APPENDIX I

Botany Biological Evaluation

UNITED STATES DEPARTMENT OF AGRICULTURE – FOREST SERVICE
LAKE TAHOE BASIN MANAGEMENT UNIT

Upper Truckee River Sunset Stables Restoration Project
El Dorado County, CA

Biological Evaluation
for Threatened, Endangered and Sensitive Plants and Fungi

PREPARED BY: ENTRIX, Inc. DATE: November 2009

APPROVED BY: Cheryl Beyer DATE: 8/19/2011
Cheryl Beyer, Forest Botanist, Lake Tahoe Basin Management Unit

SUMMARY OF EFFECTS DETERMINATION AND MANAGEMENT RECOMMENDATIONS AND/OR REQUIREMENTS

One population of a special-status bryophyte, three-ranked hump-moss (*Meesia triquetra*), was observed in the survey area during surveys on June 30, 2008 and August 28, 2008. The proposed action will not affect the moss because the population is located outside the project area where no action is planned.

The following species of invasive or noxious weeds were identified during surveys of the Project area: cheatgrass *(Bromus tectorum);* bullthistle *(Cirsium vulgare);* Klamathweed *(Hypericum perforatum);* oxe-eye daisy *(Leucanthemum vulgare);* and common mullein *(Verbascum Thapsus).* The threat posed by these weed populations would not increase if the proposed action is implemented. An inventory and assessment of invasive and noxious weeds in the survey area is presented in the *Noxious Weed Risk Assessment for the Upper Truckee River Sunset Stables Restoration Project* (ENTRIX 2009).

Based on the description of the proposed action and the evaluation contained herein, we have determined the following:

- There would be no significant effect to plant species listed as threatened, endangered, proposed for listing, or candidates under the Endangered Species Act of 1973, as amended (ESA), administered by the U.S. Fish and Wildlife Service (USFWS); and
- The proposed action will not affect individuals; therefore, it is not likely to result in a trend toward Federal listing or loss of viability to sensitive plant species.

I. INTRODUCTION

Forest Service Manual 2672.42 specifies that a biological evaluation (BE) be prepared to determine if a project may affect any Forest Service sensitive species or any species listed as threatened, endangered, or proposed for listing under the ESA. The purpose of a BE is to analyze and describe the effects of the proposed action on all threatened, endangered, and sensitive (TES) plant species that may occur in the project area. The objectives of the BE are

- To ensure that Forest Service actions or funding of actions do not contribute to the loss of viability of any native or desired non-native plant or animal species;
- To ensure that Forest Service actions or funding of actions do not hasten the federal listing of any species; and
- To provide a process and standard through which TES species receive full consideration throughout the planning process, thereby reducing negative impacts to species and enhancing opportunities for mitigation.

II. CONSULTATION TO DATE

The most recent species list for the LTBMU was obtained from Cheryl Beyer (LTBMU Botanist) on June 17, 2008, which had been updated on October 2006. This list fulfills the requirements of the USFWS to provide a current species list pursuant to section 7 of the ESA. The LTBMU does not currently support any plant species listed as threatened or endangered under the ESA; however, *Rorippa subumbellata* (Tahoe yellow cress), a candidate species for listing does occur on lands administered by the LTBMU, and is not in the vicinity of the proposed project.

III. PROJECT DESCRIPTION:

A. Background

The USDA Forest Service (USFS) Lake Tahoe Basin Management Unit (LTBMU), in cooperation with the California Tahoe Conservancy (Conservancy), proposes to implement the Upper Truckee River Sunset Stables Restoration Project (Project). The goals of the Project are to restore a properly functioning river channel, improve water quality by improving floodplain function and reducing erosion of banks and uplands, improve aquatic and terrestrial habitat, and enhance riparian, meadow, and upland vegetation. The Project involves construction of a new river channel, repair of eroding areas, and revegetation with native vegetation.

The Project is located on the Upper Truckee River (UTR) in El Dorado County, California, between the communities of Meyers and South Lake Tahoe (Figure 1 and Figure 2). It is anticipated that Project construction will take at least five years to complete.

B. Purpose and Need

The purpose of this project is to restore geomorphic function and floodplain connectivity to the Upper Truckee River in the Sunset Reach, resulting in improved water quality to Lake Tahoe and improved aquatic and terrestrial wildlife habitat in the proposed Project area.

C. Proposed Action

The proposed project will restore the Sunset Reach channel by constructing a new, geomorphically stable channel that is hydrologically connected to the adjacent floodplain and enhancing riparian and aquatic habitat. The proposed restoration project involves:

- Constructing approximately 12,000 linear feet of new channel in the Sunset Reach of the Upper Truckee River.
- Planting and temporarily irrigating native riparian vegetation along both sides of the new channel (approximately 24,000 linear feet).
- Creating floodplain features (examples: seasonally wet depressions or willow clump roughness structures) that enhance suitable habitat for key wildlife and plant species (approximately 20 acres distributed across the proposed Project area).
- Removing conifers in and adjacent to the newly constructed channel where conifer encroachment has been identified as a problem for riparian vegetation community composition (approximately 20 acres of conifer removal throughout the proposed Project area). Conifer removal in the wildlife corridor will be minimized.
- Using a combination of excavated soil from the new channel alignment and possibly imported soil to partially fill the existing oversized channel, and revegetating the disturbed area with native riparian plant species (majority of the 11,000 ft of abandoned channel will be filled and revegetated in this way).
- Installing grade control structures at the upstream and downstream ends of the reach, redirecting flow into the new channel, and blocking off the existing channel to prevent recapture.

The project will be constructed in two phases to accommodate constraints in land ownership, funding and construction: Reach 5 (LTBMU and CTC lands) and Reach 6 (CTC land). It is not possible to determine which segment (Reach 5 or 6) will be constructed first because of multiple unknowns such as funding sources, permitting and contract issues. Each phase will last approximately three years in order to allow sufficient time for the new channel and floodplain to establish vegetation for the Upper Truckee River. The construction sequence is as follows:

Year One	Excavate the new channel in the selected reach. Plant with native riparian vegetation and install irrigation.
Year Two	Allow the new channel to "season" and continue irrigation to establish riparian vegetation.
Year Three	Construct the tie-ins to the existing channel and connect the new channel to river flow. Monitor performance of banks. Backfill the old channel, recontour and revegetate.

Either Reach 5 or Reach 6 could be constructed with one beginning a year or more after the other. This allows for uncertainties in funding and reduces potential cumulative impacts of having adjacent reaches exposed during the same year. If funding is available for both phases, it would be possible to construct the entire project in five years, staggering the construction so that Phase 2 started in year two.

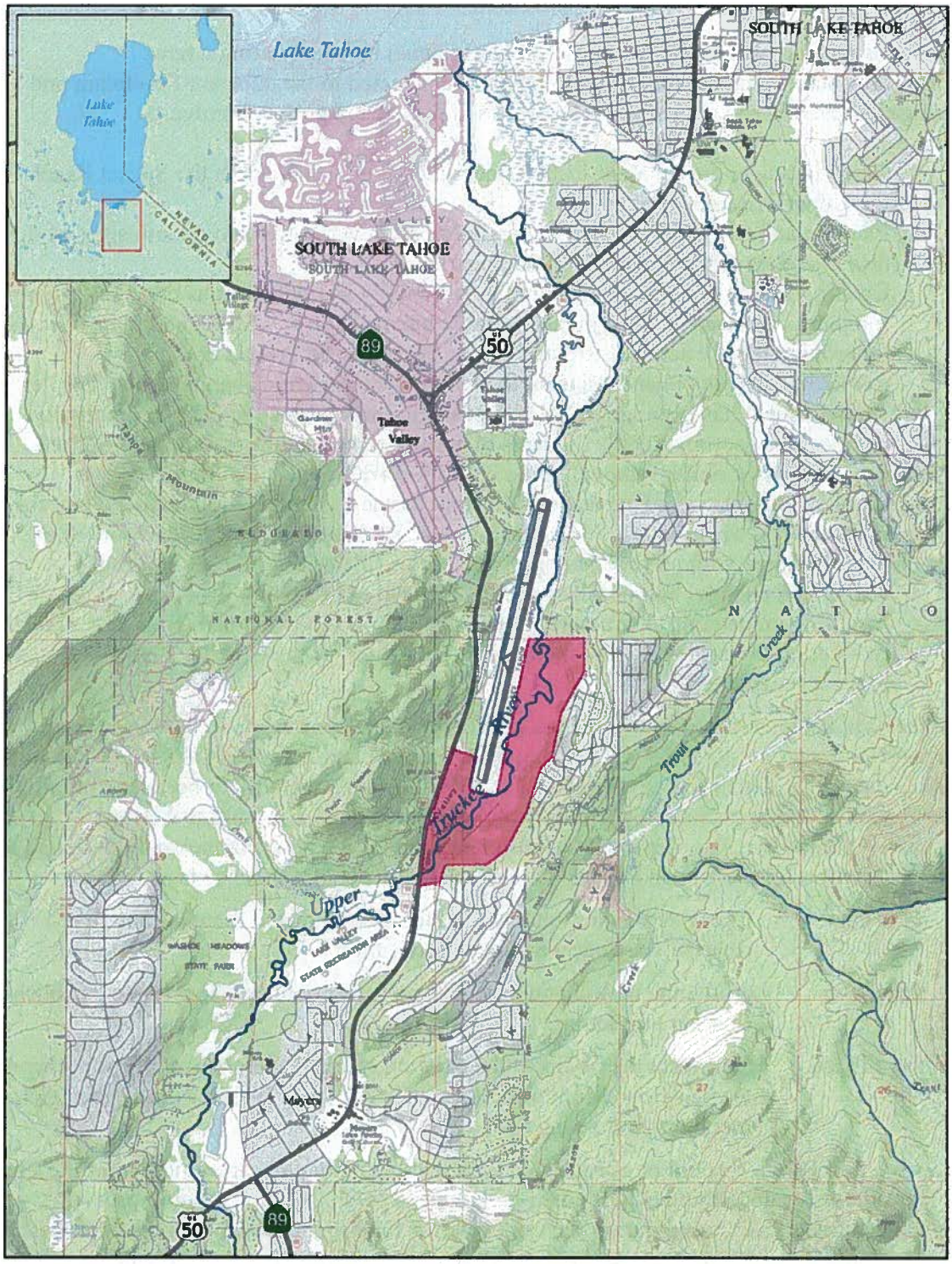


Figure 1. Project Location

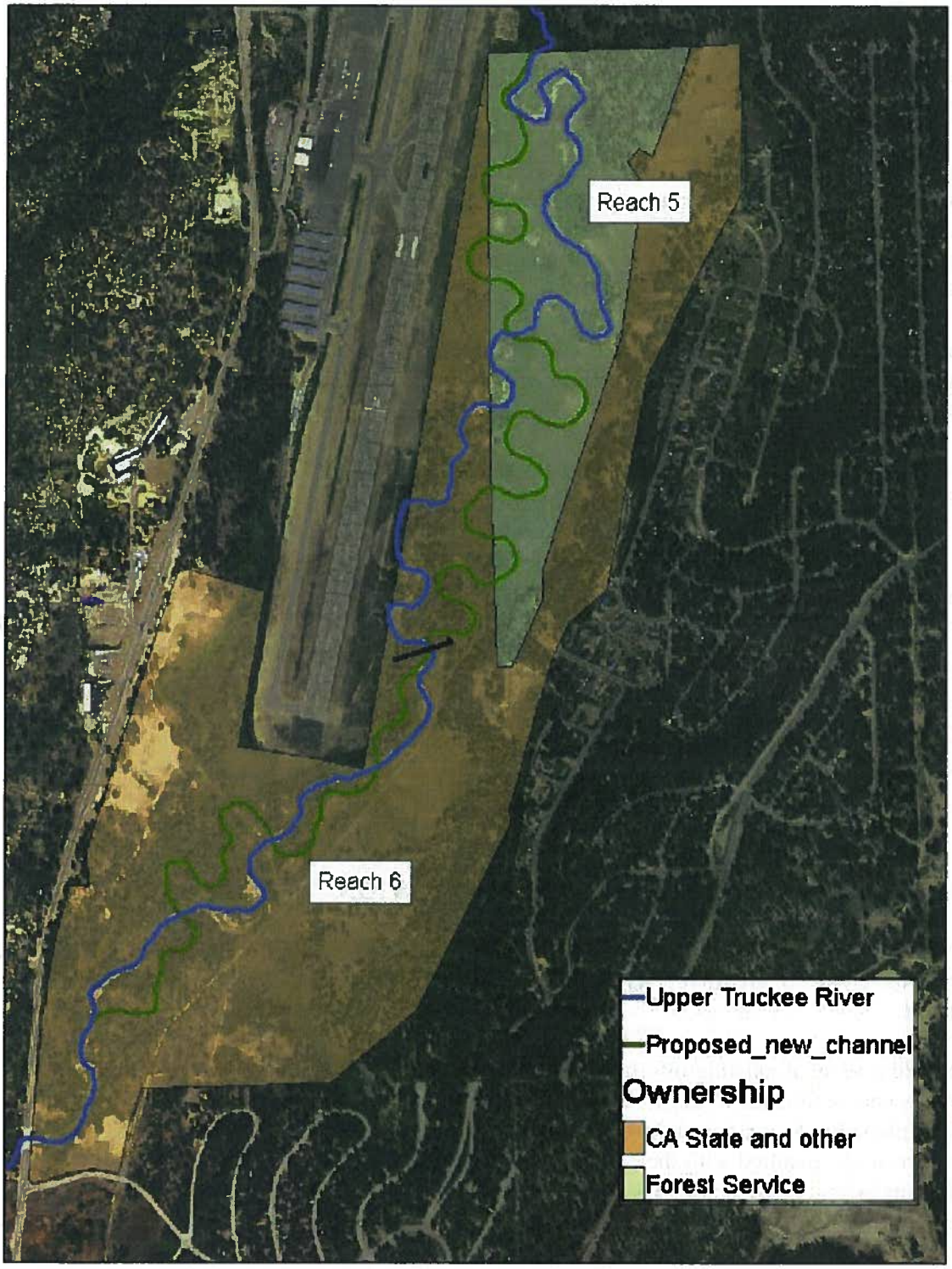


Figure 2. Proposed Project area (Source: USFS)

IV. CURRENT MANAGEMENT DIRECTION

Forest- wide direction is in the LTBMU Land Resource Management Plan (LRMP, USDA FS 1988), which states that the forest must "manage sensitive plants to ensure that species do not become threatened or endangered because of Forest Service activities". The primary purpose of the direction is to assure that existing habitat of these plants is adequately protected and that additional habitat is provided to perpetuate the species" (USDA FS 1988). The current management direction for the Project area is found in the LRMP under the Tahoe Valley Management Area. This site has been designated an Urban Lot management area (personal communication, Theresa Loupe, 12/22/08).

