RESOURCE CONSERVATION DISTRICT OF TEHAMA COUNTY

PONDEROSA WAY ROAD ASSEMENT AND SEDMEINT REDUCTION PLAN

PHASE I AND PHASE II IMPLEMENTATION PROJECTS

PROGRAMATIC INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

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The Programmatic Initial Study/Mitigated Negative Declaration has been Prepared Pursuant to The California Environmental Quality Act of 1970

State of California

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MITIGATED NEGATIVE DECLARATION AND ENVIRONMENTAL CHECKLIST FORM

Project Name:

Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects

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The Resource Conservation District of Tehama County is the sponsor, preparer and Lead Agency for this CEQA document along with several implementation projects to be completed using a portion of the State Water Resources Control Board dollars provided for its preparation. Future implementation efforts may be sponsored, funded and completed by other entities.

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I. MITITGATED NEGATIVE DECLARATION AND ENVIRONMENTAL CHECKLIST FORM

The Resource Conservation District of Tehama County (RCDTC) has reviewed the proposed ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects Programmatic Initial Study/Mitigated Negative Declaration*** below to determine whether project work as described, could have a significant effect on the environment. "Significant effect on the environment" means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by this program of project work including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance.

Purpose of Proposed Work and Project Summary

Current conditions of roads within the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** area have modified natural runoff regimes and stream networks, as well as accelerated road related erosion rates and hillslope processes within a large portion of eastern Tehama County. The 2012 Ponderosa Fire, past construction practices, salvage logging, fuel break construction, ineffective or poor road drainage, and deferred or locally ineffective maintenance activities have led to altered hillslope drainage patterns, increased runoff, debris flows and accelerated hillslope and road erosion. These factors have also resulted in correlative off-site impacts including downstream channel instability, bank erosion, water quality impacts and degraded aquatic habitat within important anadromous fish streams within eastern Tehama County. (***See "Map 1 Location Map Ponderosa Way Road Assessment and Sediment Reduction Plan Projects, Phase I and Phase II Project Area Tehama County, California" and "Map 2 Topographic Map of Ponderosa Way Road Assessment and Sediment Reduction Plan Projects Phase I and Phase II Project Area Tehama County, California".***

To assist in future road and resource management efforts, a road related sediment source assessment and prioritized action plan has been developed that provides field-based data needed to treat existing and potential sources of erosion and sediment delivery within the Phase I Project Area (**See Map 3 Phase I Project Area Detail Map**). In addition to identifying specific erosion sites, the assessment and action plan describes an array of treatment prescriptions for hydrologically connected road surfaces and ditches within the Phase I project area. These sites are currently eroding and delivering fine sediment and road runoff to tributaries of the South Fork Battle Creek and other significant anadromous fish streams in eastern Tehama County. The prescribed treatments will prevent sediment delivery from individual erosion features along

with fine sediment delivery from chronic erosion of road surfaces, cut banks and ditches within the Phase I project area. These pending and potential impacts can be prevented as soon as proposed road upgrading and decommissioning work described in this **Programmatic Initial Study/Mitigated Declaration (IS/MND)** and separate plan of action prepared for the Phase I Project area is undertaken. The plan of action is included as **Appendix A 2017 Ponderosa Way Road Assessment and Sediment Reduction Plan (Phase I)**, **Tehama County, California** to the IS/MND. The erosion assessment identified problem sites within the Phase I Project Area that require immediate treatment. Those sites judged as having a high priority for

implementation efforts, include features restricting Ponderosa Way access along with stream crossings having large fill volumes. One or more of such high priority sites described in the IS/MND and planning documents will be addressed through the implementation of demonstration projects (implementation projects) to be completed within the Phase I project area during the construction season of 2018.

In 2010, the RCDTC completed an initial survey of road conditions along Ponderosa Way within the Phase I and Phase II area. That document provided a description of current conditions along that portion of Ponderosa Way prior to the 2012 Ponderosa Fire and the severe storms of 2013 and 2014. The results of that survey were incorporated into a report entitled **WUI and Watershed Protection/Emergency Access (Coleman Fish Hatchery Road and Ponderosa Way** (**Appendix B** of this document). The information in that survey document regarding current road conditions within the Phase I and Phase II areas was utilized in the development of **Appendix A**. This information will also be used in the development of a similar technical report to be prepared for the Phase II project area prior to the implementation of any impactive implementation efforts within that portion of the overall project area. Importantly, the landscapes and base line environmental conditions within the Phase I and Phase II project area are similar. In addition, the sediment production and erosion conditions within the Phase I area are much more severe than those found in the Phase II area during the RCD's initial survey. As a result, the array of treatment options developed in **Appendix A** will be implemented during **Phase II** of this project once a more detailed road assessment and sediment reduction plan is developed for the Phase II area that will be similar in format to **Appendix A**. Preparation of the detailed Phase II road assessment and sediment reduction plan document will occur prior to the implementation of any sediment and erosion control projects in the Phase II project area. In addition, all Phase I and Phase II project work windows will occur during summer and fall periods (June 15th through October 31.

The expected benefit of employing the treatments described in **Appendix A** and shown in this CEQA Programmatic Initial Study/Mitigated Negative Declaration (IS/MND) entail a significant reduction of both chronic and episodic sediment. erosion and sediment delivery to streams, as well as managing the current sediment regime (e.g. accelerated post fire runoff, soil loss, erosion, and debris flows). When implemented and employed in combination with protective land management and post-fire land improvements, the treatment prescriptions outlined in this (IS/MND)and attached plan of action **(Appendix A)** are expected to significantly improve road conditions (drivability and access) for users particularly within the Phase II project area, reduce long term road maintenance costs, and provide for long-term protection and improvement of water quality and salmonid habitat in the South Fork and mainstem Battle Creek along with other important anadromous fish streams in the Tehama County's eastside area including Paynes Creek, Antelope Creek, Mill Creek and Deer Creek. Funding for preparation of the planning document, environmental analysis and implementation projects to be completed in connection with the Phase I and Phase II efforts was provided by the Regional Water Quality Control Board (RWQCB) Proposition 1 Timber Fund Grants Program.

Project Objectives

The ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** includes two phases ("Phase I" and "Phase II") of project work to be completed along and adjacent to 97.8 miles of Ponderosa Way road segments located within chaparral and low elevation conifer forests of eastern Tehama County. Elevations within the Phase I and Phase II project area range between 1,720' and 5,500'. The Phase I project area includes 14 miles of Ponderosa Way road segments and 8.1 miles of adjacent, spur roads between the Tehama County/Shasta County Line and State Route 36E (**See Map 3 Phase I Project Area Detail Map**). The Phase II project area is located between State Route 36E and State Route 32 E at the Tehama County/Butte County line and includes 83.8 miles of Ponderosa Way road segments and areas adjacent to the road prism (**See Map 4 Phase II Project Area Detail Map**). A detailed description of the Phase I and Phase II project areas is shown below in this IS/MND under **Geographic Scope of the Project Area General Description of the Phase I and Phase II Project Area**. The overall goal of this two-phased project is to reduce road related erosion and sediment delivery to streams through which Ponderosa Way passes by upgrading and/or decommissioning segments of Ponderosa Way. This goal will be achieved through:

- Development and design of road sediment stabilization projects related to catastrophic and chronic sediment movement features along 14 miles of Ponderosa Way road segments and 8.1 miles of intersecting spur roads within the Phase I project area.

- Development and design of road sediment stabilization projects related to chronic road related sediment movement features along 83.8 miles of Ponderosa Way Road segments within the Phase II project area.

- Preparation of separate action plans that describe and prioritize sediment stabilization projects to be implemented along and adjacent to Ponderosa Way within the Phase I and Phase II project area.

- Implementation of one or more pilot stabilization projects within the Phase I and Phase II project area.

- Future implementation of all road related sediment stabilization projects developed and described in the Phase I plan of action appended to this IS/MND as **Attachment A** and a Phase II plan of action document to be prepared prior to implementation of any related treatments within that portion of the overall project area, as funding is identified and obtained. Funding for the Phase I and Phase II implantation projects will be provided using a portion of the Water Resource Control Board project dollars provided for this effort.

Map 1
Location of the Ponderosa Way Road Assessment and Sediment Reduction Plan Project Phase I and Phase II Project Area
Tehama County, California

Map 2
Topographic Map of Ponderosa Way Road Assessment and Sediment Reduction Plan Projects Phase I and Phase II Project Area Tehama County, California

Map 3
Phase I Project Area Detail Map

Map 4
Phase II Project Area Detail Map

Examples of Conditions Along Ponderosa Way Within the Phase I and Phase II Project Area

Phase I Project Area

Photo 1. Stream crossing has been washed out by debris flow exposing the crossing culvert. Note geologists for scale.

Photo 2. Example of large scale erosion and sediment flows at stream crossings within the Phase I project area.

Photo 3. Stream crossing has been washed out by debris flow. Throughout the Phase I project area undersized culverts have been plugged by debris with stream crossings becoming overtopped. The stream crossing road fill prism then washes out from downcutting and headward migration.

Photo 4. Large portion of outboard road slope eroded from overtopped stream crossing.

Phase II Project Area

Photo 5. Unstable road fill behind cement retaining wall that is attached to a rock face with rebar. A portion of the rebar has become exposed due to traffic wear on the road bed and subsequent erosion of road fines during rain events. If the rebar separates from the rock face, the retaining wall could fall into the adjacent canyon spilling road fill into stream channels below and effectively severing Ponderosa Way.

Photo 6. Example of primitive low water crossing at an intermittent stream found along Ponderosa Way. The Crossing consist of rocks placed in the road cut that have been created by stream flows. These crossings provide no control of stream flows being delivered from the adjacent stream channels and rocked areas do not protect the entire portion of the road surface that is inundated during storm flows. As result significant amounts of sediment make their way into this tributary to Deer Creek's mainstem.

Photo 7. Uncontrolled winter traffic and fine roadbed material have resulted in significant rutting along various Ponderosa Way road segments within the Phase II Project Area. Lateral surface flows have exacerbated roadbed erosion and delivery of fine sediment into stream channels.

Photo 8. Clogged and undersized culvert has led to uncontrolled surface flows and the creation of a primitive stream crossing. The crossing has under sized rock and generates a considerable amount of sediment during vehicle passage which makes its way into the stream channel.

Photo 9. Unlined culvert inlet currently allows storm flows to cut at road fill and the road's surface. This material is carried down slope into tributary channels of anadromous fish streams located within the Phase II project area.

Photo 10: 12" culvert with crushed and blocked inlet. As storm flows fill the inlet and pass across the road prism, they pick up sediment from up slope areas along with road surface fines before passing over the road edge. When operational this "shot gunned" culvert pipe spills water approximately 3' to an eroded area directly blow the pipe outlet. These combined sediment sources are carried downslope into adjacent stream channels.

Detailed Scope of Work

Recommended Treatments

The following 21 recommended categories of erosion control and erosion prevention treatments have been developed for the 97.8 miles of Ponderosa Way and intersecting roads within the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** area. Within the Phase I portion of the overall project area, the erosion control and erosion prevention treatments design plan calls for 9.4 miles of road upgrading and 12.7 miles of road decommissioning along Ponderosa Way and intersecting spur roads (**See Map 5 Treatment Sites Phase I Project Area**). Approval by the Tehama County Board of Supervisors would be required in order to decommission those Ponderosa Way road segments within the Phase I project area. If approval is not provided, those treatment options developed for Phase I road segments not related to road decommissioning would be implemented as appropriate. Road segments recommended for decommissioning within the Phase I project area are shown on **Map 5.** All spur roads (8.1 miles) within the Phase I project area have been recommended for road decommissioning. County approval for such action on these private roads is not required. Not only are these routes privately owned and maintained, they have been blocked in order to prevent thru traffic and conversion to a public access road. All erosion control and erosion prevention work to be completed along Ponderosa Way within the Phase II project area will consist exclusively of road upgrading.

Proposed treatment options for Ponderosa Way within the Phase I (including spur roads) and Phase II project area are organized into 2 categories, site-specific treatments (e.g., stream crossings) and road surface drainage treatments (**see Table A Recommended Erosion Control and Erosion Prevention Treatments Ponderosa Way Road Assessment and Sediment Reduction Plan Projects below**). In addition to the treatment summaries shown in in **Table A**, detailed treatment descriptions are shown below. Storm proofing of Ponderosa Way within the Phase I and Phase II project area along with road decommissioning (Phase I project area only) are anticipated to provide immediate benefits to the streams and aquatic habitats found within the watersheds of eastern Tehama County and Butte County which currently receive catastrophic and chronic road related sediment generated within and along the Ponderosa Way road prism. It is anticipated that both road treatments and road decommissioning will measurably diminish the impact of erosion and movement of fine sediment on the biological productivity of those streams that pass through the Phase I and Phase II project area. These streams will also be protected from catastrophic road failure and sediment inputs during flood events. The proposed road treatments will allow future storm runoff to cleanse streams that pass through the Phase I and Phase II project area of accumulated coarse and fine sediment under improved habitat conditions rather than allowing continued sediment delivery from managed areas to impaired watercourses. Utilizing the attached Phase I upslope road assessment and treatment action plan (**Appendix A)** along with a similar document to be prepared in the future for the Phase II area, the Regional Water Quality Control Board and watershed stakeholders can work together in prioritizing the implementation of restoration and sediment control activities within the Phase I and Phase II project area.

Site-Specific Treatments

Stream crossing upgrade treatments will be implemented to reduce the risk of catastrophic failure and sediment delivery resulting from gullying, headcut migration, stream diversion and stream crossing failure (washout). Stream crossings will be designed (or redesigned) to minimize impacts to water quality and to handle peak runoff and flood waters. There are three basic subcategories of permanent stream crossings; 1) bridges and arches, 2) fords and armored fills, and 3) culverts. Current inventoried erosion features (sites) within the Phase I portion of the overall project area and future inventoried sites within the Phase II area will be upgraded. New stream crossing upgrades will be designed in a manner that adheres to current standards of State and federal regulatory entities and will make future failures less likely to occur. Treatments will also reduce the vulnerability of stream crossings to failure (overtopping and washout) and eliminate the risk of stream diversion.

Recommended treatments for road upgrading include replacing (upsizing) undersized culverts stream crossings and installing culverts at un-culverted (filled) stream crossings. In such locations, proposed treatment recommendations will have appropriate design geometry for installing new culverts or replacing current culverts with replacement culverts. All new stream crossing culvert installations will be properly sized for the 100-year recurrence interval design streamflow discharge. As previously mentioned, stream crossings that are designed to meet minimum standards and basic design criteria will significantly reduce the risk of catastrophic failure and sediment delivery. Proposed road upgrading treatments also include constructing ford crossings and armored fills in locations that are suitable for wet crossing construction. Fords will be built to convey stream flow across the roadbed with no fill migrating to the natural channel below the roadbed. Armored fill crossings will be built to convey stream flow directly across the roadbed and down an armored fillslope to the natural channel below.

Generally, fords and an armored fill crossing are intended for low-volume traffic areas, such as remote wildland roads and parklands experiencing little use as is the case with Ponderosa Way road segments in Tehama County. Fords and armored fills are a preferred design for small ephemeral and intermittent streams when the majority of the traffic will be crossing during low flow or dry conditions. When designed and properly built, fords and armored fill crossings are a preferred option for low volume, low maintenance, low use routes, such as Ponderosa Way. Stream crossings that display a diversion potential occur wherever a road climbs through the crossing site and where the road approach slopes away from the stream crossing. If the culvert plugs, backed up flood waters will be diverted out of the channel, down the road alignment and eventually onto adjacent, unprotected hillslopes. A major dip in the roadbed is critical, in the case of a plugged culvert, to direct flow over the low point (dip) in the fill and back into the natural channel.

Compaction of the fillslope face and slope gradient is one of the key factors that influence the stability of fillslopes. On fillslope angles steeper than 50% (2:1), riprap will be used as a stabilization measure as well as a non-erodible erosion control “mulch” on fillslopes that lack vegetation. Used as mulch, riprap prevents raindrop erosion, rilling and gullying caused by direct rainfall or concentrated road surface runoff. Fillslope riprap armor that is sized according to expected stream velocities and slope gradients, would consist of a

well graded mixture of hard, large to smaller rock sizes to minimize void space and create a dense layer of interlocking angular rock fragments. **"*Appendix C Typical Design Schematics for Proposed Treatments Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*"** provides additional design detail regarding these site-specific treatments.

Road Surface Treatments

Among the goals of the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** is to achieve normalized hillslope drainage and as feasible, to hydrologically disconnect Ponderosa Way and its spur roads from the major anadromous streams and their tributaries that flow through the Phase I and Phase II project area. For the purposes of this project, a "hydrologically connected" road or road segment is defined as any road segment that has a continuous surface flow path to a natural stream channel during a runoff event. Wherever a hydrologic connection exists, road surface runoff and fine sediment is delivered to streams during precipitation events sufficient to produce surface runoff and cause erosion of bare soil areas. Concentrated runoff on compacted road surfaces and ditches results in erosion and road related sediment transport to nearby streams. The most common road related bare surface areas include unpaved road surfaces as well as bare (unvegetated) fillslopes, cutbanks, ditches, gullies, turnouts and landslide surfaces. The road surface drainage treatments proposed for upgraded roads are designed to control, direct and disperse road surface runoff and ditch flow onto adjacent hillslopes by reshaping the roadbed and constructing relatively frequent road surface drainage structures (e.g., rolling dips).

Treatment of road segments proposed for decommissioning will be based upon the principals of dispersing road surface runoff by constructing cross road drains and increasing infiltration rates through decompaction of the road surface. These techniques will disperse road surface runoff and reduce or prevent delivery of concentrated road runoff and fine sediment to streams. Road surface upgrading treatments are designed to redirect and disperse surface runoff off the road bed as frequently as feasible. Road upgrading recommendations include outsloping, insloping, berm removal, and installing rolling dips and ditch relief culverts to more frequently discharge runoff along segments of Ponderosa Way. For each recommended road surface drainage treatment where ground disturbance will occur, road rock will be used to stabilize the road surface. Such rocking will curtail road surface erosion by fortifying the road surface and reducing the rate of vehicle abrasion, down wearing, surface erosion, and resultant fine sediment production and delivery. Road surface decommissioning treatments are designed to prevent surface runoff by ripping the road surface to an average depth of 18" to 24" in order to increase infiltration rates and improve revegetation. In addition, road drainage will be dispersed by constructing frequent cross road drains to convey upslope runoff quickly across the road and to more frequently discharge runoff along segments of Ponderosa Way. Reducing the total length of roads within the Phase I project area through decommissioning 12.7 miles of Ponderosa Way and spur roads that are hydrologically connected to streams within the Phase I project area will directly and immediately improve water quality in South Fork Battle Creek. **See the discussion related to road decommissioning below for additional details on such road treatment practices.**

The basic principles of road surface drainage design entail dispersing runoff as frequently as possible thus protecting the integrity of the road and minimizing erosion and sediment pollution. The primary recommended road surface drainage treatments for upgrading Ponderosa Way within the both Phase I and Phase II project area include:

1) Outsloping of roads by removing the inboard ditch.

2) Crowning roads by directing surface runoff to the outer edges of the road.

3) Installing rolling dips.

4) Removing outside road berms.

Based upon the attached Phase I road assessment **(Attachment A)**, observations described in the RCDTC' **WUI and Watershed Protection/Emergency Access (Coleman Fish Hatchery Road and Ponderosa Way** (**Appendix B)** along with what is expected to be identified during Phase II road and sediment assessments; outsloped roads with rolling dips and no ditch or berms along the outside edge of the road are considered the best, most preferred road shape and drainage configuration for the majority of road upgrading circumstances along Ponderosa Way. In addition, it is anticipated that each segment of outsloped road will have the outside berm removed and will be resurfaced with road rock. An outsloped road cross section is more likely to capture and disperse road surface runoff. This treatment option has less environmental impact and lower maintenance costs than other designs. Outsloping high priority road segments along Ponderosa Way will minimize flow volumes and the magnitude of runoff in the inside ditch, as well as reduce the potential for erosion, hydrologic connectivity and sediment delivery from the upgraded road surface. An outsloped road ensures that turbid road runoff and fine sediment eroded from the roadbed will be quickly drained to the outside edge of the road where it can be discharged onto vegetation and into undisturbed slopes rather than migrating into stream channels. Outsloping however is not always sufficient enough to move surface runoff out of wheel ruts and off the road surface rapidly.

In addition to outsloping and berm removal, rolling dips are often necessary to disperse surface runoff from outsloped roads. Rolling dips are smooth, angled depressions constructed in the road bed that drain surface runoff to the outside of the road dispersing it onto native hillslopes and are critical to maintaining a well-drained, outsloped road. These features will be constructed into the road subgrade with an outsloped dip axis and long, shallow approach on their up-road side with a more abrupt rise, or reverse grade, on their down-road side. Spacing design will be dependent upon the road grade, length of uncontrolled runoff, the erodibility of the road surface (e.g., rocked or native) and the proximity of the nearest stream channel.

Primary road surface treatments developed in order to upgrade selected portions of Ponderosa Way within the Phase I and Phase II project area will include as appropriate:

- Installation of ditch relief culverts and ditch relief culvert downspout.
- Insloping of road.
- Cutting and cleaning existing inboard ditches.
- Applying road rock on existing rocked roads.

Road Decommissioning

A number of inventoried erosion features within the Phase I project area have been proposed for decommissioning (***See Map 5 Treatment Sites Phase I Project Area***) if approved by the Tehama County Board of Supervisors. If necessary approval is obtained, treatments to sites along decommissioned (closed) road segments (Phase I project area only) will include: decompacting and/or outsloping the former road bed and installing cross road drains to prevent collection, concentration or diversion of surface runoff; removing (excavating) unstable or potentially unstable fill (sidecast materials) that could fail and deliver sediment to a stream; excavating stream crossing fills and exhuming the original stream channel bed and stable sideslopes; removing concrete sills and applying erosion control (seeding and mulching) to bare soil areas disturbed by decommissioning work. **"*Appendix C Typical Design Schematics for Proposed Treatments Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*"** provides additional design detail related to potential road decommissioning within the Phase I and Phase II area to be completed in connection with the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects***. Decommissioning stream crossings located along closed road segments within the Phase I project area will adhere to the following standards and provide immediate benefits to water quality as well as aquatic and riparian habitat conditions of those streams that pass through the Phase I project area.

- Complete removal of stream crossing road fills and stored sediment that impact the natural stream channel morphology.
- Excavated channel bottom widths sized for the 100-year storm flood flow and at least as wide as the undisturbed natural stream channel.
- Stable channel grades and streamside hillslopes.
- Elimination of stream diversion potential.

- Prevention of future stream crossing wash outs and gullying of abandoned stream crossing fills. Unstable fillslope (landslide) features which represent existing and pending road fill failures will be treated. If left untreated, large amounts of sediment would be mobilized and delivered to the stream channel from these potential fillslope failures.

Most of the Class II watercourses crossings proposed for upgrading or decommissioning will require dewatering, using either gravity fed flex pipe or a gas-powered pump and coffer dams. CDFW standards detailed in the CDFG Salmonid Habitat Restoration Manual, Part X: *Upslope Erosion Inventory and Sediment Control Guidance* will be followed along with those established specially for this project (**See the Best Management Practices** section of this IS/MND along with ***Appendix F Mitigation Monitoring and Reporting Plan (MMRP) for the Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects Initial Study/Mitigated Negative Declaration***). Each recommended treatment type proposed for use in connection with the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** is consistent with the conservation goals and objectives written into the implementation strategies and guidelines of the Basin Plan for the Central Valley Region (revised April 2016) in order to protect beneficial uses and water quality. All upslope road treatment recommendations will follow guidelines described in the *Handbook for Forest, Ranch and Rural Roads*, Part *X* of the CDFG Salmonid Stream Habitat Restoration Manual, and California Forest Practice Rules (CAL FIRE, 2017).

Declaration of No Significant Impact

The Resource Conservation District of Tehama County has reviewed potential environmental effects of the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects***. Incorporated into this Mitigated Negative Declaration is an Initial Study in which potential impacts of implementing the array of immediate and future sediment stabilization projects are described and there impacts on the project area's environment discussed. The Initial Study identified nine resource areas that could be potentially affected by Phase and Phase II related project work. These include **Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality Transportation and Traffic and Tribal Cultural Resources**. In addition, a number of special status animals and plants were identified within or around the 97.8-mile-long Phase I and Phase II project area including 15 mammalian species, 13 amphibian species, 7 fish species, 20 avian species, 1 insect species, 1 gastropod species and 63 plant species were identified. Although this project is intended to benefit these species and the natural environment overall, negative impacts from project implementation are possible. Various Best Management Practices (BMP) and protective measures in the form of formally established **Mitigation Measures (MM)** have been developed and described in this programmatic Mitigated Negative Declaration document in order to avoid and minimize impacts that can typically occur from the implementation of approved project work. Specific Mitigation Measures, described in the Initial Study are intended to avoid and minimize impacts that can typically occur from construction are incorporated into this project including:

Map 5
Treatment Sites Phase I Project Area

Table A

Recommended Erosion Control and Erosion Prevention Treatments Ponderosa Way Road Assessment and Sediment Reduction Plan Projects

Treatment type			Comments
Site feature specific treatments	Stream crossing treatments	Culvert (install)	Installation of culverts within fill areas.
		Culvert (replace)	Replacement of undersized, poorly installed, or worn out culverts.
		Bridge installation	Installation of bridges to prevent crossing failure.
		Wet crossing	Installation of ford crossings and armored fill crossings using riprap and rock armor.
		Decommission crossing	Decommissioning of stream crossings by removing all fill and woody material and restoring natural channel morphology and function to convey 100-year storm flow.
		Critical dip	Installation of critical dips to prevent stream diversions.
	Other	Rock (armor)	Rock armoring on headcuts along with inboard and outboard stream crossing fillslopes.
		Clean culvert	Cleaning of culvert inlets to regain inlet capacity and pass stream flow.
		Soil excavation	Excavation and removal of sediment, primarily at fill failures and stream crossings.
Road surface treatments		Outslope road and remove ditch	Outsloping of roads and removal or filling of inboard ditches.
		Inslope road	Insloping of roads.
		Ditch relief culvert	Replacement of in place ditch relief culverts with properly installed ditch relief culverts.
		Ditch relief culvert downspout	Installation of downspouts on ditch relief culvert outlets to prevent fillslope erosion.
		Remove berm	Remove of berms on the outboard edge of roads.
		Remove ditch	Removal of inboard ditches.
		Rolling dip	Installation of rolling dips on hydrologically connected roads to improve road surface drainage.
		Clean and cut ditch	Cleaning and cutting inboard ditches.
		Cross-road drain	Installation of cross-road drains to improve and disperse surface runoff on decommissioned roads.
Treatment type			**Comments**
Rock road surface			Rocking of specific road segments.

Rip road surface	Decompaction of specific existing road surfaces with bulldozer rippers to prepare the road surface for placement of excavated fill and/or facilitate water infiltration and revegetation.

- General measures to protect special-status species.
- Specific measures to protect special-status raptors
- Specific measures to protect non-listed raptors
- Specific measures to protect special-status fishers
- Specific measures to protect riparian vegetation
- Specific measures to protect aquatic species during dewatering operations
- Specific measures to Protect Migratory Bird Treaty Act species
- Specific measures to protect special-status plants

The Resource Conservation District of Tehama County finds these BMP's, Mitigation Measures and other project specific requirements adequate to protect Special Status species during implementation of Phase I and Phase II Project work. Consequently, the RCDTC has determined that ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Projects*** as developed, implemented and mitigated, will not have a significant impact on the environment.

Geographic Scope of the Project Area

General Description of the Phase I and Phase II Project Area

(See **Map 1 Location of the Ponderosa Way Road Assessment and Sediment Reduction Plan Project Phase I and Phase II Projects Areas Tehama County, California** and **Map 2 Topographic Map of Ponderosa Way Road Assessment and Sediment Reduction Plan Project Phase I and Phase II Projects Areas Tehama County, California** for an overview of the project area's extent)

Phase I Project Area
5 Miles southeast of Manton California
22 miles northeast of Red Bluff California
Between Rock Creek Road and the Shasta/Tehama County line to State Route 36E and the Ponderosa Sky Ranch community
(See **Map 3 Phase I Project Area Detail Map**)

Phase II Project Area
5 miles east of Cohasset California
25 miles south east of Red Bluff California
20 miles east of Los Molinos California
25 miles east of Chico California

Between State Route 36E and State Route 32E
(See **Map 4 Phase II Project Area Detail Map**)

Legal Description of the Phase I and Phase II Project Area:

Phase I Project Area
T30N R2E Sec 31
T29N R1E Sec 1
T29 R2E Sec 6, 7, 15,16,17,18, 21 and 22

Phase II Project Area
T28N R1E Sec 12-13
T28N R2E Sec 5-6-7-17-18-19-20-21-28-29-32
T27N R2E Sec 5-4-10-13-14-15-23-24
T27N R3E 13-14-15-16-19-20-21-24-25-26-27-34-35-36

General Plan Designation:	**Zoning:**
Foothill Residential/Timber Mountain	Agricultural Rural Residential Timber Preserve Zone

Regulatory Review/Approval Process and Permitting Mechanisms

Approval and permits issued by the following regulatory agencies will be required in order to implement the sediment stabilization efforts to be completed in connection with the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Projects*** program of work

Federal Agencies

U.S. Fish and Wildlife Service (USFWS)
Endangered Species Act (ESA) Section 7 Consultation/Incidental Take Statement.

National Marine Fisheries Service (NMFS)
ESA Section 7 Consultation/Incidental Take Statement.

U.S. Army Corps of Engineers (USACE)
Clean Water Act §404 Nationwide Permits or Regional General Permit.

State Agencies

California Department of Fish and Wildlife (CDFW)
California Department of Fish and Wildlife: Section 1602 Streambed Alteration Agreement, California Endangered Species Act (CESA) Consultation and Section 2081 Incidental Take Permit,

Central Valley Regional Water Quality Control Board (CVRWQCB)
A Waste Discharge Requirements, Waivers of Waste Discharge Requirements, TMDL compliance determinations, or Clean Water Act §401 Certification may be required for certain types of project work. Section 401 of the federal Clean Water Act gives the Central Valley Regional Water Quality control board the authority to issue, waive, or deny certification that a proposed activity is in conformance with state water quality standards. Alternatively, under the state Porter-Cologne Act, the CVRWQCB has the authority to issue a waste discharge requirement specifying the concentration or load limits allowable for a particular activity. The need for a Section 401 certification or waste discharge requirement is triggered by the potential for an activity to result in the release of waste material into a waterway. Although the net result of the practices will be the reduction of sediment delivery to streams, the implementation of project work may result in short-term, minor discharges of fine sediments to waterways. As an example, improvement of roads or stream crossings could result in minor short-term impacts to water quality. The Mitigation Measures developed for the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** effort are anticipated to render the effect of proposed project work on project area resources to a less than significant level. CVRWQCB section 401certification is required to be completed by the Corps before issuance of its section 404 permit.

CalTrans
In the event that Phase I or Phase II project work will be completed within a State Highway right-of-way, a CalTrans encroachment permit will be required. A separate authorization will be needed for each occurrence of entrance onto a State Highway or into a State highway right-of-way.

Native American Heritage Commission (NAHC)
California State Historic Preservation Office (SHPO): SHPO Certification Letter
Cultural resources compliance is required under sections 106 and 110 of the National Historic Preservation Act (NHPA), which requires federal agencies to identify and assess the effects of their actions on cultural and historic resources. All projects implemented under in connection with the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** effort will be subject to an assessment in order to assure ensure potential impacts to cultural resources are minimized. The agreement creates a process for assessing potential impacts, reviewing local, state and national records and literature, and consulting with tribal authorities, historical societies and other interested parties.

In addition, California Assembly Bill AB 52 Amends the California Environmental Quality Act by creating a new category of cultural resources and new requirements for consultation with Native American Tribes. AB 52, creates a new category of environmental resources that must be considered under the California Environmental Quality Act: “tribal cultural resources.” This legislation imposes new requirements for

consultation regarding projects that may affect a tribal cultural resource, includes a broad definition of what may be considered to be a tribal cultural resource, and includes a list of recommended Mitigation Measures. AB 52 adds tribal cultural resources to the categories of cultural resources analyzed through the CEQA process which had formerly been limited to historic, archaeological, and paleontological resources. "Tribal cultural resources" are defined as either (1) "sites, features, places cultural landscapes, sacred places and objects with cultural value to a California Native American tribe" that are included in the state register of historical resources or a local register of historical resources, or that are determined to be eligible for inclusion in the state register; or (2) resources determined by the lead agency, in its discretion, to be significant based on the criteria for listing in the state register.

Under AB 52, a project that may cause a substantial adverse change in the significance of a tribal cultural resource is defined as a project that may have a significant effect on the environment. Where a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document must discuss the impact and whether feasible alternatives or Mitigation Measures could avoid or substantially lessen the impact. Recognizing that tribes may have expertise with regard to their tribal history and practices, AB 52 requires lead agencies to provide notice to tribes that are traditionally and culturally affiliated with the geographic area of a proposed project if they have requested notice of projects proposed within that area. If the tribe requests consultation within 30 days upon receipt of the notice, the lead agency must consult with the tribe. Consultation may include discussing the type of environmental review necessary, the significance of tribal cultural resources, the significance of the project's impacts on the tribal cultural resources and alternatives and Mitigation Measures recommended by the tribe. The parties must consult in good faith and consultation is deemed concluded when either of the parties agree to measures that mitigate or avoid a significant effect on a tribal cultural resource (if such a significant effect exists) or when a party concludes that mutual agreement cannot be reached. Mitigation Measures agreed upon during consultation must be recommended for inclusion in the environmental document. AB 52 also identifies Mitigation Measures that may be considered to avoid significant impacts if there is no agreement on appropriate mitigation. Recommended measures include:

- Preservation in place
- Protecting the cultural character and integrity of the resource
- Protecting the traditional use of the resource
- Protecting the confidentiality of the resource
- Permanent conservation easements with culturally appropriate management criteria.

These Mitigation Measures have been incorporated into this Project's requirements along with those described in the Program's Initial Study/Mitigated Negative Declaration and as listed under **Appendix F Mitigation Monitoring and Reporting Plan (MMRP)**. See the discussion related to AB-52 requirements found in the **Tribal Cultural Resources** Section of the attached Initial Study/Mitigated Negative Declaration.

County Agencies

Tehama County Air Pollution Control District (TCAPCD)
An individual non-discretionary burn permit would be required for burning activities including pile burning of construction related vegetative debris.

Tehama County Public Works Department (TCPWD) and Butte County Public Works Department (BCPWD)
In the event that Phase I or Phase II project work will be completed within a Tehama County or Butte County road right-of-way, an encroachment permit will be required from each County where such project related encroachment occurs. A separate authorization will be needed for each occurrence of entrance onto a County road or into a County right-of-way.
(Specific permit terms and conditions will be included with the individual design standards and specifications for each project implemented in connection with the Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects effort as established between the landowner, the RCD of Tehama County or other implementing entities.)

Decisions Subject to the California Environmental Quality Act (CEQA)

As required by regulation, projects that are not exempt from the provision of the California Environmental Quality Act must be analyzed as to their impacts on the environment. The specific project work and proposed future road treatments to be completed in connection with the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** work program have been analyzed for their environmental impacts on the resources found within the overall project area as documented in the attached CEQA Programmatic Initial Study/Militated Negative Declaration. CEQA regulations require the circulation of the program's draft Programmatic Initial Study/Mitigated Negative Declaration through submission to the State Clearinghouse who distributed the document to State resource and trustee agencies. This submission along with the document's filing at the Tehama County Clerk Recorders Office and posting to the RCD of Tehama County's website (*http://www.tehamacountyrcd.org*) also allowed for extensive access to and review by members of the public. Comments made by public and private reviewers were considered by RCD of Tehama County staff and as appropriate incorporated these into the final draft Programmatic IS/MND. The final IS/MND document was then reviewed and approved by the RCD of Tehama County's Board of Directors on _____ along with the related Mitigation Monitoring and Reporting Plan and Best Management Practices. The Mitigation Monitoring and Reporting

Plan and BMPs are important components of the Programmatic Initial Study/Mitigated Negative Declaration process as it insures that the protection measures incorporated into the Programmatic IS/MND are adhered to during the implementation of current and future erosion control and sediment stabilization efforts.

Project Notification to Regulatory Agencies

Prior to implementation of the individual projects to be completed in connection with the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** effort, the RCD of Tehama County or other implementing entity will provide appropriate regulatory agencies with a summary notification of all projects to be completed under its purview during a given year. The notification will include the following information:

- Project identification location; ownership shall not be identified on public review documents.
- Nature of work and description of project need.
- Approved practices to be installed.
- Location of work to be performed shall be identified by subwatershed.
- Project dimensions (volume, length and area, if applicable).
- Total area of disturbance to be affected by the project.
- Quantitative assessment of temporary impacts on native vegetation.
- Environmental setting – surrounding habitat, adjacent land use.
- Potential presence of listed species.
- Avoidance measures to be used during project implementation.
- In addition to the provisions shown above, the following information will be provided to the California Department of Fish and Wildlife (CDFW) by the RCD of Tehama County related to the CDFW 'Lake or Streambed Alteration Agreement (1600 Permit) as pursuant to Fish and Game Code Section 1602.

(1) The CDFW will receive written notification regarding the project work to be completed in connection with Phase I and Phase II of the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Implementation Projects*** in the manner prescribed by the department. The notification shall include, but is not limited to, all of the following:

- A detailed description of the project's location and a map.
- The name, if any, of the river, stream, or lake affected.
- A detailed project description, including, but not limited to, construction plans and drawings, if applicable.

Per PRC 1603. "*(a) After the notification is complete, the department shall determine whether the activity may substantially adversely affect an existing fish and wildlife resource. If the department determines that the activity may have such an effect, the department shall provide a draft agreement to the entity within 60 days after the notification is complete. The*

draft agreement shall describe the fish and wildlife resources that the department has determined the activity may substantially adversely affect and include measures to protect those resources."

Regulators will have the opportunity to review individual design and construction specifications for each proposed for funding. Regulatory entities may request a meeting or site visit(s) and may provide additional conditions for inclusion in the individual project work scope, which will be included as part of the individual project plan.

Environmental Protection, Best Management Practices and Mitigation Measures

The intent of the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Projects*** effort including both specific proposed pilot projects and future erosion control and sediment stabilization efforts is to reduce impacts on water quality and other resources found within the watersheds through which Ponderosa Way passes. Any activity that involves work in an area with sensitive resources, no matter what the intent, has the potential for short-term adverse impacts. The work scopes and project designs developed and implemented in connection with Phase I and Phase II efforts will specify conditions governing implementation of conservation practices in the form of general, commonly accepted and utilized Best Management Practices along with formal Mitigation Measures that apply to specific projects to be implemented. These BMPs and Mitigation Measures are found below under the heading ***Best Management Practices Developed and Selected for the Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** and ***Program Mitigation Measures***.

Developed in cooperation with regulatory entities, the Best Management Practices and Mitigation Measures shown below are intended as minimum conditions that will be incorporated into project designs for implementation during completion of project work. These measures will also ensure that regulatory agencies' mandates are honored. Additional restrictions or requirements may be placed upon a particular project listed in the plan of action (**Appendix A**) and **Appendix C Typical Design Schematics for Proposed Treatments Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects**) both of which describe the program of work to be completed in connection with the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** effort. More specifically, **Appendix A** and **Appendix C** provide both designs and scopes of work for the array of erosion and sediment control reduction treatments to be completed under this work program. Individual project work will be completed at the discretion of regulatory agencies and the RCD of Tehama County. With the incorporation of these protective measures, any potential negative environmental effects of the proposed work program described in the plan of action will be reduced to less-than-significant levels.

Best Management Practices Selected for the Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects

The following Best Management Practices (BMP) will be utilized during project implementation and construction efforts related to the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** effort. These BMPs have been developed and incorporated into this project's work scope in order to reduce or eliminate impacts to the aquatic, riparian, wetland and upland areas found within this work program's project area. Construction site BMPs can be temporary measures that are only applied and effective during active construction, and/or permanent measures that work to control erosion and sedimentation as well as to improve storm water quality during and after construction. The erosion and sediment control techniques to be implemented will conform *to CDFW California Salmonid Stream Habitat Restoration, Manual Parts IX and X,* or to other acceptable BMP programs that are employed for the protection of water quality and habitats.

Implementation of erosion and sediment control projects as well as related impactive activities to occur in connection with this work program will follow all requirements of project specific California Department of Fish and Wildlife Streambed Alteration Agreements along with other federal and State water quality protection permits and agreements. It is anticipated that all implementation projects to be completed using a portion of the Water Quality Control Board funds provided to complete the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** effort will be completed within one work season during the dry summer months (approximately June 15 through October 31) or as late as feasible. Implementation of other projects developed in the plan of action will be completed during the same period of time in the year that future funding is secured.

BMP Selection Criteria

The selection of Best Management Practices for the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** effort was based upon the following criteria:

- Formally delineated limits of clearing and grading activities.
- A determination that buffer strips or natural vegetation can be utilized as a control measure.
- The arrangement of all project components within and around Phase I and Phase II project area that impact their physical surroundings.
- The incorporation of scheduling and/or phased construction into the project.
- Identified opportunities for staging or sequencing construction activities to minimize the amount and period of exposure of disturbed soils.
- A determination that most existing vegetation can be preserved.

Scheduling

Purpose:
To encourage the sequencing of construction activities and minimize the exposure of un-stabilized soils to erosion by wind, rain, and runoff.

Applications:
All locations that include grading, earthwork or any other construction related impacts.

Standards and Specifications:

- The Construction Contractor Representative shall provide to the RCDTC Project Manager or other implementing entity, a project site check list and schedule for completion of work that will be approved by the RCDTC Project Manager or implementing entity's Project Manager. The checklist and schedule shall provide the date that each construction task will begin and be completed. All erosion and sediment control measures will be incorporated into the construction schedule.

- No earthwork shall be completed during the local wet season. Work periods may be limited with respect to streambed alteration activities if potential impacts to aquatic species during breeding periods, larval stages, etc., may occur. In such instances, work periods shall be specified in a Lake or Streambed (1600) alteration Agreement

- No earthwork shall be completed during the local wet season. Work periods may be limited with respect to streambed alteration activities if potential impacts to aquatic species during breeding periods, larval stages, etc., may occur. In that case, work periods will be specified in a Lake or Streambed Alteration Agreement.

- Work shall be scheduled in order to minimize the extent of site disturbance at any one time.

Inspection and Maintenance:

- On a bi-weekly basis, the Construction Contractor Representative shall verify to the RCDTC Project Manger's or implementing entity Project Manager's satisfaction that project work is on schedule according to the project plan.

- The Construction Contractor Representative shall request revisions to the originally established project schedule well in advance of the events requiring such changes in order to prevent problems and to maintain control when changes to the schedule are unavoidable. Significant changes to the original project schedule shall be communicated to appropriate government agencies as determined necessary by the RCDTC Project Manager or other implementing entity's Project Manager.

Phased Construction

Purpose:

To reduce on-site erosion and sediment transport off-site by sequencing land disturbance and erosion and sediment control measures.

Applications:

Locations where water quality might be impacted by erosion from earthwork.

Limitations:

Weather and other unforeseen conditions that may affect construction phasing.

Standards and Specifications:

Construction phasing schedules shall include at a minimum the following:

- A schedule for the installation of erosion and sediment controls.
- A schedule that is compatible with the general construction schedule.

The following table lists the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** effort's anticipated major site sequencing events:

1. Construction Access	Install stabilized construction entrances/exits before earth disturbing construction activities begin.
2. Sediment traps and basins	Design and construct sediment traps and basins prior to stripping and grading.
3. Runoff control	Install diversion channels and dikes before the onset of grading activities.
4. Sediment Control	Install sediment control BMPs along downhill border of site.
5. Erosion control	Stabilize disturbed soils as soon as possible.
6. Land clearing and grading	Clear and grade the site after sediment and runoff control measures have been installed.
7. Maintenance	Conduct frequent inspections and remove accumulated sediments from the BMPs.
8. Surface stabilization	Apply immediately to any disturbed areas to control dust and erosion.
9. Building construction	Properly store and contain materials.
10. Maintenance	Conduct frequent inspections and remove accumulated sediments from the BMPs.
11. Landscaping and final stabilization	Stabilize the area and remove all temporary sediment control and construction wastes.

Inspection and Maintenance

- Verify frequently that work is on schedule according to the project plan.
- Revise the plan before construction activities are implemented or when changes to the project schedule are unavoidable.

- Communicate significant schedule changes to appropriated federal, State and County staff personnel to assist with inspection efforts.

Topsoil Reuse

Purpose:
To encourage the salvaging, stockpiling and reapplication of native topsoil and other selected materials for reuse during revegetation activities. Reuse of native topsoil can be a critical factor to the success of revegetation efforts, particularly when attempting to reestablish native vegetation.

Applications:
Sites where revegetation with native plant species is desirable. Particularly applicable on cut slopes, floodplains, wetlands, stream banks, and sensitive habitat areas. Proper topsoil management can result in successful revegetation, enhanced productivity, reduced erosion, and permanent stabilization.

Limitations:
Requires advanced planning prior to grading and earthwork activities. Stockpiles may constrict the area available for construction activity. Stockpile runoff can negatively impact water quality.
Standards and Specifications:

- Soils information obtained in the site assessment related to the preparation of the CEQA Initial Study/Mitigated Negative Declaration will be utilized in order to identify the location, depth and amount of soils suitable for salvaging. Topsoil will be excavated carefully, avoiding large rocks and will be stockpile where it will not be contaminated construction activities.

- Topsoil will be screened to remove large rocks, roots and vegetation when necessary to establish a representative native growth medium.

- Shrubs will be carefully removed and stored with their roots covered with mulch or loose soil.

- Soil stockpiles will be covered or protected with temporary stabilization measures such as mulch or temporary vegetation.
- Temporary stabilization will be established no later than 21 days after stockpiles are created.
- Perimeters controls such as sandbag barriers will be installed as soon as practicable and will be in place prior to the onset of precipitation. The following elements will be considered when developing this project’s topsoil management plan:

- The amount and quality of existing topsoil.
- The area that topsoil will be reused, the required depth of application and methodology for salvaging topsoil.
- Stockpile location, duration of storage and protection against erosion and sediment transport.
- Availability of additional amendments to supplement topsoil reclamation

Inspection and Maintenance:

- Covers and perimeter controls will be inspected weekly.
- Covers and temporary stabilization measures will be repaired, replaced or augmented as necessary.
- Perimeter controls will be repaired or replaced as needed.

