APPENDIX D

Biological Resources

APPENDIX D-1

Ecosynthesis 2012

EcoSynthesis

SCIENTIFIC & REGULATORY SERVICES, INC.

Alpine Sierra Subdivision

Biological Survey Report

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Prepared for:

Alpine Sierra Property

Date:

December 16, 2012

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1 SUMMARY

1.1 Site and Survey Details

Site name: Alpine Sierra Subdivision

APN: 095-280-022 and -023

Area: 46 acres

Location: Section 5, T. 15 N, R. 16 E (USGS Tahoe City quadrangle). Site is in the Alpine Meadows community between John Scott Trail and Chalet Drive.

Prepared for: Alpine Sierra Property

Survey dates: August 7, 23, and 24, 2012

Report date: December 18, 2012

Biologist: Adrian Juncosa, Ph.D.

1.2 Summary of Results

The study site is mostly White Fir forest with lesser acreages of Montane Chaparral, Montane Riparian, and rocky forb-subshrub vegetation. Other than an underground water line and some unsurfaced trails, the site is undeveloped. A short segment of Bear Creek, an unnamed seasonal stream, and some ephemeral tributaries cross the site.

One special-status species was observed on the site (yellow warbler). Habitat that is potentially suitable for other special-status species is present.

Subdivision of the parcel and would necessarily entail roads crossing at least three tributary features and possible loss of very small areas (probably a total of 0.001 or 0.002 acre) of riparian shrubland. Depending on engineering of project infrastructuer, direct impacts (e.g., fill) within federally jurisdictional or non-jurisdictional wetlands or other waters may occur. In other respects, with standard mitigation measures, the impacts of such subdivision and additional residential construction would be unlikely to result in significant residual impacts on biological resources under applicable CEQA guidelines.

2 INTRODUCTION

2.1 Site Location and Setting

The study site lies in Section 5, T. 15 N, R. 16 E (USGS Tahoe City quadrangle), near Alpine Meadows Ski Area. The elevation of the site varies from approximately 6,600 to 7,100 feet.

The regional setting of the study site is low density residential development (single- and multi-family) with a major ski resort less than one mile away, all set in a landscape of late seral stage coniferous forest. The entirety of the study area lies within approximately 1,000 feet of other existing residential development.

The study area lies in the Sierra Nevada ecoregion (Level III), Northern Sierra Upper Montane Forests (Level IV). However, even the Level IV regions are very broad biological cagetories encompassing an amount of species and ecological process diversity that is not useful for environmental review of individual small project sites. Further discussion of habitat mapping is provided under Methods, below.

3 METHODS

3.1 Field Survey

The site was first walked to outline the habitats that occur and to locate any unusual habitat types or elements, such as outcrops, areas of peculiar vegetation suggestive of serpentine or other soils that might support special-status plant species, or wetlands. Particular attention was paid to areas that provide suitable habitat for one or another special-status plant species: wet areas, openings, rocky substrates. These suitable habitat areas were traversed by closely spaced transects (10-30 feet apart). Accordingly, the site survey included a sufficiently thorough field survey to determine the presence/absence of any special-status plant species, whether recorded from nearby quadrangles by the California Natural Diversity Data Base (CNDDB) or not.

All plant species present were identified by sight or by reference to Hickman (1993), and were noted on a proprietary checklist of the local flora. Birds were identified by sight, calls or song, or fallen feathers. Identifications and nomenclature follows that used in Sibley (2000). Mammals were identified by direct observation or by sign (scat, tracks, or characteristic burrows). Wildlife observations were opportunistic only and were not intended to be a comprehensive wildlife survey of the study area.

The site was studied on several dates in August 2012, which is exactly within the blooming time for the special-status plant species that have the potential to occur.

3.2 Mapping

In accordance with our understanding of stated Placer County Planning Department preference, the California Department of Fish and Game (DFG) Wildlife-Habitat Relationships system (WHR) is used, to the extent possible, to categorize the habitats on site.

As noted on the DFG internet web site for WHR, there are many vegetation and habitat types for which there is no WHR habitat type at all. Also, in many places, the text description of the habitat designation which is obtained by following the WHR classification rules does not correspond with the actual physical reality observed on a particular study site.

We have attempted to overcome the limitations of using the WHR habitat classification system for vegetation mapping in two ways:

1. Detailed description of the vegetation that actually occurs on the site is provided under each of the habitat type headings, in particular identifying respects in which each mapped area does or does not correspond closely with the text description provided by WHR; and
2. Non-WHR habitat type names and descriptions are provided for areas that do not fit in any of the WHR types at all.

Vegetation polygons were mapped by drawing them digitally on an AutoCAD file that included the aerial photograph (imperfectly georeferenced), the site boundary, and topography. Riverine polygons were derived from a digital file used to produce the verified delineation of waters of the United States. The alignment of the aerial photograph and surveyed delineation map is not perfect, as is apparent in the vegetation figure. This does not affect the analysis of the project's

biological impacts, but may merit staking of boundaries on the ground in areas where construction work is designated to occur in the vicinity of sensitive resources.

3.3 Investigator Qualifications

The site was studied and this report written by Adrian M. Juncosa, Ph.D. (Botany; Duke University). Since 1988, he has completed over 150 site studies, impact analyses, mitigation, and monitoring projects in central and northern California, with particular expertise in the foothills and montane Sierra Nevada, where he has been based since 1995.

4 RESULTS

Vegetation types that are found within the study area are depicted in Figure 1 (separate page). Appendix A includes a list of 144 plants and 15 vertebrates that were observed directly or by sign.

4.1 Upland Habitats

4.1.1 WHITE FIR FOREST

The most extensive vegetation type by far on the site is White Fir forest, dominated by white fir (*Abies concolor*) and thus easily meeting the WHR rules for inclusion in this type (namely, >50 percent relative cover of white fir). On the steeper slopes, with volcanic substrate, the forest includes numerous (but still nowhere near co-dominant) Jeffrey pine trees (*Pinus jeffreyi*). In the lower part of the site, closer to Bear Creek and with alluvial (including granitic) substrate, the sub-dominant tree species is lodgepole pine (*P. contorta* ssp. *murrayana*). The site includes a significant number of large diameter (>36 inch) live and dead trees, that is, it is best characterized as mid to late seral stage forest.

Understory is highly variable throughout the forest depending on microsite. Portions of the area have sufficiently dense tree canopy that there is very little by way of shrub or herbaceous layer. In areas close to the riparian corridors (see below), extensive understory vegetation of thimbleberry (*Rubus parviflorus*), *Lonicera conjugialis*, and mesic herbs (e.g., meadow rue, *Thalictrum fendleri*) is present. On drier slopes, understory is dominated by snowberry (*Symphoricarpos mollis*), coyote mint (*Monardella odoratissima*), and/or mountain currant (*Ribes nevadense*). Some semi-open forest areas on gentle slopes with presumably deeper and more mesic soils, the understory is substantially herbaceous (*Angelica breweri, Eucephalus breweri, Symphiotrichum ascendens* and *campestre, Thalictrum fendleri,* and other species).

4.1.2 MONTANE CHAPARRAL

This name was applied to non-riparian shrubby vegetation on the site, comprised primarily but not exclusively of true chaparral species: tobacco brush (*Ceanothus velutinus*), Sierra whitethorn (*C. cordulatus*), and greenleaf manzanita (*Arctostaphylos patula*). Thinner leaved shrubs such as bitter cherry (*Prunus emarginata*) and service berry (*Amelanchier alnifolia*) are also present in variable proportion to sclerophyllous chaparral species.

Understory is generally sparse or absent within the montane chaparral, but this type does intergrade with the Rocky Forb-Subshrub community, described below.

4.1.3 ROCKY FORB-SUBSHRUB

This vegetation type is a very distinctive feature of the study area, and is not accommodated by any described WHR habitat type. It is distinguished by the presence of sparse cover of mostly subshrubby or suffrutescent herbaceous vegetation on thin, rocky (specifically volcanic) soils. At its most extreme (on and near the actual rock outcrops), the overwhelmingly dominant species is Wright's buckwheat (also known as bastard-sage; *Eriogonum wrightii* var. *subscaposum*), mixed with

needlegrass (*Stipa occidentalis*), *Phlox diffusa,* and sulfur buckwheat (*E. umbellatum* var. *nevadense*). Further from exposed bedrock, this assemblage of species transitions into one dominated by mule's-ears (*Wyethia mollis*), coyote mint, angelica, Brewer's aster (*E. breweri*), *Cymopterus terebinthinus*, and *Eriogonum nudum*.

4.2 Riparian and Riverine Areas

4.2.1 MONTANE RIPARIAN HABITAT

Montane Riparian habitat occurs along all of the major drainage ravines that cross the site, including the Bear River. The characteristic riparian plant species also occur in small patches not adjacent to drainages, although these small patches lack either sufficient size or other special elements, most notably surface water, which are fundamental aspects of riparian habitat values for the species that depend upon this habitat type. For completeness, these isolated patches are mapped, even though they do not actually provide habitat for riparian-associated species.

Montane Riparian vegetation in the study area is primarily dominated by mountain alder (*Alnus incana* ssp. *tenuifolia*), with variable proportion of red-osier dogwood (*Cornus sericea*) and Scouler's willow (*Salix scouleriana*). Understory is essentially absent in this habitat type at the study area. In particular, there are no wet meadow areas supporting wetland *Carex* and *Juncus* species.

4.2.2 RIVERINE

Several Riverine systems cross the study area. The only fully perennial feature is the Bear River, which extends across a narrow part of the site for a channel distance of about 75-80 feet. The river channel substrate in this small segment is comprised of cobbles to large boulders, with some small patches of coarse gravel. The other Riverine features vary from ephemeral (flowing only during major snowmelt or rain events) to seasonal (flow continuing through summer, with increasing extent of reaches without surface flow as the season proceeds). In all cases, however, the channel gradients are relatively steep and substrates are coarse (bedrock to patches of coarse sand). In-channel wetlands are essentially absent.

As noted in the Methods section, the mapping of Riverine features is based upon unknown digital survey methods, whereas the vegetation mapping was done by reference to an imperfectly georeferenced aerial photograph; alignment of the two sources is not perfect.

4.3 Special Status Species

The Alpine Sierra site lies in the Tahoe City quadrangle. The element list of species and natural communities that resulted from a CNDDB query for the nine quadrangles centered on Tahoe City is included in Appendix B. Information on regulatory status (if any), habitat requirements, and potential occurrence within the site is provided in Table 1.

Many of the special-status species, both plants and wildlife, which resulted from the CNDDB query and utilize wetland and aquatic habitats require slow-moving or stationary water, or (in the case of wetland species) are found in nearly level wetland habitats with long-seasonal saturation to or nearly to the ground surface. These conditions are not found within the Alpine Sierra site.

Also, many of the plant species that resulted from the query are found only at higher or lower elevations, or are known only from occurrences west of the Sierra Nevada crest (occurrences in Wentworth Springs and/or Granite Chief quadrangle).

As can be seen from Table 1, relatively few special-status species are known from habitats such as those that occur within the project site. With regard to plant species, the field survey was floristic in nature, so that special-status species would have been detected regardless of CNDDB records or expected habitat associations (or lack thereof).

One special-status species, yellow warbler (*Dendroica petechia*; California Department of Fish and Game species of special concern) was observed in a large alder thicket near the center of the project site. It is reasonable to conclude that all other riparian thickets within the site that have sufficient width to provide visual cover would provide suitable foraging and nesting habitat for this bird.

It is also likely that other special-status wildlife species could occasionally make use of the site, specifically Sierra marten, Sierra Nevada snowshoe hare, and long-legged myotis. Given that there is existing development and constant human presence within 1,000 feet uphill and downhill from the site, it is unlikely that the site provides suitable denning/nesting habitat for the marten and hare, but may provide occasional foraging habitat.

Long-legged myotis is one of the most geographically widespread bat species in western North America. The site does not provide suitable hibernacula (caves, deep rock crevices, and other such refuges with moderate temperature year round). However, maternity and/or day roosts might be present seasonally in dead trees or under exfoliating bark of large trees. At least one large tree with a hollow trunk is present within the site, and many trees of a size that they might have suitable exfoliating bark are present. The limited extent of surface water reduces the foraging value of the site somewhat (long-legged myotis prefers to forage over ponds).

Table 1. Special-status species recorded by CNDDB in the nine USGS quadrangles centered on the Alpine Sierra study site, animals are listed roughly according to phylogenetic relationships; plants are listed alphabetically by scientific name. See text for additional information on species for which suitable habitat is present. Many species tracked by CNDDB have no regulatory status, or have status applicable only within federal lands (e.g., U.S. Forest Service sensitive species), and do not necessarily meet the threatened/endangered criteria applicable under CEQA guideline 15380.

Status definitions (Federal status/State status/California Native Plant Society [CNPS] list):

E or T, listed as endangered or threatened under state or federal Endangered Species Act;

C, candidate for listing as endangered or threatened;

SC, species of special concern (California DFG);

List 1B, considered rare, threatened or endangered by CNPS and normally regarded by DFG as meriting consideration under CEQA Guideline 15380; List 2, rare, threatened, or endangered in California but more common elsewhere; effects on List 3 (insufficient information) and List 4 (watch list) species are not considered to be significant except on a case-by-case basis.