Current management direction of desired future conditions for threatened, endangered, and sensitive species on the LTBMU, as well as life history and species accounts information can be found in the following documents, filed at the Supervisor's Office:

- Forest Service Manual and Handbooks (FSM/H 2670)
- National Forest Management Act (NFMA)
- Endangered Species Act (ESA)
- National Environmental Policy Act (NEPA)
- Lake Tahoe Basin Management Unit Land and Resource Management Plan (LRMP)
- Species specific Recovery Plans which establish population goals for recovery of those species
- Sensitive species list, accounts, and life history (Wildlife Department Files)
- Species management plans
- Species management guides or Conservation Strategies
- Regional Forester policy and management direction
- Sierra Nevada Forest Plan Amendment (2004)
- TRPA Code of Ordinances

V. PRE-FIELD REVIEW OF EXISTING INFORMATION

Following is a description of the pre-survey literature review, and survey preparation. References for various citations are given as appropriate and listed in the References section of this document.

A pre-field review of existing information from the LTBMU flora atlases and available GIS coverages was performed to evaluate the extent of potential habitat and known populations of sensitive plants in the proposed Project area. ENTRIX biologists reviewed existing databases, and reports and consulted with the USFS Forest Botanist (Beyer Pers. Comm. 2008) in order to identify any sensitive vegetation communities occurring in the survey area including: wet montane meadows, montane riparian scrub, aspen riparian forest, fens and sphagnum bogs. Field surveys focused on these sensitive vegetation communities.

Table 1 lists Candidate and sensitive plant and fungi species known to occur or have potential to occur on the LTBMU (as of May 2007) with potential habitat within the project footprint.

TABLE 1. Candidate and sensitive plant and fungi species known to occur or have potential to occur on the LTBMU with potential habitat in the survey area.

Species	Status[a]	Known to occur in project area	Potential habitat in project area	No habitat in project area	Habitat unsuitable based on the following: SEE ATTACHMENT A FOR ADDITIONAL INFORMATION
Arabis rigidissima var. *demota* Galena Creek rock cress	S	No	X		Species is found in open, rocky areas along forest edges of conifer and/or aspen stands. Usually found on northerly aspects above 7,500 feet (ft). **Potential habitat exists in the project area, but it's well outside the known elevation range for this species.**
Arabis tiehmii Tiehm's rock cress	S	No		X	Species is known from open rocky soils in the Mt. Rose Wilderness. **Project area doesn't possess suitable habitat, and is well outside the known elevation range for this species.**
Botrychium ascendens Upswept moonwort	S	No	X		*Botrychium* species share similar preferences in habitat, *i.e.* wet or moist soils such as marshes, meadows, and along the edges of lakes and streams at elevations between 4,700 and 9,000 ft. They generally occur with mosses, grasses, sedges, rushes, and other riparian vegetation.
Botrychium crenulatum Scalloped moonwort	S	No	X		See above
Botrychium lineare Slender moonwort	S	No	X		See above. **Potential habitat exists in the project area, but it's well outside the known elevation range for this species.**
Botrychium lunaria Common moonwort	S	No	X		See *Botrychium ascendens* above
Botrychium minganense Mingan moonwort	S	No	X		See *Botrychium ascendens* above
Botrychium montanum Western goblin	S	No	X		See *Botrychium ascendens* above
Bruchia bolanderi Bolander's candle moss	S	No	X		Montane meadows and stream banks are favored habitat. This moss tends to grow on bare, slightly eroding soil where there is little competition from other vegetation.
Dendrocollybia racemosa Branched collybia	S	No	X		This species is a mycoparasite growing on old decayed or blackened mushrooms or occasionally in coniferous duff, usually within old growth stands.
Draba asterophora var. *asterophora* Tahoe draba	S, SI	No		X	Species is found in rock crevices and open granite talus slopes at high elevations between 8,000 to 10,200 ft on north-east facing slopes. **Project area doesn't possess suitable habitat, and is well outside the known elevation range for this species.**
Draba asterophora var. *macrocarpa* Cup Lake draba	S, SI	No		X	This species is found on steep, gravelly or rocky slopes at elevations of 8,400 to 9,235 ft. **Project area doesn't possess suitable habitat, and is well outside the known elevation range for this species.**
Epilobium howellii Subalpine fireweed	S	No	X		Plants are known from wet meadows and mossy seeps at 6,500 to 9,000 ft in subalpine coniferous forest.
Erigeron miser Starved daisy	S	No	X		Plants are known from high elevation granitic rock outcrops above 6,000 ft.

Species	Status[a]	Known to occur in project area	Potential habitat in project area	No habitat in project area	Habitat unsuitable based on the following: SEE ATTACHMENT A FOR ADDITIONAL INFORMATION
Eriogonum umbellatum var. *torreyanum* Torrey's or Donner Pass buckwheat	S	No		X	This species grows in dry gravelly or stony sites, often on harsh exposures such as ridge tops or steep slopes. **Project area doesn't possess suitable habitat.**
Helodium blandowii Blandow's bog-moss	S	No	X		Habitat for this moss is in bogs and fens, wet meadows, and along streams under willows.
Hulsea brevifolia Short-leaved hulsea	S	No	X		This species is known primarily from red fir forests, but has also been found in mixed conifer forests. The elevational range of the plant is between 4,920 to 8,860 ft.
Lewisia kelloggii ssp. *hutchisonii* Hutchison's lewisia	S	No	X		Habitat for this plant occurs on ridge tops or flat open spaces with widely spaced trees and sandy granitic to erosive volcanic soil from about 5,000 to 7,000 ft.
Lewisia kelloggii ssp. *kelloggii* Kellogg's lewisia	S	No	X		See above
Lewisia longipetala Long-petaled lewisia	S, SI	No	X		This species occurs on the northerly exposures on slopes and ridge tops at elevations between 8,000 and 12,500 ft where snow banks persist throughout the summer. The plants are often found near the margins of the snow banks in wet soils. **Potential habitat exists in the project area, but it's well outside the known elevation range for this species.**
Meesia triquetra Three-ranked hump-moss	S	Yes	X		This moss prefers bogs and fen habitats, but is also found in very wet meadows.
Meesia uliginosa Broad-nerved hump-moss	S	Yes	X		This moss prefers bogs and fen habitats, but is also found in very wet meadows.
Peltigera hydrothyria Veined water lichen	S	No	X		This species is found in cold unpolluted streams in mixed conifer forests.
Rorippa subumbellata Tahoe yellow cress	C, S, SI	No		X	This species is endemic to the shore zone around Lake Tahoe in California and Nevada. Typically found in back beach areas between elevations of 6,223 and 6,230 ft. **Project area doesn't possess suitable habitat.**

[a]Status explanations

- No species in LTBMU are currently listed as "Endangered" by USFWS under ESA

C = USFWS Candidate species for listing as threatened or endangered under ESA
SC = USFWS Species of Concern
S = USFS LTBMU Sensitive Species, Regional Forester's Sensitive Species List, Amended 2006
SI = TRPA Special Interest Species, Regional Plan for the LTBMU: Goals and Policies (1986) and Code of Ordinances (1987).

The following sensitive plant species from Table 1 are known to occur and/or have potential habitat in the footprint of the proposed survey area:

Known to occur:

Meesia triquetra, three-ranked hump-moss (S, CNPS 4.2).

Meesia uliginosa, broad-nerved hump-moss (S, CNPS 4). This species occurrence is reported in the CNDDB (CNDDB 2008) and is recorded as LTBMU population MEUL2 (Gross 2005 in CNDDB 2008). However, *Meesia* sp. collected in this location in 2008 were identified as three-ranked hump-moss (*Meesia triquetra*). Repeated surveys in this location did not indicate the presence of *Meesia uliginosa.*

Potential habitat:

Arabis rigidissima var. *Demota*, Galena Creek rock cress
Botrychium ascendens, Upswept moonwort
Botrychium crenulatum, Scalloped moonwort
Botrychium lineare, Slender moonwort
Botrychium lunaria, Common moonwort
Botrychium minganense, Mingan moonwort
Botrychium montanum, Western goblin
Bruchia bolanderi, Bolander's candle moss
Dendrocollybia racemosa, Branched collybia
Epilobium howellii, Subalpine fireweed
Erigeron miser, Starved daisy
Helodium blandowii, Blandow's bog-moss
Hulsea brevifolia, Short-leaved hulsea
Lewisia kelloggii ssp. *hutchisonii*, Hutchison's lewisia
Lewisia kelloggii ssp. *kelloggii*, Kellogg's lewisia
Lewisia longipetala, Long-petaled lewisia
Peltigera hydrothyria, Veined water lichen

RARE PLANT MANAGEMENT: For those species known or suspected to occur in the survey area. A summary of relevant species management guides, interim management prescriptions, and other species direction or guidelines follows:

***Meesia triquetra*, three-ranked hump-moss:**

Prescription: *Meesia triquetra* is listed by the California Native Plant Society as a List 4.2 species. A List 4 designation = Limited distribution (Watch List), and 0.2 = Fairly endangered in California (CNPS 2008). Follow USFS, USFWS, TRPA, and other agency status; existing/ongoing conservation efforts; UFSF standards and guides for species.

***Meesia ulginosa*, broad-nerved hump-moss:**

Prescription: *Meesia triquetra* is listed by the California Native Plant Society as a List 2.2 species List 2 = Rare, threatened, or endangered in California, but more common elsewhere, and 0.2 = Fairly endangered in California (CNPS 2008). Follow USFS, USFWS, TRPA, and other agency status; existing/ongoing conservation efforts; UFSF standards and guides for species.

VI. EXISTING CONDITION

The following briefly summarizes the habitats or plant communities that occur in the survey area.

As reported in the Existing Conditions Report (ECR) for the Sunset Stables Restoration and Resource Management Plan (CTC 2004), ten vegetation communities exist in the survey area. These include montane wet and dry meadow (approximately 20% of the survey area), montane coniferous forest which includes Jeffery pine and lodgepole pine forest (approximately 25% of survey area), and riparian communities (approximately 5% of the survey area) which include aspen riparian forest and montane riparian scrub. Other communities, including big sagebrush scrub, mixed montane chaparral, and montane freshwater marsh, occur as small patches in the survey area. Approximately 50% of the survey area is occupied by developed sub-urban parcels (which are relatively well forested). Unvegetated cover types include developed ground, ruderal and water. Following is a description of each vegetation community. Community descriptions follow Holland (1986).

Montane Riparian Scrub (Holland code # 63500). The montane riparian scrub in the survey area is dominated by various species of willow and contains several species of sedges (*Carex* spp.) Montane riparian scrub occurs adjacent to the stream channel and, in a few cases, on hillslopes where soil moisture is adequate.

Aspen Forest (Holland code # 61520). Small aspen stands occur on the eastern side of the survey area as linear patches in Jeffrey pine, Jeffrey pine/fir, and lodgepole pine forest along meadow edges and seeps where moist soil conditions exist. The herb layer includes such species as western columbine (*Aquilegia formosa*), Fendler's meadow rue (*Thalictrum fendleri*), California corn lily (*Veratrum californicum* var. *californicum*), sedges, Richard's geranium (Geranium richardsonii), and rein bog orchid (*Platanthera leucostachys*). Conifer encroachment is a concern for the aspen stands and meadows (CTC 2005c)

Wet Montane Meadow (Holland code #45110). The wet meadows in the survey area are dominated by sedges including Nebraska sedge (*Carex nebrascensis*) and slender-beak sedge (*Carex athrostachya*). Long-stalked clover (*Trifolium longipes*), dandelion (*Taraxacum officinale*), leafy arnica (Arnica chamissonis), water miners lettuce (*Montia chamissoi*), narrowleaf miners lettuce (*Monta linearis*), and cinquefoil (*Potentilla gracilis*) are also common in the wet meadows in the survey area. Much of the wet montane meadow in the survey area seems to be in transition toward dry montane meadow and it is uncertain if these communities are supported by surface water or by groundwater (TRCD 2003, CTC 2005b).