Coffer Dams

Purpose

Coffer dams are watertight temporary structures enclosing a water body segment in order for it to be pumped dry for construction purposes. Coffer dams are typically comprised of sandbags, concrete barriers, sheet piles, or manufactured devices. Isolation and dewatering provides a dry working area and is often necessary to prevent adverse environmental impacts from the construction activities. Silt fences, straw bales or other flow-filtering measures will be installed in the channel downstream of each coffer dam to reduce turbidity and suspended sediment.

Applications

- In all water bodies to isolate the work area from the water resource.
- Where a dry construction work area is required.
- Is often use with other in-water work BMPs.

Limitations

In stream and river systems, high flows can cause overtopping or failure of cofferdams. Those that will be in place for an extended duration are designed to accommodate the likelihood of flooding. Coffer damming a stream channel requires that provisions be made to maintain stream flow around work site; (see **Temporary Stream Diversion** below**)**. The permeability of the water body substrate needs to be considered when selecting the type of cofferdam to be used. Cofferdams are rarely completely watertight and will require continued maintenance dewatering (see **Dewatering)**.

Standards and Specifications

There are three primary design criteria for cofferdams:

- Minimal seepage through, under, and around the cofferdam to the extent practical.
- Structural stability and integrity of the cofferdam.
- Sufficient freeboard to accommodate reasonably expected fluctuations in water levels.

Sandbag Cofferdams

Sandbag Material

Sandbag material will be polypropylene, polyethylene, or polyamide woven fabric, minimum unit weight of four ounces per square yard, mullen burst strength exceeding 300 psi in conformance with the requirements in ASTM designation D3786, and ultraviolet stability exceeding 70 percent in conformance with the requirements in ASTM designation D4355. Use of burlap is not acceptable.

Sandbag Size

Each sand-filled bag will have a length of 18", width of 12", thickness of 3", and weight of approximately 33 lbs. Bag dimensions are nominal, and may vary based on locally available materials.

Grade of Sand

All sandbag material will be coarse sand, free from deleterious materials.

Plastic Sheeting

Plastic sheeting will be utilized to minimize seepage through the cofferdam. Sheeting will be anchored under the base of the cofferdam and wrapped up and over the top of the cofferdam. Where there is an unacceptable level of seepage through the substrate, plastic sheeting will be extended upstream along the bottom of the water body perpendicular to the cofferdam.

Height of Dam

Up to 3', measured from the existing streambed to the top of berm. Sandbags will be placed to create a low spot within the top of the berm to direct overtopping flood flow.

Temporary Stream Diversions

Purpose
A temporary stream diversion is the diverting of the base flow of a perennial stream around a construction site by use of a conduit (pipe) or small diversion ditch. Its purpose is:

- To maintain stream flow continuity, quality and habitat and provide a dry working environment for the construction activities.

- To allow the installation of a structure in a perennial stream with minimal impacts on stream turbidity. Through the temporary diversion of the stream's base flow away from the construction areas and into a stable pipe or channel system, clean water is kept out of the active construction area.

Application
This practice applies where flows are low enough and/or the watershed is small enough to allow normal base flows to be handled practically in a conduit (pipe) or small diversion ditch. It is intended for those situations where the temporary stream diversion will only be needed during the summer-fall months of low stream flow, where the time of construction can be minimized and the site can be stabilized before winter. For projects involving large streams or rivers that are expected to be under construction for a long period of time, more permanent engineered structures will be needed. Temporary Stream Diversions are required for any work within a stream that is subject to the rules and regulations of the U.S. Army Corps of Engineers for in-stream modifications (404 permits).

Timing:
Timing the installation of this measure is critical to minimize impacts on fisheries.

Phasing:
To minimize the impact to the stream, phasing the operations must be considered before the stream is diverted. This measure needs to be quickly and carefully installed, well maintained and removed as soon as possible when the construction area is stable.

Constriction of the channel:
These practices will increase the velocity of flow due to constriction of the channel and will create a higher potential for erosion and movement of sediments in the stream channel.

Flooding:
Any flood flows during the construction period can be expected to damage or destroy this practice and may contribute to the flooding effects.

Standards and Specifications
The construction of any specific temporary stream diversion related to this project's work scope will not cause a significant water level difference between the upstream and downstream water surface elevations (not to exceed 1%) and the velocity will be maintained at a rate similar to existing flow conditions.

Water Fluctuation:
The base flows of all streams will be maintained at all time.

Time of Operation:
All temporary stream diversions will be removed within 2 calendar days after the structure is no longer needed. Unless prior written approval is obtained from the RCD of Tehama County Project Manager or other implementing entity's Project Manager, all structures will be removed and the area stabilized before winter.

Aggregate:
There will be no earth, sands, silts, clays or organic material used for construction within the waterway channel. Washed coarse aggregate (3/4" to 4") referenced, as AASHTO designation No. 1 will be the minimum acceptable aggregate size for temporary stream diversions. Larger clean aggregates will be allowed.

Sandbags:
Sandbags will consist of materials, which are resistant to ultra-violet radiation, tearing and puncture, and woven tightly enough to prevent leakage of fill material (i.e., sand, fine gravel, etc.).

The following criterion will be considered when selecting the temporary stream diversion method:

Time of year:
The time of year may preclude the selection of one or more of the standard methods due to fish spawning or migration restrictions.

Site Location:
Locate the temporary stream diversion where there will be the least disturbance to the soils of the existing waterway banks.

Removal of the structure:
Ease of removal and subsequent damage to the waterway will be primary factors in considering the choice of a design of the stream diversion.

Maintenance:
This is a high maintenance item. Weather reports need to be monitored and the structure prepared for anticipated storm events.

Design Criteria

Provisions for temporary stabilization of the inlet, outlet, and return channel will be included in the design. The materials used in construction will be sound, and capable of withstanding the loads applied. The materials must also be durable and maintain their integrity for the life of the project. Other design criteria include:

- Excavation of the channel will begin at the downstream end and proceed upstream. All excavated materials will be stockpiled outside of the floodplain and temporarily stabilized to prevent re-entry into the stream channel.

- The height of the diversion structure will be one half the distance from the streambed to stream bank plus one foot.

- Clean water from the diversion will be returned to the channel downstream of the construction site, dirty water will be pumped into a dewatering basin or onto a vegetated hillside where the water can disperse and infiltrate the ground prior to reentering the channel through the groundwater.
- All excavation materials will be disposed of in an approved disposal area outside the 100-year floodplain unless otherwise approved.

- The downstream and upstream connection to the natural channel will be constructed under dry conditions. Sandbags will contain the stream.

- The process of excavation and stabilization will be a continuous (uninterrupted) operation.

- All materials will be on-site prior to channel construction.

Sandbag-Conduit Diversion:

This practice will be limited to streams, which drain less than 1 square mile. It will be used only for very short time duration. Because the potential for wash out is high, it must be carefully monitored and not left unattended for any 24-hour period. If a major storm event is expected, the site must be stabilized in preparation such an event. The conduit will have the hydraulic capacity to handle the flow rate of 30 CFS per square mile of drainage area above the site.

Sandbag-Stone Diversion

This practice will be limited to streams, which drain less than 5 square miles. The temporary channel will be able to convey the 2-year storm event. The diversion structure will be installed from upstream to downstream. Sheeting will be overlapped such that the upstream portion covers the downstream portion with at least an 18” overlap.

Fabric Based Channel Excavation:
This practice will be limited to streams, which drain less than one (1) square mile. The temporary channel will be sized to convey the 2-year storm event. All debris (rocks, sticks, etc.) will be removed and the channel surfaces made smooth so that the fabric will rest flush with the channel sides and bottom.

Stabilization with Geotextile Fabric

- The fabric will have a minimum width such that it is keyed in and anchored at the top of the stream bank.

- The fabric will be placed so that it rests flush with the channel at all points of contact.

- The fabric will be placed such that one piece will line the entire channel. If this is not possible, the fabric will be placed so that it overlaps along the channel's transverse. Longitudinal overlaps will not be allowed. Upstream sections will overlap downstream sections. The overlap will equal 2' minimum.

- The fabric will be keyed into 2' x 2' trenches located at the upstream edge and at 50' intervals (the overlap nearest to each 50' increment). The key-in will be from top of channel to top of channel. Riprap will be carefully placed into the trench (without dropping onto the fabric).

- The fabric sections will be secured with pins (length of 18" minimum) and washer (diameter 1" minimum). Overlaps will be pinned along transverse and longitudinal axes with spacing equal to 3' maximum.

- The spacing of the pins must follow the manufacturer's specification and is dependent on the anticipated velocities along with the thickness and type of geotextile fabric. The entire bottom of the channel could be rip rapped if high velocities were anticipated. When the area is rip rapped, it is not required that the geotextile fabric underneath the riprap be pinned.

- An impervious plastic lining can be used in lieu of geotextile fabric. The plastic liner will be 6 mil or thicker and will be capable of maintaining strength against the effects of ultraviolet light for a period of at least 60 days.

Removal of Diversions
Water will not be allowed through the natural stream until all construction is completed. When the diversion is no longer needed, all structures will be removed within 2 calendar days.

Inspection and Maintenance:

Periodic inspection and maintenance will be performed as needed to ensure that the diversion infrastructure, streambed and stream banks are maintained and not damaged. Maintenance will include removal and disposal of any trapped sediment or debris. Sediment will be disposed of outside of the flood plain and stabilized. This practice is a high maintenance item, and will be considered for use in a cautious manner. The impact of failure on downstream facilities will be carefully considered. Periodic inspection must be performed to ensure that the structure is maintained and not damaged, that sediment is not entering the stream or blocking fish passage or migration. Maintenance will be performed, as needed, to ensure that the structure complies with the standards and specifications. This will include removal and disposal of any trapped sediment or debris. Sediment will be disposed of outside of the floodplain and stabilized. Anticipate major storm events. If a major storm is predicted, emergency measures must be taken to minimize damage.

Dewatering

Purpose

The purpose of this BMP is to prevent water from entering and collecting in work areas. This practice is also incorporated into project implementation to:

- Allow work to be performed in dewatered conditions.
- Reduce the transport of soil particles by flowing water.
- Reduce the liquefaction of soils.

Applications

This BMP may be used in, but not limited to, ditches, watercourses or streams, channels, swales and excavations. It will generally be used in combination with other BMPs.

Limitations

This BMP will not be used where flows are greater than pump capacity.

Standards and Specifications

- Based upon pre-project analysis of stream flows and conditions within the overall project impact area, a determination has been made that project work will require continuous dewatering. As a result, pumping, monitoring, equipment use and maintenance activities have been scheduled accordingly.

- Site barriers will be installed prior to dewatering in order to prevent exterior water from entering construction area.

- Given the limited amount of turbid water anticipated to be collected through dewatering operations related to project work, it will be discharged onto course gained soils in upland areas outside the meadow complex.

- One laborer will be employed to manage the pumping system and designated personnel will monitor and maintain the dewatering system so as to minimize the potential for construction-related sediment releases. All dewatering activities will occur when streams have minimum flow.

- An adequate fuel supply and backup systems to be used in the event of mechanical failure will be maintained within or near the project area.

- During non-work hours, gravity fed flex pipes will be employed to transmit clean water through the work area and back into the natural channel downstream from the project site.

- The contractor will install silt fences, straw bales or other flow-filtering measures in the channel to reduce turbidity and suspended sediment when flow is reestablished through the work site.

- The site will require fish and amphibian relocation by a qualified fisheries biologist, as required by regulatory authorities.

- Construction within or near the stream will not begin until all temporary water quality diversions are functioning and all protective erosion control measures are in-place.

- Area disturbed by BMP removal will be revegetated.

- Upon completion of project work, all silt fences, pumps and equipment will be removed from the stream and each coffer dam will be breached returning stream flow to its natural channel. Stream flows will be reintroduced gradually into the dewatered portion of the project area in order to reduce sediment generation.

- The measures listed above will allow for dewatering of the project area with no negative impacts to aquatic or riparian species.

Inspection and Maintenance

- Pumping, monitoring, equipment and maintenance activities will be scheduled in accordance with dewatering needs.

- During construction, dewatering BMPs will be inspected daily during the workweek. Additional inspections will be schedule during storm events and any required repairs completed.

- Periodic inspections for soil erosion at discharge points will be made and water diversion equipment will be repaired or move as necessary.

Protection and Preservation of Existing Vegetation

Purpose:
To protect and preserve existing desirable plants and trees in and near areas that will be exposed to land-disturbing activities. Protecting and preserving native vegetation will reduce the amount of erodible area and provide buffer zones that assist with infiltrating runoff and trapping sediment so that it does not discharge to waterways or the storm drain system.

Applications:
Applicable on floodplains and steep slopes, and next to wetlands, streams, rivers, lakes, and sensitive habitat areas that have existing desirable vegetation.

Limitations:

- Requires advanced planning.

- May constrict the area available for construction activity.

- Improper grading may negatively impact vegetation.

Standards and Specifications:

- Install high visibility temporary fencing to protect high value existing vegetation before beginning clearing or other soil-disturbing activities.

- Wherever possible, preserve native vegetation on steep slopes and near perennial and intermittent watercourses or swales.

- Wherever possible, preserve continuous areas or clumps of native or landscaped vegetation, instead of individual trees and shrubs.

- Consider the location, species, size, age, and vigor of existing vegetation.
- Consider tree health, age, species, space needed, aesthetic values, and wildlife benefits when deciding which trees to preserve.
- Follow existing contours and avoid stands of trees when locating temporary roadways.
- Do not place equipment, construction materials, topsoil, or fill dirt within the limits of preserved areas.
- Extend limits of fencing to tree drip lines (end of tree branches) when protecting trees. Wherever possible, extend the limits of the no-dig root protection zone outward such that it is twice as large as the outer perimeter of the branches.
- Do not cut tree roots within the tree drip line. Curve trenches around tree drip lines to avoid large root concentrations.
- Smoothly cut off the ends of damaged roots.
- Prior to the implementation of any project activities perimeter fencing and temporary sediment control structures will be placed to prevent unwanted damage to the riparian area and sediment delivery to streams.
- Access routes and staging areas will be flagged to minimize disturbance and removal native vegetation and soil.

Inspection and Maintenance:

- Repair or replace damaged vegetation immediately. Smoothly cut off the ends of damaged roots.
- Monitor the protected areas to ensure that new structures won't compromise vegetation.
- Loosen compacted soil around the tree root zone.
- Cover exposed tree roots with soil or a wet burlap as soon as possible.

Mulching

Purpose:
To prevent erosion by protecting bare soil from rainfall, reducing runoff velocity, conserving moisture, and fostering plant growth. Mulches can be composed of organic materials, straw, wood chips, bark or other wood fibers, gravels, a variety of netting, or chemical stabilizers and they act to protect seeds from predators while reducing evaporation and insulating the soil.

Applications:

- Applicable to all bare soil surfaces where construction activities will cease for 14 days or more and will not resume within 21 days.
- Provides a temporary cover and aids in stabilization measures.
- Immediately follow temporary and permanent seeding of an area with mulching.

Limitations:

- Additional control measures are necessary for the establishment of vegetation if the area is susceptible to erosion.
- Straw and wood mulch may have to be removed before soil stabilization or permanent seeding is to take place.
- Straw and wood mulch are prone to removal by runoff and wind.
- Wood fiber hydraulic mulches usually last only part of a growing season.
- A potential for introducing weed-seed and unwanted plant material exists. Ensure that the mulch is weed free.
- The use of grasses may cause a fire hazard and require regular maintenance.
- Not all soil conditions are appropriate.

Standards and Specifications:

- The type of mulch to be applied depends on soil type, site conditions, landscape requirements, and economics.
- Roughen embankments and fill areas before applying mulch. Straw Mulch
- Used as a temporary or permanent surface cover on disturbed areas until vegetation can be established.
- Apply at a minimum rate of 4,000 lb./acre.
- Straw mulch can be applied to a slope by crimping or punch roller-type rollers.
- Hold straw in place on steep slopes or in small areas by plastic netting or jute.
- Apply straw mulch at a rate of 125 lb./acre if tackifier is to be used.
- Wood Mulch and Shredded Wood
    - Primarily used as a temporary ground cover around trees, shrubs, and landscaping.
    - Is applicable as a covering for revegetated plantings.
    - Apply by hand and distribute mulch as a layer 2-3” thick. Green Material/Compost.
- Green material mulch will be composted to kill weed seeds.
- Apply mulch evenly to a maximum thickness of 2”.
- Typically applied by hand.
- Life span is less than that of the wood fiber mulches.
- Hydraulic Mulches made from wood fiber
    - Industry standard is composed of whole wood chips. Wood fiber mulch can also be made from lumber mill waste.
    - Good for planting large areas quickly and economically.
    - Offers better wet-dry characteristics than paper mulch.

Inspection and Maintenance:

- Inspect for failures and loss of mulch during the wet season.
- Replace lost mulch immediately

Wind Erosion and Dust Control

Purpose: Storm water runoff, wind, erosion, and vehicles can track soil and sediment from construction sites. This material can be subsequently re-disperse to the air by high winds and traffic. Therefore, the purpose of dust control is to minimize these effects.

Applications:

- All construction sites having exposed soils must perform dust control measures.
- Wind erosion and dust control is important in arid and windy regions.
- Areas with soils of silts and clays are prone to dust.
- Dust control is a treatment between disturbance and construction or revegetation and is temporary in nature.

Limitations:

- Dust control measures are only temporary and therefore require reapplication.
- Discharges from the site can occur if excessive water is sprinkled on the soils.
- Factors such as soil type, temperature, humidity, and wind velocity will impact the effectiveness of the dust control measures.

Standards and Specifications:

- Sprinkling/Irrigation
    - Moistening road surfaces is an effective dust control method for traffic routes
    - This technique can be applied to all sites but lasts less than 1 day so it must be reapplied often.
    - Apply 0.03 – 0.3 gal/yd2 uniformly to pre-wet the soil surface.
    - Apply 0.125 gal/yd2 every 20-30 minutes.

- Avoid ponding by crowning the soil surface.
- Use a pressure-type distributor or a pipeline equipped with a spray system to evenly distribute water for dust control.
- Provide a positive means to shutoff distribution equipment.
- Provide at least one mobile unit to apply water or dust palliative to the construction site.
- If non-potable water is used for dust control, all tanks, pipes, and other conveyances will be clearly marked with "NON-POTABLE WATER – DO NOT DRINK". There will be no connection between potable and nonpotable water.

Inspection and Maintenance:

- Daily inspections will occur for areas experiencing excessive winds, vehicle traffic, or rains. If dust is observed to be leaving the site, corrective action will be taken.

Riprap/Vegetated Rock Armor

Purpose: To stabilize and protect soil from erosion in areas of concentrated runoff.

Applications:

Used on cut-and-fill slopes, channel side slopes, channel bottoms, inlets and outlets of culverts and slope drains, and stream banks.

Limitations:

- Slopes greater than 2H:1V may lose riprap under certain hydraulic conditions.
- Implement measures to minimize erosion and excess turbidity in flowing streams during construction.

Standards and Specifications:

- Use a well-graded mixture of rock sizes.
- Use durable stone that won't quickly decompose from freeze/thaw cycles (i.e. granite).
- Construct riprap layers twice as thick as the maximum stone diameter.
- Use a filter cloth material or a layer of gravel as a filter between the riprap and the underlying soil surface.

- Extend riprap as high as the maximum flow depth in channels or streams (minimum of 4') or to a height where vegetation will be satisfactory to control erosion.

- On curves, extend riprap through the curve to five times the upstream and downstream curve endpoints.

- Riprap size depends upon site-specific conditions.

Inspection and Maintenance:

- Inspect annually and after major storms.

- Repair and replace damaged riprap immediately.

- Keep channel clear of obstructions such as trees and sediment bars.

Revegetation

Purpose: To stabilize soils and slopes from raindrop impact and erosion, conserve soil moisture, decrease runoff, increase infiltration, and to provide wildlife habitat.

Applications:
Can be applied on slopes, adjacent to waterways, along rights-of-way, as buffer strips, on stream banks and in cut and fill areas.

Limitations:
Additional erosion control methods may be required if the site is prone to erosion and since it can take 3-5 years to establish adequate cover.

Standards and Specifications:

- With the exception of frozen ground conditions, permanent revegetation must be seeded or planted no later than 14 days after final grading, unless final grading takes places outside the planting window. In that case, temporary erosion control is required until seeding can occur.

- Consider climate, soils, and topography when choosing the appropriate vegetation and seed mixes for installation. Assure that seed mixes are free of seeds from invasive plant species. Develop seed mixes based on site-specific conditions. Soil testing is recommended and will include soil biology.

- Use variety of seed species, including grasses, forbs, and shrubs, when the objective is to re-establish native and adapted species that do not require irrigation.

- Fertilizers will not be applied.

- Germination is highly variable but normally begins in late March through mid-April.

- Final stabilization requires that perennial vegetation cover consist of 70 percent of the native background cover, determined from, a reference or baseline.

Inspection and Maintenance:
Examine seeded areas for failures. If failures have occurred, amend the soils, reseed and mulch as necessary.

Live Fascines

Purpose:
Live fascine structures are cut branches of wetland or streamside materials, usually willow or other fast-growing species that are bundled together. The bundles are placed into trenches along the stream bank and grow out perpendicular to the bank, providing protective vegetative cover and a root structure to stabilize banks. Fascines provide surface stability and prevent erosion by holding soil on the face of the stream bank. They also support the establishment of the surrounding aquatic, riparian, or upland slope vegetation.

Application:
- Stream banks that require immediate erosion protection and stream bank revegetation projects.

- Slopes where permanent vegetation is desired and where no mowing or other vegetation reduction efforts will occur.

Limitations:
Live fascines are generally unsuccessful at stabilizing improved or unimproved banks with a slope of 1:1 or greater.

Standards and Specifications
- Banks to be protected are normally graded back to a 3H: 1V or flatter slope, especially in less cohesive soils or soils with distinct material lenses.

- Ensure that the soils are moist and that plants are watered after installation.

- Assemble live fascines using fresh plant cuttings with alternating basal (butt) ends. Live fascine bundles are 6" to 8" in diameter and tied securely with twine or rope every 12" to 15".

- Install live fascines shallowly to follow the contour of banks, with a face length of 15' or less to prevent ground disturbance. Install live fascines in shallow trenches that are a shovel deep and a shovel wide. Install from the bottom of the slope and work up to the top of the slope.

- Live plant material stakes and dead stout or construction stakes are used to anchor the live fascine bundles. Live stakes are at least 24" long and between ½" and 2" wide. Dead stout stakes are made from 2" x 4" untreated lumber. Stakes are 30" to 36" long and cut diagonally across the 4" face, tapering to a 1/8" to ¼".

- Stakes must be installed directly through the live fascine bundle to ensure it will not lift up or allow water to move under the installation. Stakes are placed 3' apart. Best installation uses dead stout stakes for securing the fascine bundles, with live stakes installed between fascine rows.

- Place soil along the sides of the live fascines in and around the branches and at each stake to provide for growth media.

- Foot-compact all soils around all fascine bundles, dead stout stakes and live stakes.

- Store vegetation in water until it is bound and installed.

- Install live fascines during the dormant season.

- Ensure that soil is adequately worked around the bundle.

- Do not completely bury the live fascine. The top branches will be visible. If a live fascine fails to grow, it still acts as a mechanical barrier to slope flows.

Maintenance Specifications

All plantings need water and nutritional support during the first 3 years of establishment. Removal of invasive plant species is also required. Ensure that there is a responsible party for ongoing plant maintenance. Various conditions at project sites can result in the unsuccessful development of live fascines. The table below describes indication of fascine failure and recommendations for improved plant establishment and survival.

Fascine Failure and Solutions for Satisfactory Establishment

Symptoms	Cause	Solution
Fascine has dislodged or is gone.	Fascine was not appropriately anchored.	• Replace fascine bundles and re-anchor with additional stakes and ensure that live fascines are secured into the trench. Repack soil. • Replace missing fascines with adequate anchoring. • Verify that the stream or runoff flow problem has been corrected.
Live fascines are not growing.	• Lack of contact between live fascine and soil. • Fascines are dead due to a lack of water or nutrients or anaerobic soil conditions.	• Rebury, adding water and nutrients of needed • Seed or add live stakes to the stream bank to provide for vegetative growth

Rootwad Revetment

Purpose:

For the purposes of this proposed program of project work, rootwad revetments consists of an appropriately sized tree root fan and trunk along with a footer log to hold it in place. Individual root wads are placed in a series along the lower portion of the stream bank and provide immediate bank protection. These structures protect the stream bank from erosion along with in-stream and overhead cover for fish.

Applications:

The installation of rootwad revetments is beneficial if these types of structures are naturally occurring in adjacent stream reaches or in similar stream types. The installation of rootwads and other large woody debris is expected to enhance the fishery habitat within the project area as scour pools will be produced while the overhanging

wood and vegetation will provide cover and shade. Through the combining of logs and live plant material it is anticipated that stream bank fish habitat will be enhance through the development of various aquatic habitats conditions in addition to creating a natural looking stabilization structure.

Limitations:

The woody materials of these structures will probably not have the durability of other structural components. It is anticipated however that the live woody vegetation that will be established along with its accompanying root reinforcement, will allow these structures to a have longer lasting positive impact on stream bank stability.

Standards and Specifications:

The rootwad will have the bole (trunk) attached to allow anchoring into the bank. The bole length is dependent upon site conditions such as stream flow velocity slope stability. It should however, be at a minimum 2-m (6’) in length. The length of the cuttings will depend on the depth through the riprap and

filter layer to the native soil. Live cuttings can be included and will consist of relatively straight branches of native riparian tree species, 25-40 mm (1”-1.5”) in diameter and long enough to reach beyond the riprap and filter layer and into native soil. An excavator or other suitable piece of equipment will be used to install a "footer" log in a trench excavated below the thalweg (lowest point in the channel), running roughly parallel with the bank. A second log with the rootwad attached is set on top of the footer log diagonally, forming an "X". The root wad end is set pointing upstream into the flow and the butt end lying downstream 45-60° degrees. The butt end of the root wad will be set in a trench excavated into the bank. Large boulders and poles made from native riparian tree species will be used to secure the root wad, especially at the apex. Placement of the poles into the excavations will ensure they are deeply embedded and able to contact the water table.

Inspection and Maintenance:
Rootwad revetments will be inspected for placement stability along with current durability of woody root material as newly developing vegetation is created.

Log Cored Willow Baffles

Purpose:
The purpose of log cored willow baffles is to add natural roughness elements to a floodplain area that encourages, but does not force, the redirection of flood flows to an existing channel, these also provide riparian cover.

Applications:
Log cored willow baffles have been successfully used to reduce the likelihood of flanking within various instream projects such as grade control and fish habitat structures. They are also used to reduce lateral stream migration and loss of highly productive floodplain soils. They are used wherever slowing the velocity of floodplain flows is primary concern.

Limitations:

- Log cored willow baffles lose their effectiveness when flood flows are extremely high.
- They may take several years to establish willow growth and maximum stability.
- The log will eventually rot away leaving only the willows.

Standards and Specifications:

- Logs for the baffles will have minimum dimensions of 25’ long x 2’ in diameter.
- Baffles will be located as per accompanying instructions

- Logs will include 6”-9” subs from the cut off branches to facilitate anchoring.

- Logs will be buried ¾ of their diameter into the ground surface.

- Live willow cuttings (6’-8’) will be installed within the trench for the baffle and protrude at least 1’ below the summer capillary fringe of the water table

Inspection and Maintenance:
Log cored willow baffles will require intermittent inspection to assure willow growth. If willows do not show signs of new growth early in the following growing season, watering may be required to assure the willow root successfully.

Fiber Rolls

Purpose:
Fiber rolls allow water to pass through while decreasing runoff velocity, increasing infiltration rates, and trapping sediments. Also known as sediment logs or straw wattles, fiber rolls can provide temporary or permanent soil/sediment controls and biodegrade with time.

Applications:

- Along the top and face of slopes to reduce the slope length and to spread runoff as sheet flow.

- At grade breaks where transition from shallow to steep slopes.

- As check dams in drainage swales where flows will not exceed 1 cfs.

- Along stream banks

- Down-slope of exposed soil areas.

- Around temporary stockpiles.

- Along the perimeter of a project.

Limitations:

- Proper sighting and installation are critical to ensure effectiveness and to prevent exacerbated erosion and/or blockage of storm drain systems.

- Not to be used where surface flows are anticipated to exceed 1 cfs.

- Fiber rolls can be transported by high flows if not properly anchored.

- Fiber rolls are not to be used at the base of slopes in place of linear sediment barriers such as silt fences.

- Do not use fiber rolls on slopes subject to creep, slumping of landslides.

- Fiber rolls are difficult to move or remove when saturated.

Standards and Specifications:

- Fiber rolls consist of straw, flax, coconut fiber, or similar materials contained in tubular cylinders of synthetic netting.

- When placed along the face of slopes, spacing between rows of fiber rolls is determined by slope inclination and slope length as shown in the Table below.

Slope Steepness and Fiber Roll Spacing

Slope Steepness	Fiber Roll Spacing
2H:1V or steeper	10’ or less
4H:1V to 2H:1V	15’ or less
4H:1V or flatter	20’ or less

- Create a 2-4” wide concave trench along the proposed installation route. Place the excavated soil on the uphill or downhill side of the roll to prevent undercutting.

- Remove debris and stones from the trench before installing fiber rolls. Lay the fiber roll into the trench, stake it on both sides of the roll at the ends, and continue to stake every 4’.

- Stakes will have a minimum dimension of ¾” x ¾” x 24”.

- Install stakes on alternating sides of the fiber roll.

- If more than one fiber roll is placed in a row, overlap the end sections. Do not abut the ends or leave gaps between the end sections.

Inspection and Maintenance:

- Repair and/or replace torn, split, unraveling, or slumping fiber rolls.
- Inspect fiber rolls before and after storm events. Check fiber rolls daily during prolonged rainfall events.
- Re-trench and stake down fiber rolls that are undercut by rills or gullies.
- Remove accumulated sediment when it reaches three quarters (3/4) of the barrier height. Properly disposed of collected sediment or move to a vegetated area or other place at the site where it will not wash into storm drains, ditches, channels, or streams.
- If fiber rolls are removed, collect and dispose of sediment accumulation, and fill and compact holes, trenches, depressions or any other ground disturbance to blend with the adjacent soil surface. Seed and mulch, or otherwise stabilize, the area where fiber rolls are removed (apply seed during winter or fall months).

Silt Fences

Purpose: To slow and detain sediment laden sheet flow from disturbed areas, which allows the settlement of sediment and reduces or prevents sediment from discharging to storm drains, streams or other watercourses.

Applications:

- Along the construction site perimeter.
- Below the toe of slopes.
- Along stream banks and channels.
- Around temporary stockpiles.

Limitations:

- Not effective unless properly installed.
- Do not use on slopes greater than 4H:1V.
- Labor-intensive maintenance may be required.
- Fencing must be removed and disposed of properly upon completion of construction.

Standards and Specifications:

- Do not install silt fences across streams, channels, or in any location where flows may be concentrated.
- Fencing must be located where waters may temporarily pond and sediments can be deposited.
- Application in environmentally sensitive areas requires additional practices.
- Install the fencing along a level contour at the toe of a slope.
- Install fencing a minimum of 3’ from the toe of the slope or at the top of the bank.
- Limit drainage area upstream of fence to 0.25 acre/100’ of fence.
- Limit the length of the slope area draining to any point along the silt fence to 100’ or less.
- Maximum length of any single run of fencing is 500’.
- Angle the last 8’ of fence upslope in a “J” or “L” shape to allow for ponding.
- Silt fence material will be woven nylon reinforced polypropylene with a built in top chord running along the top of the fabric.
- Minimum requirements of fabric are: tensile strength (ASTM D4632) of 90 lbs., puncture rating (ASTM D4833) of 60 lbs., and mullen burst rating (ASTM D3786) of 280 psi.
- Fence posts will be free from decay, splits, or cracks, have a minimum thickness of 2”, and have a minimum length of 4’. Fence posts will be installed a minimum distance of 12” into the ground, and have a maximum spacing of 8’.

- Steel fence posts may also be used.
- Areas prone to high winds will require closer spacing of fence posts.
- Fence posts will be located on the downstream side of the fabric and mesh.
- Fabric must be stapled or wired to the posts.
- Locate a 6" x 6" trench on the upstream side of the fence.
- Overlap at least 6" of fabric into the trench. Key in the bottom of the fence.
- Fill the trench with tamped native soil or washed gravel.

Silt fence fabric sizing:

- If less than 50 percent of the soil by weight will pass through a U.S. Standard Sieve no. 200, select the equivalent opening size (EOS) to retain 85 percent of the soil. The EOS will not be finer than U.S. Standard Sieve no. 70.
- For all other soils, the EOS will not be finer than U.S. Standard Sieve no. 70, except where discharge to streams or wetlands occurs. In that case, the EOS will not be larger than U.S. Standard Sieve no. 100.
- If 85 percent of the soil by weight is finer than U.S. Standard Sieve no. 200, then filter fabric will not be used.

Inspection and Maintenance:

- Inspect before and after each rain event.
- Repair any damage caused by construction (undercutting of the fence, split, torn, and weathered fabrics, or slumping of the fence).
- Fabrics may have to be replaced every 5-8 months.
- Remove silt when the depth of the deposit reaches one-third the fence height.
- Remove silt and dispose of to avoid siltation problems.
- From May through October, do not allow water to pond behind silt fences for more than 7 days.

- Remove fencing at the completion of the construction project or when the site has been stabilized.

- Backfill any holes or depressions caused by the removal of the silt fence according to standard specifications.

Temporary Stream Crossing

Purpose: Temporary stream crossings or fords are placed across a waterway for use by construction traffic. This structure stabilizes and minimizes erosion of the stream banks and channel.

Applications:

- At sites where construction vehicles will frequently cross a stream or waterway.

- At sites where duration of construction activities will not exceed one year.

Limitations:

- May require a CDFW Streamside Alteration Agreement (1600 Permit), U.S. Army Corps of Engineers 404 Permit, a 401 Water Quality Certification from NDEP, and other permits.

- Disturbance of the waterway will occur during the installation and removal of temporary stream crossings. Consequently, sediment control measures may need to be installed in the waterway during these activities.

- Requires stabilization of disturbed areas both during construction and after removal of the structure.

- Structures may obstruct flow in the waterway during prolonged storm events causing flooding and/or washouts.

- Diversion or dewatering of the channel may be required during the installation of the stream crossing structure.

Standards and Specifications:

General Considerations

- A California registered civil or engineering geologist is required to design temporary stream crossing structures.

- Sediment traps need to be installed immediately downstream of crossings to capture sediments.

- Temporary fords may be used in arid areas during the dry season for dry washes and ephemeral streams.
- Cannot be used on perennial streams.
- Approach roads must be designed with a maximum slope of 7H:1V.
- Use filter fabric and compacted aggregate to stabilize road surface.
- Oil or hazardous materials cannot be applied to the roadway.

Inspection and Maintenance:

- Inspect weekly as well as before and after significant rainfall events.
- Inspect for sediment buildup in the culverts or blockage of the channel.
- Inspect for structural weakening of the temporary crossing.
- Inspect for channel scour, erosion of the abutments, riprap displacement or piping in the soil.
- Remove silt behind fords, in culverts and under bridges.
- Repair stream bank erosion.
- Promptly remove temporary stream crossings when no longer needed.
- Proper management of stockpiled materials can reduce or eliminate pollution of storm water from these sources.

Stockpile Management

Applications:

All locations and projects where materials such as soils, composts, aggregates, and paving materials are stockpiled.

Limitations:

None have been identified.

Standards and Specifications:

- Locate stockpiles away from storm water flows, drainage courses and inlets.
- Use temporary berms, dikes, silt fences, fiber rolls, sandbags or gravel bag barriers to surround and contain stockpiles to prevent transport of materials offsite from storm water runoff.
- Apply wind erosion and dust control measures on the surface of stockpiles.
- Place bagged materials on pallets and cover.
- Install stockpile perimeter controls such as temporary berms, dikes, silt fences, fiber rolls, sandbags or gravel bag barriers as soon as possible after stockpiles are created. These temporary sediment transport barriers can be temporarily removed or moved to one side when materials are removed or added to the stockpile.
- If stockpiles are not to be used within 21 days, temporary covers (plastic covers, etc.) must be installed as soon as practicable and no later than 14 days after stockpiles are created. Covers will be placed on stockpiles as soon as practicable where the initiation of temporary covers is precluded by snow or frozen soil conditions.

Inspection and Maintenance:

- Inspect perimeter controls and covers weekly as well as before and after storm events.
- Inspect temporary covers before, during and after windy weather.
- Replace or repair perimeter controls and covers as needed.

General Site and Materials Management Practices

- Keep waste storage areas clean, well-organized and well equipped.
- Post information on proper storage, clean up and spill response at a visible and accessible location at all times.
- Educate employees and subcontractors about what a “significant” and “insignificant” spill is for each chemical used on-site and provide training related to spill prevention and cleanup.

- Hold regular meetings to discuss and reinforce disposal procedures (incorporate into regular safety meetings).
- Locate chemical storage and handling areas away from storm drains, waterways or reservoirs.
- Do not store chemicals in areas where they may be susceptible to rain.
- Provide a secondary containment structure in case of leaks or spills.
- Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.
- Place drip pans or absorbent material under paving equipment when not in use.
- Promptly transfer used fluids to the proper waste or recycling drums. Do not leave full drip pans or other open containers lying around.
- Oil filters disposed of in trashcans or dumpsters can leak oil and pollute storm water. Place oil filters in a funnel over a waste oil-recycling drum to drain excess oil before disposal.
- Store cracked batteries in a non-leaking secondary container.
- When vehicles and equipment are fueled on site:
    - Discourage “topping off”.
    - Use designated areas located away from waterways and drainages.
    - Use a secondary containment to catch drips or spills.
    - Place a stockpile of spill cleanup materials where it will be readily accessible.
    - Clean up spills immediately and dispose of contaminated soils and clean up materials properly.
- Sweep up dry spills. Do not wash or hose down spill areas.
- Use absorbents for wet spills on impermeable surfaces.
- Wet spills on soils require digging up and disposing of the contaminated soil.
- A secondary containment with enough capacity to contain a spill is required for fueling areas.

- Report significant spills to appropriate federal, State and Local agencies that may assist in the cleanup.

- Federal regulations require that any significant oil spill into a water body or onto an adjoining shoreline be reported to the National Response Center (NRC) at 800-424-8802 (24 hours).

- Construction will generally occur during the lowest flow period of the year.

- Construction will occur during the dry period if the channel is seasonally dry.

- Prevent any construction debris from falling into stream channels. Any material that does fall into a stream during construction will be immediately removed in a manner that has minimal impact to the streambed and water quality.

- Where feasible, construction will occur from the bank or on a temporary pad underlain with filter fabric.

- Temporary fill must be removed in its entirety prior to close of work-window.

- Areas for fuel storage, refueling and servicing of construction equipment must be located in an upland location.

- Prior to use, clean all equipment in order to remove external oil, grease, dirt or mud. Wash sites must be located in upland locations so that dirty wash water does not flow into stream channel or wetlands.

- All construction equipment must be in good working condition, showing no signs of fuel or oil leaks.

- Petroleum products, fresh cement, or deleterious materials must not enter the stream channels or flood plains or other aquatic areas.

- Operators must have spill clean-up supplies on site and be knowledgeable in their proper use and deployment.

- In the event of a spill, operators must immediately cease work, start clean-up, and notify the appropriate authorities.

- Isolate the construction area from flowing water until project materials are installed and erosion protection is in place.

- Erosion control measures will be in place at all times during construction. Do not start construction until all temporary control devices (straw bales, silt fences, etc.) are in place down slope or downstream of project site.

Demobilization/Site Restoration

Upon completion of operations, temporary access road will be ripped with cross road drainage installed at a frequent spacing. If necessary, complete recontouring of access routes will be completed in order to disperse runoff and blend the former roadway with undisturbed adjacent terrain. Any disturbed areas including stream banks will be fully regraded and restored upon completion of the project. Any branches and woody debris from trees felled pursuant to this project's construction plans will be left on the access road for erosion control. Large stems will be left if they can serve as useful habitat within the project area.

Mitigation Measures

An array of formal Mitigation Measures has been developed in connection with implementation efforts to be completed in connection with the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** effort. These resource protection measures will be implemented as specified by the RCD of Tehama County Project Manager (if work is completed under the purview of the RCDTC) along with federal, State and local regulatory agencies. If project work is completed by another entity, these measures will be implemented by that organization's Project Manager along with federal, State and local regulatory agencies. Through the implementation of these formal resource protection measures, it is anticipated that potential negative impacts to the resources found within the Phase I and Phase II project area can be avoided or minimized and thus reduced to a less-than-significant level during project implementation. A description of these measures along with responsibly for their implementation can be found in ***Appendix E Mitigation Monitoring and Reporting Plan***.

Monitoring Report Requirements

Under the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*****,** the RCD of Tehama County or other implementing entity shall provide written notification of the status of all projects to permitting and other regulatory entities in the form of an annual post-construction report due December 31 of each year after project completion for the required duration of monitoring. The report shall list participating landowners and describe each project objective, area affected, improvements to the stabilization of road related sediments and habitat conditions, monitoring protocols conducted and area of work completed. The report shall also discuss conservation benefits and provide photo documentation of before and current site conditions. Photo documentation shall be completed from photo points established before construction and annually thereafter throughout the term of the monitoring program. If requested, regulatory agencies shall be provided the opportunity to review project

outcomes with RCDTC or other implementing entity's personnel at any time during the monitoring period or as allowed through permits. Landowners shall be given a minimum of 24-hour notification of regulatory agency site visits by RCDTC or other implementing entity's staff and agency personnel. Outside of the monitoring/maintenance permit period for implemented projects, regulatory agencies shall seek permission to participate in project inspections by contacting landowners directly.

II. INITIAL STUDY/MITIGATED NEGATIVE DECLARATION AND ENVIRONMENTAL CHECKLIST

1. Project title: **Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects**

2. Project Sponsor name and address: Resource Conservation District of Tehama County*
2 Sutter Street, Suite D
Red Bluff, CA 96080
Attn. Victoria Dawley/RCDTC District Manager
The Resource Conservation District of Tehama County is the sponsor, preparer and Lead Agency for this CEQA document along with several implementation projects to be completed using a portion of the State Water Resources Control Board dollars provided for its preparation. Future implementation efforts may be sponsored, funded and completed by other entities.

3. Lead agency name and address: Resource Conservation District of Tehama County
2 Sutter Street, Suite D
Red Bluff, CA 96080
Tom McCubbins/RCDTC CEQA Projects Manager

4. Contact person and phone number: Tom McCubbins/CEQA Projects Manager
(530-200-1231 cell)

5. Project Funder State Water Resources Control Board
11020 Sun Center Drive, #200
Rancho Cordova, CA 95670
Attn: Renee Smith/Grant Manager

6. Program location: Northwestern Tehama County (see location description below)

7. General plan designation: Open Space

8. Zoning: Unclassified

9. Description of project:

See Project Description Section of the Mitigated Negative Declaration document prepared for the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** effort to which this initial study is attached

10. Surrounding land uses and setting: Briefly describe the project's surroundings:

    See the **Project Information** section of this Initial Study document shown below.

11. Other public agencies whose approval is required (e.g., permits, financing and approval, or participation agreement.)

    See **Regulatory Partners** section of this Initial Study document shown below.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture Resources	☒ Air Quality
☒ Biological Resources	☒ Cultural Resources	☒ Geology /Soils
☒ Hazards & Hazardous Materials	☒ Hydrology / Water Quality	☐ Land Use / Planning
☐ Mineral Resources	☐ Noise	☐ Population / Housing
☐ Public Services	☐ Recreation	☒ Transportation / Traffic
☐ Utilities / Service Systems	☒ Tribal Cultural Resources	☒ Mandatory Findings of Significance

LEAD AGENCY DETERMINATION

The Resource Conservation District of Tehama County (RCDTC) has determined that the sediment and erosion control treatments proposed for Phase I and Phase II of the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Implementation Projects*** shall not have a significant adverse effect on the environment. This conclusion is based upon the types of practices selected for implementation as well as the Mitigation Measures and Best Management Practices that will be incorporated into project work. The RCD of Tehama County has identified the possibility of potential environmental impacts to **Air Quality**, **Biological Resources**, **Cultural Resources**, **Geology and Soils**, **Hazards and Hazardous Materials**, **Hydrology and Water Quality**, **Transportation and Traffic** along with **Tribal Cultural Resources**. This program of project work, its potential impact on the

project area along with the protection measures to be taken during project implementation that avoid, reduce or mitigate environmental impacts are described in this Initial Study/Mitigated Negative Declaration document. The evidence supporting this determination is drawn from information developed by RCDTC staff, others listed in this document's Appendices and efforts of this project's Technical Advisory Committee consisting of personnel from the California Regional Water Quality Control Board, Department of Fish and Wildlife, US Fish and Wildlife Service, National Marine Fisheries Service, Tehama County Board of Supervisors, Tehama County Public Works Department, Tehama County Administration, Battle Creek Watershed Conservancy, Pacific Watershed Associates and the Resource Conservation District of Tehama County.

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. 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.

Signature **Date**

Print Name

Signature **Date**

Print Name

INITIAL STUDY/ENVIRONMENTAL CHECKLIST

PROJECT INFORMATION	
1. Project Title:	**Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects.**
2. Lead Agency Name and Address:	**Resource Conservation District of Tehama County** **2 Sutter Street, Suite D** **Red Bluff, CA 96080**
3. Contact Person and Phone Number:	**Tom McCubbins** **CEQA Projects Manager** **(530) 200-1231**
4. Project Location:	**Project location:** **Legal Description of the Project Area:** **Phase I Project Area** T30N R2E Sec 31 T29N R1E Sec 1 T29 R2E Sec 6, 7, 15,16,17,18, 21 and 22 **Phase II Project Area** T28N R1E Sec 12-13 T28N R2E Sec 5-6-7-17-18-19-20-21-28-29-32 T27N R2E Sec 5-4-10-13-14-15-23-24 T27N R3E 13-14-15-16-19-20-21-24-25-26-27-34-35-36
5. Project Sponsor's Name and Address:	**Resource Conservation District of Tehama County** **2 Sutter Street, Suite D** **Red Bluff, CA 96080**
6. General Plan Designation:	**Upland Agriculture and Timber**
7. Zoning:	**UA Upland Agriculture and TPZ Timber Production Zone**

Project Description:

The ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** include two phases (Phase I and Phase II) of work along 97.8 miles of Ponderosa Way located within chaparral and low elevation conifer forests of eastern Tehama County. The overall goal of this two-phased project is to reduce road related erosion and sediment delivery to streams through which Ponderosa Way passes by upgrading and/or decommissioning segments of Ponderosa Way. This goal shall be achieved through:

- Development and design of road sediment stabilization projects related to catastrophic sediment movement features within the 13.8 mile-long Phase I project area.
- Development and design of road sediment stabilization projects related to chronic sources road sediment currently being generated within the 84 mile-long Phase II Projects area.
- Preparation of a plan of action that describes stabilization projects to be implemented along Ponderosa Way within the Phase I and Phase II project area.
- Implementation of one or more pilot stabilization projects within the Phase I and Phase II project area.
- Future implementation of all road related sediment stabilization projects developed and described in the Phase I and Phase II plan of action documents as funding is identified and obtained.

