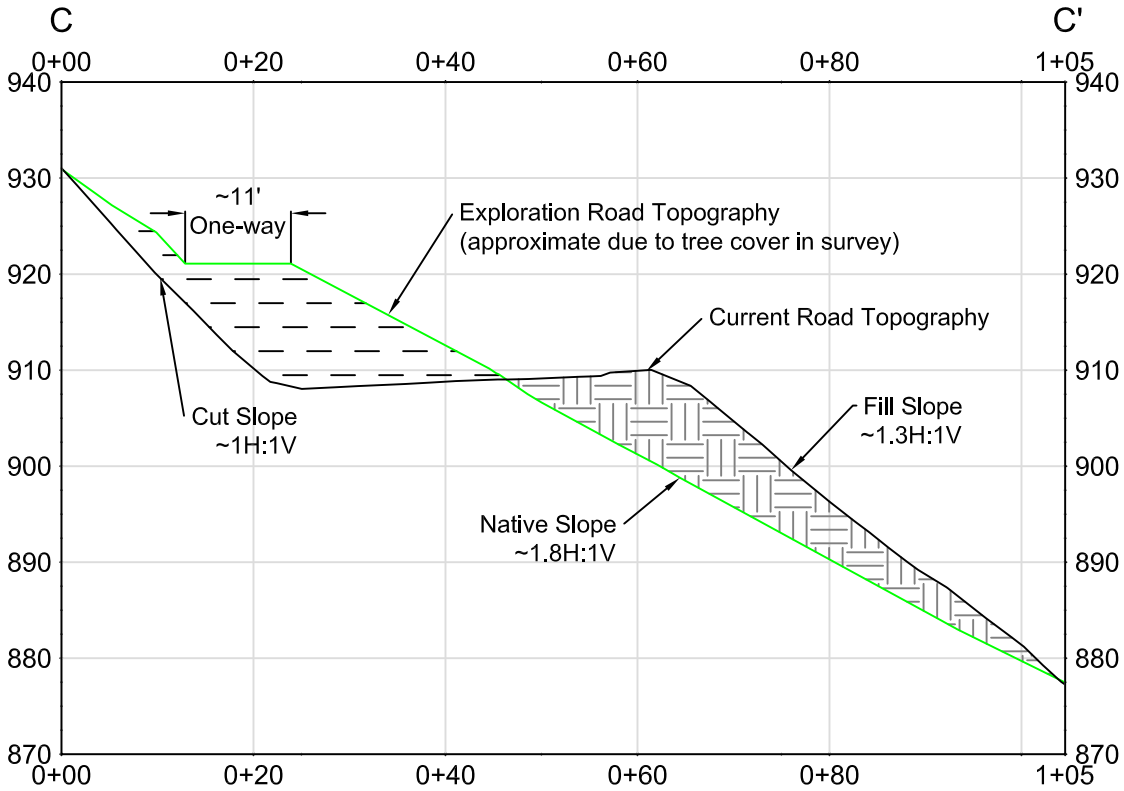


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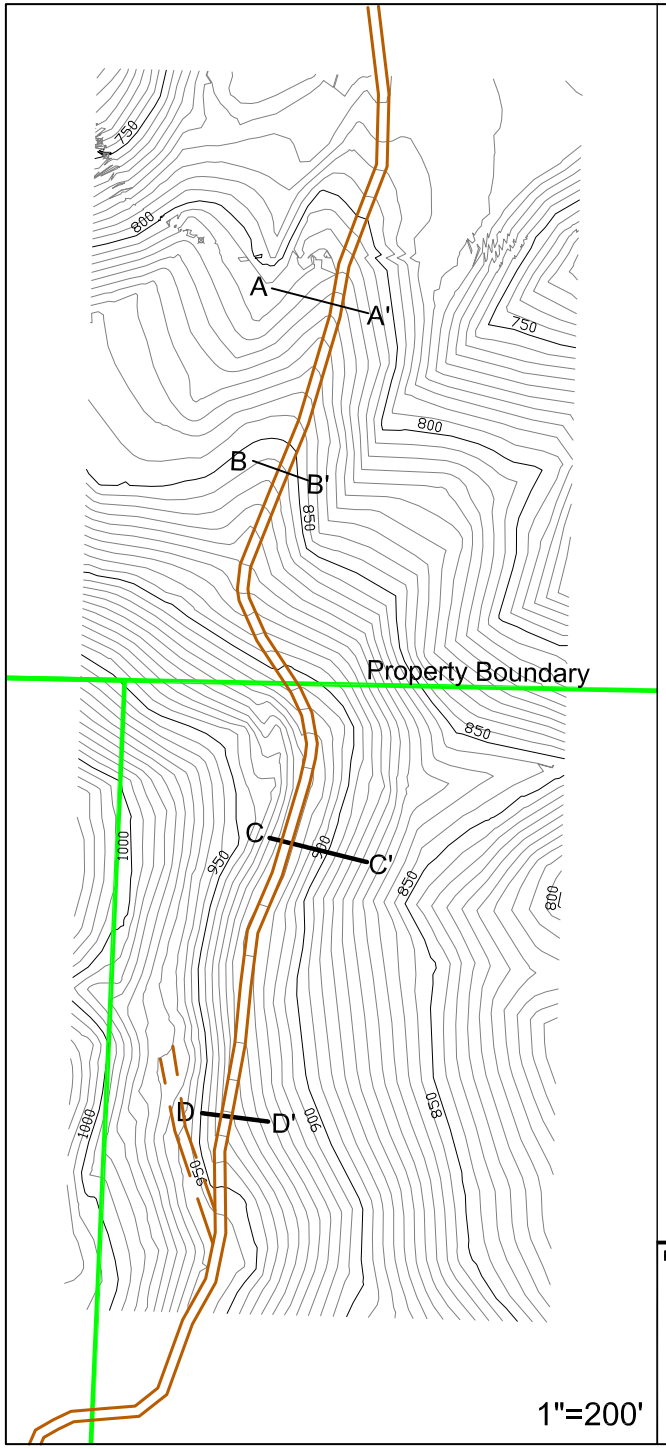


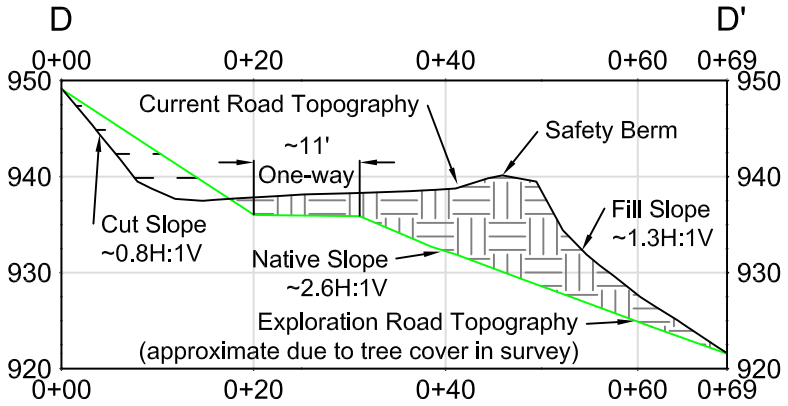


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