Dry Montane Meadow (Holland code # 45120). Dry montane meadows are found between 3,000 and 9,000 feet in elevation in the Sierra Nevada. These meadows dry completely during some portion of the growing season. Dry meadows are vegetated by a dense growth of low perennial herbs and grasses such as common dandelion (*Taraxacum officinale*), bluegrasses (*Poa* spp.), yarrow (*Achillea millefolium*), and mat muhly (*Muhlenbergia richardsonis*).

Jeffrey Pine Forest (Holland code # 85100). Jeffrey pine forest was the predominant forest type in the survey area. This community type is dominated by Jeffrey pine (*Pinus jeffreyi*), interspersed with white fir (Abies concolor) and incense cedar (*Calocedrus decurrens).* Lodgepole pine (Pinus contorta ssp. murrayana) was found in areas that collect more moisture. The understory is dominated by gooseberries and currents (*Ribes* spp.), service-berry (*Amelanchier alnifolia* var. *pumila*), and Sierra chinquapin (*Chrysolepis sempervirens*).

Jeffrey Pine/Fir Forest (Holland code #85210). Jeffrey pine/fir forest occurs on drier slopes and flats and on coarse soils. Jeffrey pine and white fir dominate the tree layer, but lodgepole pine is also common.

Lodgepole Pine Forest (Holland code # 86100). Lodgepole pine forest is found on moist sites such as creek banks and meadow margins in the survey area.

Big Sagebrush Scrub (Holland code #35210). Big sagebrush scrub occurs as small patches in the survey area. This cover type is dominated by Mountain big sagebrush (*Artemisia tridentata* ssp. *vaseyana*). Rubber rabbitbrush (*Chrysothamnus nauseosus*) and bitterbrush (Purshia tridentata) are the common associates of this community in the survey area.

Developed Ground. Developed ground includes locations with man-made structures and the vegetation associated with those structures. Areas of housing developments are located on the south end and east side of the survey area and survey area. The developed ground includes houses and other buildings and roads.

Ruderal Vegetation. Ruderal vegetation occurs in areas where vegetation is subject to routine disturbance. Invasive plants are often found in these areas as well as pioneer native species. Ruderal vegetation occurs in the survey area at locations including roads and trails, the former stables parking area by the gate, a snowmobile staging area and a former equestrian jumping ring.

Sensitive Vegetation Communities. In the survey area wetland and riparian vegetation communities have been identified as sensitive resources, providing important habitat value for wildlife and are regulated by USDA-FS and California Department of Fish and Game (CDFG). Sensitive vegetation communities known to occur or with potential to occur in the survey area include wet montane meadows, montane riparian scrub, aspen riparian forest, fens and sphagnum bogs. There are known sphagnum bog communities in the general vicinity of the survey area at Grass Lake and Osgood Swamp, El Dorado National Forest (CDFG 2008). Sphagnum bog is identified as a sensitive plant community by CDFG and the USFWS (Beyer Pers. Comm 2008), but none were identified in the survey area during field surveys.

Bryophytes such as three-ranked hump moss require wet, acidic soils in coniferous forest meadows and bogs. Consultation with USFS LTBMU botanist Cheryl Beyer identified potentially suitable habitat on USFS land in the survey area (Beyer Pers. Comm 2008).

VII. FIELD RECONNAISSANCE:

In 2004, a comprehensive floristic field survey was conducted throughout most of the publicly held lands (California Tahoe Conservancy [CTC] and U.S. Forest Service [USFS]) in the survey area. Private property in the survey area was not surveyed. Two publicly-owned areas in the survey area were not inspected during the 2004 floristic surveys. These include the area bounded by Elks Club Blvd. to the north, Meadow Vale Drive to the south, Highway 50 to the west, and Boca Raton Drive to the east and the CTC-owned parcels in the Tahoe Paradise Subdivision. These areas were surveyed during summer 2005.

In 2008, the survey area included the same publicly held lands (California Tahoe Conservancy [CTC] and U.S. Forest Service [USFS]) in the survey area with a focus on proposed activity areas including staging areas, access roads, and proposed and existing channel realignment areas. Surveys also focused on sensitive vegetation communities, and areas where suitable habitat for special-status species might occur. Surveys did not extend into the developed portion of the survey area (i.e., residential area in the eastern half), with the exception of some federally-owned parcels.

Floristic Inventory and Special-Status Plant Mapping. Floristic survey methods involve identifying all species to the level necessary to determine if they are a special-status plant, or whether they are a plant species with unusual or significant range extensions. The 2004 and 2005 surveys only focused on vascular plants, while the 2008 surveys included both vascular species and bryophytes. All vascular plant species and bryophytes observed during field surveys were recorded and collected for identification. USFS LTBMU botanist Cheryl Beyer accompanied ENTRIX biologists in the field and assisted in surveying potential bryophyte habitat.

Special-status plant surveys were conducted in accordance with the Guidelines for Assessing Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities (CDFG 2000) and General Rare Plant Survey Guidelines (Cypher 2002). Surveys were floristic in nature, and nomenclature was based on the Jepson Manual (Hickman 1993), or other sources where noted. The bryophyte survey involved collection of any moss that appeared to be a unique species. Detailed notes on site conditions and location were recorded, and the moss was identified by a qualified, USFS-approved bryologist (Beyer Pers. Comm. 2008) for identification. Moss nomenclature was based on the USDA Plants Database (USDA 2008).

Timing of the field surveys was determined from evaluation of documented blooming periods (CNPS 2008). ENTRIX biologists conducted floristic surveys on June 30 and July 1, 2008 and August 28 and 29, 2008 to document populations of special-status species in the survey area.

A variety of survey methods were utilized to achieve visual surveillance of the survey area. This included walking in zig-zag or linear patterns and selective meandering. The survey method utilized in a particular habitat(s) depended on the type of terrain (i.e., flat or sloping), and the density and type of vegetation (i.e., abundant and dense grasses and forbs versus large trees and shrubs in a widely spaced pattern).

Special-status moss populations and moss collection sites were recorded with a Garmin GPS unit and marked on aerial photos, which were later incorporated into a GIS database. Special-status plant populations were revisited in August, and remapped using a sub-meter Trimble GPS unit in order to increase the accuracy of that occurrence. No other populations of threatened, endangered, proposed, or sensitive (TEPS) plant species are known to occur in the survey area.

Survey Results

During 2004 and 2005 surveys, a total of 287 plant species were identified in the survey area. Of these species, 244 were native plants and 43 were exotic species. No special-status plants were found in the survey area during the 2004 and 2005 field surveys. An additional 62 species were identified in 2008, for a total of 300 native and 49 exotic species identified in the survey area. In addition, 18 species of bryophyte were identified in the survey area during 2008 surveys. A tabulation of bryophytes and vascular species identified in the survey area is provided in the attachments. A map showing locations where mosses were collected is also attached.

In conclusion, one sensitive plant species was located in the survey area: three-ranked hump-moss (*Meesia triquetra*). The habitat of interest is on a USFS urban lot just north of Tabira Drive (APN 033-771-06), in the northeast corner of the survey area. The lot features a moist area approximately 200 feet long (north-south) and 5 feet wide (east-west). One special-status bryophyte population, three-ranked hump moss (*Meesia triquetra* [CNPS List 4]), was found here. The area is shown on the attached map. Similar habitat was not specifically noted anywhere else in the survey area, but may occur in isolated patches.

The surveys conducted in 2004, 2005 and 2008 took place at the appropriate time of year to identify sensitive plants, without exception.

VIII. DETERMINATION OF EFFECTS OF THE PROPOSED PROJECT

An effects analysis is required in cases where sensitive plants have been found in or near proposed Project areas. The following provides a discussion of the direct, indirect, and cumulative effects of the project on the sensitive species identified with known populations or potential habitat in the survey area.

Direct Effects: Direct effects occur when sensitive plants or their potential habitat are physically impacted by activities associated with the proposed action.

Meesia triquetra is found in bogs, fens, and very wet meadows in upper montane coniferous forests at elevations between about 4,000 to 10,000 feet in elevation. This moss seems to prefer acidic meadows with sphagnum moss (*Sphagnum*), sundew (*Drosera*), and huckleberry (*Vaccinium*) associates. Cold spring fed fens in the meadow also seem essential. This species requires permanent saturation and is not found in meadows that dry out. Suitable habitat for this species was present in a very localized area approximately 200 feet long (north-south) and 5 feet deep (east-west). Similar habitat was not specifically noted anywhere else in the survey area, but may occur in isolated, undetected patches.

Direct effects to the known population of *Meesia triquetra* are not expected because of the isolated location relative to planned project activity.
Undetected populations may be directly affected by trampling, excavation, burial, crushing, etc. during restoration efforts. Implementation of standard impact avoidance and minimization measures would significantly reduce or eliminate the potential for direct impacts to sensitive habitats and undetected populations of special-status plants.

Indirect Effects: Indirect effects on sensitive species or their potential habitat are effects that are separated from an action in either time or space. Indirect effects resulting from project implementation may affect the quantity, quality, and distribution of habitats and may have positive or negative effects on sensitive plant, lichen, bryophyte, and fungi populations.

Indirect effects to the known population of *Meesia triquetra* are not expected because of the isolated and elevated location relative to planned project effects.

Undetected populations may be indirectly affected by introduction of invasive or noxious species, or habitat modification by altering hydrology or increasing sedimentation. Introduction of invasive plants or noxious weeds could increase competition for resources in that species limited habitat. In severe cases, highly competitive plants can alter habitat characteristics by changing exposure, moisture levels, etc.

Restoration activities including grading, excavation and earth moving could indirectly cause alteration in hydrologic regimes in adjacent habitats, resulting in inundation or drying out of appropriate habitat.

Cumulative Effects: The following are the past, present, and foreseeable future actions that have affected or may affect botanical resources in the survey area. Past and present activities have already altered sensitive plant occurrences and their habitats. Current management direction is designed to eliminate or reduce possible negative cumulative impacts by protecting known sensitive plants species from direct and indirect impacts.

Past:

- Logging, ranching, grass harvesting for hay

Present:

- Recreation (hiking, biking, boating, fishing, snowmobiling, nordic skiing.

Foreseeable Future Actions:

- Recreation (see above)

In addition to the proposed Project, there are several other stream restoration projects that will restore the channel form and hydrologic function of other reaches of the Upper Truckee River both upstream and downstream from the Sunset Stables project. These include the California Parks Golf Course project, the City of South Lake Tahoe's restoration project immediately downstream (constructed in 2008), the Conservancy's Reach 1 and 2 project, and the

Conservancy's Upper Truckee River Marsh Project. These projects will have short term localized impacts on habitat within their respective project areas, but not to habitats in the Sunset Stables proposed project area.

Cumulative Effects Discussion:

The extent of cumulative effects to sensitive plants depends on the management of potential direct and indirect effects, as well as the attributes of the sensitive plant species located in the survey area, their distribution in the survey area, and the ability to design future projects with sensitive plant attributes in mind. Adverse cumulative effects are not expected as a result of implementation of the proposed project because the project is designed to have positive long term effects on habitats. Construction of a new channel is expected to increase the extent and duration of floodplain inundation and to increase meadow wetness through raised groundwater levels. The restored hydrologic processes combined with extensive riparian plantings that will be installed post-construction will increase the quality and quantity of sensitive habitats.

IX. SUMMARY AND DETERMINATION

1. Only one known occurrence of a special-status plant exists in the survey area.

2. ENTRIX botanists have completed protocol special-status vascular plant surveys in 2004, 2005 and 2008 with no occurrences of special-status vascular plants. Additional surveys have been completed by Western Botanical Services in 2002 and 2003 (WBS 2003a, 2003b). All surveys were performed at the appropriate time of year by qualified botanists.

3. Detailed surveys for special-status bryophytes were completed in 2008. Intensive sampling (36 collection sites) of the entire survey area resulted in identification of 18 species of bryophyte, and one special-status moss

4. Implementation of impact avoidance and minimization measures can ensure the protection of existing populations and reduce to negligible any direct, indirect or cumulative impacts.

5. Restoration activities will ultimately increase the quality and extent of potential wet meadow, riparian and/or freshwater marsh habitat for *Meesia triquetra* as well as for other USFS-LTBMU and CNPS special-status mosses and vascular plant species.

It is my determination that the proposed project, Upper Truckee River Sunset Stables Restoration Project, will not affect the known occurrence of three-ranked hump moss (*Meesia triquetra)* in the survey area. There is always a possibility that other sensitive plant species (including *Meesia*) occur elsewhere in the survey area and the Project may affect individuals, but it is not likely to result in a trend toward Federal listing or loss of viability.

X. MANAGEMENT RECOMMENDATIONS

Sensitive Plants:

Standard BMPs and management requirements will be employed. If any sensitive plant is located within the project footprint during implementation, it is recommended that all individuals be flagged and avoided.