Species	**Status (US/Ca./ CNPS)**	**Microhabitat/Occurrence**	**Suitable Habitat Present?**	**Other Information**
MAMMALS				
California wolverine *Gulo gulo*	C/T	Densely forested habitat, generally remote from human disturbance.	No	Only confirmed state record in many years is near UC Sagehen station.
Sierra marten *Martes americana sierrae*	-	Late seral stage conifer forest with suitable den and resting sites.	Yes	Species has been seen and detected repeatedly at the nearby ski area. Would be expected to occasionally use the site but due to proximity of existing development, unlikely to den within it.
Pacific fisher *Martes pennanti*	C/-	Dense forest and other woody habitats in northern Sierra foothills and southern Sierra Nevada.	not relevant	Area of project is no longer within geographic range (Zielinski, 1995).
Sierra Nevada red fox *Vulpes vulpes necator*	-/T	Meadows with adequate small mammal prey and friable soils for burrowing.	No	No meadows within site; soils are very rocky.

Sierra Nevada mountain beaver *Aplodontia rufa californica*	-/SC	Wet areas with forb-rich wetland vegetation; streamsides and wetland seeps.	No	Perennially saturated forb-dominated seeps not found within study area; no burrows observed.
Sierra Nevada showshoe hare *Lepus americanus tahoensis*	-/SC	Coniferous forest with shrub cover.	Yes	Would be expected occasionally to forage within the site, possible nesting areas within riparian thickets.
Western white-tailed jackrabbit *Lepus townsendii townsendii*	-/SC	Shrub- and forb-vegetated alpine habitat (above treeline).	No	Project is below altitudinal range of species.
Gray-headed pika *Ochtona pinceps schisticeps*	-	Rocky areas with talus for cover and winter habitat.	No	Rocky soils and outcrops lack sizeable talus fields which are a critical element for the species.
Long-legged myotis *Myotis volans*	-	Roosts in buildings, tree cavities, under bark, and in rock crevices or caves.	Marginal	Suitable roosting sites are present (trees with thick bark and/or cavities) but foraging value is moderate at best. One of the most widely distributed bats in western U.S.
BIRDS				
Cooper's hawk *Accipiter cooperi*	-	Woodland and forest throughout California.	Yes	Commonly seen in developed neighborhoods in the project region. No longer a species of special concern. Not seen during site studies.
Northern goshawk *Accipiter gentilis*	-/SC	High-canopy-cover coniferous forest without nearby human disturbance (e.g., within ¼ mile).	No	Some large trees present at site, but canopy cover is patchy and generally too low for this species. Existing development is within 1,000 feet.
Bald eagle *Haliaeetus leucocephala*	Delisted/E	Nests and winters in large trees or snags at large bodies of water; forages for fish and waterfowl.	No	
Osprey *Pandion haliaetus*	-	Snags or large trees adjacent to lakes.	No	
Black swift *Cypseloides niger*	-/SC	Nests on wet rock cliffs, specifically at waterfalls or cascades.	No	

Willow flycatcher *Empidonax traillii*	-/E	Willow thickets near perennial or near-perennial surface water.	Marginal or no	No willow thickets are present; inadequate surface water/wetland that is saturated to surface.
Yellow warbler *Dendroica petechia brewsteri*	-/SC	Riparian forest and shrubland, nesting records in region are close to water.	Yes	Bird observed in alder thicket.
AQUATIC VERTEBRATES				
Northern leopard frog *Lithobates pipiens*	-/SC	In and adjacent to slow-moving or still bodies of water and wetlands.	No	Tributaries on site are too steep to provide habitat for this species.
Sierra Nevada yellow-legged frog *Rana sierrae*	C/T	Lakes, ponds, meadow streams, isolated pools, and sunny riverbanks.	No	No stationary water bodies.
Lahontan cutthroat trout *Oncorhynchus clarkii henshawi*	T/-	Perennial streams without non-native trout species.	No	Only perennial stream is Bear River, which almost certainly supports non-native trout; 75 foot reach within site is comprised of boulders and cobble, does not include spawning substrate.
INVERTEBRATES				
Lake Tahoe benthic stonefly *Capnia lacustra*		Lake Tahoe	No	
King's Canyon cryptochian caddisfly *Cryptochia excella*		Perennial streams.	Marginal or no	No perennial streams within site.
Amphibious caddisfly *Desmona bethula*		Small spring-supported streams with slow flow in wet meadows.	No	
Great Basin rams-horn *Helisoma newberryi*		Soft mud in large or very slow moving water bodies.	No	
Cold Spring caddisfly *Lepidostoma ermanae*		Perennial streams.	Marginal or no	No perennial streams within site.
Amphibious caddisfly *Desmona bethula*		Perennial streams.	Marginal or no	No perennial streams within site.

PLANTS				
Galena Creek rock-cress *Arabis rigidissima* var. *demota*	n.a.	Taxon is no longer valid; merged into common, widespread *Boechera rigidissima*.	n.a.	See Flora North America, Vol. 7 (2010).
Scalloped moonwort *Botrychium crenulatum*	-/-/2	Moist meadows.	No	
Common moonwort *Botrychium lunaria*	-/-/2	Moist meadows.	No	
Western goblin *Botrychium montanum*	-/-/2	Shady, mesic conifer woodland along streams	No	No suitable habitat under thick alder canopy.
Bolander's bruchia *Bruchia bolanderi*	-/-/2	Wet soil, often fresh fine sand.	No	No acrocarpous moss found in wet areas.
Davy's sedge *Carex davyi*	-/-/1B	Meadows (mostly wet/mesic but may be dryish).	No	No meadows within site.
Woolly-fruited sedge *Carex lasiocarpa*	-/-/2	Lakes, ponds, standing water.	No	
Northern meadow sedge *Carex praticola*	-/-/2	Meadows, riparian edges.	Marginal or no	Suitable habitat was examined; species was not found on site.
Starved daisy *Erigeron miser*	-/-/1B	Granite outcrops.	No	Volcanic rocks were examined anyway; species is not present.
Donner Pass buckwheat *Eriogonum umbellatum* var. *torreyanum*	-/-/1B	Open areas on specific type of volcanic soils substrate.	Yes	Potentially suitable habitat was surveyed; species was not found.
American manna grass *Glyceria grandis*	-/-/2	Long-saturated, nearly level wetlands.	No	
Plumas ivesia *Ivesia sericoleuca*	-/-/1B	Vernally moist flats and areas just outside meadow wetlands.	No	No suitable habitat; no species of *Ivesia* was encountered.
Santa Lucia dwarf rush *Juncus luciensis*	-/-/1B	Wetland species.	No	Drainage courses are hydrologically suitable but wrong substrate and too shaded; species was not found.
Long-petaled lewisia *Lewisia longipetala*	-/-/1B	Rocky and gravelly areas with snowmelt seepage.	No	Site is below altitudinal range of species.

Stebbins's phacelia *Phacelia stebbinsii*	-/-/1B	Various habitats on west slope of Sierra Nevada.	No	
Alder buckthorn *Rhamnus alnifolia*	-/-/2	Wet meadow edges, seeps, stream sides; obligate wetland species in California.	No	No species of *Rhamnus* was found anywhere within study area.
Tahoe yellow cress *Rorippa subumbellata*	C/E/1B	Known only from sandy lakeshore habitat (Lake Tahoe).	No	
Marsh skullcap *Scutellaria galericulata*	-/-/2	Wetland (wet meadow) species.	No	No wet meadows.
Munro's desert mallow *Sphaeralcea munroana*	-/-/2	Open areas in conifer forest.	Yes	Species was not found in suitable habitat.
Slender-leaved pondweed *Stuckenia filiformis*	-/-/2	Ponds, near-stationary water.	No	
Felt-leaved violet *Viola tomentosa*	-/-/4	Dry, gravelly, open conifer forest on west slopes of Sierra Nevada.	No	
NATURAL COMMUNITIES				
Fen	n.a.	Fen is defined as a wetland habitat supported by groundwater seepage.	No	
Great Basin Cutthroat Trout/Paiute Sculpin Stream	n.a.		Minimal	Might include the 75 feet of Bear River within the site.

5 IMPACT ASSESSMENT AND MITIGATION

5.1 Project Description

The proposed project is development of single-family and other residential units with roads and other infrastructure. The exact footprint of habitat conversion depends upon the extent of construction and landscaping within each parcel. Other project elements will include vegetation management for fire safety, and probably also removal of hazard trees within individual parcels and within open space areas.

5.2 Potential Impacts

The following types of biological resource impacts could result from construction and operation of the project:

- Direct (fill) or indirect impacts on wetland or riparian habitats, tributaries, or the pond.
- Disturbance of nesting pairs of yellow warblers.
- Possible loss of seasonal roost trees for long-legged myotis.
- Possible loss of a limited amount of foraging habitat for Sierra marten, and possibly also for Sierra Nevada snowshoe hare.

The nature and significance of these impacts is discussed in more detail below, and available mitigation measures are suggested for consideration.

Impacts upon nesting birds generally do not fall into the categories of impact questions provided in the current CEQA environmental checklist form (revised Appendix G), nor would such impacts trigger mandatory findings of significance, unless the species in question were candidate, listed, or other of other special status. Accordingly, this subject is treated below under Regulatory Consistency.

5.2.1 RIVERINE AND/OR RIPARIAN IMPACTS

Details of project engineering are not know with certainty at this time, but it is possible that one or more site where a project road crosses a tributary might entail placement of fill or excavation within a jurisdictional water of the U.S., or within a water of the State of California. This would be a significant impact.

Even if fills were avoided, project construction or operation (e.g., stormwater management and/or discharge) could result in discharge of sediment or in modification of surface runoff amounts or concentration so as to result in erosion and consequent contribution of sediment to the Truckee River watershed. Since sediment impairment is already recognized within the watershed, this would be regarded as a significant impact.

Construction of roads and of individual houses could result in removal of riparian habitat, which may or may not be a significant impact per se, depending upon the area of impact. For the purposes of the present report, it is regarded as a potentially significant impact.

Feasible mitigation measures that could effectively reduce these impacts to less-than-significant levels include the following:

If possible, design and construct all infrastructure so that no fill or excavation of riparian wetlands or riverine water bodies occurs. If avoidance of fill is not feasible, then provide mitigation for the area of fill in the form of construction of compensatory habitat, enhancement of existing riverine habitat, and/or restoration of currently degraded habitat. The details and implementation of such mitigation shall be approved by the U.S. Army Corps of Engineers (in the case of impact on federally jurisdictional waters) or Lahontan Regional Water Quality Control Board (in the case of State waters that are not federally jurisdictional).

Formalization of the impact and mitigation shall occur via applicable discretionary approvals, which may include any or all of the following: Section 404 permit (Corps), Section 401 water quality certification (Regional Board), and Section 1602 streambed alteration agreement (California DFG).

The project shall design the stormwater runoff control facilities so as to avoid significant elevation of sediment within downstream waters.

The project shall implement temporary and permanent BMPs so as to prevent any discharge of sediment from disturbed soil surfaces during construction and to stabilize disturbed surfaces so that they will not be significant sediment sources when construction is complete. In order to protect future water quality, revegetation within the site shall not entail use of any high-nutrient amendments such as fertilizer of any nature including slow-release and biologically based fertilizers, or application of any type of compost; undecomposed organic mulch such as clean pine needles and shredded wood are acceptable. Revegetation shall rely only upon native species already found within the site and appropriate to the soil moisture regime of each revegetation site (see Appendix A).

The to extent feasible, roads shall be sited and designed so as to minimize the removal of riparian vegetation. Subject to limitations posed by slopes and other environmental considerations, this would entail trying to situate road crossings where riparian habitat is absent or narrowest.

If any parcels include portions of large-patch riparian habitat, their layout should allow for a minimum buffer distance of 50 feet from the edge of riparian habitat to the edge of any building envelope or modification of native habitat. Parcel conditions shall provide for enforceable protection of the unmodified native upland habitat buffer. Building standards for all parcels shall prohibit any lighting which is directly visible from riparian habitat, and shall provide that any lighting on the riparian-facing side of any structure shall be as low to the ground and of as minimal a wattage as is permitted by building code. Any structures for which lighting impacts cannot be eliminated by these measures shall be designed with no entry/exit and no lighting of any form on the riparian facing side.

Impacts on narrow, isolated patches of riparian vegetation are judged to be less than significant, so the measures suggested above would not be warranted for these patches of riparian vegetation.