9. Surrounding Land Uses and Setting:	The area in and around the Resource Conservation District of Tehama County's ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** area is used for watershed, livestock production, wildlife management and timber production. A small portion of the project area is utilized for scattered residential development and private outdoor recreation sites.
10: Regulatory Partners: ***(Other public agencies whose approval may be required)***	**<u>Federal Agencies</u>** U.S. Fish and Wildlife Service (USFWS) Endangered Species Act (ESA) Section 7 Consultation/Incidental Take Statement. National Marine Fisheries Service (NMFS) ESA Section 7 Consultation/Incidental Take Statement.

	U.S. Army Corps of Engineers (USACE) Clean Water Act §404 Nationwide Permits or Regional General Permit. **State Agencies** California Department of Fish and Wildlife (CDFW) California Department of Fish and Wildlife (CDFW): Section 1601 Streambed Alteration Agreement, Possible CESA Compliance and Section 2081 Incidental Take Permit, CEQA Responsible Agency Central Valley Regional Water Quality Control Board (CVRWQCB) A Waste Discharge Requirements, Waivers of Waste Discharge Requirements, TMDL compliance determinations, or Clean Water Act §401 Certification may be required for certain classes of training or project activities. CVRWQCB section 401certification is required to be completed by the Corps before issuance of its section 404 permit. Native American Heritage Commission (NAHC) California State Historic Preservation Office (SHPO): SHPO Certification Letter Cal Trans A state highway encroachment permit will be required in the event that future project work in connection with either Phase I of Phase II of this project is conducted along or within the State Route 36E or State Route 32E right-of-way. **County Agencies** Tehama County Air Pollution Control District (TCAPCD) and Butte County Air Pollution Control District (BCAPCD)* An individual non-discretionary burn permit would be required for burning activities including pile

	burning within project implementation sites located in Tehama County and Butte County. ***No project work is anticipated to be implemented within Shasta County.*** Tehama County Public Works Department (TCPWD), Shasta County Public Works Department SCPWD, and Butte County Public Works Department (BCPWD) Access Authorization will need to be obtained from the Tehama County, Shasta County and Butte County Public Works Departments in the event that equipment enters the road right-of-way along County maintained portions of Ponderosa Way, Forward Road, Plum Creek Road and Hogsback Road. A separate authorization will be needed for each occurrence of entrance onto a County maintained Road. ***No project work is anticipated to be implemented within Shasta County however project work near the Tehama County/Shasta County line may require access authorization if impacts to Shasta County roads occur.***

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below are the ones which would potentially be affected by this proposed project and were more rigorously analyzed than the factors which were not checked. The results of this analysis are presented in the detailed Environmental Checklist which follows.

☐	Aesthetics	☐	Agriculture and Forestry Resources	☒	Air Quality
☒	Biological Resources	☒	Cultural Resources	☒	Geology / Soils
☐	Greenhouse Gas Emissions	☒	Hazards & Hazardous Materials	☒	Hydrology / Water Quality
☐	Land Use / Planning	☐	Mineral Resources	☐	Noise
☐	Population / Housing	☐	Public Services	☐	Recreation
☒	Transportation / Traffic	☐	Utilities / Service Systems	☒	Tribal Cultural Resources
☒	Mandatory Findings of Significance				

LEAD AGENCY 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. 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. ☐

_____ _____

Jack Bramhall, President
Resource Conservation District of Tehama County
2 Sutter St. Ste D.
Red Bluff, CA 96080

Date Signed

ANALYSIS OF POTENTIAL ENVIRONMENTAL IMPACTS

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. Aesthetics. Will the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which will adversely affect day or nighttime views in the area?	☐	☐	☐	☒

Discussion

The ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** area is located within a portion of eastern Tehama County having high aesthetic value and numerous scenic vistas. Within the Phase I project area, these resources have been significantly impacted by recent wildfire and the subsequent development of large catastrophic storm related erosion features and sediment plumes. As noted in the RCDTC' **WUI and Watershed Protection/Emergency Access (Coleman Fish Hatchery Road and Ponderosa Way (Appendix B)** the Phase II project area is currently impacted by a large number of smaller, chronic erosion and sediment features that heavily impact roadside aesthesis through the development of road related erosion and sediment deposition. Additional detail regarding these features along with a quantification of their size and impact related to rates of erosion and sediment generation will be developed in the Ponderosa Way road assessment and sediment reduction plan phase II document to be completed prior to implementation of sediment and erosion control projects within that portion of the overall project area.

The implementation projects to be completed in connection with Phase I and Phase II work will improve area aesthetics by stabilizing erosion features and failed drainage infrastructure that create unnaturally large hydrologic features such as stream crossings along with large downslope sediment plumes. With stabilization of erosion features completed, it is anticipated that roadside slopes will stabilize resulting in the maintenance of natural topographic features and establishment of native plant communities in upland, riparian and aquatic areas. In the event that road decommissioning is completed within the Phase I project

area those road segments where such work would occur will be reshaped back into the natural contour of hillslopes and will be naturally revegetated by the migration of adjacent plant species. Short-term impacts may occur to the scenic vista and visual character of project sites during implementation of project work. When project related treatments are completed, it is anticipated that road and erosion stabilization projects as well as erosion control efforts will result in improved area aesthetics.

a) Would the project have a substantial adverse effect on a scenic vista?

No Impact. ***The Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** area is located in a very remote portion of Eastern Tehama County used primarily for wildlife management, livestock grazing, timber production and recreational activities. Given its size (97.8 miles of Ponderosa Way and spur road bed and right-of-way), the project area is visible from a number of routes carrying differing amounts of traffic. The most heavily utilized routes are State Highway 36E which crosses the overall project area from east to west and represents the boundary between the Phase I and Phase II areas along with State Route 32E which is located at the southern boundary of the Phase II project area **(See Map 1 Location of the Ponderosa Way Road Assessment and Sediment Reduction Plan Projects Phase I and Phase II Project Area** and **Map 2 Topographic Map of Ponderosa Way Road Assessment and Sediment Reduction Plan Projects Phase I and Phase II Project Area)**.

Other significant routes that pass through the Phase I project area are Forward Road, a paved Tehama County maintained road that carriers a significant amount of traffic related to scattered roadside developments located between the community of Manton and Forward Mill community. Forward Road also provides access to Ponderosa Way which crosses the road from north to south. Numerous residents located along Ponderosa Way at the north end of the Phase I project area utilize Forward Road as route to Manton and communities in the Sacramento Valley. Forward Road is also used by a small number of residents that occupy homes and scattered ranch sites within the Phase I project area south of this road junction with Ponderosa Way **(see Map 3 Phase I Project Area Detail Map)**. Within the Phase II project area, Plum Creek Road another paved Tehama County maintained route crosses the Phase II project area and provides access to residents of the small communities of Lyman Springs and the Plum Creek Rod and Gun Club. The road also provides efficient access to State Route 36E by residents of the Boondocks' community located along Ponderosa Way approximately 15 miles south of the State highway. In addition, The Lassen Trail is a popular all-wheel drive route that passed thought the Phase II project area from east to west. (**see Map 4 Phase II Project Area Detail Map)**

The current view within and along the Phase I project area include large expanses of burned chaparral and forest lands along with large storm related roadside sediment plumes that cross Ponderosa Way along with other erosion and sediment features. The Phase II project area passes thorough chaparral, forestlands and rock outcrops that are unaffected by wildfire or largescale sediment features. Although both areas will experience changes related to project work, it is

anticipated that controlling large and small-scale erosion and sediment features will result in stabilization of both area's topography. Once this stabilization occurs, it is anticipated that native roadside vegetation will become reestablished within impacted areas that are now covered by large sediment debris flows or eroded road banks.

b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. Neither the Phase I or Phase II **portions of the overall project area** are within the viewshed of a State Highway formally classified as a State Scenic Highway nor will it damage any scenic resources. If work completed in connection with this project impacts historic drainage features along Ponderosa Way, these will be protected and reconstructed if necessary via the provisions of **Mitigation Measure #HYDRO-1: Road Drainage Infrastructure**.

c) Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

No Impact. The short term visual character of the Phase I and Phase II project area will change within various locations as the proposed program of erosion control and sediment stabilization projects are implemented. This would be a temporary situation. As roadside or roadway sediment and erosion features are stabilized and contoured, it is anticipated that the Phase I and Phase II project area topography will become stabilized allowing native vegetation to become reestablished.

d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

No Impact. No new sources of light or glare would be created by the execution and completion of Project related project work.

No impacts to Aesthetics are anticipated.

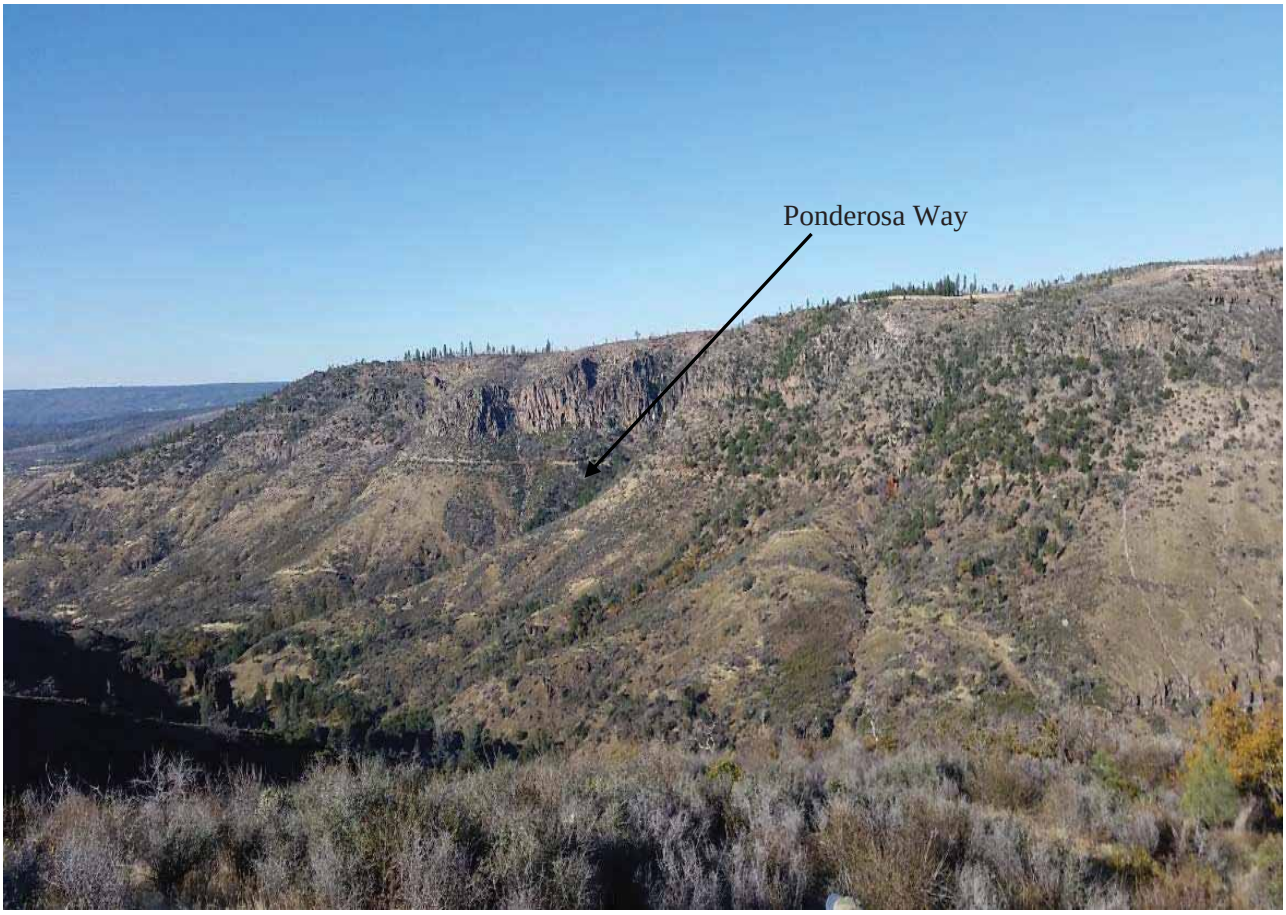

Photo 11: Phase I project area looking north from State Route 36E towards Forward Road, the Shasta County/Tehama County Line and the Phase I project area's northern boundary. The South Fork of Battle Creek flows through the canyon at the bottom right of the photograph.

Photo 12: Example of eastside chaparral thought which Ponderosa Way passes within the Phase I and Phase II project area. This photograph was taken in the Phase II project area

Photo 13: Example of eastside low elevation mixed oak/conifer forest through which Ponderosa Way passes within the Phase I and Phase II project area. This photograph was taken in the Phase II project area

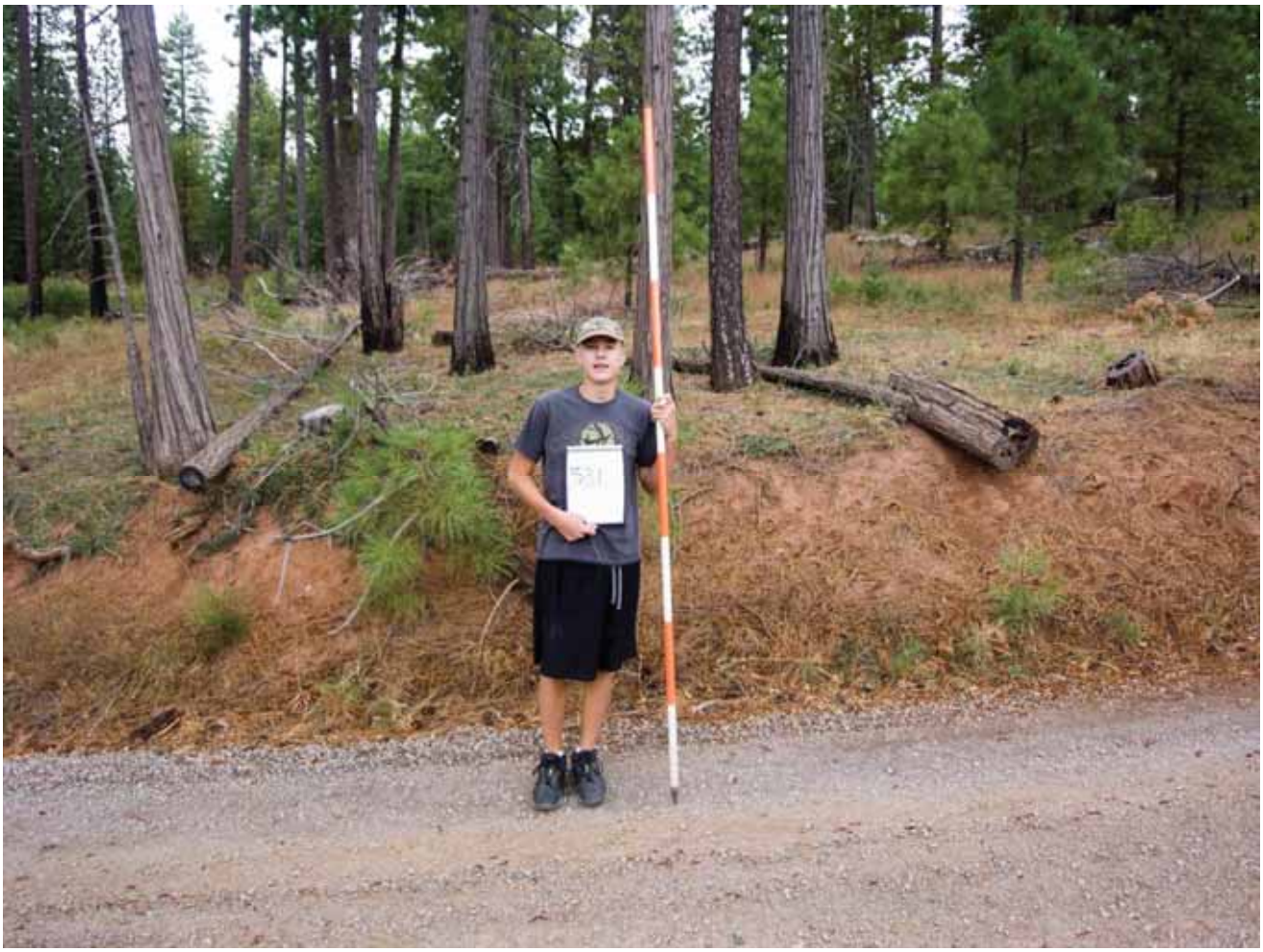

Photo 14: Example of eastside low elevation conifer forest through which Ponderosa Way passes within the Phase I and Phase II project area. This photograph was taken in the Phase II Project Area

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
II. Agriculture and Forest Resources				
Would the project:				
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?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of forest land (as defined in Public Resources Code §12220(g)), timberland (as defined by Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code §51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Discussion

In determining whether impacts on 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 on 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, as well as the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. The project work described in the ***Ponderosa Way Road Assessment and Sediment Reduction***

Plan Phase I and Phase Implementation Projects' plan of action has been designed in a manner that will preserve grazing and timberlands through the stabilization of road and roadside erosion features as well as related sediment flows that can impact native vegetation. Consequently, it is anticipated that these sediment and erosion control stabilization efforts will help keep important wildlands under current usage.

a) Would the project 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?

No Impact. None of the lands within the Phase I and Phase II project area are classified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. In some cases, very small amounts of range or timberland along Ponderosa Way will be reshaped or have in place drainage infrastructure improved, replaced or expanded. In addition, once roadside slopes and banks are stabilized, native vegetation can once again become reestablished. These and other road infrastructure changes are expected to provide additional protection to adjacent grazing and timberlands so that that do not continue to deteriorate, becoming rubble fields or otherwise degraded wildlands.

b) Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?

No Impact. Project related work would not change land use within the project area or on surrounding lands and thus would not conflict with existing zoning for agricultural activities or Williamson Act contracts.

c) Would the project involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?

No Impact. The various sediment and erosion control projects to be completed in connection with Phase I and Phase II of this project will not significantly change the use of lands adjacent to that portion of Ponderosa Way or intersecting spur roads in a manner that could result in the conversion of Farmland to non-agricultural uses. The completion of project work is not expected to promote future development that could result in land use conversion.

d) Would the project conflict with existing zoning for, or cause rezoning of forest land (as defined in Public Resources Code §12220(g)), timberland (as defined by Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code §51104(g))?

No Impact. The proposed road related sediment and erosion control projects described in the Phase I and Phase II plan of action will neither cause zoning changes to forest, range or other wildland area nor conflict with existing zoning regulations within the projects' footprints and surrounding landscapes. As a result, project work would not conflict with existing zoning or cause rezoning of timberland, zoned Timberland Production.

e) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. Unless road closure and decommissioning are implemented within the Phase I project area, none of the proposed road related sediment and erosion control work proposed for implementation within the Phase I and Phase II project area will change the use of Ponderosa Way as a wildland road. At the present time, the majority of Ponderosa Way within the Phase I area is impassible to traffic of any kind including 4-wheel drive vehicles. Ponderosa Way within the Phase II area is used primarily by public and private forest land managers as well as hunters and other recreationists. The improvements made to any portion of Ponderosa Way where the road is left open will not be to a degree that will change these uses. If the Phase I portion of Ponderosa Way remains open, road treatments will improve that portion of the road as a wildland route. Those treatments that keep the road open will improve the ability of timberland owners to manage and extract forest resources as now occurs. In addition, segments of Ponderosa Way within the Phase I and Phase II project area are used as a fuel break and access road for wildland fire control and thus help to protect forest resources. Once project work is completed, access to remote forestlands will be improved thus allowing firefighting entitles better control of wildfire and protection of forest resources.

f) Would the project involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?

No Impact. The practices to be completed within the Phase I and Phase II project area would not be developed in a manner or to an extent that would result in the conversion of agricultural land to non-agricultural uses nor would its existence lead to future development that could result in this kind of land use conversion. Where sediment and erosion control projects call for stabilizing roadbeds and road banks, some small amounts of timberland, range land or other wildlands may be lost however it is anticipated that control of road related erosion and sediment production will protect large areas of adjacent lands from negative impacts attributable to continued erosion and sediment production.

No impacts to Agricultural and Forest Resources are anticipated

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. Air Quality.				
Will the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐
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)?	☐	☒	☐	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐	☒
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒

Discussion

A majority of the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** impact area is located in a remote portion of southeastern Tehama County. A small portion of the Phase II project area is located in northeastern Butte County as well. Both counties lie in the Sacramento Valley Air Basin. Local jurisdiction for air quality is under the authority of the Tehama County Air Pollution Control District (TCAPCD) and Butte Council Air Pollution Control District (BCAPCD). These agencies are responsible for the planning, maintenance and attainment of air standards within their respective counties. Air Quality standards are based upon provisions of the Federal and State Clean Air Acts. Air quality within both Tehama County and Butte County are regulated at the federal level by the U.S. Environmental Protection Agency (EPA) and at the State level by the California Air Resources Board (CARB).

In general, the air quality in both Counties is good however as a whole, they currently do not fully meet state health standards for clean air although no specific data is available for the project area. Particulate matter and ozone are the air pollutants of greatest concern to both Counties' air officials. The climate and

topography of the Northern Sacramento Valley traps air pollution along with smoke from wildfires all of which contribute to the two Counties air quality problems. Particulate matter consists of fine mineral, metal, soot, smoke and dust particles suspended in the air. For health reasons, the greatest concern is with inhalant particulate matter less than 10 microns in diameter (PM10), which can lodge in the most sensitive areas of the lungs, and cause respiratory or other health problems. Both Tehama County and Butte County have been designated as non-attainment areas for State and federal inhalable particulate matter.

Construction equipment can release large amounts of particulate matter into the atmosphere in a relatively short period of time. Ozone is an invisible pollutant formed by chemical reactions involving nitrogen oxides, reactive hydrocarbons such as diesel and gasoline emissions in the presence of sunlight. It is a powerful respiratory irritant that can cause coughing, shortness of breath, headaches, fatigue and lung damage, especially among children, the elderly and the sick. In compliance with the California Clean Air Act (CCAA), air districts submit Air Quality Attainment Plans (AQAP) primarily to address ozone non-attainment. The CCAA also requires a triennial assessment of the extent of air quality improvements and emission reductions achieved through the use of control measures. As part of the assessment, attainment plans must be reviewed and if necessary, revised to correct for deficiencies in progress and to incorporate new data or projections. The AQAPs stress attainment of ozone standards and focus on strategies for reducing reactive organic gas and nitrogen oxide emissions. These plans also promote active public involvement, enforcement of compliance with district rules and regulations, education in the public and private sectors, development and promotion of transportation and land use programs designed to reduce vehicle miles traveled within the region and implementation of stationary and mobile source control measures. The AQAPs become part of the State Implementation Plan in accordance with the requirements of the CAAA. The TCAPCD and BCAPCD have not established quantitative thresholds of significance for the purpose of CEQA with respect to short-term construction emissions of criteria air pollutant or precursor emissions. Rather, both agencies emphasize control measures such as those that have been developed for project work to be completed in connection with the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects***. For this effort, these measures take the form of Best Management Practices and Mitigation Measures developed in order to protect air quality and have been incorporated into Phase I and Phase II project requirements.

Would the Project

a) Conflict with or obstruct implementation of the applicable air quality plan?

No Impact. Project work to be completed in connection with Phase I and Phase II efforts will include the use of large construction equipment including dozers, earth haulers, and other earthmoving equipment. Transportation equipment and hand power tools will be used as well. All of this equipment will be operated under current Californian Air Regulations as enforced by the Tehama County and Butte County Air Pollution Control Districts. The limited effects to air quality that will result either directly or indirectly from project work would occur intermittently. Initially, specific project work utilizing the various erosion and sediment treatment practices described above will be completed in connection with the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** effort. With the Ponderosa Way Road Phase I and Phase II plans of action in place, other future efforts will be completed as project funds are identified and secured. It is anticipated that no more than 2 or 3

sediment/erosion control projects would be implemented in any given year. Consequently, the completion of this large road stabilization and improvement effort will take a number of years and will not conflict with or obstruct the development and implementation of the Tehama County or Butte County Air Quality Plans or any State Air Quality Plans in any given year.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less Than Significant with Mitigation Incorporated. Mitigation Measure #AQ-1 Fugitive Dust and **# AQ-2 Construction Equipment Exhaust** and **AQ-3 Registration of Heavy Equipment** along with various Best Management Practices related to air quality maintenance will assure that the use of fueled equipment in connection with project work will not generate excessive amounts of particulate matter in the form of dust or equipment exhaust. In addition, **Mitigation Measure AQ-5 Placement of Burn Piles** will be incorporated into project work if needed to assure that an unintended wildfire does not occur during project work. All project implementation efforts will adhere to the air regulations found in State and Local air regulations.

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)?

Less Than Significant with Mitigation Incorporated. The initial and future project work to be completed in connection with the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** will produce small amounts of localized diesel and gasoline emissions similar to that produced by farm, ranch or forest management operations and this will occur within a short work window between late June and October. Best Management Practices will be used to keep airborne dust to a minimum and the small scale of construction to occur in connection with a particular implementation effort will keep emissions which fall under the regulations of the TCAPCD and BCAPCD to less than cumulatively significant. In addition, **Mitigation Measures #AQ-1 Fugitive Dust**, **#AQ-2 Construction Equipment Exhaust** and **#AQ-3 Registration of Heavy Equipment** will assure that those pollutants for which both Tehama County and Butte County are in non-attainment status will be minimized and meet County air regulations. **Mitigation Measure AQ-5 Placement of Burn Piles** has also been developed and will be incorporated into Phase I and Phase II project work if needed in order to assure that no significant impacts to air quality in connection with this project will occur.

d) Expose sensitive receptors to substantial pollutant concentrations?

No Impact. Project work to be completed in connection with this effort will be developed in very remote portion of eastern Tehama County and Butte County. The nearest sensitive receptors to the Phase I and Phase II project area are as follows:

Sensitive Receptor	Sensitive Receptor Locations in Relation to Phase I and Phase II Portions of the Overall Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects Effort
Phase I Project area	
Shingletown	5 miles Northwest of the Phase I Area's Northern Boundary
Community of Manton	5 miles West of the Phase I area's northern boundary
Lasse Volcanic National Park	15 Miles West of the Overall Phase I Project Area
Battle Creek Rod and Gun Club	Along Ponderosa Way
Ponderosa Sky Ranch	Along Ponderosa Way at the boundary between the Phase I and Phase II Portions of the overall Project Area
Phase II Project area	
Paynes Creek Rod and Gun Club/Wilson Ranch	1-mile West of Ponderosa Way
Community of Lyonsville	1-mile East of Ponderosa Way
Boondocks Community	Along Ponderosa Way

Given the limited and sporadic use of mechanized equipment during the implementation of Phase I and Phase II project work as well as the provisions of **Mitigation Measure AQ-1:** through **AQ-3** along with those established in **AQ-5** related to the burning of construction related vegetative debris, no significant impacts to sensitive receptors are anticipated with regard to equipment use or overall project implementation.

e) Create objectionable odors affecting a substantial number of people?

No Impact. Execution of Phase I and Phase II project work will result in diesel smoke from dozers and other heavy equipment, gasoline emissions from transportation equipment and the potential for smoke related to pile burning of construction related vegetative debris. Due to the fact that project operations would occur in a very remote location, any odors or minor pollutants generated in connection with project work will not affect substantial numbers of people. Impacts to air quality are expected to be less than significant with the incorporation of **Mitigation Measures #AQ-1** through **#AQ-3** related to equipment and **AQ-5** related to the burning of construction related vegetative debris. Finally, no objectionable odors are anticipated to persist within this project's footprint area or surrounding landscapes for more than day.

No significant adverse impacts related to Air Quality are anticipated with the implementation of the Mitigation Measures described above.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. Biological Resources. Will the project:				
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 California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Discussion

Overview of Current Conditions for Fisheries Resources Within the Phase I and Phase II Project Area

South Fork Battle Creek Watershed Conditions (Phase I Project Area)

Observations made by the US Fish and Wildlife Service of Battle Creek's South Fork in June 2015 describe large amounts of fine sediment that have entered the creek's mainstem and tributaries as a result of the 2012 Manton Fire and subsequent severe storm events that occurred between December 2014 and February 2015. Combined, these events currently have a significant deleterious effect on the in-stream and riparian habitat conditions for listed anadromous species including the Central Valley Spring Run Chinook Salmon. ***Appendix D Increase in Sediment Within South Fork Battle Creek US Fish and Wildlife Service*** **prepared** in connection with these survey efforts provide a detailed description of current stream conditions and an analysis of impacts on aquatic species. In early 2014, the Central Valley Regional Water Quality Control Board made an inspection of post fire storm related erosion and sediment generation conditions along Ponderosa Way within the Phase I project area. Survey results were described as found in ***Appendix E Inspection Report Ponderosa Way Central Valley Regional Water Quality Control Board*** included at the end of this programmatic IS/MND document. These features have been determined to be a major contributor to current impacted stream bed and bank conditions found within South Fork Battle Creek as described in ***Appendix D***. These post storm surveys identified a significant increase in fine sediment within Battle Creek's South Fork indicating that storm related sediment is filling pools and infiltrating spawning gravel areas. Before and after substrate size comparisons demonstrated conversion of spawning gravels to sand beds while other observations indicated that elevated turbidities are occurring at lower discharge rates. In addition, daily turbidity measurements taken since September 1998 suggest turbidity has increased in general during recent years and especially during water year 2015.

This lack of holding pools has resulted in high levels of predation and stress on listed anadromous species. Poor quality spawning gravels have also resulted in spawning mortality from superimposition of reds along with high mortality during incubation. In comparison to conditions prior to 2015, it was observed that: 1) holding pools, historic areas of chinook salmon spawning, and interstitial spaces between larger rock substrates have been filled in or blanketed with a layer of sand 2) anecdotally, there was a great reduction in the number of smaller fish (e.g. rainbow trout, riffle sculpin, Sacramento suckers, etc.) and invertebrates observed during the survey.

<u>Payne's Creek, Antelope Creek, Mill Creek and Deer Creek Watershed Conditions (Phase II Project Area)</u>

A number of listed or Special Status species are known to the utilize the major Sacramento tributaries found within the Phase II project area. Payne's Creek and Antelope Creek are known to support Fall-run Chinook Salmon when water conditions are adequate downstream from the project area. Antelope Creek is also

considered habitat for Spring Run Chinook Salmon. Low flows, chronic road related erosion and sediment generation/migration along with inadequate spawning gravel have been identified as significant factors limiting salmon production in both Payne's Creek and Antelope Creek. Per the National Marine Fisheries Service's ***"Public Draft Recovery Plan for the Evolutionarily Significant Units of Sacramento River Winter□run Chinook Salmon and Central Valley Spring□run Chinook Salmon and the Distinct Population Segment of Central Valley Steelhead. Sacramento Protected Resources Division"*** dated October 2009, Oncorhynchus *mykiss irideus* (Central Valley DPS winter run steelhead trout) are currently present in Paynes Creek and have had an historical presence there. In addition, Paynes Creek has been determined to be a location warranting restoration of steelhead.

Post Project Improvement to Aquatic and Stream Channel Conditions
Within Phase I and Phase II Project Area

The ultimate goal of the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** effort is to reduce movement of catastrophic sediment flows within the Phase I project area and prevent the generation of additional sediment inflows to these features. As a result, upland and riparian habitat conditions as well as water quality within Battle Creek's South Fork and its major tributaries will be improved. The goal of Phase II efforts is to control smaller, chronic sources of erosion and sediment generated within those tributaries through which Ponderosa Way passes between State Route 36E and State Route 32E that impact both streambed conditions and water quality. Once all proposed Phase II project work described in the future Phase II assessment document is completed, it is anticipated that downslope and streamside movement of sediment will be reduced or eliminated thus allowing natural flushing of excessive sediment out of the Paynes Creek, Antelope Creek, Mill Creek and Deer Creek watershed systems. It is also anticipated that stabilizing and halting current erosion and sediment movement within the Phase I/Phase II project area will allow for the redevelopment and stabilization of native vegetation. As a result, natural terrestrial habitat conditions within the overall Ponderosa Way Phase I and Phase II project area can develop.

Project Related Measures to Protect Biological Resources Found
Within the Phase I and Phase II Project Area

The project work to be completed in connection with Phase I and Phase II of this project has the potential to modify plant and animal habitats thereby impacting populations of various species which can either benefit or be harmed by habitat change. In general, the implementation of erosion and sediment control stabilization project work will reduce or prevent unnatural rates of erosion and sediment production related to the presence and operation of Ponderosa Way along with its related road and drainage infrastructure. Implementation and maintenance of erosion control and sediment stabilization projects may however result in minor temporary impacts on biological resources. Project activities that have a potential to result in short-term impacts include soil excavation, grading, preparation of soils for seeding and mulching, placement of fill, vegetation removal along with burial, trampling or crushing of vegetation from equipment and foot traffic. Limited mortality of individual plants or animals may occur after

consultation with and approval by appropriate State and/or federal regulatory agencies. The Best Management Practices, site specific avoidance measures and formally established Mitigation Measures developed for this program of project work will ensure that potential disturbance to species will result in less-than-significant impacts on project area biological resources. All work to be completed in connection with Phase I and Phase II project efforts will provide for improved aquatic, riparian and upland habitat conditions in terms of decreased rates of road related erosion, sediment generation and transport flows into waterbodies.

In the development of this environmental analysis related to biological resources, a 27-quadrangle review of the California Natural Diversity Database was completed. Other resources were used as well. The quadrangles used in this analysis along with the array of references referred to are listed in **Appendix G Results of California Natural Diversity Database Inquiries and Species Review**. The results related to listed Rare, Endangered, Threatened, Special Status, (List 1, List 2 and List 3) species were generated in the database query and a discussion of these species, the impact proposed project work will have on them along with measures and practices to protect these from impacts are described in **Appendix F** as well.

Overview of Mitigation Measures to be Established in Order to Protect Biological Resources

Found Within the Phase I and Phase II Project Area

In addition to the array of Best Management Practices described above, the provisions of **Mitigation Measure BIO-1: General Mitigation Measures to Protect Special Status Species** will be implemented as a means to avoid or minimize adverse effects on candidate, sensitive and Special Status species. The provisions of **Mitigation Measure #BIO-2: Protection of Riparian Vegetation:** will be implemented in order to minimize impacts to riparian plant and animal species. More specifically, the provisions of this protection measure require that a maximum amount of riparian vegetation be retained within impacted project area riparian zones in order to provide both sufficient shade and stabilization of streamside soils. This measure also establishes specifications for equipment to be used in riparian areas in order to prevent soil disturbance and compaction. In addition, this measure requires that all compacted and disturbed soil be replanted with native riparian species. **Mitigation Measure #BIO-3 Minimization of Impacts to Aquatic Habitat and Species During Dewatering of Project Sites:** provides an array of requirements related to the protection of aquatic species during dewatering operations as well as required protocols for such activities.

Related to the potential for Special Status plants to be located within the Phase I and Phase II project area, **Mitigation Measure #BIO-4 Pre-Project Implementation Plant Surveys** requires that specially trained personnel evaluate proposed project sites within the Phase I and Phase II project area prior to the implementation of any impactive project work in order to determine the potential presence of California Rare Plant Ranking (CRPR List 1, List 2, and List 3 species) along with any others shown in **Appendix F**.

In addition to determining the possible presence of such species, this evaluation will determine potential impacts related to proposed project work on Special Status species. In the event that previously unidentified Special Status species are found in project impact areas, **Mitigation Measure #BIO-5: Protection of Previously Unidentified Special Status Species** establishes protection measures for unidentified Special Status animal and plant species whose presence becomes know during project implementation efforts. In order to assure that large trees suitable as nesting habitat and stream shading are not removed during implementation of project work, **Mitigation Measure #BIO-6: Tree Diameter Limits Related to Nesting Species** will be enforced. Considering that Phase I and Phase II project impact areas may contain a number of Special Status avian and more specifically, raptor species, **Mitigation Measures #BIO-7: Protection of Migratory Bird Treaty Act Species** and **#BIO-8: Raptor Protection** were developed. In order to increase protection to those raptor species whose numbers are at a critical level, the provisions of **#BIO-8** contain separate provisions for listed and non-listed raptor species. The CNDDB search conducted in connection with this project indicated potential presence the Pacific Fisher (*Marten pennant (Pacifica) DPS*), a California Species of Special Concern and Federal Candidate Species along with the Fisher West Coast DPS (*Pakania pennanti DPS*) also a California Species of Special Concern and Federally Proposed Threatened Species. Consequently, **Mitigation Measure #BIO-9 Fisher Protection** was established in order to prevent impacts to these species as well their habitat. The requirements found in #**BIO-9** require that prior to implementation of project work, specifically trained personnel search project impact areas in order to determine the present of these mammalian species and to establish site specific protection measures. This Mitigation Measure also establishes a formal definition of these species' habitat.

In implementing Phase I and Phase II project work, the RCD of Tehama County acknowledges the significant impact that invasive plants have on habitats throughout Tehama County and California as a whole, To that end, **Mitigation Measure #BIO-10: Identification and Isolation of Invasive Plants** will be implemented which requires that any populations of Cal-IPC rated invasive plants found within Phase I or Phase II project impact areas having a potential to be spread by project work, be flagged and avoided during project implementation. Alternatively, such invasive plants will be treated prior to implementation of project related activities. **Mitigation Measure #BIO-11: Invasive Plants and Equipment Cleaning** requires that all equipment to be used in the execution of Phase I and Phase II efforts be cleaned prior to implementation of any project work. In order to protect water quality as well as aquatic and other riparian area species, **Mitigation Measure BIO-12: Woody Debris** has been established to prevent impacts to water quality within project impact areas by prohibiting the introduction of chipped material or other woody debris into waterways, streambanks and other sites where such material could be carried into streams.

Other related measures developed in order to protect project area biological resources include **Mitigation Measure #GEO-1: Mulching of Exposed Soil** which requires the protection of water quality through establishing a requirement that all significant areas of exposed soils be seeded or mulched in order to prevent their exposure to rain and resultant overland flows. The provisions of **Mitigation Measure #HYDRO-1: Road Drainage Infrastructure** will be incorporated into project requirements established for all work completed throughout the entire Phase I and Phase II project area in order to prevent impacts to the future use of drainage infrastructure and to prevent potentially related impacts to water quality during

rain events once project work has been completed. **Mitigation Measure HA/HAZ-1 Protection Against Hazardous Materials Spills in Streams and Riparian Zones** and **#HA/HAZ-2 Equipment Refueling and Maintenance Precautions** will apply to all work completed in connection with this Project that entail the use of mechanical equipment. In consideration that at a minimum transportation equipment will be utilized to haul work crews, equipment and supplies to project implementation sites, the provision of **Mitigation Measure #HA/HAZ-19 Fire Protection Equipment** will apply to all project work as a means of preventing the impact of wildfire in riparian zones and other habitats within the Phase I and Phase II project area.

a) ***Would the project 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 California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?***

Less Than Significant with Mitigation Incorporated: A review was made of the California Natural Diversity Database. Inquiries were also made of the Cal Fish Database, the Wildlife Habitat Relationships System of the California Department of Fish and Wildlife along with other sources of information as listed under ***"References Cited"*** at the end of this IS/MND in order to determine the occurrence of Candidate, Sensitive or Special Status Species within or immediately adjacent to the Phase I and Phase II project area. Those species with the highest probability of occurring inhabit riparian sites and wet environments as are found along stream courses. Impacts to these specific habitat types would be reduced to a less than significant level through the implementation of **Mitigation Measure #BIO-1 General Mitigation Measures to Protect Special Status Species**, **#BIO-2: Protection of Riparian Vegetation, BIO-#3 Minimizing Impacts to Aquatic Habitat and Species During Dewatering of the Project Site** along with the requirements found in California Department of Fish and Wildlife 1600 Stream Alteration Agreements executed prior to the implementation of specific erosion and sediment control projects completed near streams and other wet areas. In addition, preconstruction surveys for aquatic species will be conducted in order to determine occurrence within project impact areas so that avoidance measures can be taken.

b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Wildlife or the U.S. Fish and Wildlife Service?

Less Than Significant with Mitigation Incorporated: No formally designated riparian habitats or sensitive natural communities have been established within the Phase I and Phase II project area.

c) Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact: There are no federally protected wetlands as defined by Section 404 of the Clean Water Act within the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** **area**.

d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less Than Significant with Mitigation Incorporated: No long-term impacts to migratory terrestrial, aquatic or avian species are anticipated that are attributable to project work to be completed in connection with the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects***. Significant direct improvement to fish passage within a number of tributaries to Battle Creek's South Fork (Phase I project area) will occur as a result of implementing various sediment and erosion control treatments described in the project description of this IS/MND. In addition, project work along these tributaries will have an indirect but positive impact on fish passage within the South Fork and mainstem of Battle Creek through a reduction of overland and instream sediment flows. At the present time, significant amounts of sediment attributable to large in place debris plumes are migrating into South Fork Battle Creek either directly or through stream flows of its tributaries, impacting water quality, fish passage, streambed morphology and spawning habitat. Thought a reduction in these flows, it is anticipated that current excess sediments within the South Fork and mainstem of Battle Creek will pass through the system allowing a return to more natural stream conditions. Similar improvement to aquatic conditions within the Payne's Creek, Antelope Creek, Mill Creek and Deer Creek watershed systems (Phase II project area) are anticipated through proposed project work that will control current chronic road related erosion and sediment movement. Importantly, controlling these sediment sources will improve habitat conditions for those Special Status anadromous species discussed in ***Appendix G Results of California Natural Diversity Database Inquiry and Species Review***. The "Discussion" section above provides details on how proposed Best Management Practices and Mitigation Measures will protect project area biological resources from negative impacts.

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact: No local policies or ordinances protecting biological resources within the Phase I or Phase II project area have been established and no local tree preservation policies have been established for eastern Tehama County. Consequently, none of the erosion and sediment stabilization efforts to be completed in connection with this program of project work will conflict with any local policies or ordinance protection biological resources.

f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact: There are no formally approved, adopted or recognized habitat conservation or natural community plans that affect the Phase I and Phase II project area.

No significant adverse impacts related to Biological Resources are anticipated with the implementation of the Mitigation Measures described in the Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Projects Programmatic Initial Study/Mitigated Negative Declaration.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. Cultural Resources. Will the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

Discussion:

The RCD of Tehama County will ensure that the effects of erosion control and sediment stabilization efforts completed in connection with the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** work program will not negatively impact archeological, historic, tribal or paleontological resources. Consideration of the assessment, protection and preservation of these resources will occur during the earliest stages of project implementation. All impactive activities completed in connection with this program of work will require a pre-project examination of project sites in order to determine if such resources occur in these areas. An analysis of potential negative effects on objects found either during pre-project surveys or those conducted once project work begins as a result of inadvertent discovery will be completed. Any necessary protection and preservation measures required per the requirements of 36 CFR 800 and related State regulations will also be implemented. Cultural resource evaluations will occur in several steps as described below. This evaluation process would be completed by the RCD of Tehama County if project work was completed under its direction. If another entity funded and managed project implementation efforts, it would need to complete this process as well, at its own expenses.

Records Check: A current archaeological records check at the Northeast Information Center on the CSU Chico campus will be conducted by an archeologist or other appropriately qualified cultural resource specialist. The entity implementing project work (RCD of Tehama County or other implementing entity) may use an existing record check previously completed for another project on the same property if that records check meets the definition of current (five years) and if all of the current project area was covered in the previous records check. If the original records check is older than five years, the implementing entity will initiate a new archaeological records check for the project being reviewed. It is recommended that the entire parcel be included in the request for a records check so this information may be used if additional projects occur on the same property. Record checks may only be initiated by a professional archeologist or other cultural resource specialists as approved by the RCDTC Project Manager or other implementing entity's Project Manager (as approved by the State and federal regulatory agencies).

Native American Project Notification and Information Gathering: The RCDTC Project Manager or project manager of another implementing entity will send written notification of proposed project work to the appropriate Native American groups and individuals listed on the most current version of the *"Native American Contact List"*. At the present time, the following Native American entities have been identified and will be contact prior to implementation of any project work to be completed in connection with the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects***:

Native American Heritage Commission

1550 Harbor Blvd., Room 100

West Sacramento, CA 95691

(916) 373-3710

FAX (916) 373-5471

Attn.: Ms. Gayle Totton

gayle.totton@nahc.ca.gov

Enterprise Rancheria of Maidu Indians

Glenda Nelson, Chairperson

Creig Marcus, Tribal Administrator

2133 Monte Vista Avenue

Oroville CA 95966

Tribal Affiliation: Estom Yumeka Maidu

(530) 532-9214 / (530) 532-1768 Fax

info@enterpriserancheria.org

Creigm@enterpriserancheria.org

Greenville Rancheria of Maidu Indians

Kyle Self, Chairman

P.O. Box 279

Greenville, CA 95947

Tribal Affiliation: Maidu

(530) 284-7990 / (530) 284-6612 Fax

kself@greenvillerancheria.com

Beverly K. Ogle

Tasman Koyom Indian Foundation

29855 Plum Creek Road

Paynes Creek, CA 96075

Tribal Affiliation: Maidu

(530) 597-2070

Paskenta Band of Nomlaki Indians

Andrew Alejandre, Chairman

P.O. Box 709

Corning, CA 96021

Tribal Affiliation: Wintun – Nomlaki

(530) 528-3538

office@paskenta.org

Redding Rancheria

Jack Potter Jr., Chairman

Tracy Edwards, Chief Executive Officer

James Hayward Sr., Cultural Resources Manager

2000 Redding Rancheria Road

Redding, CA 96001-5528

Tribal Affiliation: Pit River, Wintu, Yana

(530) 225-8979 / (530) 241-1879 Fax

Prior to implementation of any project work, the *"Native American Contact List"* will be reviewed in order to determine if additional entitles have been added to the current list and if so, will be subsequently contact. Once all appropriate Native American entities have been contacted by the RCDTC Project Manager or other implementing entity, any requirements or procedures prescribed by the Native American Heritage Commission will be implemented. The purpose of this notification is to inform Indian tribes, local Native Americans and the Native American Heritage Commission (NAHC) about proposed project work and to solicit their views and comments. It also serves as an information gathering step. Through this procedure, the RCD of Tehama County Project Manager or other implementing entity will request information concerning the location of any archaeological or cultural sites that may occur within the project area. The NAHC will then complete a check of the Sacred Lands File. An archeologist or other appropriately qualified cultural resource specialist will then follow-up and investigate any potential positive results revealed through this request for information.

Prefield Research: An archeologist or other appropriately qualified cultural resource specialist working on the cultural resources survey shall conduct appropriate levels of prefield research as part of the investigation. The purpose of this research is preparation to conduct a field survey. Such prefield research will allow the archeologist or other appropriately qualified cultural resource specialist to become familiar with the types of resources likely to be encountered, and to learn about the typical locations where nearby sites may be found. It is also useful to interpret, record, and evaluate cultural resource discoveries within the context of local history and prehistory. The investigator shall review records; study maps; read pertinent ethnographic, archaeological, and historical literature specific to the area being studied; and conduct other tasks to maximize the effectiveness of the survey.

Survey: An intensive archeological, historic and tribal resource survey will be made within a proposed project's Area of Potential Effect (APE). A paleontological survey may also be required based upon the results of pre-field research. These surveys shall only be made by an archeologist or other appropriately qualified cultural resource specialist. The objective of this survey is to identify the specific location for all cultural resources within a proposed project area including but not limited to: historic landscapes, prehistoric or historic archaeological sites, features, or artifacts, historic buildings or structures, or types of resources that have significant cultural importance to Native Americans such as traditional cultural properties, cemeteries, gathering areas, or sacred sites.

Develop Protection Measures: The archeologist or other appropriately qualified cultural resource specialist shall develop effective protection measures in addition to those listed in the Mitigation Monitoring Plan **(Appendix E)** prepared for this IS/MND for all identified cultural resources located within various portions of the Phase I and Phase II project area. The RCD of Tehama County's Construction Contractor or other implementing entity's Project Manager will exercise a strategy of avoiding all adverse impacts to cultural resources. If impacts to cultural resources cannot be avoided, the RCD of Tehama County's Construction Contractor will consult with the RCDTC Project Manager who will seek guidance from a professional archeologist. If project work is being

implemented by another entity, its representative will consult with a professional archeologist for guidance at its own expense. In both instances, the professional archeologist will determine if actions other than those described above or in the Cultural Resources Mitigation Measures described in **(Appendix E)** need to be implemented.

Consultation with Native Americans: In the event that Native American archaeological, cultural or tribal resource sites are identified within a ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** impact area, the RCDTC Project Manager or other implementing entity's Project Manager will notify appropriate Native American native groups regarding the existence of such sites, provide information regarding the proposed protection measures, and provide such Native American groups the opportunity to submit comments and participate in consultation to resolve issues of concern.

Record Sites: An archeologist or other qualified cultural resource specialist shall record all archaeologist, historical or tribal sites and resources discovered within project impact areas. Sites identified during the survey shall be recorded on appropriate forms as are approved by the Office of Historic Preservation (OHP). This recording work will be conducted in accordance with the policies specified in OHP's *Instructions for Recording Historical Resources* (1995). Additional guidance for site recording is provided in the Cal Fire's document *Suggestions for Preparing Archaeological Site Records and Site Maps* (2001).

Complete Cultural Resource Survey Report: An archeologist or other qualified cultural resource specialist shall ensure that a cultural resource survey report is completed for every cultural resource survey conducted pursuant to all project work completed in connection with ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** efforts. This report will be prepared on a cultural resource survey report form as determined appropriate by the archeologist or other qualified cultural resource specialist.

Archaeological Clearance: Archaeological clearance shall be given only after all these procedural steps have been completed and documented in the RCDTC Project file or those of another implementing entity. This documentation shall include either a letter to the file or a survey report signed and approved by the archeologist or other qualified cultural resource specialist.

If any potential historic resources, such as legacy railroad trestles, bridges, residences or outbuildings are within the footprint of project work to be completed in connection with the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects***, the RCD of Tehama County Project Manager or other implementing entity's Project Manager will notify the Tehama County Planning Department (TCPD) and applicable historical associations. If such structures or sites are determined to be historic or protected, guidance on protection measures will be sought from the TCPD and implemented by the RCD of

Tehama County's Construction Contractor Representative as instructed and overseen by the RCDTC Project Manager. This provision is also required of any other implementing entity completing project work related to the scope of work found in this IS/MND. In such instances, avoidance will be practiced wherever possible. Addition protection will be afforded to cultural resources as all projects implemented under this program operate under 36 CFR 800 along with the provisions of **Mitigation Measures #CUL 1: Protection of Identified Cultural Resources**, **#CUL 2: Protection of Newly Discovered Archeological, Prehistoric, Historic or Paleontological Resource**, **#CUL 3: Discovery of Human Remains** and **Mitigation Measure #CUL 4: Continual Monitoring of Cultural Resource Protection**.

Previous Survey Work Completed Within and Around the Phase I and Phase II Project Area

Various surveys and efforts related to the identification, analysis and protection of archeological, historic, tribal and paleontological resources occupying areas within and around the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** area have been completed. This work was conducted in connection with timber harvest operations, hydroelectric development projects and resource protection efforts. The following reports were developed in connection with this survey work:

- 1983 survey by Environmental Science Associates, Inc. for the South Fork Battle Creek Hydroelectric Project (IC REF#724)
- 1993 Bedell Timber Harvest Plan by Dennis Possehn (IC REF#3620)
- 1993 Lassen Lodge Timber Harvest Plan by Sherry Chilcott and James Chapin (IC REF#4133)
- 1996 Panther Timber Harvest Plan by Steve du Chesne (IC REF#8406)
- 1998 South Fork of Battle Creek Timber Harvest Plan by Mike Mitzel (IC REF#3614)
- 2002 Peppermill Timber Harvest Plan by Kim Tiesen (IC REF#4713)
- 2003 Digger Timber Harvest Plan by Steve DeBonis (on file with SPI)
- 2004 Hazen Timber Harvest Plan by Steve du Chesne (IC REF#6280)
- 2004 Engebretsen Timber Harvest Plan by Steve du Chesne (IC REF#8420)
- 2004 Willow Spring Timber Harvest Plan by Steve DeBonis (on file with SPI)
- 2005 Rio Frio Timber Harvest Plan by Dennis Garrison (on file with SPI)
- 2009 Dry Gulch Timber Harvest Plan by Steve R. Emershy (on file with SPI)
- 2010 survey by Richard Jenkins for the Little Giant Mill Road Fuelbreak Project (IC REF#11189)
- 2010 Blue Ridge Timber Harvest Plan by Steve DeBonis (on file with SPI)
- 2011 Paynes Creek Timber Harvest Plan by Steve DeBonis (on file with SPI)

Eleven previously recorded sites within and surrounding the Phase I and Phase II project area and described below.

Trinomial	Description
CA-TEH-595	Lithic scatter, previously 'destroyed' site
CA-TEH-1824H	Last Chance Ditch segment
CA-TEH-1825H	Empire Flume segment
CA-TEH-1835H	Last Chance Ditch segment
CA-TEH-1879H	Belle Mill
CA-TEH-1880H	Belle Mill flume segment
CA-TEH-1881H	Ditch segment
CA-TEH-1882H	Ditch segment
CA-TEH-1883H	Belle Mill Tramway segment
CA-TEH-2496H	Sparse historic refuse scatter
CA-TEH-2498H	Sparse historic refuse scatter

a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

Less Than Significant with Mitigation Incorporated: Historic resources that are found during required pre-project resource surveys (described above) within any project area will be avoided through the development of formally flagged exclusion zones around site containing such resources. The implementation of Mitigation Measures and Best Management Practices that have been developed for the Phase I and Phase II program of project work will be implemented and provide additional protection to these resources.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

(see below)

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant with Mitigation Incorporated: b) &c): No work will occur within known areas of archeological, historical, tribal, paleontological and other unique geological feature or resource as identified during required pre-project field surveys conducted by a professional archeologist or other suitably trained

individual unless applicable Best Management Practices are applied. In addition, **Mitigation Measures #CUL-1: Protection of Identified Cultural Resources**, **#CUL-2: Protection of Newly Discovered Archeological**, **Prehistoric, Historic or Paleontological Resources**, **#CUL 3: Discovery of Human Remains** and **#CUL 4: Continual Monitoring of Cultural Resource Protection** are implemented.

d) Disturb any human remains, including those interred outside of formal cemeteries?

Less Than Significant with Mitigation Incorporated: Per the provisions of **Mitigation Measure #CUL 3: Discovery of Human Remains** no work will occur in areas of known human remains. In the event of inadvertent discovery, all work will stop in the immediate vicinity of the discovered remains. The County Coroner and a qualified archaeologist will be notified immediately so that an evaluation can be performed. If the remains are determined to be Native American and prehistoric, the Native American Heritage Commission will be contacted by the Coroner so that a "Most Likely Descendant" can be designated. Work will cease until the "Most Likely Descendant" has time to propose a mutually acceptable disposition for the remains to the landowner

No significant adverse impacts related to Cultural Resources are anticipated with the implementation of the Mitigation Measures described in the Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Projects Programmatic Initial Study/Mitigated Negative Declaration.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VI. Geology and Soils. Would the project:				
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 on 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 California Geological Survey Special Publication 42.)	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☒	☐	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that will become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☒	☐	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

Discussion

Soils found within the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** area consist of those that are moderately deep, rocky, gently sloping to steep and underlain by volcanic rock. The United States Department of Agriculture Natural Resource Conservation Service (NRCS) Web Soil Survey (WSS) was used to identify the soil types located within that Phase I and Phase II project area which can be found at:

https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

Based upon NRCS soils information, the following soil types represent the largest percentage of those found within the Phase I and Phase II project area.

Table B
Soils Found Within the Project Assessment Area

Butte County Area, California			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
814	Mountyana gravelly loam, 2 to 15 percent slopes	156.1	0.2%
815	Mountyana gravelly loam, 15 to 30 percent slopes	80.5	0.1%
818	Lydon very gravelly medial coarse sandy loam, 15 to 30 percent slopes	16.5	0.0%
819	Lydon-Rock outcrop , 30 to 50 percent slopes	119.1	0.1%
824	Beecee very gravelly medial loam, 30 to 50 percent slopes	239.7	0.3%
825	Beecee-lydon complex, 50 to 70 percent slopes	50.2	0.1%
829	Paradiso loam, 2 to 15 percent slopes	21.6	0.0%
830	Paradiso loam, 15 to 30 percent slopes	2.8	0.0%
Subtotals for #1		**686.5**	**0.8%**
Totals for Area of Interest		**86,589.5**	**100.0%**

Tehama County Area, California			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
815bu	Mountyana gravelly loam, 15 to 30 percent slopes	47.1	0.1%
818bu	Lydon very gravelly medial coarse sandy loam, 15 to 30 percent slopes	12.7	0.0%

819bu	Lydon-Rock outcrop, 30 to 50 percent slopes	65.4	0.1%
824bu	Beecee very gravelly medial loam, 30 to 50 percent slopes	70.6	0.1%
825bu	Beecee-lydon complex, 50 to 70 percent slopes	7.8	0.0%
AaD	Aiken loam, 10 to 30 percent slopes	146.9	0.2%
Cb	Chummy soils, 0 to 3 percent slopes	0.1	0.0%
CdD	Cohasset loam, 10 to 30 percent slopes	5,957.1	6.9%
CdE	Cohasset loam, 30 to 50 percent slopes	695.9	0.8%
CeD	Cohasset loam, very deep, 10 to 30 percent slopes	6,030.8	7.0%
Tehama County Area, California			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
CfD	Cohasset gravelly loam, 10 to 30 percent slopes	6,882.9	7.9%
CfE	Cohasset gravelly sandy loam, 15 to 50 percent slopes, MLRA 22B	2,797.5	3.2%
CgD	Cohasset stony loam, 10 to 30 percent slopes	846.3	1.0%
CgE	Cohasset stony loam, 10 to 50 percent slopes, MLRA 22B	289.7	0.3%
ChD2	Cohasset stony loam, moderately deep, 10 to 30 percent slopes, eroded	49.9	0.1%
CkF	Colluvial land, volcanic rocks	1,962.1	2.3%
ClF	Colluvial land, sedimentary rocks	374.7	0.4%
FoD	Forward sandy loam, 10 to 30 percent slopes	288.6	0.3%
GnD	Guenoc loam, 10 to 30 percent slopes	325.0	0.4%
GnE	Guenoc loam, 20 to 50 percent slopes, MLRA 18	474.5	0.5%
GsD	Guenoc stony loam, 10 to 30 percent slopes	48.8	0.1%
GsE	Guenoc stony loam, 30 to 50 percent slopes	119.4	0.1%
HvD	Hulls gravelly loam, 10 to 30 percent slopes	117.1	0.1%
HvE	Hulls gravelly loam, 30 to 50 percent slopes	103.5	0.1%

IrD	Iron Mountain rocky sandy loam, 10 to 30 percent slopes	92.5	0.1%
IrE	Iron Mountain rocky sandy loam, 30 to 50 percent slopes	5,055.4	5.8%
IrF	Iron Mountain rocky sandy loam, 50 to 65 percent slopes	2,914.9	3.4%
IxE	Iron Mountain-Supan complex, 30 to 50 percent slopes	1,349.7	1.6%
JgD	Jiggs stony sandy loam, 10 to 30 percent slopes	46.1	0.1%
JgE	Jiggs stony sandy loam, 30 to 50 percent slopes	81.5	0.1%
JgE2	Jiggs stony sandy loam, 30 to 50 percent slopes, eroded	6.1	0.0%
JgF	Jiggs stony sandy loam, 50 to 65 percent slopes	8.5	0.0%
JgF2	Jiggs stony sandy loam, 50 to 65 percent slopes, eroded	27.9	0.0%
Kn	Keefers complex, channeled	104.4	0.1%

Tehama County Area, California			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
LgF	Los Gatos gravelly loam, 50 to 65 percent slopes	123.3	0.1%
LsD	Lyonsville and Cohasset soils, 10 to 30 percent slopes	776.6	0.9%
LtD	Lyonsville and Cohasset stony soils, 10 to 30 percent slopes	392.9	0.5%
LvD	Lyonsville and Jiggs gravelly sandy loams, 10 to 30 percent slopes	2,150.3	2.5%
LvE	Lyonsville and Jiggs gravelly sandy loams, 30 to 50 percent slopes	1,571.9	1.8%
LvF	Lyonsville and Jiggs gravelly sandy loams, 50 to 65 percent slopes	150.2	0.2%
LyD	Lyonsville and Jiggs stony sandy loams, 10 to 30 percent slopes	68.4	0.1%
LyE	Lyonsville and Jiggs stony sandy loams, 30 to 50 percent slopes	625.7	0.7%
LyF	Lyonsville and Jiggs stony sandy loams, 50 to 65 percent slopes	266.1	0.3%
MkD	McCarthy sandy loam, 10 to 30 percent slopes	2,930.0	3.4%

MkE	McCarthy sandy loam, 30 to 50 percent slopes	9,209.2	10.6%
MkF	McCarthy sandy loam, 50 to 65 percent slopes	1,558.9	1.8%
MmE	McCarthy stony sandy loam, 30 to 50 percent slopes	95.4	0.1%
MmF	McCarthy stony sandy loam, 50 to 65 percent slopes	733.8	0.8%
MnE	McCarthy-Iron Mountain complex, 30 to 50 percent slopes	446.4	0.5%
Mzt	Molinos complex, channeled	7.8	0.0%
NoF	Neuns stony loam, deep, 50 to 65 percent slopes	44.7	0.1%
Rr	Riverwash	41.4	0.0%
RtF	Rockland	2,267.9	2.6%
RuF	Rubble land	45.0	0.1%
SnD	Sheetiron gravelly loam, 10 to 30 percent slopes	14.1	0.0%
SnE	Sheetiron gravelly loam, 30 to 50 percent slopes	84.6	0.1%
SuD	Supan stony loam, 10 to 30 percent slopes	1,590.6	1.8%
1, Tehama County, California			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
SuE	Supan stony loam, 30 to 50 percent slopes	3,319.2	3.8%
TfD	Toomes rocky loam, 10 to 30 percent slopes	820.7	0.9%
TfE	Toomes rocky loam, 30 to 50 percent slopes	1,346.0	1.6%
TgD	Toomes very rocky loam, 10 to 30 percent slopes	386.8	0.4%
TgE	Toomes very rocky loam, 30 to 50 percent slopes	2,840.1	3.3%
ThE	Toomes extremely rocky loam, 1 to 50 percent slopes	893.4	1.0%
TkB	Toomes very rocky silt loam, 1 to 10 percent slopes	61.0	0.1%
TmD	Toomes-Supan rocky loams, 10 to 30 percent slopes	147.9	0.2%
TnE	Toomes-Supan rocky complex, 30 to 50 percent slopes	144.5	0.2%
W	Water	5.0	0.0%
WnF	Windy rocky sandy loam, 50 to 65 percent slopes	233.3	0.3%

WsD	Windy stony sandy loam, 10 to 30 percent slopes	238.0	0.3%
Subtotals for #1		**73,032.7**	**84.3%**
Totals for Area of Interest		**86,589.5**	**100.0%**

#2, Tehama County, California			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
CdE	Cohasset loam, 30 to 50 percent slopes	84.4	0.1%
CfD	Cohasset gravelly loam, 10 to 30 percent slopes	548.9	0.6%
CfE	Cohasset gravelly sandy loam, 15 to 50 percent slopes, MLRA 22B	22.3	0.0%
CkF	Colluvial land, volcanic rocks	9.0	0.0%
FoD	Forward sandy loam, 10 to 30 percent slopes	327.7	0.4%
JgD	Jiggs stony sandy loam, 10 to 30 percent slopes	3,381.5	3.9%
JgD2	Jiggs stony sandy loam, 10 to 30 percent slopes, eroded	98.0	0.1%
JgE	Jiggs stony sandy loam, 30 to 50 percent slopes	2,280.3	2.6%
JgE2	Jiggs stony sandy loam, 30 to 50 percent slopes, eroded	1,598.5	1.8%
JgF	Jiggs stony sandy loam, 50 to 65 percent slopes	0.2	0.0%

#2, Tehama County, California			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
JgF2	Jiggs stony sandy loam, 50 to 65 percent slopes, eroded	138.7	0.2%
MaD	Manton sandy loam, 10 to 30 percent slopes	827.6	1.0%
RtF	Rockland	281.1	0.3%
TgE	Toomes very rocky loam, 30 to 50 percent slopes	1.3	0.0%
ThE	Toomes extremely rocky loam, 1 to 50 percent slopes	7.9	0.0%
Subtotals for #2		**9,607.3**	**11.1%**
Totals for Area of Interest		**86,589.5**	**100.0%**

#3, Tehama County, California			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
CdE	Cohasset loam, 30 to 50 percent slopes	29.7	0.0%

CfD	Cohasset gravelly loam, 10 to 30 percent slopes	581.7	0.7%
CfE	Cohasset gravelly sandy loam, 15 to 50 percent slopes, MLRA 22B	71.9	0.1%
CgD	Cohasset stony loam, 10 to 30 percent slopes	1.5	0.0%
FoD	Forward sandy loam, 10 to 30 percent slopes	248.0	0.3%
JgD	Jiggs stony sandy loam, 10 to 30 percent slopes	383.2	0.4%
JgD2	Jiggs stony sandy loam, 10 to 30 percent slopes, eroded	73.0	0.1%
JgE	Jiggs stony sandy loam, 30 to 50 percent slopes	452.3	0.5%
JgE2	Jiggs stony sandy loam, 30 to 50 percent slopes, eroded	613.5	0.7%
JgF	Jiggs stony sandy loam, 50 to 65 percent slopes	148.2	0.2%
JgF2	Jiggs stony sandy loam, 50 to 65 percent slopes, eroded	73.5	0.1%
MaD	Manton sandy loam, 10 to 30 percent slopes	123.3	0.1%
RtF	Rockland	278.2	0.3%
TfE	Toomes rocky loam, 30 to 50 percent slopes	72.6	0.1%
TgE	Toomes very rocky loam, 30 to 50 percent slopes	37.9	0.0%
ThE	Toomes extremely rocky loam, 1 to 50 percent slopes	15.6	0.0%
TnE	Toomes-Supan rocky complex, 30 to 50 percent slopes	58.8	0.1%
#3, Tehama County, California (CA645)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
Subtotals for #3		**3,262.9**	**3.8%**
Totals for Area of Interest		**86,589.5**	**100.0%**

Descriptions of the Major Soils Series Found Within the Project Area

Cohasset Soils

The Cohasset series consists of well-drained soils underlain by cobbly andesitic conglomerate. Soil depth ranges from 4’ to 6’ with a moderate erosion hazard when vegetation is removed. Those soils on steeper slopes have a high erosion hazard rating. Cohasset soils have slow to rapid runoff and moderate permeability. These soils are generally found on tabular volcanic ridges and colluvial side slopes. The soils on ridges are undulating to hilly and those on side slopes are

strongly sloping to very steep. Slopes on which these soils are found range between 2% to 75 %. Elevation ranges from 2,000' to 4,000'. In a representative profile, the surface is generally littered with forest debris including pine needles, oak leaves, and other vegetative material. Similar material below the surface becomes more decomposed as depth increases. The mineral surface layer is about 15" of brown cobbly loam. The subsoil is about 81" of reddish-brown and strong-brown cobbly heavy loam, cobbly clay loam, and cobbly light clay loam. Native vegetation includes conifer-hardwood forest species (largely Ponderosa pine, Douglas-fir, White fir, Sugar pine, and Incense-cedar with scattered black oak) and an understory of brush, forbs, and sparse grass. Shrub species found on these soils include white leaf and greenleaf manzanita along with deer brush.

Iron Mountain Soils

Iron Mountain soils are shallow, well to somewhat excessively drained soils found on gently sloping to very steep mountain sides and narrow ridge tops with slopes ranging between 2% and 75%. They are formed in residuum from volcanic breccia weathered from andesitic tuff breccia as well as in weathered andesitic conglomerate. Outcrops of breccia are common. Rock fragments make up between 20% to 25% of these soils but can range between 5% to 35% throughout the profile. Organic matter ranges from 2% to 6%. Soils within this series can range between sandy loams to loams and may be gravelly, cobbly or stony. Iron Mountain soils have medium to very rapid runoff and moderately rapid permeability above the bedrock. Natural vegetation includes scattered black oak, blue oak, grey pine, manzanita, canyon oak, interior live oak, ceanothus, grasses, and forbs with stunted conifers in places. Elevation range of this soil series is between 2,500' to 4,600'.

Lyonsville Soils

Soils in the Lyonsville series are sloping to very steep, moderately deep, well-drained soils Formed in material from volcanic rocks such as hard, light-colored calcite and rhyolite. These soils are gravelly or stony throughout and the content of stone increases with depth. Runoff is generally slow with the hazard of erosion from none to moderate. Depth to broken and partly weathered rock ranges from 20" to 40". Roots and water penetrate such rocks to a depth of many feet Various kinds of conifers, hardwoods, and shrubs make up the vegetation.

Jiggs Soils

Jiggs soils are found on sloping to very steep slopes where the overlying rock is rhyolite or dacite. These soils are moderately deep and well drained (sometimes excessively) and tend to have a moderate to high erosion hazard rating which increases with slope. Permeability is moderately rapid or rapid, and runoff is slow to medium. As vegetation is disturbed the erosion potential increases. Vegetation includes Ponderosa pine, Sugar pine, Incense cedar, Douglas fir, White fir, Ceanothus, manzanita and oaks.

McCarthy Soils

The McCarthy series consists of moderately deep, well drained soils formed in material weathered from andesitic mudflows. These soils are on gently sloping to very steep slopes of dissected plateau-like areas. Slopes range between 2% to 75% percent. McCarthy soils are generally located on dissected plateau-like areas. This soil has slow to rapid runoff and moderately rapid permeability. Native vegetation is White fir, and Ponderosa pine, Douglas-fir, Incense-cedar, Sugar pine, Black oak, manzanita, deerbrush and mountain whitethorn.

Supan Soils

The Supan series consists of fine-loamy mixed soils within the mesic family. These soils occur on sloping, plateau-like areas under shrub-grass vegetation. Underlying rock is andesitic and basaltic tuff-breccia or similar rocks. The soils within this series are well drained with medium, to rapid runoff and moderately slowly permeable. Natural vegetation includes grass, oak, Grey pine and shrubs.

Toomes Soils

The Toomes series consists of very shallow to shallow soils that are well to somewhat excessively drained. This soil series is formed in material weathered from tuff breccia, basalt and andesite. These soils are generally found on ridges and plateaus of volcanic flows and on foothills of volcanic uplands. Slopes generally range between 2% and 75% percent. Rock outcrops and stones make up 5% to 50% percent of the surface area. Toomes soils have medium to rapid runoff and moderate permeability. Vegetation includes soft chess, filaree along with other annual grasses and forbs with scattered blue oak, ceanothus and grey pine on north slopes.

Appendix J Soils Report Ponderosa Way Phase-I and Phase II Areas provides a map and additional information on the souls found within the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Projects*** area.

In order to reduce the risk of erosion, during implementation and after completion of project work, a large array of Best Management Practices that protect and maintain soil stability as described above, will be incorporated into project work. In addition, **Mitigation Measure #GEO-1: Mulching of Exposed Soils** will be implemented in order to prevent erosion in areas where earth moving and vegetation removal will occur thus posing a risk of overland sediment flows and related erosion. This practice will also reduce or prevent impacts to water quality within the various streams that flow through the Phase I and Phase II project area. **Mitigation Measure #HYDRO-1 Road Drainage Infrastructure** will result in the protection of in place drainage features in order to prevent damage and reduce the potential for new erosion sources developing related to such damage both during implementation of project work and once impactive activities have been completed.

a) Would the project 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 on 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 California Geological Survey Special Publication 42.)

No Impact. A review was made of the current Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist and no active faults were found to be located within the Phase I and Phase II Project area.

ii) Strong seismic ground shaking?

No Impact. See comments under VI. a) I) above

iii) Seismic-related ground failure, including liquefaction?

No Impact. See comments under VI. a) I) above.

iv) Landslides?

Less Than Significant with Mitigation Incorporated. See comments under VI. a) I) above along with the descriptions of Best Management Practices and **Mitigation Measures # GEO-1: Mulching of Exposed Soils**, and **#HYDRO-1: Road Drainage Infrastructure** related to geologic hazards and the protection of project area soils.

b) Would the project result in substantial soil erosion or the loss of topsoil?

Less Than Significant with Mitigation Incorporated. See comments regarding project related Best Management Practices along with **Mitigation Measures # GEO-1: Mulching of Exposed Soils**, and **#HYDRO-1: Road Drainage Infrastructure** above.

c) Would the project 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?

Less Than Significant with Mitigation Incorporated. The well drained soils (see soil series descriptions above) within the project area are not generally subject to landslide, lateral spreading, subsidence, liquefaction, or collapse. In addition, the Best Management Practices developed for this project along with **Mitigation Measures # GEO-1: Mulching of Exposed Soils**, **#HYDRO-2: Protection of Drainage** and **#HYDRO-3: Road Drainage Infrastructure** will reduce the potential of off-site landslide, lateral spreading, subsidence, liquefaction, or collapse to a less than significant level.

d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as updated), creating substantial risks to life or property?

No Impact: There are no expansive soils as defined in Table 18-1-B of the Uniform Building Code within the project area. In addition, project work does not entail the construction of habitable buildings that could be at risk of collapse from expansive soils.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact: No septic tanks or alternative waste water disposal systems are located within any portion of the Phase I or Phase II project area that will be impacted by project related work.

No significant adverse impacts related to Geology and Soils are anticipated with the implementation of the Mitigation Measures described in the Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Projects Programmatic Initial Study/Mitigated Negative Declaration.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. Greenhouse Gas Emissions. Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Discussion:

This section describes the federal, state, and local regulations related to greenhouse gas (GHG) emissions and climate change. At the federal level, the USEPA has developed regulations to reduce GHG emissions from motor vehicles and has developed permitting requirements for large stationary emitters of GHGs. On April 1, 2010, USEPA and the National Highway Traffic Safety Administration established a program to reduce GHG emissions and improve fuel economy standards for new model year 2012-2016 cars and light trucks. On August 9, 2011, USEPA and the NHTSA announced standards to reduce GHG emissions and improve fuel efficiency for heavy-duty trucks and buses. California has recently enacted a number of policies and plans to address GHG emissions and climate change. In 2006, AB 32, the Global Warming Solutions Act was passed, which set the overall goals for reducing California's GHG emissions to 1990 levels by 2020. Executive Orders S-3-05 and B-16-2012 further extend this goal to 80 percent below 1990 levels by 2050. In April 2015, Governor Brown issued EO B-30-15 which established a GHG reduction target of 40 percent below 1990 levels by 2030. CARB has completed rulemakings to implement several GHG emission reduction regulations, and continues to investigate the feasibility of implementing additional GHG emission reduction regulations. CARB approved the First Update to the AB 32 Scoping Plan on May 22, 2014 (CARB 2014). This update defines climate change priorities for the next five years and also sets the groundwork to reach long-term goals set forth in EOs S-3-05 and B-16-2012. The update also highlights California's progress toward meeting the near-term 2020 GHG emission reduction goals and evaluates how to align the State's longer term GHG reduction strategies with other state policy priorities for water, waste, natural resources, clean energy, transportation, and land use.

Environmental Setting Climate change is caused, in part, from accumulation in the atmosphere of GHGs, which are produced primarily by the burning of fossil fuels for energy. Because GHGs (carbon dioxide [CO2], CH4, an Environmental Setting Climate change is caused, in part, from accumulation in the atmosphere of GHGs, which are produced primarily by the burning of fossil fuels for energy. Because GHGs (carbon dioxide [CO2], CH4, and NO2) persist and mix in the atmosphere, emissions anywhere in the world affect the climate everywhere in the world. GHG emissions are typically reported in terms of

carbon dioxide equivalents (CO2e) which converts all GHGs to an equivalent basis taking into account their global warming potential compared to CO2. In 2013, total California GHG emissions were 459.3 million MTCO2e (CARB 2015). This represents a reduction in total GHG emissions from 2012, which had the first emissions increase since 2007.

The road related erosion and sediment control treatments to be completed in connection with the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** effort will generate greenhouse gases through construction and transportation equipment burning diesel and gasoline fuel. It is anticipated that roughly two to three sediment control projects would be completed in any given year within the Phase I and Phase II project area depending upon the amount of public and/or private funds made available for such work. The length and area of project impact sites along with the volume of material removed or relocated will affect the maximum amount of GHGs generated and/or sequestered through the project work described in the projects plan of action.

CEQA Guideline § 15064.4 requires a lead agency to make a good-faith effort, based upon scientific and factual data, to describe, calculate, or estimate the amount of Greenhouse Gas emissions resulting from a project, and make a careful judgment to determine significance. The analysis presented below was conducted in accordance with the GHG analysis requirements found in the CEQA Guidelines and utilized recently published technical guidance for CEQA environmental impact studies (ICF Jones and Stokes 2007, CAPCOA 2008, and OPR 2008). State Law (Health and Safety Code §38505g) defines greenhouse gas to include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and hexafluoride. The standard unit of measure for GHG emissions is expressed in metric tons of CO_2e.

The baseline conditions within project area currently include ranching operations which results in GHG emissions from activities such as operating motorized equipment, (backhoes, tractors, light vehicles (pick-ups and all-terrain vehicles), chainsaws, etc. The GHG emissions from current operations were not calculated for this analysis as they will all continue outside the activities proposed in this program of project work. The estimate of the GHG emissions which would result from approval and implementation of the proposed project work above and beyond the existing baseline conditions has been assessed in the analysis below.

a) *Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*

Less than Significant Impact. In order to evaluate the total GHG emissions for this program of project work, two categories of emissions were assessed, diesel and gasoline. A complete analysis of fuel usage related to estimated yearly project work totals for each fuel type are shown in for Diesel in **Table C Diesel Usage During Implementation of Project Work** and gasoline in **Table D Gasoline Usage During Implementation of Project Work. Table E: GHG Summery** shown below summarizes the

full analysis of GHGs generated by each fuel source including rationale for those factors. The conversion factors were obtained from the California Climate Action Registry (CCAR) General Reporting Protocol (CCAR 2009). Other conversions were made using factors in the Forestry Handbook (Wenger 1984).

Table C
Diesel Usage During Implementation of Project Work

Equipment Type	Quantity*	Days Used	Diesel Usage Per Day Gallons	Total Diesel Usage Gallons
D-6 Dozer	2	14	20	560
Dozer Transport	2	2	15	60
Grader	2	14	15	420
Water Tender	1	14	10	140
Backhoe	1	14	15	210
Dozer Tender	2	14	7	196
				1,586

Table D
Gasoline Usage During Implementation of Project Work

Equipment Type	Quantity*	Days Used	Gasoline Usage Per Day Gallons	Total Gasoline Usage Gallons
Light Vehicles (pick-ups)	3	14	10	**420**

The quantity of equipment used is based upon an average for various types of treatments proposed for use in connection with Phase I and Phase II sediment and erosion control implementation efforts.

Table E
GHG Summary

GHG Category	Factors/Variables	Estimated Yearly Quantity of Units Used for Projects	Calculation	GHG Emissions Metric Tons *CO_2e Per Year
2. Diesel fuel	Conversion factor for diesel is **10.15 **KG per Gallon, then** gallons X **10.15** / ***1,000 = CO_2e	1,586 Gallons	1,586 gal. X 10.15 / 1,000 =	16.09
3. Gasoline fuel	Conversion factor for gas is **8.81 KG per Gallon, then** gallons X **8.81** / 1,000 = CO_2e	420 Gallons	420 gal. X 8.81 / 1,000 =	3.07
CO_2e = Carbon Dioxide Equivalent (a standard unit to measure global warming potential)** ****KG = kilograms**<br** dividing by 1,000 determines the volume of emissions in metric tons**				**Total 19.16**

Yearly Diesel Fuel Usage in Connection with Sediment and Erosion Control Project Implementation

The heavy mechanical equipment proposed for use in connection with sediment and erosion control project implementation would consume on average approximately 1,586 gallons of diesel fuel per year resulting in just over 16 tons of CO_2.

Yearly Gasoline Fuel Usage in Connection with Sediment and Erosion Control Project Implementation

It is estimated that approximately 420 gallons of gasoline fuel would be used by transportation equipment each year during implementation of sediment and erosion control projects resulting in roughly 3.07 tons of CO_2. This estimate includes travel to the project site from Red Bluff or Chico at one round trip per day. Additional miles attributable to driving throughout project implementation areas, extra vehicles or additional round trips would increase gasoline usage but would not dramatically increase this range.

Total GHG Emissions:

The total amount of GHG emissions resulting from implementation of the project is estimated to be 19.16 metric tons of CO_2 per year.

Significance Assessment:

In order to provide a threshold for CO_2 and CO_2 equivalents for purposes of CEQA analysis, The Tehama County Air Pollution Control District established a threshold of significance at 900 tons of CO_2 per year. A similar threshold has been established by the Butte County Air Pollution Control District. Of the estimated 19.16 total metric tons of CO_2 produced per year through erosion and sediment control implementation projects within the Phase I and Phase II project area, 16.09 tons would be generated through the use of diesel by construction equipment and 3.07 from the use of gasoline in transportation equipment and hand power tools. It is the determination of the Resource Conservation District of Tehama County that this level of GHG emission is a less than significant environmental impact.

b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less Than Significant Impact. The small amount of Greenhouse Gases that would be generated per year in connection with Phase I and Phase II implementation projects would not conflict with any applicable plan, policy or regulation adopted in relation to the reduction of GHGs.

Impacts related to Greenhouse Gas Emissions will be less than significant.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. Hazards and Hazardous Materials. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
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, will it create a significant hazard to the public or the environment?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
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?	☐	☒	☐	☐

Discussion:

Equipment Fuel and Fueling Operations

Dozers working within the project area will be fueled with diesel, other equipment with gasoline. It is possible that a spill could occur while transporting diesel or gasoline to the job site or during equipment fueling operations. The risk of environmental damage to riparian areas, water quality and other stream zone resources would not be significant with the implementation of **Mitigation Measure #HA/HAZ #1: Protection Against Hazardous Material Spills in Streams and Riparian Zones**. This protection measure prohibits the transport of fuel across stream channels other than that within the tank of equipment being moved. **Mitigation Measure #HA/HAZ-2: Equipment Refueling and Maintenance Precautions** formalizes requirements for establishing refueling and maintenance sites, spill containment along with containment equipment that must be located in these areas. This protection measure also establishes responsibilities for containing and reporting hazardous materials spills. **Mitigation Measure #HA/HAZ-3: Limitations on Equipment Use** establishes an array of restrictions, conditions and prohibitions related to equipment use. Construction Contractors will be required to make inspection for leaks of fuel and lubricants and to correct any found, prior to crossing stream channels as described under **Mitigation Measures #HA/HAZ-4: Equipment Inspections Related to Oil and Fuel**. **Mitigation Measure #HA/HAZ-6: Fire Protection Equipment** and **#AQ-5 Placement of Burn Piles During Development of Project Work** have been established in order to reduce the risk of wildlife in connection with the disposal of vegetative debris developed during the implementation of project work.

a) ***Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?***
Less Than Significant with Mitigation Incorporated. (See Comments under VIII Discussion above)

b) ***Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment?***
Less Than Significant with Mitigation Incorporated (See Comments under VIII Discussion above)

c) ***Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?***
No Impact. There are no existing or proposed schools within one-quarter mile of a project area.

d) ***Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?***
No Impact. The Phase I and Phase II project area is not located on or near a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5.

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?

No Impact. The Phase I and Phase II project area does not lie within an airport land use plan or within two miles of a public airport or public use airport.

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?

No Impact. There is one rarely used private airstrip near the community of Ponderosa Sky Ranch located at the north end of the Phase II project area along State Route 36E. None of the erosion and sediment control treatments proposed for this portion of the overall ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase Implementation Projects*** effort will occur within 1.5 miles of this slightly use facility.

g) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact. None of the proposed Phase I or Phase II implementation efforts will impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Unless road decommissioning and closure proceedings are implemented within the Phase I project area, it is anticipated that the improvements made to Ponderosa Way within the Phase I and Phase II project area will aid in maintaining that portion of the road that serves inhabited areas in a condition that will allow rapid access to a large portion of eastern Tehama County wildlands in the event of an emergency.

f) *Would the project 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?*

Less Than Significant with Mitigation Incorporated. (See Comments under VIII Discussion above)

No significant adverse impacts related to Hazards and Hazardous Materials are anticipated with the implementation of the Mitigation Measures described in the Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Projects Programmatic Initial Study/Mitigated Negative Declaration.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. Hydrology and Water Quality. Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there will 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 will drop to a level that will not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which will result in substantial on- or off-site erosion or siltation?	☐	☒	☐	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in on- or off-site flooding?	☐	☒	☐	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
f) Otherwise substantially degrade water quality?	☐	☒	☐	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Result in inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Discussion:
The overall ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** area crosses a number of significant watersheds within eastern Tehama County including those that harbor listed anadromous species such as the Spring Run Chinook Salmon. Included is Battle Creek's South Fork watershed along with the entire watershed area of Paynes Creek, Antelope Creek, Mill Creek and Deer Creek. There is little development and few impervious areas throughout these watersheds. Exceptions include the community of Manton in the Phase I project area along with the developed areas Ponderosa Sky Ranch, Boondocks, Cohasset and Campbellville which are located in the Phase II project area. A number of scattered ranches and recreational sites (Battle Creek Rod and Gun Club and Paynes Creek Rod and Gun Club) are found throughout the Phase I and Phase II project area along with State Route 36E, State Route 32E and various native surface wildland roads.

Activities and features that occur in and around both portions of the overall project area that may impact water quality include selective and clear cut timber harvests on surrounding forest lands along with cattle grazing. According to data recorded at rainfall gaging stations within both portions of the overall project area, the mean annual average precipitation within the Phase I and Phase II areas is 54". Rainfall occurs during the winter and spring with snow levels frequently exceeding 10' in depth between December and February at the uppermost reaches of these watershed. The expected 24 -hr. rainfall intensity is 2.1 in/hr. for the 100-yr. storm event. Peak storm runoff for Q100 (100-year return interval runoff) was calculated to be 514 cfs.

Pre-Project Hydrologic Conditions Within the Phase I Project Area

In August of 2012, a large wildfire known as the Ponderosa Fire burned through the Battle Creek Watershed consuming vegetation on nearly 28,000 acres of forest, chaparral and grasslands. The fire was ignited by a lightning strike very close to Ponderosa Way in the Phase I project area. The fire quickly burned through the watershed at very high intensity due to extremely dry conditions, extreme fire

weather and heavy fuel loading. The fire completely destroyed vegetation within much of the Battle Creek watershed, particularly that of Battel Creek's South Fork. Due to the high burn severity within the South Fork watershed and the erodible nature of that area's soils, runoff rates and hillslope erosion increased dramatically.

During the winter of 2014-2015 a severe storm event dropped 3.12" of rain during a 24-hour period within the South Fork watershed prior to the reestablishment post fire vegetative cover. As a result, numerous culverts and other drainage features that have been installed along Ponderosa Way were plugged and overtopped (**see Phase I project area photographs under "Project Objectives" above**). These failures appear to have occurred as culvert inlets became overwhelmed with sediment and other debris from burned slopes and stream flow either diverted down Ponderosa Way or head-cut through the fill along the axis of the crossing. Crossing failures varied from partial failed (50% crossing volume) to full (75-100% crossing volume). In addition to failed or partially failed undersized culverted watercourse crossings, numerous sections of the road surface eroded due to inadequate road drainage. In general, in-sloped and thru-cut road segments along this segment of Ponderosa Way had greater rates of erosion and evidence of direct sediment delivery to streams.

Pre-Project Hydrologic Conditions Within the Phase II Project Area

As described in the RCDTC prepared **WUI and Watershed Protection/Emergency Access (Coleman Fish Hatchery Road and Ponderosa Way** (**Appendix B)** general road conditions along Ponderosa Way within the Phase II project area (State Route 36E to State Route 32E) are considerably better than those found along the road in the Phase I area which is currently impassible. At the present time, that segment of Ponderosa Way within the Phase II area is passable between the two state highways with 4-wheel drive vehicles during summer months. Along most of the Phase II road segment, maintenance needs relate to addressing chronic sources of road way erosion and road surface sediment sources that can enter intersecting streams (**see Phase II project area photographs under "Project Objectives" above**). Current surface erosion also exposes rocks and rock outcrops that can damage vehicles and slow travel. A significant portion of the roadway shows signs of gulling from lateral storm flows which have washed sediment out of the road prism directly into intersecting stream channels or off of the outsloped roadway and down slope overland to stream channels.

At the southern end of the Phase II project area, several major issues were identified in **Appendix B**. Currently a ¼ mile long portion of the roadway is located on a rock outcrop with a steep drop-off adjacent to the outslope. This site is highly unstable as indicated by a cement retaining wall that has been constructed to hold the roadbed and fill in place. The retaining wall is held to the rock face with rebar that has become exposed due to the loss of fine road surface and road bed material attributable to passing traffic and surface erosion from storm flows. Given these current conditions, this retaining wall could collapse, effectively severing Ponderosa Way in the Phase II project area as well as releasing large amounts of road surface fines and roadbed fill material down slope into stream channels during the wet weather season **(see Photo 5: under "Project Objectives" above)**. In addition, this portion of the Phase II area contains several primitive low water stream crossings that consist of rock placed in road cuts that have been created by stream flows.

These crossings provide no lateral control of stream flows and thus do not protect the entire portion of the road surface that is inundated during storm flows which now appear to be cutting into the road surface and road bed narrowing its operating surface and releasing road sediment into stream channels **(see Photo 6: under "Project Objectives" above)**.

Protective Measures to be Implemented During Phase I and Phase II Project Work

All of the work to be conducted in connection with Phase I and Phase II of the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Implementation Projects*** efforts have the potential to alter hydrologic and water quality conditions within the project area. The provisions of **Mitigation Measure #BIO-2: Protection of Riparian Vegetation:** will be implemented in order to minimize impacts to riparian plant and animal species which directly affect water quality within the streams through which Ponderosa Way passes. More specifically, the provisions of this protection measure require that a maximum amount of riparian vegetation be retained within impacted project area riparian zones in order to provide both sufficient shade and stabilization of streamside soils. This measure also establishes specifications for equipment to be used in riparian areas in order to prevent soil disturbance and compaction. It also requires that all compacted and disturbed soil be replanted with native riparian species. Similarly, **Mitigation Measure #BIO-6 Tree Diameter Limits Related to Nesting Species** provides protection to water temperature through the establishment of a prohibition against the removal of large trees that shade stream channels and provide organic material to the water column. **Mitigation Measure BIO12: Woody Debris** will prevent impacts to water quality within project impact areas by prohibiting the introduction of chipped material or other woody debris into "No Treatment Buffers". **Mitigation Measure #GEO-1: Mulching of Exposed Soil** will protect water quality through establishing a requirement that all significant areas of exposed soils be seeded or mulched in order to prevent exposure of soils to rain and resultant overland flows. **Migration Measure #HYDRO 1: Road Drainage Infrastructure** has been incorporated into project requirements for both phases of project work in order to prevent impacts to the future use of drainage infrastructure and to prevent potential related impacts to water quality during rain events once project work has been completed. **Mitigation Measure HA/HAZ-1 Protection Against Hazardous Materials Spills in Streams and Riparian Zones** and **#HA/HAZ-2 Equipment Refueling and Maintenance Precautions** will apply to all work that can be completed in connection with this Project.

a) Would the project violate any water quality standards or waste discharge requirements?

Less Than Significant with Mitigation Incorporated: (See Comments under IX**.** Discussion above)

b) Would the project 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 preexisting nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

No Impact: The only surface water to be used in connection with Phase I or Phase II project work would be for dust control, soil compaction and in the event of fire.

c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial on- or off-site erosion or siltation?

Less Than Significant with Mitigation Incorporated: (See Comments under IX Discussion above) It is anticipated that any alteration of the project area's existing hydrology would improve both stream flows and water quality within the Phase I and Phase II project area.

d) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in on- or off-site flooding?

Less Than Significant with Mitigation Incorporated: (See Comments under IX Discussion above) It is anticipated that any alteration of the project area's existing hydrology would improve stream flows through the project area and return them to natural conditions. None of the work envisioned for the Phase I or Phase II areas would increase the rate or amount of surface runoff but would however, better direct natural flows volumes thorough project impact areas downslope into the local stream system.

e) Would the project create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

No Impact: All ***Ponderosa Way Road Assessment and Sediment Reduction Plan Implementation Projects*** related efforts will be developed within a wildland area having few residential structures. Among the project work to be completed in connection with Phase I and Phase II efforts include installing properly sized drainage infrastructure that would improve the passage of stormflows out of the project area's road prisms.

f) Would the project otherwise substantially degrade water quality?

Less Than Significant with Mitigation Incorporated: (See Comments under IX Discussion above) Once project work is completed, it is anticipated that water quality within the streams that pass through the Phase I and Phase II project area will be improved especially during the areas' wet weather season.

g) Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No Impact: There will be no housing constructed in connection with any project work.

h) Would the project place within a 100-year flood hazard area structures that would impede or redirect flood flows?

No Impact: No structures will be developed that would impede or negatively redirect flood flows. A portion of work to be completed within the Phase I and Phase II project area will entail the installation of new properly sized drainage infrastructure that will improve natural flows through the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Implementation Projects*** area.

I) Would the project expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?

No Impact: No levees or dams will be constructed in connection with any ***Ponderosa Way Road Assessment and Sediment Reduction Plan Implementation Projects*** related work.

j) Would the project result in inundation by seethe, tsunami, or mudflow?

No Impact: there is no potential for inundation by seethe or tsunamis. It is anticipated that project work will stabilize sediment within the Phase I and Phase II project area thus reducing the potential for mud or sediment flows.

No significant adverse impacts related to Hydrology and Water Quality are anticipated with the implementation of the Mitigation Measures described in the Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Projects Programmatic Initial Study/Mitigated Negative Declaration.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. Land Use and Planning. Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Discussion

a) Would the project physically divide an established community?

No Impact. The area of Eastern Tehama County where ***Ponderosa Way Road Assessment and Sediment Reduction Plan Implementation Projects*** efforts will occur is very remote, containing only a few scattered individual rural residential and agricultural structures. The nearest community to the Phase I project area is Manton located approximately 5 miles west of its northern boundary. Ponderosa Sky Ranch is located along State Route 36E at the boundary between the Phase I and Phase II areas. Although Ponderosa Way passes through this developed site, no implementation efforts have been proposed within the community and thus will not be directly impacted by project work. Within the Phase II area, the Boondocks' recreation development is located approximately ¼ mile from the Ponderosa Way road right-of-way and will not be impacted directly by project work. No established communities will be physically divided by any Project related work.

b) Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The Tehama County General Plan designates land use within the overall ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Projects*** Area as Upland Agriculture and Timber Production Zone. None of the activities proposed for this program of project work will conflict with any Federal, State, or County land use plan.

c) Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

No Impact. No habitat conservation plans or natural community plans have been formally established for the lands within the Phase I or Phase II project area.

No adverse impacts related to land use and planning are anticipated.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. Mineral Resources. Would the project:				
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒

Discussion

a) Would the project 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?

No Impact. The ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Projects*** effort entails the development and implementation of road related sediment and erosion control treatments. None of the of work to be completed in connection with this project will impact a significant amount of roadside area. Consequently, no significant impacts to known mineral resources is anticipated.

b) Would the project 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?

No Impact. None of the activities proposed for this project will result in the loss of any locally important mineral resource recovery site.

No impacts to mineral resources are anticipated.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. Noise. Would the project result in?				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?	☐	☐	☐	☒
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
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, will the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, will the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Discussion

a) Would the project create exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or in other applicable local, state, or federal standards?

No Impact. During implementation of Phase I and Phase II project work, a temporary increase in ambient noise levels will be created by dozers and other heavy equipment along with power hand tools. This will be minimal and created only during daylight hours. Noise creating activities are anticipated to progress at a rapid rate and as a consequence noise generating equipment will be within a particular location for a limited period of time resulting in very short term impacts to other

human uses or wildlife behavior. In addition, there are no communities immediately adjacent to project impact areas. No long-term impacts to noise standards established in the Tehama County General Plan are anticipated.

b) Would the project create exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant. Some project related work will utilize groundborne noise generating equipment including dozers and other heavy equipment. There are very few permanently occupied rural residential dwellings within or around the overall Phase I and Phase II project area and no impactive activities are anticipated to occur within developed sites or communities. Consequently, impacts related to ground borne vibration or noise levels will be less than significant.

c) Would the project create a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

No Impact. Increases in noise levels related to project work will be minor, temporary and not to a degree that would permanently increase noise levels within the Phase I and Phase II project area. Once project work is complete, noise levels will immediately return to their ambient levels.

d) Would the project create a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Less Than Significant. Within and immediately adjacent to Phase I and Phase II Project impact areas, noise levels will be increased above existing levels but only for a very short period of time. Once these noise producing activities have been completed, noise levels will return to their ambient levels. Impacts to temporary ambient noise levels will be less than significant.

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?

No Impact. There is one rarely used private air strip near the community of Ponderosa Sky Ranch which is located at the northern end of the Phase II project area. None of the erosion control and sediment stabilization work proposed for the Phase II project area will occur within two miles of that facility. Consequently, no impacts related to airport operations will occur.

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?

No Impact. There is one rarely used private landing strip within the overall Phase I and Phase II project area located near the community of Ponderosa Sky Ranch at the northern end of the Phase II project area. This facility is located approximately one mile from where any proposed ***Ponderosa***

Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Projects related efforts will occur. None of the erosion control and sediment reduction projects to be completed within the Phase I and Phase II project area will expose people living near project implementation sites to excessive noise levels?

Impacts related to noise will be less than significant.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. Population and Housing. Would the project?				
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)?	☐	☐	☐	☒
b) Displace substantial numbers of existing homes, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Discussion

a) Would the project 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)?

No Impact. None of the project work to be completed in connection with the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Projects*** will entail the development of structures or activities that would induce population growth. No impacts related to population growth are anticipated.

b) Would the project displace substantial numbers of existing homes, necessitating the construction of replacement housing elsewhere?

No Impact. There are very few homes within the Phase I and Phase II project area and none would be impacted by any ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Projects*** related efforts. No impacts related to displacement of homes will occur.

c) Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Impact. There will be no displacement of local residents related to the implementation of any activities approved under this program of project work and no impacts related to displacement of residents will occur.

No impacts to population and housing are anticipated.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. Public Services. Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the 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:				
Fire protection?	☐	☐	☐	☒
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

Discussion

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the 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:

No Impact. The Phase I and Phase II project area is located within a very rural portion of Tehama County where there are few public services. The road related work to be completed through this project is expected to not only reduce sediment generation and related erosion, it is also anticipated that these efforts will improve travel conditions along a large segment of Ponderosa Way that is used by firefighting, other emergency personnel and the general public. As a result of project work, it is anticipated that fire protection, law enforcement and public safety will be improved within a significant portion of eastern Tehama County. No negative impacts to the provision of Fire Protection Police Protection, Schools, Parks or Other public facilities is anticipated.

Fire protection?

Police protection?

Schools?

Parks?

Other Public Facilities?

No impacts to public services are anticipated.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. Recreation. Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒

Discussion

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact. No significant increase in the use of any recreational areas or facilities will result from implementation of Phase I and Phase II project work.

b) Would the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

No Impact. No recreational facilities will be constructed or expanded as a result of this project.

No impacts to recreation are anticipated.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. Transportation/Traffic. Would the project:				
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access or inadequate parking?	☐	☒	☐	☐
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?	☐	☐	☐	☒

Discussion

Among the treatments described in **Table A. Recommended Erosion Control and Erosion Prevention Treatments Ponderosa Way Road Assessment and Sediment Reduction Plan Projects Areas** of this IS/MND is the decommissioning (closure) of various Ponderosa Way and adjacent spur road segments. 12.7 miles of roads within the Phase I project area as displayed in **Map 5 Treatment Sites Phase I Project Area** have been recommended for decommissioning including 4.6 miles of Ponderosa Way and 8.1 miles of intersecting spur roads located on adjacent private lands within the Phase I project area between Forward Road and State Route 36E. Prior to the 2012 Ponderosa Fire and subsequent severe storm events, conditions along that portion of Ponderosa Way between Grapevine Springs at Snoqualmie Gulch to Battle Creek's South Fork were such that through passage between the two roads was effectively prevented. Specifically, this portion of Ponderosa Way contained slides and slumps that blocked passage. In addition, significant roadbed failure reduced the roadbed to a width that was safely passable by all-terrain vehicles only. These conditions were significantly exacerbated following the 2012 Ponderosa Fire which resulted in large amounts of additional side slope slumping and road bed deterioration. As a result, this portion of the road can no longer be included as functioning component to the Tehama County road system and is much less useful to landowners and emergency response personnel such as Cal Fire and the Tehama County Sheriff's Department.

Approval by the Tehama County Board of Supervisors and a separate CEQA analysis would be required in order to decommission those Ponderosa Way road segments within the Phase I project area if it is determined by Tehama County Counsels office that this portion of the road is legally under County control. If a determination is made that approval for decommissioning is required and is subsequently not provided by the Tehama County Board of Supervisors, those treatment options developed for Phase I road segments not related to road decommissioning could be implemented as appropriate. County approval for decommissioning spur roads is not required as these are privately owned and maintained. These privately maintained roads have been blocked by landowners in order to prevent through traffic and conversion to a public access road. All erosion control and erosion prevention work to be completed along Ponderosa Way within the Phase II project area would consist exclusively of road upgrading.

Additional traffic associated with project implementation efforts is likely however, the increase will be minor, temporary and will not exceed the capacity of the Tehama County road system. Portions of Ponderosa Way and various wildland roads will be used when transporting equipment to project sites. Staging areas for equipment will be created off of passable public roads and all County regulations related to County road use will be adhered to during impactive project work. If project work encroached upon the State Route 36E road prism, the implementing entity would be required to obtain a Cal Trans encroachment permit and all State laws pertaining to work along or within the State right-of-way would be adhered to. Erosion and sediment control efforts to be completed in connection with Phase I (if decommissioning is not approved) and Phase II of this project will reduce or eliminate a number of threats to traffic safety such as sediment on roads, plugging of road culverts, and associated localized flooding.

In reducing the likelihood of such traffic hazards, there will be less need for County or private land managers' work crews and equipment to be on the road in order to remove sediment and control flooding problems. The completion of project work will also improve access to remote areas of eastern Tehama County by emergency personnel including those road segments within the Phase I project area that are not decommissioned. If the segment of Ponderosa Way within the Phase I project area is repaired to a level where it could once again be opened to traffic, it would not be improved to a level that would increase traffic rates above those that occurred prior to the severe storm damage. In addition, the improvements proposed for the Phase II portion of this project will not be to a degree that would significantly increase traffic volumes. Both road segments would continue to operate as relatively unimproved wildland roads that are suitable for off road vehicles, pickups, heavy equipment along with sport utility and other recreational vehicles.

A number of Mitigation Measures related to transportation and traffic issues have been developed and included in this project's implementation requirements in order to reduce impacts to Tehama County's transportation system within the project area to a less than significant level. **Mitigation Measure #HYDRO-1: Road Drainage Infrastructure:** will be implemented in order to prevent impacts to road drainage infrastructure as well as related impacts to roadways and right-of-way areas. **Mitigation Measure #Trans/Traffic 1: State and County Road Encroachment Permits:** requires the RCD of Tehama County or other implementing entity to obtain encroachment permits from Cal Trans, the Tehama County Road Department or the Butte County Road Department if work as appropriate in the event any project work impacts State Highways, portions of Ponderosa Way or any intersecting roads maintained by the Tehama County Road Department or Butte County Road Department. **Mitigation Measure #Trans/Traffic 2: Staging Areas Along Public Roads** requires Construction Contractors to create staging areas for equipment and construction supplies off of passable public roadways and that all County regulations related to road use are adhered to. **Mitigation Measure #Trans/Traffic 3: Operations During Hunting Season** establishes that in the event project work is initiated during the local deer hunting season it will cease during that period of time and restart once the season has ended.

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?***

No Impact: Although improvements made along Ponderosa Way will make vehicle passage easier, such work will not be a completed to level that will significantly increase the number of vehicles accessing the area. Ponderosa Way's classification as an all-terrain route would remain. The only increase in traffic along public roads within the project area during the implementation of project work would be occasional trucks hauling personnel, dozers and other construction equipment. The small-scale of proposed construction projects will not generate enough workers or related traffic to change the existing traffic load to a noticeable degree over a long period of time. Once improvements along Ponderosa Way have been completed there could be a minor increase in the

road's use by emergency response personnel, hunters and another recreationist. Consequently, none of the proposed project work to be completed in connection with the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Implementation Projects*** effort will conflict with any federal, State or local plan, ordinance or policy establishing measures of effectiveness for the performance of the Tehama County's or Butte County's circulation system, including intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit among other of its components.

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?

No Impact. See XVI a) above

c) Would the project 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?

No Impact. This project will not impact or influence air traffic.

d) Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact. The project work to be completed in connection with the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Implementation Projects*** efforts will decrease hazards and increase safety of travelers along Ponderosa Way and connecting spur roads. If portions of Ponderosa Way within the Phase I project area are decommissioned, those road segment will be no less passable than they area at the present time. For many years a significant portion of Ponderosa Way within the Phase I area has been impassable to all but 4-wheel drive quad vehicles due hill slope slumping and deterioration of the road bed. If this segment of the road is decommissioned, travelers will be unable to attempt crossing of Battle Creek's South Fork Canyon between Forward Road and State Route 36E using this road thus increasing public safety. It is anticipated that project work will result in improved and safer road surfaces and site distances along all passable segments of Ponderosa Way within both the Phase I and Phase II areas. All equipment using roads within any project area will adhere to County regulations pertaining to road use.

e) Would the project result in inadequate emergency access or inadequate parking?

Less Than Significant with Mitigation Incorporated. It is anticipated that road maintenance and improvements to be completed in connection with the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Implementation Projects*** effort will improve access for emergency vehicles. In addition, **Mitigation Measure #Trans/Traffic 1: State and County Road Encroachment Permits:** requires the RCD of Tehama County or other implementing entity to obtain encroachment permits from Cal Trans along with the Tehama County Road Department (and the Butte County Road Department if project work occurred in Butte County) in the event project work impacts State Highways or those portions of Ponderosa Way and any intersecting roads

maintained by a County road department. **Mitigation Measure #Trans/Traffic 2: Staging Areas Along Public Roads** requires Construction Contractors to create staging areas for equipment and construction supplies off of passable public roadways and that all County regulations related to road use are adhered to. None of the activities approve for use in connection with work in the Phase I and Phase II project area will impact parking capacity.

f) Would the project conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

No Impact. None of the project work to be completed in connection with Phase I or Phase II efforts will conflict with any polices plans or programs supporting alternative transportation.

No significant adverse impacts related to Transportation and Traffic are anticipated with the implementation of the Mitigation Measures described in the Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Projects Programmatic Initial Study/Mitigated Negative Declaration.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. Utilities and Service Systems. Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
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?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider that 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?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Discussion

a) Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

No Impact. The Phase I and Phase II project area is located in a remote portion of Tehama County that has no wastewater collection or treatment facilities.

b) Would the project 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?

No Impact. No new wastewater treatment facilities will be constructed nor will there be an expansion of water facilities attributable to this Project.

c) Would the project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact. A portion of proposed Phase I and Phase II project work will entail the installation of properly sized road drainage infrastructure (culvers, drop inlets, etc.) to replace those that have been damage, destroyed or otherwise do no efficiently move storm water out of the road prism. Significant expansion of this infrastructure is not anticipated as overall improvement to road drainage systems along with road and road bank features will improve road drainage into adjacent stream channels.

d) Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

No Impact. No new or expanded water entitlements will be required in order to execute work to be completed in connection with this project.

e) Would the project result in a determination by the wastewater treatment provider that 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?

No Impact. There are no wastewater treatment providers operating within or adjacent to the either the Phase I or Phase II project area.

f) Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

No Impact. None of the work to be completed in connection with this project will result in the need for a landfill.

g) Would the project comply with federal, state, and local statutes and regulations related to solid waste?

No Impact. None of work to be completed in connection with this project will result in the development of solid waste as defined in federal, State and local statutes.

No impacts to Utilities and Public Service systems are anticipated.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. Tribal Cultural Resources.				
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☐	☒
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe	☐	☒	☐	☐

Discussion

The ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** effort is located within a portion of eastern Tehama County that may be considered native homeland to Native American tribal groups. As a result, the following efforts and procedures will be utilized in order to determine the existence and if present, protection of Tribal Cultural Resources (TRC) per the provisions of Public Resources Code section 21074

Native American Consultation

Pursuant to PRC 21080.3.1(d), the RCD of Tehama County or other implementing entity will, prior to initiation of any impactive project work, submit a letter to tribal groups having lands classified as native homelands within the Phase I and Phase II project area requesting input on proposed ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** **efforts**. Input on the potential impacts of these efforts related to tribal resources as well as the Mitigation Measures that have been developed to protect tribal and other cultural resources will be requested as well. If responses are received, they will be considered in the development of any necessary site-specific protection measures for such resources. General protection to Tribal Cultural Resources found within any Phase I and Phase II project impact area will be afforded through implementation of the provisions found in **Mitigation Measure #TCR-1: Tribal Consultation** developed to protect potential cultural resources in general and tribal resources more specifically.

Discussion of Checklist Responses

a. ***Cause a substantial adverse change in the significance of a tribal cultural resource listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources.***

No Impact (See Comments in "Native American Consultation" shown under XVIII "Discussion" above.)

b. ***Cause a substantial adverse change in the significance of a tribal cultural resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant –***

Less Than Significant With Mitigation Incorporated (See Comments in "Native American Consultation" shown under XVIII "Discussion" above.)

It is recognized that not all tribal or cultural resources that are archaeological in nature are visible at the soil surface and there is the potential for uncovering previously unknown resources during Phase I and Phase II implementation efforts. Such resources may be determined significant through Tribal Cultural Resource evaluation. If ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** efforts' have the potential to affect tribal or cultural resources in a manner that would damage their cultural value as a formal Cultural Resources or Tribal Cultural Resources a significant impact would result. Should Tribal Cultural Resource or

Cultural Resource be found, implementation of **Mitigation Measures #CUL-1: Protection of Identified Cultural Resources**, **#CUL-2 Protection of Newly Discovered Archeological, Prehistoric, Historic, Paleontological Resources**, **#CUL-3 Discovery of Human Remains** along with **Mitigation Measure TCR-1:** would ensure that impacts to TCRs or other cultural resources uncovered during project implementation would be reduced to a less-than-significant level. This would be accomplished by immediately halting all impactive project work if materials are discovered and evaluating any finds for National Register of Historic Places or California Register of Historic Places eligibility as well as TCR significance. Appropriate site-specific protection measures would then be implemented as necessary, in consultation with appropriate tribal groups having lands classified as native homelands. In addition, **Mitigation Measure #GEO-4: Mulching of Exposed Soil** will protect any unknown and unidentified surface artifacts through the control of rain impact and related soil runoff. Mulching will also cover unknow archeological materials and protect them from discovery and removal.

No significant adverse impacts related to Tribal Cultural Resources are anticipated with the implementation of the Mitigation Measures described in the Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Projects Programmatic Initial Study/Mitigated Negative Declaration.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impac
XVIII. Mandatory Findings of Significance.				
a) Does the project have the potential to substantially 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 an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
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.)	☐	☐	☒	☐
c) Does the project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Authority: Public Resources Code Sections 21083 and 21083.05.
Reference: Government Code Section 65088.4, Public Resources Code Sections 21080(c), 21080.1, 21080.3, 21083.05, 21083.3, 21093, 21094, 21095, and 21151; *Sundstrom v. County of Mendocino*, (1988) 202 Cal.App.3d 296; *Leon off v. Monterey Board of Supervisors (1990)*, 222 Cal.App.3d 1337; *Eureka Citizens for Responsible Government v. City of Eureka* (2007) 147 Cal.App.4th 357; *Protect the Historic Amador Waterways v. Amador Water Agency* (2004) 116 Cal.App.4th at 1109; *San Franciscans Upholding the Downtown Plan v. City and County of San* Francisco (2002) 102 Cal.App.4th 656.

Discussion

a), b) and c) The Resource Conservation District of Tehama County's ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** effort will not degrade the quality of the environment, substantially reduce habitat for 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, eliminate important examples of the major periods of California history/prehistory or negatively impact tribal Cultural Resources. Such a potential does not exist because the program will be implemented in such a manner as to avoid short-term impacts on sensitive resources through program provisions as well as an array of Best Management Practices and specific Mitigation Measures that will protect natural and cultural resources found throughout the Phase I and Phase II project area. The program has no potential to adversely impact cultural resources or human beings. The program does not have the potential for adverse cumulative impacts. The program will result in improvement to water quality, natural habitat functioning and wildfire control and public safety.

Appendices

Appendix A

2017 Ponderosa Way Road Assessment and Sediment Reduction Plan, (Phase I) Tehama County, California

Appendix B

WUI and Watershed Protection/Emergency Access

(Coleman Fish Hatchery Road and Ponderosa Way)

Appendix C

Typical Design Schematics for Proposed Treatments

Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects

Appendix D

Increase in Sediment Within South Fork Battle Creek

US Fish and Wildlife Service Memo

Dated July 20, 2015

Appendix E

Inspection Report Ponderosa Way

Central Valley Regional Water Quality Control Board

Dated April 14, 2014

Appendix F
Mitigation Monitoring and Reporting Plan (MMRP)
for the
Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects
Initial Study/Mitigated Negative Declaration
Tehama County, California

In accordance with CEQA Guidelines Section 15074(d), when adopting a Mitigated Negative Declaration, the lead agency will adopt a Mitigation Monitoring and Reporting Plan (MMRP) that ensures compliance with Mitigation Measures required for project work. The Resource Conservation District of Tehama County (RCDTC) is the lead agency for the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** effort and has approved this MMRP as a part of the final Programmatic Initial Study/Mitigated Negative Declaration (IS/MND) supporting this Project. The MMRP lists the Mitigation Measures developed in the IS/MND which have been designed to reduce environmental impacts to a less-than-significant level. This MMRP also identifies the party responsible for implementing the measure, defines when the Mitigation Measure must be implemented, and which party or public agency is responsible for ensuring compliance (Monitoring Party) with the measure.

Air Quality

Mitigation Measure #AQ-1: Fugitive Dust

- All ground-disturbing operations shall be suspended when winds exceed 20 miles per hour or when winds carry dust beyond project implementation areas despite implementation of all feasible dust control measures.
- Traffic speeds on all unpaved surfaces shall be reduced to 15 miles per hour or less.
- Unnecessary vehicle traffic shall be reduced by restricting access.
- The time and location of fugitive dust generating activities shall be staggered in order to prevent impacts related to airborne particles.

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/CDFW
Initials:
Date:

Mitigation Measure #AQ-2: Construction Equipment Exhaust (***also applies to Greenhouse Gas Emissions***)

- All construction equipment shall be maintained in proper tune according to manufacturer's specifications. Maintenance, repair and tuning reports for equipment shall be maintained by the RCDTC's or other implementing entity's Construction Contractor Representative and provided when requested by the RCDTC or other implementing entity's Project Manager. Tuning reports prepared for the RCDTC shall be submitted to:

Resource Conservation District of Tehama County
2 Sutter Street, Suite D
Red Bluff, CA 96080

- To the extent practicable, the use of diesel construction equipment meeting the CARB's 1996 or newer certification standard for off-road heavy-duty diesel engines shall be maximized.

- Unnecessary vehicle idling shall be restricted to 5 minutes or less.

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/CDFW
Initials:
Date:

Mitigation Measure #AQ-3: Registration of Heavy Equipment: ***(also applies to Greenhouse Gas Emissions)***

All heavy equipment used in the execution of project work shall be registered with the State Portable Engine Registration Program. Equipment operators shall adhere to Tehama County Air Pollution Control District regulations pertaining to fugitive dust.

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/CDFW
Initials:
Date:

Mitigation Measure #AQ-4: Burn Permits ***(also applies to Greenhouse Gas Emissions)***
If any construction related vegetative debris pile burning is conducted, all such burning shall be completed during the regular burn season (non-fire season) when fire danger is low and construction related vegetative debris is sufficiently cured to assure a clean burn. No non-vegetative construction debris shall be burned. All non-vegetative construction debris shall be removed from project implementation sites by the contractor. CAL FIRE shall determine the burn day status prior to initiation of any burning activity. The project's Construction Contractor Representative shall only initiate burning on permissive burn days, while following all federal, state, and local requirements in order to assure that burning activities are conducted in a manner and at a time that will have a less than significant level of impact to air resources. A permit from the Tehama County Air Pollution Control District (TCAPCD) shall be required prior to conducting such burning operations. The need for the permit shall depend upon the exact month burning is to occur. A copy of the burn permit shall be submitted to the Tehama County Air Pollution Control District prior to any burning activity and a copy provided to the RCDTC or other implementing entity's Project Manager for retention in the Project Files. If the burn permit is obtained in connection with project work being completed by the RCDTC, a copy shall be submitted to:

Resource Conservation District of Tehama County
2 Sutter Street, Suite D
Red Bluff, CA 96080

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/CDFW
Initials:
Date:

Mitigation Measure #AQ-5: Placement of Burn Piles (*also applies to Hazards and Hazardous Materials)*

Vegetative debris piles generated in connection with any project work shall be placed within a flat area with a dozer-wide firebreak installed around each pile to reduce the potential for fire to escape.

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/CDFW
Initials:
Date:

Biological Resources

Mitigation Measure #BIO 1: General Mitigation Measures to Protect Special Status Species
The following Mitigation Measures shall be implemented and enforced during the implementation of all Phase I and Phase II project work in order to avoid or minimize adverse effects on candidate, sensitive, and Special-Status species.

- Before any project work begins, a qualified biologist or other RCDTC/other implementing entity's Project Manager as approved by the CDFW shall conduct a training session for all construction crew personnel. The training shall include a discussion of the sensitive biological resources within the specific project sites and the potential presence of Special Status species. Special Status species habitat protection measures (Best Management Practices, Mitigation Measures, permit requirements and other site-specific requirements established by the RCDTC Project Manager or agency personnel) shall be discussed in order to ensure such species are not impacted by project activities. Project boundaries, and biological conditions outlined in the project permits shall also be discussed with all construction crew personnel.

- Project impact area limits shall be clearly marked on the final design drawings with work confined within those boundaries. Prior to construction, the Construction Contractor Representative and the RCDTC/Project Manager or other implementing entity's Project Manager shall meet on site to agree upon and flag project boundaries particularly those within riparian areas.

- Temporary wildlife exclusionary fencing (e.g., silt fence, which is a piece of synthetic filter fabric [also called geotextile]) shall be installed around work areas during construction. Openings shall be restricted to areas of construction site access. This fencing shall preclude animals from entering the work area and prevent construction debris and workers from entering adjacent aquatic habitats.

- If a Special Status species enters the work area of an RCDTC managed project, the Construction Contractor Representative shall contact the RCDTC Project Manager for further guidance. If project work is being implemented by another entity, its Construction Contractor Representative shall contact the implementing entity's Project Manager. In both instances, Project Managers shall contact appropriate State and/or federal regulatory agencies for guidance. If a federal or State listed species or any other Special Status species enters the work area, then the animal shall not be captured or handled without permission from the appropriate agency (State listed – CDFW; Federally listed – USFWS) as conveyed to the Construction Contractor Representative by the RCDTC or other implementing entity's Project Manager.

- All trash that may attract predators (e.g., food) shall be properly stored and removed at the end of each construction day. Following construction, all trash and construction debris shall be removed.

- Any work with the potential to affect listed salmonids shall require consultation with NMFS and CDFW and shall occur with the appropriate permits or other authorizations.

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/CDFW
Initials:
Date:

Mitigation Measure# BIO 2: Protection of Riparian Vegetation *(also related to Geology and Soils and Hydrology/Water Quality)*:

During implementation of project work as much riparian vegetation shall be retained as possible in order to maximize shade producing and bank stabilizing vegetation during project implementation. Soil compaction shall be minimized through the use of equipment with a greater reach or that exerts less pressure per square inch on soils resulting in less overall area disturbed or less compaction of disturbed areas. Disturbed soils shall be decompacted at the project's completion as mobile equipment exits the construction area. Disturbed and decompacted areas shall be revegetated, with native species specific to the project location that comprise a diverse community of woody and herbaceous species.

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/CDFW
Initials:
Date:

Mitigation Measure #BIO 3: Minimizing of Impacts to Aquatic Habitat and Species during Dewatering of the Project Site: ***(also related to Hydrology/Water Quality)***
When construction work occurs within a year-round flowing channel and the project site must be dewatered, the following measures shall be implemented in order to prevent or minimize impacts including the temporary loss of aquatic habitat; stranding, displacement, or crushing of fish and amphibian species along with increased turbidity from disturbance of the channel bed.

Prior to dewatering the construction site, fish and amphibian species shall be captured and relocated to avoid direct mortality and minimize take. This is especially important if Special Status species are present within the project area. The following measures are consistent with those defined as *reasonable and prudent* by NOAA for projects concerning several northern California Evolutionary Significant Units for Chinook salmon, and steelhead trout:

- Fish relocation activities must be performed only by qualified fisheries biologists, with a current DFG collectors permit, and experience with fish capture and handling.

- Relocation activities shall be conducted during morning periods when air temperatures are cooler.

- Air and water temperatures shall be measured periodically and collection activities shall cease when water temperatures exceed those allowed by DFG and NOAA. Fish and amphibians excluded from the project site shall be prevented from re-entering by blocking the stream channel above and below the work area with fine- meshed net or screens. Mesh shall be no greater than 1/8” and the bottom edge of which shall be secured to the channel bed to prevent fish from re-entering the work area at the bottom of the screen. Exclusion screening shall be placed in areas of low water velocity to minimize impingement of fish. Screens shall be checked periodically and cleaned of debris to permit free flow of water.

- Prior to capturing fish, a determination shall be made by appropriate State and/or federal regulatory personnel of the most appropriate release location(s). The following shall be considered when selecting release site(s): a. Similar water temperature as capture location b. Ample habitat for captured fish c. Low likelihood of fish re-entering work site or becoming impinged on exclusion net or screen.

- Determination of the most efficient means for capturing fish:
    - Complex stream habitat generally requires the use of electrofishing equipment, whereas in outlet pools, fish may be concentrated by pumping-down pool and then seining or dipnetting fish.
    - Electrofishing shall only be conducted by properly trained personnel following DFG and NOAA guidelines.
- Minimize handling of salmonids. When handling is necessary, always wet hands or nets prior to touching fish.
- Temporarily hold fish in cool, shaded, aerated water in a container with a lid. Provide aeration with a battery-powered external bubbler. Protect fish from jostling and noise and do not remove fish from the container until time of release.
- Place a thermometer in holding containers and, if necessary, periodically conduct partial water changes to maintain a stable water temperature. If water temperature reaches or exceeds those allowed by DFG and NOAA, fish shall be released and rescue operations ceased.
- Avoid overcrowding in containers.
- Visually identify species and estimate year-classes of fish at time of release. Count and record the number of fish captured. Avoid anesthetizing or measuring fish.
- Submit reports of fish relocation activities to DFG and NOAA in a timely fashion.
- If feasible, plan on performing initial fish relocation efforts several days prior to the start of construction. This provides the fisheries biologist an opportunity to return to the work area and perform additional electrofishing passes immediately prior to construction. In many instances, additional fish may be captured that eluded the previous day's efforts.
- If mortality during relocation exceeds 5 percent, stop efforts and immediately contact the appropriate agencies.
- Determination by the Construction Contractor Representative in consultation with the RCDTC Project Manager or other implementing entity's Project Manager and CDFW/USFWS personnel (as appropriate) as to the most appropriate specific means of bypassing flow around the work area in order to minimize channel disturbance and avoid direct mortality of fish and other aquatic vertebrates.

- Coordinate project site dewatering with a fisheries biologist qualified to perform fish and amphibian relocation activities.

- Minimize the length of the dewatered stream channel and duration of dewatering.

- Bypass stream flow around work area, but maintain stream flow to channel below construction site.

- Periodically pump the dewatered stream segment dry of seepage.

- Place pumps in flat areas, well away from the stream channel.

- Secure pump units by tying off to a tree or staking in place to prevent movement by vibration.

- Refuel pump units in an area well away from stream channels and place fuel absorbent mats under pumps while refueling.

- Cover pump intakes with 1/8" mesh to prevent entrainment of fish or amphibians that fail to be removed prior to dewatering operations.

- Check pump intakes periodically for impingement of fish or amphibians that fail to be removed prior to dewatering operations.

Discharge wastewater from construction area to an upland location where it shall not drain sediment-laden water back to stream channel.

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/CDFW/USFWS
Initials:
Date:

Mitigation Measure #BIO 4: Pre- Project Implementation Plant Surveys

A professional biologist or other individual selected by the RCD of Tehama County Project Manager or other implementing entity's Project Manager who is specifically trained in the identification of Special Status species as shown in ***Appendix G Results of California Natural Diversity Database Inquiries and Species Review*** shall evaluate potential habitat for these species. Such evaluation shall be completed prior to implementation of impactive activities within the Phase I or Phase II project area during the appropriate blooming or identification period. In addition to areas where erosion control activities will occur, these surveys shall be conducted at

all impacted sites including access roads, equipment staging areas and spoils disposal sites among others. All sightings shall be documented using the California Natural Diversely Data Base (CNDDB) field survey form a copy of which, shall be submitted to the CNDDB, the California Department of Fish and Wildlife Regional Office CEQA Review Team; 601 Locust Street Redding CA, 96001 using its *"Online Field Survey Form"* which can be accessed at

https://www.wildlife.ca.gov/Data/CNDDB/Submitting-Data

A copy of this form shall also be submitted to the RCD of Tehama County Project Manager or other implementing entity's Project Manager who shall incorporate it into the Project Files. The RCD of Tehama County copy shall be submitted to:

Resource Conservation District of Tehama County
2 Sutter Street, Suite D
Red Bluff, CA 96080

Qualifications for personnel who shall make evaluations of sites include those found in the California Department of Fish and Wildlife's 2009 document entitled ***"Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities"*** **(Appendix H)**. If any federal or State listed threatened, endangered or other Special Status species are detected in any area that may be impacted by project work, a flagged 25' "No Treatment Buffer" (NTB) shall be established. Within such buffer areas, no project work shall be conducted until consultation with California Department of Fish and Wildlife or United States Fish and Wildlife Service personnel as appropriate have been made and their recommendation for protection incorporated into a revised project work scope. Biological surveys shall also map invasive plant species listed by the California Department of Food and Agriculture. A list of such species can be found at:

http://www.cdfa.ca.gov/phpps/ipc/weedinfo/winfo_list-pestrating.htm

or at the California Invasive Plant Council (Cal-IPC) website found at:

http://www.cal-ipc.org

If invasive plants are found, the provisions of **Mitigation Measures #BIO-10: Identification and Isolation of Invasive Plants** and **Mitigation Measure #BIO-11: Invasive Plants and Equipment Cleaning** shall apply.

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/CDFW
Initials:
Date:

Mitigation Measure #BIO-5: Protection of Previously Unidentified Special Status Species

If during the implementation of project work any previously unidentified listed or other Special Status species shown in ***Appendix G Results of California Natural Diversity Database Inquiries And Species Review*** are detected by the individuals described in **Mitigation Measure #BIO-4: Pre Project Implementation Plant Surveys** all project related activities shall immediately stop and a 25' NTB shall be established and flagged around the perimeter of any occurrence by the RCDTC Project Manager or other personnel as selected by the RCDTC Project Manager who is specifically trained in the identification of California Rare Plant Ranking (CRPR) List 1, List 2 and List 3 and any others shown in ***Appendix D***. If project work is being completed by another implementing entity, its Project Manager or other personnel shall be responsible for flagging the perimeter of such occurrence. Within such NTBs, no project work that disturb listed or other Special Status species shall be conducted.

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/CDFW
Initials:
Date:

Mitigation Measure #BIO-6: Tree Diameter Limits Related to Nesting Species

In order to protect potential nesting habitat, trees larger than 10" in diameter shall not be removed in association within any Phase I or Phase II related project work implementation site unless retaining such trees will prevent implementation of project work or are a safety hazard as determined by the RCDTC Project Manager. If project work is being completed by another implementing entity, its Project Manager shall seek approval of such removal based upon guidance provided by appropriate State/federal regulatory agency personnel.

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/CDFW
Initials:
Date:

Mitigation Measure #BIO 7: Protection of Migratory Bird Treaty Act Species

In order to protect any species covered by the Migratory Bird Treaty Act (MBTA), no project work of any kind shall occur between March and August, unless the following is implemented: 1). A survey is conducted by a biologist, or other persons with knowledge of and ability to recognize species protected by the MBTA and are approved by CDFW and/or USFWS personnel as appropriate, within 0.5 miles of the project area during the nesting season of an MBTA related species and it is determined that there are no occupied nests within the proposed project area. In addition to areas where erosion control activities will occur, these surveys shall be conducted at all impacted sites including access roads, equipment staging areas, and spoils disposal sites. 2).

If an occupied nest is found, the biologist or other person with knowledge of, and ability to recognize, species protected by the MBTA shall determine if the birds present are those protected by the MBTA. If an MBTA species is located then a 100' "No Treatment Buffer" shall be established around the nest during the breeding season. A 300' NTB shall be established if Special Status Species are documented at the site. If raptor species are found, the provisions of **Mitigation Measure #BIO 8: Raptor Protection** related to raptor protection shall apply. Modifications and possible reduction in NTB size may be made after consultation by the RCDTC Project Manager with the CDFW and/or USFWS personnel as appropriate. If project work is delayed or suspended for more than 15 days after surveys have been completed, the project area shall be resurveyed for MBTA or raptor species prior to reinitiating of project work. If project work is completed by an implementing entity other than the RCDTC, all survey costs shall be the responsibility of that entity.

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/CDFW
Initials:
Date:

Mitigation Measure #BIO 8: Raptor Protection

A wildlife biologist with appropriate training in the identification of raptors (as determined by CDFW and/or USFWS personnel as appropriate) shall perform a walk-through survey of treatment areas shortly before any project work is implemented. In addition to areas where erosion control activities will occur, these surveys shall be conducted at all impacted sites including access roads, equipment staging areas, and spoils disposal sites. This walk-through survey shall include examination of nests for raptor activity, visual searches for whitewash, listening for calls and any other evidence of nesting raptors within project impact areas. If field personnel detect raptor presence, appropriate protection measures for that particular species as described below shall be established. Upon discovery of an occupied raptor nest or any unknown large bird, the RCDTC's Project Manager, other implementing entity's Project Manager or a wildlife biologist (after conferring with the RCDTC or other implementing entity's Project Manager) shall inform all personnel involved with project work of such sightings. Upon notification, vegetation disturbing activities shall be suspended within one mile of the nest. Activities may resume after the species using the nest is identified and the appropriate measures described below to protect the nest are implemented.

Raptor Protection Measures

Listed Raptors
If an occupied nest of an Endangered Species Act or California Endangered Species Act listed raptor is discovered during project work, the Construction Contractor Representative shall protect the nest tree, screening trees, perch trees, and replacement trees from any project work

including, (1) suspension of project work within one mile of the nest, (2) suspension of all project work within a 500' radius NTB of the occupied nest, and (3) immediate notification and consultation by the CDFW or USFWS as appropriate. Modifications and possible reduction in "No Treatment Buffer" size may be made after such consultation has been completed.

Non-Listed Raptors
If an occupied nest of a non-listed raptor is discovered during project work, all vegetation disturbing activities within one mile of the occupied nest shall be suspended. Upon such suspension, the RCDTC Project Manager, other implementing entity's Project Manager or a professional biologist shall designate the nest trees, perch trees(s), screening tree(s), and replacement trees(s), for which a "No Treatment Buffer" shall be established.
Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/CDFW
Initials:
Date:

Mitigation Measure #BIO 9 Fisher Protection
Prior to project implementation, the RCDTC Project Manager, other implementing entity's Project Manager or a professional biologist (as selected by the RCDTC Project Manager or other implementing entity's Project Manager) shall look for freshly excavated cavities suitable for fisher dens (10" to 12" diameter) on snags located at a minimum 6' above ground level. In addition to areas where erosion control activities will occur, surveys for freshly excavated cavities suitable for fisher dens shall be conducted at all impacted sites including access roads, equipment staging areas, and spoils disposal sites. Within all project impact areas, a potential den structure is defined as any hardwood with visible indicators of cavity formation (dead or alive) ≥15" DBH, a conifer snag ≥22" DBH, or a live green cull or green wildlife conifer ≥22" DBH. A live green cull is a conifer tree with less than 25% merchantable wood by volume. A green wildlife conifer is considered a potential den structure when it has mistletoe brooms, large rest branches, and visible signs of fungus or other indications of cavity formation or visible cavity openings. The RCDTC Project Manager, other implementing entity's Project Manager or professional biologist

shall contact CDFW for consultation if site-specific avoidance measures are needed that differs from those described above. Any additional site-specific avoidance measures developed through consultation with CDFW and/or USFWS (as appropriate) personnel shall provide greater or equal protection to those stated here.

Den snags shall be protected by flagging the snag itself and establishing a flagged 375' radius "No Treatment Buffer". If a fisher is sighted in treatment areas by equipment operators or other project personnel during any project work, all vegetation disturbing activities shall be suspended within that area and the RCDTC Project Manager or biologist shall be notified. If a den or habitation of a fisher is discovered, all operations shall be suspended and a survey for a fisher den shall be completed. If a den is found a, flagged 375' radius "No Treatment Buffer" shall be established around the identified den or habitation. The CDFW and/or USFWS shall then be immediately notified.

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/CDFW
Initials:
Date:

Mitigation Measure #BIO-10: Identification and Isolation of Invasive Plants

Prior to implementation of project work, the RCDTC Project Manager, other implementing entity's Project Manager or another individual who is a certified herbicide applicator and has appropriate training in the identification and treatment of invasive plants shall inspect project implementation sites for populations of such plants. Invasive plants are defined as those listed by the California Department of Food and Agriculture (CDFA) or California Invasive Plant Council (Cal-IPC) as having the potential to be spread by project work. If such plant infestations are found, they shall be either 1.) flagged and avoided during project implementation, or 2.) treated prior to project implementation. If discrete patches of CDFA or Cal-IPC listed invasives are located, (e.g. species that are not already common in the project area) all staging sites shall be located outside of these discrete infestations. Topsoil from such identified contaminated sites shall not be used in connection with any project work and shall be removed from the project area if retaining it on site would lead to further contamination. Soil contaminated by invasive species seed or plant material may be stockpiled if in the opinion of the RCDTC Project Manager or other implementing entity's Project Manager, no future risk of site contamination exists. Post project monitoring for invasive plants and follow up abatement will be implemented as necessary by the project proponent.

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/CDFW
Initials:
Date:

Mitigation Measure #BIO-11: Invasive Plants and Equipment Cleaning

In order to prevent the spread of invasive plant species, all mobile equipment to be used in the execution of project related work shall be cleaned prior to use within the project area. The RCDTC or other implementing entity's Construction Contractor Representative shall assure and document equipment cleaning. Documentation of adherence to **Mitigation Measure #BIO-11:** requirements shall be in the form of date-stamped representative photographs (with location labels added) of all heavy equipment to be used in the execution of project work taken by the Construction Contractor Representative before implementation of any project work. Photographs shall indicate that such equipment has been cleaned off site prior to use within the project area. A copy of these photographs shall be sent, within 7 days of being taken, to the RCDTC Project Manager other implementing entity's Project Manager. Photographs submitted to the RCDTC Project Manager shall be sent to:

Resource Conservation District of Tehama County
2 Sutter Street Suite D
Red Bluff, CA 96080.

Copes of phototrophs shall be retained in the Project File, to document compliance with **Mitigation Measure #BIO-11**.
Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/CDFW
Initials:
Date:

Mitigation Measure #BIO-12: Woody Debris *(also applies to Hydrology and Water Quality)*

In order to prevent the introduction of excess woody debris into stream flows, dry stream channels that have flow during the rainy season, or other protected areas, no chipped material or other woody debris shall be blown or otherwise introduced into any riparian area" No Treatment Buffer". The RCDTC Project Manager or Construction Contractor Representative shall take before and after photographs of NTBs in order to document adherence to this requirement.

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/CDFW
Initials:
Date:

Cultural Resources

Mitigation Measure #CUL 1: Protection of Identified Cultural Resources

All new and previously recorded archeological sites identified during field surveys conducted prior to the implementation of any project work to be completed in connection with the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** effort shall be protected through complete avoidance. A flagged 50' "No Treatment Buffer" shall be established around each of these sites by the RCDTC Project Manager or other implementing entity's Project Manager prior to implementation of any project work. In addition to areas where erosion control activities will occur, the provisions of **Mitigation Measure #CUL-1:** shall apply to at all impacted sites including access roads, equipment staging areas, and spoils disposal sites.

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/CDFW
Initials:
Date:

Mitigation Measure #CUL 2: Protection of Newly Discovered Archeological, Prehistoric, Historic or Paleontological Resource

Mitigation Measure #CUL 2: shall apply to all areas of soil or vegetation disturbing activities including any impacted sites such as access roads, equipment staging areas and spoils disposal sites. If any project work conducted in connection with the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** effort appears to expose previously unknown archeological, prehistoric, historic or paleontological resource sites within project impact areas or within 50' beyond project boundaries, the site shall be avoided. Work may continue elsewhere within the overall project area. Exposed cultural or paleontological resources shall be appropriately flagged in order to immediately establish a "No Treatment Buffer" of at least 100'. A professional archeologist shall examine the site, evaluate found objects and make a finding of their significance. The archeologist shall also develop recommendations for the permanent protection of objects and site treatments as necessary. Identified sites shall be permanently protected through avoidance. These sites shall be made off limits to personnel, equipment and project impacts of any kind. A professional archeologist shall determine an appropriate permanent flagged exclusion zone once the site has been adequately assessed for significance. Findings of significance shall be prepared and submitted to appropriate agencies and

Native American groups at the discretion of the professional archeologist. As appropriate, findings shall be recorded in the RCDTC Project Files.

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/CDFW
Initials:
Date:

Mitigation Measure #CUL 3: Discovery of Human Remains

If during the execution of any ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** related project work, human remains are found, the RCDTC Project Manager, other implementing entity's Project Manager or the Construction Contractor Representative after having informed the Project Manager of such findings shall halt work at that location until a professional archaeologist visits the site. The professional archeologist shall then assess the significance of the remains, process these and immediately notify the Tehama County Coroner. If the remains are determined by the County coroner to be Native American, the Native American Heritage Commission (NAHC) and Native American groups at the discretion of the professional archeologist shall be notified within 24 hours and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. Findings of significance shall be prepared and submitted to appropriate agencies at the discretion of the professional archeologist. Findings shall also be recorded (as appropriate) in the Project Files by the RCDTC Project Manager. Project work may continue on other non-impacted portions of the project area.

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC
Initials:
Date:

Mitigation Measure #CUL 4: Continual Monitoring of Cultural Resource Protection In order to assure continual protection of archeological, historic, tribal and paleontological resources that may occupy the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** area, an individual knowledgeable in identifying such resources shall be present at all project sites whenever ground disturbing activities occur. This individual shall be professional archeologist, Registered Professional Forester or other appropriately qualified cultural resource specialist as selected by the RCD of Tehama County Project Manager or other implementing entity's Project Manager (as approved by the RCDTC's Project Manager. Any individual selected to complete such survey work shall be a Certified Archaeological Surveyor through the California State Board of Forestry and Fire Protection (14CCR Section 929 et seq.).

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC
Initials:
Date:

Geology and Soils

Mitigation Measure #GEO-1: Mulching of Exposed Soil ***(also applies to Hydrology and Water Quality)***

Any area containing newly exposed soil of over 800sq/ft. shall be seeded, mulched with brush or covered with non-invasive, non-persistent grass species as determined by the Tehama County Department of Agriculture in order to prevent exposure of disturbed soils to rainfall along with associated sediment runoff and transport.

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/CDFW
Initials:
Date:

Hydrology and Water Quality

Mitigation Measure #HYDRO-1: Road Drainage Infrastructure ***(also applies to Geology and Soils and Transportation/Traffic)***

In addition to the general provisions and limitations set forth under **General Best Management Practices to Avoid or Minimize Adverse Impacts** above, the following specific Mitigation Measures shall be implemented during retrofit or replacement of existing culverts and other drainage infrastructure in order to reduce potential diversions and road-related erosion.

- Culverts and water control structures shall be installed according to guidelines established in the ***"Handbook for Forest and Ranch Roads: A Guide for Planning, Designing, Constructing, Reconstructing, Maintaining, and Closing Wildland Roads"*** (Weaver and Hagans 1994) and any subsequent editions.

- Culvert fill slopes shall be constructed at a 2:1 slope or shall be armored with rock.

- All culverts replacements shall be adequately sized to accommodate the 100-year storm.

- No rocked fords shall be placed in fish-bearing streams.

- All culverts in fish-bearing streams and in streams where fish have historically been found and may potentially re-occur, shall be designed and constructed consistent with ***"NMFS Southwest Region's Guidelines for Salmonid Passage at Stream Crossings"*** (NMFS 2000) and ***"CDFG's Culvert Criteria for Fish Passage"*** (CDFG 2002)

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/CDFW
Initials:
Date:

Hazards and Hazardous Materials

Mitigation Measure #HA/HAZ-1: Protection Against Hazardous Material Spills in Streams and Riparian Zones *(also applies to Biological Resources and Hydrology and Water Quality)*

To reduce potential impacts associated with fuel spills in streams and riparian areas, the Construction Contractor Representative shall ensure that gasoline and lubricants at no time are transported across a live stream other than in the tank of equipment being moved or already applied to such equipment. Only existing roads shall be used to move personnel, equipment and materials across stream courses as well as into and out of the project site unless previously approved by the RCDTC Project Manager.

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/CDFW
Initials:
Date:

Mitigation Measure # HA/HAZ-2: Equipment Refueling and Maintenance Precautions *(also applies to Biological Resources and Hydrology and Water Quality)*

The RCDTC Project Manager or other implementing entity's Project Manager shall select refueling and maintenance sites for all equipment including power hand tools within flat sites that are away from NTB including those established along dry or wet waterways and areas that could potentially flow into a stream or other waterway in the event of an accidental spill. Such sites shall also be established outside of TEBs and other exclusion zones established in order to protect wildlife and plant resources. Fuel containment equipment including absorbent sheets and waddles shall be made available by the Construction Contractor at all refueling and maintenance areas. The Construction Contractor Representative and equipment operators shall be responsible for the immediate containment and removal of any spilled material and shall immediately inform the

RCDTC Project Manager or other implementing entity's Project Manager of such spills. The RCDTC Project Manager or other implementing entity's Project Manager shall then immediately contact appropriate authorities including the CDFW and/or USFWS personnel as appropriate, informing them of such spills. The Construction Contractor Representative shall inform all workers of the importance of preventing spills and of the appropriate measures to taken should a spill occur. Equipment shall be stored and maintained within properly cleared areas. The RCDTC Project Manager or other implementing entity's Project Manager shall inspect refueling areas to assure compliance with **Mitigation Measure # HA/HAZ 2.** These inspections shall also verify these sites' adequacy in protecting riparian and terrestrial resources as well as the availability of containment equipment.

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/CDFW
Initials:
Date:

Mitigation Measure # HA/HAZ-3: Limitations on Equipment Use ***(also applies to Biological Resources and Hydrology and Water Quality)***
The following conditions apply to the use of equipment in connection with project work:

- A contained area shall be designated for equipment storage, short-term maintenance, and refueling and shall be located at least 50' from waterbodies.
- Major vehicle maintenance and washing shall be conducted off site.
- All spent fluids including motor oil, radiator coolant, or other fluids along with used vehicle batteries shall be collected, stored, and recycled as hazardous waste off site.
- Dry cleanup methods (i.e. absorbent materials, cat litter, and/or rags) shall be used whenever possible.
- Spilled dry materials shall be swept up immediately.

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/CDFW
Initials:
Date:

Mitigation Measure # HA/HAZ-4: Equipment Inspections Related to Oil and Fuel *(also applies to Biological Resources and Hydrology and Water Quality)*

The Construction Contractor Representative and RCDTC Project Manager or other implementing entity's Project Manager shall make periodic inspections of equipment for leaking oil or fuel correcting or repairing any such leaks prior to resuming their use or crossing any stream channels. Inspection reports related to RCDTC sponsored project work shall be submitted to:

Resource Conservation District of Tehama County

2 Sutter Street Suite D

Red Bluff, CA 96080

The results of these inspections reports shall be incorporated into the Project Files along with evidence of any repairs required and completed before returning equipment to project work sites.

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/CDFW
Initials:
Date:

Mitigation Measure # HA/HAZ-5: Communications Equipment

Dependable radios or phone communication shall be available on site to report any emergency which may occur.

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/CDFW
Initials:
Date:

Mitigation Measure #HA/HAZ-6: Fire Protection Equipment *(also applies to Air Quality, Biological Resources, Greenhouse Gas Emissions, and Hydrology and Water Quality)*

To reduce impacts associated with exposure of people or structures to wildland fires, the Construction Contractor Representative shall ensure that adequate fire protection equipment is available at work sites. This shall include fire extinguishers attached to all mechanized equipment. In addition, firefighting hand tools shall be made available at all areas where equipment is operated. The Construction Contractor, RCDTC Project Manager or other implementing entity's Project Manager along with any related project personnel shall comply with all applicable fire safe standards as found in Public Resources Code Division 4, Chapter 6, (PRC's 4427, 4428,

4429, 4431, 4442, list not all inclusive). Vehicles shall not be parked in tall grass or any other location where heat from the exhaust system could ignite a fire. All motorized equipment shall have approved spark arrestors. A Project Work Log shall be maintained which documents that contractor has provided equipment for adequate fire protection prior to the start of any project work and that firefighting hand tools have been made available at all areas where equipment is operated. A copy of the Project Work Log shall be sent on a weekly basis during the execution of project work. Project Work Logs prepared in connection with RCDTC sponsored project work shall be submitted to:

Resource Conservation District of Tehama County

2 Sutter Street, Suite D

Red Bluff, CA 96080

with a copy retained in the Project File, in order to document compliance with **Mitigation Measure #HA/HAZ-6**.

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/CDFW
Initials:
Date:

Transportation and Traffic

Mitigation Measure #Trans/Traffic 1: State and County Road Encroachment Permits

If project work occurs on a State Highway or on a County maintained portion of Ponderosa Way, a road encroachment permit shall be obtained from Caltrans and the Tehama County Road Department respectively. Various private wildland roads may be used on occasion to transport equipment to project sites and access permission shall be obtained from road owners.

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/CDFW
Initials:
Date:

Mitigation Measure #Trans/Traffic 2: Staging Areas Along Public Roads

In order to reduce impacts to local traffic utilizing Ponderosa Way, all project work staging areas for equipment shall be created off of State Highways and passable wildland road rights-of-way (unless privately owned and maintained). All State and County regulations related to road use shall be adhered to.

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/CDFW
Initials:
Date:

Mitigation Measure #Trans/Traffic 3: Operations During Hunting Season
In order to reduce impacts to local traffic utilizing the Ponderosa Way all project work to be completed within the Phase I and Phase II project area shall cease during the local deer hunting season and resume once it has ended. Project work could continue along privately controlled and maintained roads included for treatments.
Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/CDFW
Initials:
Date:

Tribal Cultural Resources

Mitigation Measure #TCR-1: Tribal Consultation ***(also applies to Cultural Resources)***
If Native American archaeological or other cultural materials are discovered during implementation project work, consultation shall be conducted between the RCDTC Project Manager or other implementing entity's Project Manager and appropriate tribal councils. Consultation shall entail the development of in place resource avoidance and preservation measures or revisions to the project's planning and implementation that result in avoidance of the resource and protection of such resources cultural and natural context. Tribal and other cultural resources shall be treated in a culturally appropriate manner taking into account tribal cultural values and meaning of the resource, including:

- Protecting the cultural character and integrity of the resource
- Protecting the traditional use of the resource

Protecting the confidentiality of the resource.

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/CDFW
Initials:
Date:

Appendix G
Results of California Natural Diversity Database Inquiries
And Species Review
Formally Listed or Other Special Status Species Found in the Vicinity of the
Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II
Projects Implementation Projects Area

In consideration of the area covered by the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Projects*** area a twenty-seven quadrangle check was made of the California Department of Fish and Wildlife 's California Natural Diversity Database (CNDDB) during March of 2017. The Cal Fish database along with a number of other references including the California Department of Fish and Wildlife California Interagency Wildlife Task Group's Wildlife Habitat Relationships System and other sources were also reviewed in order to determine the possible occurrence of upland, avian, amphibian, aquatic and anadromous species. The following results relate to listed Endangered, Threatened, or Special Status Species along with California Rare Plant Rank List 1, List 2 and List 3 and other Special Status animal and plant species. The discussion below includes information on these species' life histories, habitat requirements and the impact project work could have on them. The manner in which proposed specific Mitigation Measures will protect various species from project related impacts is included as well. In addition to the measures described below, those related to Hazards and Hazardous Materials along with this project's program of Best Management Practices will provide addition protection to any listed or Special Status species that inhabit the Phase I and Phase II project area.

7.5 Minute Quadrangles Referenced for California Natural Diversity Database Check

Of the Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Projects Area

Inwood	**Hagaman Gulch**	**Viola**
Shingletown	**Manton**	**Grays Peak**
Lassen Peak	**Inskip Hill**	**Finley Butte**
Lyonsville	**Mineral**	**DeWitt Peak**
Panther Springs	**Barkley Mountain**	**Onion Butte**
Acorn Hollow	**Ishi Caves**	**Devils Parade Ground**
Butte Meadows	**Richardson Springs N W**	**Campbell Mound**
Cohasset	**Stirling City**	**Nord**
Richardson Springs	**Paradise West**	**Paradise**

The following results relate to the above mentioned query of the California Natural Diversity Database, the California Department of Fish and Wildlife's, *State and Federally Listed Endangered and Threatened Animals of California* (April 2017) and other information sources related to listed Endangered, Threatened, Sensitive or Special Status Species that have been identified within the project area and those portions of eastern Tehama County adjacent to it. Under California law, Species of Special Concern are to be considered during the environmental review process. The California Environmental Quality Act (CEQA; California Public Resources Code §§ 21000-21177) requires State agencies, local governments, and special districts to evaluate and disclose impacts from "projects" in the State. Section 15380 of the CEQA Guidelines indicates that species of special concern should be included in an analysis of project impacts if they can be shown to meet the criteria of sensitivity outlined in State regulations.

It is anticipated that the projects described in the plan of action developed for the **Ponderosa Way Road Assessment and Sediment Reduction Plan Implementation Projects** as analyzed in this CEQA Programmatic Initial Study/Mitigated Negative Declaration will be completed over number of years. If any plan of action project work is completed after three years from the date this CEQA document has been approved by the Resource Conservation District of Tehama County, a new California Natural Diversity Database search shall be completed along with any necessary updates to this **Appendix F**. This search and update shall be completed prior to the implementation of any project work. Any changes in the species listed in the CNDDB along with any changes to species special status will require an analysis for impacts in an amendment to this CEQA document.

1 = Federal Endangered	**2 = Federal Threatened**
3 = California Endangered	**4 = California Threatened**
5 = California Fully Protected	**6 = California Protected**
7 = California Species of Special Concern	**8 = Federally Proposed Endangered**
9 = Federally Proposed Threatened	**10 = Federal Candidate**
11 = BLM Sensitive	**12 = CDF Sensitive**
13 = Harvest	**14= DFW Watch List**
15= California Candidate Species	**16= Forest Service Sensitive Species**
California Rare Plant Rank 1B.1, 1B.2, 1B.3, 2.1, 2.2, 2.3, 3.2, 4.2, 4.3	**Natural Heritage Ranks S1, S2, S3, S4, S5**

List of Species Identified in the California Natural Diversity Database and Other Sources of Biological Information

Common Name	Genus/Species	Status
MAMMALS		
FISHER	***Pekania pennanti***	7,11,16
GRAY WOLF	***Canis lupis***	1,3
SIERRA NEVADA RED FOX	***Vulpes vulpes necator***	4,12,16
WESTERN RED BAT	***Lasiurus blossevillii***	7,12
SPOTTED BAT	***Euderma maculatum***	7, 11
PALLID BAT	***Antrozous pallidus***	7,11,12,16
TOWNSEND'S BIG-EARED BAT	***Corynorhinus townsendii***	7,11,12,16
WESTERN MASTIFF BAT	***Eumops perotis***	7,11
FRINGED MYOTIS	***Myotis thysanodes***	11,16
YUMA MYOTIS	***Myotis yumanensis***	11
DUSKY FOOTED WOOD RAT	***Neotoma fuscipes***	1,7
SIERRA NEVADA SNOWSHOE HARE	***Lepus americanus tahoensis***	7
SIERRA MARTEN	***Martes Americana Sierrae***	16
CALIFORNIA WOLVERINE	***Gulo gulo***	4,5,12,16
AMERICAN BADGER	***Taxidea taxus***	7
AMPHIBIANS/REPTILES		
FOOTHILL YELLOW LEGGED FROG	***Rana boyliil***	7,11,12,15
CALIFORNIA RED LEGGED FROG	***Rana aurora draytonii***	2
CASCADES FROG	***Rana cascadae***	7,16
WESTERN POND TURTLE	***Actinemys mamorata***	7,11,12
PACIFIC TAILED FROG	***Ascaphus truei***	7
SIERRA NEVADA YELLOW-LEGGED FROG	**Rana sierrae**	4,1
SOUTHERN LONG-TOED SALAMANDER	***(Ambystoma macrodactylum sigillatum)***	7
WESTERN SPADEFOOT TOAD	***Spea hammondii***	7
GOPHER SNAKE	***Pituophis catenifer***	7

CALIFORNIA MOUNTAIN KING SNAKE	***Lampropeltis zonata***	**7,12**
COMMON GARTER SNAKE	***Thamnophis sirtalis***	**1,3,5,7**
RUBBER BOA	***Charina bottae***	**4,12**
STRIPED RACER	***Masticophis lateralis***	***2,4***
FISHES		
CENTRAL VALLEY SPRING RUN CHINOOK SALMON	***Oncorhynchus tshawytscha***	***2,7***
CENTRAL VALLEY DPS WINTER RUN STEELHEAD TROUT	***Oncorhynchus mykiss irideus***	***2,7***
RIFFLE SCULPIN	**Cottus gulosus**	***7***
SACRAMENTO HITCH	**Lavinia exilicauda exilicauda**	***7***
HARDHEAD	**Mylopharodon concephalus**	**7**
SACRAMENTO-SAN JOAQUIN TULE PERCH	**Hysterocarpus traski traski**	
PACIFICIF LAMPREY	**Entrosphenus tridentatus**	**7**
AVIAN SPECIES		
GOLDEN EAGLE	***Aquila chrysaetos***	**5,11,12,14**
BALD EAGLE	***Haliaeetus leucocephaluss***	**3,5,11,12,16**
NORTHERN GOSHAWK	***Accipiter gentilis***	**7,11,12,16**
OSPREY	***Pandion haliaetus***	**12,14**
PURPLE MARTIN	***Progne subi***	**7**
PRAIRE FALCON	***Falco Mexicanus***	**14**
PEREGRINE FALCON	***Falco peregrimus***	**5,12**
BLACKED BACKED WOOD PECKER	***Picoides arcticus***	**16**
SHORT EARED OWL	***Asio flammeus***	**7**
GREAT GRAY OWL	***Strix nebulosa***	**3,12,16**
CALIFORNIA SPOTTED OWL	***Strix occidentalis-occidentalis***	**7,11,16**
WILLOW FLYCATCHER	***Empidonax traillii***	**3,16**
OLIVE-SIDED FLYCATCHER:	***Contopus cooperi***	**7**
LOGGERHEAD SHRIKE:	***Lanius ludovicianus)***	**7**
YELLOW WARBLER	***Dendroica petechia***	**7**

YELLOW-BRESTED CHAT	***Icteria virens***	**7**
SAGE SPARROW	***Amphispiza belli***	**14**
GRASSHOPPER SPARROW	***Ammodramus savannarum***	**7**
SONG SPARROW	***Melospiza melodia***	**7**
VAGRANT SHREW	***Sorex vagrans***	**7**
INSECTS		
WESTERN BUMBLEE	***Bombus occidentalis***	**2,4**
GASTROPODS		
KLAMATH SIDEBAND	***Monadenia churchi***	
CRUSTACEANS **(No listed or Special Status Crustaceans were identified in the March 2017 CNDDB search or other referenced species literature)**		
PLANTS		
BIG-SCALE BALSAMROOT	***Balsamorhiza macrolepis var. macrolepis***	**1B.2**
NORTHWESTERN MOONWORT	***Botrychium pinnatum***	***2.3***
BUTTE COUNTY FRITILLARY	***Fritillaria eastwoodiae***	***3.2***
CASCADE ALPINE CAMPION	***Silene suksdorfii***	**2.3**
WESTERN GOBLIN	***Botrychium montanum***	**2.1**
MINGAN MOONWORT	***Botrychium minganense***	**2.2**
SCALLOPED MOONWORT	***Botrychium crenulatum***	**2.2**
UPSWEPT MOONWORT	***Botrychium ascendens***	**2.3**
THREE-RANKED HUMP MOSS	***Meesia triquetra***	***4.2.***
OBTUSE STARWORT	***Stellaria obtusa***	***4.3***
SILKY CRYPTANTHA	***Cryptantha crinita***	**1B2**
HALL'S RUPERTIA	***Rupertia Hallii***	**1B2**
WOOLLY MEADOWFOAM	***Limnanthes floccosa ssp. floccose***	**4.2**
BROAD-NERVED HUMP MOSS	***Meesia Uliginosa***	**2.2**
LONG-STIPED CAMPION	***Silene occidentalis ssp. longistipitata***	**1B.2**
LASSEN PEAK COPPER MOSS	***Haplodontium Tehamense***	**1B.3**
RAYLESS MOUNTAIN RAGWORT	***Packera indecora***	**2.2**
GOLDEN ALPINE DRABA	***Draba Aureola***	**1B.3**
LASSEN PEAK SMELOWSKIA	***Smelowskia ovalis var. congesta***	**1B.2**
TALIS COLLOMIA	***Collomia Larsenii***	**2.2**
PYROLA-LEAVED BUCKWHEAT	***Eriogonum pyrolifolium var. pyrolifolium***	**2.3**
SQUARESTEM PHLOX	***Phlox Muscoides***	**2.3**
NORTHERN SPLEENWORT	***Aspenium septentrionale***	**2.3**
SNOW FLEABANE DAISEY	***Erigeron nivalis***	**2.3**
LITTLE HULSEA	***Hulsea Nana***	**2.3**
BAKER's GLOBE MALLOW	***Iliamna bakeri***	**4.2**

FINGER RUSH	***Juncus digitatus***	**1B.1**
WHITE-STEMMED CLARKIA	***Clarkia Gracilis ssp. albicaulis***	**1B.1**
TRACY'S SANICLE	***Sanicula tracyi***	***4.2***
AHART'S PARONYCHIA	***Paronychia ahartii***	**1B.1**
BROWNISH BEAKED RUSH	***Rhynchospora capitellata***	**2.2**
SHASTA CLARKIA	***Clarkia borealis ssp. arida***	**1B.1**
MUD SEDGE	**Carex limosa**	
SANBORN'S ONION	**Allium sanbornii var. sanbornii**	**4.2**
ASTRAGALUS PAUPERCULUS	**Despauperate milk-vetch**	**4.3**
BUTTE COUNTY MORINING-GLORY	**Calystegia atriplicifolia ssp. buttensis**	**4.2**
LONG FRUIT JEWELFLOWER	**(Streptanthus longisilliquus)**	**4.3**
SHILED-BRACRED MONKEYFLOWER	**(Erythranthe glaucescens)**	**4.3**
HALL'S RUPERTIA	**(Rupertia hallii)**	**1b2**
MARSH CLAYTONIA	**(Claytonia palustris)**	**4.3**
COLEMAN'S REIN ORCHID	**Piperia colemanii**	**4.3**
CALIFORNIA SATINTAIL	**(Imperata brevifolia**	**2B.1**
BIDWELL'S KNOTWEED	**Polygonum bidwelliae**	**4.3**
HUMBOLDT LILLY	**(Lilium Humboldtii ssp. Humboldtii)**	**4.2**
DISSECTED LEAVED TOOTHWORT	**Cardamine pachystigma var. dissectifolia**	**i1B.2**
TRIPOD BUCKWHEAT	**Eriogonum tripodum**	**4.7**
BUTTE COUNTY CHECKERBLOOM	**(Sidalcea robusta)**	**1B.2**
BUTTE COUNTY CALYCADENIA	**(Calycadenia oppositifolia)** **4.2**	**4.2**
CALLAHAN'S MARAiPOSA -LILY	**(Calochortus syntrophus)**	**1B.1**
MILDREDS CLARKIA	**(Clarkia mildrediae ssp. Mildrediae)**	**1B.3**
LONG-LEAVED STARWORT	**Stelleriea longifolia**	**2B2**
GAEYER's SEDGE	**(Carex geyeri)**	**4.2**
ENGLISH SUNDEW	**(Drosera anglica)**	**2B.3**
SLENDER COTTONGRASS	**Elriophorum gracile**	**4.3**
TRUE'S MANZANITA	**(Arctostaphylos mewukka ssp.truei)**	**4.3**
HUTCHISON'S LEWISIA	**(Lewisia kelloggii ssp. hutchisonii)**	**3.2**
SWAMP LARKSPUR	**(Delphinium uliginosum)**	**4.3**
JEPSON'S ONION	**(Allium jepsonii)**	**1B.2, 16**
MOSQUIN,S CLARKIA	**(Clarkia mosquinii)**	**1B.1**
GIANT CHECKERBLOOM	**(Sidalcea gigantea)**	**4.3**
CLUSTERED LADY SLIPPERS	**(Cypripedium fasciculatum)**	**4.2, 11, 16**

CLOSED-THROATED BEARDTONGUE	**(Penstemon personatus)**	**1B.2**
CASTILLEJA LASSENESIS EASTW	**Lassen Paintbrush**	**1b3 (Draft CNPS rating)**

Mammals

FISHER (*Pekania pennanti*)[7] Fisher is currently a State Species of Special Concern. They inhabit upland and lowland forests, including coniferous, mixed, and deciduous forests, primarily occurring in dense coniferous or mixed forests, including early successional forest with dense overhead cover. Fisher generally avoid areas with little forest cover or significant human disturbance. An adaptive species, fisher establish den sites above ground and prey on a wide range of species: small to medium-sized mammals and birds as well as carrion. During the 19th and early 20th centuries, fisher declined over most of its range due to excessive fur trapping and habitat destruction through logging. Timber harvest can fragment fisher habitat, reduce their population size, and/or render the forest structure unsuitable for fisher. **Mitigation Measure #BIO 1: General Mitigation Measures to Protect Special Status Species** along with **Mitigation Measure #BIO-9: Fisher Protection** will provide protection to this species so that impacts related to Phase I or Phase II project work will be reduced to less than significant level.

Gray Wolf (*Canis lupis*):[1,3] Gray wolf is currently a Federal and State Listed Endangered Species. In California, the gray wolf frequents shrub lands, valley foothill riparian, montane riparian, and brush stages of many deciduous and conifer forest habitats. Meadows and croplands are utilized as well. The species is omnivorous with a diet consisting of rabbits, mice, gophers, wood rats, and squirrels. It also eats large amounts of fruits, nuts, grains, grasshoppers and crickets, beetles, moths and butterflies, carrion, and small amounts of herbage. Gray wolf can readily climb into crooked trees with branches that are 10' or less above ground. Den sites are developed in natural cavities, rocky areas, snags, logs, brush, slash, debris piles, abandoned burrows, and under buildings. Nest material usually consists of dry grass, leaves, or shredded bark. Graywolf is active all year, including crepuscular, nocturnal, and daytime activity. Rendezvous sites are typically established within small and secluded meadow sites adjacent to permanent water sources. They are non-migratory; however, home range distances can span above 40 miles. Sightings have been made outside the Phase I and Phase II project area, but none have been identified within any potential project impact areas.

No known sightings have been documented within roughly 10 miles of either portion of the project. The potential for gray wolf to inhabit the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** area is minimal. If gray wolf is observed during project work, surveys will be conducted in order to locate observation areas as well as resting and denning sites per **Mitigation Measure #BIO-1 General Mitigation Measures to Protect Special Status Species**.

Observations will be made by RCDTC or other implementing entity's personnel, and if denning or additional sites are found, these areas will be flagged for avoidance by equipment and personnel. In addition, **Mitigation Measure #BIO 2: Protection of Riparian Vegetation** developed in order to protect riparian zones and wet areas will protect riparian habitats frequented by this species.

SIERRA NEVADA RED FOX (*Vulpes vulpes necator*):[4] This subspecies of red fox is currently a State Listed Threatened Species, and is primarily found in the Cascades and Sierra Nevada within a variety of habitats including wet meadows, mixed conifers, Ponderosa pine and lodgepole pine stands, aspen, montane chaparral, montane riparian, and montane hardwood-conifer. The majority of sightings have been documented within an elevation range of 5,000' to 7,000', with winter dispersal at 4,500' and summer distribution over 7,000'. Sierra Nevada red fox hunt in meadows, fell-fields, grasslands, wetlands, and other open habitats. Dens are developed in dense vegetation and rocky areas along with rock outcrops, hollow logs, stumps, and burrows located in deep, loose soil. Edge areas are utilized extensively. Mating takes place in late winter (January through March). The only known current population of this species is in the vicinity of Lassen Peak. The western extent of the Lassen Peak distribution is thought to include the area south of Battle Creek Canyon, Cold Creek Butte, and west of Mineral. The Sierra Nevada populations prefer lodge pole pine and red fir forest habitats within the subalpine zone, and these habitats do not exist within the project area. Foraging habitat consists of forest openings, meadows, and barren rocky areas associated with high elevation habitats, none of which are found along roads associated with the project area.

Two recorded observations of the Sierra Nevada red fox were identified within a 5-mile radius of the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** areas. The nearest recorded observation is approximately 3.9 miles northeast of the area. The second recorded observation is 4.9 miles northeast of the general project area. Due to the proximity of historic observations, early seral forest stands, and corresponding elevation, Sierra Nevada red fox habitat is considered to be present within the project area. As a result, protection measures will include **Mitigation Measure #BIO-1 General Mitigation Measures to Protect Special Status Species**, which will apply to all project work, and **Mitigation Measure #BIO 2: Protection of Riparian Vegetation** developed in order to protect riparian zones and wet areas, which will protect riparian habitats frequented by this species.

WESTERN RED BAT (*Lasiurus blossevillii*): [7] This species of medium-sized bat is born from late spring to early summer. It roosts in the foliage of large shrubs and trees, usually sheltering on the underside of overhanging leaves. Roosting habitat is found in woodland borders and rivers. Roost sites have been found in edge habitats adjacent to riparian zones which will be protected through implementation of **Mitigation Measure #BIO-2: Protection of Riparian Vegetation** and **#BIO 3: Minimizing of Impacts to Aquatic Habitat and Species During Dewatering of the Project Site**. Roost trees are typically large diameter cottonwoods and willows, which will be protected through implementation of **Mitigation Measure #BIO-6: Tree Diameter Limits Related to Nesting Species**. Foraging occurs within and amongst riparian vegetation, and foraging typically occurs over the same territory. Foraging has been noted in habitats such

as oak woodland, low elevation conifer forests, and along riparian corridors which will be similarly protected through the provisions of **Mitigation Measure #BIO-6.** Foraging may occur in habitats adjacent to streams and rivers that do not provide roosting habitat. Other requirements include undisturbed foliage roost sites that provide protection from predators, along with structurally diverse vegetation that support a variety of insect prey habitat. It is also found to be less abundant in low and middle elevations of mixed conifer forests such as those through which the Phase I and Phase II project area passes.

The western red bat has been ranked within the top five species of conservation concern due to the loss of intact old growth, riparian forest habitats. Given the level of agency concern over the long-term viability of this bat's populations, and the importance of riparian forest habitat throughout its life history, the Phase I and Phase II project work scope has been designed in a manner that will protect and improve habitat for this species once project work has been completed and vegetation within project impact areas has been reestablished.

SPOTTED BAT (*Euderma maculatum):* [7, 11] Within Northern California, the spotted bat occupies numerous habitats including grasslands and mixed conifer forests. The elevation range for the species extends from below sea level to 10,000'. Spotted bat feeds in flight over water and at ground level. Rock crevices and cliffs are the preferred habitats for nesting and roosting. Mating begins in autumn, and most births occur before mid-June. Project work is anticipated to be conducted over a short period of time prior to mating and birthing periods. The Mitigation Measures and Best Management Practices established to protect the Western red bat as described above will similarly protect the Spotted Bat.

PALLID BAT *(Antrozous pallidus)*: [7,11] The pallid bat generally inhabits shrublands, woodlands, grasslands, and occasionally cottonwood-riparian zones occurring within those habitats. It is most common in areas containing rock outcrops, particularly near water. During the summer, this species usually roosts in rock crevices, rock piles, tree cavities, shallow caves, and abandoned mines. The Pallid bat is sensitive to human disturbance; however, individual projects to be completed in connection with future Phase I and Phase II road treatments will require work within a specific area for only a short period of time. Recreational activities may occasionally impact roosting bats, resulting in the abandonment of young and roost sites. The Mitigation Measures and Best Management Practices established to protect the Western red bat and spotted bat as described above will similarly protect the pallid bat.

TOWNSEND'S BIG-EARED BAT *(Corynorhinus townsendii):* [7,11] Townsend's big-eared bat primarily occurs in oak woodlands and low to mid-elevation mixed coniferous-deciduous forests of the inner coast ranges as well as the Sierra Nevada and Cascade foothills. Its distribution tends to be geomorphically determined by the availability of caves or cave-like roosting habitat. Population concentrations occur in areas with substantial surface exposures of cavity-forming rock. Project work proposed for the Phase I and

Phase II project area will be of a size and type that will not result in impactive activities occurring within a particular area for long periods of time, with ambient conditions returning after project completion. The established Mitigation Measures and Best Management Practices mentioned above to protect bats will have similar protections for Townsend's big-eared bat.

WESTERN MASTIFF BAT (*Eumops perotis):* [7,11] The Western mastiff bat occurs in semi-arid to arid habitats, including conifer and deciduous woodlands, annual and perennial grasslands, as well as chaparral. Suitable habitat consists of extensive open areas with abundant roost locations provided by crevices in rock outcrops. Crevices in cliff faces and trees are required for roosting. When roosting in rock crevices, vertical faces are necessary to drop off and take flight. The species feeds on insects in flight from ground to tree-level. Nursery roosts normally include tight rock crevices at least 35" deep and 2"wide. Breeding primarily occurs in early spring (March), parturition may occur from early April through August or September. If this species occurs within any Phase I and Phase II project area, the Mitigation Measures and Best Management Practices established to protect bats mentioned above will have similar protections for the Western mastiff bat.

FRINGED MYOTIS (*Myotis thysanodes*)[11]: Fringed myotis is widespread throughout California. Optimal habitats are pinyon-juniper, valley foothill hardwood, and hardwood-conifer, generally occurring at elevations ranging from 4,000' to 7,000'. Fringed myotis feeds mostly on beetles, moths, arachnids, and orthopterans. Roost sites consist of caves, mines, buildings, and crevices, and can be easily disturbed. Separate day and night roosts may be utilized. Maternity colonies of up to 200 individuals are located in similar locations. Adult males are absent from maternity colonies, which are occupied from late-April through September. Maternity group members may remain together during hibernation, which normally lasts from October through March. The species is migratory, making relatively short, local movements to suitable hibernacula. Mating occurs in the fall, followed by delayed fertilization. Gestation lasts 50-60 days. The young are born from May through July, but most are born in late-June. Although a considerable amount of the project area is located within hardwood-conifer habitat, the project area does not contain caves, rock crevasses, or buildings suitable for roosting sites. If the species occurs within any portion of the Phase I and Phase II project area, the Mitigation Measures and Best Management Practices established to protect bats mentioned above will have similar protections for the fringed myotis.

YUMA MYOTIS (*Myotis yumanensis*)[7] The Yuma myotis is common and widespread in California, and is found in a wide variety of habitats ranging from sea level to 11,000', but is uncommon to rare above 8,000'. Optimal habitats are open forests and woodlands with sources of water over which to forage. The species usually forages over water sources such as ponds, streams, and stock tanks. Yuma myotis roosts in buildings, mines, caves, or crevices, and also has been seen roosting in abandoned swallow nests and under bridges. Maternity colonies of several thousand females and young may be found in buildings, caves, mines, and under bridges. Warm, dark sites are preferred for roosting. If temperatures exceed 40°C, bats seek cooler locations, and individuals roost farther apart. Yuma myotis is nocturnal and hibernates, and makes

local or short migrations to suitable hibernacula. The species emerges soon after sunset in many areas, but peak activity normally occurs 1 to 2.5 hours after sunset. Yuma myotis, like other California bats, mates in the fall. It has been reported that the season of births lasted from late-May to mid-June with a peak in early-June. It is likely that some young are born in July in some areas.

DUSKY-FOOTED WOOD RAT (*Neotoma fuscipes*): [1,7] The presence of dusky-footed woodrat is usually indicated by large houses built from sticks, twigs, cacti, manure, plant materials, and man-made debris. These houses are above ground, frequently beneath a rock outcrop, in a rock pile, or partially under a shrub. These dwellings help protect the woodrat from seasonal temperature extremes and predators. The dusky-footed woodrat breeds throughout the year, with usually more than one litter per year. They primarily feed on woody plants, including the leaves, flowers, nuts, and berries, and it has been observed foraging above ground. It is anticipated that through the implementation of project work, current upslope and in stream sediment debris fields found within the Phase I project area will be stabilized and a portion of this material removed. Once Phase I project work has been completed, habitat conditions within this portion of the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Implementation Projects*** project area will stabilize and become similar to those found in the area prior to the storm related sediment flows, thus allowing the establishment of plants that are conducive to the persistence of this species. Similarly, with chronic road related erosion and sediment flows stabilized in the Phase II project area, improved habitat conditions for the dusty footed wood rat are anticipated.

SIERRA NEVADA SNOWSHOE HARE (*Lepus americanus tahoensis*) [7:] Sierra Nevada snowshoe hare is primarily found in montane riparian habitats with thickets of alders and willows, as well as in stands of young conifers interspersed within chaparral. Riparian habitat, and related plant species, utilized by the Sierra Nevada Snowshoe Hare will be protected through implementation of various Best Management Practices along with **Mitigation Measure #BIO-2: Protection of Riparian Vegetation**. The early seral stages of mixed conifer, subalpine conifer, red fir, Jeffrey pine, lodgepole pine, and aspen are likely habitats, primarily along edges and especially near meadows. Summer food consists of grasses, forbs, sedges, and low shrubs. Needles and bark of conifers as well as leaves and green twigs of willow and alder are eaten in the winter. Dense cover is preferred, either in understory thickets of montane riparian habitats or in shrubby understories of young conifers. The breeding period occurs from mid to late-February until June or July. Nesting areas are developed by lining a shallow depression under a shrub, log, or in slash using grass, fur, or needles. The snowshoe hare prefers edges, heterogeneous habitats, and areas with dense understory, particularly in riparian zones. It is also found in areas with young firs having branches that droop to the ground, as well as in patches of ceanothus and manzanita within or bordering fir or pine forests. In general, the overall project area contains a significant amount of the necessary montane riparian habitats containing thickets of alders and willows. There is also a significant area containing young conifers interspersed within chaparral.

SIERRA MARTEN *(Martes Americana Sierrae)*[10:] In California, Sierra marten occupy a number of coniferous forest types, including Sierra redwood, Sierran mixed conifer, lodgepole pine, pure or mixed stands of white fir, California red fir, Douglas fir, Ponderosa pine, Jeffrey pine, Western white pine, white bark pine, and mountain hemlock. Their elevation range is from 8,596' to 11,073', which is above the highest point within the project area. This species has been sighted in the Lyonsville area at the north end of the Phase II project area. The general elevation range of the Sierra Martin is well above the overall Phase I and Phase II project area. If individuals or potential habitat are sighted during surveys of specific project impact areas (Mitigation Measures #BIO-4: and #BIO-5:), protection measures for this species will be developed.

CALIFORNIA WOLVERINE (*Gulo gulo*): [4,5,] This species is rarely seen in eastern Tehama County, although sightings have occurred in eastern Shasta County and Siskiyou County. Preferred habitats include Douglas fir and mixed conifer stands, along with red fir, lodgepole pine, wet meadow, and montane riparian areas. Most sightings in northern California have occurred at elevations ranging from 1,600' to 4,800'. Wolverine forage in open to sparse forest habitats at ground level, in trees, burrows, among rocks, in or under snow, and sometimes in shallow water. Areas with low human disturbance are preferred. Caves, hollows in cliffs, logs, rocky outcrops, and dense forest stands are used for cover. Mating season is from May to July, with young born from January through April. The project area is located along a wildland land road traditionally used for land management and timber harvest activities which continue throughout the overall project area. As a result, no impacts to wolverine are anticipated. Site specific pre-implementation surveys that provide information as to the presence of this species or its habitat within project impact areas will be conducted. Project work will not impact this species if it occurs, based upon site specific Mitigation Measures developed once the survey work completed in connection with Mitigation Measures #BIO-4: and #BIO-5: is completed.

AMERICAN BADGER (*Taxidea taxus*) [7,13:] This species is found throughout California, with the exception of the North Coast area. It is most abundant in drier open stages of most shrub, forest, and herbaceous habitats having friable soils suitable for the development of new burrows. Old burrows are frequently used as well. Young are born in burrows dug into relatively dry, often sandy soil, usually in areas with sparse overstory cover. Suitable habitat for badgers is characterized by herbaceous, shrub, and open stages of most habitats with dry, friable soils. Badgers mate in summer and early fall. Their gestation period varies from 183-265 days, with birthing occurring during March and April. The project area has very little in the way of open, sparse vegetation in either the mixed conifer forest or chaparral stands. Impacts to this species are anticipated to be minimal. The protection measures found in the Best Management Practices developed for this project along with those of **Mitigation Measure #BIO-1 General Mitigation Measures to Protect Special Status Species** will reduce potential project related impacts on this species to a less than significant level.

Amphibians

FOOTHILL YELLOW LEGGED FROG *(Rana boylil):* [7,11,12,15] This aquatic species requires shallow, flowing water found in small to moderate-sized streams with at least some cobble-sized substrate. Such habitat is best suited to oviposition and provides significant refuge habitat for larvae and postmetamorphs. Foothill yellow-legged frogs may be infrequent or absent in habitats where introduced aquatic predators such as fishes and bullfrogs are found including small streams and wet areas. In the event that individuals of this species are present within the riparian corridors of the project area, they will be protected through the implementation of **Mitigation Measures #BIO-1 General Measures to Protect Special Status Species**, **#BIO 2: Protection of Riparian Vegetation**, **#BIO 3 Minimizing of Impacts to Aquatic Habitat and Species During Dewatering of the Project Site** and **#BIO-12 Woody Debris**. Indirect protection will also be afforded to this species through implementation of **Mitigation Measure #BIO 6: Tree Diameter Limits** which requires the retention of large tress that provide both nesting sites for avian species along with shade within riparian zones and other portions of the Phase I and Phase II project area. In addition, preconstruction surveys for this species will be conducted in order to determine its occurrence within project impact areas so that avoidance measures can be taken.

CALIFORNIA RED LEGGED FROG *(Rana aurora Draytonii):* [2,7] Per the USFWS May 2002 Recovery Plan. The project area is with the current range of the California Red Legged Frog. This amphibian is highly aquatic with little movement away from streamside habitat during the dry season. Individuals found in interior areas of California tend to hibernate in burrows during winter months as well as for temporary retreat during periods of activity. In the event that individuals of this species are present within the riparian corridors of the project area, they will be protected through the implementation of **Mitigation Measures #BIO-1 General Measures to Protect Special Status Species**, **#BIO 2: Protection of Riparian Vegetation**, **#BIO 3 Minimizing of Impacts to Aquatic Habitat and Species During Dewatering of the Project Site** and **#BIO-12 Woody Debris**. Indirect protection will also be afforded to this species through implementation of **Mitigation Measure #BIO 6: Tree Diameter Limits** which requires the retention of large tress that provide both nesting sites for avian species along with shade within riparian zones and other portions of the Phase I and Phase II project area. In addition, preconstruction surveys for this species will be conducted in order to determine its occurrence within project impact areas so that avoidance measures can be taken.

CASCADES FROG *(Rana cascadae):* [7,15,16] In California, Cascades frog distribution is associated with montane and sub-alpine landscapes. Known extant California populations appear to be restricted to elevations above 3'000' in a highly fragmented "island" distribution. The range of *Rana cascadae* a Species of Special Concern includes Lassen Volcanic National Park and areas surrounding its boundaries among others in northeastern California. Those sites near Lassen Park are the closest to the project area identified to date. This frog occupies aquatic and riparian habitats within mountain meadows, streams, ponds and lakes located above 3,000' and have a breeding period of May to August contingent upon snow melt. The

design of the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** work scope incorporates protections for this species including **Mitigation Measures #BIO-1 General Measures to Protect Special Status Species**, **#BIO 2: Protection of Riparian Vegetation**, **#BIO 3 Minimizing of Impacts to Aquatic Habitat and Species During Dewatering of the Project Site** and **#BIO-12 Woody Debris**. Indirect protection will also be afforded to this species through implementation of **Mitigation Measure #BIO 6: Tree Diameter Limits** which requires the retention of large tress that provide both nesting sites for avian species along with shade within riparian zones and other portions of the Phase I and Phase II project area. In addition, preconstruction surveys for this species will be conducted in order to determine its occurrence within project impact areas so that avoidance measures can be taken. In addition, preconstruction surveys for this species will be conducted in order to determine its occurrence within project impact areas so that avoidance measures can be taken.

WESTERN POND TURTLE *(Actinemys mamorata):* [7,11,] The Western Pond Turtle is listed as a Species of Special Concern throughout California. This species requires some slack or slow water aquatic habitat and some lotic sites but is relatively uncommon within high gradient streams that occur within the project area. The steepness of steam gradients within that portion of Tehama County where project work will occur result in water temperatures, current velocities, and food source limitations which reduce the species local distribution. Habitat quality seems to vary with the availability of aquatic basking sites. Hatchlings (i.e. individuals through their first year of activity) require shallow water habitat with relatively dense submergent or short emergent vegetation in which to forage. Western Pond Turtles also require an upland oviposition site in the vicinity of the aquatic site. Suitable oviposition sites must have the proper thermal and hydric environment for incubation of the eggs. No impacts to this species are anticipated with the implementation of **Mitigation Measures #BIO-1 General Measures to Protect Special Status Species**, **#BIO 2: Protection of Riparian Vegetation**, **#BIO 3 Minimizing of Impacts to Aquatic Habitat and Species During Dewatering of the Project Site** and **#BIO-12 Woody Debris**. Indirect protection will also be afforded to this species through implementation of **Mitigation Measure #BIO 6: Tree Diameter Limits** which requires the retention of large tress that provide both nesting sites for avian species along with shade within riparian zones and other portions of the Phase I and Phase II project area. In addition, preconstruction surveys for this species will be conducted in order to determine its occurrence within project impact areas so that avoidance measures can be taken.

PACIFIC TAILED FROG *(Ascaphus truei):* [4] The Pacific Tailed Frog is classified as a California Species of Special Concern in the upper Sacramento River system. *A.* truei habiata normally consists of permanent streams having relatively low water temperatures. Intermittent streams are most often found to provide unsuitable habitat for this species. Tailed frogs are most often found in forested assemblages dominated by old growth stands of Douglas fir, Ponderosa pine, and western hemlock which possess the

habitat structure most likely to create the low temperature and clear water conditions required by A. *truei.* The ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** area consist of second growth mixed conifer stands and pockets of dense chaparral which is less suitable habitat for this species. If individuals of A. truei exist in any of the project area's aquatic or riparian zones, they will be protected through the implementation of **Mitigation Measures #BIO-1 General Measures to Protect Special Status Species**, **#BIO 2: Protection of Riparian Vegetation**, **#BIO 3 Minimizing of Impacts to Aquatic Habitat and Species During Dewatering of the Project Site** and **#BIO-12 Woody Debris**. Indirect protection will also be afforded to this species through implementation of **Mitigation Measure #BIO 6: Tree Diameter Limits** which requires the retention of large tress that provide both nesting sites for avian species along with shade within riparian zones and other portions of the Phase I and Phase II project area. In addition, preconstruction surveys for this species will be conducted in order to determine its occurrence within project impact areas so that avoidance measures can be taken.

SIERRA NEVADA YELLOW-LEGGED FROG (Rana sierrae): [1,4] Formerly *Rana muscosa* - Mountain Yellow-legged Frog. The Sierra Nevada yellow-legged frog is a DFG Species of Special Concern. Populations north of a ridge dividing the middle and south forks of the Kings River are now considered to be a new species ofRana sierrae, the Sierra Nevada yellow-legged frog (Vredenburg et al. 2007). *Rana sierrae* ranges from the Diamond Mountains northeast of the Sierra Nevada in Plumas County, California, south through the Sierra Nevada to southern-most locality at Matlock Lake just east of Kearsarge Pass (Inyo County, California). Several populations occur just north of the Feather River. This aquatic species is always encountered within a few feet of water and is associated with streams, lakes and ponds in montane riparian, and a variety of other habitats. Breeding begins after ice-melt and can range from April at lower elevations to June and July in higher elevations. The length of the larval stage depends upon the elevation. At lower elevations tadpoles are able to grow to metamorphosis in a single season. At higher elevations tadpoles may take 2 or 4 years of growth before they are large enough to transform. Significant seasonal movements or migrations have not been reported for this species. In the event that individuals of this species are present within the riparian corridors of the project area, they will be protected through the implementation of **Mitigation Measures #BIO-1 General Measures to Protect Special Status Species**, **#BIO 2: Protection of Riparian Vegetation**, **#BIO 3 Minimizing of Impacts to Aquatic Habitat and Species During Dewatering of the Project Site** and **#BIO-12 Woody Debris**. Indirect protection will also be afforded to this species through implementation of **Mitigation Measure #BIO 6: Tree Diameter Limits** which requires the retention of large tress that provide both nesting sites for avian species along with shade within riparian zones and other portions the Phase I and Phase II project area. In addition, preconstruction surveys for this species will be conducted in order to determine its occurrence within project impact areas so that avoidance measures can be taken.

CALIFORNIA NEWT *(Taricha torosa):* [7] The California Newt can be found in Northern California from sea level to above 6,000'. This population lives in moist forests as a terrestrial, non-breeding *eft*. They can also be found in aquatic zones as a breeding aquatic *newt*. During the late summer and fall months, this species has a terrestrial existence, hiding under logs and in rock crevices. After the first winter rains, the terrestrial efts will migrate to water for breeding. Once in the water, they will transform into an aquatic newt utilizing small and large pools. The California Newt is somewhat resistant to predation due to their toxicity. Impacts to this species are not anticipated with the implementation of **Mitigation Measures #BIO-1 General Measures to Protect Special Status Species**, **#BIO 2: Protection of Riparian Vegetation**, **#BIO 3 Minimizing of Impacts to Aquatic Habitat and Species During Dewatering of the Project Site** and **#BIO-12 Woody Debris**. Indirect protection will also be afforded to this species through implementation of **Mitigation Measure #BIO 6: Tree Diameter Limits** which requires the retention of large tress that provide both nesting sites for avian species along with shade within riparian zones and other portions of the Phase I and Phase II project area. In addition, preconstruction surveys for this species will be conducted in order to determine its occurrence within project impact areas so that avoidance measures can be taken.

WESTERN SPADEFOOT TOAD *(Spea hammondii):* [7] Western spadefoot toads require two distinct habitat components to complete their life cycle and these normally need to be in close proximity. These include the presence of an aquatic habitat for breeding and a terrestrial habitat for feeding and estivation. Western spadefoot toads are mostly terrestrial using upland habitats to feed and burrow in for their long dry-season dormancy. Current research on amphibian conservation suggests that average terrestrial habitat use is within 1,207' of aquatic habitats. Western spadefoot toads lay their eggs in a variety of permanent and temporary wetlands including rivers, creeks, pools in intermittent streams, vernal pools, and temporary rain pools as well as stock ponds. This species reproduces in water when temperatures are between (48°F and 86°F), and water must be present for more than three weeks for metamorphosis to be completed. Optimal habitat used for reproduction must be free of native and nonnative predators such as fishes,bullfrogs, and crayfishes.

Western spadefoot toads select areas with sandy or gravelly soil with open vegetation and short grasses. Examples of vegetation communities where this species may occur include valley and foothill grasslands, open chaparral, and pine-oak woodlands. Areas of impact related to this project are within dense stands of young second growth mixed conifer species, white fir thickets and decadent chaparral. In the event that individuals of this species are present within the riparian corridors of the project area, they will be protected through the implementation of **Mitigation Measures #BIO-1 General Measures to Protect Special Status Species**, **#BIO 2: Protection of Riparian Vegetation**, **#BIO 3 Minimizing of Impacts to Aquatic Habitat and Species During Dewatering of the Project Site** and **#BIO-12 Woody Debris**. Indirect protection will also be afforded to this species through implementation of **Mitigation Measure #BIO 6:**

Tree Diameter Limits which requires the retention of large tress that provide both nesting sites for avian species along with shade within riparian zones and other portions of the Phase I and Phase II project area. In addition, preconstruction surveys for this species will be conducted in order to determine its occurrence within project impact areas so that avoidance measures can be taken.

Reptiles

GOPHER SNAKE *(Pituophis catenifer):* [7]Gopher Snakes emerge in late March or early April and are typically one of the first snakes to be found active away from overwintering sites. Young start to appear in late August or early September. Activity continues into late October depending on location and weather conditions. Gopher Snakes are primarily a species of dry habitat types such as Ponderosa pine forests. They spend a great deal of time below the surface in animal burrows and often utilize roads and other open areas for basking in the late afternoon and early evening. It is anticipated that the survey and protection requirements of **Mitigation Measures#BIO-1 General Measures to Protect Special Status Species**, **#BIO 2: Protection of Riparian Vegetation** will project related impacts on this species to a less than significant level.

CALIFORNIA MOUNTAIN KING SNAKE (*Lampropeltis zonata):* [7] California Mountain Kingsnakes are found within mountainous areas throughout their range. This snake inhabits moist woods from sea level to extremely high elevations. In the southern portion of their range, the Kingsnake prefers coniferous forests and woodlands above 3,000'. This species appears to prefer rocky areas but is also beneath logs and under bark. Lampropeltis zonata prefers southwestern facing slopes and often retreats under rocks. It will eat lizards, snakes, birds and their eggs along with small mammals. Eggs are laid in June and July. Per **Mitigation Measure #BIO 6: Tree Diameter Limits**, no large trees will be removed in the execution of project work.

COMMON GARTER SNAKE (*Thamnophis sirtalis):* [1,3,5,7] Common garter snakes are very widespread, highly adaptable and can survive extreme environmental conditions. They are found in a wide variety of habitats, including meadows, marshes, woodlands, and hillsides. They tend to prefer moist, grassy environments and are often found near water, such as near the edges of ponds, lakes, and streams. These snakes begin mating in the spring as soon as they emerge from hibernation. Gestation is usually two to three months. Most females in the northern part of their range give birth to from 4 to 80 young between late July and October. Outside of protected riparian zones, the project area is very dry and unlikely to harbor this species. If individuals of this species do inhabit the project area protection will be afforded through the implementation of applicable Best Management Practices described above along with **Mitigation Measures #BIO-1 General Measures to Protect Special Status Species**, **#BIO 2: Protection of Riparian Vegetation**, **#BIO 3 Minimizing of Impacts to Aquatic Habitat and Species During**

Dewatering of the Project Site and **#BIO-12 Woody Debris**. Indirect protection will also be afforded to this species through implementation of **Mitigation Measure #BIO 6: Tree Diameter Limits** which requires the retention of large tress that provide both nesting sites for avian species along with shade within riparian zones and other portions of the Phase I and Phase II project area.

RUBBER BOA (Charina bottae): [4,] The Rubber boa occurs throughout California at elevations ranging from sea level to 9,040'. The species is found in a variety of montane forest habitats including Ponderosa pine, hardwood, hardwood-conifer, Douglas fir, mixed conifer and riparian, montane chaparral as well as wet meadow habitats. It is usually found in the vicinity of streams, wet meadows or within or under surface objects with good moisture-retaining properties such as rotting logs. Young are born in loose, well aerated soil, under surface objects, or within rotting logs. Breeding occurs from April to June. Young are born alive from late summer to late November. The riparian habitats used by this species found within the Phase I and Phase II project area will be protected through the implementation of **Mitigation Measures #BIO-1 General Measures to Protect Special Status Species**, **#BIO 2: Protection of Riparian Vegetation**, **#BIO 3 Minimizing of Impacts to Aquatic Habitat and Species During Dewatering of the Project Site** and **#BIO-12 Woody Debris**. Indirect protection will also be afforded to this species through implementation of **Mitigation Measure #BIO 6: Tree Diameter Limits** which requires the retention of large tress that provide both nesting sites for avian species along with shade within riparian zones and other portions of the Phase I and Phase II project area.

STRIPED RACER (*Masticophis lateralis*): [2,4] The Striped Racer also known as the California whipsnake is found the length of the Sierra Nevada as well as the Southern portion of the Cascades. It is also found within the northern portion of the Central Valley. This species habitat elevation ranges from sea level to 6,020'. It prefers mixed chaparral, chemise-redshank chaparral and valley-foothill riparian habitats as well as valley-foothill hardwood and hardwood-conifer and various coniferous habitats. It forages actively on the surface and occasionally climbs in shrubby vegetation or small trees. During periods of inactivity individuals seek cover under surface objects or in crevices of rock outcrops. *Masticophis lateralis* prefers open-canopy stands with woody debris and rock outcrops on south facing slopes. In the event that individuals of this species are present within the riparian corridors of the project area, they will through the implementation of **Mitigation Measures #BIO-1 General Measures to Protect Special Status Species**, **#BIO 2: Protection of Riparian Vegetation**, **#BIO 3 Minimizing of Impacts to Aquatic Habitat and Species During Dewatering of the Project Site** and **#BIO-12 Woody Debris**. Indirect protection will

also be afforded to this species through implementation of **Mitigation Measure #BIO 6: Tree Diameter Limits** which requires the retention of large trees that provide both nesting sites for avian species along with shade within riparian zones and other portions of the Phase I and Phase II project area. Any large woody debris found within the project area will be uncut and left on site.

Fishes

Central Valley SPRING RUN CHINOOK SALMON (Oncorhynchus tshawytscha) [2,4,7] Impacts to this species are not anticipated with the implementation of various Best Management Practices along with **Mitigation Measures #BIO-1 General Measures to Protect Special Status Species**, **#BIO 2: Protection of Riparian Vegetation**, **#BIO 3 Minimizing of Impacts to Aquatic Habitat and Species During Dewatering of the Project Site** and **#BIO-12 Woody Debris**. Indirect protection will also be afforded to this species through implementation of **Mitigation Measure #BIO 6: Tree Diameter Limits** which requires the retention of large tress that provide both nesting sites for avian species along with shade within riparian zones and other portions of the Phase I and Phase II project area.

CENTRAL VALLEY DPS WINTER RUN STEELHEAD TROUT (Oncorhynchus mykiss irideus) [2,7] Measures developed to protect this species are the same as those developed to protect Oncorhynchus tshawytscha

RIFFLE SCULPIN (Cottus gulosus) [7] The Riffle sculpin is found in headwater streams with cold water and rocky or gravelly substrate. They prefer permanent streams where the water does not exceed 25-26°C, and where ample flow keeps the dissolved oxygen level near saturation. Riffle sculpins may occupy riffles or pools, though they tend to favor areas that have adequate cover in the form of rocks, logs, or overhanging banks. These fish have similar habitat requirements similar to those of rainbow trout and are often found in association with them. This species is an opportunistic feeder that may pursue prey by night or ambush during the day. The diet of a sculpin may include amphipods, benthic invertebrates, fish, and various stages of caddisflies and mayflies. California, populations are increasingly isolated from one another and subject to local extirpation; the species is quite vulnerable to habitat changes that reduce flows or increase temperatures. Populations show considerable ability to recover (slowly) from declines caused by drought or toxic substances and can live in cold permanent flows immediately below dams. If this species is present within any of the permanent streams located within the Phase I or Phase II project area, an array of Best Management Practices along with **Mitigation Measures #BIO-1 General Measures to Protect Special Status Species**, **#BIO 2: Protection of Riparian Vegetation**, **#BIO 3 Minimizing of Impacts to Aquatic Habitat and Species During Dewatering of the Project Site** and **#BIO-12 Woody Debris** will be implemented. Indirect protection will also be afforded to this species through implementation of **Mitigation**

Measure #BIO 6: Tree Diameter Limits which requires the retention of large tress that provide both nesting sites for avian species along with shade within riparian zones and other portions of the Phase I and Phase II project area.

SACRAMENTO HITCH (Lavinia exilicauda exilicauda) [7] Sacramento hitch inhabit warm, lowland, waters including clear streams, quite stretches of rivers, turbid sloughs, lakes and reservoirs. This species is sometimes found in cool and clear, low-gradient streams, hiding among aquatic vegetation in sandy runs or pools. They are the most heat tolerant of the native Central Valley fishes and can withstand water temperatures greater than 30°C under some conditions. Within a pristine system hitch often share habitat with Sacramento blackfish, Sacramento suckers, and Sacramento pikeminnows. In altered systems hitch are found among introduced species like mosquitofish, catfish, and centrarchids. In a stream, the hitch may use its upturned mouth to feed in the water column or to feed on the surface for insects. Juveniles typically live in shallow vegetated areas near shore, while the older fish (>80 days) live in deeper offshore waters. Young hitch may shoal for the first two months of residency in a lake. The diet of a limnetic (lake-dwelling) hitch may include zooplankton, crustaceans, or various forms of insects. Spawning typically happens in the tributaries to lakes and rivers, and may begin as early as February and end as late as July. The presences of the Sacramento Hitch are not anticipated as the streams within the project area, have genrally high gradient beds and there are no lakes or ponds within the Phase I and Phase II project area. If this species is found to be present within any portion of the overall project area, the array of Best Management Practices along with the Mitigation Measures described above under Riffle Sculpin will be implemented.

HARDHEAD (Mylopharodon concephalus)[7] Hardhead are often found at low to mid-elevations in relatively undisturbed habitats of larger streams with high water quality (clear, cool). In the Sacramento River system, they are common in both the mainstem and tributaries up to 4,921' in elevation. This stream-dwelling species is often found in small aggregations within pools actively feeding at the water's surface, holding in moving water to feed on drifting material, or browsing from the benthos. Adults tend to school in the deepest part of pools, cruising about slowly during the day. They are most active when feeding, in early morning and evening. In small streams, they seldom move more than one kilometer away from home pools, except when spawning. Summer temperatures in rivers where they are common reach 20· C, below optimal temperatures (24-28·). This species prefers pools and runs with deep clear water, slow velocities and sand-gravel-boulder substrates. Adults generally occupy the lower half of the water column in streams but may stay close to the surface in reservoirs. Although still widespread in California many populations of Hardhead are likely declining and most are small and isolated, with exceptional vulnerability to climate change. At the present time, the closest sighing of hardhead is east of the project area. If this species is found to be present within any portion of the Phase I and Phase II project area, it is anticipated that the implementation of erosion and sediment control measures along Ponderosa Way will significantly reduce

the introduction of sediment into the streams found within eastern Tehama County. In addition, future storm flows will flush accumulated excess sediment out of these aquatic systems thus improving pools and other habitat for this species. Finally, the array of Best Management Practices along with the Mitigation Measures described above under Riffle Sculpin will be implemented.

SACRAMENTO-SAN JOAQUIN TULE PERCH (Hysterocarpus traski traski)[7]

Tule perch are most often found in low-elevation lakes, streams, and estuarine environments. They typically require cool, well oxygenated water. These fish prefer water temperatures below 22°C and are scarce in water that exceeds 25°C. Within a river or stream tule perch tend to occupy deep pools that have complex cover in the form of aquatic and overhanging vegetation. They feed on invertebrates, plants, and zooplankton, mostly by swimming along the bottom of the stream. The perch may move into faster water for feeding by occupying small eddies and backwaters behind rocks and boulders. Tule perch tend to share habitat with other native fish. In lakes tule perch favor deep water and areas where a slight flow might exist from water entering and exiting the basin. In addition, these fish are found near tules in areas where the lake floor is made up of gravel and or sand. Tule perch may form shoals or schools, and are often found associated with centrarchids. Dietary components in various types of water may include shrimp, crabs, clams, chironomid midges, and aquatic insects. In addition to reducing road related sediment flows generated along Ponderosa Way and other interconnecting wildland roads, this project will result in the stabilization of soils within riparian corridors that are now impacted by both catastrophic and chronic sediment flows. As a result, it is anticipated that increased and more diverse stands of riparian vegetation will develop along project area stream channels thus improving conditions for this species. Additional protection to biological resources found within the project area will be provided by the array of Best Management Practices and Mitigation Measures described above under Riffle Sculpin.

PACIFIC LAMPREY Entosphenus tridentatus[7] Pacific lampreys habitat requirements include cold, clear water for spawning and incubation. They also require a wide range of habitats across life stages. In general, peak spawning appears to be closely tied to water temperatures that are suitable for early development but can occur at temperatures above 22· C. Consequently, water temperature may be important in determining ammocoete abundance. Juveniles can persist in flows of up to 40 cm/s but are generally most common at velocities of 20-30 cm/s. Adults use gravel areas to build nests, while ammocoetes need soft sediments in which to burrow during rearing. Nests are generally associated with cover, including gravel and cobble substrates, vegetation and woody debris. Likewise, most nests observed were observed in pool-tail outs, low gradient riffles and runs. Pacific lamprey embryos hatch at a wide range of temperatures (10-22· C). However, in the laboratory, time from fertilization to hatching was around 26 days at 10· C and around 8 days at 22·C. Survival of embryos was highest at temperatures ranging from 10 to 18·C. Survival declined sharply, with a significant increase in abnormalities, at 22 C. Ammocoetes burrow into larger substrates as they grow. Ammocoetes also need detritus that produces algae for food and habitats with slow or moderately slow water velocities (0-10 cm/s; such as low gradient riffles, pool

tailouts and lateral scour pools Adults can climb over waterfalls and other barriers, using their sucking disc, as long as there is a rough surface and some amount of flow. These features are rarely present on dams, so even small dams or fish ladders can be barriers if not designed with surfaces and features that allow climbing. Pacific lampreys are in decline throughout their range in California. However, they are still widespread so the species does not appear in immediate danger of extinction in the state. Some local or regional (e.g., southern California) populations may face considerably higher threat of extirpation in the near future. As is the case with other aquatic species found within the Phase I and Phase II project area, it is anticipated that increased and more diverse stands of riparian vegetation will develop along project area stream channels thus improving conditions for this species. Additional protection to biological resources found within the project area will be provided by the array of Best Management Practices and Mitigation Measures described above under Riffle Sculpin.

Avian Species

GOLDEN EAGLE *(Aquila chrysaetos):* [5,11,12] Golden eagle habitat within the Northern interior of California consists of rolling foothills and mountain terrain, wide arid plateaus deeply cut by streams and canyons, open mountain slopes, cliffs, and rock outcrops. The golden eagle requires open terrain for hunting such as grasslands, savannahs, early successional stage forests, and shrubland habitats. Cover generally takes the form of secluded cliffs with overhanging ledges, as well as large trees used for cover. Nest sites are normally located on cliffs of all heights, and in large trees in open areas. Breeding occurs from late-January through August, and peaks between March and July. In addition to general Mitigation Measures and Best Management Practices developed in order to protect Phase I and Phase II project area biological resources, **Mitigation Measure #BIO-7: Protection of Migratory Bird Treaty Act Species** will be implemented if project work occurs between March and August. Specific protection measures have also been established per the provisions of **#BIO-7:** if such species are found. In addition, **Mitigation Measure #BIO-8: Raptor Protection** provides protection for both listed and non-listed raptor species while **Mitigation Measure #BIO-6: Tree Diameter Limits Related to Nesting Species** will require the retention of trees over 10" in dimeter in order to provide both shade within riparian areas along with sites for raptor nesting perches.

BALD EAGLE *(Haliaeetus leucocephaluss):* [3,5] Bald eagle requires large bodies of water or free flowing rivers with abundant fish. Snags, stoutly limbed or broken-topped trees, and large rocks are used as streamside hunting perches. This eagle roosts in dense, sheltered, and remote conifer stands containing large old-growth or dominant live trees having open branch work. Nesting occurs most frequently in stands with less than 40% canopy and having some foliage to shade the nest. Stick platform nests are generally built on the largest tree in a stand usually between 50' and 200' above the forest floor just below the crown. Nests are usually located near a permanent water source.

In California, it has been determined that 87% of nest sites are within 1 mile of water. The bald eagle's breeding period is between February and July, with peak activity between March and June. Nesting does not normally occur if human disturbance is evident, which was common within the Phase I project area prior to the development of large sediment plumes that now block Ponderosa Way between Forward Road and State Route 36E. That portion of Ponderosa Way within the Phase II area continues to receive intermittent traffic related to land management activities, along with hunters and other recreationists which reduce the potential for this species to inhabit that portion of the overall project area. The Phase II area also experiences activity related to scattered timber harvest operations within private timberlands adjacent to this portion of the overall project area. In addition to general Mitigation Measures and Best Management Practices developed in order to protect Phase I and Phase II project area biological resources, **Mitigation Measure #BIO-7: Protection of Migratory Bird Treaty Act Species** will be implemented if project work occurs between March and August. Specific protection measures have also been established per the provisions of **#BIO-7:** if such species are found. In addition, **Mitigation Measure #BIO-8: Raptor Protection** provides protection for both listed and non-listed raptor species while **Mitigation Measure #BIO-6: Tree Diameter Limits Related to Nesting Species** will require the retention of trees over 10" in dimeter in order to provide both shade within riparian areas along with sites for raptor nesting perches.

NORTHERN GOSHAWK (*Accipiter gentilis*),[7,12] Northern goshawk is known to live in a variety of coniferous habitats, preferring to nest in dense stands and to forage in open to moderate stands. The species occupies dense middle and high elevation old growth conifer forests. Nest sites are located near riparian areas and open meadows containing water, and are interspersed within the densest portions of forested areas. It also utilizes large live trees with diameters of 11" and greater for nesting sites during their breeding period of April through mid-June. In addition to general Mitigation Measures and Best Management Practices developed in order to protect Phase I and Phase II project area biological resources, **Mitigation Measure #BIO-7: Protection of Migratory Bird Treaty Act Species** will be implemented if project work occurs between March and August. Specific protection measures have also been established per the provisions of **#BIO-7:** if such species are found. In addition, **Mitigation Measure #BIO-8: Raptor Protection** provides protection for both listed and non-listed raptor species while **Mitigation Measure #BIO-6: Tree Diameter Limits Related to Nesting Species** will require the retention of trees over 10" in dimeter in order to provide both shade within riparian areas along with sites for raptor nesting perches.

OSPREY *(Pandion haliaetus):*[14] Osprey is associated strictly with large, open, and clear fish-bearing waters, primarily in Ponderosa pine and mixed conifer habitats which are used for foraging. Regular breeding sites include inland lakes, reservoirs, and river systems. The species preys mostly on fish, along with a few mammals, birds, reptiles, amphibians, and invertebrates. It uses large trees, snags, and dead-topped trees in open forest habitats for nesting and cover. Nesting occurs on a platform nest made of sticks at the top of large snags, dead-topped trees, cliffs, and human made structures. Nests may be as much as (250') above ground or occasionally at ground level. Nest sites are normally within 1,300' of fish-producing

water, but nesting may occur up to 1 mile from water. Tall, open-branched trees are needed for landing before approaching the nest, and are used by young for flight practice. Nest trees average 68" in diameter in northern California. Nest heights average 135'. Osprey arrive on their nesting grounds from mid-March to early-April, and generally breed from March to September. In addition to general Mitigation Measures and Best Management Practices developed in order to protect Phase I and Phase II project area biological resources, **Mitigation Measure #BIO-7: Protection of Migratory Bird Treaty Act Species** will be implemented if project work occurs between March and August. Specific protection measures have also been established per the provisions of **#BIO-7:** if such species are found. In addition, **Mitigation Measure #BIO-8: Raptor Protection** provides protection for both listed and non-listed raptor species while **Mitigation Measure #BIO-6: Tree Diameter Limits Related to Nesting Species** will require the retention of trees over 10" in dimeter in order to provide both shade within riparian areas along with sites for raptor nesting perches.

PRAIRIE FALCON (*Falco Mexicanus*):[14] Prairie falcon is an uncommon permanent resident that ranges from southeastern deserts northwest throughout the Central Valley and along the inner Coast Ranges and Sierra Nevada. Its habitat includes annual grasslands to alpine meadows, but it is primarily associated with perennial grasslands, savannahs, rangeland, and some agricultural fields. The prairie falcon diet consistsprimarily of small mammals, some small birds, and reptiles. It catches prey in air and at ground level in open areas after diving from a perch with rapid pursuit, or dives from searching flight 50' to 300' above ground. Sheltered cliff ledges are preferred for cover, and usually nests in a scrape of a sheltered cliff ledge bluff or rock outcrop. The prairie falcon uses open terrain for foraging, nests in open terrain with canyons, cliffs, escarpments, and rock outcrops, and breeds from mid-February through mid-September, with peak April to early-August. Per the provisions of **Mitigation Measure #BIO-6: Tree Diameter Limits Related to Nesting Species**, no trees suitable for nesting and cover will be removed in connection with project work. In addition to general Mitigation Measures and Best Management Practices developed in order to protect Phase I and Phase II project area biological resources, **Mitigation Measure #BIO-7: Protection of Migratory Bird Treaty Act Species** will be implemented if project work occurs between March and August. Specific protection measures have also been established per the provisions of **#BIO-7:** if such species are found. In addition, **Mitigation Measure #BIO-8: Raptor Protection** provides protection for both listed and non-listed raptor species while **Mitigation Measure #BIO-6: Tree Diameter Limits Related to Nesting Species** will require the retention of trees over 10" in dimeter in order to provide both shade within riparian areas along with sites for raptor nesting perches.

PEREGRINE FALCON (*Falco peregrimus*): [8 Peregrine] falcon is a fully protected species, and prefers riparian areas and wetlands near cliff ledges for cover and breeding. Large tree snags are preferred for perching, none of which will be removed in connection with project work. Their breeding period is from March to late-August. In addition to general Mitigation Measures and Best Management Practices developed in order to protect Phase I and Phase II project area biological resources, **Mitigation Measure**

#BIO-7: Protection of Migratory Bird Treaty Act Species will be implemented if project work occurs between March and August. Specific protection measures have also been established per the provisions of **#BIO-7:** if such species are found. In addition, **Mitigation Measure #BIO-8: Raptor Protection** provides protection for both listed and non-listed raptor species while **Mitigation Measure #BIO-6: Tree Diameter Limits Related to Nesting Species** will require the retention of trees over 10" in dimeter in order to provide both shade within riparian areas along with sites for raptor nesting perches.

SHORT-EARED OWL *(Asio flammeus):* [7] Short-eared owl inhabits open spaces such as grasslands, prairie, agricultural fields, mountain meadows, and alpine tundra. Nests are located on ridges and mounds within dry sites supporting vegetation that conceal incubating females. Suitable nesting habitat is characterized by herbaceous vegetation that is tall and dense enough to conceal the incubating female, and for daytime cover. Breeding habitat must have sufficient ground cover to conceal nests and nearby sources of small mammals for food. Communal roosts occur in old growth fields, along thick hedgerows, in overgrown rubble in abandoned fields, or in clumps of dense conifers. These owls tend to roost in trees only when snow covers the soil surface. Foraging habitat is similar to nesting habitat and includes grasslands, prairies, marshlands, and seasonal wetlands. Breeding habitat must have sufficient ground cover to provide sources of small mammals for food. Per the provisions of **Mitigation Measure #BIO-6: Tree Diameter Limits Related to Nesting Species**, no trees suitable for nesting and cover will be removed inconnection with project work. If this species is found within any portion of the Phase I and Phase II project area, those protection measures described under golden eagle above will be implemented to protect this raptor species.

GREAT GRAY OWL *(Strix nebulosa):* [3] The traditional range of great gray owl is from Plumas County south through the Sierra Nevada range although individuals have been found in northwestern California and the Warner Mountains. California Department of Fish and Wildlife personnel indicate that the range of this species overlaps the project area. This owl breeds in old growth red fir, mixed conifer, or lodgepole pine habitats normally in the vicinity of wet meadows. Great gray owl nests in large trees and snags within approximately 820' of wet meadows, primarily within 328' of a given meadow edge. Nesting typically occurs in broken topped trees and snags 24" diameter and greater. Peak egg laying period is generally from March through May. In addition to general Mitigation Measures and Best Management Practices developed in order to protect Phase I and Phase II project area biological resources, **Mitigation Measure #BIO-7: Protection of Migratory Bird Treaty Act Species** will be implemented if project work occurs between March and August. Specific protection measures have also been established per the provisions of **#BIO-7:** if such species are found. In addition, **Mitigation Measure #BIO-8: Raptor Protection** provides protection for both listed and non-listed raptor species while **Mitigation Measure #BIO-6: Tree Diameter Limits Related to Nesting Species** will require the retention of trees over 10" in dimeter in order to provide both shade within riparian areas along with sites for raptor nesting perches.

CALIFORNIA SPOTTED OWL *(Strix occidentalis occidentalis):* [7] California spotted owl is an opportunistic hunter, successfully utilizing a prey base dominated by high-density populations of wood rats in California Sierran forests. Spotted owls are known to supplement their diet with a wide variety of nocturnal, diurnal, and crepuscular prey species. This adaptability in habitat use and prey variation is a key factor in their continued viability. They usually search for prey from a perch and swoop or pounce in vegetation or on the ground. This owl will also cache excess food. Their roosting habitat appears to be related closely to their thermoregulatory needs, and include a variety of habitat types. During project related work, the raptor protection measures established under **Mitigation Measure #BIO-8: Raptor Protection** will be implemented along with those described under golden eagle to protect this raptor species.

PURPLE MARTIN (*Progne subi):* [7] Purple martin is a summer resident in a variety of wooded, low-elevation habitats including valley foothill and montane hardwood, along with valley foothill and montane hardwood-conifer. Their breeding period is from April into August, with peak activity in June. Coniferous habitats, such as Ponderosa pine and Douglas fir, are also used, in addition to riparian areas. This species inhabits open forests, woodlands, and riparian areas during their breeding season. Purple martin often nests in tall, old trees near water bodies, or in old woodpecker cavities. Nests are also found in tall, old, isolated trees, or in open old-growth, multi-layered, forests containing snags. These sites will be protected through implementation of **Mitigation Measure #BIO-6: Tree Diameter Limits Related to Nesting Species**.Purple Martin forages over riparian areas which will be protected through implementation of **Mitigation Measure #BIO-2: Protection of Riparian Vegetation**.

BLACKED-BACKED WOOD PECKER *(Picoides arcticus)*: [15] Black-backed woodpecker inhabits boreal and montane forests across much of the northern tier of North America. In California, they are known to inhabit forests above 5,000' in elevation from Tulare County to the Oregon border. Their medium-size generally requires large-scale forest disturbance, specifically fire-prone landscapes, as preferred habitat. They are found in recently fire-killed or insect-killed patches of trees which have had time to develop insect infestations for foraging and nesting. Black-backed woodpecker feed on mostly wood-boring insects, and their larvae, in the trunks of trees and logs. Tree cavities are utilized for nesting, and are generally about 2.75" in diameter built 6' to 12' above the ground. New nests are excavated each breeding season, which normally runs from April to July 15, with nests usually excavated in May. Since the majority of the project area is below 5,000', it is unlikely that black-backed woodpecker is present within treatment areas. In addition, no trees or snags over 10" in diameter will be removed per the provisions of **Mitigation Measure #BIO-6: Tree Diameter Limits Related to Nesting Species.** No large trees or snags will be removed from the project area unless approved by the RCDTC Project Manager or other implementing entity's personnel.

WILLOW FLYCATCHER (*Empidonax traillii*): [1,3] Willow flycatcher breeding habitat occurs within and adjacent to forested habitats. The species has historically nested throughout much of California where mesic willow thickets are found. Habitat requirements for willow flycatcher typically consist of riparian habitat often dominated by willows (salix spp), and/or alder (Alnus spp). In addition, permanent water, often in the form of low gradient watercourses, ponds, lakes, wet meadows, marshes, and seeps within and adjacent to forested landscapes are also required elements for breeding habitat. Loss, fragmentation, and modification of riparian breeding habitat are thought to have resulted in a decline of willow flycatcher numbers. Large scale losses of wetlands have occurred, especially those associated with riverine systems in both valley and montane habitats. Through the implementation of road related erosion and sediment control projects developed in the Ponderosa Way Road Assessment and Sediment Reduction Plan of action document it is anticipated that impacts attributable to current catastrophic sediment flows within the Phase I project area along with chronic flows currently being generated within the Phase II area will be controlled or at a minimum reduced in volume.

OLIVE-SIDED FLYCATCHER: (*Contopus cooperi*)[7] Olive-sided flycatcher is a summer resident in a wide variety of forest and woodland habitats below 9,000' throughout California. It is most numerous in montane conifer forests where tall trees overlook canyons, meadows, lakes, or other open terrain. Preferred nesting habitats include mixed conifer, montane hardwood-conifer, Douglas fir, red fir, and lodgepole pine forests. The Olive-Side Flycatcher's peak egg laying period is in June. This species feeds on flying insects over forest canopy or adjacent meadows, clearings, or shrub-covered slopes. Olive-sided flycatcher requires large, tall trees for nesting, roosting sites, singing posts, and hunting perches. These sites will be protected through the implementation of **Mitigation Measure #BIO-6: Tree Diameter Limits Related to Nesting Species**. Nests are most often created in an open cup of grasses, mosses, lichens, rootlets, or pine needles placed in a conifer 5'-70' above ground on a horizontal limb. In addition, **Mitigation Measure #BIO 7: Protection of Migratory Bird Treaty Act Species** will be implemented.

LOGGERHEAD SHRIKE: (*Lanius ludovicianus*): [1, 7] Loggerhead shrikes require open land with lookout perches for hunting, preferring areas with short vegetation such as pastures, lawns, and freshly-plowed fields. They also prefer sites with a variety of vegetation types and land uses, nesting in dense, brushy vegetation, either in hedgerows or isolated trees adjacent to feeding areas and roadsides. For nest site selection, the amount of cover provided is more important than the type of plant. The nest is usually well hidden and located on top of an existing nest. Completion of Project work will open parts of these brush stands creating hunting habitat. Adjacent forest stands and individual trees within chaparral sites that provide lookout perches will be retained and protected through the implementation of **Mitigation Measure #BIO-6: Tree Diameter Limits Related to Nesting Species**. In addition, **Mitigation Measure #BIO-7: Protection of Migratory Bird Treaty Act Species** will provide protection to those species that inhabit project impact sites that are covered under the Migratory Bird Treaty Act.

YELLOW WARBLER (*Dendroica petechia*): [7] Yellow warblers generally occupies riparian vegetation in close proximity to water along streams and in wet meadows. Throughout these areas, they are found in willows, cottonwoods, and other species of riparian shrubs or trees. Such riparian sites will be protected through the implementation of **Mitigation Measure #BIO 2: Protection of Riparian Vegetation**. Yellow Warblers also breed in xeric montane shrub fields and occasionally in the shrubby understory of mixed-conifer forest. This species appears to adapt its foraging to variation in local vegetation structure. Its diet consists largely of animal matter, including ants, bees, wasps, caterpillars, beetles, true bugs, flies, and spiders. **Mitigation Measure #BIO-7: Protection of Migratory Bird Treaty Act Species** will provide protection to those species that inhabit project impact sites that are covered under the Migratory Bird Treaty Act.

YELLOW-BRESTED CHAT (*Icteria virens*) [7] During their breeding period, yellow-breasted chat occupies early successional riparian habitats with a well-developed shrub layer and an open canopy. Vegetation structure, rather than age, appears to be the important factor in nest-site selection. Nesting habitat is usually restricted to the narrow border of streams, creeks, sloughs, and rivers, and seldom forms extensive tracts. Blackberry (*Rubus* spp.), wild grape (*Vitis* spp.), willow, and other plants that form dense thickets and tangles are frequently selected as a nesting substrate. The nest is typically placed within 3' of the ground but may be placed within trees 7' or taller. Cottonwoods (*Populus* spp.) and alders (*Alnus* spp.), are often used as song perches. Adult chats feed predominantly on insects, spiders, wild fruits, and berries. Adults feed nestlings primarily soft-bodied insects (orthopterans and larval lepidopterans). Through the control of large sediment plumes that currently migrate downslope into stream channels, the development of early successional riparian habitat will be reduced. However, it is anticipated that proposed project treatments will help to stabilize both riparian and upslope areas, thus creating a wider variety of habitat types utilized by yellow-breasted chat.

SAGE SPARROW (*Amphispiza belli*): [2,7] Habitat for this species of sparrow adheres closely to chamise dominated landscapes. As a ground-foraging omnivore during the breeding season and a ground gleaning granivore during the non-breeding season, the sage sparrow generally prefers semi-open habitats with evenly spaced shrubs 3" to 8" high rather than the tall old chaparral currently found in portions of the project area. In addition to adult and larval insects, spiders, seeds, and small fruits, this species feeds on succulent vegetation that develops after wildfires and prescribed burns. Shrub height and structure is believed to be more important to nest site choice than plant species as sage sparrow prefers taller shrub species with large canopies. Nest shrub height average between 3' and 4' above the soil surface, and nests are placed in the densest part of nest site vegetation. The occurrence of sage sparrow is reduced near edges with permanent human development. Disturbances that reduce shrub cover such as frequent fire, mechanical disruption, livestock grazing, and off-highway vehicle use appear to have negative effects on sage sparrows, although there may often be a time-lag between the disturbance and any effects due to site-fidelity. The invasion of exotic weeds can cause increased fire frequency resulting in complete loss of shrub cover and a reduction in sage sparrow populations. The potential for such impacts will be reduced through the implementation of **Mitigation Measure #BIO-10: Identification and Isolation of Invasive Plants** which requires the RCD

of Tehama County's Project Manager or other implementing entity's Project Manager to inspect project impact areas for populations of invasive plants listed by CDFA in terms of having the potential to be spread by project work. If such plant infestations are found, this measure's provisions require that such plants be either 1.) flagged and avoided during project implementation, or 2.) treated prior to project implementation. If discrete patches of Cal-IPC listed invasives are located, all equipment staging sites will be located outside of such discrete infestations. In addition, **Mitigation Measure #BIO-11: Invasive Plants and Equipment Cleaning** will be implemented. In order to prevent the spread of invasive plant species through contamination by mobile equipment to be used in the execution of project related work. **Mitigation Measure #BIO-7: Protection of Migratory Bird Treaty Act Species** will provide protection to those species that inhabit project impact sites that are covered under the Migratory Bird Treaty Act.

GRASSHOPPER SPARROW (*Ammodramus savannarum):* [7] Grasshopper sparrow occurs in dry, dense, grasslands, especially those containing a mix of native grasses and forbs growing on hillsides or mesas. Tall forbs and scattered shrubs are used for singing perches. Grasshopper sparrow feeds primarily on insects, especially Orthoptera, other invertebrates, as well as grass and forb seeds. Foraging occurs by scratching in soil and ground litter within the low foliage of relatively dense grasslands. A thick cover of grasses and forbs is essential for its concealment. Nesting material consists of grasses and forbs in slight soil depressions hidden at the base of overhanging clumps of grasses and forbs. It uses scattered shrubs for singing perches. Their breeding period is from early-April to mid-July, with a peak in May and June. It is anticipated that once road related erosion and sediment generation is controlled within the Phase I project area, the large sediment plumes that now inundate large expanses of grass and brush lands will be stabilized, thus preventing or reducing their expansion and potential to impact additional lands. Such stabilization will also allow currently impacted lands to become revegetated with native species that are endemic to these sites. **Mitigation Measure #BIO-7: Protection of Migratory Bird Treaty Act Species** will provide protection to those species that inhabit project impact sites that are covered under the Migratory Bird Treaty Act.

SONG SPARROW *(Melospiza melodia)* [7] Song sparrow is a common resident throughout California with the exception of higher mountains and southern deserts. During all seasons, this species prefers riparian emergent wetland, and wet meadow habitats. It breeds in riparian thickets of willows, shrubs, vines, tall herbs, and in emergent vegetation. During the winter, song sparrow may be found far from water in open habitats with thickets of shrubs or tall herbs avoiding densely wooded habitats, except along forest edges. It usually forages on the ground or in low vegetation, under cover of dense thickets or wetland vegetation, sometimes a short distance from cover. Males typically sing from exposed perches at moderate heights in shrubs, tall herbs, or low trees. Song sparrow will nest in shrubs, thickets, emergent vegetation, and small trees, usually within 4' of the soil surface. It will also nest on the ground hidden under low, dense vegetation, usually near water in emergent vegetation, or in other moist sites. Their breeding season usually begins in

April, and occurs in dense riparian thickets, emergent wetlands, and other moist areas. If this species is present within any portion of the Phase I and Phase II project area, impacts are anticipated to be the minimal given the general protection afforded by **Mitigation Measures #BIO-1: General Mitigation Measures to Protect Special Status Species**, **#BIO-2: Protection of Riparian Species**, and **BIO 7 Protection of Migratory Bird Treat Species**.

VAGRANT SHREW (*Sorex vagrans*): [7] Vagrant shrews are common in the Sierra Nevada and Cascades from the Oregon border to Northern Inyo County. Optimal habitats are valley foothill, montane riparian, aspen, wet meadows, stream banks, annual and perennial grasslands, as well as emergent wetlands at elevations ranging from sea level to 12,000'. Foraging occurs under litter on moist surfaces, underground, and in moist accumulations of dead plant material. It makes a nest of dry grass, moss, or other materials under logs, roots, or dense vegetation. Most young are born from March to May. There may be a second peak of births in August and September. If this species is present within any portion of the Phase I or Phase II project area, impacts are anticipated to be the minimal given the general protection afforded by **Mitigation Measures #BIO-1: General Mitigation Measures to Protect Special Status Species**, **#BIO-2: Protection of Riparian Species**, and **BIO 7 Protection of Migratory Bird Treat Species**.

Insects

WESTER BUMBLE BEE (Bombus occidentals): The western bumble bee, has a wide geographic range that stretches from the west coast from Alaska to California and reaches as far east as Nebraska and the Dakotas. This native bumble bee was once widespread and very common, but during the last several decades populations have declined range-wide, particularly in the western, coastal portions of its range. At the present time, the US Fish and Wildlife Service is responding to a petition to have Bombus occidntalis formally listed as threatened or endangered under the Endangered Species Act as there is an indication that this species is at risk from habitat loss, disease, pesticide use, inadequate protective laws, and climate change. The habitat for this species includes open grassy areas, urban parks and gardens, chaparral along with shrub areas, and mountain meadows. **Mitigation Measures #BIO-1: General Mitigation Measures to Protect Special Status Species** and **#BIO-2: Protection of Riparian Species** along with others related to biological resources as well as hazards and hazardous materials will prevent impacts to this listed Special Status species.

Gastropods

KLAMATH SIDEBAND (Monadenia churchi) This gastropod is ranked as a State imperiled (S-2) species due to its very restricted range and having very few populations within California. The Klamath sideband is normally 17.8 to 23.5 mm in diameter with 5-6 whorls. Monadenia churchi is generally found in limestone outcrops, caves, talus slides, and lava rockslides, especially in riparian areas and under nearby forest debris in heavy shade. The closest know sighting is located southeast and well beyond the

southernmost edge of the Phase II Project. If this species is present within any of the permanent streams located within the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** area, they will be protected by the general measures found in **Mitigation Measures #BIO 1: General Mitigation Measures to Protect Special Status Species**, **#BIO 2: Protection of Riparian Vegetation**, **#BIO 3: Minimizing Impacts to Aquatic Habitats and Species During Dewatering of the Project Site**, **#BIO 12 Woody Debris**, **#HA/HAZ-1: Protection Against Hazardous Materials Spills in Streams and Riparian Zones**, and **#HA/HAZ-2: Equipment Refueling and Maintenance Precautions**. In addition, various Best Management Practices developed for this project will provide additional protection to this aquatic species.

Crustaceans

No Special Status Crustacean species were identified in the March 2017 CNDDB search

Plants

All plants occurring with the Phase I and Phase II project area will be directly protected through implementation of **Mitigation Measure #BIO-4 Pre-Project Implementation Plant Surveys which** requires that specially trained personnel evaluate proposed project sites within any project impact area in order to determine the potential presence of California Rare Plant Ranking (CRPR List 1, List 2, and List 3 species) along with any others shown in **Appendix G**. In the event that previously unidentified listed species are found in either project area, **Mitigation Measure #BIO-5: Protection of Previously Unidentified Special Status Species** establishes protection measures for such unidentified listed or other Special Status plants. In addition to these direct measures, others applicable to the protection of plant resources as described above under the discussion related to Biological Resources will be implemented that will provide indirect protection to listed and other Special Status plant species.

BIG-SCALE BALSAMROOT (Balsamorhiza macrolepis var. macrolepis): $^{1B.2}$ This species of balsamroot has a Heritage Rank of G3G4T2/S2.2 and a Rare Plant Rank of 1B.2. The plant is found within grassland, foothill woodlands and occurs in various land cover types, including purple needle grass grassland, serpentine bunchgrass grassland, mixed serpentine chaparral, mixed oak woodland and forest, ponderosa pine forest and woodland, between 150’ and 4,500’ in elevation within purple needle grass grassland, serpentine bunchgrass grassland, and mixed oak. Several sightings of this plant have been made east of the project area but none have been made within either the Phase I or Phase II portion of the overall project area.

NORTHWESTERN MOONWORT *Botrychium pinnatum* [2.3] Northwestern Moonwort occurs in a range of habitats including closed canopy forests but it is most commonly found in moist grassy sites in open forests and meadows at an elevation of approximately 5,600' This plant often occurs near streams and other sites where soil moisture is constant. Although there is the potential for small trees to be removed in connection with project work **Mitigation Measure #BIO-6: Tree Diameter Limits Related to Nesting Species** will be implemented to protect larger conifer and deciduous trees (greater than 10" in diameter). As a result, closed canopy conditions utilized by this species will not be impacted. In addition, streamside areas where soil moisture is higher will be protected through the requirements of **Mitigation Measure #BIO2: Protection of Riparian Vegetation**.

BUTTE COUNTY FRITILLARY (Fritillaria eastwoodiae) 3.2: This plant is currently a California Rare Plant Rank List 3. Evidence to date suggests that this is a local endemic with limited habitat occurrences. If populations are found within the project area, the California Department of Fish and Wildlife will be contacted in order to make changes in project work that would be beneficial to the maintenance and expansion of this species population.

CASCADE ALPINE CAMPION (Silene suksdorfii) [2.3]**:** Silene suksdorfii is mainly an alpine species, growing in the talus of high mountain slopes at elevations above 6,000' which is above the highest point within the project area. It can also be found below the tree line in forested subalpine habitat. Sightings of the plant have been made to north and east of the project area in near Brokeoff Peak, Lassen Peak and Manzanita Lake.

WESTERN GOBLIN (Botrychium montanum): [2.1] USDA Forest Service and Bureau of Land Management note that *Botrychium montanum* is most closely associated with old growth timber stands". In general, it occurs in dark coniferous forests, usually near swamps and streams from (3,300'-9,800'.) in elevation. While much of the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** area consists of dense mixed confer forests, these are second growth stands containing pine and fir thickets with only a few scattered old growth trees. As result this Special Status plant species is not expected to be found within the Project's impact area.

MINGAN MOONWORT (Botrychium minganense): [2.2] The habitat of *B. minganense* varies widely from dense forest to open meadow and from summer-dry meadows to permanently saturated fens and seeps. When in meadows, plants may stand in open sun or under dense herbaceous cover. The species is often

found in association with old (>10 year) disturbances such as logging roads and road shoulders. It may be locally abundant and sometimes is the only moonwort present in a particular site. It sometimes occurs with other *Botrychium* species as scattered individuals. Timber harvest entries and a number of recent fuel thinning operations in the area reduce the probability of this species being present within this Projects impact area.

SCALLOPED MOONWORT (Botrychium crenulatum):[2.2] *Botrychium crenulatum* is one of the most hydrophyllic of *Botrychium*s. It usually grows in saturated soils of seeps and along the stabilized margins of small streams, often among dense herbaceous vegetation. It also occurs occasionally in seasonally wet roadside ditches and drainage ways. This species is usually found in partly shaded to heavily shaded sites at mid to high elevations. The provisions of **Mitigation Measure #BIO 2: Protection of Riparian Vegetation** along with the general provisions of **Mitigation Measure #BIO 1: General Mitigation Measures to Protect Special Status Species** will be implemented thus preventing significant impacts if this Special Status plant is found within any portion of the Phase I and Phase II project area.

UPSWEPT MOONWORT (Botrychium ascendens): [2.3] This perennial fern is found on moist soils near spring head areas, aquatic sites and wetlands at elevations ranging from 8,890' to 11,550' which is above the highest elevation within the overall project area. As a result, the probability of Upswept Moonwort being found within the Project's impact area is minimal. In addition, all riparian areas and springs within both the Phase I and Phase II project area will be protected through the provisions of **Mitigation Measure #BIO-2: Protection of Riparian Vegetation**.

THREE-RANKED HUMP MOSS *Meesia triquetra:* [4.2.] This plant is found in rich fens characterized by a high pH ranging from 5.5 to 7.5. These aquatic features have not been found in the project area. If this or other types of wet areas are inadvertently found during the implementation of vegetation treatments, they would be protected through the provisions established in **Mitigation Measure #BIO-2: Protection of Riparian Vegetation**.

OBTUSE STARWORT *(Stellaria obtusa):* [4.3] This perennial rhizomatous herb is found on mesic sites and along shaded edges of creeks or on talus slopes within Lower montaine coniferous forests, Upper mountain coniferous forests and Riparian woodlands at elevations ranging between 4,920' and 7,000'. It grows in a prostrate manner and the plants blooming period is between May and early September.

CRYPTANTHA CRINITA (Silky crypantha): [1B2] in addition to alluvial soils of ephemeral creek beds or permanent creek banks on the valley floor, Silky crypantha is found above 3,000' in upland habitats of open gray pine and blue oak woodland, coupled with montane chaparral habitat. In order to protect the presence of this species through the development of site specific protection measures, a survey of biological

resources will be made at all sites where impactive Phase I or Phase II project work will occur per the provision of **Mitigation Measure #*BIO 4: Pre-Project Implementation Special Status Species Survey*** and **#*BIO 6: Protection of Previously Unidentified Special Status Species***. The provisions of **Mitigation Measure #*BIO-1: General Mitigation Measures to Protect Special Status Species*** and **#*BIO 2 Protection of Riparian Vegetation*** will assure that impactive project activities do not affect occurrences of this plant if individuals are found within a riparian area or other wet site. In addition, those Mitigation Measures related to hazards and the use of hazardous materials within and around project sites will protect this plant from impacts related to the use of fuel, lubricants and another construction related hazardous materials.

HALL'S RUPERTIA (Rupertia Hallii): **[1B2]** This special status species is found in oak woodlands and lower mountain coniferous forests having gentle slopes and woodland openings. The species can sometimes be found within disturbed sites such as roadsides and timber harvest areas. The erosion and sediment control work to be completed in connection with this project will result in opening up potential roadside sites suitable for this plant's development. The survey and protection requirements established in **Mitigation Measure #*BIO 4: Pre-Project Implementation Special Status Species Survey*** along with those related to previously unidentified Special Status species described in **Mitigation Measure #*BIO 5: Protection of Previously Unidentified Special Status Species*** will reduce the potential of significant impacts to this Special Status species.

WOOLLY MEADOWFOAM (Limnanthes floccosa ssp. floccose): **[4.2]** The California Natural Diversity Data reports Limnanthes floccosa ssp. floccose as having a Heritage Rank of G4T4/S3.2 and a Rare Pant Rank of 4.2. This fairly endangered California species is found near the wet inner edges of vernal pools the closest of which are located approximately 12 miles east of the Phase I project area and roughly 15 miles east of the Phase II project area.

BROAD-NERVED HUMP MOSS (Meesia Uliginosa): **[2.2]** *Meesia uliginosa* is strongly tied to montane fens within the Sierra Nevada bioregion usually at elevations between 5,900' to 9,200' which is above the highest point within both the Phase I and Phase II project area. The vast majority of the California occurrences are found in sites that meet the definition of a fen which are not found within either portion of the overall project area.

LONG-STIPED CAMPION (Silene Occidentalis Longistipitata): **[1B.2]** This perennial herb species grows in chaparral and conifer forest habitats. It is anticipated that through the completion of project work, an array of habitat types will be developed. In addition, the stabilization of the large sediment plumes within the Phase I project area will prevent additional impacts to roadside chaparral stands.

LASSEN PEAK COPPER MOSS (Haplodontium Tehamense):[1B.3] This species is endemic to Lassen Peak, Lassen National Park and the area immediately surrounding the park's boundaries. No sightings of Haplodontium Tehamense have been reported within the general project area which is at much lower elevation than the natural range of the species.

RAYLESS MOUNTAIN RAGWORT (Packera Indecora): [2.2] Rayless mountain ragwort inhabits rocky or gravelly areas as well as high, wooded ridges, thicket margins or swamps where they are associated with alder. The species also grows in the humus-filled crevices of basaltic outcrops as well as old disturbance opening or meadows on hummocky ground in fibrous organic soil.

GOLDEN ALPINE DRABA (Draba Aureola): [1B.3] Draba Aureola is found on scree and talus consisting of volcanic substrates at elevations ranging from 6,000' to 6,500' which is above the highest point within the Phase I and Phase II project area. As a result, the probability of this plant being found within any of this project's impact areas is minimal.

LASSEN PEAK SMELOWSKIA (Smelowskia Ovalis Congesta): [1B.2] **This** species is found on scree and talus consisting of volcanic substrates at elevations ranging from 8,000' to 10,500' which is far above that of the project area. As a result, the probability of this plant being found within the Project's impact area is minimal.

TALIS COLLOMIA (Collomia Larsenii): [2.2] Talus Collomia grows in high exposed mountainside talus. It is a perennial herb forming a clump in volcanic rocks. There are no talus covered sites within the Project's impact area. Consequently, the probability of this plant's population being affected is minimal.

PYROLA-LEAVED BUCKWHEAT (Eriogonum pyrolifolium var. pyrolifolium)[2.3]: This plant grows on sandy or pumice soils as well as dry rocky sites in high-elevation subalpine and alpine areas that are higher in elevation than the project area.

SQUARESTEM PHLOX (Phlox Muscoides)[2.3]: Throughout its range. Phlox Muscoides occupies dry, open, rocky, gravelly, or sandy sites with little forest or brush cover. If this species is found within any portion of the Phase I and Phase II project area, it will be protected by the general provisions of **Mitigation Measure #BIO 1: General Mitigation Measures to Protect Special Status Species**, **#BIO 4: Pre-Project Implementation Plant Surveys** and **#BIO-5: Protection of Previously Unidentified Special Status Species.**

NORTHERN SPLEENWORT (Aspenium septentrionale)[2.3]: Northern Spleenwort is epipetric and can be found in crevices of rocks, around boulders and on cliffs. The plant generally flourishes in partial sunlight and can be found on a variety of substrates, including granitic rocks and limestone and shale at elevations ranging from 2,300' to 9,500' If this species is found within either the Phase I or Phase II project area, it will be protected by the general provisions of **Mitigation Measure #BIO 1: General Mitigation Measures to Protect Special Status Species**, **#BIO 4: Pre Project Implementation Special Status Species Surveys** and **#BIO-5:Protection of Previously Unidentified Special Status Species.**

SNOW FLEABANE DAISEY (Erigeron nivalis):[2.3] This plant is found on rocky sites, gravel bars, banks, roadsides, meadows and open woods at elevations ranging between 3,900' and 12,100'. Flowering occurs between May and August. It is anticipated that project work will improve habitat conditions for this plant through the removal of both catastrophic and chronic sources of sediment as well as the stabilization of various erosion features along Ponderosa Way.

LITTLE HULSEA (Hulsea Nana):[2.3] Little Husea is found around volcanic mountains above timber line on alpine to subalpine rocky slopes taluses of mostly volcanic substrate. This species elevation range is between 7,800' to 9,800' which is well above the highest point within the project area. Sightings have been found further east of the project area in the vicinity of Brokeoff Peak and Lassen Peak.

BAKER's GLOBE MALLOW (Lliamna bakeri):[4.2] Iliamna bakeri is an uncommon species of flowering plant in the mallow family. It is native to northern California and southern Oregon, where it grows in mountain forests and woodland on volcanic soils. It is a perennial herb with a densely hairy stem growing from a woody caudex to heights between 11" to 27". It blooms in abundant cup-shaped pink-lavender flowers with five petals each. This species is endangered on the state level in Oregon and is on the California Native Plant Society's watch list as it is fairly threatened in California. Threats to its existence include wildland fire suppression and forest habitat destruction by human activity such as logging. The plant generally occurs at elevations ranging between 4,500' and 6,000'. In California, the plant is often found in open Juniper, mountain mahogany, prostrate ceanothus and bitterbrush associations are the common vegetation types. Dry rocky slopes where wildfire has occurred in the past 5-10 years are the preferred habitat and there appears to be a close correlation with burned sites where seeds are exposed to heat prior to germination. Lack of fire at short intervals in suitable habitat is a thought to represent a threat to the existence of this plant. Competing annual introduced grasses such as *Bromus tectorum* may be limiting initial reestablishment on some sites. The provisions of **Mitigation Measure #BIO-10: Identification and Isolation of Invasive Plants** and **#BIO-11: Invasive Plants and Equipment Cleaning** are expected to prevent impacts to this species related to the spread of competitive non-native plants.

FINGER RUSH (Juncus digitatus): [1B.1] *Juncus digitatus* is an annual herb forming small, dense clumps of thin; hairline stems which are red in color much of the time and measure up to 10 centimeters tall. The plant is endemic to Shasta County and has been identified near Shingletown in the vicinity of State Route 44 approximately 12 miles north of the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects*** area. No sightings have been noted within the project area. Per the provisions of **Mitigation Measure #*BIO 4: Pre-Project Implementation Special Status Species Survey*** prior to the implementation of any Phase I or Phase II project work, a biological resource survey will be completed. The results of this survey will include any necessary site-specific species protection measures to assure no impacts to identified species occur. **Mitigation Measure #*BIO 5: Protection of Previously Unidentified Special Status Species*** will reduce the potential of significant impacts to this special status plant if occurrences are noted during the implementation of project work.

WHITE-STEMMED CLARKIA (Clarkia Gracilis ssp. albicaulis): This annual plant has a CRPR rating of 1B.2 and grows abundantly in open woodlands and grassy meadows that have been created by wildfire. Per the provisions of **Mitigation Measure #*BIO 4: Pre-Project Implementation Special Status Species Survey*** prior to the implementation of any Phase I or Phase II project work, a biological resource survey will be completed. The results of this survey will include any necessary site-specific species protection measures to assure no impacts to identified plants occur. **Mitigation Measure #*BIO 5: Protection of Previously Unidentified Special Status Species*** will reduce the potential of significant impacts to this special status plant if occurrences are noted during the implementation of project work.

TRACY"S SANICLE (Sanicula tracyi): [4.2] Tracy's sanicle is a perennial herb which blooms between April and June. It is found within Cismontane woodlands, Lower montane coniferous forests as well as Upper montane conifer forests. Its elevation range is between 328' and 5,200'. It is most often found in openings located within coniferous forests and woodlands. It is anticipated that habitat for this species will improve thought project work once large sediment plumes have been stabilized thus allowing the development of various habitat types on what are currently debris fields of sediment.

AHART'S PARONYCHIA (Paronychia ahartii): [1B.1] Ahart's paronychia has a Rare Plant Rank of 1B.1, a State Rank of S2, and a Global Rank of G2. This species is an annual herb, endemic to California, and is known to occur within Tehama, Shasta, and Butte counties. Ahart's paronychia habitat ranges in elevation from 98' to 1653'. It occurs in cismontane woodlands, valley and foothill grasslands, and vernal pools. According to the California Natural Diversity Database, there are 57 known occurrences of this plant throughout California of which 44 are located within Tehama County. Both the Phase I and Phase II portions of the project area is located above this species' normal elevation range and as a result, the probably of the plant's population being affected is minimal.

BROWNISH BEAKED RUSH *(Rhynchospora capitellata):* [2.2] This perennial herb grows in wet habitats such as swamps, springs, meadows and moist areas in forests at elevations between 705' to 3,100'. The project area is generally above the normal elevation range for this species. If any outlying individuals occur within the project area, they will be protected by various Mitigation Measures and Best Management Practices related to the protection of biological resources. As a result, no impacts to this species are anticipated. Per the provisions of **Mitigation Measure #*BIO 4: Pre-Project Implementation Special Status Species Survey,*** prior to the implementation of any Phase I or Phase II project work, a biological resource survey will be completed. The results of this survey will include any necessary site-specific species protection measures to assure no impacts to identified plants occur. **Mitigation Measure #*BIO 5: Protection of Previously Unidentified Special Status Species*** will reduce the potential of significant impacts to this Special Status plant species if occurrences are noted during the implementation of project work.

SHASTA CLARKIA *(Clarkia borealis ssp. arida):* [1B.1] Shasta Clarkia inhabits gray pine and black oak woodlands on southerly to westerly slopes. The largest and most robust individuals of this species are normally found on sites having partial shade and very little competing vegetation. The normal elevation range of this plant is between 1600' and 1700' well below the project area.

MUD SEDGE (Carex limosa): A rhizomatous herb with a CRPR listing of 2.2. Found in sphagnum bogs at elevations ranging from 3,937' to 8,858'. This plant is most often found in the high Sierra Nevada range. The plants booming period is between July and September. It is reported to be threatened by grazing, vehicles and potentially by logging.

SANBORN'S ONION *(Allium sanbornii var. sanbornii)* [4.7] Sanborn's Onion (Allium sanbornii var. sanbornii) is a rare native perennial herb that grows in Central and Northern California, primarily in the Cascade Range Foothills and Sierra Nevada Foothill region within serpentine gravelly chaparral Cismontane woodland and lower montane coniferous forest habitats. It tends to grow in rocky outcrops, at elevations ranging from 1,000' to 4,600'. The plants blooming period is between May and September.

ASTRAGALUS PAUPERCULUS *(Despauperate milk-vetch)* [4.3] ***Astragalus pauperculus*** is an uncommon species of milkvetch known by the common name depauperate milkvetch. It is endemic to northern California, where it is found in scattered locations from the northern Sacramento Valley and the Cascade Range to an elevation of approximately 5,200'. This species is considered to have limited distribution within California and is somewhat threatened in the State. It grows in chaparral and vernally wet grassland habitat.

BUTTE COUNTY MORINING-GLORY *(Calystegia atriplicifolia ssp. Buttensis)*[4.2] This California Native Plant Society listed plant (limited distribution and moderately threatened) is located in rocky locations and chaparral stands that are sometimes located within roadside areas within the Cascade Range foothills at an elevational range of between 1,853' and 6,079'. This species is considered to be possibly threatened by road maintenance activities. **Mitigation Measures #BIO 4: Pre- Project Implementation Special Status Surveys** and **#BIO 5 Protection of Previously Unidentified Special Status Species s** along with an array of Best Management Practices related to listed or Special Status plant protection will be implemented in order to prevent significant impacts to this species.

LONG FRUIT JEWELFLOWER (*Streptanthus longisilliquus)* This California Native Plant Society listed (4.3 Plants of Limited Distribution/ not very threatened) species is endemic to northern California, where it has been identified in Butte, Tehama, and Shasta Counties. This short-lived perennial herb can be found in openings within cismontane woodland lower montane coniferous forests at elevations of between 2,300' and 4,900'.

SHILED-BRACRED MONKEYFLOWER (*Erythranthe glaucescens)*[4.3] The Shield Bracted Monkeyflower is considered to have a limited distribution within its range but currently is not very threatened. The plant grows in serpentine seeps and on occasion streambanks. It can also be found within Chaparral Cismontane woodlands, Lower montane coniferous forests along with valley and foothill grasslands at elevations ranging between 196' to 4,068'.

HALL'S RUPERTIA *(Rupertia Hallii)*: [1B2] This somewhat endangered species is found in oak woodlands and lower mountain coniferous forests having gentle slopes and woodland openings. The plant can sometimes be found within disturbed sites such as roadsides and timber harvest areas. This project's roadside location will result in opening up potential sites suitable for this plant's development that are now covered by large plumes of sediment.

MARSH CLAYTONIA *(Claytonia palustris)*: [4.3] This CNPS Watch list (Plants of Limited Distribution is endemic to California where it is an uncommon member of the flora generally located in wet areas such as springs high mountain meadows seeps located in Upper montane coniferous forests well as marches and swamps within its range. The plant occurs at elevations between 3,280' and 8,202'.

COLEMAN'S REIN ORCHID *(Piperia colemanii)* [4.3] Piperia colemanii is a perennial herb endemic to California where it is found within the Sierra Nevada and one outlying location in Colusa County. It grows in Lower Montane coniferous forests, chaparral in deep sandy soils. The plants elevational range is between 3,937' and 7,545'. Habitat for this plant includes forest openings in nearly full sun and in the dense shade of heavily forested areas sometimes under shrubs. In open area, this plant penetrates the soil but will also

root in shallow forest litter and on moss. The plant can also be found on gravel bars along rivers and streams as well as on flat terrain or steep hillsides.

CALIFORNIA SATINTAIL *(Imperata brevifolia)* [2B.1] Imperata brevifolia is a species of perennial grass growing from a hard rhizome and is found within chaparral stands as well as meadow and seeps and riparian shrub from sea level to 3,986'. The plants CRPR rating of 2B.1 is attributable to its being considered threaten or endangered in California but still commonly found elsewhere. It is however, also considered seriously threatened within the State. The closest siting of the California Satintail to the project area is southwest of Cohasset well outside this efforts impact area.

BIDWELL'S KNOTWEED *(Polygonum bidwelliae)* [4.3] Polygonum bidwelliae is endemic to California, where it is found in the northern Sacramento Valley and adjacent slopes of the southernmost Cascade Range in Butte, Shasta, and Tehama Counties at elevations ranging between 2,903' and 5,544'. The plant grows in chaparral, woodlands, and grassland habitat located on volcanic soils within lower montane coniferous forests. It can also be found in meadows along with seeps and vernal pool complexes. The plant is currently somewhat threatened by road construction and development as well as grazing and related trampling as well as non-native plant invasions.

HUMBOLDT LILLY *(Lilium Humboldtii ssp. Humboldtii)* [4.2] This perennial bulbiferous herb is endemic to California at elevations of between 98' and 5,900'. The Humboldt Lilly is found in openings with Chaparral, Cismontane woodlands, Coastal scrub, Lower montane coniferous forests and Riparian woodlands.

DISSECTED-LEAVED TOOTHWORT *(Cardamine Pachystigma var. dissectifolia)* [1B.2] A perennial rhizomatous herb, this plan is generally found within serpentine and/or rocky chaparral and lower montane coniferous forests at elevations of between 836' and 6,889'. Current threats include road and trail maintenance as well as altered fire regimes within those landscapes where the plant is found. Per the provisions of **Mitigation Measure #*BIO 4: Pre-Project Implementation Special Status Species Survey,*** prior to the implementation of any Phase I or Phase II project work, a biological resource survey will be completed. The results of this survey will include any necessary site-specific species protection measures to assure no impacts to identified plants occur. **Mitigation Measure #*BIO 5: Protection of Previously Unidentified Special Status Species*** will reduce the potential of significant impacts to this special status plant if occurrences are noted during the implementation of project work.

TRIPOD BUCKWHEAT *(Eriogonum tripodum)* [4.2] Eriogonum tripodum is a rare species of wild buckwheat known by the common name tripod buckwheat. It is endemic to California, where it is known from the Sierra Nevada foothills and northern sections of the Coast Ranges. It is generally part of the serpentine soils flora within chaparral lands Cismontane woodlands. The plants elevational range is between 600' and 5,300.

BUTTE COUNTY CHECKERBLOOM *(Sidalcea robusta)* [1B.2] This CRPR 1B.2 (Plants Rare, Threatened or Endangered in California and elsewhere is considered moderate threatened in the State with numerous occurrences threatened to a moderate degree and immediacy of threat. This herb is found within chaparral and Cisomonte woodlands at elevations between 295' and 5,200'. The plant is possibly threatened by development, fire suppression and nonnative plans.

BUTTE COUNTY CALYCADENIA *(Calycadenia oppositfolia)* [4.2] A member of the Daisey family, this annual herb is native to Butte County although a few populations have been found in other parts of the State. Calycadenia oppositfolia grows in openings within volcanic, granitic or serpentine formations found within foothill habitats including chaparral, Cismontane woodlands Lower montane coniferous forests, forest meadows and seeps at elevations ranging between 95' and 3,100'. Individuals can also be found valley and foothill grasslands. Although the plant can be locally abundant, it is generally threated by road construction and maintenance as well as vehicle impacts reactional activities and grazing.

CALLAHAN'S MARIPOSA -LILY *(Calochortus syntrophus)* [1B.1] This member of the lily family is a rare, endemic northern California flowering plant. The Callahan's Mariposa Lily is found in open, rocky areas with moist or wet soils within oak woodland territory at elevations between 220' and 5,200'. At the present time, this lily is threatened by urbanization, grazing, trampling, road construction, hydrological alterations and water diversions that result in the lowering of the water table as a result it is classified by the CNPS as a rare threatened or endangered plant in California and elsewhere and is seriously threatened in the State. Per the provisions of **Mitigation Measure #*BIO 4: Pre-Project Implementation Special Status Species Survey,*** prior to the implementation of any Phase I or Phase II project work, a biological resource survey will be completed. The results of this survey will include any necessary site-specific species protection measures to assure no impacts to identified plants occur. **Mitigation Measure #*BIO 5: Protection of Previously Unidentified Special Status Species*** will reduce the potential of significant impacts to this special status plant species if occurrences are noted during the implementation of project work.

MILDREDS CLARKIA *(Clarkia mildrediae ssp. Mildrediae)* [1B.3] Clarkia mildrediae is an uncommon species of flowering plant in the evening primrose family. It is endemic to California, where it has been found in the forests of the southernmost Cascade Range and northern Sierra Nevada. The plant is normally found in sandy granite soils within Cismontane woodlands and Lower montane coniferous forest at elevations between 803' and 5,610'. Currently Mildred's clarkia is potentially threatened by road

maintenance. Per the provisions of **Mitigation Measure #*BIO 4: Pre-Project Implementation Special Status Species Survey,*** prior to the implementation of any Phase I or Phase II project work, a biological resource survey will be completed. The results of this survey will include any necessary site-specificspecies protection measures to assure no impacts to identified plants occur. **Mitigation Measure #*BIO 5: Protection of Previously Unidentified Special Status Species*** will reduce the potential of significant impacts to this special status plant species if occurrences are noted during the implementation of project work.

LONG LEAVED STARWORT *(Stelleria longifolia)* [2B.2] Stellaria longifolia is a species of rhizomatous perennial herb flowering plant in the pink family. It grows in many types of moist habitat, including meadows, marshes, seeps roadsides riparian woodlands and upper montane coniferous forests at elevations between 2,952' and 6,000'. The plant forms clumps with sprawling, branching. At the present time, this species is threatened by road maintenance, logging and altered hydrology. Per the provisions of **Mitigation Measure #*BIO 4: Pre-Project Implementation Special Status Species Survey,*** prior to the implementation of any Phase I or Phase II project work, a biological resource survey will be completed. The results of this survey will include any necessary site-specific species protection measures to assure no impacts to identified plants occur. **Mitigation Measure #*BIO 5: Protection of Previously Unidentified Special Status Species*** will reduce the potential of significant impacts to this Special Status plant species if occurrences are noted during the implementation of project work.

GAYER's SEDGE *(Carex geyeri)* [4.2] Carex geyeri is rated by the CNPS as a plant of limited distribution and moderately threatened. In California, this perennial rhizomatous herb grows in Lower montane coniferous forests, dry areas in mountain meadows, grasslands, and open forested areas at elevations between 3,800 to 6,889.

ENGLISH SUNDEW *(Drosera anglica)* [2B.3] This CNPS Rare threated or endangered plant grows in open, or non-forested habitat with wet, often calcium-rich soils. In California, these sites include meadows and bogs at elevations ranging between 4,265' and 7,398'. The presence of this plant can be threatened by trampling and hydrological alterations.

SLENDER COTTONGRASS *(Eliophorum gracile)* [4.3] Slender cottongrass is a perennial rhizomatous herb that occupies Upper Montane forests along with acidic meadows and seeps at elevations between 4,200' and 9,514'. This plant is listed as having limited distribution by the CNPS. Current threats to Slender cottongrass include development, hydrological alterations and possibly grazing and trampling.

TRUE'S MANZANITA (Arctostaphylos mewukka ssp. truei) [4.3] This plant is a perennial evergreen shrub of limited Distribution (CNPS Rating 4.3) found along roadsides, in chaparral stands and Lower montane coniferous forests at an elevational range between 1,394' and 4,560'. Current threats to this plant include logging and associated road usage.

HUTCHISON'S LEWISIA *(Lewisia kelloggii ssp. hutchisonii)* [3.2, 16] This perennial herb is found in openings, ridgetops and rhyolite tuff located in Upper montane coniferous forests at elevations ranging between 2,509 to 7,759 Current threats to this species include logging, recreation activities and vehicles. At the present time, Hutchhison's Lewisia is listed by the CNPS as a plant about which more information is needed. It has also recently been included on the US Forest Service Region 5 Sensitive Plant Species List. Per the provisions of **Mitigation Measure #*BIO 4: Pre-Project Implementation Special Status Species Survey*** prior to the implementation of any Phase I or Phase II project work, a biological resource survey will be completed. The results of this survey will include any necessary site-specific species protection measures to assure no impacts to identified plants occur. **Mitigation Measure #*BIO 5: Protection of Previously Unidentified Special Status Species*** will reduce the potential of significant impacts to this Special Status plant species if occurrences are noted during the implementation of project work.

SWAMP LARKSPUR *(Delphinium uliginosum)* [4.3] This perennial herb is a species of larkspur endemic to California, where it is known from very localized populations in the Inner North Coast Ranges and southern Cascade Range. The plant grows in chaparral, valley and foothill grasslands along with other habitat generally on serpentine soils at elevations ranging between 1,100' and 2,000'.

JEPSON'S ONION *(Allium jepsonii)* [1B.2, 16] The Jepson's Onion is a highly localized perennial bulbiferous herb that is found with Chapple lands Cismontane Woodlands and Lower Montane forests on serpentine or volcanic formations. The CNPS considers this plant to be threatened or endangered in California or elsewhere. It is also considered a Forest Service Sensitive Species. The elevational range of this species is between 984' and 4,330'. Per the provisions of **Mitigation Measure #*BIO 4: Pre-Project Implementation Special Status Species Survey*** prior to the implementation of any Phase I or Phase II project work, a biological resource survey will be completed. The results of this survey will include any necessary site-specific species protection measures to assure no impacts to identified plants occur. **Mitigation Measures #*BIO 5: Protection of Previously Unidentified Specials Status Species*** will reduce the potential of significant impacts to this Special Status plant species if occurrences are noted during the implementation of project work.

MOSQUIN'S CLARKIA *(Clarkia mosquinii)*[1B.1] Locally, Mosquin's Clarkia is found along Rocky roadsides in cismontane woodland and lower montane coniferous forest at elevations between 300' and 3,100. This rare species of flowering plant in the evening primrose family and is endemic to California, where it is known only from the northern Sierra Nevada foothills at the border between Butte and Plumas Counties. The plant was thought to be extinct until rediscovered in 1991. It is an erect annual herb often exceeding half a meter in height. The plant is found along road cuts Chaparral, Cismontane woodlands and Lower montane coniferous forests. Previously listed as a CNPS 1B.2 plant, the Mosquin's Clarkia is now considered by the CNPS to be more common than originally thought and thus reranked as 1B.1. It is however threatened by weed control measures, non-native plants, road maintenance, fire suppression, and development. Impacts to this species attributable to the potential for invasive plant spread will be reduced to a less than significant level through implementation of **Mitigation Measures #BIO-10: Identification and Isolation of Invasive Plants** and **#BIO 11: Invasive Plants and Equipment Cleaning**.

GIANT CHECKERBLOOM *(Sidalcea gigantea)*[4.3] Giant Checkerbloom is a perennial rhizomatous herb that grows in meadows and seeps, Lower montane coniferous forests and Upper montane coniferous forests at elevations ranging between 2,190' 6,390'. The plant is currently threatened by fire suppression. Logging and road construction.

CLUSTERED LADY SLIPPERS *(Cypripedium fasciculatum)*[4.2, 11, 16] This plant is a member of the orchid genus Cypripedium. The Clustered Lady Slipper is usually found within serpentinite seeps and streambanks., Lower montane coniferous forest, North Coast coniferous forest. It is Widely scattered, normally consisting of small occurrences. The plants elevational range is between 327' and 8,910'. The Bureau of Land Management and the US Forest Service have listed the plant as a sensitive species, as population viability is of concern and the species may require active conservation. Current threats to this species include logging and horticultural collecting.

CLOSED-THROATED BEARDTONGUE *(Penstemon personatus)*[1B.2] This perennial herb is found in Chaparral, Lower montane coniferous forest and Upper montane coniferous forests located on metavolcanic formations at elevations between 3,494' 6,955'. Current threats include logging activities.

VANILLA GRASS *(Anthoxanthum nitens ssp. Nitens)*[2B.3] Vanilla grass, is an aromatic herb which grows at an elevational range of between 5,256' – 5,275'. This species is found in alpine or subalpine zones within brackish and salt marshes, swamps and river along with flats, fens, grasslands, marches, meadows and fields. No sightings of this plant have been found in around the Ponderosa Way Road Assessment and Sediment Reduction Plan Implementation Projects Phase I and Phase II project area. Per the provisions of **Mitigation Measure #*BIO 2: Protection of Riparian Vegetation***, all streamside areas and other wet sites will be protected from excessive removal of shade producing vegetation and compaction of soils during

project implementation work. **Mitigation Measure #*BIO 4: Pre-Project Implementation Special Status Species Survey*** requires that prior to initiation of any Phase I or Phase II project work, a biological resource survey will be completed. The results of this survey will include any necessary site-specific species protection measures to assure no impacts to identified special status species occur. **Mitigation Measures #*BIO 5: Protection of Previously Unidentified Special Status Species*** will reduce the potential of significant impacts to this Special Status plant species if occurrences are noted during the implementation of project work.

AMERICAN DWARF BIRCH (*Betula glandulosa)* [2B.2]: Betula glandulosa is a dicot shrub native to California, elsewhere in North America and beyond. Within California this species occupies a wide variety of sites. It is typically a wetland species occurring most commonly on moist, acidic, and nutrient-poor organic sites including fens, swamps, bogs, muskegs, wet meadows, lake and stream margins, and seepage areas. It is also found on upland sites including eskers, till ridges, rock outcrops covered with shallow soil, cliffs, sandy hillsides, and rocky ridges. The elevation range of Betula glandulosain in California is generally between 6'500' and 7'500' which is above the highest elevation point (5,500') within the Phase I and Phase II project area. Although it is primarily a wetland plant, bog birch does not appear to tolerate continuous flooding. Bog birch is also more "vigorous" in communities that support taller tussocks. The plant can tolerate periods of drought and grows in a variety of soils, ranging from sandy and gravelly loam on river terraces to poorly drained, organic soils in bogs, muskegs, and other wetland habitats. Given that the elevation range of the American Dwarf Birch is genrally higher than the highest point with the overall Phase I and Phase II project area the occurrence of this plant is not anticipated.

Per the provisions of **Mitigation Measure #*BIO 2: Protection of Riparian Vegetation***, all streamside areas and other wet sites will be protected from excessive removal of shade producing vegetation and compaction of soils during project implementation work. **Mitigation Measure #*BIO 4: Pre-Project Implementation Special Status Species Survey*** requires that prior to initiation of any Phase I or Phase II project work, a biological resource survey will be completed. The results of this survey will include any necessary site-specific species protection measures to assure no impacts to identified Special Status species occur. **Mitigation Measures #*BIO 5: Protection of Previously Unidentified Special Status Species*** will reduce the potential of significant impacts to this Special Status plant species if occurrences are noted during the implementation of project work.

RATTLESNAKE FERN (*Nrypus virginianus)* [2B.2]: Botrypus virginianus, a pteridophyte, is a fern native to California. This wide-ranging species is found in a number of locations within Northeastern California including eastern Shasta County. No sightings of the plant however have been recorded within that portion of northeastern Tehama County where Phase I and Phase II work will be conducted. Within California, this plant inhabits an elevational range of between 2,543' and 3,794'. Habitats for the Rattlesnake Fern include rich mesic to dry-mesic woodlands, wooded slopes, upland savannas, open disturbed woodlands, and areas along paths in wooded areas. Sites such as these are common within the Phase I and Phase II project area. Per the provisions of **Mitigation Measure #*BIO 4: Pre-Project***

Implementation Special Status Species Survey requires that prior to initiation of any Phase I or Phase II project work, a biological resource survey will be completed. The results of this survey will include any necessary site-specific species protection measures to assure no impacts to identified Special Status species occur. **Mitigation Measures #*BIO 5: Protection of Previously Unidentified Special Status Species*** will reduce the potential of significant impacts to this Special Status species if occurrences are noted during the implementation of project work.

WATERSHIELD *(Brasenia schreberi)* [2b-3] This aquatic perennial herb is native to California and elsewhere in North America. The plant inhabits ponds, lakes and slow moving streams. None of the work to be completed in connection with Phase I or Phase II of the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Impletion Projects*** effort will impact Brasenia schreberi as all aquatic sites within the overall project area will be protected by the provisions of **Mitigation Measure #BIO 2: Protection of Riparian Vegetation** which requires that all streamside areas and other wet sites be protected from excessive removal of shade producing vegetation and compaction of soils during project implementation work. The closest reported sightings of watershield is in the Domingo Lake, Wilson Lake and Willow Lake area located approximately 2 miles east of Childs Meadows and 1 mile south of the Lassen Volcanic Nation Park's southern boundary. These sightings are approximately 20 miles from the overall Phase I and Phase II project area.

STONY CREEK SPURGE (*Euphorbia ocellata ssp. rattanii*) [1B.2] This plant is endemic to Tehama County and is rated 1B.2 by California Native Plant Society. The plant is found in dry stream beds, rock outcrops, dry gravelly and grassy slopes, flats, and roadsides, at elevations from 85' to 1,800'. **Mitigation Measure #*BIO 4: Pre-Project Implementation Special Status Species Survey*** requires that prior to initiation of any Phase I or Phase II project work, a biological resource survey will be completed. The results of this survey will include any necessary site-specific species protection measures to assure no impacts to identified Special Status species occur. **Mitigation Measures #*BIO 5: Protection of Previously Unidentified Special Status Species*** will reduce the potential of significant impacts to this Special Status plant species if occurrences are noted during the implementation of project work.

JEPSON'S HORKELIA (*Horkelia daucifolia var. indicta*) [1B.1] This CNPS rated plant is considered seriously endangered in California. No federal or state listing status has been established. A perennial herb endemic to California and present in Shasta, Siskiyou, and Tehama counties, it is found in quaternary pyroclastic flows, clay, volcanic, vernally mesic, openings and cismontane woodland habitats. The plant's presence is known from fewer than five occurrences; only one occurrence seen recently. Jepson's Horkelia is found at elevations ranging from 787' to 2,198' and has a blooming period between April and June. Jepson's Horkelia is potentially threatened by development. Consequently, Biological surveys for this other sensitive plant will be conducted per the provisions **Mitigation Measure #*BIO 4: Pre-Project Implementation Special Status Species Survey*** which requires that prior to initiation of any Phase I or Phase II project work, a biological resource survey will be completed. The results of this survey will include

any necessary site-specific species protection measures to assure no impacts to identified Special Status species occur. This measure also requires the establishment of NTBs around any occurrence of this Special Status species. **Mitigation Measures *#BIO 5: Protection of Previously Unidentified Special Status Species*** will reduce the potential of significant impacts to this Special Status plant species if occurrences are noted during the implementation of project work.

AHART'S DWARF RUSH (*Juncus leiospermus var. ahartii*): Ahart's Dwarf Rush has a Rare Plant Rank of 1B.2, a State Rank of S1.2, and a Global Rank of G2T1. This California endemic annual herb occurs in valley and foothill grasslands (mesic). The plant's blooming period is between March and May and has an elevational range of between 98' to 751' which is well below the lowest point of the Phase I and Phase II project area. As a result, encountering this plant is not anticipated.

PLUMAS ALPINE ASTER (*Oreostemma elatum*)^{G2}: Within California, Oreostemma elatum is found in bogs, fens, wet meadows, seeps and mesic upper mountain coniferous forest at elevations ranging between 5,000' and 7,000'. There are currently 15 occurrences of this species noted within California, the closets to the Phase I and Phase II project area is an area south of Westwood in Plumas County that is approximately 25 miles southeast of the project area. The California Native Plant Society indicate that changes to hydrology and grazing are two on-going threats to this plant. Within Tehama County, Ponderosa Way passes through a number of stream crossings and a number of wet areas are located adjacent to the road where this plant could occur. In order to protect any occurrence of this sensitive species, ***BIO 2: Protection of Riparian Vegetation***, requires that all streamside areas and other wet sites be protected from excessive removal of shade producing vegetation and compaction of soils during project implementation work. **Mitigation Measure *#BIO 4: Pre-Project Implementation Special Status Species Survey*** requires that prior to initiation of any Phase I or Phase II project work, a biological resource survey will be completed. The results of this survey will include any necessary site-specific species protection measures to assure no impacts to identified Special Status species occur. **Mitigation Measures *#BIO 5: Protection of Previously Unidentified Special Status Species*** will reduce the potential of significant impacts to this Special Status plant species if occurrences are noted during the implementation of project work.

CALIFORNIA BEAKED RUSH (*Rhynchospora California*) $^{1B.1}$ California Beaked Rush occurs in Lower montane coniferous forests, meadows and seeps along with freshwater marshes and swamps fens at elevations ranging between 129' to 3,878'. The plant's blooming period is from May through June. This species of sedge is endemic to California where it is distributed mainly within the northwestern corner of the state south to the San Francisco Bay Area. California Native Plant Society data indicate that the closet sighting of Rhynchospora California to the Ponderosa Way Phase I and Phase II project area is near to the Sacramento Valley floor east of Campbellville approximately 10 miles east of the Phase II area's southern boundary. If this plant is found within any Phase I and Phase II project area impact site, it will be protected by the provisions of ***BIO 2: Protection of Riparian Vegetation***, which requires that all streamside areas and other wet sites be protected from excessive removal of shade producing vegetation and compaction of

soils during project implementation work. **Mitigation Measure *#BIO 4: Pre-Project Implementation Special Status Species Survey*** requires that prior to initiation of any Phase I or Phase II project work, a biological resource survey be completed. The results of this survey will include any necessary site-specific species protection measures to assure no impacts to identified special status species that may occur. **Mitigation Measures *#BIO 5: Protection of Previously Unidentified Special Status Species*** will reduce the potential of significant impacts to this Special Status species if occurrences are noted during the implementation of project work.

Castilleja lassenensis (*Lassen paintbrush*) **1b3 (Draft CNPS rating)**

This newly identified perennial herb has been found in scattered locations largely within and around Lassen Volcanic National Park. The closest of these sightings to the project area is near Summit Lake within Park boundaries, at a distance of approximately 22 miles from the Phase I and Phase II project area. *Castilleja lassenensis* has been found at elevations ranging between 4,537' and 10,200'. Those sites nearest the project area are at elevations of between 4,680' and 4,913', which is well above the uppermost elevations found within any portion of the Phase I and Phase II project area.

Plant Species Noted During 27 Quadrangle Search of the California Natural Diversity Database Having Low Likely of Occurrence within the Phase I and Phase II Project Area

The following plant species were noted in the 27-quadrangle search of the California Natural Diversity Database and have been determined unlikely to occur within the ***Ponderosa Way Road Assessment and Sediment Reduction Plan Implementation Projects*** Phase I and Phase II project area. These species' exclusion is attributable to elevation range or other habitat requirements (such as proximity to vernal pools, inhabiting low elevation grasslands or clay soils, etc.) that do not occur within any portion of the Phase I or Phase II project area. Rational for these plant's exclusion to those listed under **Appendix G** are noted in the table below. If during implementation of project work special status species are found within any Phase I or Phase II project area, they will be protected from impact by the survey and exclusion requirements found in **Mitigation Measure #BIO 5 Protection of Previously Unidentified Special Status Species**.

Common Name	Genus/Species	CNDDB Status	Rational for Exclusion to Formally Listed Species Shown in Appendix A
SANFORD'S ARROWHEAD	***Sagittaria sanfordii***	**1B.2**	Inhabits low elevation aquatic areas.
HOGWALLOW STARFISH	***Hesperevax caulescens***	**4.2**	Inhabits valley and foothill grassland (mesic, clay) and vernal pools at elevation below 1,656'

COULTER's GOLDFIELDS	***Lasthenia Glabrata ssp. Coulteri***	**1B.1**	Inhabits marshes, swamps, playas and vernal pool areas
DWARF DOWNINGIA	***Downingia pusilla***	**2B.2**	Inhabits valley and foothill grassland (mesic) sites along with vernal pool areas
HOOVER's SPURGE	***Euphorbia Hooveri***	**2 1B.2**	Inhabits vernal pools
ROUND-LEAVED FILAREE	**California Macrophylla**	**1B.2**	Inhabits clay soils within Cismontane woodland and Valley and foothill grassland
ADOBE-LILY	**(*Fritillaria Pluriflora*):**	**1B.2**	Occurs in cismontane woodlands as well as valley and foothill grasslands and other flat sites containing fine textured soils at elevations ranging between 196' to 2313'
BOGGS LAKE HEDGE-HYSSOP	***Gratiola Heterosepala***	**3 1B.2**	Inhabits Marshes, swamps, lake margins and vernal pool.
HAIRY ORCUTT GRASS	***Orcuttia Pilosa***	**1, 3, 1B.2**	Inhabits vernal pool areas.
GREEN'S TUCTORIA	***Tuctoria Greenei***	**1, 1B.1 (Also listed as a State Rare Plant)**	Inhabits vernal pool areas.
TEHAMA NAVARRETIA	***Tehama heterandra***	**4.3**	Inhabits mesic sites within valley and foothill grasslands along with vernal pools
BUTTE COUNTY MEADOW FOAM	***Limnanthes floccose ssp. californica***	**1,3, 1B.1**	Inhabits mesic sites within valley and foothill grasslands as well along with vernal pools.
RED BLUFF DWARF RUSH	***Juncus leiospermus var. leiospermus***	***1B.1***	Inhabits the edges of vernal pools in valley grasslands, chaparral and foothill woodlands.
WOOLLY ROSE-MALLOW	***Hibiscus lasiocarpos var. occidentalis***	***1B.2***	Inhabits freshwater marshes and swamps and is often found in riprap on the sides of levees.
FLAGELLA-LIKE ATRACTYLOCARPUS	***Campylopodiella stenocarpa***	***2B.2***	Inhabits Cismontane woodland from 300' to 1,640' which is above above the lowest point within this project's Phase I and Phase II project area.
FERRIS' MILK-VETCH	***Astragalus tener var. ferrisiae***	***1B.1***	Inhabits meadows and seeps within vernally mesic sites along with valley and foothill grassland and sub-

			alkaline flats at elevations ranging between sea level and 250'.
PINK CREAMSACS	***Castilleja rubicundula ssp. rubicundula***	***1B.2***	Inhabits valley and foothill annual grasslands, meadows and seeps, along with chaparral and cismontane woodlands
AHART'S BUCKWHEAT	***Eriogonum umbellatum var. ahartii***	***1B.2***	This California endemic perennial herb occurs on serpentinite, slopes, and openings in chaparral and cismontane woodlands.

Appendix H

Protocols for Surveying and Evaluation of Impacts to Special Status Native Plant Populations and Natural Communities

Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects

Appendix I

California Natural Diversity Database Printouts

Ponderosa Way Road Assessment and Sediment Reduction Plan Phase I and Phase II Implementation Projects

Appendix J

Soils Report Ponderosa Way Phase-I and Phase II Areas

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