XI. REFERENCES

Personal Communication

Beyer Pers. Comm. 2008. Personal Communication with USFS LTBMU Forest Botanist Cheryl Beyer re: current noxious weed and special-status plant lists, special communities and contact information for David Toren, USFS approved bryologist. June 2008. Contact information: Cheryl Beyer, Forest Botanist, USFS Lake Tahoe Basin Management Unit, 35 College Drive, South Lake Tahoe, CA 96150, (530) 543-2842, (530) 543-2693 fax

Loupe Pers. Comm. 2008. Personal Communication with USFS LTBMU Hydrologist Theresa Loupe re: LRMP management area designation. December 2008. Contact information: Theresa Loupe, Hydrologist, USFS Lake Tahoe Basin Management Unit, 35 College Drive, South Lake Tahoe, CA 96150, (530) 543-2788, tloupe@fs.fed.us

References

Calflora 2008. CalFlora: Information on California plants for education, research and conservation. [web application]. Berkeley, California: The Calflora Database [a non-profit organization]. Available: http://www.calflora.org

California Department of Fish and Game (CDFG). 2000. *Guidelines for Assessing Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities.* Revision of 1983 Guidelines. Sacramento, CA, 2pp.

California Department of Fish and Game (CDFG). 2008a. Rarefind. California Department of Fish and Game Natural Diversity Database. Biogeographic Data Branch. Commercial Version dated June 2008.

California Department of Food and Agriculture (CDFA). 2008. Weeds Alphabetical by Scientific Name. Available at: http://www.cdfa.ca.gov/phpps/ipc

California Invasive Plant Council (Cal-IPC). 2006. California Invasive Plant Inventory. California Invasive Plant Council. February 2006

California Native Plant Society (CNPS). 2001. Inventory of Rare and Endangered Vascular Plants of California (sixth edition). Rare Plant Scientific Advisory Committee, David P. Tibor, Convening Editor. California Native Plant Society. Sacramento, CA. X + 388pp.

California Native Plant Society (CNPS). 2008. California Native Plant Society Online Inventory of Rare and Endangered Plants. v7-08d 10-05-08. Topo quad query for Emerald Bay, Echo Lake, Freel Peak and South Lake Tahoe.

California Tahoe Conservancy (CTC). 2004. Final Draft Existing Conditions Report for the Sunset Stables Restoration and Resource Management Project. Prepared by ENTRIX for the California Department of General Services, Real Estate Services Division and California Tahoe Conservancy, July 16, 2004.

Cypher, E.A. 2002. General Rare Plant Survey Guidelines. California State University, Stanislaus Endangered Species Recovery Program. Revised July 2002.

ENTRIX. 2005. Amended Plant Communities and Special-status Plant Species Report. Prepared for California Department of General Services Real Estate Services Division and California Tahoe Conservancy. Prepared by ENTRIX, Inc., Sacramento, CA. November 2005.

ENTRIX 2009. Noxious Weed Risk Assessment for the Upper Truckee River Sunset Stables Restoration Project on the Lake Tahoe Basin Management Unit. Prepared by ENTRIX, Inc, Sacramento, CA. September 2009.

Hickman, J.C., ed. 1993. The Jepson Manual. Higher Plants of California. Univ. of California Press, Berkeley.

Holland, R.F. 1986. Preliminary descriptions of the terrestrial natural communities of California. California Department of Fish and Game, Sacramento, California.

Lake Tahoe Basin Weed Coordinating Group (LTBWCG). 2008. Lake Tahoe Basin Weed Coordinating Group Mapping Protocol. February 2008.

Lake Tahoe Basin Weed Coordinating Group (LTBWCG). 2007. Annual Report. Available at: http://ceeldorado.ucdavis.edu/files/50273.pdf

Murphy, D.D and Knopp, C.M. (eds.). 2000. General Technical Report: Lake Tahoe Watershed Assessment, Volume 1. Gen. Tech. Rep. PSW-GTR-175. Albany, CA: Pacific Southwest Research Station, Forest Service, US Department of Agriculture. 753p.

Sawyer, J.O., and T. Keeler-Wolf. 1995. A Manual of California Vegetation. California Native Plant Society, Sacramento, California.

Tahoe Regional Planning Agency (TRPA). 1986. Regional Plan for the Lake Tahoe Basin: Goals and Policies. Tahoe Regional Planning Agency.

Tahoe Regional Planning Agency (TRPA). 1987. Regional Plan for the Lake Tahoe Basin: Code of Ordinances. Tahoe Regional Planning Agency.

Tahoe Regional Planning Agency (TRPA). 1998. Regional Plan for the Lake Tahoe Basin: Code of Ordinances. Section IX. Resource Management Provisions, Chapter 75: Sensitive and Uncommon Plant Protection and Fire Hazard Reduction. 2 pp.

U.S. Department of Agriculture Forest Service (USDA-FS). 1995. Forest Service Manual, Washington. Series 2000 - National Forest Resource Management Amendment No. 2000-95-5, Effective November 29, 1995. Section 2083: Information Collection and Reporting.

U.S. Department of Agriculture, Forest Service (USDA-FS). 1988. Land Resource Management Plan, Lake Tahoe Basin Management Unit

U.S. Department of Agriculture, Forest Service (USDA-FS). 2000. Lake Tahoe Watershed Assessment: Volume I. Gen. Tech. Rep. PSW-GTR-175. Albany, CA: Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture; 736 p.

U.S. Department of Agriculture, Forest Service (USDA-FS). 2001. Sierra Nevada Forest Plan Amendment. Final Environmental Impact Statement. U.S. Department of Agriculture, U.S. Forest Service, Pacific Southwest Region. January 2001.

U.S. Department of Agriculture Forest Service (USDA-FS). 2004. Sierra Nevada Forest Plan Amendment, Pacific Southwest Region, Vallejo, CA.

U.S. Department of Agriculture, Forest Service (USDA-FS). 2006. United State Department of Agriculture Forest Service Lake Tahoe Basin Management Unit (LTBMU) Regional Forester's Sensitive Species List, Region 5.

U.S. Department of Agriculture, Forest Service (USDA-FS). 2007. USFS Biological Evaluation for Threatened, Endangered and Sensitive Plants and Fungi, report template

U.S. Department of Agriculture, Forest Service (USDA-FS). 2008. Noxious Weed Risk Assessment - Lake Tahoe Basin Management Unit, report template.

United States Department of Agriculture Natural Resources Conservation Service (USDA NRCS). 2008. USDA NRCS Plants Data Base. Available at: http://plants.usda.gov/

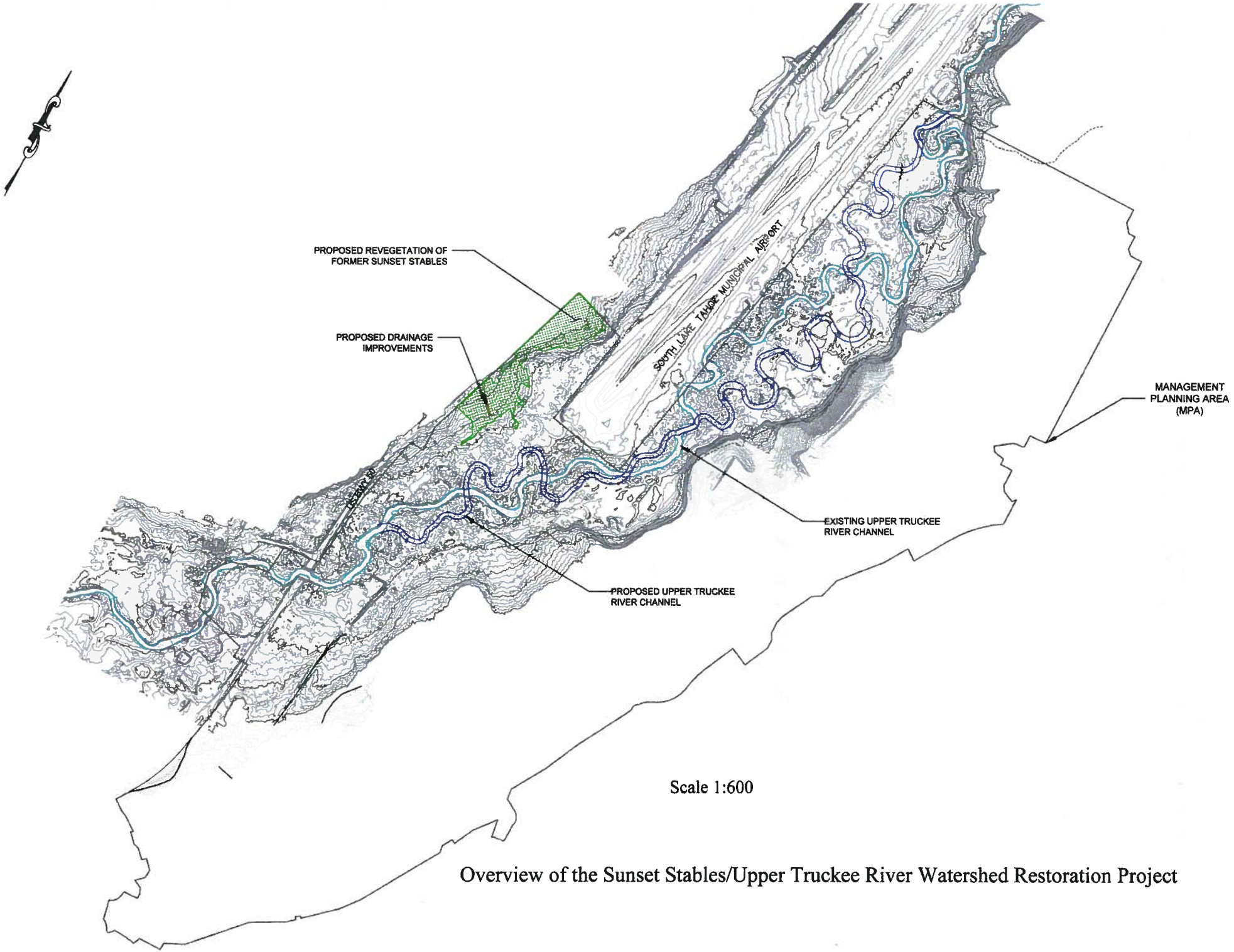
U.S. Fish and Wildlife Service (USFWS). 2008. Species list for Emerald Bay, Echo Lake, Freel Peak and South Lake Tahoe topographic quadrangles, created June 2008. Available at:

http://www.fws.gov/sacramento/es/spp_lists/auto_list_form.cfm

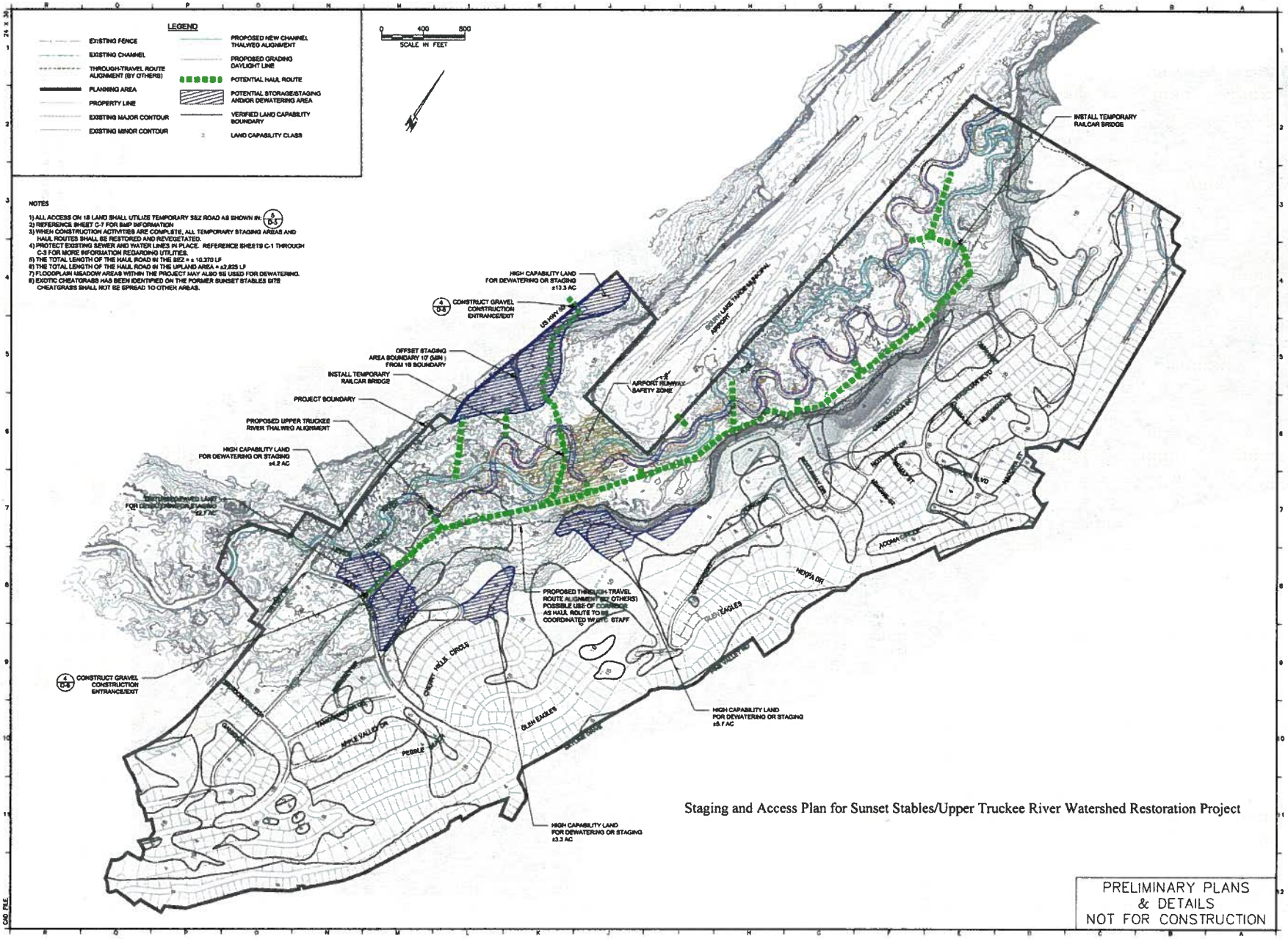
Western Botanical Services (WBS). 2003a. Sensitive Plant and Noxious Weeds Survey for the Proposed California Tahoe Conservancy Highway 50 Bike Trail.

WBS. 2003b. Stream Environment Zone Survey for the Proposed California Tahoe Conservancy Highway 50 Bike Trail.

Attachment A: Additional Information



Overview of the Sunset Stables/Upper Truckee River Watershed Restoration Project



Staging and Access Plan for Sunset Stables/Upper Truckee River Watershed Restoration Project

PRELIMINARY PLANS & DETAILS NOT FOR CONSTRUCTION

DGS
Department of General Services
Design Services Section
State of California
Real Estate Services Division
Professional Services Branch
707 Third Street, Suite 4-105
West Sacramento, California 95605
Project Manager: Valerie Nambe
916 376 - 1607 Voice
916 375 - 4195 Fax
valerie.nambe @ dgs.ca.gov

ENTRIX
ENVIRONMENTAL CONSULTANTS
1048 Old Pan Blvd.
South Lake Tahoe, CA 96150
Tel: 530.542.0201 Fax: 530.542.4401

Division of the State Architect
ACCESS COMPLIANCE
App. No..
Reviewed by:
Date :

California State Fire Marshal
APPROVED
Approval of this plan does not authorize or approve any omission or deviation from applicable regulations. Final approval is subject to field inspection. One set of approved plans shall be available on the project site at all times.
App.No.:
Reviewed by:
Date :

Issue

No.	Date	Description

Project
SUNSET STABLES/UPPER TRUCKEE RIVER - WATERSHED RESTORATION PROJECT
MEYERS, EL DORADO CO., CA

Supervisor	Designed	Drawn	Checked
MJR	CJK	CJK	CM

File Date	Vault File Number
12/5/06	N/A

Sheet Title
STAGING & ACCESS PLAN
PLAN VIEW REACHES 5 & 6

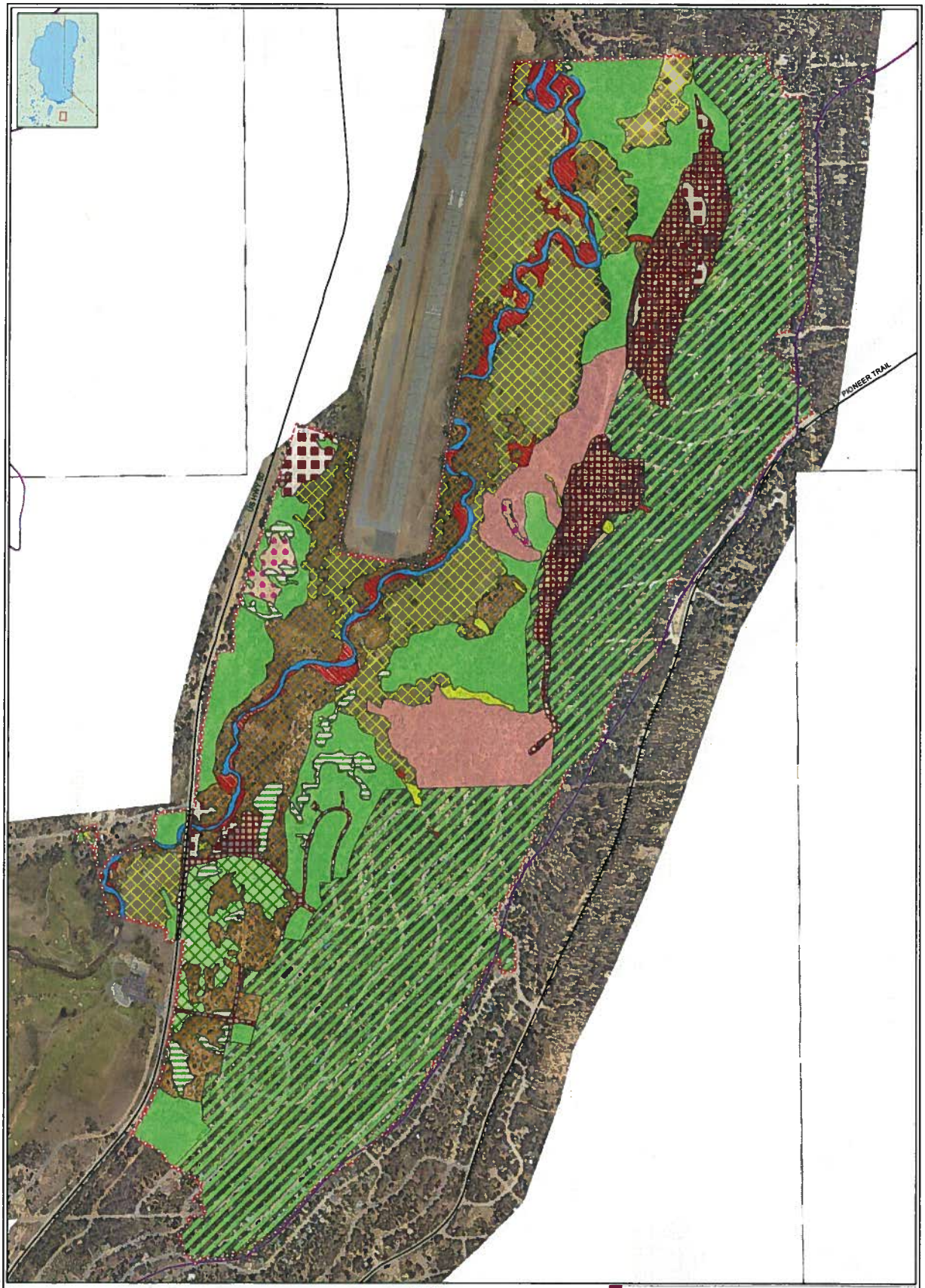
DSA Building Number	Work Order
N/A	3063810

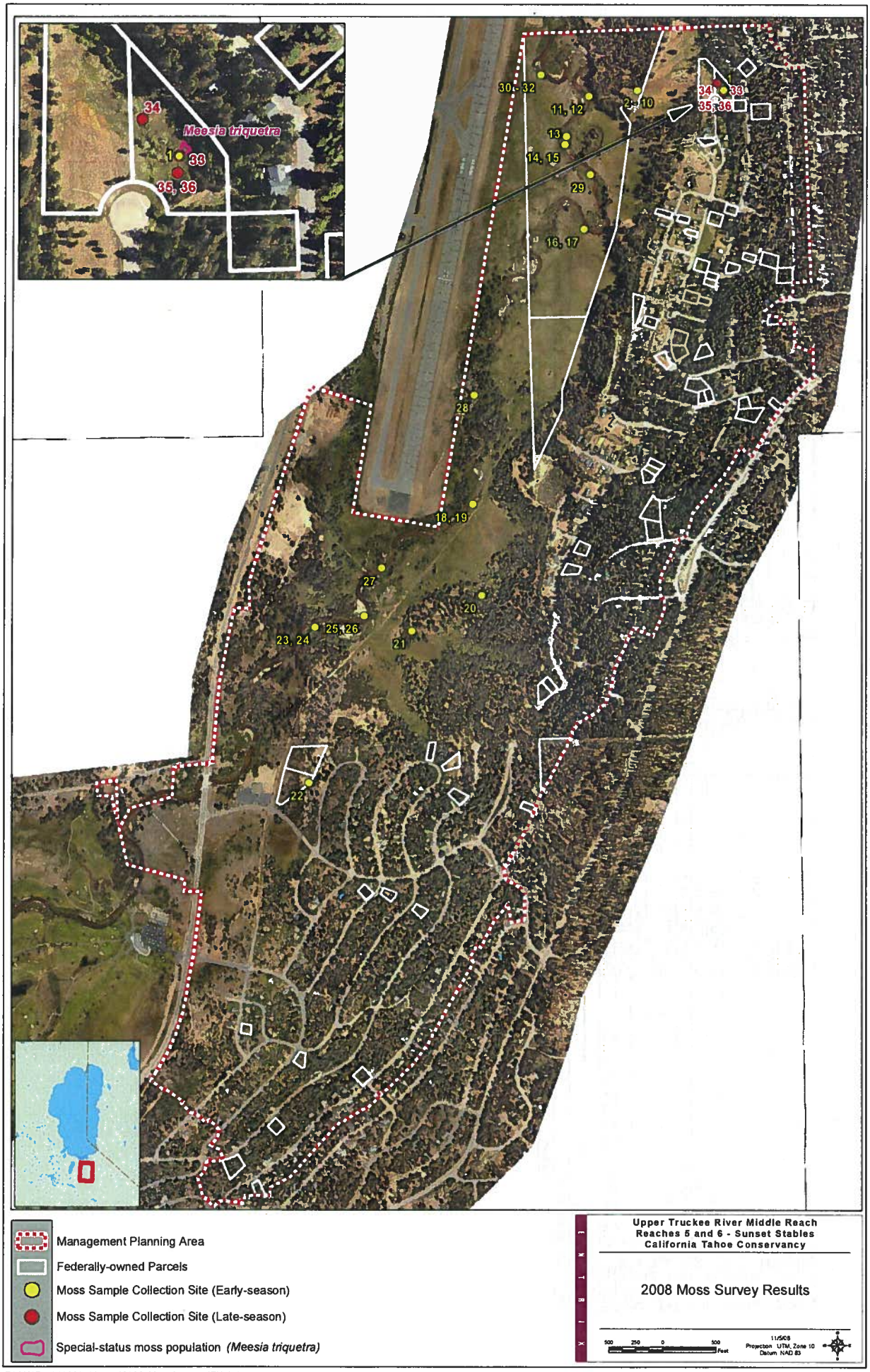
Reference North	Sheet Scale
	AS SHOWN

Sheet Number
C-6
9 of 17

Copyright © 2007, California Department of General Services - Real Estate Services Division

CAD FILE


PIONEER TRAIL
Boundary
Management Planning Area
Study Area
Vegetation Communities
Aspen Forest
Big Sagebrush Scrub
Developed
Jeffrey Pine Forest
Jeffrey Pine Forest
associated with Urban Development
Jeffrey Pine/Fir Forest
Lodgepole Pine Forest
Montane Riparian Scrub
Open Ground
Ruderal
Water
Wet Montane Meadow
Dry Montane Meadow
Upper Truckee River Middle Reach
Reaches 5 and 6 - Sunset Stables
California Tahoe Conservancy
Vegetation Communities in the
Management Planning Area
0 250 500
Feet
9/29/04
Projection UTM Zone 10
Datum NAD 83
c:\gis\entrix\3088102\mxp\mxd\ss_vegetationcommunities_11i17l_01.mxd 9/29/2004 1:33:49 PM zanetti



E:\GIS\Entrix\3089102\map\2008_MossSurvey_17i11i_01.mxd

All Bryophytes Identified During Special-status Plant Surveys of the Sunset Stables Project Area (2008)

Scientific Name	Common Name	Native/Exotic	Family	Notes
Brachythecium frigidum	cold brachythecium moss	native	Brachytheciaceae	
Bryum lisae	bryum moss	native	Bryaceae	
Bryum lonchocaulon	bryum moss	native	Bryaceae	
Bryum muehlenbeckii	Muehlenbeck's bryum moss	native	Bryaceae	
Bryum pseudotriquetrum	common green bryum moss	native	Bryaceae	
Bryum sp.	bryum moss	native	Bryaceae	
Ceratodon purpureus	ceratodon moss	native	Ditrichaceae	
Drepanocladus aduncus	drepanocladus moss	native	Amblystegiaceae	
Drepanocladus sordidus	drepanocladus moss	native	Amblystegiaceae	
Funaria hygrometrica	funaria moss	native	Funariaceae	
Marchantia polymorpha	liverwort	native	Marchantiaceae	
Meesia triquetra	meesia moss	native	Meesiaceae	USFS Sensitive, CNPS List 4
Philonotis fontana	philonotis moss	native	Bartramiaceae	
Philonotis tomentella (Philonotis fontana var. pumila)	philonotis moss	native	Bartramiaceae	
Plagiomnium medium	intermediate plagiomnium moss	native	Mniaceae	
Pohlia wahlenbergii	Wahlenberg's pohlia moss	native	Bryaceae	
Polytrichum juniperinum	juniper polytrichum moss	native	Polytrichaceae	
Pseudocalliergon angustifolium	pseudocalliergon moss	not listed	Amblystegiaceae	

All Vascular Plant Species Identified During Special-status Plant Surveys of the Sunset Stables Project Area (2004, 2005, 2008)

Scientific Name	Common Name	Native/Exotic	Family	Notes
Abies concolor	white fir	native	Pinaceae	
Achillea millefolium	yarrow	native	Asteraceae	
Achnatherum nelsonii ssp. dorei**	Dore's needlegrass, Williams needlegrass	native	Poaceae	
Achnatherum occidentale ssp. pubescens	Elmer's needlegrass	native	Poaceae	
Aconitum columbianum	monkshood	native	Ranunculaceae	
Agoseris glauca var. laciniata	false agoseris	native	Asteraceae	
Agoseris glauca var. monticola	pale agoseris	native	Asteraceae	
Agropyron desertorum	desert wheatgrass	exotic	Poaceae	
Agropyron pungens**	tick quackgrass	native	Poaceae	Chase 1971, not referenced in Hickman 1993
Agrostis oregonensis	Oregon bentgrass	native	Poaceae	
Agrostis scabra	rough bentgrass	native	Poaceae	
Aira caryophyllea**	silver hairgrass	exotic	Poaceae	
Allium campanulatum	dusky onion	native	Liliaceae	
Allium validum	Pacific onion	native	Liliaceae	
Allophyllum gilioides ssp. violaceum	dense false gilia	native	Polemoniaceae	
Alnus incana ssp. tenuifolia	mountain alder	native	Betulaceae	
Alopecurus aequalis	shortawn foxtail	native	Poaceae	
Amelanchier alnifolia var. pumila	service-berry	native	Rosaceae	
Amsinckia menziesii var. intermedia	fiddleneck	native	Boraginaceae	
Anaphalis margaritacea	pearlyeverlasting	native	Asteraceae	
Angelica breweri	Brewer's angelica	native	Apiaceae	
Antennaria media	Rocky Mountain pussytoes	native	Asteraceae	
Antennaria rosea ssp. rosea	rosy pussytoes	native	Asteraceae	
Apocynum androsaemifolium	mountain dogbane, smooth mountain dogbane, bitter	native	Apocynaceae	
Aquilegia formosa	western columbine	native	Ranunculaceae	
Arabis glabra var. glabra**	tower mustard	native	Brassicaceae	
Arabis holboellii var. pinetorum	Holboell's rockcress	native	Brassicaceae	
Arabis holboellii var. retrofracta**	second rockcress	native	Brassicaceae	
Arabis lyallii var. lyallii	Lyall's rockcress	native	Brassicaceae	
Arctostaphylos patula	greenleaf manzanita	native	Ericaceae	
Arenaria congesta var. congesta	ballhead sandwort	native	Caryophyllaceae	
Arnica mollis	hairy arnica	native	Asteraceae	
Artemisia douglasiana	Douglas' sagewort	native	Asteraceae	
Artemisia dracunculus	wormwood	native	Asteraceae	
Artemisia tridentata ssp. vaseyana	big sagebrush	native	Asteraceae	
Aster campestris	meadow aster	native	Asteraceae	
Aster integrifolius	thickstem aster	native	Asteraceae	
Aster occidentalis	western aster	native	Asteraceae	
Aster oregonensis	Oregon aster	native	Asteraceae	
Astragalus sp.**	milk vetch	unknown	Fabaceae	no flowers, in disturbed area, not likely special-status
Balsamorhiza sagittata	arrowleaf balsamroot	native	Asteraceae	
Barbarea orthoceras	American yellowrocket	native	Brassicaceae	
Bassia hyssopifolia**	fivehorn smotherweed	exotic	Chenopodiaceae	
Berberis aquifolium var. dictyota	prickly Oregon grape, Oregon grape	native	Berberidaceae	
Betula occidentalis**	water birch	native	Betulaceae	
Bromus anomalus**	nodding brome	native	Poaceae	
Bromus carinatus var. carinatus	California brome	native	Poaceae	
Bromus inermis ssp. inermis	smooth brome	exotic	Poaceae	
Bromus tectorum	cheatgrass	exotic	Poaceae	
Calamagrostis stricta ssp. stricta	slimstem reedgrass	native	Poaceae	
Calochortus leichtlinii**	smokey mariposa	native	Liliaceae	
Calyptridium umbellatum	cistanthe	native	Portulacaceae	

All Vascular Plant Species Identified During Special-status Plant Surveys of the Sunset Stables Project Area (2004, 2005, 2008)

Scientific Name	Common Name	Native/Exotic	Family	Notes
Calystegia malacophylla	Sierra false bindweed	native	Convolvulaceae	
Camassia quamash	small camas	native	Liliaceae	
Camissonia subacaulis	stemless sun cup	native	Onagraceae	
Cardamine breweri var. breweri	Brewer's bittercress	native	Brassicaceae	
Cardamine pensylvanica	Pennsylvania bittercress	native	Brassicaceae	
Carex amplifolia**	bigleaf sedge	native	Cyperaceae	
Carex aquatilis var. aquatilis	water sedge	native	Cyperaceae	
Carex athrostachya	slenderbeak sedge	native	Cyperaceae	
Carex feta**	greensheath sedge	native	Cyperaceae	
Carex fracta	fragile sheath sedge	native	Cyperaceae	
Carex integra	smoothbeak sedge	native	Cyperaceae	
Carex lanuginosa	woolly sedge	native	Cyperaceae	
Carex lenticularis var. lipocarpa	Kellogg's sedge	native	Cyperaceae	
Carex lenticularis**	sedge	native	Cyperaceae	
Carex microptera**	smallwing sedge	native	Cyperaceae	
Carex nebrascensis**	Nebraska sedge	native	Cyperaceae	
Carex nervina**	nerved sedge	native	Cyperaceae	
Carex praegracilis	clustered field sedge	native	Cyperaceae	
Carex simulata**	analogue sedge	native	Cyperaceae	
Carex utriculata**	Northwest Territory sedge	native	Cyperaceae	
Carex vesicaria var. vesicaria	inflated sedge, blister sedge	native	Cyperaceae	
Carex whitneyi	Whitney's sedge	native	Cyperaceae	
Castilleja applegatei ssp. pallida	wavyleafpaintbrush	native	Scrophulariaceae	
Castilleja miniata ssp. miniata	scarlet paintbrush	native	Scrophulariaceae	
Castilleja pilosa	parrothead paintbrush	native	Scrophulariaceae	
Castilleja tenuis	Hairy owl's clover	native	Scrophulariaceae	
Ceanothus cordulatus	whitethorn ceanothus	native	Rhamnaceae	
Ceanothus prostratus	squawcarpet	native	Rhamnaceae	
Chaenactis douglasii var. douglasii	Douglas' dustymaiden	native	Asteraceae	
Chamomilla suaveolens	pineapple weed	exotic	Asteraceae	
Chenopodium album	lambsquarters	exotic	Chenopodiaceae	
Chrysolepis sempervirens	Sierra chinquapin	native	Fagaceae	
Chrysothamnus nauseosus	rubber rabbitbrush	native	Asteraceae	
Cirsium andersonii	rose thistle	native	Asteraceae	
Cirsium scariosum	dwarf Thistle, elk thistle	native	Asteraceae	
Cirsium vulgare	bullthistle	exotic	Asteraceae	
Claytonia perfoliata	southern miner's lettuce, miner's lettuce	native	Portulacaceae	
Claytonia rubra	redstem springbeauty	native	Portulacaceae	
Collinsia torreyi var. torreyi	Torrey's blue eyed Mary	native	Scrophulariaceae	
Collomia grandiflora	orange mountaintrumpet	native	Polemoniaceae	
Collomia linearis	narrowleaf mountaintrumpet	native	Polemoniaceae	
Convolvulus arvensis**	field bindweed	exotic	Convolvulaceae	
Corallorrhiza sp. (NF)	coralroot	native	Orchidaceae	not flowering
Crepis acuminata	longleaf hawksbeard	native	Asteraceae	
Cryptantha intermedia	Clearwater catseye	native	Boraginaceae	
Cryptantha torreyana	Torrey's catseye	native	Boraginaceae	
Dactylis glomerata	orchardgrass	exotic	Poaceae	
Danthonia californica var. americana	California oatgrass	native	Poaceae	
Delphinium gracilentum	pine forest larkspur	native	Ranunculaceae	
Deschampsia danthonioides	annual hairgrass	native	Poaceae	
Descurainia incana**	mountain tansy mustard	native	Brassicaceae	
Descurainia sophia	herb sophia	exotic	Brassicaceae	

All Vascular Plant Species Identified During Special-status Plant Surveys of the Sunset Stables Project Area (2004, 2005, 2008)

Scientific Name	Common Name	Native/Exotic	Family	Notes
Dodecatheon jeffreyi	tall mountain shootingstar	native	Primulaceae	
Downingia montana	Sierra calicoflower	native	Campanulaceae	
Eleocharis macrostachya	common spikerush	native	Cyperaceae	
Elymus elymoides ssp. brevifolius**	squirreltail	native	Poaceae	
Elymus elymoides**	squirreltail	native	Poaceae	
Elymus multisetus**	big squirreltail	native	Poaceae	
Elytrigia elongata**	tall wheatgrass	exotic	Poaceae	
Epilobium angustifolium ssp. circumvagum	fireweed	native	Onagraceae	
Epilobium brachycarpum	autumn willowweed	native	Onagraceae	
Epilobium ciliatum ssp. ciliatum	willow-herb	native	Onagraceae	
Epilobium densiflorum	denseflower spike primrose, dense boisduvalia	native	Onagraceae	
Epilobium foliosum**	California willowherb	native	Onagraceae	
Epilobium glaberrimum ssp. fastigiatum**	glaucus willowherb	native	Onagraceae	
Epilobium glaberrimum ssp. glaberrimum	smooth willowweed	native	Onagraceae	
Epilobium minutum	chaparral willowherb	native	Onagraceae	
Equisetum arvense	field horsetail	native	Equisetaceae	
Equisetum hyemale ssp. affine	Ferris' horsetail, common scouring rush	native	Equisetaceae	
Equisetum laevigatum**	smooth horsetail	native	Equisetaceae	
Ericameria bloomeri	rabbitbush heathgoldenrod	native	Asteraceae	
Erigeron breweri var. breweri**	Brewer's fleabane	native	Asteraceae	
Erigeron peregrinus var. callianthemus	subalpine fleabane	native	Asteraceae	
Eriogonum nudum	naked buckwheat	native	Polygonaceae	
Eriogonum nudum var. deductum	naked buckwheat	native	Polygonaceae	
Eriogonum spergulinum var. reddingianum**	Redding buckwheat	native	Polygonaceae	
Eriogonum spergulinum var. spergulinum	spurry buckwheat	native	Polygonaceae	
Eriogonum umbellatum var. nevadense	many-flowered buckwheat	native	Polygonaceae	
Eriogonum umbellatum var. polyanthum	many-flowered buckwheat	native	Polygonaceae	
Eriogonum ursinum**	Bear Valley Buckwheat, bear buckwheat	native	Polygonaceae	
Eriogonum wrightii var. subscaposum**	Wright's buckwheat, bastardsage	native	Polygonaceae	
Eriogonum wrightii**	Wright's buckwheat	native	Polygonaceae	
Erodium cicutarium	redstem stork's bill	exotic	Geraniaceae	
Erysimum capitatum ssp. perenne	mountain wallflower, sanddune wallflower	native	Brassicaceae	
Festuca arundinacea**	reed fescue	exotic	Poaceae	
Festuca idahoensis	Idaho fescue	native	Poaceae	
Festuca occidentalis	western fescue	native	Poaceae	
Fragaria virginiana	mountain strawberry	native	Rosaceae	
Fritillaria atropurpurea	fritillary	native	Liliaceae	
Galium aparine	common bedstraw	native	Rubiaceae	
Galium bifolium	twinleaf bedstraw	native	Rubiaceae	
Gayophytum diffusum ssp. parviflorum	spreading groundsmoke	native	Onagraceae	
Gayophytum eriospermum	Coville's groundsmoke	native	Onagraceae	
Gayophytum humile	dwarf groundsmoke	native	Onagraceae	
Geranium richardsonii	Richardson's geranium	native	Geraniaceae	
Geum macrophyllum	largeleaf avens	native	Rosaceae	
Geum triflorum	old man's whiskers	native	Rosaceae	
Gilia leptalea ssp. bicolor	purple-throat gilia	native	Polemoniaceae	
Gilia tricolor**	bird's eye gilia	native	Polemoniaceae	
Glyceria elata	tall mannagrass	native	Poaceae	
Gnaphalium palustre	western marsh cudweed	native	Asteraceae	
Grindelia squarrosa var. serrulata	curlycup gumweed	exotic	Asteraceae	
Hazardia whitneyi	Whitney's goldenbush	native	Asteraceae	
Helianthus annuus	common sunflower	native	Asteraceae	

All Vascular Plant Species Identified During Special-status Plant Surveys of the Sunset Stables Project Area (2004, 2005, 2008)

Scientific Name	Common Name	Native/Exotic	Family	Notes
Heracleum lanatum	common cowparsnip, cow parsnip	native	Apiaceae	
Hesperochiron californicus	California hesperochiron	native	Hydrophyllaceae	
Hieracium albiflorum	white hawkweed	native	Asteraceae	
Holcus lanatus	common velvetgrass	exotic	Poaceae	
Hordeum brachyantherum ssp. brachyantherum	meadow barley	native	Poaceae	
Hordeum marinum ssp. gussoneanum	Mediterranean barley	exotic	Poaceae	
Hordeum murinum ssp. glaucum	smooth barley	exotic	Poaceae	
Horkelia fusca ssp. parviflora	smallflower horkelia	native	Rosaceae	
Hypericum anagalloides	tinker's penny	native	Hypericaceae	
Hypericum formosum var. scouleri	Scouler's St. Johnswort	native	Hypericaceae	
Hypericum perforatum	Klamathweed	exotic	Hypericaceae	
Ipomopsis aggregata ssp. formosissima	Wherrey's Scarlet Gilia	native	Polemoniaceae	
Iris hartwegii ssp. pinetorum	rainbow iris	native	Iridaceae	
Juncus balticus	Baltic rush	native	Juncaceae	
Juncus chlorocephalus	greenhead rush	native	Juncaceae	
Juncus ensifolius**	swordleaf rush	native	Juncaceae	
Juncus howellii**	Howell's rush	native	Juncaceae	
Juncus longistylis	longstyle rush	native	Juncaceae	
Juncus mexicanus	Mexican rush	native	Juncaceae	
Juncus nevadensis	Nevada rush	native	Juncaceae	
Juniperus occidentalis	western juniper	native	Cupressaceae	
Kelloggia galioides	milk kelloggia	native	Rubiaceae	
Lactuca serriola	wild lettuce	exotic	Asteraceae	
Lathyrus lanszwertii var. aridus**	Nevada pea	native	Fabaceae	
Lathyrus lanszwertii var. lanszwertii	thickleaf peavine	native	Fabaceae	
Lepidium campestre	field pepperweed	exotic	Brassicaceae	
Lepidium perfoliatum	clasping pepperweed	exotic	Brassicaceae	
Lepidium virginicum var. virginicum	Virginia pepperweed	native	Brassicaceae	
Leptodactylon pungens	granite pricklygilia	native	Polemoniaceae	
Leucanthemum vulgare	oxe-eye daisy	exotic	Asteraceae	
Lewisia nevadensis	Nevada bitterroot	native	Portulacaceae	
Leymus triticoides	beardless wildrye	native	Poaceae	
Ligusticum grayi	Gray's licoriceroot	native	Apiaceae	
Lilium parvum	Sierra tiger lily	native	Liliaceae	
Linanthus ciliatus	whiskerbrush	native	Polemoniaceae	
Linanthus harknessii	Harkness' flaxflower	native	Polemoniaceae	
Linum usitatissimum	blue flax	exotic	Linaceae	
Lonicera conjugialis	purpleflower honeysuckle	native	Caprifoliaceae	
Lonicera involucrata var. involucrata	twinberry honeysuckle	native	Caprifoliaceae	
Lonicera subspicata var. denudata	southern Honeysuckle, Johnston's honeysuckle	native	Caprifoliaceae	
Lotus nevadensis var. nevadensis	Nevada trefoil	native	Fabaceae	
Lotus oblongifolius var. oblongifolius	streambanktrefoil	native	Fabaceae	
Lotus purshianus var. purshianus	Spanish clover	native	Fabaceae	
Lupinus adsurgens**	Drew's silky lupine	native	Fabaceae	
Lupinus albicaulis	sicklekeel lupine	native	Fabaceae	
Lupinus andersonii**	Anderson's lupine	native	Fabaceae	Indistinct from L. albicalus
Lupinus grayii	Gray's lupine	native	Fabaceae	
Lupinus lepidus var. sellulus	dwarf lupine	native	Fabaceae	
Lupinus polyphyllus var. burkei	bigleaf lupine	native	Fabaceae	
Luzula comosa	hairy woodrush, heath woodrush	native	Juncaceae	
Luzula subcongesta**	Donner woodrush	native	Juncaceae	
Madia bolanderi**	Bolander's madia	native	Asteraceae	

All Vascular Plant Species Identified During Special-status Plant Surveys of the Sunset Stables Project Area (2004, 2005, 2008)

Scientific Name	Common Name	Native/Exotic	Family	Notes
Madia elegans	common madia	native	Asteraceae	
Madia glomerata**	mountain tarweed	native	Asteraceae	
Madia gracilis	slender tarweed	native	Asteraceae	
Malva parviflora	cheeseweed	exotic	Malvaceae	
Marsilea vestita**	hairy waterclover	native	Marsileaceae	
Medicago sativa**	alfalfa	exotic	Fabaceae	
Melilotus alba	white sweetclover	exotic	Fabaceae	
Melilotus officinalis	yellow sweetclover	exotic	Fabaceae	
Mentha arvensis**	wild mint	native	Lamiaceae	
Mentzelia congesta**	united blazingstar	native	Loasaceae	
Mentzelia dispersa	bushy blazingstar	native	Loasaceae	
Mertensia ciliata	streamside bluebells	native	Boraginaceae	
Microseris nutans	nodding microceris	native	Asteraceae	
Mimulus guttatus	seep monkeyflower	native	Scrophulariaceae	
Mimulus mephiticus	foul odor monkeyflower	native	Scrophulariaceae	
Mimulus primuloides	primrose monkeyflower	native	Scrophulariaceae	
Mimulus tilingii	Tiling's monkeyflower	native	Scrophulariaceae	
Monardella odoratissima ssp. pallida	alpine mountainbalm	native	Lamiaceae	
Montia chamissoi	water minerslettuce	native	Portulacaceae	
Montia linearis	narrowleaf minerslettuce	native	Portulacaceae	
Muhlenbergia filiformis	pullup muhly	native	Poaceae	
Navarretia intertexta ssp. propinqua	near navarretia	native	Polemoniaceae	
Nemophila spatulata	Sierra baby blue eyes	native	Hydrophyllaceae	
Osmorhiza chilensis	sweetcicely	native	Apiaceae	
Paeonia brownii	mountain peony	native	Paeoniaceae	
Pascopyrum smithii**	western wheatgrass	native	Poaceae	
Pedicularis semibarbata	bearded lousewort	native	Scrophulariaceae	
Penstemon newberryi var. newberryi	Newberry's penstemon	native	Scrophulariaceae	
Penstemon rydbergii	Rydberg's penstemon	native	Scrophulariaceae	
Perideridia howellii	Howell's yampah	native	Apiaceae	
Perideridia parishii ssp. latifolia	Parish's yampah	native	Apiaceae	
Phacelia hastata ssp. hastata	mountain phacelia	native	Hydrophyllaceae	
Phleum pratense	timothy	exotic	Poaceae	
Phlox gracilis	annual phlox	native	Polemoniaceae	
Pinus contorta ssp. murrayana	lodgepole pine	native	Pinaceae	
Pinus jeffreyi	Jeffrey pine	native	Pinaceae	
Plagiobothrys torreyi	Torrey's popcornflower	native	Boraginaceae	
Plantago lanceolata	narrowleaf plantain	exotic	Plantaginaceae	
Plantago major	big plantain	exotic	Plantaginaceae	
Platanthera leucostachys	scentbottle, white bog orchid, white flowered bog	native	Orchidaceae	
Poa bulbosa	bulbous bluegrass	exotic	Poaceae	
Poa palustris	fowl bluegrass	exotic	Poaceae	
Poa pratensis	Kentucky bluegrass	exotic	Poaceae	
Poa secunda ssp. secunda	one-sided bluegrass	native	Poaceae	
Poa sp. **	bluegrass	native	Poaceae	
Polemonium californicum	moving polemonium	native	Polemoniaceae	
Polygonum arenastrum	common knotweed	exotic	Polygonaceae	
Polygonum bistortoides	American bistort	native	Polygonaceae	
Polygonum douglasii ssp. douglasii	Douglas' knotweed	native	Polygonaceae	
Polygonum polygaloides ssp. kelloggii	Kellogg's knotweed	native	Polygonaceae	
Populus balsamifera ssp. trichocarpa	black cottonwood	native	Salicaceae	
Populus tremuloides	quaking aspen	native	Salicaceae	

All Vascular Plant Species Identified During Special-status Plant Surveys of the Sunset Stables Project Area (2004, 2005, 2008)

Scientific Name	Common Name	Native/Exotic	Family	Notes
Porterella carnosula	fleshy porterella	native	Campanulaceae	
Potamogeton nodosus	longleaf pondweed	native	Potamogetonaceae	
Potentilla drummondii ssp. breweri	Brewer's potentilla	native	Rosaceae	
Potentilla glandulosa ssp. ashlandica	mountain cinquefoil	native	Rosaceae	
Potentilla glandulosa ssp. nevadensis**	Nevada cinquefoil	native	Rosaceae	
Potentilla gracilis var. elmeri	cinquefoil	native	Rosaceae	
Potentilla gracilis var. fastigiata	slendercinquefoil	native	Rosaceae	
Potentilla gracilis var. flabelliformis	cupformleaf cinquefoil	native	Rosaceae	
Pseudostellaria jamesiana	tuber starwort	native	Caryophyllaceae	
Pteridium aquilinum var. pubescens	bracken	native	Dennstaedtiaceae	
Pterospora andromedea	woodland pinedrops	native	Ericaceae	
Purshia tridentata	antelope bitterbrush	native	Rosaceae	
Pyrola asarifolia ssp. asarifolia	liverleaf wintergreen	native	Ericaceae	
Pyrrocoma apargioides	alpineflames	native	Asteraceae	
Quercus chrysolepis	canyon live oak	native	Fagaceae	
Quercus vaccinifolia**	huckleberry oak	native	Fagaceae	
Ranunculus alismifolius var. alismifolius	Alisma-leaved buttercup	native	Ranunculaceae	
Ranunculus aquatilis var. capillaceus**	whitewater crowfoot	native	Ranunculaceae	
Ranunculus flammula	water buttercup	native	Ranunculaceae	
Ranunculus occidentalis	western buttercup	native	Ranunculaceae	
Rhamnus rubra	Sierra coffeeberry	native	Rhamnaceae	
Ribes cereum var. cereum	wax currant	native	Grossulariaceae	
Ribes nevadense	Sierra currant	native	Grossulariaceae	
Ribes roezlii	Sierra gooseberry	native	Grossulariaceae	
Rorippa curvisiliqua	curvepod yellowcress	native	Brassicaceae	
Rorippa nasturtium-aquaticum	water cress	native	Brassicaceae	
Rosa californica	California wildrose	native	Rosaceae	
Rosa woodsii var. ultramontana	interior rose	native	Rosaceae	
Rubus parviflorus	thimbleberry	native	Rosaceae	
Rumex acetosella	common sheep sorrel	exotic	Polygonaceae	
Rumex crispus	curly dock	exotic	Polygonaceae	
Rumex paucifolius	fewleaved dock	native	Polygonaceae	
Rumex salicifolius var. transitorius**	willow dock	native	Polygonaceae	
Salix geyeriana**	Geyer's willow	native	Salicaceae	
Salix lasiolepis	arroyo willow	native	Salicaceae	
Salix lemmonii	Lemmon's willow	native	Salicaceae	
Salix ligulifolia	strapleaf willow	native	Salicaceae	
Salix lucida**	shining willow	native	Salicaceae	
Salix melanopsis	dusky willow	native	Salicaceae	
Salix orestera	Sierra willow	native	Salicaceae	
Salix scouleriana	Scouler's willow	native	Salicaceae	
Salsola tragus**	tumbleweed Russian thistle	exotic	Chenopodiaceae	
Sambucus racemosa	scarlet elderberry	native	Caprifoliaceae	
Sanicula graveolens	Sierra sanicle	native	Apiaceae	
Sarcodes sanguinea	snowplant	native	Ericaceae	
Saxifraga californica	California saxifrage	native	Saxifragaceae	
Scirpus microcarpus	panicled bulrush	native	Cyperaceae	
Senecio clarkianus	Clark's ragwort	native	Asteraceae	
Senecio integerrimus var. exaltatus	Columbia groundsel	native	Asteraceae	
Senecio triangularis	arrowleaf groundsel	native	Asteraceae	
Sidalcea oregana ssp. spicata	Oregon checkermallow	native	Malvaceae	
Silene lemmonii	Lemmon's catchfly	native	Caryophyllaceae	

All Vascular Plant Species Identified During Special-status Plant Surveys of the Sunset Stables Project Area (2004, 2005, 2008)

Scientific Name	Common Name	Native/Exotic	Family	Notes
Sisymbrium altissimum	tall tumblemustard	exotic	Brassicaceae	
Sisymbrium irio	London rocket	exotic	Brassicaceae	
Smilacina racemosa	large false solomon's seal	native	Liliaceae	
Smilacina stellata	little false solomon's seal	native	Liliaceae	
Solidago californica**	California goldenrod	native	Asteraceae	
Solidago spectabilis**	showy goldenrod	native	Asteraceae	
Spergularia rubra	red sandspurry	exotic	Caryophyllaceae	
Sphenosciadium capitellatum	swamp whiteheads	native	Apiaceae	
Spiraea densiflora	mountain spirea	native	Rosaceae	
Stellaria media	common chickweed	exotic	Caryophyllaceae	
Streptanthus tortuosus**	shieldplant	native	Brassicaceae	
Symphoricarpos mollis	creeping snowberry	native	Caprifoliaceae	
Taraxacum officinale	common dandelion	exotic	Asteraceae	
Thalictrum fendleri	Fendler's meadowrue	native	Ranunculaceae	
Thlaspi arvense	fan-weed	exotic	Brassicaceae	
Tragopogon dubius	yellow salsify	exotic	Asteraceae	
Trichostema oblongum**	oblong bluecurls	native	Lamiaceae	
Trifolium breweri**	Brewer's clover	native	Fabaceae	
Trifolium hybridum	alsike clover	exotic	Fabaceae	
Trifolium longipes var. nevadense	long-stalked clover	native	Fabaceae	
Trifolium pratense	red clover	exotic	Fabaceae	
Trifolium repens**	white clover	exotic	Fabaceae	
Trisetum spicatum**	spike trisetum	native	Poaceae	
Triteleia hyacinthina	white brodiaea	native	Liliaceae	
Triteleia ixioides	prettyface	native	Liliaceae	
Typha latifolia	broadleaf cattail	native	Typhaceae	
Vaccinium parvifolium	red huckleberry	native	Ericaceae	
Valeriana californica	California valerian	native	Valerianaceae	
Veratrum californicum var. californicum	California corn lily	native	Liliaceae	
Verbascum thapsus	common mullein	exotic	Scrophulariaceae	
Veronica americana	American speedwell	native	Scrophulariaceae	
Veronica peregrina ssp. xalapensis	hairy purslane, speedwell	native	Scrophulariaceae	
Veronica serpyllifolia ssp. humifusa	brightblue speedwell	native	Scrophulariaceae	
Viola adunca	hookedspur violet	native	Violaceae	
Viola macloskeyi	small white violet	native	Violaceae	
Viola purpurea ssp. integrifolia	smooth-leaved violet	native	Violaceae	
Wyethia mollis	woolly wyethia	native	Asteraceae	