5.2.2 YELLOW WARBLER

One adult yellow warbler was observed and unequivocally identified as that species in the largest patch of Montane Riparian habitat on the site. The species may make more than one nesting attempt during the season, so it cannot be determined whether the one observation in August constituted a nesting, single, or post-nesting individual that remained in the area prior to fall migration. Regardless, it is reasonable to conclude that the species nests within that patch of riparian habitat, and possibly in other sizeable patches elsewhere in the site. The very small proportion of loss of riparian vegetation that would result from the project is judged to be a less-

than-significant impact on yellow warbler. However, project construction during the nesting season could result in disturbance and nest abandonment, which would be a significant impact. This could be reduced to a less-than-significant level by the following measures:

In the event that tree removal and/or operation of mechanized equipment of any kind is proposed to occur at any time between May 15 and August 15, surveys for nesting yellow warblers should be conducted in any suitable nesting habitat (Montane Riparian thickets) that lies within 100 feet of all locations where equipment operation would occur. Surveys should be conducted between 7 and 14 days prior to initiation of construction. If adult yellow warblers are detected during the survey (nest sites may not be identifiable), no equipment operation should occur within 100 feet of the detection site until it is conclusively determined that no nest is present, or the nest is identified and young have fledged. This mitigation measure is not warranted for construction work starting after August 15, because this is after the latest date when nesting would be expected to be iniated.

5.2.3 LONG-LEGGED MYOTIS

This species of bat may roost in large dead or hollow trees or under bark within the site. Potential exists for either day or maternity roosting use (if the latter, during May/June). As long as a sufficient number of large and standing dead trees with cavities are preserved, potential use of the site by this species would be preserved, and the impact would be less than significant. However, removal of large, dead, or hollow trees during the maternity period could result in a significant impact. This would be reduced to a less-than-significant level by the following mitigation measure:

For the purpose of protection of potential roosts of long-legged myotis, removal of any trees >24 inches dbh, or of any standing dead trees with hollow centers (even if smaller than 24 inches dbh), should be initiated either before May 1 or after July 15. Such tree removal may occur at any time of the year if surveys using acoustical bat detectors demonstrate that no bats are roosting within any of the trees designated for removal. Conclusive evidence to this effect may be difficult to obtain, and the design, implementation, and interpretation of surveys should be determined by a wildlife biologist with experience conducting acoustical bat surveys in coniferous forest in the Sierra Nevada.

5.2.4 SIERRA MARTEN AND SNOWSHOE HARE

Due to the proximity of existing development and for habitat reasons, use of the site by these two species is expected to be limited to occasional foraging only, and not for denning or nesting. Therefore, impacts on these species from the project are judged to be less than significant, and no mitigation measures are warranted.

5.3 Other Regulatory Consistency

California Fish and Game Code (FGC)

Various sections of the FGC prohibit take of protected species. Fully protected species are included in the CNDDB and are properly treated as special-status species in CEQA analysis. Such species do not occur on the study site, therefore these sections are not applicable to the project.

Section 3503.5 prohibits take or possession of raptors, owls, or the destruction of eggs or occupied nests during the nesting season. Although a targeted raptor nest survey was not included in the

biological inventory, no large stick nests were observed. Measures that could be taken to preclude potential impacts on raptor nests are the same as for nesting birds generally and are discussed below.

Migratory Bird Treaty Act

Loss of limited numbers of common species of plants or animals is not a significant impact under current CEQA guidelines pertaining to biological resources. However, the MBTA and FGC §3513 prohibit take of migratory birds, which is defined to include destruction of active nests (presumed to contain eggs or nestlings). Compliance with the MBTA requires that no grading, brush clearing (mechanized or otherwise), or tree removal occur during the nesting season without a nesting bird survey that confirms that no occupied nests are present, or contingent mitigation actions if nests are present. In the case of tall coniferous trees, it is not scientifically possible to ensure that small bird nests high in the canopy can be found by a survey carried out from the ground. Thus, in coniferous habitat with trees >24 inches dbh, tree removal must occur outside the nesting season to ensure compliance with the MBTA.

In eastern Placer County, the nesting season for raptors and owls extends from sometime in the winter (in the case of great horned owl) through mid-August. Smaller migratory birds begin nesting in May and continue to occupy nests until as late as August 15 (in the case of some species that raise two broods per year; depends upon habitat and species in question). Thus, tree removal and initial grading should preferably occur between August 15 and October 15 (nominal end of the grading season for water quality reasons). Alternatively, larger trees (see comments above) may be felled in late fall or winter and left on the ground for removal during the following construction season.

If vegetation removal (tree removal or brush mastication) or ground surface disturbance (any form of grading) are to occur between May 1 and August 15, this report recommends that nesting bird surveys should occur between 7 and 14 days prior to initiation of construction. Nesting surveys for small birds are only fully effective if carried out between dawn and 11 AM; many species become inactive during mid-day.

Survey work should cover all habitat within 100 feet of vegetation removal or ground disturbance, or a greater distance in the case of raptor/owl survey, a distance of 500 feet from the limit of disturbance. In the event that nests are identified, temporary non-disturbance zones should be the same width as the survey buffer (100-500 feet, depending on the species found to be nesting), and a revisit by the biologist, with confirmed observations of fledglings in the nest vicinity, would be required prior to vegetation removal or soil disturbance, unless this were to be delayed past August 15.

6 REFERENCES

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Appendix A.

Species Observed on Alpine Sierra Site

Appendix A. Species observed on the project site.

Plant species are listed first, by major divisions, then alphabetically by family. Nomenclature is according to Baldwin et al. (2012) with some updates in *Carex* from FNAEC (2002). The names and placements of families and genera in the current Jepson Manual are based upon major changes in angiosperm systematics and phylogeny in recent years. In many cases, notes are provided pertaining to former names or classification. Lists of wildlife observed directly or by sign follow, in approximate phylogenetic order within each group.

Scientific Name	Common Name	Notes
CRYPTOGAMS	FERNS AND SPIKE-MOSSES	
Woodsiaceae	**Cliff Fern Family**	
Athyrium filix-femina var. *cyclosorum*	lady fern	
Woodsia oregana	cliff fern	
GYMNOSPERMS	CONIFERS	
Pinaceae	**Pine Family**	
Abies concolor	white fir	
Pinus contorta ssp. *murrayana*	lodgepole pine	
Pinus jeffreyii	Jeffrey pine	
ANGIOSPERMS-DICOTYLEDONS	FLOWERING PLANTS	
Adoxaceae	**Muskroot Family**	
Sambucus racemosa	elderberry	
Apiaceae (Umbelliferae)	**Carrot Family**	
Angelica breweri	Brewer's angelica	
Cymopterus terebinthinus var. *californicus*	spring-parsley	
Heracleum maximum	cow parsnip	
Ligusticum grayi	Gray's lovage	
Osmorhiza chilensis	sweet cicely	
Perideridia lemmonii	yampah	
Apocynaceae	**Dogbane Family**	
Apocynum androsaemifolium	bitter dogbane	
Asteraceae (Compositae)	**Sunflower Family**	
Achillea millefolium	yarrow	
Antennaria rosea	rosy pussy-toes	
Arnica cordifolia		
Arnica parryi		
Balsamorhiza sagittata	arrowleaf balsamroot	
Chaenactis douglasii var. *douglasii*	dusty maidens	
Cirsium andersonii	thistle	
Crepis occidentalis	western hawksbeard	

Erigeron inornatus var. *inornatus*	
Eucephalus (Aster) breweri	Brewer's aster
Eurybia (Aster) integrifolia	aster
Helenium bigelovii	sneezeweed
Helianthella californica	
Hieracium albiflorum	white-flowered hawkweed
Madia glomerata	mountain tarweed
Microseris nutans	
Oreostemma alpigenum var. *andersonii*	alpine-aster
Senecio integerrimus	lambs-tongue groundsel
Senecio triangularis	arrowleaf groundsel
Stephanomeria lactucina	wire lettuce
Symphyotrichum (Aster) campestre	aster
Wyethia mollis	mule's-ears
Betulaceae	**Birch Family**
Alnus incana ssp. *tenuifolia*	mountain alder
Boraginaceae	**Borage Family**
Cryptantha echinella	
Hackelia floribunda	stickseed
Phacelia hastata ssp. *hastata*	silver-leaf scorpion-weed
Phacelia hydrophylloides	
Brassicaceae (Cruciferae)	**Mustard Family**
Boechera retrofracta	Holboell's rock-cress
Cardamine breweri var. *breweri*	bittercress
Lepidium densiflorum	peppergrass
Rorippa curvipes	yellow-cress
Caprifoliaceae	**Honeysuckle Family**
Lonicera conjugialis	honeysuckle
Symphoricarpos mollis	soft snowberry
Chenopodiaceae	**Goosefoot Family**
Chenopodium sp.	
Cornaceae	**Dogwood Family**
Cornus sericea (=stolonifera)	red-osier dogwood
Ericaceae	**Heath Family**
Arctostaphylos nevadensis	pinemat manzanita
Arctostaphylos patula	greenleaf manzanita
Chimaphila menziesii	
Chimaphila umbellata	
Pterospora andromedea	pine-drops
Pyrola picta	
Sarcodes sanguinea	snow plant

Fabaceae	**Legume Family**	
Acmispon americanus var. *americanus*		Formerly *Lotus purshianus.*
Lupinus arbustus	lupine	
Lupinus lepidus	dwarf lupine	
Lupinus polyphyllus		
Trifolium cyathiferum	cup clover	
Trifolium monanthum		
Fagaceae	**Oak Family**	
Quercus vaccinifolia	huckleberry oak	
Geraniaceae	**Geranium Family**	
Geranium richardsonii		
Grossulariaceae	**Gooseberry Family**	
Ribes cereum	wax currant	
Ribes nevadense	mountain pink currant	
Ribes roezlii	Sierra gooseberry	
Lamiaceae (Labiatae)	**Mint Family**	
Agastache urticifolia	horsemint	
Monardella odoratissima ssp. *pallida*	coyote mint	
Malvaceae	**Mallow Family**	
Sidalcea glaucescens		
Montiaceae	**Miner's Lettuce Family**	
Calyptridium monospermum	pussy-paws	
Onagraceae	**Evening Primrose Family**	
Gayophytum diffusum ssp. *parviflorum*		
Epilobium angustifolium	fire weed	
Epilobium brachycarpum		
Epilobium ciliatum	willow herb	
Orobanchaceae	**Broomrape Family**	
Castilleja applegatei	Indian paint-brush	
Castilleja miniata		
Castilleja pilosa		
Pedicularis semibarbata	louse-wort	
Phrymaceae	**Lopseed Family**	
Mimulus guttatus	monkey flower	
Mimulus torreyi		
Plantaginaceae	**Plantain Family**	
Collinsia parviflora	blue-eyed Mary	
Penstemon newberryi		
Penstemon roezlii		

Polemoniaceae	**Phlox Family**
Collomia tinctoria	
Gilia leptalea ssp. *bicolor*	
Linanthus ciliatus	
Phlox diffusa	
Phlox (Microsteris) gracilis	
Polygonaceae	**Buckwheat Family**
Aconogonon (Polygonum) phytolaccifolium	
Bistorta bistortoides	
Eriogonum incanum	
Eriogonum nudum var. *nudum*	wild buckwheat
Eriogonum umbellatum ssp. *nevadense*	sulfur buckwheat
Eriogonum wrightii var. *subscaposum*	Wright's buckwheat (bastard-sage)
Polygonum douglasii ssp. *douglasii*	Douglas's knotweed
Polygonum douglasii ssp. *johnstonii*	
Rumex salicifolius	willow dock
Primulaceae	**Primrose Family**
Dodecatheon alpinum	shooting star
Dodecatheon jeffreyi	shooting star
Ranunculaceae	**Buttercup Family**
Aquilegia formosa	western columbine
Delphinium depauperatum	larkspur
Delphinium glaucum	tower delphinium
Thalictrum fendleri	meadow-rue
Rhamnaceae	**Buckthorn Family**
Ceanothus cordulatus	snow-bush
Ceanothus prostratus	Mahala carpet
Ceanothus velutinus	tobacco-bush
Rosaceae	**Rose Family**
Amelanchier alnifolia	serviceberry
Drymocallis glandulosa ssp. *reflexa*	sticky cinquefoil
Fragaria virginiana	wild strawberry
Geum triflorum	
Holodiscus discolor	oceanspray
Potentilla gracilis	
Prunus emarginata	Sierra (bitter) cherry
Rubus parviflorus	thimbleberry
Sorbus californica/scopulina	mountain ash
Rubiaceae	**Madder Family**
Galium triflorum	
Kelloggia galioides	

Salicaceae	**Willow Family**	
Populus tremuloides	quaking aspen	Very near, or slightly outside, site boundary.
Salix scouleriana	Scouler's willow	
Sapindaceae	**Soapberry Family**	
Acer glabrum var. *glabrum*	mountain maple	Formerly in Aceraceae.
Valerianaceae	**Valerian Family**	
Valeriana californica		
Violaceae	**Violet Family**	
Viola purpurea		
ANGIOSPERMS-MONOCOTYLEDONS	FLOWERING PLANTS	
Alliaceae	**Onion Family**	
Allium bisceptrum ssp. *bisceptrum*		
Cyperaceae	**Sedge Family**	
Carex athrostachya		
Carex multicostata		
Carex rossii		
Carex subfusca		
Carex whitneyi		
Liliaceae	**Lily Family**	
Calochortus leichtlinii		
Melanthiaceae	**False-Hellebore Family**	
Veratrum californicum	corn lily	
Poaceae	**Grass Family**	
Stipa (Achnatherum) occidentale	western needle-grass	
Agrostis exarata		
Agrostis scabra	bent grass	
Agrostis stolonifera	red top	
Bromus carinatus	mountain brome	
Dactylis glomerata	orchard grass	
Elymus elymoides (Sitanion hystrix)	squirrel-tail	
Elymus glaucus	blue wild-rye	
Festuca (viridula?)	fescue	
Glyceria elata		
Hordeum brachyantherum	meadow barley	
Poa pratensis	Kentucky bluegrass	
Ruscaceae	**Butcher's-Broom Family**	
Maianthemum (Smilacina) racemosa	false Solomon's seal	

MAMMALIA	**MAMMALS**	
Canis latrans	coyote	Scat observed.
Thomomys monticola	mountain pocket gopher	Sign observed.
Tamiasciurus douglasii	Douglas's squirrel, chickaree	Observed directly.
Ursus americanus	black bear	Scat observed.
AVES	**BIRDS**	
Colaptes auratus	northern flicker	
Contopus sordidulus	western wood-peewee	
Cyanocitta stelleri	Steller's jay	
Corvus corax	common raven	
Poecile (Parus) gambeli	mountain chickadee	
Sitta carolinensis	white-breasted nuthatch	
Turdus migratorius	American robin	
Dendroica petechia	yellow warbler	Observed in alder thicket.
Pipilo chlorurus	green-tailed towhee	
Junco hyemalis	dark-eyed junco	
Carduelis psaltria	lesser goldfinch	

Appendix B.

