

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

For

**Water Right Application 31491
Of G. Scott Fahey**

Prepared for:

**Division of Water Rights
State Water Resources Control Board**

**Prepared by:
Michael W. Skenfield**

December 2010

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**STATE WATER RESOURCES CONTROL BOARD
DIVISION OF WATER RIGHTS
P.O. BOX 2000
SACRAMENTO, CA 95812-2000**

**INITIAL STUDY / MITIGATED NEGATIVE DECLARATION
November, 2010**

A. BACKGROUND

APPLICATION: 31491

APPLICANT: G. Scott Fahey
2787 Stoney Fork Way
Boise, ID 83706

APPLICANT'S REPRESENTATIVE: Michael W. Skenfield
P.O. Box 747
Murphys, CA 95247

APPLICANT'S AGENT: Diane Kindermann
Abbott & Kindermann, LLP
2100 21st Street
Sacramento, CA 95818

GENERAL PLAN DESIGNATION (Tuolumne County): Public

ZONING (Tuolumne County): P, Public

B. INTRODUCTION

This section describes the purposes of an Initial Study, the decision process to prepare a Negative Declaration or a Mitigated Negative Declaration (Collectively "ND")

B.1. Purpose of the Initial Study

The State Water Resources Control Board (State Water Board) Division of Water Rights (Division) has prepared this Initial Study pursuant to the California Environmental Quality Act (CEQA) for water right Application 31491 ("Project"). CEQA lists seven purposes of an Initial Study (CEQA Guidelines section 15063[c]):

1. Provide the lead agency (i.e., the Division) with information to use as the basis for deciding whether to prepare an Environmental Impact Report (EIR) or a ND;
2. Enable a lead agency (i.e., the Division) to modify a project; mitigating adverse impacts before an EIR is prepared, thereby enabling the Project to qualify for a ND;
3. Assist in the preparation of an EIR, if one is required;
4. Facilitate environmental assessment early in the design of a project;
5. Provide documentation of the factual basis for the finding in a ND that a project will not have a significant effect on the environment;
6. Eliminate unnecessary EIRs; and
7. Determine whether a previously prepared EIR could be used with the Project.

B.2 Decision to Prepare a Negative Declaration or Mitigated Negative Declaration

According to CEQA Guidelines Section 15070, a public agency shall prepare a proposed ND or a Mitigated ND when:

1. The Initial Study shows that there is no substantial evidence, in light of the whole record before the agency, that the Project may have a significant effect on the environment, or
2. The Initial Study identifies potentially significant effects, but:
 - a. Revisions in the Project plans made before a proposed Mitigated ND and Initial Study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur; and
 - b. There is no substantial evidence, in light of the whole record before the agency, that the Project as revised may have a significant effect on the environment.

C. PROJECT DESCRIPTION

This section introduces and describes the Project. It also provides a distinct statement of the Project purpose and objectives.

C.1 Project Summary

Application 31491 proposes a 20 gallons per minute (gpm) water rights diversion from two springs, totaling 40 gpm. The Project proposes to divert water from two unnamed springs, aka Marco and Polo Springs, using a four inch (4") diameter pipeline to convey water to an existing pipeline system, thence to an existing point of use (POU) where water is placed in water tanker trucks. The existing facility (pipeline system from Sugar Pine Spring and Deadwood Spring) diverts water pursuant to water right Permit 20784, which authorizes diversion of 14 gpm.

The Project requires a Special Use Permit from the United States Department of Agriculture, Forest Service, Stanislaus National Forest ("USFS-SNF").

C.2 Purpose and Objective

The purpose of the Project is to supplement the diversions of spring water from Sugar Pine and Deadwood Springs with two new diversions from Marco and Polo Springs.

C.3 Location

The Project is proposed for an approximately 5.5 mile linear route beginning four and one-half air miles southeast of Long Barn (Highway 108, Tuolumne County) on the Stanislaus National Forest (**Figure 1**). The Project is located in portions of Section 14, 15, 22, 23, 26 and 27, T.2N, R.17E., MDBM of the Hull Creek and Duckwall Mountain U.S. Geological Survey (USGS) 7.5 minute topographic quadrangles (**Figure 2**).

C.4. Project Overview

Water Right Application 31491 was filed with the Division on November 8, 2002. The application proposes the diversion of 40 gpm, with an annual limit of 64.5 acre feet (af). The season of diversion is January 1 through December 31 each year. Sugar Pine Spring Water LP of Boise, Idaho, proposes to extend their existing spring water

collection system, adding two additional sub-horizontal wells at Marco and Polo Springs. Water will be sold by various vendors and marketed as bottled, naturally potable, spring water.

The diverted spring water will be transported by gravity through a five mile pipeline, to the point where it will connect with the existing Sugar Pine Spring conveyance pipeline. The extent of the pipeline component is defined as the outer edges of the “Old Railroad Grade,” currently known as USFS Road 2N54. The depth of the pipeline trenches will be two to three feet below the existing dirt road surface. The depth of the pipeline will vary in order to ensure gravity water flow. Following pipeline installation, the trench will be backfilled, compacted and restored to original grade and appearance.

The proposed points of diversion are Marco and Polo Springs located within ¼ mile of each other. The springs form the headwaters of two unnamed streams a.k.a. “Marco” Creek and “Polo” Creek, which discharge into Hull Creek, tributary to Clavey River thence Tuolumne River. The Project proposes to divert a maximum of 20 gpm from aquifers beneath each of the two springs. The spring pipelines, which extend from each respective spring to the railroad grade through forested uplands that are upslope from and parallel to the course of each springs’ existing drainage. The spring pipelines will discharge into a single 5-mile long pipeline along the railroad grade.

The terminus of the this project is near Cottonwood Creek where the new pipeline will discharge and tie into the existing Sugar Pine Spring pipeline which continues on to co-mingle with a second existing diversion pipeline that originates at Deadwood spring. From this point, water diverted from the four springs will join a common water line to a tank where it is stored until transported by tanker trucks from the Project’s Point-of-Use (POU) to various off-site bottling plants.

C.5 Project Details

The Project will develop the springs using sub-horizontal wells (**Figure 3**). Diverted water will be collected and directed into pipelines equipped with control valves and flow meters. The sub-horizontal wells will penetrate the root source of each spring to intercept a portion of the spring flow before it reaches the surface. The amount of water flowing from each well will be controlled and actively monitored at the collar by valves and flow meters.

Water flowing from the two developed springs will be conveyed through a pipeline that will be installed along an old railroad grade which will connect to the pipeline that receives the diversions from Sugar Pine Spring. The water diverted from the two new springs will be gravity conveyed in a four-inch pipe and buried to a nominal depth of two to three feet within the existing railroad bed. After the pipeline is installed, the trench will be back-filled, compacted and restored to original grade and appearance. The area of temporary disturbance is limited to a maximum 20 feet wide along the pipeline from the well collar at each spring to the Old Railroad Grade and then approximately five miles to the end of the Project where it will connect with the pipeline at Sugar Pine Spring. The pipeline will be constructed outside of the riparian area. The closest the pipeline will be dug and placed is approximately 20 feet from the riparian area and typically the distance would be 100- 150 feet away from the riparian zone. In addition, an indirect project effect area for each spring is identified as a 0.5 acre riparian area beginning at Marco Spring

and extends downstream to the falls, with another 1.5 acre area beginning at Polo Spring and extending downstream to the Old Railroad Grade.

The following describes the pipeline route for each spring diversion:

Marco Spring Diversion. Beginning at the Marco Point of Diversion (POD), the pipeline route will proceed approximately 1,000 feet to the Railroad Grade (See Figure 2). The Railroad Grade pipeline begins at the junction with the Marco pipeline. The RR Grade pipeline route traverses a grade segment of 2,600 ft. before it connects with the pipeline coming downslope from the Polo POD. The RR Grade, beginning at the junction with the Marco line is an earth-surface National Forest Road 2N54. The final 200 feet of the pipeline leaves the RR Grade and passes around a spring seep to connect with the existing Sugar Pine Spring pipeline (project terminus). The elevation of the Marco POD is approximately 5,280 feet and elevation of the RR grade at the point where the Marco pipeline intersects is 5,160 feet, a slope of approximately 10 percent.

Polo Spring Diversion. Beginning at the Polo Spring POD, the pipeline route runs downslope along a skid trail approximately 950 feet to Burney Creek where the pipeline will be bored under the creek bed. Burney Creek has a riparian zone approximately five to six feet in width with a ribbon of water running a few inches wide and no more than two inches deep. The installation of the bore-and-sleeve pipeline under Burney Creek will be carried out without crossing (or otherwise impacting) the stream. The flow is approximately five gpm. Boring equipment will work from a stream set-back distance of approximately 50 feet on the west side of the stream, then will travel via skid trails and forest roads around to the east side to continue with pipe installation work. The stream will not be crossed and no pipeline construction work will occur within the stream set-back zone. From this point it will continue downslope another 400 feet to the Old Railroad Grade where it will connect with the main pipeline from the Marco Spring diversion. The elevation of the Polo POD is 5,280 feet and the junction with the Grade is 5,160 feet at a distance twice that of the Marco line. The slope for the Polo line is approximately 5 percent.

Main pipeline. The main pipeline will traverse approximately five miles of dirt road, USFS Road 2N54, a.k.a. the "Old Railroad Grade." It will terminate where it connects to the existing Sugar Pine Spring diversion pipeline; which thereafter, continues on to connect with the Deadwood Spring water diversion pipeline. This terminus point is in open upland overlooking the eastern bank of Cottonwood Creek. From this point of connection, the alignment trends southerly, intersecting Forest Road 2N52. The railroad grade is part of the historic, former West Side Railroad and is currently used as Forest Service Road 2N52. From the existing pipeline, the route, after joining the USFS road follows the grade in an easterly direction until it is above Hull Creek Canyon where it turns northwesterly following the railroad grade. This line continues to a lateral line that connects westerly to the diversion pipeline for Polo Spring and then traverses an additional 1,900 feet where it connects westerly with the lateral line to the Marco Spring diversion pipeline.

Construction Access

Vehicle and well-drilling, pipeline construction equipment is provided access via Tuolumne City, Tuolumne County, on Buchanan Road to Cottonwood Road to Forest

Road 3N07, then Forest Road 2N54 (Old RR Grade). Road 2N54 is an existing road to a point where the pipeline must be constructed upslope to each well-head (Marco Spring and Polo Spring). Buchanan and Cottonwood Roads are paved to a width of approximately 25 – 30 feet. Forest Service Roads 3N07 & 2N54 are dirt roads used primarily for logging that vary in width from 15 – 25 feet. Access rights are required from the USFS-SNF.

From the point on Road 2N54 where the pipeline from the Marco Spring POD intersects the Main Line, an equipment access road must be constructed for a distance of approximately 1,200 feet. The trail is planned to be no greater than 20 feet wide and will be back-filled and restored to its previous slope and organic litter surface condition after the pipeline is installed.

From the point on Road 2N54 where the pipeline intersects the road to the well-head POD for Polo Spring, an access trail must be constructed for a distance of approximately 1,700 feet. The trail is planned to be no more than 20 feet wide. The trail segment between the Road 2N54 and the bore-and-sleeve point under Burney Creek is approximately 400 feet long. This will be new construction over open forest land. No trees will be removed. This trail segment will access the bore-and-sleeve point under Burney Creek. Road construction will end at Burney Creek. From the bore-and-sleeve point upslope of Burney Creek to the well-head location is approximately 1,400 feet. This segment of the access trail is along an existing “skid road” (tractor route used for yarding logs which begins at an existing forest road west of the Polo POD). Upon completion of pipeline installation, the site will be returned to its original condition as a skid road.

Surface water measurement. The amount of water flowing from Marco and Polo Springs will be controlled and monitored at the well collar by valves and flow meters. Prior to commencement of diversion, a flow measurement protocol, acceptable to the Deputy Director for Water Rights, will be established for each spring to measure diversions and bypasses.

Because both of these springs issue from several orifices concealed below soil in wetlands area, the POD for each spring is considered to be at the first site along the spring flow that the multiple flows coalesce into a single measureable stream. At Marco Spring the POD is considered to be adjacent to the collar of the diversion drill hole. At Polo Spring the POD is considered to be the location where the stream flows into a small pond known as Polo Pond.

A minimum of 5 gpm will be bypassed at each point of diversion to maintain riparian habitat.

Construction period and characteristics

There will be approximately six workers needed for the construction phase. Construction equipment will consist of a trencher, backhoe and material supply trucks and trailers. Typically construction will commence at 7:00 am and end at 6:00 pm Monday through Saturday until project completion.

The start date is dependent on weather conditions, but generally by mid-April the Project area will be free of snow and mud. The USFS-SNF Special Use Permit would establish the conditions necessary to allow the start of construction. Construction tasks will consist of the following:

- Placement of coiled pipe every 500' along the entire route
- Trenching of the pipeline route
- Trench fine grading,
- Pipe placement with a coiled pipe trailer,
- Trench/pipe backfill, and
- Restore roadway surface to its pre-construction condition.

The trench depth will typically be 2.5 feet deep, but could range between one and one half and six feet depending on the grade to permit gravity flow. Blasting to excavate any portion of the trench along the pipeline right-of-way will not be required. Workers will travel to and from the job site on a daily basis. A portable toilet will be provided for onsite use during construction.

It is expected that construction will take place and be completed in four to six weeks from start of work. There will not be a fixed permanent construction staging area. All construction equipment will move with the actual construction of the pipeline as it proceeds. Equipment fuel will be provided from tanks mounted on trucks.

D. ENVIRONMENTAL SETTING

The baseline for this project is the existing conditions on November 8, 2002, the application filing date. The Applicant has an existing water project located downstream of this project site which was developed pursuant to water right Permit 20784. The following description comprises the existing environmental baseline conditions.

D.1 Overall Environmental Baseline Conditions

The Project is located on the western slope of the central Sierra Nevada in Tuolumne County, California within the USFS-SNF (See Figure 1). The USFS-SNF encompasses 898,099 acres on the western slope of the Sierra Nevada. The physical environment is characterized by steep mountain upland slopes and canyon land. Elevations in this part of the Sierra Nevada range between 1,000 feet in the foothills to over 9,000 feet at the summit. The region is distinguished by steep canyons and dense conifer and mixed-forest lands. The forest is an important timber production region. Other uses include summer grazing, recreation, hunting and a variety of passive and active outdoor recreational activities.