Forest Service Sensitive Plant and Fungi Species Known to Occur or Having Potential to Occur in the LTBMU; Potential for Occurrence in Sunset Stables Project Area				
Species	**Status**	**Known Elevation Range (Feet)**	**Habitat Characteristics**	**Potential for Occurrence in Project Area**
Arabis rigidissima var. *Demota* Galena Creek rock cress	FSS CNPS 1B.2	7,400 – 8,400	Species is found in open, rocky areas along forest edges of conifer and/or aspen stands. Usually found on northerly aspects above 7,500 feet (ft).	Unlikely to occur in project area. The project area is well outside of the known elevation range for the species. This species does occur in the Lake Tahoe Basin, but is known in California from only two occurrences near Martis Peak and in Nevada from eleven occurrences in the Carson Range.
Arabis tiehmii Tiehm's rock cress	FSS CNPS 1B.3	9,745 – 11,780	Species is known from open rocky soils on high elevation metavolcanic or decomposed granite ridges and steep slopes.	Unlikely to occur in project area. The project area lacks the necessary soil conditions and exposure, and the project area is well outside of the known elevation range for the species. There are no known occurrences in the Lake Tahoe Basin. Regional endemic, known to occur only in the Carson Range of the Sierra Nevada in southern Washoe County (Mt. Rose Wilderness).
Botrychium ascendens upswept moonwort	FSS CNPS 2.3	4,700-9,000	*Botrychium* species share similar preferences in habitat, i.e. wet or moist soils such as marshes, meadows, seeps and along the edges of lakes and streams. They generally occur with mosses, grasses, sedges, rushes, and other riparian vegetation.	Potential to occur in the project area. Known in California from only two occurrences, but one occurrence is in the county: near Jonesville on the Butte and Tehama County border, and south of Fallen Leaf Lake, El Dorado County. There are no known occurrences in the Lake Tahoe Basin.
Botrychium crenulatum scalloped moonwort	FSS CNPS 2.2	4,160 – 10,760	*See above for Botrychium ascendens.*	Potential to occur in the project area. This species is known to occur in the Lake Tahoe Basin. Two known occurrences include Ward Canyon and Blackwood Canyon.
Botrychium lineare slender moonwort	FSS CNPS 1B.3	8530	*See above for Botrychium ascendens.*	Unlikely to occur in project area. The project area is well outside of the known elevation range for the species. There are no known occurrences in the Lake Tahoe Basin.
Botrychium lunaria common moonwort	FSS CNPS 2.3	7480 – 11155	*See above for Botrychium ascendens.*	Potential to occur in the project area. There are no known occurrences in the Lake Tahoe Basin.
Botrychium minganense Mingan moonwort	FSS CNPS 2.2	4,775 – 6,740	*See above for Botrychium ascendens.*	Potential to occur in the project area. This species is known to occur in the Lake Tahoe Basin.
Botrychium montanum western goblin	FSS CNPS 2.1	4920 – 6990	*See above for Botrychium ascendens.*	Potential to occur in the project area. This species is known to occur in the Lake Tahoe Basin.
Bruchia bolanderi Bolander's candle moss	FSS CNPS 2.2	5,580 – 9,190	Found in lower and upper montane coniferous forest, meadows and seeps, and damp soil at 5,600-9,200 ft in ephemeral habitats such as the sides of ditches or streams in wet meadows. This moss tends to grow on bare, slightly eroding soil where there is little competition from other vegetation.	Potential to occur in the project area. There are no known occurrences in the Lake Tahoe Basin. It is known from fewer than 10 occurrences. It is documented from Yosemite National Park south to Sequoia National Forest in Tulare County and it is known from Plumas County on Plumas National Forest.

Forest Service Sensitive Plant and Fungi Species Known to Occur or Having Potential to Occur in the LTBMU; Potential for Occurrence in Sunset Stables Project Area				
Species	**Status**	**Known Elevation Range (Feet)**	**Habitat Characteristics**	**Potential for Occurrence in Project Area**
Dendrocollybia racemosa branched collybia	FSS	Unknown	This mushroom is a mycoparasite growing on old decayed or blackened mushrooms or occasionally in coniferous duff, usually in old growth stands.	Potential to occur in the project area. This species is known to occur in the Lake Tahoe Basin.
Draba asterophora var. *Asterophora* Tahoe draba	FSS SI CNPS 1B.2	8,000 – 11,500	Species is found in rock crevices and open granite talus slopes at high elevations between 8,000 to 11,500 ft on north-east facing slopes.	Unlikely to occur in project area. The project area lacks the necessary soil conditions, and the project area is well outside of the known elevation range for the species. Known in California from fewer than ten occurrences. This species is known to occur in the Lake Tahoe Basin on the slopes of Mt. Rose, in Washoe County, on the slopes of Freel Peak and Job's sister, in El Dorado and Alpine Counties, on Monument Peak in the Carson Range, and Saucer Lake Desolation Wilderness.
Draba asterophora var. *Macrocarpa* Cup Lake draba	FSS SI CNPS 1B.1	8,200 – 9,235	This species is found on steep, gravelly or rocky slopes at elevations of 8,200 to 9,235 ft.	Unlikely to occur in project area. The project area lacks the necessary soil conditions and slope, and the project area is well outside of the known elevation range for the species. Known from only two occurrences near Cup Lake and Saucer Lake below Ralston Peak. This species is known to occur in the Lake Tahoe Basin in Desolation Wilderness, El Dorado County, near Cup Lake and Saucer Lake.
Epilobium howellii subalpine fireweed	FSS CNPS 1B.3	6,500 – 9,000	Plants are known from wet meadows and mossy seeps at 6,500 to 9,000 ft in subalpine coniferous forest.	Potential to occur in the project area. This species is known to occur in the Lake Tahoe Basin, however, the occurrence record is not fully verified.
Erigeron miser starved daisy	FSS CNPS 1B.3	6,040 – 8,600	Plants are known from high elevation granitic rock outcrops above 6,000 ft.	Potential to occur in the project area. This species has been found in Nevada and Placer counties. There are no known occurrences in the Lake Tahoe Basin.
Eriogonum umbellatum var. *torreyanum* Torrey's or Donner Pass buckwheat	FSS CNPS 1B.2	6,085 – 8,600	This species grows in dry gravelly or stony sites, often on harsh exposures such as ridge tops or steep slopes.	No suitable habitat. The project area lacks the necessary soil conditions and exposure. Known from fewer than 10 occurrences in Nevada, Placer, and Sierra Counties. There are no known occurrences in the Lake Tahoe Basin.
Helodium blandowii Blandow's bog-moss	FSS CNPS 2.3	6,110 – 8,860	Habitat for this moss is in bogs and fens, wet meadows, and along streams under willows.	Potential to occur in the project area. There are no known occurrences in the Lake Tahoe Basin. This species is known from various locations in the United States, Canada, and Europe including California Michigan, Colorado, Wisconsin, New Jersey, and other states in the Midwest.

Forest Service Sensitive Plant and Fungi Species Known to Occur or Having Potential to Occur in the LTBMU; Potential for Occurrence in Sunset Stables Project Area				
Species	**Status**	**Known Elevation Range (Feet)**	**Habitat Characteristics**	**Potential for Occurrence in Project Area**
Hulsea brevifolia short-leaved hulsea	FSS CNPS 1B.2	4,920 – 10,500	This species is known primarily from red fir forests, but has also been found in mixed conifer forests. The elevation range of the plant is between 4,920 to 10,500 ft.	Potential to occur in the project area. The plant is known to occur in Tulare, Fresno, Madera, Mariposa, Tuolumne and El Dorado Counties, however, there are no known occurrences in the Lake Tahoe Basin.
Lewisia kelloggii ssp. *hutchisonii* Hutchison's lewisia	FSS CNPS 3.3	4,800 – 7,005	Habitat for this plant occurs on ridge tops or flat open spaces with widely spaced trees and sandy granitic to erosive volcanic soil from about 4,800 to 7,005 ft.	Potential to occur in the project area. There are no known occurrences in the Lake Tahoe Basin. Known occurrences of the plant are in Butte, Sierra, Plumas, Nevada, El Dorado and Amador counties.
Lewisia kelloggii ssp. *kelloggii* Kellogg's lewisia	FSS	5,400 – 9,000	Habitat for this plant occurs on ridge tops or flat open spaces with widely spaced trees and sandy granitic to erosive volcanic soil from about 5,400 to 9,000 ft.	Potential to occur in the project area. There are no known occurrences in the Lake Tahoe Basin. Known occurrences of the plant are in Plumas, Sierra, Nevada, Placer, El Dorado, Mariposa and Madera Counties.
Lewisia longipetala long-petaled lewisia	SI FSS CNPS 1B.3	8,000-12,500	This species occurs on the northerly exposures on slopes and ridge tops at high elevations where snow banks persist throughout the summer. The plants are often found near the margins of the snow banks in wet soils.	Unlikely to occur in project area. The project area is well outside of the known elevation range for the species. This species is known to occur in the Lake Tahoe Basin in Desolation Wilderness, El Dorado County.
Meesia triquetra three-ranked hump-moss	FSS CNPS 4.2	4,265 – 9,690	This species is found in bogs, fens, and very wet meadows in upper montane coniferous forests at elevations between 4,265 to 9,690 ft. This moss seems to prefer acidic meadows with sphagnum moss (*Sphagnum*), sundew (*Drosera*), and huckleberry (*Vaccinium*) associates. Cold spring fed fens also seem essential. This species requires permanent saturation and is not found in meadows that dry out.	One known occurrence in the project area. This species is also known to occur in the Lake Tahoe Basin at Grass Lake near Luther Pass; and just southwest of Freel Peak at Hell Hole.
Meesia uliginosa broad-nerved hump-moss	FSS CNPS 2.2	4,265 – 9200	This species is found in bogs and fens, and meadows and other wet ground at high elevations across the country.	One CNDDB-documented occurrence in the project area.
Peltigera hydrothyria veined water lichen	FSS	1,150-7,000	This species is found in cold unpolluted streams in mixed conifer forests. It grows primarily on rocks ranging from small gravel to bedrock, and occasionally on wood submerged in small, clear, cold mountain streams between 1,150-7,000 ft. It is occasionally found on exposed rocks above low flow levels, where hydration from splash and humidity are high. It has also been reported from concrete head boxes at a fish hatchery, and on the inside lip of a galvanized culvert.	Potential to occur in the project area. There are no known occurrences in the Lake Tahoe Basin.

Forest Service Sensitive Plant and Fungi Species Known to Occur or Having Potential to Occur in the LTBMU; Potential for Occurrence in Sunset Stables Project Area				
Species	**Status**	**Known Elevation Range (Feet)**	**Habitat Characteristics**	**Potential for Occurrence in Project Area**
Rorippa subumbellata Tahoe yellow cress	CE FSS SI CNPS 1B.1	6,220 – 6,235	This species is endemic to the shore zone around Lake Tahoe in California and Nevada. The species is not limited to moist habitats and has been located in micro-sites that were quite dry. Typically found in back beach areas between elevations of 6,220 and 6,235 ft.	Unlikely to occur in project area. The project area isn't near a shorezone. This species is known to occur in the Lake Tahoe Basin.

USFS: FSS = USFS Lake Tahoe Basin Sensitive Species, Regional Forester's Sensitive Species List, Region 5

TRPA: SI = TRPA Special Interest Species, Regional Plan for the Lake Tahoe Basin: Goals and Policies (1986) and Code of Ordinances (1987)

CA STATE LIST: CR = rare CT = threatened CE = endangered

CNPS LIST

1B = Rare or Endangered in CA and elsewhere

2 = Rare or Endangered in CA but more common elsewhere

3 = Plants need more information - Review list

4 = Plants of limited distribution - Watch List

CNPS Threat Code extensions

.1 - Seriously endangered in CA (over 80% of occurrences threatened / high degree and immediacy of threat)

.2 - Fairly endangered in CA (20-80% occurrences threatened)

.3 - Not very endangered in CA (<20% of occurrences threatened or no current threats known)

Sources:

USFS 2007 (Report template: Biological Evaluation For Threatened, Endangered and Sensitive Plants and Fungi)

TRPA 1986, 1987 (Regional Plan for the Lake Tahoe Basin: Goals and Policies [1986] and Code of Ordinances [1987])

CNPS 2008 (CNPS On-line Inventory query, South Lake Tahoe, Emerald Cove, Echo Lake and Freel Peak7.5-min. quadrangles, elevation ranges for most species

CDFG 2008 (CNDDB query, 5-mile buffer of MPA)