Element List for Nine-Quadrangle CNDDB Query

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
1	***Accipiter cooperii*** Cooper's hawk	ABNKC12040			G5	S3	
2	***Accipiter gentilis*** northern goshawk	ABNKC12060			G5	S3	SC
3	***Aplodontia rufa californica*** Sierra Nevada mountain beaver	AMAFA01013			G5T3T4	S2S3	SC
4	***Arabis rigidissima var. demota*** Galena Creek rockcress	PDBRA061R1			G3T3	S1	1B.2
5	***Botrychium crenulatum*** scalloped moonwort	PPOPH010L0			G3	S2.2	2.2
6	***Botrychium lunaria*** common moonwort	PPOPH01080			G5	S2?	2.3
7	***Botrychium minganense*** mingan moonwort	PPOPH010R0			G4	S2	2.2
8	***Botrychium montanum*** western goblin	PPOPH010K0			G3	S2	2.1
9	***Bruchia bolanderi*** Bolander's bruchia	NBMUS13010			G3	S3?	2.2
10	***Capnia lacustra*** Lake Tahoe benthic stonefly	IIPLE03200			G1	S1	
11	***Carex davyi*** Davy's sedge	PMCYP033H0			G2	S2	1B.3
12	***Carex lasiocarpa*** woolly-fruited sedge	PMCYP03720			G5	S2	2.3
13	***Carex praticola*** northern meadow sedge	PMCYP03B20			G5	S2S3	2.2
14	***Cryptochia excella*** Kings Canyon cryptochian caddisfly	IITRI11010			G1G2	S1S2	
15	***Cypseloides niger*** black swift	ABNUA01010			G4	S2	SC
16	***Dendroica petechia brewsteri*** yellow warbler	ABPBX03018			G5T3?	S2	SC
17	***Desmona bethula*** amphibious caddisfly	IITRI77010			G2G3	S2S3	
18	***Empidonax traillii*** willow flycatcher	ABPAE33040		Endangered	G5	S1S2	
19	***Erigeron miser*** starved daisy	PDAST3M2K0			G2	S2.3	1B.3
20	***Eriogonum umbellatum var. torreyanum*** Donner Pass buckwheat	PDPGN086U9			G5T2	S2.2	1B.2
21	***Fen***	CTT51200CA			G2	S1.2	
22	***Glyceria grandis*** American manna grass	PMPOA2Y080			G5	S1.3?	2.3
23	***Great Basin Cutthroat Trout/Paiute Sculpin Stream***	CARC2320CA			G?	SNR	
24	***Gulo gulo*** California wolverine	AMAJF03010	Candidate	Threatened	G4	S1	

	Scientific Name/Common Name	Element Code	Federal Status	State Status	GRank	SRank	CDFG or CNPS
25	***Haliaeetus leucocephalus*** bald eagle	ABNKC10010	Delisted	Endangered	G5	S2	
26	***Helisoma newberryi*** Great Basin rams-horn	IMGASM6020			G1Q	S1	
27	***Ivesia sericoleuca*** Plumas ivesia	PDROS0X0K0			G2G3	S2S3	1B.2
28	***Juncus luciensis*** Santa Lucia dwarf rush	PMJUN013J0			G2G3	S2S3	1B.2
29	***Lepus americanus tahoensis*** Sierra Nevada snowshoe hare	AMAEB03012			G5T3T4Q	S2?	SC
30	***Lepus townsendii townsendii*** western white-tailed jackrabbit	AMAEB03041			G5T5	S3?	SC
31	***Lewisia longipetala*** long-petaled lewisia	PDPOR040K0			G2	S2.2	1B.3
32	***Lithobates pipiens*** northern leopard frog	AAABH01170			G5	S2	SC
33	***Martes americana sierrae*** Sierra marten	AMAJF01014			G5T3T4	S3S4	
34	***Martes pennanti (pacifica) DPS*** Pacific fisher	AMAJF01021	Candidate		G5	S2S3	SC
35	***Myotis volans*** long-legged myotis	AMACC01110			G5	S4?	
36	***Ochotona princeps schisticeps*** gray-headed pika	AMAEA0102H			G5T2T4	S2S4	
37	***Oncorhynchus clarkii henshawi*** Lahontan cutthroat trout	AFCHA02081	Threatened		G4T3	S2	
38	***Pandion haliaetus*** osprey	ABNKC01010			G5	S3	
39	***Phacelia stebbinsii*** Stebbins' phacelia	PDHYD0C4D0			G3	S3	1B.2
40	***Rana sierrae*** Sierra Nevada yellow-legged frog	AAABH01340	Candidate	unknown code...	G1	S1	SC
41	***Rhamnus alnifolia*** alder buckthorn	PDRHA0C010			G5	S2.2	2.2
42	***Rorippa subumbellata*** Tahoe yellow cress	PDBRA270M0	Candidate	Endangered	G1	S1	1B.1
43	***Scutellaria galericulata*** marsh skullcap	PDLAM1U0J0			G5	S2	2.2
44	***Sphaeralcea munroana*** Munro's desert mallow	PDMAL140F0			G4	S1.2	2.2
45	***Stuckenia filiformis*** slender-leaved pondweed	PMPOT03090			G5	S1S2	2.2
46	***Viola tomentosa*** felt-leaved violet	PDVIO04280			G3	S3.2	4.2
47	***Vulpes vulpes necator*** Sierra Nevada red fox	AMAJA03012		Threatened	G5T3	S1	

Alpine Sierra Subdivision
Biological Survey Report

Figure 1: Vegetation Types

Montane Chaparral

Montane Riparian

Rocky Forb Shrub

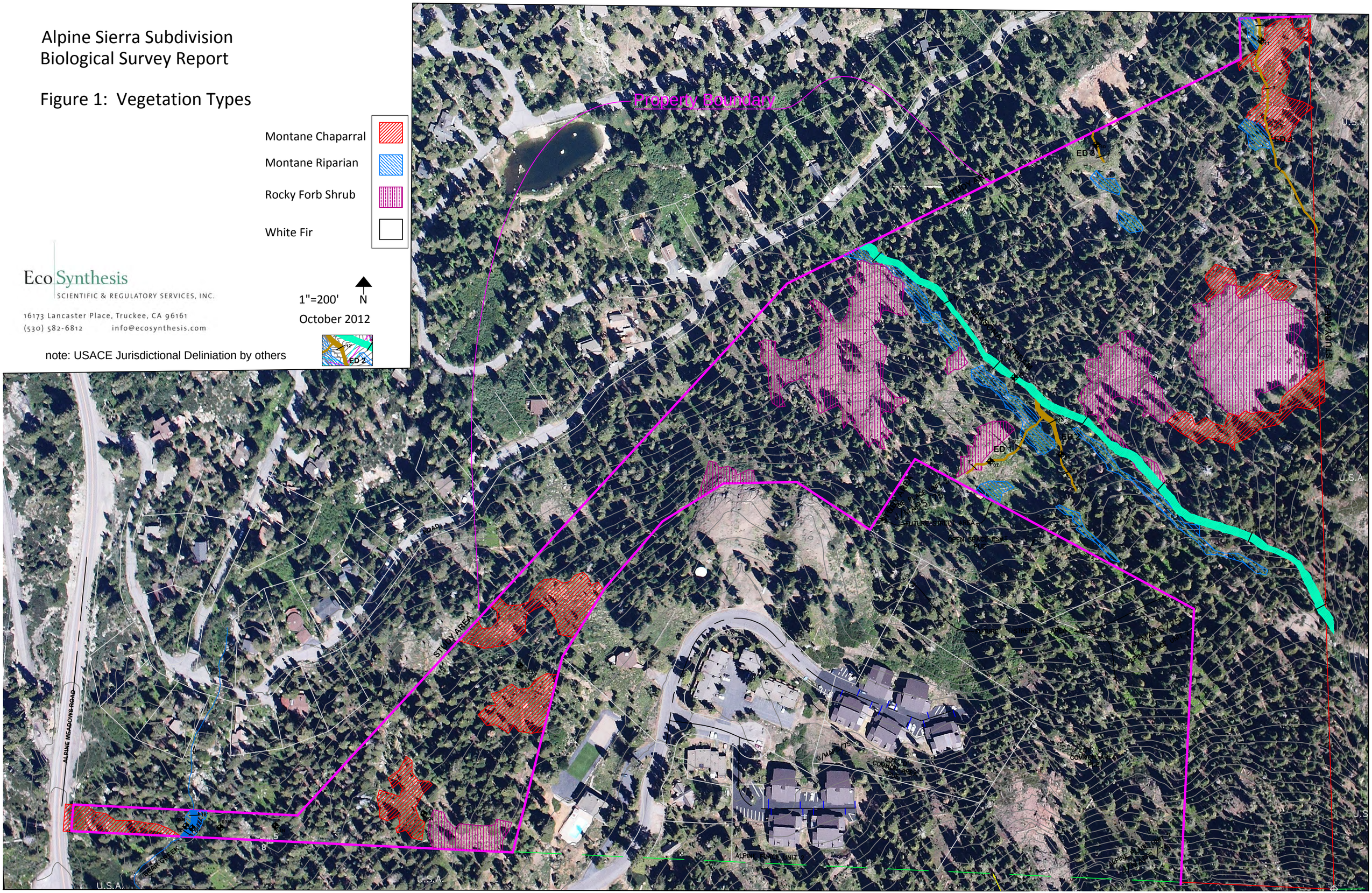
White Fir

Eco Synthesis
SCIENTIFIC & REGULATORY SERVICES, INC.
16173 Lancaster Place, Truckee, CA 96161
(530) 582-6812 info@ecosynthesis.com

1"=200' N

October 2012

note: USACE Jurisdictional Deliniation by others



APPENDIX D-2

Wetland Delineation

WETLAND DELINEATION
FOR THE ±46-ACRE
NELSON PROPERTY PROJECT

Alpine Meadows, Placer County, California

Submitted to:

U.S. Army Corps of Engineers
Sacramento District, Regulatory Branch
1325 J Street, Room 1480
Sacramento, CA 95814

On Behalf Of:

Barbara and Chris Nelson
3136 NW Verde Vista Terrace
Portland, OR 97210
(530) 227-4841

Prepared By:

north fork associates
1449 Lincoln Way, Auburn, California 95603
(530) 887-8500

September 26, 2002

WETLAND DELINEATION FOR THE ±45 ACRE NELSON PROPERTY

Alpine Meadows, Placer County, California

INTRODUCTION

On behalf of Barbara and Chris Nelson, North Fork Associates has conducted a Wetland Delineation of the ±45 acre Nelson Property, located in Alpine Meadows, Placer County, California. The property is an irregular shaped parcel located ¼ mile north of the Alpine Meadows Ski Resort. This location corresponds to the southeastern corner of Section 5, Township 15 North, Range 16 East of the Tahoe City, California USGS 7.5 minute topographic quadrangle (Figure 1). Coordinates to the approximate center of the project are: 39°10′21″ N and 120°13′49″ W.

Setting

The study area is situated in the northeastern Sierra Nevada Mountains. Climate in the Alpine Meadows area is characterized by long, cold winters and short, warm summers. Average annual precipitation is approximately 32 inches, most of which falls as snow. Elevation on site ranges from about 6,600 along the north central border to about 7,080 feet at the southeast corner.