The Sierran Mixed Conifer (SMC) is a mid-elevation (4,000 feet – 7,000 feet), multi-layered forest community within which the Project lies. The characteristic forest species include white fir, Douglas fir, ponderosa pine, sugar pine, incense cedar and California black oak. Riparian woodlands and montane meadows are a component of SMC in stream basins and spring-fed sites. Large openings in the SMC caused by logging, fires or dry rocky soils are often dominated by Montane Chaparral or a perennial groundcover of bearclover.

The general habitat type of the overall project area (from spring diversions through water-transport lines) is the Sierran Mixed Conifer. Beginning at the Marco POD, the pipeline route goes through dense young-growth Sierra Mixed Conifer with a sub-climax association of Montane Chaparral. Due to the dense understory, the herbaceous groundcover is limited to scattered populations of shade-tolerant species. As the pipeline route continues downslope to the RR Grade, a distance of approximately 1,000 feet, it passes through a large rock-outcropping area. The rock area is dominated by Montane Chaparral. For the last 200 feet before reaching the RR Grade, the habitat becomes an open Sierra Mixed Conifer stand with scattered understory of reproduction and Montane Chaparral.

The Project site is located within the Tuolumne River Watershed (**Figure 4**). Flows from Marco Spring and Polo Spring follow parallel perennial streams for approximately 2,000 feet (for the Marco stream) and 3,000 feet (for the Polo stream) respectively, to the junction with Hull Creek. Hull Creek flows into the Clavey River which is a tributary of the Tuolumne River (**Figure 5**). The Tuolumne River continues westward from the confluence of the Clavey River and empties into the Don Pedro Reservoir. Since the Don Pedro Reservoir has no fish ladder provisions in its dam, the anadromous species of steelhead trout and salmon have no access to the watershed impacted by the Project. Don Pedro Reservoir supports kokanee salmon, a landlocked species.

Each of the springs supplies a small perennial stream. The Marco Spring and the Polo Spring each are associated with a riparian community of white fir (*Abies concolor*), incense cedar (*Calocedrus decurrens*) and white alder (*Alnus rhombifolia*). Both springs are controlled by intersections of northwest-southeast and northwest-southwest trending fractures. The uppermost positions of the springs consist of multiple orifices that issue from areas rather than a single point and provide flow to the unnamed streams. The streams tend to gain volume as the surface flows continue down toward Hull Creek and reach their maximum flow by the time they reach the old railroad grade.

The Project is proposed in an area with the resources that are briefly described below. See the Initial Study checklist and the Biological Survey Report, May, 2010; Biological Survey Report, Michael W. Skenfield, May, 2010; Water Availability Analysis, GeoResource Management, July, 2010 and Cultural and Historical Resources, PAR, July 2010, for a more detailed description.

Special Status Animal Species

A variety of special status animals were studied and some were found to be present or assumed to be present due to suitable habitat type. Habitat types that support special status animal species found to be present in the Project site and vicinity include Northern goshawk, California spotted owl, Snowshoe hare, Townsend's big eared bat, Pallid bat and Western red bat.

Rare Plants

A wide range of possible rare plants and suitable habitats types were evaluated. Rare plant habitat types for Smalls' southern clarkia, Mountain lady slipper Norris' beard-moss, Congdon's wooly sunflower, Yosemite woolly sunflower, Tuolumne fawn lily, Short-leaved hulsia, Veiny aquatic lichen, Yosemite tarplant, Stebbins' lomatium, Three-ranked hump-moss, Broad-nerved hump-moss, Heth hetchy monkey flower, Slender-stalked

monkey flower, Gray's monkey-flower, Small flowered monkey flower, Pansy monkey flower, Beaked sedge, and Short-pedaled campion were found in the Project study area. Only two of these plants were actually observed. They are Mariposa clarkia and Pansy monkey-flower (Marco and Polo streams) were found in the study area.

Geology and Soils

The Project site is located within the Sierra Nevada Batholith. Granite bedrock is occasionally exposed along the pipeline route. Soils of the spring-stream study area are primarily alluvial and colluvial of granitic origin. Soils along the pipeline route from the well collar (beginning of pipeline) downslope to the RR Grade are deep forest soils of Holland Series sandy clay loam. In one location along the lower half of the pipeline route from Marco POD, there is a 200-foot long area of volcanic rock outcropping. The soils in this volcanic area are an undeveloped fine mineral component of weathered volcanic debris.

Riparian Vegetation

The riparian vegetation along both drainages is confined to a natural well-defined drainage that is primarily composed of forest communities. In the Polo section one small meadow and one small pond occur; the Marco section begins with a very small meadow complex. In addition, several small seeps occur adjacent to and flow into each section. Otherwise the riparian forests are quite narrow. They generally range between 5 and 10 feet on each side of the stream before transitioning to upland forests. See Pouch A, Marco System and Pouch B, Polo System, in the Biological Survey Report, May 2010)

Marco Stream Character

The proposed pipeline (from the Marco POD to the RR Grade) is designed along a moderately-steep slope. Timber harvest has occurred in the past, leaving a relatively young stand which has filled in beneath with Montane Chaparral and Sierra Mixed Conifer reproduction. Because of the dense shrub-and-young-growth tree cover, the herbaceous ground cover of grasses and wildflowers is restricted to a few scattered openings. Most often the openings are dominated by bearclover (*Chamaebatia foliolosa*). The Montane Chaparral species along the route are bitter cherry (*Prunus emarginata*), mountain whitethorn (*Ceanothus cordulatus*) and Greenleaf Manzanita (*Arctostaphylos patula*).

Along the Marco pipeline route there is a large geologic formation of rock rubble. Soil has developed only in pockets. Shrub species such as bitter cherry (*Prunus emarginata*), mountain whitethorn (*Ceanothus cordulatus*) and Greenleaf Manzanita (*Arctostaphylos patula*) dominate the rock area. Flow from Marco Spring discharges into Hull Creek at a point approximately 0.5 miles upstream from the inflow of Polo spring.

Polo Stream Character

The pipeline route from the Polo POD begins on a skid trail and continues downslope through a forest within which timber harvesting has occurred relatively recently. The route then crosses under Burney Creek (via pipe-and-sleeve). Downslope of the creek crossing, the route passes through an Open Sierra Mixed Conifer stand with an open understory (the open characteristic of the forest allow for ample sunlight to penetrate the forest and provide for good groundcover habitat.

The groundcover of the Polo route is primarily a thick layer of leaf-litter with scattered plants including trail plant (*Adenocaulon bicolor*), hound's tongue (*Cynoglossum grande*), mountain jewel flower (*Streptanthus tortuosus*), common chickweed (*Stellaria media*), bleeding heart (*Dicentra formosa*), bedstraw (*Gallium* sp.) and mountain violet (*Viola purpurea*). Shrubs such as snowberry (*Symphoricarpos albus*), currant (*Ribes roezlii*) are also present. Flow from Polo Spring discharges into Hull Creek at a point approximately 0.5 miles downstream from the inflow of Marco Spring.

Cultural and Historic Resources

The Project area falls within ethnographically delineated lands of the Central Sierra Miwok of California. More recent historic features include the railroad grade and in particular the wooden culverts which are elements of the West Side Railroad Company's railroad system. In 1986, this feature was determined to be eligible for listing on the National Register of Historic Places by the National Forest Service. While there were vast timber resources, access proved to be limited due to the remoteness. The West Side Lumber Company needed a means to transport timber from their logging operations. The railroad was critical to harvesting and transporting timber as well as for access to develop water resources in the region.

E ENTITLEMENTS AND REQUIRED APPROVALS

The State Water Board is the lead agency under CEQA with the primary authority for project approval. In addition, the following responsible and trustee agencies may have jurisdiction over some of or the entire proposed project:

- U. S. Forest Service (USFS) –Forest Service Special Use Permit
- State Water Board or Regional Water Quality Control Board – Water Quality Section 401 Certification
- Department of Fish and Game Streambed Alteration Agreement

F ENVIRONMENTAL IMPACTS

This Initial Study assesses possible impacts involved with:

- Pipeline construction at the Marco Spring POD and upland zone to the RR Grade;
- Pipeline construction at the Polo Spring POD and stream zone to the RR Grade;
- Pipeline construction along the RR Grade; and
- The diversion of 64.5 afa from the Hull Creek Drainage.

The environmental factors checked below could be potentially affected by this project. Factors not checked are inapplicable because the Project is entirely on National Forest land and is remote from population, transportation, and utilities. All Planning and Public Services are under the control of the USFS-SNF. A National Environmental Policy Act (NEPA) environmental document is being prepared by the USFS-SNF.

F.1 Environmental Factors Potentially Affected

The environmental factors below have at least one impact that is checked as having a "Potentially Significant Impact" based on the checklist on the following pages.

- | | | |
|--|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology/Soils |
| <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials | <input checked="" type="checkbox"/> Hydrology/Water Quality |
| <input type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise |
| <input type="checkbox"/> Population / Housing | <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Transportation/Traffic | <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Mandatory Findings of Significance |

I. AESTHETICS

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

The USFS-SNF is characterized with very high scenic quality. There are over 800 miles of rivers and streams, many campgrounds, lakes and mountain peaks and canyons. The USFS-SNF contains part of California's mountain range that flanks the Great Central Valley and is located between Lake Tahoe and Yosemite.

The mountains were shaped by volcanic and glacial action, producing rugged and spectacular topography at high elevations. Each elevation, from 1,500 to over 11,000 feet above sea level, has its own unique vegetation, wildlife, and corresponding temperatures. While the lower elevations are hot and dry, the higher elevation meadows are maintained by melting snow. The forest is characterized with Sierra mixed conifer, true fir, lodge pole pine and sub alpine vegetation. Bald eagle, peregrine falcon and wolverine occupy the forest. All of these natural features contribute to the high aesthetic character of the forest environment.

Discussion Items I. a through d: The Project will not have any visible features once completed. All pipelines will be placed underground and the trenches will be backfilled and the land restored to its previous condition.

Impact Conclusion: The aesthetic impacts are considered less than significant because there will be no visible effects present following completion of the pipeline installation; therefore, mitigation measures are not required.

II. AGRICULTURAL RESOURCES AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by California Air Resources Board.

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

The USFS-SNF encompasses 898,099 acres on the western slope of the Sierra Nevada. The forest is home to many coniferous species that have both commercial value for timber production as well as an environmental resource.

Regulatory Setting

The State Farmland Mapping and Monitoring Program produce maps and data used for analyzing impacts to California’s agricultural resources. Agricultural land is rated according to soil quality and irrigation status with the best quality land identified as Prime Farmland. The program also identifies land that qualifies as Farmland of State Importance, Unique Farmland, and Farmland of Local Importance. The timber resources of the forest are managed by the USFS-SNF.

Impact Analysis

Discussion items II. a, b and e: The installation of the pipeline to collect spring water will not impact agricultural resources. The state farm land mapping system does not identify or include farmlands of importance within the forest.

Items II. c, d and e: While the forest contains timber resources, the Project will not create a direct or indirect impact on those resources. The pipeline will be installed underground and no trees will be removed in order to install the pipeline. Upon completion of the pipeline, the trenches will be restored to their prior condition leaving no permanent evidence of the pipeline. As a result, very little, if any, forest land will be impacted, due to the installation of the pipeline.

Impact Conclusion: The impacts on forest and agricultural resources attributed to the Project are considered less than significant because there will be no visible effects present following completion of the pipeline installation. Mitigation measures are, therefore, not required.

III. AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district is relied upon to make the following determinations.

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.</i>				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

Tuolumne County is located within the Mountain Counties Air Basin, which also includes, Mariposa, Calaveras, Amador, El Dorado, Placer, Nevada, Sierra, and Plumas Counties. These counties are grouped together based on similar meteorological and geographic conditions, utilizing political boundary lines whenever practicable. Ambient air quality standards are adopted after consideration of public health and safety, and public welfare concerns including, but not limited to, health, illness, irritation to the senses, aesthetic value, interference with visibility, and effects on the economy. Standards relating to health effects are based upon the recommendations of the State Department of Health Services (Health and Safety Code (H&S) §39606 Designation and Standards for Air Basins). While counties are grouped together into air basins to assist the State in managing air quality on a regional level, each county in the Mountain Counties Air Basin has its own set of rules and regulations to maintain air quality locally. The Tuolumne County Air Pollution Control District regulates air quality in Tuolumne County.

Tuolumne County is currently classified as nonattainment for the federal 8-hour ozone standard. The majority of this nonattainment is due to transportation from the Central Valley.

Impact Analysis

Discussion items III. a-e: The short term construction activities associated with the subject water right application will utilize a back hoe and trencher. Other vehicles will include contractor pick-ups and related transport vehicles for delivery of pipes and other supplies. All construction related equipment will be equipped with the latest mufflers, spark arrestors as required by the USFS-SNF.

Construction including installation of the pipeline access road into the Polo spring site, vegetation removal and trenching could generate fugitive dust.

MM III-1 Permittee shall minimize fugitive dust generation on all construction access roads and during trenching using water or other palliative measures. .

<i>Timing:</i>	<i>Ongoing</i>
<i>Responsibility:</i>	<i>Contractor</i>
<i>Reporting/verification:</i>	<i>Include within construction documents and schedule / State Water Board</i>

MM III-2 Permittee shall ensure that all on site construction equipment is equipped with muffler systems meeting the requirement of the California vehicle code.

<i>Timing:</i>	<i>Ongoing</i>
<i>Responsibility:</i>	<i>Contractor</i>
<i>Reporting/verification:</i>	<i>Include within construction documents and schedule / State Water Board</i>

Impact Conclusion: Potential air quality impacts resulting from approval of the water right application will be less than significant with the inclusion of the two mitigation measures.