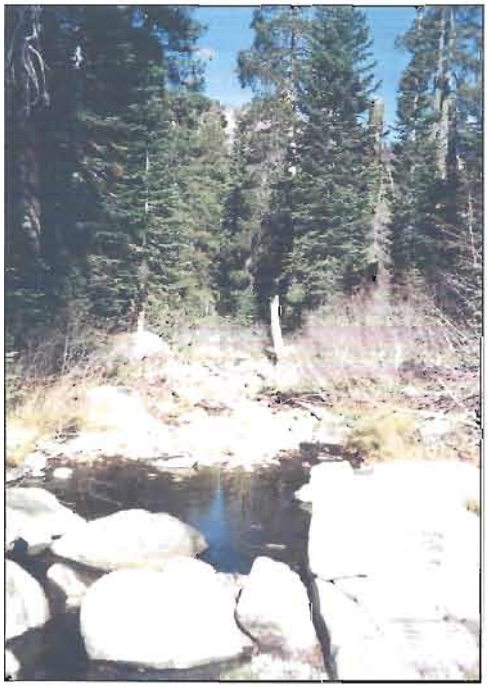
The majority of the site is situated on steep north facing slopes and there is little level ground. Slopes are steepest in the southeast corner. Bear Creek bisects the narrow property corridor near Alpine Meadows Road on the west side. Land use in the adjacent areas to the north is primarily second home single-family and to the south, condominiums.

METHODOLOGY

Jeff Glazner conducted the wetland delineation on November 2 and on November 8, 2001 with assistance from Fred Hrusa. Jeff Glazner and Barry Anderson conducted a subsequent field assessment on July 25, 2002 to verify the initial mapping. Base map information used for the field mapping included a color aerial photograph taken November 3, 2001 (Figure 2) and a topographic map of the study area with two-foot contour intervals. Other pertinent information reviewed included the USGS 7.5 minute Tahoe City, California topographic quadrangle. The wetland delineation was conducted in accordance with the 1987 U. S. Army Corps of Engineers *Wetland Delineation Manual*. All areas within the project site were evaluated for the presence of waters of the U.S. The topographic map was used as the field mapping basemap, and the aerial photograph was used to assist with additional field interpretation. The topographic basemap was printed at 1″=100′ used for mapping details.

Three parameter wetland determination forms detailing vegetation, soils, and hydrologic characteristics were completed at representative locations throughout the site. Plant

Ephemeral Drainage at east end of site, looking south.



Bear Creek where it crosses project site.

Montane Riparian Scrub along seasonal stream

north fork associates

Photo Date: 11-8-01

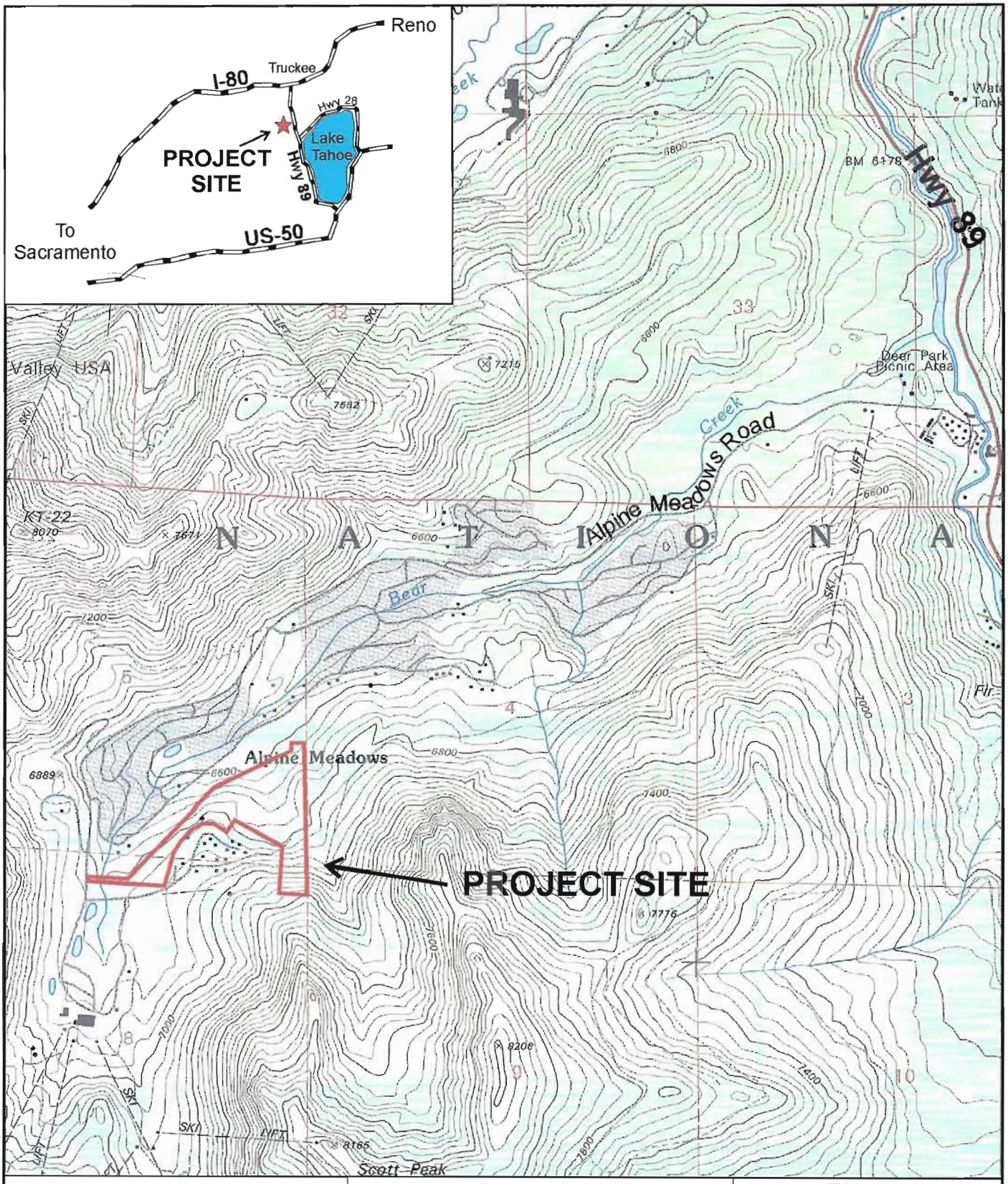
Figure 3

SITE PHOTOS

Nelson Property

Alpine Meadows

Placer County, CA



north fork associates

0 1000 2000
Approximate scale in feet

N
W E
S

Basemap: Tahoe City, CA USGS
7.5 minute topographic quadrangle

Figure 1

SITE AND VICINITY MAP

Nelson Property

Alpine Meadows
Placer County, CA

nomenclature follows *The Jepson Manual: Higher Plants of California* (1993). Wetland indicator status was obtained from the 1988 *National List of Vascular Plant Species that Occur in Wetlands,* California Region 0. A Munsell soil color chart was used to determine soil matrix and mottle colors.

Field data was digitized and a wetland delineation map produced using the topographic base map.

RESULTS

Vegetation

Most of the project site is considered Sierran White Fir Forest, dominated by white fir (*Abies concolor*) and western white pine (*Pinus monticola*). Lodgepole or tamarack pine (*Pinus contorta* ssp. *murrayana*) is found on the lower slopes in relatively mesic sites, while Jeffrey pine (*Pinus jeffreyi*) is scattered on the lower slopes in more xeric areas. Red fir (*Abies magnifica*), and mountain hemlock (*Tsuga mertensiana*) occur but are not dominant, being found mostly on the upper slopes where the vegetation is in transition to Red Fir Forest. Here mountain hemlock is a scattered associate, particularly at the base of several volcanic rock outcrops. In general, the western end of the property is drier and supports the more xeric-adapted species of the Sierran White Fir Forest species.

Localized moist soil areas occur in a few areas of the mature forest both associated with and isolated from topographic drainageways. The species diversity on these sites is the highest on the property which support mountain alder (*Alnus incana* ssp. *tenuifolia*), arroyo willow (*Salix lasiolepis*) or another willow species, American dogwood (*Cornus sericea*), bitter cherry (*Prunus emarginata*), meadow larkspur (*Delphinium nuttallianum*), California corn lily (*Veratrum californicum*), arrowhead butterweed (*Senecio triangularis*), Fendler's meadow-rue (*Thalictrum fendleri*), and meadow barley (*Hordeum brachyantherum*). One area in the central portion of the property supports a stand of bitter cherry, aspen (*Populus tremuloides*), and Nettle-leaf giant hyssop (*Agastache urticifolia*). These moist soil areas do not indicate surface saturation and it appears that the vegetation is deep rooted, tapping near surface water.

Soils

Soil units mapped on the project site were obtained from the Soil Survey of the Tahoe National Forest Area, California (PDF Version 2.0, January 2002). Two soil types are mapped on the project: Meiss-Waca complex, 30-50% slopes, and Jorge-Wace-Cryumbrepts, 30-50% slopes. Of these, only the Cryumbrepts unit typically supports wetlands. Due to the steep slopes, there is little opportunity for water to linger. Enclosed are soils description for each soil type.

Hydrology

Drainage in Alpine Meadows is carried east through Bear Creek to the Truckee River. The confluence of Bear Creek and the Truckee River is approximately 2 miles northeast of the project site. The project site is drained through two primary systems; Bear Creek at the western end of the property and an unnamed seasonal stream in the eastern area that crosses the site from the south to north and flows into Bear Creek north of the site. The site also is drained by

other minor ephemeral drainages in the northeast end of the property. Water falling on the site flows to the northwest either by sheetflow or through one of the drainages.

WATERS OF THE U.S.

The project site contains three waters of the U.S. features; Perennial Stream (Bear Creek), Seasonal Stream, and Ephemeral Drainage (see Wetland Delineation Map in back pocket). Each waters type is summarized in Table 1 below, and a ground photo of each type is shown in Figure 3.

Table 1. Waters of the U.S. Acreage Summary

Classification	Acreage
Other Waters	
• Perennial Stream (Bear Creek)	0.02
• Seasonal Stream	0.56
• Ephemeral Drainage	0.11
Total	**0.69**

Perennial Stream (Bear Creek)

Bear Creek is a perennial stream that crosses the narrow western portion of the property. It ranges from 12 to 20 feet wide (bank to bank, ordinary high water mark) where it crosses the site. The creek bed is relatively flat with a meandering low flow zone. Substrate is rocky with variable sized cobbles and boulders. Woody vegetation is minimal in the active channel but forms a band along each bank. The creek supports a narrow riparian community consisting of Mountain alder and American dogwood and willow.

Seasonal Stream

One seasonal stream is mapped on the project site. This feature is located in the northeast portion of the property and flows from southeast to northwest. It is a deeply incised channel with a narrow riparian component. The feature was dry over most of its length during our November, 2001 field evaluation, and was intermittently wet over about half its length during July, 2002.

Ephemeral Drainage

Four ephemeral drainages are mapped on the property, two that flow into the seasonal stream, and two in the northeastern portion of the site that drain north to Bear Creek. These drainages carry storm flows, have defined rocky beds and vary in width from three to twelve feet.

north fork associates

0 400 800
Approximate scale in feet

W
S N
E

Aerial Photo taken by Geoimagery 11/3/01

Figure 2

AERIAL PHOTO

Nelson Property
Alpine Meadows
Placer County, CA

SUMMARY

A Wetland Delineation was conducted in November 2001 on the ±45-acre Nelson Property site in Alpine Meadows. The project site is mature Sierran White Fir Forest and contains 0.69-acre of potentially jurisdictional waters. Three waters of the U.S. types have been mapped in the study area including: Perennial Stream (Bear Creek), Seasonal Stream, and Ephemeral Drainage.

Nelson Property - eastern area Soils

JXF Jorge-Waca-Cryumbrepts, wet complex, 30 to 50 percent slopes

Elevation: 6,000 to 8,000 feet Annual Precipitation: 35 to 45 inches

Typical Vegetation: Mixed conifer-Alder/Willow series; Red fir-Alder/Willow series.

Soil Map Unit Components	Jorge	Waca	Cryumbrepts, wet
Proportion (percent)	25	25	20
Soil Profile Description			
Surface Layer	0 to 13 inches; brown sandy loam; weak granular structure; slightly acid.	0 to 12 inches; grayish brown gravelly sandy loam; moderate granular structure; medium acid.	Thick and dark colored; stratified sandy loam, silt loam, and clay loam; gravelly, cobbly, or stony.
Subsoil	13 to 41 inches; brown very cobbly sandy loam; weak subangular blocky structure; medium acid.	12 to 32 inches; yellowish brown very gravelly sandy loam; massive; medium acid.	
Substratum	41 to 47 inches; brown very cobbly sandy loam; massive; strongly acid.	32 inches; weathered andesitic tuff breccia.	Stratified loam to clay loam with dark colored mottles; gravelly, cobbly, or stony.
Soil Properties & Management Interpretations			
Effective Rooting Depth (inches)	40 to 60	20 to 40	Variable
Available Water Capacity Class	Very low to low	Low	Very low
AWC for top 20"	1.7-1.8	2.1-2.3	
Permeability: Subsoil Substratum	Moderate Moderate	Moderately rapid Slow	Moderately rapid Very slow
Drainage Class	Well drained	Well drained	Poorly drained
Max Erosion Hazard	High	Moderate	Very high
Seedling Mortality	Slight	Slight	Severe
Revegetating Exposed Subsoil	Slight	Slight	Severe
Soil Productivity Forest Survey Site Class Annual Forage (lbs/acre)	 4 RF, WF 100 to 140	 4,5 RF, WF 60 to 1400	 Not capable 170 to 640
Soil Manageability Group Class	 III 3ep	 III 3Ep	 III 4EW

Inclusions: Included in this unit are small areas of Fugawee, Tahoma, and Windy soils; Included areas make up about 30 percent of the total area.

Management Considerations: Steep slopes. Jorge soils have coarse textures with a high amount of rock fragments. Waca soils are moderately deep, have a high amount of rock fragments, and snowmelt tends to accumulate for short periods over the impermeable substratum. Cryumbrepts wet, have a high watertable most of the year, are susceptible to puddling, and often have impermeable layers between 1 and 2 feet.

Nelson Property - western area Soils

MKF Meiss-Waca complex, 30 to 50 percent slopes

Elevation: 6,000 to 9,000 feet Annual Precipitation: 50 to 80 inches

Typical Vegetation	Wyethia-Red fir series.	
Soil Map Unit Components	**Meiss**	**Waca**
Proportion (percent)	55	30
	Soil Profile Description	
Surface Layer	0 to 19 inches; brown sandy loam; moderate granular structure; neutral.	0 to 12 inches; grayish brown gravelly sandy loam; moderate granular structure; medium acid.
Subsoil		12 to 32 inches; yellowish brown very gravelly sandy loam; massive; medium acid.
Substratum	19 inches; hard volcanic rock.	32 inches; weathered andesitic tuff breccia.
	Soil Properties & Management Interpretations	
Effective Rooting Depth (inches)	12 to 20	20 to 40
Available Water Capacity Class	Very low	Low
AWC for top 20"	2.6-2.9	2.1-2.3
Permeability: Subsoil Substratum	Moderately rapid Very slow	Moderately rapid Slow
Drainage Class	Somewhat excessively drained	Well drained
Max Erosion Hazard	High	High
Seedling Mortality	Slight	Moderate to slight
Revegetating Exposed Subsoil	Severe	Slight
Soil Productivity Forest Survey Site Class Annual Forage (lbs/acre)	 Not capable 60 to 160	 4,5 RF, WF 60 to 140
Soil Manageability Group Class	 III 3Ed	 III 3Ep
Inclusions	Included in this unit are small areas of Windy soils; Rock outcrop; soils similar to Meiss but with a high amount of rock fragments; and soils similar to Waca but with less than 35 percent rock fragments.	
Management Considerations	Steep slopes. Meiss soils are shallow to hard bedrock, they reach field capacity rapidly, and can produce surface runoff. Waca soils are moderately deep and have a high amount of rock fragments. Snowmelt tends to accumulate for short periods over the impermeable substratum.	

ROUTINE WETLAND DETERMINATION FORM

Project/Site: **NELSON PROPERTY** Date: **November 8, 2001** / 7-25-02
Applicant: **Barbara and Chris Nelson** Sample Point: 01
Investigators: **Jeff Glazner / Fred Hrusa** / Barry Anderson County: **Placer** State: **CA**
Quad(s): **Tahoe City** Section **5** Township **15N** Range **16E**
Atypical Situation? Yes (No) Potential Problem Area? Yes (No)

VEGETATION

Dominant Plant Species	Status	% Cover	Non-Dominant Plant Species	Status	% Cover

Percentage of dominant species that are OBL, FACW, or FAC: %
Remarks: vegetation lacking in active channel. Narrow riparian band along Ottway. Willows and alders.

SOILS

Map Unit Name (Series/Phase): Meiss-Waca complex 30-50%
Mottled? Yes / No Gleyed? Yes / No Matrix Color: Mottle Color:
Redoximorphic Features:

_____Gleyed or Low Chroma Colors
_____Low Chroma w/ Mottles
_____Aquic Moisture Regime
_____Listed on Local Hydric Soil List
_____Reducing Conditions
_____Sulfidic Odor
_____Concretions
_____Other

Remarks: Rocky / bouldery (granitic) channel.

HYDROLOGY

Inundated? Yes_____No_____ Saturated? Yes_____No_____ Depth of/to Free Water:

Primary Indicators:
_____Inundated
_____Saturated in Upper 12"
_____Water Marks/Drift Lines
_____Sediment Deposit
_____Algal Matting
_____Drainage Patterns in Wetlands

Secondary Indicators
_____Oxidized Root Channels in Upper 12"
_____Water-Stained Leaves
_____Local Soil Survey Data
_____Other

Remarks: Flowing on 11/8/02

WETLAND/WATERS DETERMINATION

Hydrophytic Vegetation Present? Yes_____No_____
Hydric Soils Present? Yes_____No_____ Waters of the U.S.: Yes X No_____
Wetland Hydrology Present? Yes_____No_____ Wetland: Yes_____No X
Remarks:

Bear Creek. Banks are steep sided and transition to coniferous forest over a short distance.

ROUTINE WETLAND DETERMINATION FORM

Project/Site: **NELSON PROPERTY** Date: **November 8, 2001** / 7-25-02
Applicant: **Barbara and Chris Nelson** Sample Point: 02 N
Investigators: **Jeff Glazner / Fred Hrusa** / Barry Anderson County: **Placer** State: **CA**
Quad(s): **Tahoe City** Section **5** Township **15N** Range **16E**
Atypical Situation? Yes (No) Potential Problem Area? Yes (No)

VEGETATION

Dominant Plant Species	Status	% Cover	Non-Dominant Plant Species	Status	% Cover
			Pinus contorta	FAC	15
Cornus sericea	FACW	30	Abies concolor	–	15
Rubus parviflorus	FACU	30	Elymus glaucus	–	5
			Thalictrum fendleri	FACU	5

Percentage of dominant species that are OBL, FACW, or FAC: 100 %
Remarks: Riparian edge and coniferous forest transition. Above OHWM

SOILS

Map Unit Name (Series/Phase): Meiss-Waca Complex, 30-50%
Mottled? Yes / (No) Gleyed? Yes / (No) Matrix Color: 10YR 4/4 Mottle Color:
Redoximorphic Features:

____ Gleyed or Low Chroma Colors	____ Reducing Conditions
____ Low Chroma w/ Mottles	____ Sulfidic Odor
____ Aquic Moisture Regime	____ Concretions
____ Listed on Local Hydric Soil List	____ Other

Remarks: Gravelly / Rocky / Sandy – deposition area in past.

HYDROLOGY

Inundated? Yes____ No X Saturated? Yes____ No X Depth of/to Free Water:

Primary Indicators:	Secondary Indicators
____ Inundated	____ Oxidized Root Channels in Upper 12"
____ Saturated in Upper 12"	____ Water-Stained Leaves
____ Water Marks/Drift Lines	____ Local Soil Survey Data
____ Sediment Deposit	____ Other
____ Algal Matting	
____ Drainage Patterns in Wetlands	

Remarks: Above OHWM

WETLAND/WATERS DETERMINATION

Hydrophytic Vegetation Present? Yes X No____
Hydric Soils Present? Yes____ No X Waters of the U.S.: Yes____ No X
Wetland Hydrology Present? Yes____ No X Wetland: Yes____ No X
Remarks:
Adjacent to creek – upland comparison.

ROUTINE WETLAND DETERMINATION FORM

Project/Site: **NELSON PROPERTY** Date: **November 8, 2001** / 7-25-02
Applicant: **Barbara and Chris Nelson** Sample Point: 03N
Investigators: **Jeff Glazner / Fred Hrusa** / Barry Anderson County: **Placer** State: **CA**
Quad(s): **Tahoe City** Section **5** Township **15N** Range **16E**
Atypical Situation? Yes (No) Potential Problem Area? Yes (No)

VEGETATION

Dominant Plant Species	Status	% Cover	Non-Dominant Plant Species	Status	% Cover
Potentilla glandulosa	FAC	20	Senecio triangularis	Obl	10
Epilobium angustif.	FAC	20	Elymus glaucus	FACU	10
Aster eatonii	FAC	20	Hackelia nervosa	—	5
			Cirsium andersonii	—	5
			Anaphalis margaritacea	—	10

Percentage of dominant species that are OBL, FACW, or FAC: 100 %
Remarks:

SOILS

Map Unit Name (Series/Phase): Meiss-Waca complex, 30-50%
Mottled? Yes / (No) Gleyed? Yes / (No) Matrix Color: 10YR 4/3 Mottle Color:
Redoximorphic Features:

_____ Gleyed or Low Chroma Colors
_____ Low Chroma w/ Mottles
_____ Aquic Moisture Regime
_____ Listed on Local Hydric Soil List
_____ Reducing Conditions
_____ Sulfidic Odor
_____ Concretions
_____ Other

Remarks: Sandy Soils; rocky

HYDROLOGY

Inundated? Yes_____ No X Saturated? Yes_____ No X Depth of/to Free Water:

Primary Indicators:

_____ Inundated
_____ Saturated in Upper 12"
_____ Water Marks/Drift Lines
_____ Sediment Deposit
_____ Algal Matting
_____ Drainage Patterns in Wetlands

Secondary Indicators

_____ Oxidized Root Channels in Upper 12"
_____ Water-Stained Leaves
_____ Local Soil Survey Data
_____ Other

Remarks: Lacks wetland hydrology

WETLAND/WATERS DETERMINATION

Hydrophytic Vegetation Present? Yes X No_____
Hydric Soils Present? Yes_____ No X Waters of the U.S.: Yes_____ No X
Wetland Hydrology Present? Yes_____ No X Wetland: Yes_____ No X
Remarks:

Suspect area. Minor drainage through area. Does not have scouring flows or prolonged saturation.

ROUTINE WETLAND DETERMINATION FORM

Project/Site: **NELSON PROPERTY** Date: **November 8, 2001** / 7-25-02
Applicant: **Barbara and Chris Nelson** Sample Point: 04
Investigators: **Jeff Glazner / Fred Hrusa**/Barry Anderson County: **Placer** State: **CA**
Quad(s): **Tahoe City** Section **5** Township **15N** Range **16E**
Atypical Situation? Yes (No) Potential Problem Area? Yes (No)

VEGETATION

Dominant Plant Species	Status	% Cover	Non-Dominant Plant Species	Status	% Cover
Potentilla glandulosa	FAC	30	Hackelia nervosa	—	10
Thalictrum fendleri	FACU	30			
Elymus glaucus	FACU	30			

Percentage of dominant species that are OBL, FACW, or FAC: 33 %
Remarks:

SOILS

Map Unit Name (Series/Phase): Meiss-Waca Complex, 30-50%
Mottled? Yes / (No) Gleyed? Yes / (No) Matrix Color: 10YR 4/3 Mottle Color:
Redoximorphic Features:

_____Gleyed or Low Chroma Colors
_____Low Chroma w/ Mottles
_____Aquic Moisture Regime
_____Listed on Local Hydric Soil List
_____Reducing Conditions
_____Sulfidic Odor
_____Concretions
_____Other

Remarks: Sandy rocky soils

HYDROLOGY

Inundated? Yes_____No_____ Saturated? Yes_____No_____ Depth of/to Free Water:

Primary Indicators:
_____Inundated
_____Saturated in Upper 12"
_____Water Marks/Drift Lines
_____Sediment Deposit
_____Algal Matting
_____Drainage Patterns in Wetlands

Secondary Indicators
_____Oxidized Root Channels in Upper 12"
_____Water-Stained Leaves
_____Local Soil Survey Data
_____Other

Remarks: Lacks surface scouring flows

WETLAND/WATERS DETERMINATION

Hydrophytic Vegetation Present? Yes_____No_X_
Hydric Soils Present? Yes_____No_X_ Waters of the U.S.: Yes_____No_X_
Wetland Hydrology Present? Yes_____No_X_ Wetland: Yes_____No_X_
Remarks:

Suspect topographic area. Lacks wetland or waters indicators.

ROUTINE WETLAND DETERMINATION FORM

Project/Site: **NELSON PROPERTY** Date: **November 8, 2001** / 7-25-02
Applicant: **Barbara and Chris Nelson** Sample Point: OSN
Investigators: **Jeff Glazner / Fred Hrusa** / Barry Anderson County: **Placer** State: **CA**
Quad(s): **Tahoe City** Section **5** Township **15N** Range **16E**
Atypical Situation? Yes (No) Potential Problem Area? Yes (No)

VEGETATION

Dominant Plant Species	Status	% Cover	Non-Dominant Plant Species	Status	% Cover
veratrum californicum	obl	20			
Thalictrum fendleri	FACW	20	Heracleum lanatum	FACW	15
Alnus incana	FACW	20	Elymus glaucus	FACW	15

Percentage of dominant species that are OBL, FACW, or FAC: 67 %
Remarks:

SOILS

Map Unit Name (Series/Phase): Meiss-Waca Complex, 30-50%
Mottled? Yes / (No) Gleyed? Yes / (No) Matrix Color: 10YR 4/3 Mottle Color:
Redoximorphic Features:

_____Gleyed or Low Chroma Colors
_____Low Chroma w/ Mottles
_____Aquic Moisture Regime
_____Listed on Local Hydric Soil List
_____Reducing Conditions
_____Sulfidic Odor
_____Concretions
_____Other

Remarks: Sandy loam / Rocky

HYDROLOGY

Inundated? Yes_____No_X_ Saturated? Yes_____No_X_ Depth of/to Free Water:

Primary Indicators:

_____Inundated
_____Saturated in Upper 12"
_____Water Marks/Drift Lines
_____Sediment Deposit
_____Algal Matting
_____Drainage Patterns in Wetlands

Secondary Indicators

_____Oxidized Root Channels in Upper 12"
_____Water-Stained Leaves
_____Local Soil Survey Data
_____Other

Remarks: Lacks prolonged saturation.