IV. BIOLOGICAL RESOURCES

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the DFG or USFWS?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the DFG or USFWS?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally-protected wetlands as defined by Section 404 of the federal Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

The Tuolumne County portion of the Stanislaus National Forest within the Mixed Conifer Belt at elevation 5,000 feet exhibits warm dry summers (maximum temperature range 80 degrees F to 93 degrees F) and cold winters (minimum range 22 deg. F to 34 deg. F). Precipitation is rain and snow (25 to 80 inches). The growing season is 4 to 7 months. The Project is located in a drainage basin which is dominated by snowmelt that is impeded from flowing to the sea by New Don Pedro Reservoir. As a result, Salmon and steelhead cannot spawn upstream from the dam. Anadromous fish are therefore not

found in the watershed above New Don Pedro Reservoir. Landlocked kokanee salmon inhabit the reservoir and upstream watershed.

The general habitat type of the overall project area (from spring diversions through water-transport lines) is the Sierran Mixed Conifer. Beginning at the Marco Point of Diversion (POD), the specific habitat through which the pipeline route goes is dense young-growth Sierran Mixed Conifer. Due to the dense understory, the herbaceous groundcover is limited to scattered populations of shade-tolerant species. As the pipeline route continues downslope to the RR Grade, it passes through a large rock-outcropping area. The rock area is dominated by Montane Chaparral. For the last 200 feet before reaching the RR Grade, the habitat becomes an open Sierra Mixed Conifer stand with scattered understory of reproduction and Montane Chaparral. At Station 12+00 the pipeline intersects with the RR Grade. See Pouch A of the Biological Survey Report.

Beginning at the POD, the pipeline route runs downslope along a skid trail which borders a cut-over area of Sierra Mixed Conifer. At Station 9+50 the pipeline will be bored under Burney Creek, then continue downslope in SMC habitat which exhibits an open understory and thick layer of duff (leaf-litter). At Station 17+00 the pipeline route intersects with the RR Grade. See Pouch B of the Biological Survey Report. The Project biologists classified the vegetation communities for the Project area based on two objective levels:

“**Level 1**” is for approximately 5-mile-long by 20-foot-wide pipeline location which is a short-duration, one-time construction impact. The route initially passes through the forest floor of the Sierran Mixed Conifer (SMC) for most of the 5-mile length. The pipeline ditch is constructed down the middle of an earth-surfaced Stanislaus National Forest Road. The road is surrounded by SMC for its entire length. This level of survey is limited to a 20-foot-wide, dry forest floor under the SMC forest for the 1,200 foot length from Marco Spring POD to the RR Grade and the 1,700 foot length from Polo Spring POD to the RR Grade. At the 950 foot distance from Polo POD the pipeline is bored under Burney Creek (a small Intermittent Stream with a very short watershed). The pipe-boring beginning and end will be set back outside “top-of-bank” (for avoidance under Fish and Game Code jurisdiction) and “ordinary-high-water” (for avoidance under CWA Section 404 jurisdiction). Because of the Project set-back from the stream, an intensive inventory of the micro-habitat of a two-foot-wide channel was not included. The level 1 survey involved a complete floristic survey during appropriate flowering periods for rare plants, and a wildlife habitat survey in the spring-summer period for any species of special status. The impact area under consideration was the 20-foot-wide, direct-impact zone for pipeline construction plus a variable “line-of-sight” distance and noise-impact distance to potential nest sites along the route.

“**Level 2**” is for the riparian/aquatic habitat for a study area of 700 feet downstream of the Marco Spring/Stream and 2,200 feet downstream of the Polo Spring/Stream. There is to be **no direct impact** to either spring/stream area during construction of the Project. However, in order to monitor possible indirect impacts from the water diversion, an intensive baseline survey was conducted. Botanists Skenfield and Hollars conducted a complete floristic survey within the riparian areas during appropriate flowering periods for rare (sensitive) plant species. Lichen and bryophyte species were collected and sent to

Bryophyte Biologist David Toren for identification. Plant Ecologist Potter designed and conducted a “Greenline” survey of herbaceous plants and a “Woody Species Riparian Survey” within the riparian zone of each study area. Mr. Potter determined that the study area of each spring/stream included an overstory of white fir/incense cedar, incense cedar/white alder, or white alder/azalea. Herbaceous plant habitat along the streams was described by Potter as a sedge (*Carex jonesii*) habitat, an azalea-lady fern habitat and a grass-sedge-rush complex. The aquatic habitat of spring-and-perennial stream with one water-truck pond on Polo Stream was surveyed by Aquatic Biologist Baisey during the summer of 2008.

A complete report pertaining to the Biological Resources section of this Initial Study is provided under separate cover as Biological Survey Report¹, Pipeline Project, dated May 2010. The report is on file at the Division Office. The following is a summary of Special-status Plants and Animals reported under the Biological Survey Report (BSR) as having habitat on the Project site. The data-base lists from which the species were chosen are the current Stanislaus National Forest Sensitive Species List, the California Natural Diversity Data Base, the California Native Plant Society Electronic Data Base and the U.S. Fish and Wildlife Species List. Data base dates for all are 2010.

Special-Status Plants with Habitat on Site		
Scientific Name Common Name	Status Federal/State/Other	Habitat Requirements/ Survey Results
<i>Allium yosemitense</i> Yosemite onion Lily family (Liliaceae)	None/None/CNPS 1B; FS sensitive	Rock habitat along pipeline. None found during bloom period April – July
<i>Balsamorhiza macrolepis macrolepis</i> Big-scale balsamroot Sunflower family (Asteraceae)	None/None/CNPS 1B; FS Sensitive	Grassland or dry, rocky openings in SMC. None found during bloom period March - June
<i>Bolandra californica</i> Sierra Bolandra Saxifragaceae family	None/None/CNPS 4; FS watch list	Rock crevices, wet cliffs – only habitat is along Marco and Polo Springs. None found during bloom period June- July.
<i>Calochortus clavatus avius</i> Pleasant Valley Mariposa Lily Liliaceae family	None/None/CNPS 1B; FS sensitive	Open pine forest along pipeline route. None found during May- July bloom period.
<i>Carex tompkinsii</i> Tompkin’s sedge Sedge family (Cyperaceae)	None/Rare/CNPS 4; FS watch list	Open forest slopes along pipeline route to RR Grade. None found during May-July bloom period.
<i>Clarkia australis</i> Small’s southern clarkia Evening primrose family (Onagraceae)	None/None/CNPS 1B; FS Sensitive	Dry forest openings and rock outcroppings. None found during May – Aug. bloom period.
<i>Clarkia biloba ssp. Australis</i> Mariposa clarkia Onagraceae	None/None/CNPS 1B; FS Sensitive	Chaparral and oak woodland habitat along RR grade. None found during May-July bloom period.
<i>Cypripedium montanum</i> Mountain lady’s slipper Orchid family (Orchidaceae)	None/None/CNPS 4; FS sensitive	Shaded forest or woodland such as Marco & Polo streams. None found during Mar-Aug bloom period.

Special-Status Plants with Habitat on Site		
Scientific Name Common Name	Status Federal/State/Other	Habitat Requirements/ Survey Results
<i>Eriophyllum congdonii</i> Congdon's woolly sunflower Asteraceae	None/None/CNPS 1B; FS sensitive	Lower Montane Coniferous Forest, rocky soil. None found during May-June bloom period.
<i>Eriophyllum nubigenum</i> Yosemite woolly sunflower Asteraceae	None/None/CNPS 1B; FS sensitive	Coniferous Forest, gravelly soil. Cottonwood Creek area. None found during May-Aug bloom period.
<i>Erythronium tuolumnense</i> Tuolumne fawn lily Liliaceae	None/None/CNPS 1B; FS sensitive	Clay soils on cliffs near drainages (Marco & Polo streams). None found during Mar-June bloom period.
<i>Hulsea brevifolia</i> Short-leaved hulsea Asteraceae	None/None/CNPS 1B; FS sensitive	Coniferous Forest, gravel-sand soil. Marco-Polo drainages. None found during May-Aug bloom period.
<i>Iris hartwegii</i> ssp. <i>Columbiana</i> Tuolumne iris Iris family (Iridaceae)	None/None/CNPS 1B; FS sensitive	Coniferous Forest under canopy. None found during May-June bloom period.
<i>Jensia yosemitana</i> Yosemite tarplant Asteraceae	None/None/CNPS 3; FS sensitive	Coniferous Forest, meadows, seeps – Marco-Polo drainages. None found during Apr-June bloom period
<i>Lomatium stebbinsii</i> Stebbin's lomatium Carrot family (Apiaceae)	None/None/CNPS 1B; FS sensitive	Coniferous Forest, gravelly volcanic clay along pipeline route. None found during Mar – May bloom period.
<i>Mimulus filicaulis</i> Hetch-hetchy monkeyflower Figwort family (Scrophulariaceae)	None/None/CNPS 1B; FS sensitive	Coniferous Forest, meadows or other mesic sites (Marco & Polo drainages). None found during Apr-Aug bloom period.
<i>Mimulus gracilipes</i> Slender-stalked monkeyflower Scrophulariaceae	None/None/CNPS 1B; FS sensitive	Coniferous Forest, decomposed granite soil, pipeline route. None found during Apr-June bloom period.
<i>Mimulus grayi</i> Gray's monkeyflower Scrophulariaceae	None/None/CNPS 4; FS Watch list	Coniferous Forest near streams & seeps (Marco/Polo streams). None found during May-June bloom period.
<i>Mimulus inconspicuus</i> Small-flowered monkeyflower Scrophulariaceae	None/None/CNPS 4; FS sensitive	Coniferous Forest in mesic sites. Marco/Polo streams. None found during May – July bloom period.
<i>Mimulus pulchellus</i> Pansy monkeyflower Scrophulariaceae	None/None/CNPS 1B; FS sensitive	Coniferous Forest- meadows/seeps. Marco/Polo streams. None found during May – July bloom period.
<i>Rhynchospora capitellata</i> Brownish beak sedge Cyperaceae	No federal, state or CNPS status. FS Watch List <u>only</u>	Coniferous Forest - meadows/seeps of Marco/Polo streams. None found based on vegetative characteristics.

Special-Status Plants with Habitat on Site		
Scientific Name Common Name	Status Federal/State/Other	Habitat Requirements/ Survey Results
<i>Silene invisa</i> Short-petaled campion Caryophyllaceae	No federal, state or CNPS status. FS Watch List <u>only</u>	Coniferous Forest, open soil areas. None found during May-July bloom period.

STATUS CODES:

FEDERAL: U.S. Fish and Wildlife Service

- FT Federally Threatened
- FE Federally Endangered

STATE: DFG

- CE California Listed Endangered
- CT California Listed Threatened
- CSC California Species of Special Concern
- CFP California Fully-Protected

OTHER: California Native Plant Society/Forest Service

- CNPS 1B: CNPS List 1B of the Society's Inventory of Rare and Endangered Plants of California
- CNPS 4: CNPS List 4 of the Society's Inventory of Rare & Endangered Plants of California
- FS Sensitive: Stanislaus National Forest Sensitive Plant List

The following moonwort fern-like plants of the Ophioglossaceae family are Forest Service Sensitive Plants with possible habitat on the site. They have no federal or state status:

- Upswept moonwort (*Botrychium ascendens*)
- Scalloped moonwort (*Botrychium crenulatum*)
- Mingan moonwort (*Botrychium minganense*)
- Western goblin (*Botrychium montanum*)

None of the above species were found in the possible habitat along Marco and Polo streams.

The following mosses/lichen has no federal or state status but is considered a Forest Service Sensitive Species:

- Norris' beard-moss (*Didymodon norrisii*)
- Veiny aquatic-lichen (*Hydrotheria venosa*)
- Three ranked hump -moss (*Meesia triquetra*)
- Broad-nerved hump-moss (*Meesia uliginosa*)

None of the above moss/lichen species were found in possible habitat along Marco and Polo streams. Since the pipeline route avoids all stream and wetland habitat, the moss/lichen species had no habitat along the pipeline.

The foregoing 30 special-status plants described as having habitat either in Marco/Polo streams or along the pipeline were not found during surveys during the bloom period. Therefore, there are no impacts to special-status (and Forest Service Sensitive) plants expected to occur as a result of the Project.

Special-Status Animals with Habitat on Site		
Scientific Name Common Name	Status Federal/State/Other	Habitat Requirements/ Survey Results
<i>Accipiter gentiles</i> Northern goshawk	None/CSC/FS Sensitive	Coniferous Forest old-age stands with intermediate canopy cover. Nest sites of vicinity cataloged by Stanislaus National Forest (USFS-SNF) at one mile east of project. No LOP required; no specific surveys required for protocol
<i>Strix occidentalis</i> California spotted owl	FSC/CSC/FS Sensitive	Large acreages of conifer or conifer/oak woodland. Nest sites of vicinity cataloged by USFS-SNF . Two spotted owl territories border project. Limited Operating Periods (LOPs) assigned by USFS-SNF .
<i>Lepus americanus</i> Snowshoe hare	None/CSC/None	Montane riparian habitat with thickets of alders/willows and young stands of conifer interspersed with chaparral for cover. USFS-SNF cataloged one historic sighting 2 miles north of project at 5,320 ft. All recent sightings above 7,000 ft. elevation. Marco and Polo springs could provide habitat. No specific project surveys conducted since no direct impacts are expected to Marco and Polo Habitats.
<i>Plecotus townsendii</i> Townsend's big-eared bat	None/CSC/FS Sensitive	Mixed conifer forest and riparian zones. Nesting and roosting requires caves, mines, tunnels or buildings. Roosting, not nesting, can occur in cavities of large trees. USFS-SNF cataloged nearest sightings 10 miles southwest of project area. No specific survey required.
<i>Antrozous pallidus</i> Pallid Bat	None/CSC/FS Sensitive	Grasslands, shrublands, oak woodlands and forests up to elevation of mixed conifer. Species uses caves, crevices, mines, buildings and tree cavities. Day-roosting and night-foraging habitat could include trees along RR Grade (roosting) and RR Grade opening and shrubs for foraging. USFS-SNF cataloged species at Thompson Meadow one mile south of project. No specific surveys required on project.
<i>Lasiurus blossevillei</i> Western red bat	None/CSC/FS Sensitive	Riparian and wooded habitats above 3,000 ft.. elevation into mixed conifer. Forages over shrubs and trees and roosts in trees adjacent to riparian areas. USFS-SNF has no documentation of this bat in the area, but it could be present. No specific surveys required.

STATUS CODES:

FSC: Federal Species of Concern
CSC: California (State) Species of Concern
FS Sensitive: On the Stanislaus National Forest List of Sensitive Species

Impact Discussion

Items IV.a. (Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species)

No special-status plant (listed, species-of-concern or F.S. Sensitive) species are expected to occur on the Project site. Searches were conducted during blooming periods and no special-status plants were found. No impacts are expected to occur to special-status plants as a result of the Project.

There are six special-status animals with habitat on the Project pipeline site or on the Marco Spring/Stream and Polo Spring/Stream Study Areas. The one-time pipeline construction activities could disturb nesting activities of the California spotted owl, and daytime roosting of the pallid bat and the western red bat. The installation of the pipeline is not expected to require maintenance activities after it is covered over and restored. Well-drilling (approximately 200 feet away from each spring orifice) is located in an upland site on old logging skid trails adjacent to the spring-stream canyon. The well-head initially requires a ten-foot construction radius which is stabilized as a passive well-head device with manual or radio-controlled valves for regulation of flow. No buildings are constructed and no motorized equipment is involved after construction.

The Snowshoe hare (*Lepus americanus*) has possible habitat among the riparian community of the Marco and Polo streams. There is no direct impact (no pipeline construction) within these areas. However, after diversions begin, flow reduction could potentially reduce the plant in the riparian area. If herbaceous riparian plants were to be impacted, the cover and foraging activity of the hare could be impacted. The Project includes bypass of 5 gpm downstream of each POD to maintain herbaceous riparian plants. See mitigation term listed below. It is expected that impacts to the snowshoe hare resulting from this project will be less than significant with mitigation.

Three bat species – Townsend's big-eared bat (*Plecotus townsendii*), pallid bat (*Antrozous pallidus*), and the western red bat (*Lasiurus blossevillii*) could have roosting and foraging habitat along the pipeline route. Large trees with cavities in the trunks or branches could provide day-roosting sites for these bats. No trees are being removed. However, construction noise in close proximity to day-roosting habitat can be a disturbing impact. Construction noise is to be eliminated within the spotted owl Protected Activity Center (PAC) during a period which would correspond with the seasonal bat-foraging period, so no impacts would occur for those portions of the pipeline. In order to prevent impacts to day-roosting habitat outside the PAC's, a limited operating period (March 1 to August 15) shall be observed for any segment of the pipeline within 100-foot radius of a suspected day-roosting habitat.

The northern goshawk (*Accipiter gentiles*) could forage through the area of the Project. Cataloged nest sites are too distant to be affected by the Project, and foraging activities are not expected to be interrupted. There are no impacts to the northern goshawk.

The California spotted owl (*Strix occidentalis*) has been assigned two nest territories along the Project length (Project Map, **Figure 2**). Noise from pipeline trencher could impact breeding-nesting activities for the species. The Stanislaus National Forest has established a Limited Operating Period (LOP) within each Protected Activity Center (PAC) to be March 1 through August 15. The pipeline trencher work within the PAC's is to be scheduled after August 15 and before March 1.

Mitigation Measures

The following mitigation measures shall be included as permit terms in any water-right permit issued pursuant to Application 31491:

MM IV-1: *Immediately prior to construction, a Biologist acceptable to the Deputy Director for Water Rights shall be assigned to flag, with an agreed-upon flagging color/pattern, a 100 foot radius around any active day-roosting habitat for Townsend's big-eared bat (*Plecotus townsendii*), pallid bat (*Antrozous pallidus*), and the western red bat (*Lasiurus blossevillii*) Site disturbance within 100 feet of potential day-roosting habitat shall not occur. The 100-foot radius perimeter shall be flagged with an agreed-upon flagging color/pattern and be off limits for pipeline construction. The flagged day-roosting habitat shall be avoided from March 1 through August 15.*

<i>Timing:</i>	<i>Prior to on-site construction activities</i>
<i>Responsibility:</i>	<i>Licensed biologist or other qualified professional acceptable to Deputy Director for Water Rights and USFS-SNF</i>
<i>Reporting/Verification:</i>	<i>The on-site biologist shall maintain a log of all locations flagged and provide reports to the USFS-SNF and the Division as required by those agencies.</i>

MM IV-2: *Permittee shall not conduct any construction trenching activities within the two spotted owl Protected Activity Centers from March 1 through August 15. .*

<i>Timing:</i>	<i>After August 15 and before March 1</i>
<i>Responsibility:</i>	<i>Applicant and construction contractors</i>
<i>Reporting/verification:</i>	<i>Applicant and contractor shall notify the USFS-SNF of construction activities within the designated Protected Activity Center / USFS-SNF</i>

Item IV.b. (Have a substantial adverse effect on any riparian habitat or other sensitive natural community)

Two drainages encompass the Marco and Polo Springs project area. Each originates in a basin of less than 100 acres and each contains a permanent stream. Both are small first order, spring fed streams with a yearlong flow of water that fluctuates little in volume during most years. Bank fill widths are generally less than seven feet and summer flows are generally less than one foot wide. Depths are less than six inches in most instances.

Mitigation Measures

The following mitigation measures shall be included in any water-right permit issued on Application 31491.

MM IV-3: *To maintain herbaceous riparian habitat for Snowshoe hare (*Lepus americanus*), for each point of diversion Permittee shall continuously bypass a minimum of 5 gallons per minute. For each point of diversion, the total streamflow shall be bypassed whenever it is less than the designated amount.*

MM IV-4: *No water shall be diverted under this permit until permittee has installed devices, satisfactory to the State Water Board, which are capable of measuring the bypass flows required by the conditions of this permit. Said measuring devices shall be properly maintained.*

MMIV-5: *Within six months of the issuance of this permit, the Permittee shall submit a Compliance Plan for approval by the Deputy Director for Water Rights that will demonstrate compliance with the flow bypass terms specified in this permit. The Compliance Plan shall include the following:*

- a) *A description of the physical facilities (i.e., outlet pipes, siphons, pipelines, bypass ditches, splitter boxes etc.) that will be constructed or have been constructed at the project site and will be used to bypass flow.*
- b) *A description of the gages and monitoring devices that will be installed or have been installed to measure stream flow and/or reservoir storage capacity.*
- c) *A time schedule for the installation of these facilities.*
- d) *A description of the frequency of data collection and the methods for recording bypass flows and storage levels.*
- e) *An operation and maintenance plan that will be used to maintain all facilities in good condition.*

The Permittee shall be responsible for all costs associated with developing the Compliance Plan, and installing and maintaining all flow bypass and monitoring facilities described in the Compliance Plan.

The monitoring data shall be maintained by the permittee for ten years from the date of collection and made available to the Deputy Director for Water Rights, upon request. Any non-compliance with the terms of the permit shall be reported by the permittee promptly to the Deputy Director for Water Rights.

Diversion and use of water prior to approval of the Compliance Plan and the installation of facilities specified in the Compliance Plan is not authorized.

<i>Timing:</i>	<i>Within six months of permit issuance</i>
<i>Responsibility:</i>	<i>Permittee</i>

Item IV.c (Have a substantial adverse effect on federally-protected wetlands as defined by Section 404 of the federal Clean Water Act)

Waters-of-the-United States as defined by Section 404 of the federal Clean Water Act (CWA) are present in the Project vicinity in the form of perennial streams/wetlands (Marco and Polo Stream basins), intermittent streams along the pipeline route and a wetland "seep" near the westerly end of the pipeline at Cottonwood Creek. The pipeline has been designed to avoid the jurisdictional limits of both the CWA and DFG Code section 1600. Permittee will need to obtain a determination from DFG whether a Streambed Alteration Agreement is necessary for project operation.

Beginning at the well-head (which is outside the CWA jurisdictional limits), the Polo pipeline is drilled-and-sleeved under an intermittent stream named Burney Creek; it is then connected to the Main Line at the center of the RR Grade.

The pipeline from Marco POD begins outside jurisdictional limits and continues down-slope without crossing waters to the connection with the Main Line at the center of the RR Grade. The Marco pipeline then continues down the existing RR Grade and crosses the Polo Stream above the culvert under the RR Grade. After the pipeline joins the Polo line it continues on a southerly, then westerly route toward the termination. Along the RR Grade/Forest Service Road (2N54) route the pipeline ditch crosses seven existing culvert/fill locations. At each of the culvert locations the ditch construction and pipeline fill is designed to remain within the fill and without disturbing the integrity of the culvert. As part of the Stanislaus National Forest Special Use Permit for this pipeline, there shall be inspections to ensure that there is no impact to stream crossings. The wetland seep near the terminus of the pipeline is avoided by routing the line upslope through upland forest land above the seep source.

The Marco and Polo Stream basins are considered waters-of-the-United States. The only construction in or near a water of the United States is installation of the well heads. As noted previously, construction has been designed to avoid cut or fill in a waterway. A possible indirect impact could be the reduction in surface flows or hydrologic intervention to the soil-moisture regime of the wetland/riparian community. The diversions could ultimately change the wetland characteristics to non-wetland if it was not mitigated. The 5 gpm bypass flow and the mitigation measures listed below have been designed to mitigate this impact to less than significant.

Mitigation Measures:

MM IV-6: *Permittee shall avoid direct impacts to streams and wetland (waters of the United States and waters of the state) through the maintenance of a 50 foot setback from the boundaries of the riparian area. The 50 foot setback area shall be flagged by a qualified biologist acceptable to the Deputy Director for Water Rights prior to the start of construction activities.*

Timing

Responsibility

Before project construction begins

Qualified biologist

Item IV.d (Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory corridors, or impede the use of native wildlife nursery sites)

There were no migratory routes or special habitats identified within the Project Area. Anadromous (migratory) fish are prevented from entering the watershed of the Project Area by the New Don Pedro Dam. There are **no impacts** to any migratory species or habitats.

Item IV.e (Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance)

The pipeline from the Marco POD and the pipeline from the Polo POD will each intersect with the RR Grade which is an earth-surfaced forest road 2N54. The Project plan is to excavate a pipeline down the middle of the earth-surfaced road for approximately five miles to the end of the pipeline project at Cottonwood Creek. For the final 200 feet of pipeline, the route leaves the RR Grade and crosses through an upland soil of the Sierran Mixed Conifer forest.

The Project lies entirely on USFS-SNF land. Policies and regulations protecting biological resources are interpreted by the USFS-SNF staff. Any such standards will be included in the Special Use Permit for the pipeline project. There will be no conflict with any policies and regulations.

Item IV.f (Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan)

There are no conflicts with any plans instituted by the USFS-SNF on National Forest land. No local, regional or state plans are in place on National Forest land and, therefore, there are no conflicts.

Impact Conclusion: After the implementation of the mitigation measures listed above, impacts to biological resources would be considered less than significant with mitigation.

V. CULTURAL RESOURCES.

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Setting

The Project area falls within ethnographically delineated lands of the Central Sierra Miwok of California. More recent historic features include the railroad grade and in particular the wooden culverts which are elements of the West Side Railroad Company’s railroad system. While there were vast timber resources, access proved to be limited due to the remoteness. The West Side Lumber Company needed a means to transport timber from their logging operations. The railroad was critical to harvesting and transporting timber as well as for access to develop water resources in the region.

The entire project lies within the USFS-SNF and all mitigation and success criteria for mitigation for impacts to Cultural Resources is under the administration of the Forest Heritage Resource/Tribal Relations Programs Manager. The Cultural Resources factors addressed in this section (specifically features of the West Side Railroad Mainline) are considered eligible for the California Register of Historic Resources (CRHR). This CEQA document will be integrated with the Manager’s determination of actions necessary toward the completion of environmental documents prescribed by the National Environmental Policy Act (NEPA).

The Heritage Resources Inventory³ prepared by PAR Environmental Services, Inc. (“PAR Report”), held on file at the State Water Board, Division Office details the survey methods, results, evaluations and legal references, conclusions and recommendations. The PAR Report (Heritage Resources Inventory) was reviewed and approved by USFS-SNF. The document was forwarded by the Manager to the State Historic Preservation Office (SHPO) for review on April 13, 2010 with a letter from the Stanislaus National Forest Supervisor. The Forest Supervisor’s letter states that, based on the protection measures during construction that are required under the Special Use Permit for the pipeline “...a no adverse effect finding...” is proposed for the Project under the National Historic Preservation Act (NHPA), and also under the National Environmental Protection Act (NEPA).

In a letter dated July 26, 2010, SHPO⁴ responded to USFS-SNF. Their response is part of the section 106 consultation regarding 1) the appropriateness of the Area of Potential Affect (APE) for the Project, 2) eligibility for five segments or railroad grade and

3) includes a finding of no significant impact due to the Project. That letter and its findings are summarized below.

1) The APE for the Special Use Permit. The SHPO has recognized that the Project entails the construction of one primary underground water line on five miles of historic West Side Lumber Company railroad grade, two wells on the slope above the primary line's point of origin and two underground lateral lines between the wells and the primary line. The horizontal APE includes the construction footprint of the three water lines and two spring-boxes and, for the primary line located on the *West Side Lumber Company Discontiguous District* (FS 05-116-51-0015/Ca-Tuo-1536H), it is described as being no greater than the general width (25-feet) of the RR grade in cross section; with the proposed width of trenching estimated at 10-feet. The vertical APE is directly beneath the horizontal APE and varies in depth from three to six feet, with maximum depths of construction occurring at the wells. It is assumed the APE and trench widths of the lateral lines are 25-feet and 10-feet respectively.

The AEP recognizes seven different railroad grade segments and Camp 21 of the West Side Lumber Company that have been previously recorded. It also includes five railroad grade segments that have been newly recorded and five buried wooden or multi-log culverts and four corrugated metal culverts that are newly identified features.

2) Determination of Eligibility for the five new railroad grade segments. The USFS-SNF has developed the *Forest Criteria of Comprehensive Evaluation Plan* (CEP) for determining the eligibility of historic RR grades. The CEP consists of four categories of grades that describe levels of preservation, or existing conditions. The categories are numerically ordered from one to four, with only levels one and two considered eligible. All seven of the previously recorded WSLCDD RR grades had been evaluated with the CEP criteria, determined eligible as Level-2 grades, and submitted to the State Historic Preservation Officer (SHPO) for concurrence. Copies of the SHPO concurrence letters dated October 18, 1994 for segments 1040/A, 1040/B, 1040/D, 1040/E; and, January 12, 2009 for segments 1032/A, 1032/B, and 1238/L were included in the Forest's submittal.

The CEP describes the integrity of Level-2 grades as "grades converted to forest dirt roads or otherwise relatively lightly impacted, where ties may be removed but the contour and road bed are substantially intact as are the associated features that maintain the grade's morphology (e.g., rockwork and through cuts)." Though sounding more like a discussion of integrity, the historical significance of such grades is described as those that "possess integrity because their location is unchanged from the placement of the WSLC's period of significance; the system's design is evident from the placement of the grade; materials and workmanship may be weathered or otherwise compromised but are still clearly evident; the grades vividly convey the feeling of a railroad logging system in the yellow pine region of California, and they have inseparable association with the West Side Lumber Company - being the means of accessing and transporting the resource the company exploited." A review of site-records for all the fore mentioned grades indicated that newly recorded and determined eligible segments 1032/C, 1115/A, 1238/M and 1284/A exhibit levels of preservation (or their existing conditions are) similar to those previously concurred eligible by the SHPO.

The CEP describes the integrity of Level-3 grades as "grades which fail to meet Levels 1 or 2 but whose existence can still be verified by the contour and occasional associated hardware. Modern roads overlying railroad grades may fall into this category." Their historic significance is described as grades that "lack integrity to the degree that they no longer convey the essential experience of a railroad logging system, and are not considered contributing elements by CEP criteria and thus are (not) eligible for NRHP status." The site-record for 1115/C indicates the grade is largely obscured as it has been heavily impacted by prior road construction and the development of a conifer plantation.

3) Finding of "No Adverse Effects." The PAR Report indicates that potential impacts to the wooden culverts will be avoided by either decreasing the trench elevation, relocating the trench footprint, or by horizontally boring beneath their elevations where appropriate. The PAR Report describes the existing conditions of the grades as having been previously converted to roads in the USFS-SNF transportation system, and in doing, had their surfaces cleared of ties, rails and crushed rock ballast.

After reviewing submitted documentation, including the PAR Report, SHPO provided the following comments:

- 1) For purposes of the proposed undertaking, and pursuant to 36 CFR Parts 80004 (a)(1) and 800.16(d), the USFS-SNF has appropriately determined and documented the current APE.
- 2) Pursuant to 36 CFR Part 800A(c)(2) the USFS-SNF's DOEs for RR grade segments 1032/C, 1115/A, 1238/M and 1284/A are contributing resources to the WSLCDD (FS 05-16-51-0015/Ca-Tuo-1536H) as their levels of preservation compare favorably with the seven previously recorded and SHPO concurred eligible segments. In addition, SHPO concurs that the Forest's DOE of ineligibility for RR grade segment 1115/C as the record describes it as mostly obliterated and as such appears to meet Level-3 criteria for integrity indicating a "lack integrity to the degree that the grades no longer convey the essential experience of a railroad logging system."
- 3) Pursuant to 36 CFR Part 800.5(3)(b), implementation of the proposed undertaking will result in "No Adverse Effects" to the 11 recorded and determined eligible RR grades of the WSLCDD (FS 05-16-51-0015/Ca-Tuo-1536H) as their existing conditions are described as roads that have been incorporated in the Forest transportation system; are devoid of ties, rails and crushed rock ballast; and, because proposed backfilling work will restore the segments back to their original (or existing) conditions, i.e., that of a road.
- 4) Monitoring should be employed in archaeologically sensitive areas to manage inadvertent finds of potentially eligible properties, features and artifacts; and, to prevent project work from impacting historic properties identified in the PAR Report. Archaeologically sensitive areas include wooden and metal culverts, artifact scatters, earthen filled bridges, and implement pads associated with various RR grades of the WSLCDD (FS 05-16-51-0015/Ca-Tuo-1536H), and Camp 21 (FS 05-16-51-0200/Ca-Tuo2335H).

5) Under certain circumstances, such as an unanticipated discovery or a change in project (design or geographical) scope, the Project may have future responsibilities for this undertaking under 36 CFR Part 800.

Regulatory Setting

Under CEQA, historical resources are considered part of the environment (Public Resources Code, §§ 21060.5, 21084.1). A “ ‘historical resource’ includes, but is not limited to, any object, building, structure, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California (Public Resources Code, §§ 21084.1, 5020.1, subd. (j)).”

The California Public Resources Code includes the California Register of Historic Resources [California Register] (Public Resources Code, §4850 et seq.). The California Register includes historical resources that are listed automatically by virtue of their appearance on, or eligibility for, certain other lists of important resources. The California Register incorporates historical resources that have been nominated by application and listed after public hearing. Also included are historical resources listed as a result of the State Historical Resources Commission’s evaluation in accordance with specific criteria and procedures. CEQA requires consideration of potential impacts to resources that are listed or qualify for listing on the California Register, as well as resources that are significant but may not qualify for listing.

Impact Discussion

Item V.a: (Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5)

The possible project area of impact is planned to be no wider than 10 feet. At no point will work extend beyond the edges of the WSRR mainline roadbed except where the lateral lines to the Marco and Polo springs depart. The Project as designed will introduce a trench from three to six feet deep into the centerline of the grade. The trench is a physical effect to those resource segments. However, the trench will be restored to its original condition and appearance following construction. In addition, the Project as designed will avoid physical impacts to features such as wooden culverts by altering the trench depth, relocating the trench, or using horizontal boring beneath the feature.

The “Old Railroad Grade” (RR Grade) over which the pipeline will be installed is described in the PAR Report, which is held on file by the Division. The historic grade over which the Project pipeline is to be installed is described as the West Side Railroad (WSRR) mainline grade which appears to have segments eligible for the California Register of Historic Resources. The segments of the RR Grade over which the pipeline will be placed have been evaluated with records prepared in the PAR Report. These records are confidential and are held on file at the Division Office. The overall plan for avoidance of the specific historic resources would restore the area to the current appearance.

The Project has the potential to impact the locations of four, historic, wood culverts associated with the WSRR. These wood culverts are recognized as historic features

requiring protection. The USFS-SNF requires that the wood culverts not be impacted or compromised by the installation of the water line. In addition, the USFS-SNF Heritage Resource Manager is requesting that the area of trench disturbance must be restored to the exact current condition and appearance.

Archaeologically sensitive features include those identified in SHPO's letter of July 26, 2010, identified in the Project setting, above. (See Figure 4, page 16 of the PAR Report). The SHPO has indicated that monitoring be employed in archaeologically sensitive areas to manage inadvertent finds of potentially eligible properties, features and artifacts; and to prevent work from impacting historic resources identified in the PAR report.

Mitigation Measures:

MM V-1 Prior to the start of construction and diversion and use of water, in order to avoid any project related impacts to previously identified cultural resources including sites identified as FS-05-16-51-0015/CA-Tuo and Camp 21 (FS 05-16-51-0200/Ca-Tuo-2335H), Permittee shall obtain the services of a professional archeologist acceptable to the USFS-SNF and the Deputy Director for Water Rights, to conduct monitoring of the Project. The archeologist will obtain a permit from the Stanislaus National Forest Archeologist prior to project related work commencing in the vicinity of the sites. The archeologist shall be present during all ground disturbing activities along the railroad grade to ensure that the wood culverts are protected and the grade is returned to the original condition. Permittee shall be responsible for all costs associated with the cultural resources related work.

Permittee shall document compliance with all of the Stanislaus National Forest Special Use Permit requirements and any issues relating to cultural resources that are identified during consultation with the Stanislaus National Forest. Within 60 days of completion of construction, Permittee shall provide documentation of compliance with this condition to the Division of Water Rights.

*Timing: Prior to start of construction
Report filed within 60 days of completion of construction
Responsibility: Archeologist acceptable to Division and USFS-SNF
Reporting /verification: Archeologist / , Division and USFS-SNF*

MM V-2 To avoid effects to historic features of the WSRR grade, the pipeline ditch and pipeline shall traverse above the culverts, and, if necessary, Permittee shall move the line laterally or horizontally beneath any historic wooden box culverts that are within three feet of the surface of the WSRR grade. After the waterline installation is complete, the trench shall be backfilled and compacted, and the Grade restored to its original appearance.

*Timing: On-going
Responsibility: Applicant and contractor
Reporting/verification: USFS-SNF*

MM V-3 All box culverts along the WSSR grade shall be flagged/staked to ensure none are accidentally affected during construction. Flagging/staking shall be conducted by the on-site Archaeologist. Once staked the Archaeologist shall notify the USFS-SNF. Relevant historic resource records must be on-site during the flagging process and throughout construction.

Timing: On-going during pipeline installation along the railroad grade
Responsibility: Archaeologist
Reporting/verification: Archaeologist / USFS-SNF

MM V-4 As the lateral pipeline routes leave the WSRR grade to the Marco Spring and to the Polo Spring, respectively, the lateral alignment shall avoid effects to the cut bank or fill areas of the grade. The suitability of the alignment location shall be verified by the Archaeologist and Forest Service prior to construction.

Timing: On-going during pipeline installation along the railroad grade
Responsibility: Archaeologist
Reporting/verification: Archaeologist / USFS-SNF

Item V.b and c: (Cause a substantial adverse change in the significance of an archaeological resource or directly or indirectly destroy a unique paleontological resource or site or unique geologic feature)

No Sierra Miwok sites or artifacts, or paleontological resources have been identified as being potentially affected in the Historic Resources Inventory. During pipeline construction these resources could be discovered. In an effort to protect the potential resource discovery, the following Mitigation Measures shall be included as permit terms in the water-right permit issued on Application 31491:

Mitigation Measures:

MM V-5 To preserve any archaeological or paleontological resources which may be discovered during trench construction, the finding of unusual fragments or artifacts (obsidian and chert flakes, chipped stone tools, ground stone implements, darkened midden soils and any structural remains) or fossilized/petrified rocks shall be reported to the USFS-SNF Heritage Resource Manager and the Division and activities shall cease in the findings area. The further implementation of mitigation measures shall be under the direction of the USFS-SNF Archaeologist, Forest Heritage Resource Manager and the Division.

Timing: On-going
Responsibility: Archaeologist
Reporting/verification: Archaeologist / USFS-SNF

MM V-6 Should any buried archaeological materials be uncovered during project activities, such activities shall cease within 100 feet of the find. Prehistoric archaeological indicators include: obsidian, and chert flakes and flaked stone tools; bedrock outcrops and boulders with mortar cup; ground stone implements (grinding slabs, mortars and pestles) and locally darkened midden soils containing some of the previously listed items plus fragments of bone and fire affected stones. Historic period

site indicators generally include: fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations, privy pits, wells and dumps; and old trails. The Deputy Director for Water Rights shall be notified of the discovery and the professional archaeologist shall evaluate the find and recommend appropriate mitigation measure. Proposed mitigation measure shall be submitted to the Deputy Director for Water Rights for approval. Project-related activities shall to resume within 100 feet of the find until all approved mitigation measures have been completed to the satisfaction of the Deputy Director of Water Rights.

Timing:	On-going
Responsibility:	Archaeologist to notify the Deputy Director for Water Rights and USFS-SNF
Reporting/verification:	Archaeologist / USFS-SNF

Items V.d: (Disturb any human remains, including those interred outside of formal cemeteries)

No human remains are expected to be uncovered by the Project and no burial sites are described for the Project site. During pipeline construction buried human remains could be discovered. In the event of an inadvertent discovery of buried human remains, the following mitigation measure shall be including in the permit term for the water-right permit issued on Application 31491:

Mitigation Measure:

MM V-7 *If human remains are encountered, then the Permittee shall comply with Section 15064.5 (e) of the California Environmental Quality Act Guidelines and the Health and Safety Code Section 7050.5. All project-related ground disturbances within 100 feet of the find shall be halted until the Stanislaus County Coroner has been notified. If the Coroner determines that the remains are Native American, the Coroner will notify the Native American Heritage Commission to identify the most-likely descendants of the deceased Native Americans. Project-related ground disturbance in the vicinity of the find shall not resume until the process detailed under Section 15064.5 (e) has been completed and evidence of completion has been submitted to the Deputy Director for Water Rights.*

Timing:	On-going
Responsibility:	Archaeologist to notify the Stanislaus County Coroner
Reporting/verification:	Archaeologist / USFS-SNF

Impact Conclusion *After the implementation of the seven mitigation measures, above, impacts to cultural resources would be considered less than significant.*

VI. GEOLOGY and SOILS.

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated in the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines & Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soils, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternate wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

As depicted on the 1981 California Division of Mines and geology Geologic Map of the Sacramento Quadrangle map, the local geology consists of intrusive Mesozoic granitic rocks and superjacent relict areas undifferentiated Paleozonic metamorphic rocks. Granite bedrock is occasionally exposed along the pipeline route. Soils of the spring-stream study area are primarily alluvial and colluvial of granitic origin. Soils along the pipeline route from the well collar (beginning of pipeline) downslope to the RR Grade are deep forest soils of Holland Series sandy clay loam.

Soils are stable against mass earth movement and the geology (as bedrock) is stable against landslides.

Discussion Items

Item VI.a.i: According to the Alquist-Priolo Fault Zoning Map, the nearest active earthquake faults are located along the eastern boundary of the Sierra, a distance of 36 miles to the nearest mapped faults. The distance to the closest known active faults to the west is 120 kilometers (75 miles). Thus, there would be no impact as a result of rupture due to an earthquake fault.

Item VI.a.ii: Due to the great distance from any potential earthquake faults, there would be no impact due to ground shaking from any potential seismic event.

Item VI.a.iii: Any ground motion due to a seismic event would be minimal and there would be no impact.

Item VI.a.iv: The spring diversions will be located in bedrock and the area would not be subject to landslides. Examination of the natural slopes from the proposed pipeline intake to the existing spring sources do not show any evidence of landslides on the undisturbed hillslopes. The pipeline that would run from the springs to the main supply line will be run along an old railroad right of way. This railroad grade has been in existence since the 1920's and has not shown any signs of slumping or landslides on either cut or fill sides of the grade. Thus, there would be no impact.

Item VI.b.: There is expected to be no substantial soil erosion or loss of topsoil. There would be no impact. Minor erosion is discussed under Section 2.a.

Item VI.c.: The spring diversions are located on or near bedrock and the pipeline will be placed in a trench dug into a shallow soil near bedrock. There would be no impact.

Item VI.d.: The soils underlying the Project site are not expansive soils and, thus, there would be no impact.

Item VI.e: Septic systems will not be used as the Project construction is short term. On site portable toilets will be utilized.

Impact Conclusion The Project will not have the potential to significantly impact geology and soils and mitigation measure are therefore not required.

VII. GREENHOUSE GAS EMISSIONS

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gasses?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Environmental Setting

On September 27, 2006, the State of California adopted Assembly Bill 32 (California Global Warming Solutions Act of 2006). The bill requires the State Air Resources Board to adopt a statewide greenhouse gas emissions limit equivalent to the statewide greenhouse gas emissions levels in 1990 to be achieved by 2020. Greenhouse gases include: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. The State of California Air Resources Board approved 427 million metric tons of carbon dioxide equivalents (MMTCO₂e) as the statewide greenhouse gas emission limit, which is equivalent to the 1990 emissions level. Carbon dioxide equivalent means the amount of carbon dioxide by weight that would produce the same climate change impact as a given weight of another greenhouse gas. Tuolumne County exceeds the Federal 8-hour ozone standard but this is due to transport of ozone precursors from the central valley.

Greenhouse gases, including carbon dioxide, methane, and nitrous oxide, serve to regulate the earth’s surface temperature, keeping the earth’s average temperature close to 60 degrees Fahrenheit. Greenhouse gases occur both naturally and as a result of manmade activities (anthropogenic sources).

Climate change refers to any significant change in measures of climate (such as temperature, precipitation or wind) lasting for an extended period (decades or longer). Over the past 200 years, anthropogenic sources, including the burning of fossil fuels (such as coal and oil) and deforestation have caused the concentrations of heat-trapping "greenhouse gases" to increase significantly in our atmosphere (U.S. EPA 2007a).

In the U.S., our energy-related activities account for three-quarters of our human-generated greenhouse gas emissions, mostly in the form of carbon dioxide emissions from burning fossil fuels. More than half the energy-related emissions come from large stationary sources such as power plants, while about a third comes from transportation. Industrial processes (such as the production of cement, steel, and aluminum), agriculture, forestry, other land use, and waste management are also important sources of greenhouse gas emissions in the United States (U.S. EPA 2007b).

If greenhouse gases continue to increase, climate models predict that the average temperature at the Earth's surface could increase from 2.5 to 10.4°F above 1990 levels by the end of this century. Scientists are certain that human activities are changing the composition of the atmosphere, and that increasing the concentration of greenhouse gases will change the planet's climate (U.S. EPA 2007b).

Rising average temperatures are already affecting the environment. In California during the last fifty years winter and spring temperatures have been warmer, spring snow levels in lower and mid-elevation mountains have dropped, and snowpack has been melting one to four weeks earlier. Climate change projections through 2100 indicate an increase in the number of severe heat days, an increase in poor air quality days, and a declining Sierra snowpack. Such changes could adversely affect health, water supplies,

hydropower, agriculture, and recreation in California (California Climate Change Center 2006).

Regulatory Setting

The State of California has enacted legislative measures to implement policies and regulatory actions to quantify and reduce GHGs. The most prominent of these is AB 32, Nunez (2006) - The California Global Warming Solutions Act of 2006. AB32 declares that global warming is a serious threat to the public health, economic well-being, natural resources, and environment of California. AB 32 makes CARB responsible for monitoring and reducing GHG emissions, and requires CARB to:

1. Establish (by January 1, 2008) a statewide GHG emissions cap for 2020, based on 1990 emissions.
2. Adopt a plan by January 1, 2009 showing how emissions reductions will be achieved from significant GHG sources via regulations, market mechanisms, and other actions.
3. Adopt a list of discrete early action measures by July 1, 2007 that can be implemented before January 1, 2010 and beyond. The Early Action List required by the California Global Warming Solutions Act of 2006 contains nine discrete early action items. These actions are primarily transportation related, with commercial actions included as well. They are intended to target the most significant sources of GHGs.

On April 13, 2009, the Governor's Office of Planning And Research submitted to the Secretary for Natural Resources its proposed greenhouse gas emission amendments to the State CEQA Guidelines, as required by SB 97 (Chapter 185, 2007). Those amendments were adopted on December 30, 2009. The amendments set target greenhouse gas emission reductions for all metropolitan planning organizations (MPO). Each MPO must design a Sustainable Communities Strategy or alternative strategy as part of its regional transportation plan to achieve 2020 and 2035 greenhouse gas emission targets set by the Air Resources Board for each region. Local agencies not included within an MPO are exempt from the greenhouse gas emission targets, but they must address the CEQA Guidelines requirement contained in the Initial Study checklist for projects that they are considering.

Item VII.a: (Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment)

The Project is the diversion and conveyance of spring water to the POU by gravity. All valve controls are manual. The passive design of the system assures neither energy consumption nor gas emissions are required to divert this water to the location where it is placed into water tanker trucks. The tanker trucks are currently used to collect water diverted under Permit 20784. Consequently, it is anticipated that there will be negligible increase in truck traffic associated with ongoing operation of this project. Upon completion, the Project will create a zero increase in the carbon footprint. There will be no direct or indirect generation of greenhouse gas emissions following completion of construction.

Item VII.b: (Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gasses)

Tuolumne County is not required to adopt a greenhouse emissions reduction plan, nor is it a member of a Metropolitan Planning Organization. As a result, the Project will not be in conflict with any applicable plan.

Impact Conclusion The Project will not have the potential to significantly impact greenhouse gas emissions as a result of the gravity fed spring pipeline project and mitigation measure are therefore not required.

VIII. HAZARDS AND HAZARDOUS MATERIALS

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard for people residing or working in the Project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the Project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

The Project is located on the western slope of the Sierra Nevada in Tuolumne County, California. The region is distinguished by steep canyons and dense conifer and mixed forest lands. It is an important timber production region.

Regulatory Setting

Pursuant to Sections 25117 and 25411 of the California Health and Safety Code, if reportable quantities of hazardous materials or waste will be handled or generated on the Project site, a business plan is required to be filed with the Environmental Health Division. A reportable quantity consists of any hazardous material or mixture containing a hazardous material in amounts greater than or equal to 500 pounds, 55 gallons, or 200 cubic feet, measured at standard temperature and pressure. Compliance with Sections 25117 and 25411 of the California Health and Safety Code will be required as applicable for any future commercial development of the Project site. The transportation of hazardous material or mixture containing a hazardous material is regulated through licensing requirements by the California Department of Motor Vehicles and through the vehicle code enforced by the California Highway Patrol.

Impact Discussion

Item VIII.a-c

The only items used as part of construction that would be considered hazardous are diesel fuel. The Project proponent will re-fuel the back hoe and trencher from a 55-gallon fuel tank mounted on a truck. The fuel tank may require a permit from the Tuolumne County Environmental Health Department. Alternatively, fuel dispensing activities on the national forest would be subject to the Special Use Permit.

Item VIII.d

The Project site is not included on a hazardous materials site compiled as part of Government Code Section 65962.5.

Item VIII.e-f

The Project is not located within the airport influence area boundaries identified by the Tuolumne County *Airport Land Use Compatibility Plan* or in the vicinity of an airport. There are no private airstrips within the vicinity of the Project site. The Project would not interfere with an adopted emergency response plan or emergency evacuation plan.

Item VIII.g

The installation of and long term operation of the spring water pipeline will not interfere with any known emergency response plan.

Item VIII.h

As a forested environment, the Project site is rated very high for wildland fire hazard. This rating is based upon factors of slope, vegetation and summer weather patterns. The Project site is provided wildland fire protection by the Stanislaus National Forest. As a short term construction project, there should be no significant impact on wildland fires. To the extent that the USFS-SNF has requirements to off-set any such impacts, they will be included as part of the require Special Use Permit for the pipeline.

Impact Conclusion As a short term construction project, the impacts on hazardous and hazardous materials will be less than significant.

IX. HYDROLOGY & WATER QUALITY

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site, including through alteration of the course of a stream or river, or substantially increase the rate or volume of surface runoff in a manner that would:				
i) result in flooding on- or off-site	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) create or contribute runoff water that would exceed the capacity of existing or planned stormwater discharge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) provide substantial additional sources of polluted runoff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Place housing or other structures which would impede or re-direct flood flows within a 100-yr. flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Expose people or structures to a significant risk of loss, injury, or death involving flooding:				
i) as a result of the failure of a dam or levee?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) from inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Would the change in the water volume and/or the pattern of seasonal flows in the affected watercourse result in:				

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
i) a significant cumulative reduction in the water supply downstream of the diversion?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii) a significant reduction in water supply, either on an annual or seasonal basis, to senior water right holders downstream of the diversion?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii) a significant reduction in the available aquatic habitat or riparian habitat for native species of plants and animals?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv) a significant change in seasonal water temperatures due to changes in the patterns of water flow in the stream?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
v) a substantial increase or threat from invasive, non-native plants and wildlife	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

The location of the springs in the area is controlled by major fault structures in the bedrock that provide pathways along which ground water flow in the bedrock and also to the surface to emerge as springs. The two proposed points of diversion (Marco Spring and Polo Spring) flow into streams which in turn flow down the westerly slope of Hull Creek. The Marco Spring discharges into Hull Creek 0.5 miles upstream from the inflow of Polo Spring. Hull Creek discharges into the Clavey River 2.5 miles below the inflow at the Polo Spring. The watershed for Hull Creek above the confluence with the Clavey River is 9,913 acres. The Clavey River runs into the Tuolumne River which eventually runs into the New Don Pedro Reservoir. Elevations of the spring-stream area range from 5,000 feet to 5,400 feet. Precipitation primarily occurs as rain. Most of the dry season flow comes from underground sources above and adjacent to the two stream sections.

Impact Discussion

Item IX.a: (Violate any water quality standards or waste discharge requirements)

Both drilling sites are close enough to each of the respective spring-streams that drilling sediment and soil disturbance could send sediment/soil material downslope to the streams. Unless sediment and erosion control measures are taken, the possible pollutants could have an impact on stream water quality. As a mitigation measure for the foregoing potential impact, the following permit terms shall be included in any water right permit issued on Application 3141:

Mitigation Measures:

MM IX-1 Permittee shall construct silt fences within 50 feet of each point of diversion. The silt fence shall begin at a point 25 feet in the upstream direction from the well-head and shall continue on the level contour for a distance of 50 feet in the downstream

direction from the well-head, bordering the riparian community. The installation shall be adjusted so as to catch all overflows of water or sediment emanating from the well-head.

Timing: Before start of site disturbance and on-going
Responsibility: Permittee and contractor
Reporting/verification: On-site biologist / State Water Board

MM IX-2 When well-drilling is complete, Permittee shall remove the silt fence fabric along with sediments caught by the fence and dispose of in the Tuolumne County Landfill.

Timing: Within one week of completion of drilling
Responsibility: Contractor and on-site biologist
Reporting/verification: On-site biologist / State Water Board

MM IX-3 Permittee shall cover any soil exposure created by the silt fence removal with natural mulch removed from nearby dry upland forest habitat. So as to create a minimum disturbance, the mulch (leaf-litter/ duff) shall be hand-raked and placed in wheelbarrows for hand-spreading. Seeding of exposed soil shall be by "passive restoration" (allowing native seed to re-vegetate disturbed sites). Mulch cover shall be approximately one foot in depth.

Timing: On-going following backfilling of pipeline trenches
Responsibility: Contractor and on-site biologist
Reporting/verification: On-site biologist / State Water Board

MM IX-4 Permittee shall complete all erosion and sediment control measures by October 1 of the construction year.

Timing: October 1
Responsibility: Contractor and on-site biologist
Reporting/verification: On-site biologist State Water Board

Item IX.b.: (Substantially deplete groundwater supplies or interfere substantially with groundwater recharge)

The quantity diverted from the springs is not anticipated to significantly alter groundwater flow.

Items IX.c-d.: (Substantially alter the existing drainage pattern of the site and otherwise substantially degrade water quality)

The existing drainage pattern of the site or the course of streams will not be altered. The installed pipelines will not increase surface runoff resulting in flooding, exceed the capacity of stormwater discharge, increase or contribute to polluted runoff and increase erosion or siltation. After the pipelines are completed and the trenches are restored there will be no potential for the Project to substantially degrade water quality.

Item IX.e:

No housing or other structures exist on the Stanislaus National Forest land.

Item IX.f:

There are no dams, levees or other sources of inundation or flooding. All pipeline construction activities will take place during drier summer months.

Item IX.g:

Diverted water comes from the subsurface aquifer by the pipeline and is transported by pipeline to an offsite tanker fill station. The planned removal (diversion) of water from the Marco and Polo Springs aquifer could reduce the flow from the orifice of each spring and, therefore, change seasonal flows. The potential changes in seasonal flows could have an adverse impact on downstream users, a reduction in available aquatic/riparian habitat, a change in seasonal water temperatures and an increase in invasive, non-native plants and wildlife.

The 5 gpm bypass flow mitigation measure listed in the Biological Resources section has been designed to address this issue and shall be included as a permit term in any permit issued on Application 31491.

Item IX.h:

There are no 100-year flood hazard areas mapped in the area and there will be no structures constructed on site.

Impact Conclusion With the inclusion of the bypass flow mitigation measure, and the four Hydrology and Water Quality mitigation measures, impacts will be less than significant.

LAND USE AND PLANNING

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Setting

The Project is located within the USFS-SNF on the western slope of the Sierra Nevada in Tuolumne County, California. The region is distinguished by steep canyons and dense conifer and mixed forest lands. It is an important timber production region.

Impact Discussion

Item X a and b.:

The Project area is totally within the USFS-SNF. The forest does not contain residential communities that could be impacted by the Project. Both Tuolumne County General Plan and Zoning for the Project area is Public. Land use jurisdiction on the National Forest resides with the Stanislaus National Forest and is controlled through a Special Use Permit. The Project would not create a potential significant impact on land uses on the forest lands and, therefore, mitigation measures are not required

Impact Conclusion: As a short term construction project, the impacts on land use will be less than significant.

XI. MINERAL RESOURCES

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

The Project is located within the USFS-SNF on the western slope of the Sierra Nevada in Tuolumne County, California. As depicted on the 1981 California Division of Mines and geology Geologic Map of the Sacramento Quadrangle map, the local geology consists of intrusive Mesozoic granitic rocks and superjacent relict areas undifferentiated Paleozonic metamorphic rocks.

Impact Discussion

XI. a-b.

The State of California Division of Mines and Geology surveyed Tuolumne County for the presence of economically important mineral resources. The *Mineral Land Classification of a Portion of Tuolumne County, California for Precious Metals, Carbonate Rock and Concrete-Grade Aggregate (1997)*, DMG Open File Report 97-09, indicates that the subject property does not contain economically important mineral resources. To the extent that they do, those resources would not be significantly impacted or compromised as a result of the Project and mitigation measures are not required.

Impact Conclusion As a short term construction project, the impacts on mineral resources will be less than significant.

XII. NOISE

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Expose persons to or generate excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Create a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the Project expose people residing or working in the Project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

The Project is located within the USFS-SNF on the western slope of the Sierra Nevada in Tuolumne County, California. The region is distinguished by steep canyons and dense conifer and mixed forest lands. It is an important timber production region. Other uses include summer grazing, recreation, hunting and other outdoor recreational activities. There are no sensitive receptors (residences, school, hospitals, etc.) in the vicinity of the Project.

Impact Discussion

Items XII a-d

The USFS-SNF is used for multiple outdoor purposes. Noise generated in the Project site would consist of routine construction activities that would be similar to timber operations, and use of off-road vehicles and other related recreational activities vicinity. Land use jurisdiction on the National Forest resides with the USFS-SNF and is controlled through a Special Use Permit. It is assumed that all off road construction equipment will be equipped with the latest mufflers to limit noise production while construction is underway.

Items XII e-f

The Project site is not located near noise sensitive areas or within two miles of an airport or airstrip.

Impact Conclusion As a short term construction project, the impacts on noise would be less than significant.

XIII. POPULATION AND HOUSING

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

The Project is located within the USFS-SNF on the western slope of the Sierra Nevada in Tuolumne County, California. The region is distinguished by steep canyons and dense conifer and mixed forest lands. It is an important timber production region. Other uses include summer grazing, recreation, hunting and other outdoor recreational activities. There are no permanent housing units or population within the National Forest. Short term camping is, however, permitted subject to restrictions for length of stay.

Discussion Items

Items XIII a - c

The Project is a commercial spring water project that will not result in the construction of new homes or businesses within the USFS-SNF. Furthermore, due to the absence of any residential communities, the Project would not displace any existing housing and would therefore not result in the necessity for the construction of replacement housing at an alternate location(s). No impact would result from project development, therefore, mitigation measures are not required.

Impact Conclusion As a short term construction project, the impacts on population and housing will be less than significant.

XIV. PUBLIC SERVICES

Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Schools	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Setting

The Project is located within the USFS-SNF on the western slope of the Sierra Nevada in Tuolumne County, California. The region is distinguished by steep canyons and dense conifer and mixed forest lands. It is an important timber production region. Other uses include summer grazing, recreation, hunting and other outdoor recreational activities.

The USFS-SNF has primary responsibility for wild land fires and all sheriff protection is provided by the Tuolumne County Sheriff’s office. USFS ranges also patrol the national forest. Schools and local and regional parks are located off-site.

Discussion Items
Items XIV.a

The Project is a short term construction project. It will require approximately six workers and up to two monitors (biologist and archaeologist) from time to time. Once construction is complete there will be little demand for personnel on site. Land use jurisdiction on the National Forest resides with the USFS-SNF and is controlled through a Special Use Permit. As a result of the short term nature of the construction activity, there will be no significant impact on public services and mitigation measures are not required.

Impact Conclusion As a short term construction project, the impacts on public services will be less than significant.

XV. RECREATION

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the Project increase the use of existing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				
b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might, have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

The Project is located within the USFS-SNF on the western slope of the Sierra Nevada in Tuolumne County, California. The forest is noted as an important timber production region. Other uses include summer grazing, recreation, hunting and other outdoor recreational activities.

Impact Discussion

Item XV a- b

The USFS-SNF provides a variety of both active and passive recreational opportunities. Those activities are regulated and managed by the USFS-SNF. The Project will not directly impact those services and recreational opportunities. It may however create access restrictions during the time of construction.

Impact Conclusion As a short term construction project, the impacts on recreation will be less than significant.

XVI. TRANSPORTATION/TRAFFIC

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

The Project is located within the USFS-SNF on the western slope of the Sierra Nevada in Tuolumne County, California. The forest is an important timber production region. Other uses include summer grazing, recreation, hunting and other outdoor recreational activities. Access within the National Forest is provided on roads that are maintained and controlled by the USFS-SNF.

Construction equipment access is provided from Tuolumne City, Tuolumne County, on Buchanan Road to Cottonwood Road to Forest Road 3N07, then Forest Road 2N54 (Old RR Grade). Road 2N54 is an existing road to a point where the pipeline must be constructed upslope to each well-head (Marco Spring and Polo Spring). Buchanan and Cottonwood Roads are paved, 25 – 30 feet wide. USFS-SNF Roads 3N07 and 2N54 are dirt roads used primarily for logging that vary in width from 15 – 25 feet.

Discussion Items

Items XVI.a–f.

Vehicular access to the Project site will be limited to bringing in construction related equipment and for use by the contractor and his workers and water tanker trucks on a long-term basis. A negligible increase in traffic on USFS-SNF roads is anticipated from the construction phase of the Project. The increased traffic would be temporary, caused mainly by construction crews and transportation of materials to and from the construction areas. The water tanker trucks currently access the project POU, to pick up water diverted in accordance with Permit 20784. The POU facility will be shared by Permit 20784 and any permit on Application 31491. There will be negligible increase in long-term truck traffic as a result of project operation, beyond that already occurring. The USFS-SNF must approve access through the Special Use Permit for the Project.

No substantial new impediments to emergency access or incompatible uses on the roads are anticipated as the forest service roads are used by timber harvest operations. Since the Project will generate only a negligible increase in traffic on a long term basis, there would be no impact or conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. This increase in use is expected to be minimal and of low impact.

The proposed project will require parking for contractor and worker vehicles during construction. It is expected that parking will be addressed as a condition of the Special Use Permit to be issued by the USFS-SNF.

The Project would not create a conflict with adopted alternative transportation policies, plans, or programs adopted by Tuolumne County. Since there are no known significant impacts on transportation and traffic, the Project will not require mitigation measures.

Impact Conclusion The impacts on traffic and transportation will be less than significant.

XVII. UTILITIES AND SERVICE SYSTEMS

Would the Project:

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Setting

The Project is located within the Stanislaus National Forest on the western slope of the Sierra Nevada in Tuolumne County, California. The forest is noted as an important timber production region. Other uses include summer grazing, recreation, hunting and other outdoor recreational activities. Access within the National Forest is provided on forest service roads that are maintained and controlled by the U.S. Forest Service.

Impact Discussion

Item XVII.a-g.

The Project is located within the Stanislaus National Forest and is therefore not served by public water and wastewater services. No additional wastewater, stormwater drainage or landfill facilities would be required as part of the proposed project. While the Project intends to provide commercial spring water to the public, such water resources will not be available for consumption or purchase on site.

The Project requires an appropriative water right issued by the State Water Board. This environmental document is a prerequisite for that appropriative water right.

The construction and use of spring water for commercial purposes will not have a significant impact on utilities and service systems, therefore, mitigation measures are not required.

Impact Conclusion The impacts on utilities and service systems will be less than significant.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE

Environmental Issue	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the Project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The proposed project has a potential to degrade the quality of the environment by adversely impacting air quality (short term), biological resources, cultural resources and water quality. However, with implementation of the mitigation measures to be included as permit terms, potential impacts would be reduced to a less-than-significant level.

The proposed project has a potential to result in adverse environmental impacts. These impacts in combination with the impacts of other past, present and future projects, could contribute to cumulatively significant effects on the environment. However, with implementation of the mitigation measures to be included as permit terms, the proposed project would avoid or minimize potential impacts and would not result in cumulatively considerable environmental impacts. No potentially significant adverse effects to humans have been identified.

G. FINDINGS

After inclusion of the mitigation measures as permit terms, the impacts to air quality, biological resources, cultural resources and water quality would be less-than-significant. Impacts that are individually limited but cumulatively considerable (as a result of implemented permit terms) would be less-than-significant-with-mitigation.

H. DETERMINATION

On the basis of this initial evaluation

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

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent (see Appendix A). A MITIGATED NEGATIVE DECLARATION will be prepared.

I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

This mitigated negative declaration reflects the independent judgment of the lead agency.

Prepared By:

Michael W. Skenfield 12-22-10
 Michael W. Skenfield, CEQA Consultant
 Michael W. Skenfield, Biological and Wetland Consultant Date

Reviewed By:

Katherine Mrowka 1-2-11
 Katherine Mrowka, Chief
 Inland Streams Unit Date

Phil Crader 2/17/11
 Phil Crader, Acting Manager
 Permitting and Licensing Section Date

I. INFORMATION SOURCES

The following documents were used as references for the Initial Study. These documents are on file at the Division Office.

1. Biological Survey Report, Application 31491 G. Scott Fahey. Sugar Pine Spring Water Pipeline. Stanislaus National Forest, Tuolumne County, California. Michael W. Skenfield Biological, Wetland Consultant, May 2010
2. Water Availability Analysis, G. Scott Fahey Application No. 31491 (Stanislaus National Forest/Tuolumne County), GeoResource Management, Sonora CA. July 14, 2010.
3. Heritage Resources Inventory of the Sugar Pine Spring Water Project, Tuolumne County, California. PAR Environmental Services, Inc. October 2006; Revised March 2010
4. California State Office of Historic Preservation, Section 106 Consultation letter, July 26, 2010.

J. LIST OF PREPARER(S) OF THE INITIAL STUDY AND TECHNICAL AUTHORITIES

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Figure 1

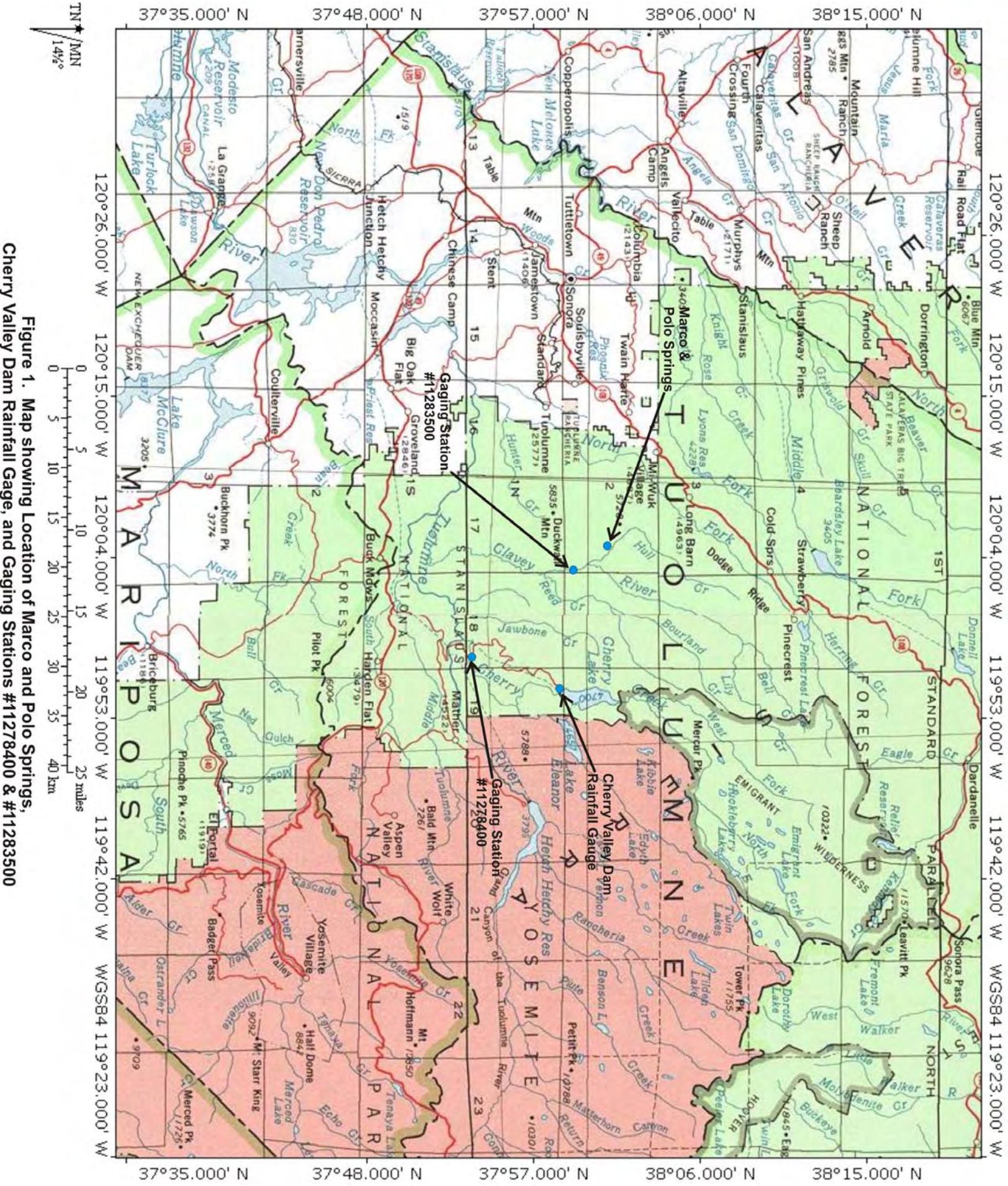
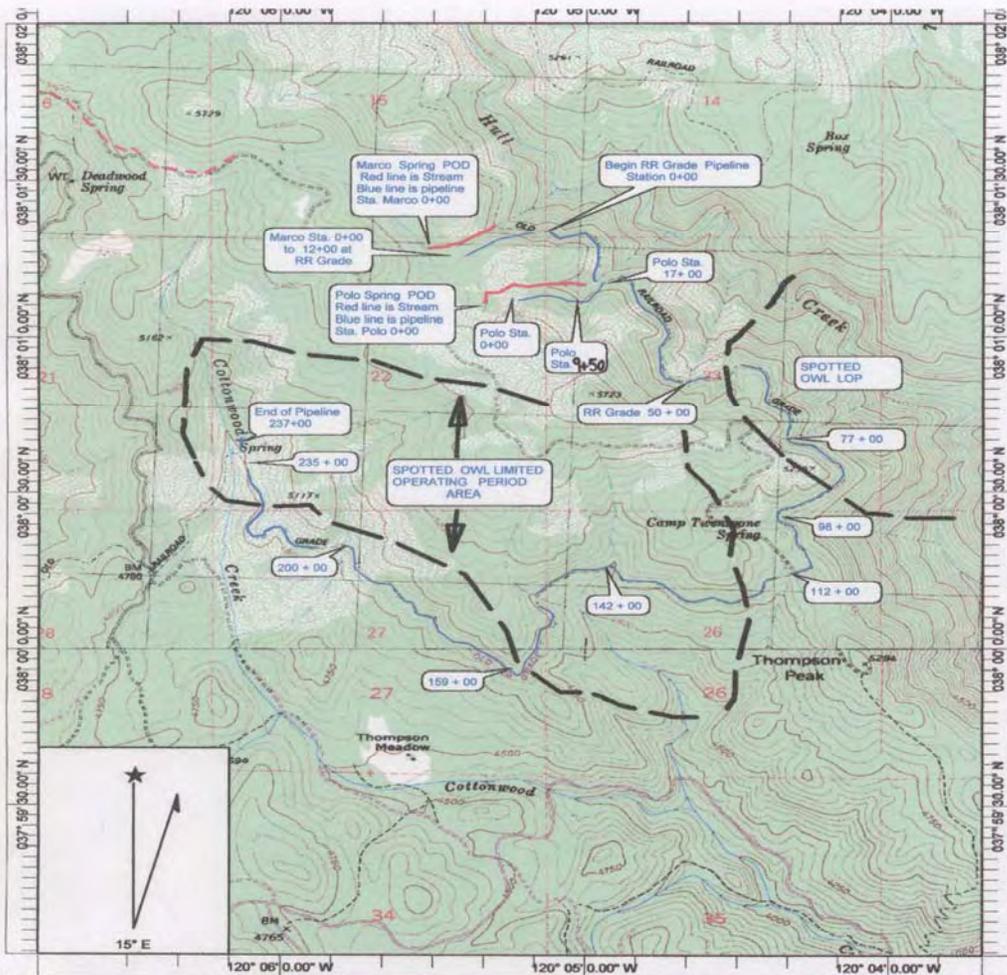


Figure 1. Map showing Location of Marco and Polo Springs, Cherry Valley Dam Rainfall Gauge, and Gaging Stations #11278400 & #11283500

Figure 2



Name: HULL CREEK
 Date: 12/10/2008
 Scale: 1 in. equals 2000 feet

Location: 038° 00' 30.71" N 120° 05' 14.50" W
 Caption: BIOLOGICAL RESOURCES MAP - Sugar Pine Springwater Pipeline, SNF

PROJECT MAP

Pipeline route shown as blue line with Stations

Figure 3

CONCEPTUAL TYPICAL SECTION

SUB-HORIZONTAL WELL Marco and Polo Springs

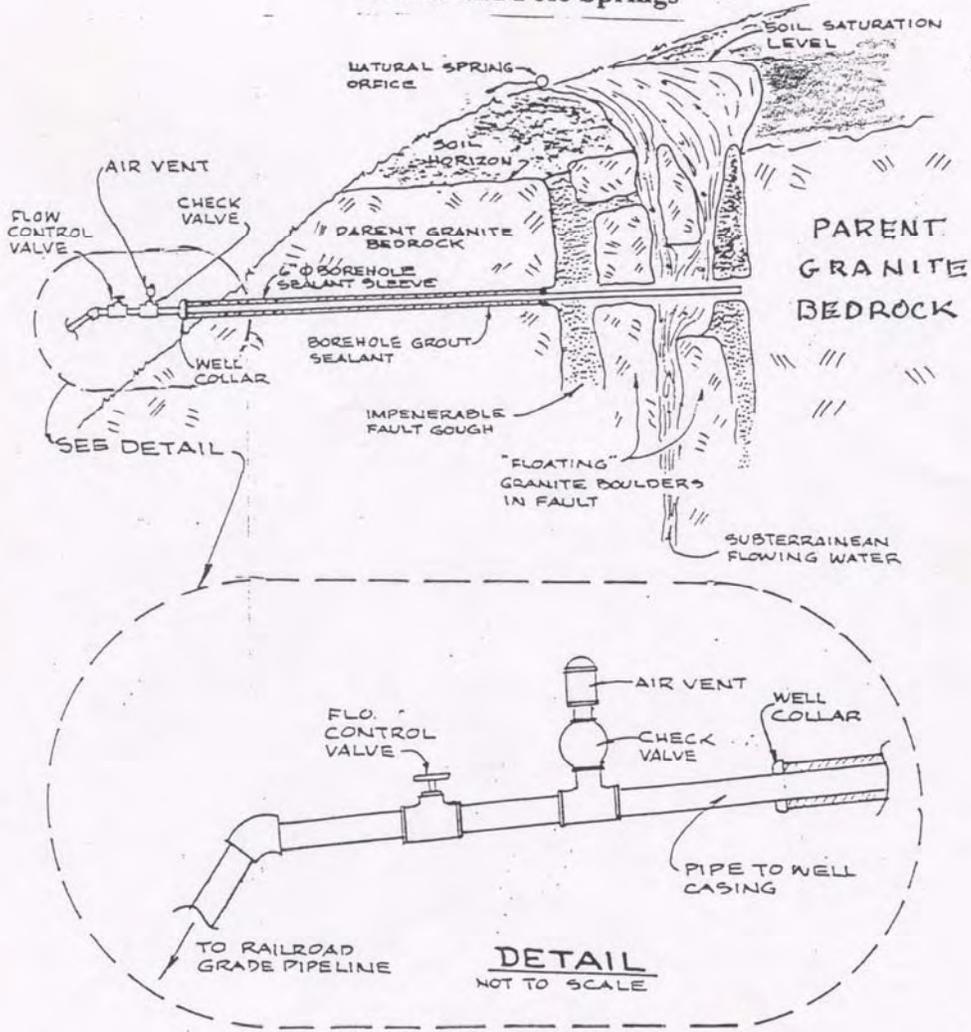


Figure 4

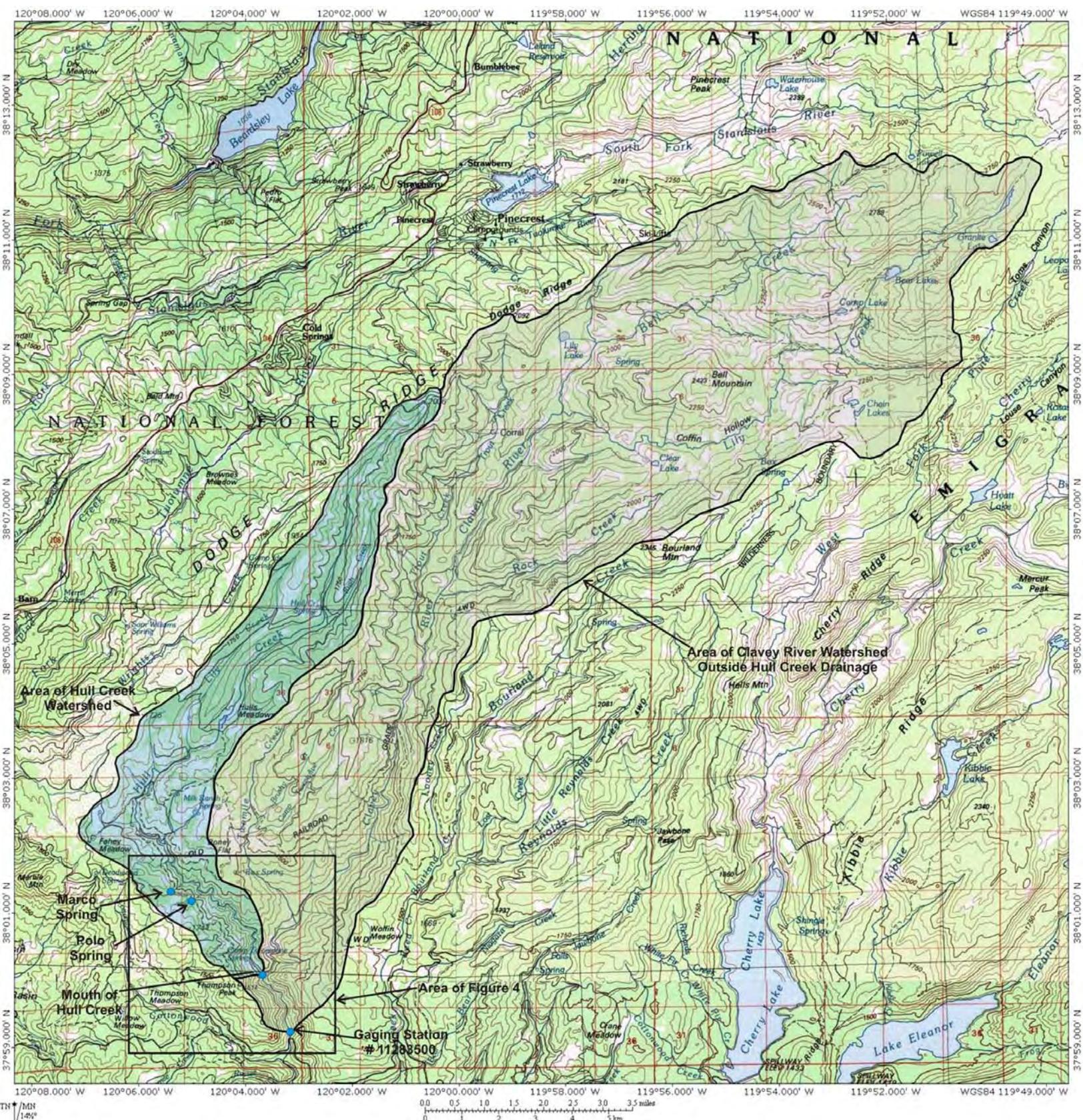


Figure 4. Topographic Map Showing Areas of Clavey and Hull Creek Watersheds,

Figure 5

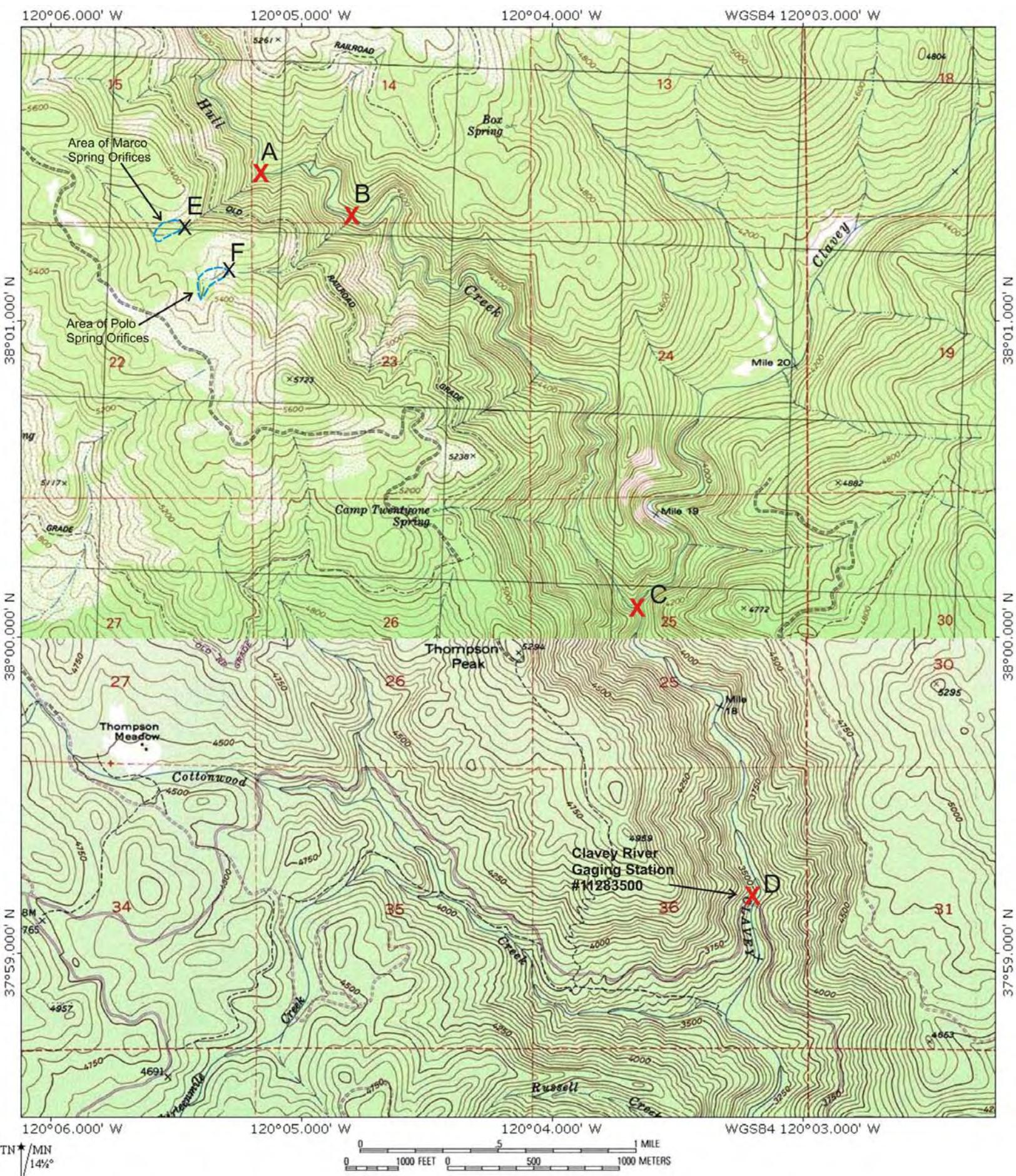


Figure 5. Topographic Map of Marco and Polo Springs and Point of Interest

- X Observation Points and Points of Diversion Below Marco and Polo Springs
- X** Points of Interest