WETLAND/WATERS DETERMINATION

Hydrophytic Vegetation Present? Yes_____No_____
Hydric Soils Present? Yes_____No_X_ Waters of the U.S.: Yes_____No_X_
Wetland Hydrology Present? Yes_____No_X_ Wetland: Yes_____No_X_
Remarks:
Suspect area. Seepy moist area but too well drained to be hydric.

ROUTINE WETLAND DETERMINATION FORM

Project/Site: **NELSON PROPERTY** Date: **November 8, 2001** / 7-25-02
Applicant: **Barbara and Chris Nelson** Sample Point: 06N
Investigators: **Jeff Glazner / Fred Hrusa** / Barry Anderson County: **Placer** State: **CA**
Quad(s): **Tahoe City** Section **5** Township **15N** Range **16E**
Atypical Situation? Yes (No) Potential Problem Area? Yes (No)

VEGETATION

Dominant Plant Species	Status	% Cover	Non-Dominant Plant Species	Status	% Cover
Hordeum brachyantherum	FACW	40			
Carex sp.	FACW	30			
Salix lasiolepis	FACW	30			

Percentage of dominant species that are OBL, FACW, or FAC: 100 %
Remarks:

SOILS

Map Unit Name (Series/Phase): Meiss-Waca Complex, 30-50%
Mottled? Yes / (No) Gleyed? Yes / (No) Matrix Color: 7.5YR 4/2 Mottle Color:
Redoximorphic Features:

_____Gleyed or Low Chroma Colors
_____Low Chroma w/ Mottles
_____Aquic Moisture Regime
_____Listed on Local Hydric Soil List
_____Reducing Conditions
_____Sulfidic Odor
_____Concretions
_____Other

Remarks:

HYDROLOGY

Inundated? Yes_____ No X Saturated? Yes_____ No X Depth of/to Free Water:

Primary Indicators:

_____Inundated
_____Saturated in Upper 12"
_____Water Marks/Drift Lines
_____Sediment Deposit
_____Algal Matting
_____Drainage Patterns in Wetlands

Secondary Indicators

_____Oxidized Root Channels in Upper 12"
_____Water-Stained Leaves
_____Local Soil Survey Data
_____Other

Remarks: Lacks evidence of prolonged surface saturation.

WETLAND/WATERS DETERMINATION

Hydrophytic Vegetation Present? Yes X No_____
Hydric Soils Present? Yes_____ No X Waters of the U.S.: Yes_____ No X
Wetland Hydrology Present? Yes_____ No X Wetland: Yes_____ No X
Remarks:
Suspect area. Small (30'x30'). Soils do not exhibit redoximorphic features. Appears to be a shallow seasonal groundwater seep that does not wet surface soils for prolonged periods.

ROUTINE WETLAND DETERMINATION FORM

Project/Site: **NELSON PROPERTY** Date: **November 8, 2001** / 7-25-02
Applicant: **Barbara and Chris Nelson** Sample Point: 07
Investigators: **Jeff Glazner / Fred Hrusa** / Barry Anderson County: **Placer** State: **CA**
Quad(s): **Tahoe City** Section **5** Township **15N** Range **16E**
Atypical Situation? Yes (No) Potential Problem Area? Yes (No)

VEGETATION

Dominant Plant Species	Status	% Cover	Non-Dominant Plant Species	Status	% Cover

Percentage of dominant species that are OBL, FACW, or FAC: %
Remarks: Wyethia mollis, Elymus glaucus, Monardella odora are most common species lining the narrow channel.

SOILS

Map Unit Name (Series/Phase): Jorge-Waca-Cryumbrepts, 30-50%

Mottled? Yes / No Gleyed? Yes / No Matrix Color: Mottle Color:
Redoximorphic Features:
_____Gleyed or Low Chroma Colors _____Reducing Conditions
_____Low Chroma w/ Mottles _____Sulfidic Odor
_____Aquic Moisture Regime _____Concretions
_____Listed on Local Hydric Soil List _____Other
Remarks: Rocky channel - no vegetation (no soil data taken)

HYDROLOGY

Inundated? Yes_____No_____ Saturated? Yes_____No_____ Depth of/to Free Water:
Primary Indicators: Secondary Indicators
_____Inundated _____Oxidized Root Channels in Upper 12"
_____Saturated in Upper 12" _____Water-Stained Leaves
_____Water Marks/Drift Lines _____Local Soil Survey Data
_____Sediment Deposit _____Other
_____Algal Matting
_____Drainage Patterns in Wetlands
Remarks: Dry but evidence of seasonal scouring

WETLAND/WATERS DETERMINATION

Hydrophytic Vegetation Present? Yes_____No_____
Hydric Soils Present? Yes_____No_____ Waters of the U.S.: Yes X No_____
Wetland Hydrology Present? Yes_____No_____ Wetland: Yes_____No X
Remarks:

Ephemeral Drainage. Narrow cut channel, Abrupt start @ base of red fir. This location also reviewed on 7/25/02.

ROUTINE WETLAND DETERMINATION FORM

Project/Site: **NELSON PROPERTY** Date: **November 8, 2001** / 7-25-02
Applicant: **Barbara and Chris Nelson** Sample Point: 68
Investigators: **Jeff Glazner / Fred Hrusa** / Barry Anderson County: **Placer** State: **CA**
Quad(s): **Tahoe City** Section **5** Township **15N** Range **16E**
Atypical Situation? Yes (No) Potential Problem Area? Yes (No)

VEGETATION

Dominant Plant Species	Status	% Cover	Non-Dominant Plant Species	Status	% Cover

Percentage of dominant species that are OBL, FACW, or FAC: %
Remarks: Forest vegetation edge. Steep sided. No veg in channel.

SOILS

Map Unit Name (Series/Phase): Jorge-Waca-Cryumbrepts, 30-50%

Mottled? Yes / No Gleyed? Yes / No Matrix Color: Mottle Color:
Redoximorphic Features:

_____Gleyed or Low Chroma Colors
_____Low Chroma w/ Mottles
_____Aquic Moisture Regime
_____Listed on Local Hydric Soil List
_____Reducing Conditions
_____Sulfidic Odor
_____Concretions
_____Other

Remarks: Rocky channel. No soil data taken.

HYDROLOGY

Inundated? Yes_____No___✓___ Saturated? Yes_____No___✓___ Depth of/to Free Water:

Primary Indicators:

_____Inundated
_____Saturated in Upper 12"
_____Water Marks/Drift Lines
_____Sediment Deposit
_____Algal Matting
_____Drainage Patterns in Wetlands

Secondary Indicators

_____Oxidized Root Channels in Upper 12"
_____Water-Stained Leaves
_____Local Soil Survey Data
_____Other

Remarks: Dry but evidence of seasonal scouring.

WETLAND/WATERS DETERMINATION

Hydrophytic Vegetation Present? Yes_____No_____
Hydric Soils Present? Yes_____No_____ Waters of the U.S.: Yes_✓_No_____
Wetland Hydrology Present? Yes_____No_____ Wetland: Yes_____No_✓_
Remarks:

Ephemeral Drainage. Narrow cut channel.

ROUTINE WETLAND DETERMINATION FORM

Project/Site: **NELSON PROPERTY** Date: **November 8, 2001** / 7-25-02
Applicant: **Barbara and Chris Nelson** Sample Point: 09
Investigators: **Jeff Glazner / Fred Hrusa** / Barry Anderson County: **Placer** State: **CA**
Quad(s): **Tahoe City** Section **5** Township **15N** Range **16E**
Atypical Situation? Yes (No) Potential Problem Area? Yes (No)

VEGETATION

Dominant Plant Species	Status	% Cover	Non-Dominant Plant Species	Status	% Cover

Percentage of dominant species that are OBL, FACW, or FAC: %
Remarks: No veg in active rocky channel.

SOILS

Map Unit Name (Series/Phase): Dorge - Waca - Cryumbrepts, 30-50%
Mottled? Yes / (No) Gleyed? Yes / No Matrix Color: Mottle Color:
Redoximorphic Features:

_____Gleyed or Low Chroma Colors
_____Low Chroma w/ Mottles
_____Aquic Moisture Regime
_____Listed on Local Hydric Soil List
_____Reducing Conditions
_____Sulfidic Odor
_____Concretions
_____Other

Remarks: Rocky incised channel

HYDROLOGY

Inundated? Yes_____No_____ Saturated? Yes_____No_____ Depth of/to Free Water:

Primary Indicators:
_____Inundated
_____Saturated in Upper 12"
_____Water Marks/Drift Lines
_____Sediment Deposit
_____Algal Matting
_____Drainage Patterns in Wetlands

Secondary Indicators
_____Oxidized Root Channels in Upper 12"
_____Water-Stained Leaves
_____Local Soil Survey Data
_____Other

Remarks: No flow on 11/8/01; trickle on 7/25/02

WETLAND/WATERS DETERMINATION

Hydrophytic Vegetation Present? Yes_____No_____
Hydric Soils Present? Yes_____No_____ Waters of the U.S.: Yes X No_____
Wetland Hydrology Present? Yes_____No_____ Wetland: Yes_____No X
Remarks:

Seasonal Creek. Well defined feature with steep side topography.

ROUTINE WETLAND DETERMINATION FORM

Project/Site: **NELSON PROPERTY** Date: **November 8, 2001**
Applicant: **Barbara and Chris Nelson** Sample Point: 10
Investigators: **Jeff Glazner / Fred Hrusa**/ Bailey Anderson County: **Placer** State: **CA**
Quad(s): **Tahoe City** Section **5** Township **15N** Range **16E**
Atypical Situation? Yes (No) Potential Problem Area? Yes (No)

VEGETATION

Dominant Plant Species	Status	% Cover	Non-Dominant Plant Species	Status	% Cover

Percentage of dominant species that are OBL, FACW, or FAC: %
Remarks: No veg in channel. Alder band @ edge.

SOILS

Map Unit Name (Series/Phase): Jorge-Waca-Cryumbrepts, 30-50%
Mottled? Yes / No Gleyed? Yes / No Matrix Color: Mottle Color:
Redoximorphic Features:

_____Gleyed or Low Chroma Colors
_____Low Chroma w/ Mottles
_____Aquic Moisture Regime
_____Listed on Local Hydric Soil List
_____Reducing Conditions
_____Sulfidic Odor
_____Concretions
_____Other

Remarks: Narrow rocky channel. No soil data taken.

HYDROLOGY

Inundated? Yes_____No_x_ Saturated? Yes_____No_x_ Depth of/to Free Water:

Primary Indicators:
_____Inundated
_____Saturated in Upper 12"
_____Water Marks/Drift Lines
_____Sediment Deposit
_____Algal Matting
_____Drainage Patterns in Wetlands

Secondary Indicators
_____Oxidized Root Channels in Upper 12"
_____Water-Stained Leaves
_____Local Soil Survey Data
_____Other

Remarks: Dry. Appears to function as an ephemeral drainage.

WETLAND/WATERS DETERMINATION

Hydrophytic Vegetation Present? Yes_____No_____
Hydric Soils Present? Yes_____No_____ Waters of the U.S.: Yes_x_ No_____
Wetland Hydrology Present? Yes_____No_____ Wetland: Yes_____No_x_
Remarks:

Ephemeral Drainage. Three feet wide w/ alder band.

ROUTINE WETLAND DETERMINATION FORM

Project/Site: **NELSON PROPERTY** Date: **November 8, 2001**/ 7-25-02
Applicant: **Barbara and Chris Nelson** Sample Point: 11
Investigators: **Jeff Glazner / Fred Hrusa**/ Barry Anderson County: **Placer** State: **CA**
Quad(s): **Tahoe City** Section **5** Township **15N** Range **16E**
Atypical Situation? Yes (No) Potential Problem Area? Yes (No)

VEGETATION

Dominant Plant Species	Status	% Cover	Non-Dominant Plant Species	Status	% Cover

Percentage of dominant species that are OBL, FACW, or FAC: %
Remarks:
Rubus parviflorus is primary edge species. No veg in active channel

SOILS

Map Unit Name (Series/Phase): Jorge-Waca-Cryumbrept, 30-50%
Mottled? Yes / No Gleyed? Yes / No Matrix Color: Mottle Color:
Redoximorphic Features:

_____Gleyed or Low Chroma Colors
_____Low Chroma w/ Mottles
_____Aquic Moisture Regime
_____Listed on Local Hydric Soil List
_____Reducing Conditions
_____Sulfidic Odor
_____Concretions
_____Other

Remarks:

HYDROLOGY

Inundated? Yes_____No_X_ Saturated? Yes_____No_X_ Depth of/to Free Water:

Primary Indicators:
_____Inundated
_____Saturated in Upper 12"
_____Water Marks/Drift Lines
_____Sediment Deposit
_____Algal Matting
_____Drainage Patterns in Wetlands

Secondary Indicators
_____Oxidized Root Channels in Upper 12"
_____Water-Stained Leaves
_____Local Soil Survey Data
_____Other

Remarks: Dry on 11/8/01 and 7/25/02

WETLAND/WATERS DETERMINATION

Hydrophytic Vegetation Present? Yes_____No_____
Hydric Soils Present? Yes_____No_____ Waters of the U.S.: Yes_X_No_____
Wetland Hydrology Present? Yes_____No_____ Wetland: Yes_____No_X_
Remarks:

Ephemeral Drainage. Cut channel 3-5' wide.

ROUTINE WETLAND DETERMINATION FORM

Project/Site: **NELSON PROPERTY** Date: **November 8, 2001** / 7-25-02
Applicant: **Barbara and Chris Nelson** Sample Point: 12
Investigators: **Jeff Glazner / Fred Hrusa** / Barry Anderson County: **Placer** State: **CA**
Quad(s): **Tahoe City** Section **5** Township **15N** Range **16E**
Atypical Situation? Yes (No) Potential Problem Area? Yes (No)

VEGETATION

Dominant Plant Species	Status	% Cover	Non-Dominant Plant Species	Status	% Cover

Percentage of dominant species that are OBL, FACW, or FAC: %
Remarks: Alnus incana, & Cornus sericea are most common edge species.

SOILS

Map Unit Name (Series/Phase): Jorge-Waca, Crumbrepts, 30-50%
Mottled? Yes / No Gleyed? Yes / No Matrix Color: Mottle Color:
Redoximorphic Features:

_____Gleyed or Low Chroma Colors
_____Low Chroma w/ Mottles
_____Aquic Moisture Regime
_____Listed on Local Hydric Soil List
_____Reducing Conditions
_____Sulfidic Odor
_____Concretions
_____Other

Remarks: Rocky channel. No soil data taken.

HYDROLOGY

Inundated? Yes_____No_____ Saturated? Yes_____No_____ Depth of/to Free Water:

Primary Indicators:
_____Inundated
_____Saturated in Upper 12"
_____Water Marks/Drift Lines
_____Sediment Deposit
_____Algal Matting
_____Drainage Patterns in Wetlands

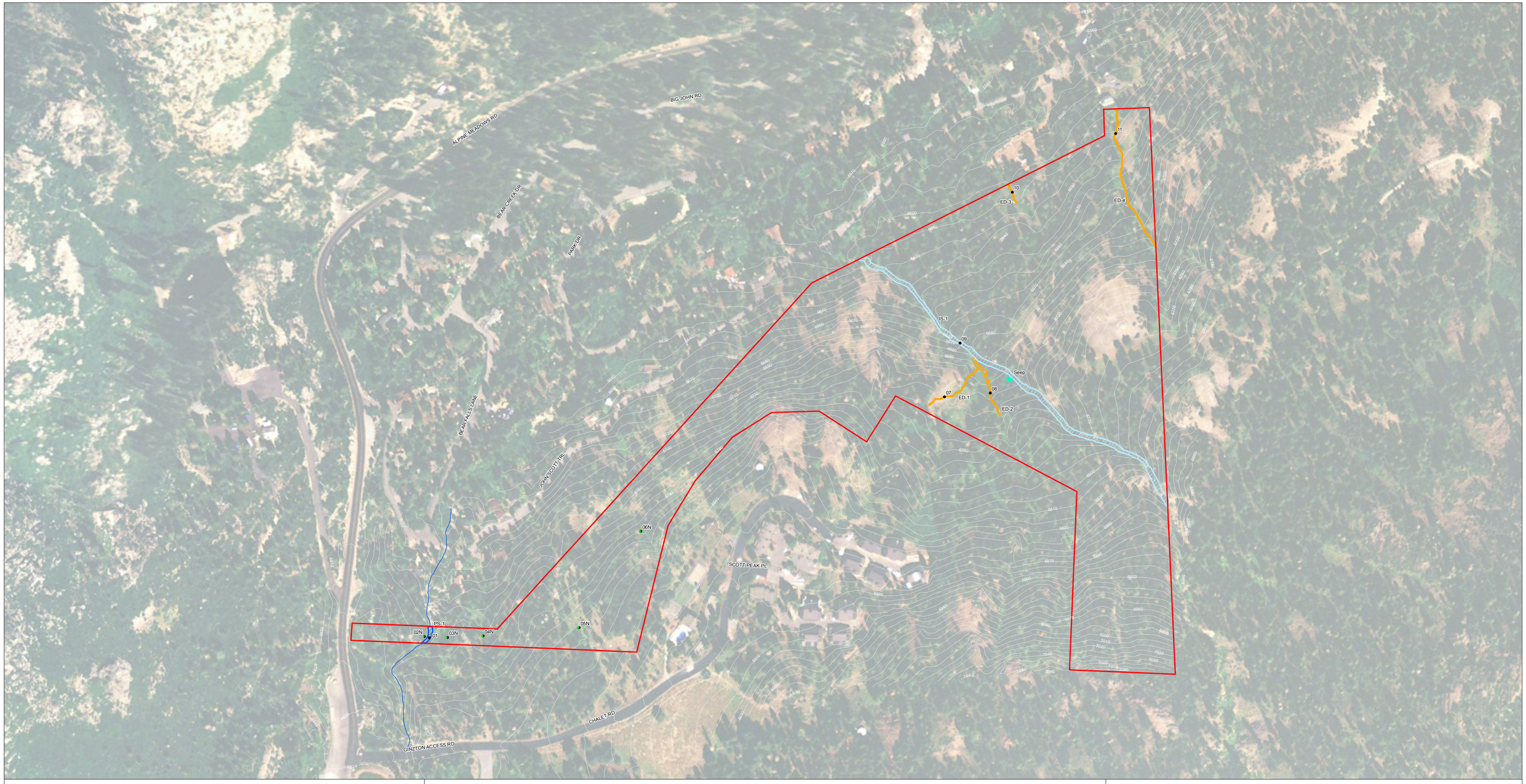
Secondary Indicators
_____Oxidized Root Channels in Upper 12"
_____Water-Stained Leaves
_____Local Soil Survey Data
_____Other

Remarks: Not flowing on 11/8/01; flowing < 1 cfs on 7/25/02

WETLAND/WATERS DETERMINATION

Hydrophytic Vegetation Present? Yes_____No_____
Hydric Soils Present? Yes_____No_____ Waters of the U.S.: Yes X No_____
Wetland Hydrology Present? Yes_____No_____ Wetland: Yes_____No X
Remarks:

Seasonal Creek. Large topographic feature.



PREPARED BY:

north fork associates

110 Maple Street
Auburn, CA 95603
(530) 887-8500

PREPARED FOR:

Chris Nelson
Nelson, Stirek, Rubin Alpine Partnership
1015 NW 11th Avenue, Suite 243
Portland, OR 97209

DRAWN BY: Matt Fremont
DELINEATORS: Jeff Glazner
DATE OF FIELDWORK: November 2001, July 2002, & October 2009

USACE REGULATORY FILE#: 200200652
REVERIFIED BY: Erin Hess
DATE OF REVERIFICATION: October 21, 2009

REVISIONS

DATE	DESCRIPTION	BY

WATERS OF THE UNITED STATES

WETLANDS	ACREAGE
Perennial Stream (PS)	0.02
Intermittent Stream (IS)	0.56
Ephemeral Drainage (ED)	0.11
TOTAL	0.69

Perennial Stream	**Acreage**
PS-1	0.02
subtotal	**0.02**
Intermittent Stream	
IS-1	0.56
subtotal	**0.56**

Ephemeral Drainage	
ED-1	0.02
ED-2	0.03
ED-3	0.01
ED-4	0.05
subtotal	**0.11**
TOTAL	**0.69**

NOTES:
1. T 15N, R 16E, Sections 4,5,8,& 9 of Tahoe City, CA, USGS 7.5 minute topographic quadrangle
2. Aerial photograph provided by ESRI (2007).
3. Original map size: 24"x36"

WETLAND DELINEATION MAP

Alpine Sierra (Nelson Property)
Alpine Meadows, Placer County, California
Original Map Date: August 15, 2002
Revised Map Date: October 27, 2009

- Study Area (±46 acres)
- Wetland Data Point
- Upland Data Point

N

0 200 400
Feet

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO CA 95814-2922

REPLY TO
ATTENTION OF

March 26, 2010

Regulatory Division SPK-2002-00652

Mr. Chris Nelson
Capstone Partners, LLC
1015 NW 11th Avenue, Suite 243
Portland, Oregon 97209

Dear Mr. Nelson:

We are responding to your consultant's October 19, 2009, request for an approved jurisdictional determination for the Alpine Sierra (formerly Nelson Property) Property. The approximately 46-acre site is located on Bear Creek in Sections 5 and 8, Township 15 North, Range 16 East, MDB&M Survey, Latitude 39.172583°, Longitude -120.230699°, Alpine Meadows, Placer County, California.

Based on available information, we concur with the estimate of waters of the United States, as depicted on the October 27, 2009, revised *Wetland Delineation Map, Alpine Sierra (Nelson Property), Alpine Meadows, Placer County, California*, drawing prepared by North Fork Associates. Approximately 0.69 acre of waters of the United States, including wetlands, are present within the survey area. These waters are regulated under Section 404 of the Clean Water Act, since they are tributary to and include Bear Creek, which is tributary to the Truckee River, a navigable water of the United States.

This verification is valid for five years from the date of this letter, unless new information warrants revision of the determination before the expiration date. This letter contains an approved jurisdictional determination for your subject site. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331.

A Notification of Appeal Process and Request for Appeal (RFA) form is enclosed. If you request to appeal this determination you must submit a completed RFA form to the South Pacific Division Office at the following address: Administrative Appeal Review Officer, Army Corps of Engineers, South Pacific Division, CESPD-PDS-O, 1455 Market Street, San Francisco, California 94103-1399, Telephone: 415-503-6574, FAX: 415-503-6646.

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR Part 331.5, and that it has been received by the Division Office within 60 days of the NAP. Should you decide to submit an RFA form, it must be received at the above address by 60 days from the date of this letter. It is not necessary to submit an RFA form to the Division Office if you do not object to the determination in this letter.

You should provide a copy of this letter and notice to all other affected parties, including any individual who has an identifiable and substantial legal interest in the property.

This determination has been conducted to identify the limits of Corps of Engineers' Clean Water Act jurisdiction for the particular site identified in this request. This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are USDA

program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work.

We appreciate your feedback. At your earliest convenience, please tell us how we are doing by completing the customer survey on our website under *Customer Service Survey*.

Please refer to identification number SPK-2002-00652 in any correspondence concerning this project. If you have any questions, please contact Erin Hess at our California North Branch, Regulatory Division, Sacramento District, U.S. Army Corps of Engineers, 1325 J Street, Room 1480, Sacramento, California, 95814-2922, email *Erin.E.Hess@usace.army.mil*, or telephone 916-557-6740. For more information regarding our program, please visit our website at *www.spk.usace.army.mil/regulatory.html*.

Sincerely,

for

Nancy A. Haley
Chief, California North Branch

Enclosures

Copy furnished without enclosures:

Ms. Tobi Tyler, California Regional Water Quality Control Board, Lahontan Region, 2501 Lake Tahoe Boulevard, South Lake Tahoe, California 96150

Mr. Kent Smith, California Department of Fish and Game, Region 2, 1701 Nimbus Drive, Rancho Cordova, California 95670-4599

Mr. Robert Leidy, Environmental Protection Agency, WRT-8, 75 Hawthorne Street, San Francisco, California 94105

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: Chris Nelson, Capstone Partners, LLC	File No.: SPK-2002-00652	Date: March 26, 2010

Attached is:		See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B
	PERMIT DENIAL	C
X	APPROVED JURISDICTIONAL DETERMINATION	D
	PRELIMINARY JURISDICTIONAL DETERMINATION	E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at *http://www.usace.army.mil/inet/functions/cw/cecwo/reg* or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the DISTRICT engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the DISTRICT engineer. Your objections must be received by the DISTRICT engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the DISTRICT engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the DISTRICT engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the DISTRICT engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.

- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the DIVISION (not district) engineer (address on reverse). This form must be received by the DIVISION engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the DIVISION (not district) engineer (address on reverse). This form must be received by the DIVISION (not district) engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.

- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the DIVISION (not district) engineer (address on reverse). This form must be received by the DIVISION engineer within 60 days of the date of this notice. Exception: JD appeals based on new information must be submitted to the DISTRICT engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact: **DISTRICT ENGINEER** Sacramento District, Corps of Engineers Attn: Erin Hess, Project Manager, Regulatory Division 916-557-6740, FAX 916-557-6877 (Use this address for submittals to the **DISTRICT** ENGINEER)	If you only have questions regarding the appeal process you may also contact: **DIVISION ENGINEER** Army Engineer Division, South Pacific, CESPD-CM-O Attn: Tom Cavanaugh, Administrative Appeal Review Officer, Army Corps of Engineers , CESPD-PDS-O, 1455 Market Street, San Francisco, CA 94103-1399 (415-503-6574, FAX 415-503-6646) (Use this address for submittals to the **DIVISION** ENGINEER)

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

_____ Signature of appellant or agent.	Date:	Telephone number: