Tramway Road/A-Line Road/F-Line Road/Road 90A Shaded Fuel Break
Initial Study/Mitigated Negative Declaration

MIGIGATED NEGATIVE DECLARATION AND
ENVIRONMENTAL CHECKLIST FORM

Project Title:
Tramway Road/A-Line Road/F-Line Road/Road 90A Shaded Fuel Break

Contact person and phone number:
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Resource Conservation District of Tehama County
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Project Location: Eastern Tehama County
(See Map A, Map B, and Map C). The project area is approximately 4 miles east of the Ponderosa Sky Ranch, one mile east of Lyman Springs, 8 miles southeast of the Manton community and six miles west of Mineral. The project area is divided into two units and four road segments described in general below. The two units were developed and analyzed separately as each will have significantly different fuels treatments and sources of funding.

Tramway Road/South Unit
(Tramway Road South of State Route 36E 6 Miles Total Length)

That 6 mile portion of the unpaved secondary County maintained route Tramway Road between its southerly junction with Sierra Pacific Industries N-Line Road near Lyman Springs to its northerly junction with State 36E and SPI Road 90A located approximately 2 miles east of Lassen Lodge and five miles west of the Mineral community.

North Unit
(A-Line Road/F-Line Road/Road/90A 16.05 Total Length)

A-Line Road
That portion of Sierra Pacific Industries A-Line Road from its junction with State 36 E approximately 2 miles east of Lassen Lodge north to that point where the road intersects with the SPI F-Line Road and Road 10F located approximately one half mile north of Digger Creek’s South Fork and the Shasta County line. The total length of this road segment is approximately 9 miles

F-Line Road
Those segments of the F-Line Road on Sierra Pacific Industries property from the Lassen National Forest’s eastern boundary near Willow Springs on the east to the road’s junction with the SPI A-Line Road and its Road 10F located approximately one half mile north of Digger Creek’s South
Fork and the Shasta County line. The total length of this road segment is approximately 4.8 miles.
Road 90A
The entire road segment from its junction with the A-Line Road and State Route 36E 2 miles east of Lassen Lodge at its west end to the road’s junction with State Route 36E and Battle Creek’s South Fork at the highway bridge, a distance of approximately 2.25 miles to the east.

Legal Description:

28N02E
Sections 3, 4 and 5

29N02E
Sections 34, 35,

29N03E
Sections 2, 5, 8, 17, 20, 21, 27, 28, 29,

30N03E
Sections 20, 21, 29, 28, 32, 33, 34, 35

Project sponsor’s name and address:
Sierra Nevada Conservancy
11521 Blocker Drive, Suite 205
Auburn, CA 95603
Attn: Chris Dallas/ Mt. Lassen Area Representative

Lead Agency Under CEQA:
Resource Conservation District of Tehama County
2 Sutter Street, Suite D
Red Bluff, CA 96080
Attn: Thomas McCubbins/CEQA Project’s Manager

General plan designation: Foothill Residential/ Timber Mountain
Zoning: Agriculture Rural Residential Timber Preserve Zone

Introduction and Project History
In October 2012, the Resource Conservation District of Tehama County (RCDTC) was awarded funding by the Sierra Nevada Conservancy (SNC) to develop a fuel break along Tramway Road, a County maintained secondary route along with the A-Line Road, a wild land road developed and maintained by Sierra Pacific Industries (SPI) in order to access their timberlands within a portion of eastern Tehama County. These roads are also used for ingress and egress by fire fighters during
wild land fire events. Numerous discussions with SPI forestry personnel, Cal Fire and Lassen National Forest staff along with other watershed stakeholders resulted in the project area being expanded to include the SPI F-Line Road and the Company’s Road 90A. Project dollars were also used to analyze the environmental impacts of developing and maintaining fuel break infrastructure on surrounding resources. To accomplish this, the Resource Conservation District of Tehama County has prepared this CEQA Initial Study/Mitigated Negative Declaration (IS/MND) document.

In early 2014, funding for implementation of fuels work along the A-Line Road, F-Line Road and Road 90A was provided by the Lassen National Forest (LNF) using dollars provided by that agency’s Stevens Fund program. As a result of federal project funds being used for a portion of the project work, LNF personnel prepared NEPA analysis which expanded that provided in the RCDTC’s CEQA IS/MND to include resource issues that are of particular concern to the Forest Service and to complete specific environmental analysis processes that are required of all federal agencies. Although these environmental analyses were completed separately, their development required coordination between LNF personnel and those of the RCDTC and SPI in order to integrate project implementation requirements and protection measures as well as to simplify development of fuel break infrastructure.

This project is the outcome of collaborative efforts between the RCDTC, SPI, members of the Tehama-Glenn Fire Safe along with numerous local, State, federal agency staff. The fire control infrastructure described in this CEQA Initial Study/Mitigated Negative Declaration was designed in order to utilize topography, vegetation types and local road networks to complete a 22.05 mile long, 300’ wide (809 acre) fuel break and Defensible Fuel Profile Zone that would help to protect the downslope communities of Manton, Ponderosa Sky Ranch, Paynes Creek, Lyman Springs along with the developed areas of the Paynes Creek Rod and Gun Club, the Battle Creek Rod and Gun Club, Wilson Ranch and the Cline Ranch from wildfires originating on adjacent timberlands. Residential sites located along Canyon View Loop and at the Battle Creek Estates development would be protected as well. This fire management infrastructure was also developed in order to protect the upslope communities of Lassen Lodge and Mineral, other individually developed sites along with public and private watershed resources and forestlands from fires originating in developed areas and down slope chaparral lands (See Map A, Map B and Map C). Among the watersheds that will be provided direct protection by roadside fuel treatments are the North and
South Forks of Battle Creek and Digger Creek, Panther Creek, Paynes Creek and Judd Creek. The watershed of Antelope Creek’s north fork will be indirectly protected by these treatments as access and the ability for firefighting forces to directly attack wildfires moving from the north will be improved. The fuel treatments to be completed in connection with this project will also help to protect Ponderosa Way, a major evacuation route for a number of the communities mentioned above.

The Tramway Road/A-Line Road/F-Line Road/Road 90A Fuel Break has been developed to leverage its protective capabilities with those of other similarly designed fuel breaks in the area that have been developed by public and private entities. These include the C-Line Road Fuel Break and Little Giant Mill Road Fuel Break developed by Cal Fire along with the Forward Road-Forward Mill Fuel Break, Ponderosa Way Fuel Break, Paynes Creek Community Fuel Break, Manton Community Fuel Break, Mineral Community Fuel Break and Boondocks Fuel Treatments projects completed by the Resource Conservation District of Tehama County. These fuel breaks are in addition to fuel treatment projects and fuels reduction work that has been completed in the area by Sierra Pacific Industries along with those of the Lassen National Forest including the in process Grays Peak Vegetation project and the soon to be implemented fuel treatments included in that agency’s Dry Hills Project (See Map D).

**Project Description**

The project under analysis in this Initial Study/Mitigated Negative Declaration consists of a 22.05 mile long approximately 300’ wide (809 acre) roadside shaded fuel break. Project work would be completed to 150” both sides of the roadway along the Tehama County maintained Tramway Road, an unpaved secondary route along with the A-Line Road, F-Line Road and Road 90-A which are owned and maintained by Sierra Pacific Industries. The three SPI maintained roads are also unpaved and are used for access to timber stands located within the watersheds of Battle Creek, Paynes Creek and the North Fork of Antelope Creek. In general, tracked and tired cutting equipment will cut brush along with small conifer and deciduous trees having a diameter of 10” and under (oak species 6” and under). Similarly tracked and tired skidding equipment will transport cut vegetation to chipping areas where drum type chippers would process this material and blow it into chip vans for transport to cogeneration plants located in the Sacramento Valley. Chipping areas would be established on already in place landings and other open sites. Skidding of vegetation to chipping units will in most instances require one end of a load to drag across the
soil surface. A number of Mitigation Measures developed in this IS/MND address this issue in order to reduce the impact of such activity to a less than significant level. In addition to cutting and chipping vegetation, large tracked mastication equipment would be used in some treatment areas to chip vegetative material in place in order to protect and stabilize soils on steeper slopes.

Prior to project implementation or in some instances as discovered, areas where no treatments of any kind are to occur such as streamside zones, riparian areas, locations of rare and threatened plants, habitats of rare and threatened animal species, cultural sites and plantations among others will be protected through the formal establishment and flagging of no treatment buffers. These no treatment areas are referred to in this IS/MND as Mechanical Treatment Exclusion Buffers (MTEB). Establishment and flagging of such areas will be completed by either the Resource Conservation District of Tehama County Project Manager or SPI Registered Professional Forester. If necessary in order to properly develop treatment areas, hand crews may hand cut vegetation adjacent to MTEB boundaries and either feed it into an arborist chipper unit having a 15” throat or stack it into piles for later burning within the road right-of-way. Preference for trees to be left within the fuel break will be given to Ponderosa pine, Incense cedar, Douglas fir and Black oak. It is anticipated that project work will be completed rapidly with equipment operating within in a particular location for only a short period of time. This will require frequent moving of cutting, chipping, skidding and hauling equipment. On occasion equipment will need to cross riparian exclusion zones and live streams. Entrance into any stream or riparian area MTEB will only occur along already in place roads having formally developed stream crossings and such movement will be under the supervision of either the RCDTC Project Manager or SPI Licensed Forester.

Herbicide Applications to be Completed Exclusively
Along Tramway Road and the Development of the Tramway Road/South Unit

Establishment of Tramway Road/South Unit and North Unit
In addition to the mechanical fuel treatments described above that will be conducted within all portions of the project area, appropriate herbicides registered for use within brush and forest stands will be applied along Tramway Road once chipping and mastication treatments have been completed. This special treatment area is referred to the Tramway Road/South Unit. Herbicide application’s will be completed in order to reduce the redevelopment of brush and shade tolerant
tree species thus extending the life of fuel break infrastructure between mechanical treatments. The herbicide applications as described below will be completed by SPI or Resource Conservation District of Tehama County personnel who have a California Applicators License. No herbicide applications of any kind will be completed along the A-Line Road, F-Line Road or Road 90-A (referred to as “North Unit” in this IS/MND) as project work in this area will be funded using Forest Service dollars. All project work of any kind along the Tramway Road/South Unit will be funded separately by either Sierra Pacific Industries or by the RCDTC utilizing other non-federal dollars.

Use of Herbicides Within the Tramway Road South Unit

In consideration of the fact that the Tramway Road/A-Line Road/ F-Line Road/Road 90A Fuel Break project will be funded by a number of financial sources including the Lassen National Forest, Sierra Pacific Industries and potentially others, this IS/MND takes a programmatic approach to the project’s environmental analysis covering the entire project area regardless of the treatments to be used. Forest Service Region 5 policies limit or in some instances prohibit the use of chemical treatments on agency lands or in connection with projects using Forest Service dollars. Consequently it is important to note that chemical treatments will only be completed within the Tramway Road/South Unit segment of the overall project area where vegetation treatments will be completed using non-Forest Service dollars. This portion of the project area is located along Tramway Road between its junction with Sierra Pacific Industries’ N-Line Road near Lyman Springs to the south and the road’s junction with State Route 36E near Lassen Lodge to the north (see Map A, Map B, and Map C). In recognition of the project area’s segmentation into chemical and non-chemical treatment units, those Mitigation Measures related to herbicide treatments apply only to the Tramway Road/South Unit of the project area. All other Mitigation Measures described in this Initial Study/Mitigated Negative Declaration document apply to all portions of the project area.

Description of Herbicide Treatments to be Completed Exclusively
Within the Tramway Road/South Unit

Once hand treatments have been completed along the Tramway Road portion of the overall project area, a Licensed Pest Control Advisor will develop a program of herbicide application using appropriate chemicals applied by a Licensed Applicator. The California approved herbicides would be used to control brush species including Whitethorn (*Ceanothus leucodermis*), Mazanita
(Arctostaphylos), chinqipuin (Chrysolepis sempervirens), and Black Oak Sprouts (Quercus kelloggi). Herbicides will be applied in either the following summer or fall after mechanical treatments have been completed using a combination of a spray boom towed behind a quad or backpack sprayer. Vegetation will be sprayed to wet using the dosage rates shown in Table 1. With these species under control, it is anticipated that increased development of grasses, forbs and other non-woody vegetation will occur. Not only will these treatments reduce the threat of roadside ignitions in dense understory vegetation moving into adjacent timber stands, they will also provide a point from which fire control personnel can conduct back firing operations during wildfire events. In addition, fuels management personnel will have a point from which prescribed fire operations can be safely conducted if such treatments are executed at some point in the future.

Table 1

Herbicide and Dosage Rates to be Used Within Tramway Road/South Unit Portion of the Tramway Road/A-Line Road/F-Line Road/Road 90A Shaded Fuel Break Project

<table>
<thead>
<tr>
<th>Name of Pesticides to be Used</th>
<th>Dosage Rate/Acre</th>
<th>Volume/Acre</th>
<th>Dilution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glyphosate</td>
<td>5%</td>
<td>10-20 Gal</td>
<td>Water</td>
</tr>
<tr>
<td>Imazapyr</td>
<td>3%</td>
<td>10-20 Gal</td>
<td>Water</td>
</tr>
<tr>
<td>Surfactants</td>
<td>5%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Project Duration and Timing:

It is anticipated that project work for the Tramway Road/A-Line Road/F-Line Road/Road 90-A Shaded Fuel Break Project will be initiated in the late winter or early spring of 2015 and continue for approximately 18 months (12 months for project work funded by the Lassen National Forest). Weather or logistical issues could prevent implementation of project work until the early summer of 2015. Mastication and chipping treatments to be completed within all portions of the project area (Tramway Road/South Unit and North Unit) will occur during the first 12 months of project work. Follow up herbicide applications to be completed outside of Forest Service funded project work exclusively along Tramway Road within the Tramway Road/South Unit will occur within one year after mechanical treatments have been completed. All herbicide applications will occur at appropriate times of the year between months 12 and 18 based upon species requirements and weather conditions. If necessitated by weather conditions or
other factors, follow up herbicide applications within the Tramway Road/South Unit may be extended an additional 6 months to month 24 after initial project implementation. Initiation of project work in specific area will be dependent upon the life stage needs of listed species, weather and access conditions.

Monitoring:
See “Appendix A Mitigation Monitoring and Reporting Plan (MMRP) for the Tramway Road/A-Line Road/F-Line Road/Road 90A Shaded Fuel Break Project Initial Study/Mitigated Negative Declaration Tehama County, California”. This project will be monitored for adherence to Mitigation Measures, infestation of noxious plants and adherence to Mechanical Treatment Exclusion Buffers. Monitoring will be completed by the RCDTC Project Manager or other RCDTC personnel, Sierra Pacific Industries forestry staff, the Tehama County Air Pollution Control District, Tehama County Agriculture Department, Cal Fire, the California Department of Fish and Wildlife, or the US Fish and Wildlife Service as applicable.

Surrounding Land Uses and Environmental Setting:
The lands involved with this project are located within low and mid elevation pine and mixed conifer forest stands of the Cascade Mountains in Eastern Tehama County. The project area contains very little development and almost no habitable structures. The communities mentioned above are located several miles from this fuel break project’s impact area and contain residences and other developed sites. Elevations in the vicinity of the project range between 3,500’ at Lyman Springs to just over 5,000’ near Grays Peak. In addition to mixed conifer habitat; the project area contains interspersed chaparral species (largely Manzanita and ceanothus) along with black oak in the understory. Solid stands of chaparral are located on several portions of the project area at lower elevations and there are a number of clear cuts areas along the project route that have been replanted which greatly reduce fuel volumes in these locations.

Topography within the project area varies from relatively flat to moderately steep (20% to 50% slope). The fuel break will be developed generally along ridge tops with the exception of a roughly one mile segment within Sections 20 and 21 T29N R3E where the A-Line Road follows a mid-slope path. Vegetation within this specific portion of the project area is sparse and as a result little if any fuel treatments will be completed. Stream crossings will be limited to Battle Creek’s South Forks, Digger Creek, Rock Creek, Panther Creek, Paynes Creek, along with a number of
these stream’s minor unnamed tributaries and within formally established crossing areas. Mitigation Measures including the establishment of Mechanical Treatment Exclusion Buffers have been developed in order to protect stream crossings and riparian corridors from the impact of mechanical and hand treatments as well as herbicide applications. These are described at length under “Proposed Mitigation Measures” shown below.

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

1) Access Authorization will need to be obtained from the Tehama County Public Works Departments in the event that equipment enters the County road right-of-way along Tramway Road.*

2) Access Authorization will need to be obtained from Cal Trans in the event that equipment enters the State road right-of-way along State Route 36E.*

3) A California Department of Fish and Game Streamside Alteration Agreement (1600 Permit) would be required if any project equipment crosses at an unestablished stream zone or riparian areas.*

4) A Tehama County Agriculture Department Herbicide Use Permits will be required in order to conduct herbicide applications along Tramway Road.*

5) The Tehama County Air Pollution Control District will require a non-discretionary burn permit in order to burn any piles of vegetative debris generated in connection with project work depending upon the exact time of year burning is to be conducted.*

*Required authorizations and permits will be obtained immediately prior to implementation of project work.*
**Proposed Mitigation Measures**: The following is a list of Mitigation Measures that will be implemented by the RCDTC, its contractor Sierra Pacific Industries, subcontractors if any hired by SPI along with responsible agencies in order to avoid or minimize potential environmental impacts during project implementation. Through the implementation of these Mitigation Measures the potential for environmental impact related to this project will be reduced to a less-than-significant level.

**Mitigation Measures Related to Air Quality**

**Mitigation Measure #AQ 1: Burn Permits**

It is anticipated that numerous piles of vegetative debris will be developed in connection with project work and these will need to be burned. 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 of any entity conducting such burning operations. The need for the permit will depend upon the exact month burning is to occur. Any entity conducting burning operations shall follow all federal, state, and local requirements when burning piles. 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 retained in the RCDTC project file. Burning operations shall be conducted under a Smoke Management Plan approved by the TCAPCD a copy of which shall be retained in the RCDTC project file. The Tehama County Air Pollution Control District shall assure adherence to the provisions of this Mitigation Measure.

**Mitigation Measure #AQ 2: Burning Period**

In order to reduce the impact of any burning operations these activities shall be conducted during the regular burn season when fire danger is low and only on official burn days. The Tehama County Air Pollution Control District shall assure adherence to the provisions of this Mitigation Measure through the issuance of a burn permit. Enforcement of permit provisions shall be the responsibility of Cal Fire.
Mitigation Measures Related to Biological Resources

Mitigation Measure #BIO 1: Stream and Watercourse Treatment Buffers

300 foot Mechanical Treatment Exclusion Buffers (MTEB), also referred to as buffer areas throughout this Initial Study/Mitigated Negative Declaration document shall be established on each side of Battle Creek’s South Fork along with the South Fork of Digger Creek. All other wet and dry stream courses shall be protected by a 150 foot MTEB. Within these MTEBs, treatments of any kind including herbicide applications to be completed exclusively within the Tramway Road/South Unit shall be prohibited.

Similarly, ditches, canals and other man made water conveyance structures shall be protected by a 25’ MTEBs on both sides of these water features. All springs shall be encircled by a 75’ MTEB. All stream and riparian area MTEBs shall be established and flagged by the RCDTC Project Manager or a Sierra Pacific Industries Registered Professional Forester prior to implementation of any project work. Monitoring photographs shall be taken by the RCDTC Project Manager or Sierra Pacific Industries Registered Professional Forester before and after completion of project work in order to document compliance with Mitigation Measure #BIO 1. Monitoring photographs shall be incorporated into the project file. Consideration of site specific modification to MTEBs and other buffer requirements could occur upon site review and approval by Lassen National Forest, Cal Fire, California Department of Fish and Game, California Regional Water Quality Control Board or U.S. Fish and Wildlife Service personnel as appropriate.

Mitigation Measure #BIO 2: Stream Crossings

Although not anticipated, in the event that equipment will need to cross a live stream outside the road rights-of-way of Tramway Road, A-Line Road, F-Line Road or Road 90A a California Department of Fish and Wildlife 1600 Stream Alteration Agreement would be required at the discretion of that agency. In such instances, equipment crossings of waterways, streambeds and their associated approaches shall be located and flagged by the RCDTC Project Manager or an SPI Registered Professional Forester prior to the occurrence. Within these crossing areas, no vegetation shall be removed. Verification of flagging at crossing sites prior to equipment crossing as well as verification of no impacts to vegetation and soils once crossings have been completed shall be made by the RCDTC Project Manager or an SPI Registered Professional Forester and documented in the project file. The RCDTC Project Manager or an SPI Registered Professional Forester shall
inspect crossing sites prior to and after equipment entry into stream channels to ensure that special status species are not harmed or otherwise impacted and that there are no significant impacts to riparian vegetation. If special status species are found at a particular crossing site, another more appropriate site shall be located and used.

**Mitigation Measure #BIO 3: Pre Project Implementation Plant Surveys**

Personnel specifically trained in the identification of California Rare Plant Ranking (CRPR) List 1, List 2 and List 3 species and any others shown in Appendix B (Results of Database Inquiry and Species Review) shall be required to evaluate potential habitat for these species prior to implementation of vegetation treatments within the project area during the appropriate blooming or identification period. Such personnel shall also evaluate potential findings of any such plants within treatment areas during the execution of project work per the provisions of Mitigation Measure #BIO 4 Protection of Previously Unidentified Listed Plants. 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 and the Lassen National Forest botanist. A copy shall also be incorporated into the RCDTC project files. 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 C). Biological surveys shall also map invasive plant species listed by the California Department of Food and Agriculture (http://www.cdfa.ca.gov/phpps/ipc/weedinfo/winfo_list-pestrating.htm) and the California Invasive Plant Council (Cal-IPC) (http://www.cal-ipc.org/) located within the project area. All rare plants having a potential to be impacted by project work shall be marked or flagged for complete avoidance.

**Mitigation Measure #BIO 4: Protection of Previously Unidentified Listed Plants**

If during the implementation of vegetation treatments within the project area, any previously unidentified listed plants shown in Appendix B (Results of Database Inquiry and Species Review) are detected by the individuals described in Mitigation Measure #BIO 3 the following plant protection measures shall apply:
North Unit
Within the North Unit, all project related activities shall immediately stop and a 25’ MTEB shall be established and flagged around the perimeter of any occurrence by the RCDTC Project Manager, Sierra Pacific Industries Registered Professional Forester, or other personnel specifically trained in the identification of California Rare Plant Ranking (CRPR) List 1, List 2 and List 3 and any others shown in Appendix B (Results of Database Inquiry and Species Review). Within such MTEBs, no cutting and chipping or piling and burning shall be conducted. Cut and chipped material along with all burn piles shall be kept outside the listed plant MTEB. If any trees 10” in diameter and under are cut, they shall be directionally felled and moved away from the occurrence.

Tramway Road South Unit
Within that portion of the project area inside the Tramway Road South Unit where herbicide applications are generally permitted, all project related activities shall immediately stop and a 25’ MTEB shall be established and flagged around the perimeter of any occurrence as established by the RCDTC Project Manager, Sierra Pacific Industries Registered Professional Forester, or other personnel specifically trained in the identification of California Rare Plant Ranking (CRPR) List 1, List 2 and List 3 and any others shown in Appendix B (Results of Database Inquiry and Species Review). Within such MTEBs, no cutting and chipping, piling and burning or herbicide applications shall be conducted. Cut and chipped material along with all burn piles shall be kept outside the listed plant MTEB. If any trees 10” in diameter and under are cut, they shall be directionally felled and moved away from the occurrence.

Mitigation Measure #BIO 5: Protection of Migratory Bird Treaty Act Species
In order to protect any species covered by the Migratory Bird Treaty Act (MBTA), no fuel treatments of any kind shall occur between March and August, unless the following is implemented: 1). A survey is conducted by the SPI Registered Professional Forester, a biologist or other persons with knowledge of and ability to recognize species protected by the MBTA within 0.5 miles of the project area during the nesting season of listed species and it is determined that there are no occupied nests within the proposed project area. 2). If an occupied nest is found, then the SPI Registered Professional Forester, a 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 no activities shall occur within 100 feet of the nest site during the breeding season. If raptor species are found, the provisions of Mitigation Measure #BIO 6 related to raptor protection shall apply. Modifications and possible reduction in MTEB size may be made after consultation with California Department of Fish and Wildlife or U.S. Fish and Wildlife Service 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.

**Mitigation Measure #BIO 6: Raptor Protection**

A Sierra Pacific Industries Licensed Professional Forester or wildlife biologist with appropriate training in the identification of raptors shall perform a walk-through survey of treatment areas shortly before all vegetation treatments or herbicide applications are initiated. 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 in the harvest unit. If field personnel detect raptor presence, appropriate protection measures as described below for that particular species shall be established. Upon discovery of an occupied raptor nest or any unknown large bird, the RCDTC’s Project Manager or the Sierra Pacific Industries Registered Professional Forester (after conferring with the RCDTC’s Project Manager) shall inform all personnel involved with vegetation treatment operations 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 along with any specified in the California Forest Practice Rules to protect the nest are implemented.

**Raptor Protection Measures**

**Listed Raptors**

In accordance with Forest Practices Rules, if an occupied nest of a listed bird (ESA, CESA, or Board of Forestry "Sensitive Species") is discovered during project work, the contractor shall protect the nest tree, screening trees, perch trees, and replacement trees from any vegetation treatment operations. Until any consultation required under Forest Practice Rules occurs, (1) vegetation disturbing activities shall be suspended within one mile of the nest, (2) all treatment operations (per Public Resources Code §4527) shall be suspended within a 375-foot radius buffer of the occupied nest, and (3) the Department of Fish and
Wildlife shall be immediately notified and consultation shall be initiated with the appropriate wildlife agencies.

**Non-Listed Raptors**

If an occupied nest of a non-listed raptor is discovered during vegetation treatment operations, all vegetation disturbing activities within one mile of the occupied nest shall be suspended. Upon such suspension, the RCDTC Project Manager or an SPI Registered Professional Forester under the advice of a professional biologist shall designate the nest trees, perch tree(s), screening tree(s), and replacement tree(s), for which a no treatment buffer shall be established.

**Mitigation Measure #BIO 7: Fisher Protection (Per Appendix D Sierra Pacific Industries Fisher Take Avoidance Measures)**

Prior to project implementation and during treatment activities, the RCDTC Project Manager or SPI Registered Professional Forester shall look for freshly excavated cavities suitable for fisher dens on snags between 10” and 12” in diameter located 6’ to 12’ above ground level. In addition, within the project area, a potential den structure is defined as any hardwood with visible indicators of cavity formation (dead or alive) ≥15 inches DBH, a conifer snag ≥22 inches DBH, or a live green cull or green wildlife conifer ≥22 inches 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 ranches, and visible signs of fungus or other indications of cavity formation or visible cavity openings. The RCDTC Project Manager or SPI Registered Professional Forester 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 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 (MTEB). 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 SPI Registered Professional Forester shall be notified. If a den or habitation of a fisher is discovered, all operations (per PRC Section 4527) shall be suspended and a
survey for a fisher den shall be completed. If a den is found a, flagged 375’ radius MTEB shall be established around the identified den or habitation. The Department of Fish and Wildlife shall then be immediately notified.

**Mitigation Measure #BIO 8: Woody Debris**

In order to prevent the introduction of excess woody debris into stream flows, dry stream channels that have flows during the rainy season, or other protected areas, no chipped material shall be blown or otherwise introduced into any Mechanical Treatment Exclusion Buffer. The RCDTC Project Manager or SPI Registered Professional Forester shall take before and after photographs of project work that has occurred near MTEBs in order to document adherence to this requirement.

**Mitigation Measure #BIO 9: Identification and Isolation of Invasive Plants**

Populations of invasive plants listed by CDFA having the potential to be spread or otherwise impact project work shall be either 1.) flagged and avoided during project implementation, or 2.) treated prior to project implementation. Populations of invasive plants listed by Cal-IPC shall be evaluated for the risk of further infestation due to project activities and treatments or other mitigation shall be applied as needed. If discrete patches of Cal-IPC invasives are located, (e.g. species that are not already common in the project area) staging sites shall be located outside of these discrete infestations.

**Mitigation Measure #BIO 10: 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 work shall be cleaned prior to use within the project area. The RCDTC Project Manager or SPI Registered Professional Forester shall assure and document equipment cleaning. Documentation of cleaning shall be incorporated into the project file.

**Mitigation Measures Related to Cultural Resources**

**Mitigation Measure #CUL 1: Protection of Identified Cultural Resources**

All new and previously recorded archeological sites identified during field surveys completed in connection with the preparation of this IS/MND and documented in the report entitled “An Archeological Inventory For the Proposed Tramway Road/A-Line Road/90/F Line Shaded Fuel Break Initial Study/Mitigated Negative Declaration”
Break” (Western Shasta Resource Conservation District) dated September 12, 2014 shall be protected through complete avoidance. A flagged 50’ MTEB shall be established around each of these sites by the RCDTC Project Manager or SPI Registered Professional Forester prior to implementation of any project work.

**Mitigation Measure #CUL 2: Inspection for Unidentified Cultural Resources During Project Implementation**

A professional archeologist or SPI Registered Professional Forester who is a Certified Archaeological Surveyor through the California State Board of Forestry and Fire Protection (14CCR Section 929 et seq.) shall be on site prior to ground disturbing activities in order to assure that all archeological, prehistoric, historic or paleontological resource sites along the path of the fuel break or within 50 feet beyond the project boundary have been flagged for complete avoidance and that equipment operators and others working in the project areas are informed about their locations. A professional archeologist or SPI Registered Professional Forester who is a Certified Archaeological Surveyor through the California State Board of Forestry and Fire Protection shall also be on site during the implementation of project work in order to assure adherence to all Mitigation Measures related to cultural resource protection.

**Mitigation Measure #CUL 3: Protection of Newly Discovered Archeological, Prehistoric, Historic or Paleontological Resource**

Within areas of ground or vegetation disturbing activities, if project work appears to expose any previously unknown archeological, prehistoric, historic or paleontological resource sites along the path of the fuel break or within 50 feet beyond the project boundary, 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 an exclusion buffer of at least 100 feet. 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, herbicides and fuel treatments 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 project files.

**Mitigation Measure #CUL 4: Discovery of Human Remains**

If during the execution of project work human remains are found, the RCDTC Project Manager or SPI Registered Professional Forester shall halt work at that location until a professional archaeologist visits the site in order to assess their significance, process the remains and immediately notify the 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 in the project files by the RCDTC Project Manager. Project work may continue on other non-impacted portions of the project area.

**Mitigation Measures Related to Geology and Soils**

**Mitigation Measure #GEO/SOILS 1: Prohibition Against Work on Steep Slopes and Unstable Areas**

No equipment operations shall occur on slopes exceeding 50% and shall not occur on any unstable areas, regardless of slope percentage. Suitability for equipment operations related to slope and soil stability shall be determined by the RCDTC Project Manager or a Sierra Pacific Industries Registered Professional Forester.

**Mitigation Measures Related to Hydrology and Water Quality**

**Mitigation Measure #HYDRO 1: Mulching of Exposed Soil and Installation of Waterbars**

Any newly-exposed soil of over 100 square feet in area shall be mulched with chips or brush to minimize the potential for erosion. Hand water bars shall be installed to divert water onto stable vegetation and away from watercourses, as needed. Verification of proper installation and sufficiency of both mulching and waterbars shall be made by the RCDTC Project Manager or SPI Registered Professional Forester prior to and following the season’s first precipitation event and recorded in the project file.
Mitigation Measure #HYDRO 2: Protection of Drainage Features

Any existing drainage features shall be protected from project related impacts and shall remain free of obstructions.

Mitigation Measures Related to Hazards and Hazardous Materials

Mitigation Measure #HA/HAZ 1: Protection Against Hazardous Material Spills in Streams and Riparian Zones

To reduce potential impacts associated with fuel spills in streams and riparian areas, the RCDTC Project Manager or SPI Registered Professional Forester 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. Within the Tramway Road-South Unit where herbicide applications will be conducted, no mixed herbicide shall be transported across live streams at any time. Only unmixed herbicides and other chemicals in their original sealed containers shall be allowed transport across live streams. 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 of SPI Registered Professional Forester.

Mitigation Measure # HA/HAZ 2: Equipment Refueling and Maintenance Precautions

The RCDTC Project Manager or SPI registered Professional Forester shall select refueling and maintenance sites for all equipment including power hand tools on flat sites that are away from MTEBs and other buffers related to dry or wet waterways along with areas that could potentially flow into a stream in the event of an accidental spill. Such sites shall also be established outside of MTEBs 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 at all refueling and maintenance areas. Equipment operators shall be responsible for the immediate containment and removal of any spilled material and shall immediately inform the RCDTC Project Manager or SPI Licensed Professional Forester of such spills. The RCDTC Project Manager or SPI Registered Professional Forester shall then immediately contact appropriate authorities including the CDFW. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur. Equipment shall be stored and maintained within
properly cleared areas. The RCDTC Project Manager or SPI Registered Professional Forester shall inspect refueling areas to assure compliance with Mitigation Measure # HA/HAZ 2. These inspections shall also verify the adequacy of such sites in protecting riparian and terrestrial resources as well as the availability of containment equipment.

**Mitigation Measure # HA/HAZ 3: Herbicide Mixing and Loading Precautions**

Within the Tramway Road/South Unit, the RCDTC Project Manager or SPI Registered Professional Forester shall select herbicide mixing and loading areas on flat sites that are away from stream and riparian MTEBs along with other no treatment buffer areas related to dry or wet waterways or areas that could potentially flow into a stream in the event of an accidental spill. Such sites shall also be established outside of MTEB’s and other exclusion zones established in order to protect wildlife and plant resources. Chemical containment equipment including absorbent sheets and waddles shall be made available at herbicide mixing and loading areas. The RCDTC Project Manager, SPI Registered Professional Forester and SPI or RCDTC licensed applicator shall be responsible for the immediate containment and removal of any spilled herbicide or other chemical material and shall immediately contact appropriate authorities including the CDFW. Herbicide application equipment shall be stored and maintained within properly cleared areas. The RCDTC Project Manager shall inspect herbicide mixing and loading sites along with storage areas to assure compliance with Mitigation Measure # HA/HAZ 3. These inspections shall also verify these sites’ adequacy in protecting riparian and terrestrial resources as well as the availability of containment equipment.

**Mitigation Measure # HA/HAZ 4: Equipment Inspections Related to Oil and Fuel (North Unit and Tramway Road South Unit)**

Contractors, the RCDTC Project Manager or SPI Registered Professional Forester 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. The results of these inspections shall be incorporated into the project files along with evidence of any repairs required and completed before returning equipment to project work sites.
Mitigation Measure # HA/HAZ 5: Equipment Inspections Related to Herbicides and Other Hazardous Materials (Tramway Road South Unit Only)

All herbicide application equipment shall be periodically inspected by the Contractor, RCDTC Project Manager or SPI Registered Professional Forester for leaking herbicide and surfactants. Any such leaks shall be repaired prior to resuming chemical applications. The results of these inspections shall be incorporated into the project files along with evidence of any repairs required and completed before returning equipment to project work sites.

Mitigation Measure # HA/HAZ 6: Protection of Wildlife During Herbicide Applications (Tramway Road South Unit Only)

To reduce wildlife disturbance, the SPI Registered Professional Forester or RCDTC Project Manager shall direct crews to avoid spraying all wildlife observed in herbicide treatment areas within the Tramway Road/South Unit. Areas not sprayed due to the presence of wildlife may be sprayed once wildlife has left the treatment area. Those areas having suspected occupied nesting or denning habitats shall also be avoided and not treated until wildlife have left the area. The RCDTC Project Manager or SPI Registered Professional Forester shall demonstrate compliance with this measure through the submission of annual reports due to the California Department of Fish and Wildlife’s Northern Region Lake and Streambed Alteration Agreement Program no later than December 31 of each year that the project is implemented.

Mitigation Measure # HA/HAZ 7: Protection of MTEBs During Herbicide Applications

The RCDTC Project Manager shall ensure that no herbicides enter into MTEBs or other buffer areas at any time during project implementation. Portions of target plants hanging over and MTEBs or other buffer areas shall be moved out of such locations prior to treatment and no spraying shall occur. This standard shall be achieved by using a Licensed Pest Control Advisor along with Licensed Pesticide Applicators. These individuals shall conduct daily equipment checks to minimize the likelihood of a spill or accidental release of herbicide. If herbicides are inadvertently released into any MTEB or other buffer area, the Licensed Pesticide Applicator shall report such release immediately to the RCDTC Project Manager or Sierra Pacific Industries Registered Professional Forester who shall report the incident to the DFG and USFWS within 72 hours of occurrence including its location, date, time, herbicide type and concentration, reason for
the inadvertent release, measures taken to reduce chemical impact along with those undertaken to avoid future releases.

**Mitigation Measure # HA/HAZ 8: Timing of Herbicide Applications Related to Listed Species**

Herbicide treatments shall occur outside the breeding period of all special status species shown in Attachment B: Results of Database Inquiries and Species Review. Any special status wildlife species that may be found during project implementation shall be moved to a safe location under directives obtained from the Wildlife Branch of Region 1, California Department of Fish and Wildlife. Personnel conducting vegetation treatments or herbicide applications shall search for and relocate special status species that may be under vegetation prior to any cutting, chipping, piling, pile burning or herbicide applications. Personnel involved with the movement of wildlife shall not handle chemicals.

**Mitigation Measure # HA/HAZ 9: Qualification of Herbicide Application Personnel**

All applications of herbicide shall be done by a Qualified Licensed Applicator and under the supervision of a Licensed Pest Control Advisor in accordance with applicable, federal, state, and local laws or guidelines. All applicators shall be trained to safely handle and apply herbicides per State of California regulations as well as those of the Tehama County Department of Agriculture.

**Mitigation Measure # HA/HAZ 10: Mixing of Herbicides**

A clean tank shall be used for gathering stream water to be mixed in chemical tanks, no mixing shall occur within MTEB or other buffer area. No mixing shall occur in or near any storm water inlet.

**Mitigation Measure # HA/HAZ 11: Use of Herbicide Dyes and Stains**

In order to increase applicator accuracy, avoid missed vegetation and overspray as well as to indicate personal exposure to herbicides, a suitable stain or dye shall be incorporated into the herbicide prior to application.
**Mitigation Measure # HA/HAZ 12: Protective Clothing**

All workers involved with herbicide applications shall wear appropriate protective clothing and related safety equipment (masks, gloves, etc.) as per the guidelines of the California Department of Industrial Relations Division of Occupational Safety and Health and those of the manufacturer.

**Mitigation Measure # HA/HAZ 13: Wash Stations**

Clean soap and water shall be readily available on site for the purpose of emergency washing. Wash stations shall be located away from any natural waterway to avoid contamination of waterways and ponds in the area.

**Mitigation Measure # HA/HAZ 14: Communications Equipment**

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

**Mitigation Measure # HA/HAZ 15: Signage Within Herbicide Application Areas**

Prior to and during herbicide application, signs shall be posted along access points to minimize potential exposure by the public.

**Mitigation Measure # HA/HAZ 16: Notification of Landowners and Residents Within Herbicide Application Areas**

Landowners and residents shall be informed in writing as to the date when herbicides shall be applied on particular properties. This notification shall provide information regarding the chemicals to be used and Mitigation Measures developed to reduce environmental impacts. The notification shall recommend that all persons and animals stay out of treatment areas for a specified period of time.

**Mitigation Measure # HA/HAZ 17: Wind Speed During Herbicide Applications**

No herbicide applications shall take place when wind velocity is less than two (2) miles per hour or exceeds ten (10) miles per hour or when there is greater than a thirty percent (30%) forecast of rain
within six (6) hours of treatments. Wind speeds shall be monitored hourly.

**Mitigation Measure #HA/HAZ 18: Fire Protection Equipment**

To reduce impacts associated with exposure of people or structures to wildland fires, the RCDTC Project Manager or SPI Registered Professional Forester 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 RCDTC Project Manager, SPI Registered Professional Forester, applicators and any other workers 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. Only appropriately Certified Pesticide Applicators who are trained in wildfire prevention and suppression shall be used in the execution of project work. All motorized equipment shall have approved spark arrestors.

**Mitigation Measures Related to Transportation and Traffic**

**Mitigation Measure #Trans/Traffic 1: Operations During Hunting Season (Tramway/Road South Unit Only)**

In order to reduce impacts to local traffic utilizing the publicly maintained Tramway Road, all project work within the Tramway Road/South Unit shall cease during the local deer hunting season (Zone C-4) and resume once it has ended. Project work could continue along privately controlled and maintained roads included for treatments.
ENVIROMENTAL 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 X Air Quality
X Biological Resources X Cultural Resources X Geology/Soils
X Hazards & Hazardous Materials X Hydrology/Water Quality ☐ Land Use/Planning
☐ Mineral Resources ☐ Noise ☐ Population/Housing
☐ Public Services ☐ Recreation X Transportation/Traffic
☐ Utilities/Service Systems ☐ Mandatory Findings of Significance

DETERMINATION: (To be completed by the Lead Agency)

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.

X 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

Victoria Dawl/Manager  Resource Conservation District of Tehama County

______________________________  __________________________
Printed Name                    Date
Map A.
Tramway Road/A-Line Road/F-Line Road/Road 90-A Shaded Fuel Break
Project Area
Map B.
Tramway Road/A-Line Road/F-Line Road/Road 90-A Shaded Fuel Break
Photo Map of Project Area Parcels
Map C.
Topographic Map of Tramway Road/A-Line Road/F-Line Road/Road 90-A Shaded Fuel Break Project Area
Map D.
Map of Fuel Breaks and Fuel Treatments in the Vicinity of the Tramway Road/A-Line Road/F-Line Road/Road 90-A Shaded Fuel Break
Photo 1. Example of typical mixed conifer stand within a portion of the project area along Tramway Road.
Photo 2. Photograph of Mixed Conifer Stand With Understory of Young White fir and Douglas fir along Road 90A.
Photo 3. Photograph of Large Manzanita Within a Brush Field on a Rocky South Facing Slope Along the A-Line Road.
Photo 4. Example of Brush Encroachment Within a Small Pine Plantation Along the F-Line Road.
Summary of Findings
This IS/MND has been prepared to assess the project’s potential effects on the environment and an appraisal of the significance of those effects. Based on this IS/MND, it has been determined that the proposed project will not have any significant effects on the environment after implementation of Mitigation Measures. This conclusion is supported by the following findings:

1. The proposed project will have no effect related to Agricultural and Forest Resources, Land Use and Planning, Mineral Resources, Population and Housing, Public Services, Recreation, along with Utilities and Service Systems as well as Public Services.

2. The proposed project will have a less than significant impact on Aesthetics, Greenhouse Gas Emissions and Noise.

3. Mitigation is required to reduce potentially significant impacts related to Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Material, Hydrology and Water Quality as well as Transportation and Traffic.

The Initial Study/Environmental Checklist included in this document discusses the results of resource-specific environmental impact analyses which were conducted by the Resource Conservation District of Tehama County with assistance provided by various State agencies and other organizations. This Initial Study revealed potentially significant environmental affects that could result from the proposed project. The project’s proponent, the Resource Conservation District of Tehama County revised its project plans and has developed Mitigation Measures which will eliminate impact or reduce environmental impacts to a less than significant level. The Resource Conservation District of Tehama County has found, in consideration of the entire record, that there is no substantial evidence that the proposed project as currently revised and mitigated would result in a significant effect upon the environment. The IS/MND is therefore the appropriate document for CEQA compliance.
**PROJECT INFORMATION**

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1. Project Title:</td>
<td>Tramway Road/A-Line Road/F-Line Road/Road 90A Fuel Break</td>
</tr>
<tr>
<td>2. Lead Agency Name and Address:</td>
<td>Resource Conservation District of Tehama County 2 Sutter Street, Suite D Red Bluff, CA 96080</td>
</tr>
<tr>
<td>3. Contact Person and Phone Number:</td>
<td>Thomas McCubbins (530) 527-3013 x120 530-200-1231</td>
</tr>
<tr>
<td>4. Project Location:</td>
<td>See Attached Mitigated Negative Declaration Document</td>
</tr>
<tr>
<td>5. Project Sponsor’s Name and Address:</td>
<td>Sierra Nevada Conservancy 11521 Blocker Drive, Suite 205 Auburn, CA 95603</td>
</tr>
<tr>
<td>6. General Plan Designation:</td>
<td>Foothill Residential/ Timber Mountain</td>
</tr>
<tr>
<td>7. Zoning:</td>
<td>Agriculture Rural Rosenthal Timber Preserve Zone</td>
</tr>
<tr>
<td>8. Project Description:</td>
<td>See Attached Mitigated Negative Declaration Document</td>
</tr>
<tr>
<td>9. Surrounding Land Uses and Setting:</td>
<td>See Attached Mitigated Negative Declaration Document</td>
</tr>
<tr>
<td>10: Other public agencies whose approval may be required:</td>
<td>Tehama County Public Works Departments Cal Trans California Department of Fish and Wildlife Tehama County Agriculture Tehama County Air Pollution Control District</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Aesthetics</th>
<th>Agriculture and Forestry Resources</th>
<th>Air Quality</th>
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</thead>
<tbody>
<tr>
<td>Biological Resources</td>
<td>Cultural Resources</td>
<td>Geology / Soils</td>
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<tr>
<td>Greenhouse Gas Emissions</td>
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</tr>
<tr>
<td>Transportation / Traffic</td>
<td>Utilities / Service Systems</td>
<td>Mandatory Findings of Significance</td>
</tr>
</tbody>
</table>
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.

_________________________ ______________________
Victoria Dawley/Manager Date Signed
Resource Conservation District of Tehama County
2 Sutter Street, Suite D
Red Bluff, CA 96080
ANALYSIS OF POTENTIAL ENVIRONMENTAL IMPACTS

ENVIRONMENTAL ISSUES

<table>
<thead>
<tr>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
</table>

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

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

The project area is located within a remote portion of Tehama County used primarily for timber production, ranching, hunting and wildlife management. The A-Line Road, F-Line Road and Road 90A (North Unit) segments of the project area are located on private timberlands which are zoned for timber production, have restricted access and are generally out of view from traffic along State Route 36E. Exceptions are a short segment of the A-Line Road near its junction with State Route 36E and a quarter mile section of Road 90A which parallels immediately adjacent to the highway which is not formally classified as a Scenic Route. The reminder of the project area south of State Route 36E along Tehama County maintained Tramway Road (Tramway Road/South Unit) is largely screened from highway traffic by topography along with a visual barrier of mature trees and brush. In addition, those portions of both the North Unit and Tramway Road South Unit immediately adjacent to the State Route 36E will have limited treatments which will help provide additional screening to passing motorists.

That portion of the Tramway Road/A-Line Road/F-Line Road/Road 90A Fuel Break where project work will be most visible to passing motorists is within the Tramway Road South Unit including the length of Tramway Road from the Lyman Springs area and the road’s junction with the SPI N-Line to its junction with State Route 36 E. Although a public transportation route, Tramway Road carries very little traffic and is used primarily by land manages and hunters. Immediately after thinning dense sapling stands and understory vegetation adjacent to Tramway Road, this portion of the project area will show signs of treatments. After several years it is
anticipated that suppressed trees and healthy saplings will grow at an accelerated rate. After thinning and brush removal have been completed along Tramway Road, appropriate licensed herbicides will be applied within treatment areas in order to control the redevelopment of woody plants in the understory including sprouting oaks and conifers along with various brush species. These plants grow in abundance within open areas often at the exclusion of grasses and forb species. With woody vegetation and brush species under control, an increase in plant variety will occur for an extended period of time within the Tramway Road/South Unit providing a more natural, appearance. As a result of herbicide applications and an expanding forest canopy attributable to improved growing conditions, brush and other shade intolerant tree species will be shade suppressed further prolonging the useful life of the fuel break between thinnings and herbicide treatments. Given these factors, the project will not permanently impact any scenic resources that are visible to travelers along State Route 36E or Tramway Road.

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

State Route 36E is not a formally recognized State Scenic Highway. Project work will consist of thinning dense sapling stands and brush throughout the entire project area and the application of herbicides along the publicly maintained Tramway Road project segment (Tramway Road/South Unit) in order to create more natural growing conditions. No other natural or manmade resources will be impacted.

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

In the short term, the visual character of the project area would change through the removal of some trees and brush. In the long term, conifer and brush stands along Tramway Road, A-Line Road, F-Line Road and Road 90A will respond to thinning treatments resulting in healthier trees, a reduction in understory brush species, an increase in grasses and forbs as well as the development of more natural view conditions.

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 new sources of light or glare would be created by the execution and completion of project work.

*Impacts to Aesthetics will be less than significant.*
## ENVIRONMENTAL ISSUES

<table>
<thead>
<tr>
<th></th>
<th>Potentially Significant Impact</th>
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</table>

### II. Agriculture and Forest Resources.

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

**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?**

None of the land within the project area is classified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.
b) **Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?**

Project 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 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))?**

Project work would entail vegetation treatments that are commonly used in the management of forest stands or other wildlands and as a result would not conflict with existing zoning or cause rezoning of forest land, timberland or timberland zoned Timberland Production.

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

Project work would entail the removal of only suppressed trees and excess woody vegetation within dense conifer forests and brush stands. The removal of this unnaturally dense vegetation will create more natural conditions within roadside forests and improve the health of forest species. Project work will be conducted largely within and adjacent to the Tramway Road, A-Line Road, F-Line Road and Road 90-A rights-of-way. These treatments will not be completed to a degree that will result in forestlands being converted to non forestland uses.

e) **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?**

The fuel breaks being completed in connection with project work would not be developed to an extent so that the project area could be used for activities which would result in the conversion of agricultural or timber land to non-agricultural uses nor would the fuel break’s existence lead to future development that could result in this kind of land use conversion.

No adverse impacts to Agricultural and Forest Resources are anticipated
ENVIRONMENTAL ISSUES

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III. Air Quality.

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

Air Quality standards are based on provisions of the Federal and State Clean Air Acts. The Tehama County Air Quality Management District is responsible for the planning, maintenance and attainment of these standards at the local level. Tehama County has been designated as a non-attainment area for State and federal ambient ozone standards and California inhalable particulate matter (PM$_{10}$) standards. This project is expected to improve fuel loading conditions that will lead to a reduction in the threat of large scale catastrophic wildfires that release large amounts particulate matter and CO$_2$ into the atmosphere in a short period of time. In addition chippers used in the development of the fuel break will be certified by the Tehama County Air Pollution Control District and all pile burning will be in accordance with State and County air regulations along with the provision of the Tehama County Air Quality Plan. Finally it is anticipated that through the vegetation reductions completed in connection with this project, forest stands within the project area will become healthier and thus sequester more CO$_2$ as well as become more resilient and fire resistant in the future.

Would the Project

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

Fuel treatments to be conducted in connection with this project include masticating, cutting, chipping, piling or
burning conifer and brush vegetation. Herbicide applications will be included within the Tramway Road/South Unit portion of the project area. Equipment (masticators, large chipper units and chainsaws) to be used in the execution of project work will be operated under current Californian Air Regulations as enforced by the Tehama County Air Quality Management District. The limited effects to air quality that will result either directly or indirectly from this project would be short term in nature. In addition, the Mitigation Measures listed below related to air quality were developed in order to reduce the limited impacts of this project on CO$_2$ and PM$_{10}$ emissions to a less than significant level. Mitigation Measure #HA/HAZ 17 related to wind speed during herbicide applications will reduce any air related impacts attributable to herbicide use to a less than significant level. Consequently, none of the project components to be completed in connection with this project will permanently or significantly conflict with or obstruct implementation of the Tehama County Air Quality Plan or any State Air Quality Plans.

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

Equipment to be used in the execution of project work will operate and any burning will be conducted under current Californian Air Regulations as enforced by the Tehama County Air Quality Management District.

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)?

Equipment to be used in the execution of project work will be operated under current Californian Air Regulations as enforced by the Tehama County Air Quality Management Districts and all pile burning will be in accordance with State and County air regulations along with the provision of the Tehama County Air Quality Plan.

d) Expose sensitive receptors to substantial pollutant concentrations?

The Tramway Road/A-Line Road/F-Line Road/Road 90A Shaded Fuel Break project area is located in a relativity remote portion of eastern Tehama County. The nearest sensitive receptors include the communities of Paynes Creek, Ponderosa Sky Ranch and Manton to the west, Mineral to the east along with scattered rural residential parcels in the vicinity of Lyman Springs. Air pollutants related to equipment use generated in connection with project work will be from the exhaust of mastication units, chipping equipment, chainsaws, chip vans used to carry a portion of treated vegetation to co-generation plants and equipment/personnel transportation equipment. In addition, vegetation piles will be ignited and burned. These activities will generate CO$_2$ and PM$_{10}$ emissions. Mitigation Measures #AQ 1: Burn Permits and AQ 2: Burning Period were developed in order to reduce air quality impacts related to pile burning to a less than significant level.
e) Create objectionable odors affecting a substantial number of people?
Execution of project work will result in minor releases of exhaust smoke from regulated equipment used in the completion of project work along with smoke generated by burn piles. Potential air impacts related to the use of herbicides will be localized and limited to the area immediately adjacent to application through the implementation of Mitigation Measure #HA/HAZ 17. Given that all project work will be completed within remote locations, any odors or minor pollutants generated in connection with project work will not affect substantial numbers of people.

**Proposed Mitigation Measures to Reduce Air Quality Impacts**

**Mitigation Measure #AQ 1: Burn Permits**
It is anticipated that numerous piles of vegetative debris will be developed in connection with project work and these will need to be burned. 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 of any entity conducting such burning operations. The need for the permit will depend upon the exact month burning is to occur. Any entity conducting burning operations shall follow all federal, state, and local requirements when burning piles. 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 retained in the RCDTC project file. Burning operations shall be conducted under a Smoke Management Plan approved by the TCAPCD a copy of which shall be retained in the RCDTC project file. The Tehama County Air Pollution Control District shall assure adherence to the provisions of this Mitigation Measure.

**Mitigation Measure #AQ 2: Burning Period**
In order to reduce the impact of any burning operations these activities shall be conducted during the regular burn season when fire danger is low and only on official burn days. The Tehama County Air Pollution Control District shall assure adherence to the provisions of this Mitigation Measure through the issuance of a burn permit. Enforcement of permit provisions shall be the responsibility of Cal Fire.

**Mitigation Measure # HA/HAZ 17: Wind Speed During Herbicide Applications**
No herbicide applications shall take place when wind velocity is less than two (2) miles per hour or
exceeds ten (10) miles per hour or when there is greater than a thirty percent (30%) forecast of rain within six (6) hours of treatments. Wind speeds shall be monitored hourly.

No significant adverse impacts to Air Quality are anticipated with the implementation of the above mitigation measures.
## ENVIRONMENTAL ISSUES

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<td><strong>IV. Biological Resources. Will the project:</strong></td>
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<td>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 Game or the U.S. Fish and Wildlife Service?</td>
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<td>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 Game or the U.S. Fish and Wildlife Service?</td>
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<td>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?</td>
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<td>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?</td>
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<td>e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?</td>
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<td>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?</td>
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### Discussion and Potential Impacts

As mentioned above, the Tramway Road/A-Line Road/F-Line Road/Road 90-A Shaded Fuel Break project has been divided into two major units. That portion of the overall project area within the North Unit consists of three road segments that are owned and maintained by Sierra Pacific Industries. Included is a 9 mile long portion of the SPI A-Line Road, a 4.8 mile segment of the Company’s F-Line Road and 2.25 miles of SPI’s Road 90A which lies adjacent to State Route 36E on the highway’s south side. The Tramway Road/South Unit, lies along a 5.5 mile portion of the unpaved secondary County maintained Tramway Road. In developing the project work scope and analyzing its impact in this manner, the RCDTC has been able to address the specific environmental constraints and requirements of various funding entities that will be involved with financing and implementing the development of fuel break infrastructure.
In preparing the Biological Resources component of this Initial Study/Mitigated Negative Declaration, the RCDTC utilized State, Federal and SPI provided information. Initially, RCDTC personnel conducted a query of the California Natural Diversity Database (CNDDB) which was completed May of 2014 in order to identify listed species which might be found within the project area. The Cal Fish database, State of California Wildlife Habitat Relationship System, SPI botanical and wildlife database and other references were also reviewed in order to determine the possible occurrence of special status species. Input from a federal perspective was provided by Lassen National Forest and the US Fish and Wildlife Service through federal database searches along with telephone conversations, emails and other correspondence with agency staff.

Sierra Pacific Industries has completed timber harvest operations on portions of their lands immediately adjacent or near to the North and South Units of the Tramway Road/A-Line Road/F-Line Road/Road 90A Fuel Break project area. Implementing these harvest operations required research and field surveys that were conducted in order to identify the potential occurrence of listed species. The results of these efforts were reported in Timber Harvest Plans (THPs) that were prepared under the requirements established in the California Forest Practices Act. The Registered Professional Foresters preparing these THP analyses conducted scoping for listed, threatened, endangered, and sensitive and some non-listed plant and wildlife species that occur within portions of the watersheds surrounding the THP analysis area. The analysis process utilized by SPI foresters included a search of the California Natural Diversity Database, the SPI in-house botany/wildlife database, a review of the California Department of Fish and Game’s Biogeographic Information and Observation System; consultation with individuals having training and experience in the area along with the RPF’s personal training and fieldwork.

Variation in Project Work Scope
The Lassen National Forest is providing funding for all project work within the North Unit which includes the A-Line Road and F-Line Road along with Road 90-A which parallels the highway immediately south of the road right-of-way. The work scope for efforts within this portion of the project area entails the use of tracked and tired cutting equipment that will cut brush along with small conifer and deciduous trees having a diameter of 10” and under (oak species 6” and under). Similarly tracked and tired skidding equipment will transport cut vegetation to chipping areas. On flatter sites, processed vegetation will be blown into chip vans for transport to co-generation plants in the Northern Sacramento Valley area. On steeper slopes, chipped vegetation will be left on site in order to provide a mulch cover that will prevent project related erosion and the production of sediment. Tracked mastication equipment...
will be utilized to process vegetation in place leaving all chipped material on the forest floor. In certain sensitive areas such as forestry plantations and sites located adjacent to streams and other resource protection buffers, hand crews will cut and feed vegetation into an arborist chipper unit having a 15” throat or stack it into piles for later burning.

Use of Follow-Up Herbicide Applications within the Tramway Road/South Unit
In addition to the chipping and mastication treatments described above, registered herbicides will be applied to treatment areas exclusively within the Tramway Road/South unit once mechanical treatment operations have been completed. Follow up herbicide applications will be completed in order to delay the re-sprouting of brush and shade tolerant tree species within treatment areas along Tramway Road. It is anticipated that through the use of herbicide materials, the long term effectiveness of mechanical fuel treatments can be assured including an increase in the rate of development related to conifer and deciduous trees remaining within the project area after project work has been completed. In addition, plant diversity throughout the entire project area is expected to increase through the control of woody brush species that tend to dominate more open forested stands and these impacts will be extended for a longer period of time within the Tramway Road/South Unit through the use herbicides.

Discussion of Herbicides to be used Within the Tramway Road/South Unit and Potential Toxicological Impacts of Herbicides to Biological Resources

Glyphosate
Glyphosate, the active ingredient in the over the counter herbicide Roundup, is used to control grasses, herbaceous plants including deep rooted perennial weeds, brush, and some broadleaf trees and shrubs. It is applied to foliage, is absorbed by leaves and rapidly moves through the plant. It acts by preventing the plant from producing an essential amino acid. Aminomethylphosphonic acid is the main product of this chemical’s decomposition. It is generally not active in soil and is not usually absorbed from the soil by plants. Glyphosate remains unchanged in the soil for varying lengths of time, depending on soil texture and organic matter content. The half-life of glyphosate can range from 3 to 130 days. The surfactant in roundup has a soil half-life of less than one week. The main decomposition product of the surfactant is carbon dioxide. Glyphosate dissolves easily in water. The potential for leaching into groundwater is low as it is strongly adsorbed by soil particles. It does not evaporate easily. Glyphosate has no known effect on soil microorganisms. Contact of this chemical material with non-target plants may injure or kill plants. Consequently its use over the
top of established conifers is mostly done when they are dormant. Glyphosate is practically non-toxic to birds, mammals and bees. It is no more than slightly toxic to fish and practically non-toxic to aquatic invertebrate animals. It does not build up in fish. There are no reported cases of long-term health effects in humans due to glyphosate. According to label restrictions, this material is not to be applied directly to water or wetlands. Consequently, wide treatment buffers have been developed around all stream zones and riparian areas.

Within forestland areas, glyphosate is applied to individual weed species that are in competition with growing seedlings or trees, but may also be used in a broadcast spray over the top of planted seedlings when they are dormant to control competing vegetation. Once tree seedlings have control of the site, it is usually no longer necessary to use this product in the approximately 80 year average rotation period of SPI plantations. Site control is usually reached within the first 4 to 5 years after planting depending on the spacing and survival rate of tree seedlings. SPI forestry and biological personnel have reviewed California Department of Pesticide Regulation (DPR) and U.S. Environmental Protection Agency (USEPA) research and testing for impacts pertaining to glyphosate. Given the scientific and toxicological information that were reviewed, DPR and USEPA testing and if used according to label restrictions, regulatory restrictions and in a manner typical of fuels management operations; SPI and the RCDTC have determined that that the use of glyphosate would not pose a significant human health hazard nor produce any significant adverse environmental impacts.

Imazapyr

Imazapyr is registered in California for forestry and right-of-way uses. This herbicide is a non-selective, systemic plant growth inhibitor. This chemical is biologically active in plants at low concentrations. Targeted plants rapidly take up Imazapyr, where it inhibits an enzyme essential to plant growth. This enzyme is not present in other organisms. Forestry dissipation studies, reported values for the half-life of Imazapyr ranging from 14 to 44 days in forest litter, 19 to 34 days in forest soils, and 12 to 40 days on plants. This chemical is water soluble and does not readily bind to organic material in soils. Therefore, it is classified as highly mobile and can travel through soil with water and enter groundwater. It can also move with runoff and enter surface water. Its low application rates minimize potential impacts on surface or groundwater. Based on lab and field studies Imazapyr is practically non-toxic to fish, birds and bees on a short term (acute) basis. Imazapyr does not appear to bioaccumulate in animals and is classified as practically non-toxic to mammals on a short-term basis. SPI forestry and biological personnel have reviewed
DPR as well as USEPA research and testing for impacts pertaining to Imazapyr. Given the scientific and toxicological information that was reviewed, along with DPR and USEPA testing, use according to label restrictions and regulatory restrictions and in a manner typical of fuels management operations; SPI and the RCDTC have determined that the use of Imazapyr would not pose a significant human health hazard nor produce any significant adverse environmental impacts.

Surfactants:
In addition to the herbicides proposed for use within the Tramway Road/South Unit, surfactants will be added and mixed into these chemicals by the applicator at the time of their use. This added chemical material has been formulated to improve the emulsifying, spreading, sticking and absorbing properties of liquids including the active ingredients within herbicides. The use of a surfactant tends to reduce the amount of herbicide required per square meter of application area as they allow these chemicals to spread more evenly with a thinner coating. There are five surfactant classes: nonionic surfactants, crop oil concentrates, nitrogen-surfactant blends, esterified seed oils and organo-silicone surfactants. Those additives commonly used by SPI and the RCDTC in vegetation management efforts include: Hasten, MCOIMSO (both non-ionic esterified vegetable oils), Sylgard 309 (silicone surfactant), Syl-Tac, Dyne-Amic (both vegetable oil and silicone blends), Mor-Act (crop oil concentrate), crop oil concentrate (crop oil and petroleum distillates) and R-11 (general wetting agent). Surfactants include inert, detergents, vegetable oils, crop oils or petroleum distillates. The actual quantity of additives that are dispersed into the environment is very low in vegetation management and reforestation herbicide applications and these chemicals break down quickly in the forest environment. The Pest Control Advisor who will develop the specific herbicide recommendations for chemical treatments within the Tramway Road/South Unit will be required to include any adjuvant used. In addition all chemicals applied in connection with project work must be reported to the Tehama County Agriculture Commissioner.

Herbicides Dye
Per Mitigation Measure #HA/HAZ 11 Use of Herbicide Dyes and Stains, an appropriate dye will be added to herbicides that will allow applicators to observe where chemical spray has reached vegetation in order to avoid overspray and repeat spraying. Additives that are commonly used for this purpose include Hasten, MCOIMSO (both non-ionic esterified vegetable oils), Sylgard 309 (silicone surfactant), Syl-Tac, Dyne-Amic (both vegetable oil and silicone blends), Mor-Act (crop oil concentrate), crop oil concentrate (crop oil and petroleum distillates), R-11 (general wetting agent), and
Colorfast Purple (dye). Surfactants and additives are normally inert detergents, vegetable oils, crop oils or petroleum distillates. As is the case with surfactants, the actual quantity of material that is dispersed into the environment is very low in vegetation management and reforestation herbicide applications and these chemicals break down quickly in the forest environment. As mentioned above, the Pest Control Advisor developing herbicide recommendations for chemical treatments within the Tramway Road/South Unit will be required to include any dyes or stains used and the amount of all chemicals utilized in project work to the Tehama County Agriculture Commissioner.

**Effects of Herbicide Applications on Special Status Species**

Resources within the project area include special status plants, invertebrates, fishes, amphibians, reptiles, birds, and mammals. As related to this CEQA analysis, “Special Status Species” include all those tracked by CNDDB and SPI that could potentially occur in the project area and those that meet the CEQA definition of Endangered, Rare, or Threatened (see CEQA Guidelines, § 15380). The special-status plants listed in Appendix B *(Results of Database Inquiry and Species Review)* have been identified either within or near to the project area. The use of buffer zones around special status plant populations will reduce potential impacts to special status plant species to a less than significant level. In addition, annual sensitive plant species will be senesced or dormant during the herbicide application period effectively eliminating any possibility of foliar absorption. The application timing will reduce the risk to non-target plants to a level of insignificance.

**Mitigation Measures Established to Protect Biological Resources**

In addition to those developed in order to protect project area resources from the impacts of herbicide applications, a number of Mitigation Measures to be enforced during the implementation of mechanical fuel treatments have been established as well. Mitigation Measure **#BIO 1: Stream and Water Course Treatment Buffers** establishes formal large stream and riparian area exclusion buffers along major streams and their tributaries as well as other wet sites throughout the North Unit and Tramway Road/South treatment units. These buffers will act as filtering strips that will prevent the very limited amount of sediment anticipated to be generated during project work from entering stream channels. In the case of the Tramway Road/South Unit, these buffers will protect aquatic and riparian habitats from impacts related to herbicide use. Mitigation Measures have also been developed in order to prevent soil erosion as well as the generation and introduction of sediment, wood chips and woody debris into streams and other sensitive areas. Mitigation Measure **#GEO/SOILS: 1 Prohibition Against Work on Steep Slopes and Unstable Areas** prohibits fuel treatments on slopes greater than 50% and **#HYDRO 1:**
Mulching of Exposed Soil and Installation of Waterbars requires that large areas of exposed soils be covered with protective mulch. Measure #BIO 8 Woody Debris, establishes a prohibition against the introduction of chips and other woody materials generated in connection with chipping and mastication treatments into stream flows and dry stream channels and #BIO 2 Stream Crossings, establishes procedures for protecting stream crossings. Mitigation Measure #BIO 2 was established as an abundance of caution as stream crossings outside of established road rights-of-way are not anticipated.

In addition to a significant amount of chipped and masticated vegetation left throughout the project area, extensive needle cast from conifer species will result in additional ground cover in approximately one year after these mechanical treatments have been completed providing additional protection from erosion and sedimentation. With the removal of understory vegetation, more sunlight can reach the soil surface. If invasive plant material or seed were introduced into treatment areas during implementation of project work, there is an increased chance that infestations could occur. As a result, Mitigation Measure #BIO 10: Invasive Plants and Equipment Cleaning has been established in order to prevent the spread of invasive plant species through the use of mobile equipment. This protection measure requires that all mobile equipment to be used within any portion of the overall project area be cleaned prior to use. Mitigation Measure #BIO 9: Identification and Isolation of Invasive Plants establishes a requirement that already in place infestation of invasive plants be flagged and avoided or treated prior to project implementation.

The thinning, mastication treatments and herbicide applications to be completed in connection with this shaded fuel break project will create more natural open stands of mixed conifer forests that are now thickets of second growth sized trees with excessive numbers of saplings and brush in the understory. Mature chaparral will be reduced within open areas that have not been burned in many years. This reduction in vegetation will be maintained within the Tramway Road portion of the overall project area through the use of appropriate herbicides. No herbicide applications will occur within any other road segments analyzed in this Initial Study/Mitigated Negative Declaration. Treatments of vegetative fuels within chaparral stands could lead to localized habitat fragmentation and predation of those smaller species that use such vegetation as cover. Given the limited area (809 acres) within a much larger landscape where treatments will occur, no large scale impact to these species is anticipated. Those with the highest probability of occurring within the project area inhabit riparian sites and wet environments as are found along stream courses. Impacts to these areas would be reduced to a less than significant level through the implementation of Mitigation Measures #BIO 1 and #BIO 2 discussed above. No significant
impacts to biological resources are expected provided the specific Mitigation Measures listed below are followed.

Response and Discussion of Biological Resource Questions

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 Game or the U.S. Fish and Wildlife Service?

(See Comments Above)

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 Game or the U.S. Fish and Wildlife Service?

No formally designated riparian habitats or sensitive natural communities have been established within the project area. Mitigation Measures BIO #1 and BIO #2 have been incorporated into the project’s work scope in order to reduce potential impacts on aquatic habitats, riparian areas and wet sites to a less than significant level.

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?

Project work will not entail incidental earth movement and there are no federally protected wetlands located within the project 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?

No impacts to migratory terrestrial, aquatic or avian species will occur that are attributable to the implementation of this project’s work scope. In addition to wide stream buffers that meet USFS resource protection requirements, the Mitigation Measures listed below have been incorporated into the project’s work scope requirements in order to reduce any potential impacts to aquatic or riparian species to a less than significant level. Although this project is approximately 22 miles in length and fuel treatments will be completed to a width of 300’ for a total of 809 acres, this area represents a very small portion of the watersheds and landscapes through which project work will be completed. As a result, impacts to both upslope and down slope migration of species will not be significantly impacted.

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

There are no local policies or ordinances protecting biological resources that affect the project area.
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?

The only habitat or conservation plans found within the two units of the project area, are those developed and implemented by Sierra Pacific Industries which includes a fisher protection plan and raptor policy. Based upon input from company resource personnel during the development of this environmental analysis, no significant negative impacts to these plans are anticipated.

Proposed Mitigation Measures to Reduce Biological Resources Impacts

Mitigation Measure #BIO 1: Stream and Watercourse Treatment Buffers

300 foot Mechanical Treatment Exclusion Buffers (MTEB), also referred to as buffer areas throughout this Initial Study/Mitigated Negative Declaration document shall be established on each side of Battle Creek’s South Fork along with the South Fork of Digger Creek. All other wet and dry stream courses shall be protected by a 150 foot MTEB. Within these MTEBs, treatments of any kind including herbicide applications to be completed exclusively within the Tramway Road/South Unit shall be prohibited.

Similarly, ditches, canals and other man made water conveyance structures shall be protected by a 25’ MTEBs on both sides of these water features. All springs shall be encircled by a 75’ MTEB. All stream and riparian area MTEBs shall be established and flagged by the RCDTC Project Manager or a Sierra Pacific Industries Registered Professional Forester prior to implementation of any project work. Monitoring photographs shall be taken by the RCDTC Project Manager or Sierra Pacific Industries Registered Professional Forester before and after completion of project work in order to document compliance with Mitigation Measure #BIO 1. Monitoring photographs shall be incorporated into the project file. Consideration of site specific modification to MTEBs and other buffer requirements could occur upon site review and approval by Lassen National Forest, Cal Fire, California Department of Fish and Game or California Regional Water Quality Control Board personnel as appropriate.

Mitigation Measure #BIO 2: Stream Crossings

Although not anticipated, in the event that equipment will need to cross a live stream outside the road rights-of-way of Tramway Road, A-Line Road, F-Line Road or Road 90A a California Department of Fish and Wildlife 1600 Stream Alteration Agreement would be required at the discretion of that agency. In such instances, equipment crossings of waterways, streambeds and their associated approaches shall be
located and flagged by the RCDTC Project Manager or an SPI Registered Professional Forester prior to the occurrence. Within these crossing areas, no vegetation shall be removed. Verification of flagging at crossing sites prior to equipment crossing as well as verification of no impacts to vegetation and soils once crossings have been completed shall be made by the RCDTC Project Manager or an SPI Registered Professional Forester and documented in the project file. The RCDTC Project Manager or an SPI Registered Professional Forester shall inspect crossing sites prior to and after equipment entry into stream channels to ensure that special status species are not harmed or otherwise impacted and that there are no significant impacts to riparian vegetation. If special status species are found at a particular crossing site, another more appropriate site shall be located and used.

Mitigation Measure #BIO 3: Pre Project Implementation Plant Surveys

Personnel specifically trained in the identification of California Rare Plant Ranking (CRPR) List 1, List 2 and List 3 species and any others shown in Appendix B (Results of Database Inquiry and Species Review) shall be required to evaluate potential habitat for these species prior to implementation of vegetation treatments within the project area during the appropriate blooming or identification period. Such personnel shall also evaluate potential findings of any such plants within treatment areas during the execution of project work per the provisions of Mitigation Measure #BIO 4 Protection of Previously Unidentified Listed Plants. 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 and the Lassen National Forest botanist. A copy shall also be incorporated into the RCDTC project files. 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 C). Biological surveys shall also map invasive plant species listed by the California Department of Food and Agriculture (http://www.cdfa.ca.gov/phpps/ipc/weedinfo/winfo_list-pestrating.htm) and the California Invasive Plant Council (Cal-IPC) (http://www.cal-ipc.org/) located within the project area. All rare plants having a potential to be impacted by project work shall be marked or flagged for complete avoidance.

Mitigation Measure #BIO 4: Protection of Previously Unidentified Listed Plants

If during the implementation of vegetation treatments within the project area, any previously unidentified listed plants shown in Appendix B (Results of Database Inquiry and Species Review) are detected by the individuals described in Mitigation Measure #BIO 3 the following plant protection measures shall apply:
North Unit

Within the North Unit, all project related activities shall immediately stop and a 25’ MTEB shall be established and flagged around the perimeter of any occurrence by the RCDTC Project Manager, Sierra Pacific Industries Registered Professional Forester, or other personnel specifically trained in the identification of California Rare Plant Ranking (CRPR) List 1, List 2 and List 3 and any others shown in Appendix B (Results of Database Inquiry and Species Review). Within such MTEBs, no cutting and chipping or piling and burning shall be conducted. Cut and chipped material along with all burn piles shall be kept outside the listed plant MTEB. If any trees 10” and under in diameter are cut, they shall be directionally felled and moved away from the occurrence.

Tramway Road South Unit

Within that portion of the project area inside the Tramway Road South Unit where herbicide applications are generally permitted, all project related activities shall immediately stop and a 25’ MTEB shall be established and flagged around the perimeter of any occurrence as established by the RCDTC Project Manager, Sierra Pacific Industries Registered Professional Forester, or other personnel specifically trained in the identification of California Rare Plant Ranking (CRPR) List 1, List 2 and List 3 and any others shown in Appendix B (Results of Database Inquiry and Species Review). Within such MTEBs, no cutting and chipping, piling and burning or herbicide applications shall be conducted. Cut and chipped material along with all burn piles shall be kept outside the listed plant MTEB. If any trees 10” and under in diameter are cut, they shall be directionally felled and moved away from the occurrence.

Mitigation Measure #BIO 5: Protection of Migratory Bird Treaty Act Species

In order to protect any species covered by the Migratory Bird Treaty Act (MBTA), no fuel treatments of any kind shall occur between March and August, unless the following is implemented: 1). A survey is conducted by the SPI Registered Professional Forester, a biologist or other persons with knowledge of and ability to recognize species protected by the MBTA within 0.5 miles of the project area during the nesting season of listed species and it is determined that there are no occupied nests within the proposed project area. 2). If an occupied nest is found, then the SPI Registered Professional Forester, a 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 no activities shall occur within 100 feet of the nest during the breeding season. If raptor species are found, the provisions of Mitigation Measure #BIO 6 related to raptor protection shall apply. Modifications and possible reduction in MTEB size may be made after consultation with the California Department of Fish and Wildlife personnel. 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.

**Mitigation Measure #BIO 6: Raptor Protection**

A Sierra Pacific Industries Licensed Professional Forester or wildlife biologist with appropriate training in the identification of raptors shall perform a walk-through survey of treatment areas shortly before all vegetation treatments or herbicide applications are initiated. 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 in the harvest unit. If field personnel detect raptor presence, appropriate protection measures as described below for that particular species shall be established. Upon discovery of an occupied raptor nest or any unknown large bird, the RCDTC’s Project Manager or the Sierra Pacific Industries Registered Professional Forester (after conferring with the RCDTC’s Project Manager) shall inform all personnel involved with vegetation treatment operations 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 along with any specified in the California Forest Practice Rules to protect the nest are implemented on the ground.

**Raptor Protection Measures**

**Listed Raptors**

In accordance with Forest Practices Rules, if an occupied nest of a listed bird (ESA, CESA, or Board of Forestry "Sensitive Species") is discovered during project work, the timber operator shall protect the nest tree, screening trees, perch trees, and replacement trees from any vegetation treatment operations. Until any consultation required under Forest Practice Rules occurs, (1) vegetation disturbing activities shall be suspended within one mile of the nest, (2) all treatment operations (per Public Resources Code §4527) shall be suspended within a 375-foot radius buffer of the occupied nest, and (3) the Department of Fish and Wildlife shall be immediately notified and consultation shall be initiated with the appropriate wildlife agencies.

**Non-Listed Raptors**

If an occupied nest of a non-listed raptor is discovered during vegetation treatment operations, all vegetation disturbing activities within one mile of the occupied nest shall be suspended. Upon such suspension, the RCDTC Project Manager or an SPI
Registered Professional Forester under the advice of 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.

Mitigation Measure #BIO 7: Fisher Protection (Per Appendix D Sierra Pacific Industries Fisher Take Avoidance Measures)

Prior to project implementation and during treatment activities, the RCDTC Project Manager or SPI Registered Professional Forester shall look for freshly excavated cavities suitable for fisher dens on snags between 10” and 12” in diameter located 6’ to 12’ above ground level. In addition, within the project area, a potential den structure is defined as any hardwood with visible indicators of cavity formation (dead or alive) ≥15 inches DBH, a conifer snag ≥22 inches DBH, or a live green cull or green wildlife conifer ≥22 inches 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 ranches, and visible signs of fungus or other indications of cavity formation or visible cavity openings. The RCDTC Project Manager or SPI Registered Professional Forester 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 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 (MTEB). 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 SPI Registered Professional Forester shall be notified. If a den or habitation of a fisher is discovered, all operations (per PRC Section 4527) shall be suspended and a survey for a fisher den shall be completed. If a den is found, a flagged 375’ radius MTEB shall be established around the identified den or habitation. The Department of Fish and Wildlife shall then be immediately notified.

Mitigation Measure #BIO 8: Woody Debris

In order to prevent the introduction of excess woody debris into stream flows, dry stream channels that have flows during the rainy season, or other protected areas, no chipped material shall be blown or otherwise introduced into any Mechanical Treatment Exclusion Buffer. The RCDTC Project Manager or SPI Registered Professional Forester shall take before and after photographs of project work that has occurred near MTEBs in order to document adherence to this requirement.
Mitigation Measure #BIO 9: Identification and Isolation of Invasive Plants
Populations of invasive plants listed by CDFA having the potential to be spread or otherwise impact project work shall be either 1.) flagged and avoided during project implementation, or 2.) treated prior to project implementation. Populations of invasive plants listed by Cal-IPC shall be evaluated for the risk of further infestation due to project activities and treatments or other mitigation shall be applied as needed. If discrete patches of Cal-IPC invasives are located, (e.g. species that are not already common in the project area) staging sites shall be located outside of these discrete infestations.

Mitigation Measure #BIO 10: 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 work shall be cleaned prior to use within the project area. The RCDTC Project Manager or SPI Registered Professional Forester shall assure and document equipment cleaning. Documentation of cleaning shall be incorporated into the project file.

Mitigation Measure # HA/HAZ 11: Use of Herbicide Dyes and Stains
In order to increase applicator accuracy, avoid missed vegetation and overspray as well as to indicate personal exposure to herbicides, a suitable stain or dye shall be incorporated into the herbicide prior to application.

Mitigation Measure # GEO/SOILS 1: Prohibition Against Work on Steep Slopes and Unstable Areas
No equipment operations shall occur on slopes exceeding 50 % and shall not occur on any unstable areas, regardless of slope percentage. Suitability for equipment operations related to slope and soil stability shall be determined by the RCDTC Project Manager or a Sierra Pacific Industries Registered Professional Forester.

Mitigation Measure #HYDRO 1: Mulching of Exposed Soil and Installation of Waterbars
Any newly-exposed soil of over 100 square feet in area shall be mulched with chips or brush to minimize the potential for erosion. Hand water bars shall be installed to divert water onto stabile vegetation and
away from watercourses, as needed. Verification of proper installation and sufficiency of both mulching and waterbars shall be made by the RCDTC Project Manager or SPI Registered Professional Forester prior to and following the season’s first precipitation event and recorded in the project file.

*No significant adverse impacts to Biological Resources are anticipated with the implementation of the above mitigation measures.*
ENVIRONMENTAL ISSUES

<table>
<thead>
<tr>
<th>V. Cultural Resources. Will the project:</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?</td>
</tr>
<tr>
<td>b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?</td>
</tr>
<tr>
<td>c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?</td>
</tr>
<tr>
<td>d) Disturb any human remains, including those interred outside of formal cemeteries?</td>
</tr>
</tbody>
</table>

Discussion

Information about Cultural Resources

In order to assess impacts to cultural resources attributable to implementation of the Tramway Road/A-Line Road/F-Line Road/90-A Fuel Break project, an archeological records search was made by the Northeast Center of the California Historical Resource Information Center (NCCHRIC) at California State University Chico. A literature review of previous cultural resource work in the vicinity of the proposed project area was undertaken by David DeMar (I.C. File # W14-66). The date of these activities was May 15, 2014. The project area was identified with county parcel maps and a topographic map of the Areas of Potential Effect (APE). Historic and archaeological base maps along with base maps identifying previous survey efforts housed at the NCCHRIC were also reviewed by Mr. DeMar. Previously recorded cultural resources were identified within 1/4 mile of the proposed project boundaries.

Previous survey reports were identified directly within the record search corridor including:

- 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)
Eleven previously recorded sites were identified within the project area and are listed and described below.

### Previously Identified Cultural Resources

<table>
<thead>
<tr>
<th>Trinomial</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA-TEH-595</td>
<td>Lithic scatter, previously ‘destroyed’ site</td>
</tr>
<tr>
<td>CA-TEH-1824H</td>
<td>Last Chance Ditch segment</td>
</tr>
<tr>
<td>CA-TEH-1825H</td>
<td>Empire Flume segment</td>
</tr>
<tr>
<td>CA-TEH-1835H</td>
<td>Last Chance Ditch segment</td>
</tr>
<tr>
<td>CA-TEH-1879H</td>
<td>Belle Mill</td>
</tr>
<tr>
<td>CA-TEH-1880H</td>
<td>Belle Mill flume segment</td>
</tr>
<tr>
<td>CA-TEH-1881H</td>
<td>Ditch segment</td>
</tr>
<tr>
<td>CA-TEH-1882H</td>
<td>Ditch segment</td>
</tr>
<tr>
<td>CA-TEH-1883H</td>
<td>Belle Mill Tramway segment</td>
</tr>
<tr>
<td>CA-TEH-2496H</td>
<td>Sparse historic refuse scatter</td>
</tr>
<tr>
<td>CA-TEH-2498H</td>
<td>Sparse historic refuse scatter</td>
</tr>
</tbody>
</table>

### NATIVE AMERICAN CONSULTATION

On September 10, 2014, project review and consultation memos were sent via U.S. Postal Service to seven tribes and individuals identified by the Native American Heritage Commission as having an interest in the area where the project is located. These included:
At the time the archeological inventory report had been issued (December 12, 2014) no responses from these tribal groups had been received.

PROJECT INVENTORY

The project area was identified with county parcel maps and with a topographic map of the Areas of Potential Effect (APE). The fuels reduction site was identified, and traversed with directional meanders spaced approximately 30 meters apart. Periodically a trowel was used to clear away duff to examine the subsurface soil. Erosion cuts and rodent hole spoils were examined for artifacts, ecofacts and soil discoloring (e.g., midden deposits). A compass and survey-grade Trimble GeoXT GPS were also used during the survey. The survey occurred on May 9, May 16, July 24, August 5, August 12 and August 21, 2014.

Cultural Resources Discoveries

During field surveys, the previously recorded sites identified above were relocated. These surveys also resulted in the identification of four new historic sites within the fuelbreak project area.

Previously Recorded Sites

No new cultural materials associated with the previously recorded sites were identified within the fuelbreak project. Site CA-TEH-2498H was identified 250 feet northwest of the proposed fuelbreak corridor. In this same vicinity, sites CA-TEH-595 and CA-TEH-2496H were identified along the eastern most edge of the of the proposed fuelbreak corridor. Site CA-THE-1883H, the Historic Belle Mill, was relocated directly to the north of the of the proposed fuelbreak corridor.

The remainder of the previously recorded sites (CA-TEH-1824H, 1825H, 1835H, 1880H, 1881H, 1882H, and 1883H) are linear features (e.g. ditch and tramway segments). Linear sites CA-THE-1880H, Belle Mill flume segment, and CA-THE-1835H, Last Chance Ditch segment, were relocated entirely outside of the proposed project area. The remaining linear features (CA-TEH-1824H, 1825H, 1881H, 1882H, and
1883H) are located along the Tramway Road segment of the proposed fuelbreak. The observable manifestation of these linear features within the project area is limited.

Description of New Sites Identified During Cultural Resources Field Surveys

Tramway 1
The archaeological site defined as "Tramway 1" is a sparse historic-era refuse scatter that encompasses a six foot by four foot area. The site consists of five sanitary cans opened by a church key and one clear glass jar with a threaded top. There are no identifiable letters, markings or colors on any of the cans or glass jar. The site is located approximately seventy-five feet north of the junction of the Tramway Road and Sierra Pacific Industry’s 10A Road on a gently sloping ridgeline within a mixed-conifer forest type. The site has been disturbed by road maintenance and past forest management activities (heavy equipment use).

Tramway 2
The archaeological site defined as "Tramway 2" is a sparse historic-era refuse scatter that is contained in two concentrations, A and B. Concentration A encompasses a twelve foot by fifteen foot area. The site consists of two holes in the top cans and six sanitary cans opened by church key and slit. There are no identifiable letters, markings or colors on any of the cans. Concentration B encompasses a twelve foot by four foot area. The site consists of 8 sanitary cans, opened by church key and slit, and one clear glass jar with a threaded top. The site is located approximately twenty-five feet north of the Tramway Road on a gently sloping ridgeline within a mixed-conifer forest type. The site has been disturbed by past forest management activities (heavy equipment use).

Tramway 3
The archaeological site defined as "Tramway 3" is a sparse historic-era refuse scatter that encompasses a six foot by three foot area. The site consists of 11 sanitary cans opened by a church key. Ten of the eleven cans are Lucky Lager beer cans. There are no identifiable letters, markings or colors on the other sanitary can. The site is located approximately forty-five feet south of Tramway Road on a gently sloping ridgeline within a mixed-conifer forest type. The site has been disturbed by past forest management activities (heavy equipment use).
Tramway 4

The archaeological site defined as "Tramway 4" is a historic-era refuse scatter that encompasses a forty foot by ten foot area. The site consists of more than 60 sanitary cans opened by a church key, two twist top cans, 4 twist top brown glass beer bottles (current era) and one clear glass twist top bottle (shattered). The 60 plus sanitary cans appear to be "Acme" beer cans based on the lettering and coloring remaining on some of the cans. The two twist top cans have the lettering "Eldorado Brewing Co., Stockton, Calif." printed above the bottom seam of the can. The glass bottle has been shattered and there are no identifiable letters, markings or colors on it. The site is located approximately 120 feet north of the Tramway Road along the lower portion of a gently sloping ridgeline within a mixed-conifer forest type. The site has been disturbed by past forest management activities (heavy equipment use).

Professional Recommendations

Since the proposed project activities may have the potential to result in negative impacts to the cultural resources present within the project area it is recommended that previously recorded sites CA-TEH-595, 2496H, 1883H be protected through complete avoidance. Additionally, complete avoidance in recommended for new sites Tramway 1, Tramway 2, Tramway 3 and Tramway 4. Brush removal activities would result in greater site exposure, possible erosion and/or increased vandalism. Therefore it is recommended that brush removal activities be avoided within the site boundaries and a protective buffer zone of 50 feet be established to protect the site.

Aside from the specific recommendations concerning the protection of previously recorded sites CA-TEH-595, 2496H, 1883H and new sites Tramway 1, Tramway 2, Tramway 3 and Tramway 4, archaeological clearance is recommended for the remainder of the project. However, it is recommended that an individual knowledgeable in identifying cultural resource be present during any ground disturbing activities such as professional archeologist or a Registered Professional Forester who is a Certified Archaeological Surveyor through the California State Board of Forestry and Fire Protection (14CCR Section 929 et seq.). In the event subsurface cultural remains over 45 years of age are encountered, the project should cease work at the general area of discovery and the contractor, professional archeologist or Registered Professional Forester who is a Certified Archaeological Surveyor through the California State Board of Forestry and Fire Protection consult with a professional archaeologist on staff with the USFS. A field exam by the professional will likely be necessary and further steps considered in the evaluation, including mitigation and contacting the Native American Indian community if human remains are encountered (following NAGPRA procedures). These protection measures are described in great detail under Mitigation Measures #CUL 1: through #CUL 4: shown below.
Proposed Mitigation Measures to Reduce Cultural Resources Impacts

Mitigation Measure #CUL 1: Protection of Identified Cultural Resources

All new and previously recorded archeological sites identified during field surveys completed in connection with the preparation of this IS/MND and documented in the report entitled “An Archeological Inventory For the Proposed Tramway Road/A-Line Road/90/F Line Shaded Fuel Break” (Western Shasta Resource Conservation District) dated September 12, 2014 shall be protected through complete avoidance. A flagged 50’ MTEB shall be established around each of these sites by the RCDTC Project Manager or SPI Registered Professional Forester prior to implementation of any project work.

Mitigation Measure #CUL 2: Inspection for Unidentified Cultural Resources During Project Implementation

A professional archeologist or SPI Registered Professional Forester who is a Certified Archaeological Surveyor through the California State Board of Forestry and Fire Protection (14CCR Section 929 et seq.) shall be on site prior to ground disturbing activities in order to assure that all archeological, prehistoric, historic or paleontological resource sites along the path of the fuel break or within 50 feet beyond the project boundary have been flagged for complete avoidance and that equipment operators and others working in the project areas are informed about their locations. A professional archeologist or SPI Registered Professional Forester who is a Certified Archaeological Surveyor through the California State Board of Forestry and Fire Protection shall also be on site during the implementation of project work in order to assure adherence to all Mitigation Measures related to cultural resource protection.

Mitigation Measure #CUL 3: Protection of Newly Discovered Archeological, Prehistoric, Historic or Paleontological Resource

Within areas of ground or vegetation disturbing activities, if project work appears to expose any previously unknown archeological, prehistoric, historic or paleontological resource sites along the path of the fuel break or within 50 feet beyond the project boundary, 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 an exclusion buffer of at least 100 feet. 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, herbicides and fuel treatments 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 project files.

**Mitigation Measure #CUL 4: Discovery of Human Remains**

If during the execution of project work human remains are found, the RCDTC Project Manager or SPI Registered Professional Forester shall halt work at that location until a professional archaeologist visits the site in order to assess their significance, process the remains and immediately notify the 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 in the project files by the RCDTC Project Manager. Project work may continue on other non-impacted portions of the project area.

*No significant adverse impacts to Cultural Resources are anticipated with the implementation of the above Mitigation Measures.*
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 project area consist of those which are moderately deep, rocky, gently sloping to steep and underlain by volcanic rock. The following soil types represent the largest percentage of the project area.

<table>
<thead>
<tr>
<th>Soil Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cohasset gravelly loam 10%-30% slope</td>
<td>10% - 30%</td>
</tr>
<tr>
<td>Cohasset loam very deep 10%-30% slope</td>
<td>10% - 30%</td>
</tr>
<tr>
<td>Cohasset stony loam 10%-30% slope</td>
<td>10% - 30%</td>
</tr>
<tr>
<td>Jiggs Stony loam 30%-50% slope</td>
<td>10% - 30%</td>
</tr>
<tr>
<td>Jiggs stony sandy loam 10%-30%</td>
<td>10% - 30%</td>
</tr>
<tr>
<td>Lyonsville and Cohasset soils 10%-30%</td>
<td>10% - 30%</td>
</tr>
<tr>
<td>Windy rocky sandy loam 50%-65%</td>
<td>50% - 65%</td>
</tr>
</tbody>
</table>
The Cohasset series consists of gently sloping to steep, well-drained soils that formed in material weathered from volcanic rocks that include andesite and breccia. Within the project area, 10% to 25% of this soil series tends to be made up of angular gravel. These soils are generally deep and range from 4 to 6 feet. They are also productive and have a moderate erosion hazard when vegetation is removed. The steeper slopes have a high erosion hazard rating.

Lyonsville and Jiggs soils are found on sloping to very steep, moderately deep, well drained soils. These soils are formed from rhyolite or dacite and tend to have a moderate to high erosion hazard rating which increases with slope. As vegetation is disturbed the erosion potential increases.

The Windy series are found on undulating to very steep slopes and are considered well drained soils. They are formed in material from basic volcanic rock that in some places is made up of andesitic and basaltic from volcanic flows. Windy soils within the project area vary based upon slope class and percent surface stones. The gravelly sandy loams have up to 50% subsurface stones and the rocky sandy loams between 5% and 30% surface stones. Erosion hazards increases with slope from moderate to high once over 35%. The soils are fairly productive overall but can be difficult to regenerate due to doughtiness.

Through the completion of project work, a considerable amount of chipped material will be left within treatment areas especially on steeper slopes which will act as protective mulch. If the mechanical treatments proposed for this project do not generate sufficient chipped material to protect large areas of exposed soils, Mitigation Measure #HYDRO 1: Mulching of Exposed Soil and Installation of Waterbars will be implemented so that any newly exposed soil of over 100 square feet in area will be mulched with chips or unprocessed brush to minimize the potential for erosion. If found to be necessary, this Mitigation Measure also calls for waterbars to be installed in order to divert water onto stabile vegetation and away from watercourses. Tracked and tired equipment would be used to cut, gather and haul vegetative material to chipping equipment. This will often require one end of each grapple load to drag along the soil surface in route to chipping equipment. In order to reduce impacts on soil structure and to prevent erosion, the provisions found in the California Forest Practices Act (CFPA) related to protecting soil from skidding operations will be implemented. In addition those provisions related to operations during the Extended Wet Weather Period (October 15 to May 1) will apply as well. Pile burning of cut vegetation will be conducted in some sensitive areas where no chipping equipment of any size can be used. Given the significant number of conifers and other tree species that will be left within
the project area, considerable vegetative debris such as needle cast and leaf litter will rapidly accumulate throughout the project area including the site of burn piles.

**a) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:**

1) **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.)**

   A review of the current Alquist-Priolo Earthquake Fault Zone Maps indicates that there are no faults within that portion of eastern Tehama County where project work will occur nor is there indication of rupturing.

2) **Strong seismic ground shaking?**

   See comments under VI. a) i) above

3) **Seismic-related ground failure, including liquefaction?**

   See comments under VI. a) i) above

4) **Landslides?**

   Soils within the project area are well drained, moderately deep, rocky, gently to moderately sloping and underlain by volcanic rock. At the same time these soils have a moderate to high erosion hazard rating, which increases with slope. Per Mitigation Measure #GEO/SOILS 1: Prohibition Against Work on Steep Slopes and Unstable Areas all project work will occur on slopes of less than 50%. No large trees will be removed in connection with project work and a significant amount of chipped vegetative material will remain on site after project work is completed. Considering the rapid rate with which needles and other vegetative debris will cover those areas impacted by fuel treatments and pile burning, the likelihood of landslides on steeper slopes within the project area during extended periods of wet weather is minimal.

   In the unlikely event that an insufficient amount of chipped material is generated to provide adequate protective mulch to the project area, Mitigation Measures #HYDRO 1: Mulching of Exposed Soil and Installation of Waterbars will be implemented to fully protect large areas of exposed soil.

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

   See comments under VI. a) iv) 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?**

The well drained soils within the project area are not generally subject to landslide, lateral spreading, subsidence, liquefaction, or collapse. In addition, all project work will occur on shallow to moderate slopes and Mitigation Measures #GEO/SOILS 1, #HYDRO 1 along with #BIO 1: Stream and Watercourse Treatment Buffers and #BIO 2: Stream Crossings will be implemented to protect soils and prevent the introduction of sediments into riparian and aquatic zones.


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?**

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 buildings that could be at risk 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?**

The project area is not zoned for urban development uses. No septic tanks or alternative waste water disposal systems are located within the project’s immediate impact area and none will be developed in connection with the completion of this fuel break.

**Proposed Mitigation Measures to Reduce Geology and Soils Impacts**

**Mitigation Measure #HYDRO 1: Mulching of Exposed Soil and Installation of Waterbars**

Any newly-exposed soil of over 100 square feet in area shall be mulched with chips or brush to minimize the potential for erosion. Hand water bars shall be installed to divert water onto stable vegetation and away from watercourses, as needed. Verification of proper installation and sufficiency of both mulching and waterbars shall be made by the RCDTC Project Manager or SPI Registered Professional Forester prior to and following the season’s first precipitation event and recorded in the project file.
Mitigation Measure #GEO/SOILS 1: Prohibition Against Work on Steep Slopes and Unstable Areas

No equipment operations shall occur on slopes exceeding 50 % and shall not occur on any unstable areas, regardless of slope percentage. Suitability for equipment operations related to slope and soil stability shall be determined by the RCDTC Project Manager or a Sierra Pacific Industries Registered Professional Forester.

Mitigation Measure #BIO 1: Stream and Watercourse Treatment Buffers

300 foot Mechanical Treatment Exclusion Buffers (MTEB), also referred to as buffer areas throughout this Initial Study/Mitigated Negative Declaration document shall be established on each side of Battle Creek’s South Fork along with the South Fork of Digger Creek. All other wet and dry stream courses shall be protected by a 150 foot MTEB. Within these MTEBs, treatments of any kind including herbicide applications to be completed exclusively within the Tramway Road/South Unit shall be prohibited.

Similarly, ditches, canals and other man made water conveyance structures shall be protected by a 25’ MTEBs on both sides of these water features. All springs shall be encircled by a 75’ MTEB. All stream and riparian area MTEBs shall be established and flagged by the RCDTC Project Manager or a Sierra Pacific Industries Registered Professional Forester prior to implementation of any project work. Monitoring photographs shall be taken by the RCDTC Project Manager or Sierra Pacific Industries Registered Professional Forester before and after completion of project work in order to document compliance with Mitigation Measure #BIO 1. Monitoring photographs shall be incorporated into the project file. Consideration of site specific modification to MTEBs and other buffer requirements could occur upon site review and approval by Lassen National Forest, Cal Fire, California Department of Fish and Game or California Regional Water Quality Control Board personnel as appropriate.

Mitigation Measure #BIO 2: Stream Crossings

Although not anticipated, in the event that equipment will need to cross a live stream outside the road rights-of-way of Tramway Road, A-Line Road, F-Line Road or Road 90A a California Department of Fish and Wildlife 1600 Stream Alteration Agreement would be required at the discretion of that agency. In such instances, equipment crossings of waterways, streambeds and their associated approaches shall be located and flagged by the RCDTC Project Manager or an SPI Registered Professional Forester prior to the occurrence. Within these crossing areas, no vegetation shall be removed. Verification of flagging at crossing sites prior to equipment crossing as well as verification of no impacts to vegetation and soils...
once crossings have been completed shall be made by the RCDTC Project Manager or an SPI Registered Professional Forester and documented in the project file. The RCDTC Project Manager or an SPI Registered Professional Forester shall inspect crossing sites prior to and after equipment entry into stream channels to ensure that special status species are not harmed or otherwise impacted and that there are no significant impacts to riparian vegetation. If special status species are found at a particular crossing site, another more appropriate site shall be located and used.

*No significant adverse impacts to the project area’s geology or soils are anticipated with the implementation of the above Mitigation Measures.*
### VII. Greenhouse Gas Emissions. Would the project:

<table>
<thead>
<tr>
<th></th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
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<tbody>
<tr>
<td>a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?</td>
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<tr>
<td>b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?</td>
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<td>☐</td>
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</table>

**Discussion:**

The proposed project would generate greenhouse gas (GHG) emissions from the exhaust of chipping equipment along with that used to transport vegetation for processing and chips to cogeneration power facilities. In addition, vehicles used to transport personnel, equipment, fuel and supplies along with powered hand tools will generate additional GHSs. Chipped understory vegetative fuels removed from the project area and hauled to biomass cogeneration energy plants will be used as fuel and the pollution control equipment at these facilities will remove a portion of the GHGs generated by the combustion of this material. That portion of forest fuels left on site in the form of chips will generated GHGs through, decomposition. Only a portion of processed vegetative material will remain on site once project work is completed. The period of time in which wildland fuels will be mechanically process or otherwise treated will be relatively short-term in nature. Furthermore, through the reduction of competing small trees and woody vegetation, large healthy trees in the canopy and understory will have less competition and improved growing conditions. Consequently it is anticipated that the remaining conifer and deciduous species remaining in the roadside stand will grow faster sequestering greater amounts of GHG, require less management in the future and be less susceptible to catastrophic wildfire which releases extremely large amounts of GHCs in a short period of time.

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

(See comments above)

b) **Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gas?**

(See comments above)

*Impacts related to greenhouse gas emissions will be less than significant.*
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:

Project work entails cutting and chipping, masticating or piling and burning small trees (conifer and deciduous trees 10” in diameter and under and oaks 6” in diameter and under) along with various brush species. Within the Tramway Road/South Unit, appropriate herbicides will be used to extent the life of fuel reduction treatments. Hazardous materials to be used in the execution of project work include gasoline and diesel to fuel chipper and mastication units, crew transportation equipment and chainsaws. Diesel will also be used for burn mix and lubricants will be required for the chipper and power equipment. In addition herbicides will be used as a follow up treatment to cutting and chipping of vegetative material within the Tramway Road/South Unit of the overall project area where fuels reduction work is not being funded by the United States Forest Service. As discussed under Biological Resources above, the herbicides and surfactants to be used in connection with project work pose an insignificant risk.
to non-target wildlife and their habitats as well as to persons who may be in the project area during and after the application period when used according to product label specifications. The potential for off-target movement of herbicide and surfactants during and after project implementation is very low and attributable to the application methods being used (low-volume, ground-based applications with handheld equipment), the use of a Licensed Pest Control Advisor and Certified Applicators along with the relatively small amounts of chemicals that will be used during herbicide treatments. Further protection against off-target movement of herbicide and surfactant products will be provided through the implementation of Mitigation Measure HA/HAZ 17: Wind Speed During Herbicide Applications which relates to conditions under which herbicide applications will be permitted. This project will not require long-term storage, use, disposal or transport of hazardous material in significant amounts. Daily herbicide treatment operations will be supervised by a California Department of Pesticide Regulation Certified Applicator.

There is the possibility for gasoline, diesel or herbicides to be spilled during refueling, transport or chemical loading operations. This is unlikely and the risk of a spill would be low. The amount of fuel being transported would be approximately 200 gallons per day while the amount of herbicide, related chemical materials (dye and surfactant) and mix water transported per day would be 450 gallons. Though unlikely, a fuel, lubricant or chemical spill poses potentially significant impacts to watershed resources. Mitigation Measure #HA/HAZ 1: Protection Against Hazardous Material Spills in Streams and Riparian Zones will be implemented in order to reduce the risk of such spills by requiring that the RCDTC Project Manager or SPI Registered Professional Forester 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. Within the Tramway Road-South Unit where herbicide applications will conducted, the requirements of this protection measure state that no mixed herbicide will be transported across live streams at any time and that only unmixed herbicides and other chemicals in their original sealed containers will be allowed transport across live streams. Mitigation Measure # HA/HAZ 2: Equipment Refueling and Maintenance Precautions require that the RCDTC Project Manager or SPI Registered Professional Forester select refueling and maintenance sites for all equipment including power hand tools on flat sites that are away from MTEBs and other buffers related to dry or wet waterways along with areas that could potentially flow into a stream in the event of an accidental spill. Similarly, Mitigation Measure # HA/HAZ 3: Herbicide Mixing and Loading Precautions require that within the Tramway Road/South Unit, the RCDTC Project Manager or SPI Registered Professional Forester select herbicide mixing and loading areas on flat sites that are away from MTEBs and other no treatment buffer areas related to dry or wet waterways along with areas that could potentially flow into a stream in the
event of an accidental spill. In addition Mitigation Measure # HA/HAZ 4: Equipment Inspections Related to Oil and Fuel (North Unit and Tramway Road South Unit) and Mitigation Measure # HA/HAZ 5: Equipment Inspections Related to Herbicides and Other Hazardous Materials (Tramway Road South Only) required that all equipment utilizing or carrying hazardous materials be continually inspected for leaks which could release hazardous materials into the environment. Though unlikely, it is possible that the implementation of project work could result in ignition of an accidental fire. This impact is potentially significant however; Mitigation Measure #HA/HAZ 18: Fire Protection Equipment has been developed to reduce this risk and its related potential impacts to a less than significant level.

Additional Comments Related to the Analysis of Herbicide Use

The use of herbicides requires careful site-specific evaluation and timing to control vegetation and thus maintain the protective capability of fuel breaks as well as to prevent negative impacts to non-target plant species. The importance of site specific analysis at the time of potential herbicide application is also critical to the safe and effective use of herbicides a combination of glyphosate, imazapyr and surfactants will be used along the Tramway Road/North project segment. Ground application of herbicide material will be implemented using a combination of concentrations and application rates based upon vegetation conditions at the time chemical treatments occur which will be at some point after cutting and chipping operations have been completed. These conditions include the type of competing vegetation that has been treated and its future growth along with potential and current levels of moisture retention capability in specific soils. Evaluation of site conditions used to develop an herbicide application recommendation for treatment areas will be prepared by a licensed Pest Control Advisor (PCA) and a licensed applicator who will conduct field applications. In addition, RCDTC or Sierra Pacific Industries project management and field personnel will assure that the Mitigation Measures developed in this IS/MND related to herbicide use are adhered to.

The various herbicides to be used in connection with this project have been the subject of extensive testing and research under a CEQA certified regulatory program administered by the Department of Pesticide Regulations. Through this process, DPR has determined that these herbicides, if used as prescribed on the label will not have a significant impact on the environment. The testing and research includes evaluation of conditions under which the herbicides may be applied for various uses including forestry, vegetation management and right-of-ways maintenance. The active ingredient of a given herbicide can be registered and labeled for use under one or more of these categories. The DPR regulatory
program is a functional equivalent of an Environmental Impact Report (EIR) certified by the California Secretary of Resources pursuant to PRC Section 21080.5. This regulatory program is designed to study and test pesticides and mitigates potential environmental effects by the totality of the registration, label and commercial application control processes. These processes include the US EPA label (which is a binding legal document) that prescribes limitations on use and mitigations for proper use. California may add additional restrictions beyond the EPA label and does so through the classification of an EPA labeled pesticide as a California "restricted pesticide".

California's DPR process also requires additional site-specific analysis, before any commercial application of pesticides (including herbicides). This analysis takes the form of a written recommendation for herbicide use prepared by a Licensed Pest Control Advisor. The program also requires that the application of any pesticides be done by Licensed Qualified Applicators. When a pesticide is registered in California it has been determined through thorough, detailed testing and analysis (building upon the US EPA testing) that if applied according to the label restrictions there will not be significant adverse impacts upon the environment. After a pesticide is registered for use in this state, DPR has an ongoing obligation to review new information received about the pesticide that might show new problems beyond those identified in the registration process. Where new problems come to light, DPR is required to reopen and reexamine the registration.

Importantly, herbicides control vegetation by impacting their unique growth mechanisms. Unlike insecticides, herbicides are generally not toxic to humans, because they do not disrupt energy pathways or essential vertebrate life processes. It is important to note that the herbicides to be used in connection with this shaded fuel break project are virtually non-toxic to humans. Herbicide labels usually require that non-protected contact with the chemical material be avoided until it has dried. Most human interaction with those lands adjacent to Tramway Road is via automobile travel and as a result individuals would be unlikely to contact herbicides within the 12-hour drying period after application. Project personnel involved with herbicide treatments will spend little or no time in areas that are treated during the drying period. Consequently, even in the most heavily traveled or accessible areas within the Tramway Road portion of the project area, the likelihood of human contact is as low as to be insignificant. To reduce potential for contact during the drying period, RCDTC or Sierra Pacific Industries project management personnel will survey areas to be treated with herbicide immediately prior to applications in order to assure that only applicators or other authorized personnel are present within or near the treatment sites. In addition, Mitigation Measures # HA/HAZ 15: Signage Within Herbicide Application Areas, #HA/HAZ 16: Notification of Landowners and Residents Within Herbicide Application Areas and
# HA/HAZ 17: Wind Speed During Herbicide Applications have been incorporated into this project’s workscope as a means to further reduce the risk of unintended human contact with areas that have been chemically treated.

As a result of the precautions incorporated into the herbicide applications proposed for this project, extended human contact with chemical materials is not anticipated however if such contact did occur it is unlikely that any significant adverse impacts to human health would occur. Additionally, once activated, the persistence of the herbicides in the soil is very short lived. In most cases, such persistence lasts only a few weeks and a few last up to one season. The herbicides to be use along Tramway Road break down in sunlight or by soil microbe activity. As a result, after 5 years, and especially after 10 years, there is a very low likelihood that any past herbicide use contributes to ongoing effects.

Past herbicide use is often raised as a concern under CEQA analyses which requires disclosure of past projects or effects that are ongoing and may add to significant adverse effects. Within that portion of the project area along Tramway Road owned by the Turner Ranch, even age regeneration methods have not been implemented and as a result herbicides have not been used. If past even age management has occurred on Sierra Pacific Industries lands within Tramway Road/South Unit, of the project area, the company’s sustained yield planning constraints result in herbicide being used once or twice within fifty to eighty years on an individual acre. In addition to the long interval between applications, when project activities interface with water it will be in the form of stream flow, not standing ponds. While highly improbable due to the implementation of Mitigation Measure # HA/HAZ 10: Mixing of Herbicides, # HA/HAZ 11: Use of Herbicide Dyes and Stains, # HA/HAZ 13: Wash Stations and # HA/HAZ 17: Wind Speed During Herbicide Applications any herbicide that might reach such waters would be diluted rather than concentrated.

Finally, Considering that the area to be chemically treated along Tramway Road is very small and surrounding even-aged timber units located on Sierra Pacific Industries timberlands are spaced over time and the surrounding landscape in accordance with Board of Forestry rules, there will be large areas outside, yet adjacent to the Tramway Road portion of this fuel break’s impact area that have brush, forbs and other plant growth nearby. As a result, it is highly unlikely that a wide variety of species useful for wildlife habitat and forage will be extirpated on a landscape basis.
a) **Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**

Project work poses a potential hazard related to the transport and use of fuel, lubricants, and approved herbicides rated for forestry applications. The risks related to this hazard will be reduced to a less than significant level thought the implementation of the various Mitigation Measures shown below related to streamside protection zones and hazardous materials.

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?**

See comments under VII. a) 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?**

There are no existing or proposed schools within one-quarter mile of the 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?**

The project area is not located on 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?**

The 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?**

There are no private air strips within or immediately adjacent to the project area.
g) **Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

Project work will not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. It is anticipated that the reduction of roadside vegetation along Tramway Road will improve emergency response and provide an alternate evacuation route to State Route 36E from developed sites on the Turner Ranch and Lyman Springs area by increasing roadway sight distances and opening up dense stands of timber and brush which currently obscure the view of structures from emergency response personnel.

h) **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?**

The execution of project work has the potential to ignite a fire within wildland areas. The risk to people and structures will be reduced as project work will be conducted when fuel moisture and humidity are at adequate levels as determined by Cal Fire or other local fire fighting authorities. In addition, firefighting equipment will be made available at work sites via Mitigation Measure #HA/HAZ 18: Fire Protection Equipment. Finally, through completion of the Tramway Road/A-Line Road/F-Line Road/Road 90-A Shaded Fuel Break project, the risk of loss, injury or death attributable to catastrophic wildfire will be reduced through the removal of excess vegetative fuels as well as the creation of a fire control line from which fire fighters can better attack on coming wildfires.

### Proposed Mitigation Measures Related to Hazards and Hazardous Materials

**Mitigation Measure #HA/HAZ 1: Protection Against Hazardous Material Spills in Streams and Riparian Zones**

To reduce potential impacts associated with fuel spills in streams and riparian areas, the RCDTC Project Manager or SPI Registered Professional Forester 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. Within the Tramway Road-South Unit where herbicide applications will be conducted, no mixed herbicide shall be transported across live streams at any time. Only unmixed herbicides and other chemicals in their original sealed containers shall be allowed transport across live streams. 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 of SPI Registered Professional Forester.

**Mitigation Measure # HA/HAZ 2: Equipment Refueling and Maintenance Precautions**

The RCDTC Project Manager or SPI registered Professional Forester shall select refueling and maintenance sites for all equipment including power hand tools on flat sites that are away from MTEBs and other buffers related to dry or wet waterways along with areas that could potentially flow into a stream in the event of an accidental spill. Such sites shall also be established outside of MTEBs 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 at all refueling and maintenance areas. Equipment operators shall be responsible for the immediate containment and removal of any spilled material and shall immediately inform the RCDTC Project Manager or SPI Licensed Professional Forester of such spills. The RCDTC Project Manager or SPI Registered Professional Forester shall then immediately contact appropriate authorities including the CDFW. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur. Equipment shall be stored and maintained within properly cleared areas. The RCDTC Project Manager or SPI Registered Professional Forester shall inspect refueling areas to assure compliance with Mitigation Measure # HA/HAZ 2. These inspections shall also verify the adequacy of such sites in protecting riparian and terrestrial resources as well as the availability of containment equipment.

**Mitigation Measure # HA/HAZ 3: Herbicide Mixing and Loading Precautions**

Within the Tramway Road/South Unit, the RCDTC Project Manager or SPI Registered Professional Forester shall select herbicide mixing and loading areas on flat sites that are away from stream and riparian MTEBs along with other no treatment buffer areas related to dry or wet waterways or areas that could potentially flow into a stream in the event of an accidental spill. Such sites shall also be established outside of MTEB’s and other exclusion zones established in order to protect wildlife and plant resources. Chemical containment equipment including absorbent sheets and waddles shall be made available at herbicide mixing and loading areas. The RCDTC Project Manager, SPI Registered Professional Forester and SPI or RCDTC licensed applicator shall be responsible for the immediate containment and removal of any spilled herbicide or other chemical material and shall immediately contact appropriate authorities including the CDFW. Herbicide application equipment shall be stored and maintained within properly cleared areas. The RCDTC Project Manager shall inspect herbicide mixing and loading sites along with storage areas to assure compliance with Mitigation Measure #HA/HAZ 3. These inspections shall also
verify these sites’ adequacy in protecting riparian and terrestrial resources as well as the availability of containment equipment.

Mitigation Measure # HA/HAZ 4: Equipment Inspections Related to Oil and Fuel (North Unit and Tramway Road South Unit)

Contractors, the RCDTC Project Manager or SPI Registered Professional Forester 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. The results of these inspections shall be incorporated into the project files along with evidence of any repairs required and completed before returning equipment to project work sites.

Mitigation Measure # HA/HAZ 5: Equipment Inspections Related to Herbicides and Other Hazardous Materials (Tramway Road South Unit Only)

All herbicide application equipment shall be periodically inspected by the Contractor, RCDTC Project Manager or SPI Registered Professional Forester for leaking herbicide and surfactants. Any such leaks shall be repaired prior to resuming chemical applications. The results of these inspections shall be incorporated into the project files along with evidence of any repairs required and completed before returning equipment to project work sites.

Mitigation Measure # HA/HAZ 6: Protection of Wildlife During Herbicide Applications (Tramway/ Road South Unit Only)

To reduce wildlife disturbance, the SPI Registered Professional Forester or RCDTC Project Manager shall direct crews to avoid spraying all wildlife observed in herbicide treatment areas within the Tramway Road/South Unit. Areas not sprayed due to the presence of wildlife may be sprayed once wildlife has left the treatment area. Those areas having suspected occupied nesting or denning habitats shall also be avoided and not treated until wildlife have left the area. The RCDTC Project Manager or SPI Registered Professional Forester shall demonstrate compliance with this measure through the submission of annual reports due to the California Department of Fish and Wildlife’s Northern Region Lake and Streambed Alteration Agreement Program no later than December 31 of each year that the project is implemented.
Mitigation Measure # HA/HAZ 7: Protection of MTEBs During Herbicide Applications

The RCDTC Project Manager shall ensure that no herbicides enter into MTEBs or other buffer areas at any time during project implementation. Portions of target plants hanging over and MTEBs or other buffer areas shall be moved out of such locations prior to treatment and no spraying shall occur. This standard shall be achieved by using a Licensed Pest Control Advisor along with Licensed Pesticide Applicators. These individuals shall conduct daily equipment checks to minimize the likelihood of a spill or accidental release of herbicide. If herbicides are inadvertently released into any MTEB or other buffer area, the Licensed Pesticide Applicator shall report such release immediately to the RCDTC Project Manager or Sierra Pacific Industries Registered Professional Forester who shall report the incident to the DFG and USFWS within 72 hours of occurrence including its location, date, time, herbicide type and concentration, reason for the inadvertent release, measures taken to reduce chemical impact along with those undertaken to avoid future releases.

Mitigation Measure # HA/HAZ 8: Timing of Herbicide Applications Related to Listed Species

Herbicide treatments shall occur outside the breeding period of all special status species shown in Attachment B: Results of Database Inquiries and Species Review. Any special status wildlife species that may be found during project implementation shall be moved to a safe location under directives obtained from the Wildlife Branch of Region 1, California Department of Fish and Wildlife. Personnel conducting vegetation treatments or herbicide applications shall search for and relocate special status species that may be under vegetation prior to any cutting, chipping, piling, pile burning or herbicide applications. Personnel involved with the movement of wildlife shall not handle chemicals.

Mitigation Measure # HA/HAZ 9: Qualification of Herbicide Application Personnel

All applications of herbicide shall be done by a Qualified Licensed Applicator and under the supervision of a Licensed Pest Control Advisor in accordance with applicable, federal, state, and local laws or guidelines. All applicators shall be trained to safely handle and apply herbicides per State of California regulations as well as those of the Tehama County Department of Agriculture.

Mitigation Measure # HA/HAZ 10: Mixing of Herbicides

A clean tank shall be used for gathering stream water to be mixed in chemical tanks, no mixing shall occur within MTEB or other buffer area. No mixing shall occur in or near any storm water inlet.
Mitigation Measure # HA/HAZ 11: Use of Herbicide Dyes and Stains
In order to increase applicator accuracy, avoid missed vegetation and overspray as well as to indicate personal exposure to herbicides, a suitable stain or dye shall be incorporated into the herbicide prior to application.

Mitigation Measure # HA/HAZ 12: Protective Clothing
All workers involved with herbicide applications shall wear appropriate protective clothing and related safety equipment (masks gloves etc.) as per the guidelines of the California Department of Industrial Relations Division of Occupational Safety and Health and those of the manufacturer.

Mitigation Measure # HA/HAZ 13: Wash Stations
Clean soap and water shall be readily available on site for the purpose of emergency washing. Wash stations shall be located away from any natural waterway to avoid contamination of waterways and ponds in the area.

Mitigation Measure # HA/HAZ 14: Communications Equipment
Dependable radios or phone communication shall be available on site to report any emergency which may occur.

Mitigation Measure # HA/HAZ 15: Signage Within Herbicide Application Areas
Prior to and during herbicide application, signs shall be posited along access points to minimize potential exposure by the public.

Mitigation Measure # HA/HAZ 16: Notification of Landowners and Residents Within Herbicide Application Areas
Landowners and residents shall be informed in writing as to the date when herbicides shall be applied on particular properties. This notification shall provide information regarding the chemicals to be used and Mitigation Measures developed to reduce environmental impacts. The notification shall recommend that all persons and animals stay out of treatment areas for a specified period of time.
Mitigation Measure # HA/HAZ 17: Wind Speed During Herbicide Applications

No herbicide applications shall take place when wind velocity is less than two (2) miles per hour or exceeds ten (10) miles per hour or when there is greater than a thirty percent (30%) forecast of rain within six (6) hours of treatments. Wind speeds shall be monitored hourly.

Mitigation Measure #HA/HAZ 18: Fire Protection Equipment

To reduce impacts associated with exposure of people or structures to wildland fires, the RCDTC Project Manager or SPI Registered Professional Forester 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 RCDTC Project Manager, SPI Registered Professional Forester, applicators and any other workers 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. Only appropriately Certified Pesticide Applicators who are trained in wildfire prevention and suppression shall be used in the execution of project work. All motorized equipment shall have approved spark arrestors.

*No significant adverse impacts related to hazards and hazardous materials are anticipated with the implementation of the above Mitigation Measures.*
ENVIRONMENTAL ISSUES

<table>
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<tr>
<th>IX. Hydrology and Water Quality. Would the project:</th>
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<tr>
<td>a) Violate any water quality standards or waste discharge requirements?</td>
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<tr>
<td>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)?</td>
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<td>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?</td>
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<td>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?</td>
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<td>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?</td>
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<tr>
<td>f) Otherwise substantially degrade water quality?</td>
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<td>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?</td>
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<tr>
<td>h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?</td>
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<td>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?</td>
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<td>j) Result in inundation by seiche, tsunami, or mudflow?</td>
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Discussion:

Vegetation treatments completed in connection with the Tramway Road/A-Line Road/F-Line Road/Road 90A Shaded Fuel Break Project will be conducted along those road segments located on flat to moderate slopes. Treatment areas will be covered with varying amounts of protective mulch in the form of chipped material depending upon degree of slope. These project features along with the incorporation of those
Mitigation Measures listed below will reduce potential hydrology and water quality impacts to a less than significant level.

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

Project work poses a potential for impacts to water quality standards related to soil sediments and vegetative debris as well as the release of equipment fuel, lubricants and the herbicides to be used exclusively within the Tramway Road/South Unit. This potential will be reduced to a less than significant level through the implementation of Mitigation Measures **#BIO 1: Stream and Watercourse Treatment Buffers, #BIO 2: Stream Crossings Mitigation Measures, and #BIO 8: Woody Debris**, as these provide direct protection to stream courses and aquatic habitat. Mitigation Measures **#GEO/SOILS 1: Prohibition Against Work on Steep Slopes and Unstable Areas and #HYDRO 1: Mulching of Exposed Soil and Installation of Waterbars**, will provide indirect protection to water quality and stream flow thought the prevention of erosion and related sediment production attributable to fuel treatments. Mitigation Measures **#HYDRO 2: Protection of Drainage Features** was developed in order to address the potential for sediment impacts to water quality related to damaged, clogged or otherwise obstructed road drainage infrastructure. Mitigation Measures **#HA/HAZ 1: Protection Against Hazardous Material Spills in Streams and Riparian Zones, # HA/HAZ 2: Equipment Refueling and Maintenance Precautions, # HA/HAZ 3: Herbicide Mixing and Loading Precautions, # HA/HAZ 4: Equipment Inspections Related to Oil and Fuel (North Unit and Tramway Road South Unit) and # HA/HAZ 5: Equipment Inspections Related to Herbicides and Other Hazardous Materials (Tramway Road South Unit Only).** Mitigation Measure **# HA/HAZ 10: Mixing of Herbicides, Mitigation Measure # HA/HAZ 11: Use of Herbicide Dyes and Stains Mitigation Measure, # HA/HAZ 13: Wash Stations and Mitigation Measure # HA/HAZ 17: Wind Speed During Herbicide Applications** were developed in order to prevent the introduction of hazardous materials through the operation, maintenance and movement of equipment used in the implementation of project work or during herbicide applications. Mitigation Measure **HA/HAZ 7: Protection of MTEBs During Herbicide Applications**, was incorporated into this project's operational requirements in order to prevent the inadvertent introduction of chemicals into stream zones and riparian areas due to the spraying of target species inside Mechanical Treatment Exclusion Buffers and other no treatment areas.
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 pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?**

The only surface water to be used in connection with project work would be that for fire suppression in the event of an ignition along with water for herbicide mixing and washing of mixing equipment in an appropriate manner. As a result, no impacts to groundwater supplies or groundwater recharge are anticipated.

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?**

All project work will be completed outside of the no treatment buffer zones (MTEB) established for wet and dry stream channels or other natural and manmade aquatic environments as described in **Migration Measure #BIO 1**. In addition, none of the activities of this project’s work scope relate to altering drainage patterns.

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?**

Project work will entail the removal of small trees and brush species. No portion of the project’s work scope entails the alteration of a stream or river all project work will be completed outside wide Mechanical Treatment Exclusion Buffers established along all streams and their tributaries.

e) **Would the project 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?**

Project work will occur within a remote area of Tehama County along a number of unpaved roads. These roads have drainage infrastructure that is normal for wildland areas. **Mitigation Measure #HYDRO 2: Protection of Drainage Features** requires that existing drainage infrastructure be protected from project related impacts and remain free of obstruction. Project work will be completed largely on relatively flat areas and a significant
amount of chips and other processed vegetation will remain on site to provide a protective much
that will slow overland flows that could enter the road way and its drainage system. **Mitigation**

**Mitigation Measure #HYDRO 1: Mulching of Exposed Soil and Installation of Waterbars** will provide
additional protection by requiring large areas (100 square feet or more) of exposed soils to be
covered with some kind of mulch or other vegetative cover. This measure also requires that water
bars will be installed as needed in order to divert water onto stable vegetation and away from
watercourses. In directing storm water onto adjacent vegetation it is anticipated that flows into in
place road drainage infrastructure will be no greater than currently occurs and thus will not
result in storm flows that exceed the system’s capacity.

**f) Would the project otherwise substantially degrade water quality?**

The Mitigation Measures described above will reduce potential overall water quality impacts to a
less than significant level.

**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?**

There will be no housing constructed in connection with project work.

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

No structures will be developed that would impede or redirect flood flows.

**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 levees or dams will be constructed in connection with this project.

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

There is no potential for seiches or tsunamis within the project area.
Proposed Mitigation Measures to Reduce Hydrology and Water Quality Impacts

Mitigation Measure #HYDRO 1: Mulching of Exposed Soil and Installation of Waterbars

Any newly-exposed soil of over 100 square feet in area shall be mulched with chips or brush to minimize the potential for erosion. Hand water bars shall be installed to divert water onto stabile vegetation and away from watercourses, as needed. Verification of proper installation and sufficiency of both mulching and waterbars shall be made by the RCDTC Project Manager or SPI Registered Professional Forester prior to and following the season’s first precipitation event and recorded in the project file.

Mitigation Measure #HYDRO 2: Protection of Drainage Features

Any existing drainage features shall be protected from project related impacts and shall remain free of obstruction.

Mitigation Measure #BIO 1: Stream and Watercourse Treatment Buffers

300 foot Mechanical Treatment Exclusion Buffers (MTEB), also referred to as buffer areas throughout this Initial Study/Mitigated Negative Declaration document shall be established on each side of Battle Creek’s South Fork along with the South Fork of Digger Creek. All other wet and dry stream courses shall be protected by a 150 foot MTEB. Within these MTEBs, treatments of any kind including herbicide applications to be completed exclusively within the Tramway Road/South Unit shall be prohibited.

Similarly, ditches, canals and other man made water conveyance structures shall be protected by a 25’ MTEBs on both sides of these water features. All springs shall be encircled by a 75’ MTEB. All stream and riparian area MTEBs shall be established and flagged by the RCDTC Project Manager or a Sierra Pacific Industries Registered Professional Forester prior to implementation of any project work. Monitoring photographs shall be taken by the RCDTC Project Manager or Sierra Pacific Industries Registered Professional Forester before and after completion of project work in order to document compliance with Mitigation Measure #BIO 1. Monitoring photographs shall be incorporated into the project file. Consideration of site specific modification to MTEBs and other buffer requirements could occur upon site review and approval by Lassen National Forest, Cal Fire, California Department of Fish and Game or California Regional Water Quality Control Board personnel as appropriate.
Mitigation Measure #BIO 2: Stream Crossings

Although not anticipated, in the event that equipment will need to cross a live stream outside the road rights-of-way of Tramway Road, A-Line Road, F-Line Road or Road 90A a California Department of Fish and Wildlife 1600 Stream Alteration Agreement would be required at the discretion of that agency. In such instances, equipment crossings of waterways, streambeds and their associated approaches shall be located and flagged by the RCDTC Project Manager or an SPI Registered Professional Forester prior to the occurrence. Within these crossing areas, no vegetation shall be removed. Verification of flagging at crossing sites prior to equipment crossing as well as verification of no impacts to vegetation and soils once crossings have been completed shall be made by the RCDTC Project Manager or an SPI Registered Professional Forester and documented in the project file. The RCDTC Project Manager or an SPI Registered Professional Forester shall inspect crossing sites prior to and after equipment entry into stream channels to ensure that special status species are not harmed or otherwise impacted and that there are no significant impacts to riparian vegetation. If special status species are found at a particular crossing site, another more appropriate site shall be located and used.

Mitigation Measure #BIO 8: Woody Debris

In order to prevent the introduction of excess woody debris into stream flows, dry stream channels that have flows during the rainy season, or other protected areas, no chipped material shall be blown or otherwise introduced into any Mechanical Treatment Exclusion Buffer. The RCDTC Project Manager or SPI Registered Professional Forester shall take before and after photographs of project work that has occurred near MTEBs in order to document adherence to this requirement.

Mitigation Measure #GEO/SOILS 1: Prohibition Against Work on Steep Slopes and Unstable Areas

No equipment operations shall occur on slopes exceeding 50% and shall not occur on any unstable areas, regardless of slope percentage. Suitability for equipment operations related to slope and soil stability shall be determined by the RCDTC Project Manager or a Sierra Pacific Industries Registered Professional Forester.

Mitigation Measure #HA/HAZ 1: Protection Against Hazardous Material Spills in Streams and Riparian Zones

To reduce potential impacts associated with fuel spills in streams and riparian areas, the RCDTC Project
Manager or SPI Registered Professional Forester 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. Within the Tramway Road-South Unit where herbicide applications will be conducted, no mixed herbicide shall be transported across live streams at any time. Only unmixed herbicides and other chemicals in their original sealed containers shall be allowed transport across live streams. 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 of SPI Registered Professional Forester.

Mitigation Measure # HA/HAZ 2: Equipment Refueling and Maintenance Precautions

The RCDTC Project Manager or SPI registered Professional Forester shall select refueling and maintenance sites for all equipment including power hand tools on flat sites that are away from MTEBs and other buffers related to dry or wet waterways along with areas that could potentially flow into a stream in the event of an accidental spill. Such sites shall also be established outside of MTEBs 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 at all refueling and maintenance areas. Equipment operators shall be responsible for the immediate containment and removal of any spilled material and shall immediately inform the RCDTC Project Manager or SPI Licensed Professional Forester of such spills. The RCDTC Project Manager or SPI Registered Professional Forester shall then immediately contact appropriate authorities including the CDFW. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur. Equipment shall be stored and maintained within properly cleared areas. The RCDTC Project Manager or SPI Registered Professional Forester 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.

Mitigation Measure # HA/HAZ 3: Herbicide Mixing and Loading Precautions

Within the Tramway Road/South Unit, the RCDTC Project Manager or SPI Registered Professional Forester shall select herbicide mixing and loading areas on flat sites that are away from stream and riparian MTEBs along with other no treatment buffer areas related to dry or wet waterways or areas that could potentially flow into a stream in the event of an accidental spill. Such sites shall also be established outside of MTEB’s and other exclusion zones established in order to protect wildlife and plant resources. Chemical containment equipment including absorbent sheets and waddles shall be made available at
herbicide mixing and loading areas. The RCDTC Project Manager, SPI Registered Professional Forester and SPI or RCDTC licensed applicator shall be responsible for the immediate containment and removal of any spilled herbicide or other chemical material and shall immediately contact appropriate authorities including the CDFW. Herbicide application equipment shall be stored and maintained within properly cleared areas. The RCDTC Project Manager shall inspect herbicide mixing and loading sites along with storage areas to assure compliance with Mitigation Measure #HA/HAZ 3. These inspections shall also verify the sites’ adequacy in protecting riparian and terrestrial resources as well as the availability of containment equipment.

**Mitigation Measure # HA/HAZ 4: Equipment Inspections Related to Oil and Fuel (North Unit and Tramway Road South Unit)**

Contractors, the RCDTC Project Manager or SPI Registered Professional Forester 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. The results of these inspections shall be incorporated into the project files along with evidence of any repairs required and completed before returning equipment to project work sites.

**Mitigation Measure # HA/HAZ 5: Equipment Inspections Related to Herbicides and Other Hazardous Materials (Tramway Road South Only)**

All herbicide application equipment shall be periodically inspected by the Contractor, RCDTC Project Manager or SPI Registered Professional Forester for leaking herbicide and surfactants. Any such leaks shall be repaired prior to resuming chemical applications. The results of these inspections shall be incorporated into the project files along with evidence of any repairs required and completed before returning equipment to project work sites.

**Mitigation Measure # HA/HAZ 7: Protection of MTEBs During Herbicide Applications**

The RCDTC Project Manager shall ensure that no herbicides enter into MTEBs or other buffer areas at any time during project implementation. Portions of target plants hanging over and MTEBs or other buffer areas shall be moved out of such locations prior to treatment and no spraying shall occur. This standard shall be achieved by using a Licensed Pest Control Advisor along with Licensed Pesticide Applicators who shall conduct daily equipment checks to minimize the likelihood of a spill or accidental release of herbicide. If herbicides are inadvertently released into any MTEB or other buffer area, the
Licensed Pesticide Applicator shall report such release immediately to the RCDTC Project Manager or Sierra Pacific Industries Registered Professional Forester who shall report the incident to the DFG and USFWS within 72 hours of occurrence including its location, date, time, herbicide type and concentration, reason for the inadvertent release, measures taken to reduce chemical impact along with those undertaken to avoid future releases.

Mitigation Measure # HA/HAZ 10: Mixing of Herbicides

A clean tank shall be used for gathering stream water to be mixed in chemical tanks, no mixing shall occur within MTEB or other buffer area. No mixing shall occur in or near any storm water inlet.

Mitigation Measure # HA/HAZ 11: Use of Herbicide Dyes and Stains

In order to increase applicator accuracy, avoid missed vegetation and overspray as well as to indicate personal exposure to herbicides, a suitable stain or dye shall be incorporated into the herbicide prior to application.

Mitigation Measure # HA/HAZ 12: Protective Clothing

All workers involved with herbicide applications shall wear appropriate protective clothing and related safety equipment (masks gloves etc.) as per the guidelines of the California Department of Industrial Relations Division of Occupational Safety and Health and those of the manufacturer.

Mitigation Measure # HA/HAZ 12: Wash Stations

Clean soap and water shall be readily available on site for the purpose of emergency washing. Wash stations shall be located away from any natural waterway to avoid contamination of waterways and ponds in the area.

Mitigation Measure # HA/HAZ 17: Wind Speed During Herbicide Applications

No herbicide applications shall take place when wind velocity is less than two (2) miles per hour or exceeds ten (10) miles per hour or when there is greater than a thirty percent (30%) forecast of rain within six (6) hours of treatments. Wind speeds shall be monitored hourly.
No significant adverse impacts related to hydrology and water quality are anticipated with the implementation of the above Mitigation Measure.
## ENVIRONMENTAL ISSUES

<table>
<thead>
<tr>
<th>X. Land Use and Planning. Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
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<tr>
<td>a) Physically divide an established community?</td>
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<td>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?</td>
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<td>c) Conflict with any applicable habitat conservation plan or natural community conservation plan?</td>
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### Discussion

a) **Would the project physically divide an established community?**

The only developed sites near the project area are Lyman Springs, the Turner Ranch and at the point where project work crosses State Route 36E near Lassen Lodge. These developed sites are located outside the project’s impact area and as a result; no established communities will be physically divided by project work. In addition the fuel treatments to be implemented will improve access and egress by members of the public as well as fire-fighting personnel in the event of an emergency. Project work will also generally improve travel safety for the public and emergency response personnel along the County maintained Tramway Road. In addition response by wildland fire fighting forces will similarly be improved along all of the roads to be treated in connection with this project.

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?**

The Tehama County General Plan designates land use within that portion of the County where project work will occur for timber production, wildlife management and rural residential development. This project does not 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 habitat conservation plans or natural community plans have been formally established for the lands within the project area.

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

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<th>Environmental Issues</th>
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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?

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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?  
The proposed project entails a reduction of forest and brush vegetation and will not result in any loss of mineral resources.

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?  
Project work will not result in the loss of any locally important mineral resource recovery site.

No adverse impacts to mineral resources are anticipated.
ENVIRONMENTAL ISSUES

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<td>XII. Noise. Would the project result in:</td>
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<td>a) Exposure of persons to or generation of noise levels in excess of standards</td>
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<td>established in the local general plan or noise ordinance, or in other applicable</td>
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<td>groundborne noise levels?</td>
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<td>c) A substantial permanent increase in ambient noise levels in the project vicinity</td>
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<td>d) A substantial temporary or periodic increase in ambient noise levels in the</td>
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<td>project vicinity above levels existing without the project?</td>
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<td>e) For a project located within an airport land use plan or, where such a plan has</td>
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<td>the project expose people residing or working in the project area to excessive noise</td>
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<td>levels?</td>
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<td>f) For a project within the vicinity of a private airstrip, will the project</td>
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<td>expose people residing or working in the project area to excessive noise levels?</td>
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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?

Development of this fuel break project will occur within a very remote area of Eastern Tehama County. Ambient noise levels during implementation of project work will be created by transportation, chipping and mastication equipment along with power hand tools such as chain saws. This will be minimal and created only during daylight hours. Work is anticipated to progress at a rapid rate and as a consequence noise generated by equipment will be within a particular location for a limited period of time resulting in very short term impacts to residents or wildlife behavior. No long term impacts to noise standards established in 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?

All project work will be completed using hauling, chipping and mastication equipment along with chainsaws. There are several scattered rural residential dwellings within two segments of the project area where equipment will be used; one at the Turner Ranch headquarters and the other at the point where Tramway Road and the A-Line Road intersect State Route 36E near the Lassen Lodge. These sources of project related noise will be in the vicinity of structures for only a short period of time. 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?

Increases in noise levels related to project work will be minor and temporary. Once project work is complete, ambient noise levels will return to their pre-project 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?

Within that portion of the project area immediately adjacent to transportation, chipping and mastication equipment operation or chainsaw use, ambient noise levels will be increased above existing levels but only for a very short period of time (one week or less). Once project work has been completed, ambient noise levels will return to their pre-project 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?

There are no public airports within the project area and no noise impacts related to airport operations are anticipated.

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?

There are no private airstrips within or adjacent to any of the project impact sites or the overall project area.

Impacts related to noise will be less than significant.
### ENVIRONMENTAL ISSUES

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#### 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)?
  
  [ ] Potentially Significant Impact
  [ ] Less Than Significant with Mitigation Incorporated
  [ ] Less Than Significant Impact
  [x] No Impact

- **b)** Displace substantial numbers of existing homes, necessitating the construction of replacement housing elsewhere?
  
  [ ] Potentially Significant Impact
  [ ] Less Than Significant with Mitigation Incorporated
  [ ] Less Than Significant Impact
  [x] No Impact

- **c)** Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?
  
  [ ] Potentially Significant Impact
  [ ] Less Than Significant with Mitigation Incorporated
  [ ] Less Than Significant Impact
  [x] No Impact

#### 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)?*

This project will not entail the development of any 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?*

Although there are a few scattered dwellings within the project area, no displacement of homes will occur that will necessitate the construction of replacement housing elsewhere. No impacts related to displacement of homes are anticipated.

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

There will be no displacement of local residents related to the implementation of this project. No impacts related to displacement of residents are anticipated.

*No adverse impacts to population and housing are anticipated.*
ENVIRONMENTAL ISSUES

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<tr>
<th>Environmental Issue</th>
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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:

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<th>Public Service</th>
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<td>Fire protection?</td>
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<td>Police protection?</td>
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<td>Parks?</td>
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<td>Other public facilities?</td>
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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:

The overall project area is located in a very rural portion of Tehama County where there are few public services. The fuel breaks created by the implementation of this project will reduce the potential for very large catastrophic wildfires that threaten residents as well as watershed resources. As a result, there will be beneficial impacts to fire protection services used by communities near the project area. No negative impacts to the provision of Fire Protection Police Protection, Schools, Parks or Other public facilities are anticipated.

Fire protection?

Police protection?

Schools?

Parks?

Other Public Facilities?
No adverse impacts to public services are anticipated.

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<tr>
<th>ENVIRONMENTAL ISSUES</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
</table>

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?

No increase in the use of parks or other recreational facilities will result from the execution of project work.

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

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

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 increase in the use of parks or other recreational facilities will result from the execution of 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 recreational facilities will be constructed or expanded as a result of project work.

No adverse impacts to recreation are anticipated.
ENVIRONMENTAL ISSUES

<table>
<thead>
<tr>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
</table>

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?  

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

Project work will be conducted along the County maintained Tramway Road and Sierra Pacific Industries’ A-Line Road, F-Line Road and Road 90A. All project work will be conducted off of the roadway. Trucks hauling equipment to project staging sites as well as those used to transport chipped material to cogeneration plants will utilize the Tehama County maintained Tramway Road, wildland roads managed and maintained by Sierra Pacific Industries along with State Route 36E, State Route 44 and Interstate 5 which are maintained by Cal Trans. The number of loads to be hauled along these roads during the implementation of project work is anticipated to be between approximately 6 and 10 per day. Chip vans will be the only large transportation equipment to use Tramway Road during the implementation of project work. There is the potential for logging trucks to utilize the A-Line Road, F-Line Road and Road 90-A at the same time as this project is being completed. These roads will not impact the flow of public traffic as they are owned, maintained and controlled by Sierra Pacific Industries which normally does not allow their use by the general public. In addition, State Route 36E, State Route 44 and Interstate 5 are of a size and configuration to handle a considerable amount of combined
automobile and truck traffic. Implementation of this project will require the Sierra Pacific Industries and any of its subcontractors to obtain an access agreement from Cal Trans which will contain provisions that limit adverse impacts to traffic flow along State Highways and at the point where Tramway Road and the A-Line Road intersect the State Route 36E right-of-way.

a) Would the project cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?

Transportation of forest products is one of the major historic uses of roads within the project area as well as those proposed for use in hauling chipped material to biomass cogeneration plants in the Sacramento Valley. The Tramway Road/A-Line Road/F-Line Road/Road 90A Shaded Fuel Break project will result in a relatively minor increase in traffic along an unpaved County maintained road, unpaved privately maintained wildland roads as well as the State Highway system (Highway 36E and Highway 44). In the case of Tehama County maintained Tramway Road, other than a local rancher whose lands are included in the project area, very few vehicles utilize this road throughout most of the year. The exception would be for a short period of time in late September and early October during the local deer hunting season. In order to reduce impacts to local wildland road traffic, all project related work along Tramway Road would cease during the local deer hunting season and resume once it ended (see Mitigation Measure #Trans/Traffic 35 below). Work would continue along those roads owned by Sierra Pacific Industries. State Route 36E and 44 along with Interstate 5 are designed for semi-truck traffic and are used extensively for hauling logs and other forest products to Central Valley mills. Due to the size and quality of these primary transportation routes, no impacts to traffic flow and safety are anticipated that would be attributable to project work.

b) Would the project exceed, individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?

Project work will not result in an exceedence of any level of service standard for County roads and State Highways.

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 impacts to air traffic patterns will result from the execution and completion of project work.
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)?**

This project does not affect the design of any roads. Visibility along the County maintained Tramway Road and those owned by Sierra Pacific Industries will be improved through the thinning of roadside vegetation.

e) **Would the project result in inadequate emergency access?**

No negative impacts to emergency access will occur. It is anticipated that access for rapidly moving emergency vehicles will be improved through the removal of dense vegetation that will result in increased site distances along local roads.

f) **Would the project result in inadequate parking capacity?**

This project will not impact parking capacity.

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

Project work will not conflict with any polices, plans or programs supporting alternative transportation.

**Proposed Mitigation Measures to Reduce Transportation and Traffic Impacts**

**Mitigation Measure #Trans/Traffic 1: Operations During Hunting Season (Tramway/Road South Unit Only)**

In order to reduce impacts to local traffic utilizing the publicly maintained Tramway Road, all project work within the Tramway Road/South Unit shall cease during the local deer hunting season (Zone C-4) and resume once it has ended. Project work could continue along privately controlled and maintained roads included for treatments.

*No significant adverse impacts related to transportation and traffic is anticipated with the implementation of the above Mitigation Measure.*
ENVIRONMENTAL ISSUES

<table>
<thead>
<tr>
<th>XVII. Utilities and Service Systems. Would the project:</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?</td>
<td>☐</td>
<td>☐</td>
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<td>☒</td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
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<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>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?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>f) Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs?</td>
<td>☐</td>
<td>☐</td>
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<td>☒</td>
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<tr>
<td>g) Comply with federal, state, and local statutes and regulations related to solid waste?</td>
<td>☐</td>
<td>☐</td>
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</tr>
</tbody>
</table>

Discussion

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

The project 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 new wastewater facilities will be constructed nor will there be an expansion of water facilities attributable to project work.

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 new storm water facilities will be constructed nor will there be a necessity for expanding such infrastructure.

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 new or expanded water entitlements will be required in order to complete or maintain project work.

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?**

There are no wastewater treatment providers operating within the project area.

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

Project work will not result in the need for a landfill.

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

Project work will not result in the development of solid waste as defined in federal state and local statutes.

*No adverse impacts to utilities and public service systems are anticipated.*
ENVIRONMENTAL ISSUES

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.

Discussion

a) Would 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?

As discussed in the preceding sections, the proposed Tramway Road/A-Line Road/F-Line Road/Road 90A Fuel Break Project has the potential to result in adverse effects on air quality, biological resources, cultural resources, geology and soils, hydrology and water quality, hazards and hazardous materials, as well as transportation and traffic. These potential impacts and required Mitigation Measures are detailed in the corresponding sections above. With implementation of required mitigation measures, potential impacts would be reduced to a less-than-significant level. The
proposed fuels/vegetation management project entails thinning unnaturally dense stands of small conifer and deciduous tree species 10” in diameter and under along with oak species 6” in diameter and under. Unnaturally dense stands of chaparral brush species within mixed conifer forest stands will also be removed. Land within the project areas is zoned for timber production consequently project work will not have a negative effect on land use. The intent of the proposed project is improved fire control and protection of watershed resources within a significant portion of eastern Tehama County. Project work is also expected to result in an improvement in the growth and vitality of roadside conifers, deciduous trees and oaks thought the thinning of small and suppressed individuals and reducing the amount of roadside brush found in the forest understory. This excess vegetation competes with large healthy trees for water, nutrients and sunlight. In addition, wildlife habitat is expected to be improved as removing dense understory vegetation resulting in more moisture nutrients and sunlight available for grass and forbs species increasing the plant diversity and habitat value of the lands within the overall project area.

While habitat for those species that utilize dense understory and brush types will experience a reduction in nesting and other sites, those plants and animals that require more open areas having greater sunlight will find expanded areas in which to complete various life stages. In addition, the scale of project work will be at level that will not impact a significant area of any single vegetation type. With the reduction of roadside fuels, the risk of catastrophic wildlife which can damage or completely destroy large areas of all vegetative habitat will be reduced thus increasing the chance that the overall area will retain a variety of vegetation types that support both listed as well as non-listed plant and animal species.

b) Would 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.)

Analysis of Cumulative Impacts Related to Mechanical Vegetation Treatments

The Tramway Road/A-Line Road/F-Line Road/Road 90A Shaded Fuel Break project will be executed within a portion of Northeastern Tehama County that is very remote. The impactive activities related to mechanical and chemical vegetation treatments to be completed in the execution of project work are relatively minor in their significance due to the project’s design, the
limited area of this project's direct impact and the Mitigation Measures that have been incorporated into the work scope. A number of other similarly developed fuel breaks have been completed or are now in progress within the vicinity this project (See Map D Map of Fuel Breaks and Fuel Treatments in the Vicinity of the Tramway Road/A-Line Road/ F-Line Road/Road 90- A Shaded Fuel Break. All of these activities have similar designs and were developed with similar Mitigation Measures. As a result, impacts on environmental conditions attributable to each individual fuel break will be minor and when considered as a system will not be cumulatively considerable. In addition, the system of fuel breaks within this portion of Tehama County will provide significant protection from catastrophic wildfire to the area’s landscapes and natural systems. The landscapes to be impacted by project work envisioned for this project (mountain chaparral, pine and mixed conifer forests) are common within this portion of the Cascade and Sierra Nevada Mountains. As a result significant areas of similar habitat are located near or adjacent to the project’s sites of impact. Consequently it anticipated that the project will have no negative environmental impacts that are individually limited but cumulatively considerable. Also no resources or environmental issues within the project area were identified that could not be rendered less than significant.

Analysis of Cumulative Impacts Related to Chemical Vegetation Treatments

Between 1999 and 2006, glyphosate was reportedly used in all 58 counties in California with the total amount approximately 7.8 million pounds (a.e.). In addition, glyphosate has a number of residential and industrial uses that are not represented in these data. Landscape maintenance and rights of way are among the highest usages in the counties. There are no substantial agricultural practices that would warrant the large scale yearly application of herbicides treatments (using glyphosate or Imazapyr) as are found in other parts of Tehama County. Within the project site and surrounding area, the land use is related to timber, cattle and wildlife prosecution. Use of glyphosate and/or Imazapyr throughout the area is believed to be relatively low and much disbursed. Therefore, from a cumulative effects perspective, this project is anticipated to contribute an insignificant amount of herbicide exposure.
c) **Would the project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?**

The various project areas for all phases of the Tramway Road/A-Line Road/F-Line Road/Road 90A Shaded Fuel Break project are very remote. Although the techniques to be used in the development of fuel break infrastructure will have temporary impacts to local watershed resources which will be rendered less than significant through the implementation of Mitigation Measures; no direct negative impacts to area residents are anticipated. It is expected that impacts to public safety related to a reduction in catastrophic wildfire and improved roadway sight conditions will have a positive effect on local residents. Given the toxic characteristics of the glyphosate and Imazapyr herbicides selected for this project, these chemicals pose insignificant risks to persons who may be in the project area during, and after, the application period. The potential for off-target movement of the herbicide and surfactant products during and after the project period is very low. This is due primarily to application methods being used (low-volume, ground-based applications with hand-held equipment) the use of certified Applicators and the relatively small amounts of chemicals that will be used.
Appendices
Appendix A

Mitigation Monitoring and Reporting Plan (MMRP)
For the
Tramway Road/A-Line Road/F-Line Road/Road 90A Shaded Fuel Break Project
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 approval. The Resource Conservation District of Tehama County (RCDTC) is the lead agency for the Tramway Road/A-Line Road/F-Line Road/Road 90A Shaded Fuel Break and has approved this MMRP as a part of the final Initial Study/Mitigated Negative Declaration (IS/MND) supporting the project. Monitoring activities will be completed by the RCDTC Project Manager or other entity listed in this IS/MND. The MMRP lists the Mitigation Measures developed in the IS/MND which were 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 with the measure.

Potentially Significant Effects and Mitigation Measures
The following is a list of the resources that will be potentially affected by the project and the Mitigation Measures made part of the Initial Study/Mitigated Negative Declaration. Included are Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Hydrology and Water Quality, Hazards and Hazardous Materials along with Transportation and Traffic.

Proposed Mitigation Measures: The following is a list of Mitigation Measures that will be implemented by the RCDTC, its contractor Sierra Pacific Industries, subcontractors if any hired by SPI along with responsible agencies in order to avoid or minimize potential environmental impacts during project implementation. Through the implementation of these Mitigation Measures the potential for environmental impact related to this project will be reduced to a less-than-significant level.
Air Quality

Mitigation Measure #AQ 1: Burn Permits

It is anticipated that numerous piles of vegetative debris will be developed in connection with project work and these will need to be burned. 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 of any entity conducting such burning operations. The need for the permit will depend upon the exact month burning is to occur. Any entity conducting burning operations shall follow all federal, state, and local requirements when burning piles. 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 retained in the RCDTC project file. Burning operations shall be conducted under a Smoke Management Plan approved by the TCAPCD a copy of which shall be retained in the RCDTC project file. The Tehama County Air Pollution Control District shall assure adherence to the provisions of this Mitigation Measure.

Schedule:

Responsible Party: 

Verification of Compliance: Monitoring Party: TCAQPCD

Initials: ____________

Date: ____________

Mitigation Measure #AQ 2: Burning Period

In order to reduce the impact of any burning operations these activities shall be conducted during the regular burn season when fire danger is low and only on official burn days. The Tehama County Air Pollution Control District shall assure adherence to the provisions of this Mitigation Measure through the issuance of a burn permit. Enforcement of permit provisions shall be the responsibility of Cal Fire.

Schedule:

Responsible Party: 

Verification of Compliance: Monitoring Party: TCAQPCD

Initials: ____________

Date: ____________
Biological Resources

Mitigation Measure #BIO 1: Stream and Watercourse Treatment Buffers

300 foot Mechanical Treatment Exclusion Buffers (MTEB), also referred to as buffer areas throughout this Initial Study/Mitigated Negative Declaration document shall be established on each side of Battle Creek’s South Fork along with the South Fork of Digger Creek. All other wet and dry stream courses shall be protected by a 150 foot MTEB. Within these MTEBs, treatments of any kind including herbicide applications to be completed exclusively within the Tramway Road/South Unit shall be prohibited.

Similarly, ditches, canals and other man made water conveyance structures shall be protected by a 25’ MTEBs on both sides of these water features. All springs shall be encircled by a 75’ MTEB. All stream and riparian area MTEBs shall be established and flagged by the RCDTC Project Manager or a Sierra Pacific Industries Registered Professional Forester prior to implementation of any project work. Monitoring photographs shall be taken by the RCDTC Project Manager or Sierra Pacific Industries Registered Professional Forester before and after completion of project work in order to document compliance with Mitigation Measure #BIO 1. Monitoring photographs shall be incorporated into the project file. Consideration of site specific modification to MTEBs and other buffer requirements could occur upon site review and approval by Lassen National Forest, Cal Fire, California Department of Fish and Game or California Regional Water Quality Control Board personnel as appropriate.

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

Mitigation Measure #BIO 2: Stream Crossings

Although not anticipated, in the event that equipment will need to cross a live stream outside the road rights-of-way of Tramway Road, A-Line Road, F-Line Road or Road 90A a California Department of Fish and Wildlife 1600 Stream Alteration Agreement would be required at the discretion of that agency. In such instances, equipment crossings of waterways, streambeds and their associated approaches shall be located and flagged by the RCDTC Project Manager or an SPI
Registered Professional Forester prior to the occurrence. Within these crossing areas, no vegetation shall be removed. Verification of flagging at crossing sites prior to equipment crossing as well as verification of no impacts to vegetation and soils once crossings have been completed shall be made by the RCDTC Project Manager or an SPI Registered Professional Forester and documented in the project file. The RCDTC Project Manager or an SPI Registered Professional Forester shall inspect crossing sites prior to and after equipment entry into stream channels to ensure that special status species are not harmed or otherwise impacted and that there are no significant impacts to riparian vegetation. If special status species are found at a particular crossing site, another more appropriate site shall be located and used.

Schedule:

Verification of Compliance:

Responsible Party:
Monitoring Party: RCDTC/SPI/CDFW

Initials: ____________
Date: ____________

Mitigation Measure #BIO 3: Pre Project Implementation Plant Surveys

Personnel specifically trained in the identification of California Rare Plant Ranking (CRPR) List 1, List 2 and List 3 species and any others shown in Appendix B (Results of Database Inquiry and Species Review) shall be required to evaluate potential habitat for these species prior to implementation of vegetation treatments within the project area during the appropriate blooming or identification period. Such personnel shall also evaluate potential findings of any such plants within treatment areas during the execution of project work per the provisions of Mitigation Measure #BIO 4 Protection of Previously Unidentified Listed Plants. 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 and the Lassen National Forest botanist. A copy shall also be incorporated into the RCDTC project files. 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 C). Biological surveys shall also map invasive plant species listed by the California Department of Food and Agriculture (http://www.cdfa.ca.gov/phpps/ipc/weedinfo/winfolist-pestrating.htm) and the California Invasive Plant Council (Cal-IPC) (http://www.cal-ipc.org/) located within the project area. All
rare plants having a potential to be impacted by project work shall be marked or flagged for complete avoidance.

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

Mitigation Measure #BIO 4: Protection of Previously Unidentified Listed Plants

If during the implementation of vegetation treatments within the project area, any previously unidentified listed plants shown in Appendix B (Results of Database Inquiry and Species Review) are detected by the individuals described in Mitigation Measure #BIO 3 the following plant protection measures shall apply:

North Unit

Within the North Unit, all project related activities shall immediately stop and a 25’ MTEB shall be established and flagged around the perimeter of any occurrence by the RCDTC Project Manager, Sierra Pacific Industries Registered Professional Forester, or other personnel specifically trained in the identification of California Rare Plant Ranking (CRPR) List 1, List 2 and List 3 and any others shown in Appendix B (Results of Database Inquiry and Species Review). Within such MTEBs, no cutting and chipping or piling and burning shall be conducted. Cut and chipped material along with all burn piles shall be kept outside the listed plant MTEB. If any trees 10” and under in diameter are cut, they shall be directionally felled and moved away from the occurrence.

Tramway Road South Unit

Within that portion of the project area inside the Tramway Road South Unit where herbicide applications are generally permitted, all project related activities shall immediately stop and a 25’ MTEB shall be established and flagged around the perimeter of any occurrence as established by the RCDTC Project Manager, Sierra Pacific Industries Registered Professional Forester, or other personnel specifically trained in the identification of California Rare Plant Ranking (CRPR) List 1, List 2 and List 3 and any others shown in Appendix B (Results of Database Inquiry and Species Review).
Review). Within such MTEBs, no cutting and chipping, piling and burning or herbicide applications shall be conducted. Cut and chipped material along with all burn piles shall be kept outside the listed plant MTEB. If any trees 10” and under in diameter are cut, they shall be directionally felled and moved away from the occurrence.

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

Mitigation Measure #BIO 5: Protection of Migratory Bird Treaty Act Species

In order to protect any species covered by the Migratory Bird Treaty Act (MBTA), no fuel treatments of any kind shall occur between March and August, unless the following is implemented: 1). A survey is conducted by the SPI Registered Professional Forester, a biologist or other persons with knowledge of and ability to recognize species protected by the MBTA within 0.5 miles of the project area during the nesting season of listed species and it is determined that there are no occupied nests within the proposed project area. 2). If an occupied nest is found, then the SPI Registered Professional Forester, a 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 no activities shall occur within 100 feet of the nest during the breeding season. If raptor species are found, the provisions of Mitigation Measure #BIO 6 related to raptor protection shall apply. Modifications and possible reduction in MTEB size may be made after consultation with the California Department of Fish and Wildlife personnel. 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.

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/SPI/CDFW
Initials: ____________
Date: ____________
Mitigation Measure #BIO 6: Raptor Protection

A Sierra Pacific Industries Licensed Professional Forester or wildlife biologist with appropriate training in the identification of raptors shall perform a walk-through survey of treatment areas shortly before all vegetation treatments or herbicide applications are initiated. 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 in the harvest unit. If field personnel detect raptor presence, appropriate protection measures as described below for that particular species shall be established. Upon discovery of an occupied raptor nest or any unknown large bird, the RCDTC’s Project Manager or the Sierra Pacific Industries Registered Professional Forester (after conferring with the RCDTC’s Project Manager) shall inform all personnel involved with vegetation treatment operations 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 along with any specified in the California Forest Practice Rules to protect the nest are implemented on the ground.

Raptor Protection Measures

Listed Raptors

In accordance with Forest Practices Rules, if an occupied nest of a listed bird (ESA, CESA, or Board of Forestry "Sensitive Species") is discovered during project work, the timber operator shall protect the nest tree, screening trees, perch trees, and replacement trees from any vegetation treatment operations. Until any consultation required under Forest Practice Rules occurs, (1) vegetation disturbing activities shall be suspended within one mile of the nest, (2) all treatment operations (per Public Resources Code §4527) shall be suspended within a 375-foot radius buffer of the occupied nest, and (3) the Department of Fish and Wildlife shall be immediately notified and consultation shall be initiated with the appropriate wildlife agencies.

Non-Listed Raptors

If an occupied nest of a non-listed raptor is discovered during vegetation treatment operations, all vegetation disturbing activities within one mile of the occupied nest
shall be suspended. Upon such suspension, the RCDTC Project Manager or an SPI Registered Professional Forester under the advice of 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/SPI

Initials: ____________

Date: ____________

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**Mitigation Measure #BIO 7: Fisher Protection (Per Appendix D Sierra Pacific Industries Fisher Take Avoidance Measures)**

Prior to project implementation and during treatment activities, the RCDTC Project Manager or SPI Registered Professional Forester shall look for freshly excavated cavities suitable for fisher dens on snags between 10” and 12” in diameter located 6’ to 12’ above ground level. In addition, within the project area, a potential den structure is defined as any hardwood with visible indicators of cavity formation (dead or alive) ≥15 inches DBH, a conifer snag ≥22 inches DBH, or a live green cull or green wildlife conifer ≥22 inches 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 ranches, and visible signs of fungus or other indications of cavity formation or visible cavity openings. The RCDTC Project Manager or SPI Registered Professional Forester 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 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 (MTEB). 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 SPI Registered Professional Forester shall be notified. If a den or habitation of a fisher is discovered, all operations (per PRC Section 4527) shall be suspended and a survey for a fisher den shall be completed. If a den is found a, flagged 375’ radius MTEB shall be established around the identified den or habitation. The Department of
Fish and Wildlife shall then be immediately notified.

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

Mitigation Measure #BIO 8: Woody Debris
In order to prevent the introduction of excess woody debris into stream flows, dry stream channels that have flows during the rainy season, or other protected areas, no chipped material shall be blown or otherwise introduced into any Mechanical Treatment Exclusion Buffer. The RCDTC Project Manager or SPI Registered Professional Forester shall take before and after photographs of project work that has occurred near MTEBs in order to document adherence to this requirement.

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

Mitigation Measure #BIO 9: Identification and Isolation of Invasive Plants
Populations of invasive plants listed by CDFA having the potential to be spread or otherwise impact project work shall be either 1.) flagged and avoided during project implementation, or 2.) treated prior to project implementation. Populations of invasive plants listed by Cal-IPC shall be evaluated for the risk of further infestation due to project activities and treatments or other mitigation shall be applied as needed. If discrete patches of Cal-IPC invasives are located, (e.g. species that are not already common in the project area) staging sites shall be located outside of these discrete infestations.

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/SPI
Initials: ____________
Date: ____________
Mitigation Measure #BIO 10: 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 work shall be cleaned prior to use within the project area. The RCDTC Project Manager or SPI Registered Professional Forester shall assure and document equipment cleaning. Documentation of cleaning shall be incorporated into the project file.

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

Cultural Resources

Mitigation Measure #CUL 1: Protection of Identified Cultural Resources

All new and previously recorded archeological sites identified during field surveys completed in connection with the preparation of this IS/MND and documented in the report entitled “An Archeological Inventory For the Proposed Tramway Road/A-Line Road/90/F Line Shaded Fuel Break” (Western Shasta Resource Conservation District) dated September 12, 2014 shall be protected through complete avoidance. A flagged 50’ MTEB shall be established around each of these sites by the RCDTC Project Manager or SPI Registered Professional Forester prior to implementation of any project work.

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

Mitigation Measure #CUL 2: Inspection for Unidentified Cultural Resources During Project Implementation

A professional archeologist or SPI Registered Professional Forester who is a Certified Archaeological Surveyor through the California State Board of Forestry and Fire Protection
(14CCR Section 929 et seq.) shall be on site prior to ground disturbing activities in order to assure that all archeological, prehistoric, historic or paleontological resource sites along the path of the fuel break or within 50 feet beyond the project boundary have been flagged for complete avoidance and that equipment operators and others working in the project areas are informed about their locations. A professional archeologist or SPI Registered Professional Forester who is a Certified Archaeological Surveyor through the California State Board of Forestry and Fire Protection shall also be on site during the implementation of project work in order to assure adherence to all Mitigation Measures related to cultural resource protection.

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

Mitigation Measure #CUL 3: Protection of Newly Discovered Archeological, Prehistoric, Historic or Paleontological Resource

Within areas of ground or vegetation disturbing activities, if project work appears to expose any previously unknown archeological, prehistoric, historic or paleontological resource sites along the path of the fuel break or within 50 feet beyond the project boundary, 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 an exclusion buffer of at least 100 feet. 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, herbicides and fuel treatments 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 project files.

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/SPI
Mitigation Measure #CUL 4: Discovery of Human Remains

If during the execution of project work human remains are found, the RCDTC Project Manager or SPI Registered Professional Forester shall halt work at that location until a professional archaeologist visits the site in order to assess their significance, process the remains and immediately notify the 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 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/SPI
Initials: ____________  
Date: ____________

Geology and Soils

Mitigation Measure #GEO/SOILS 1: Prohibition Against Work on Steep Slopes and Unstable Areas

No equipment operations shall occur on slopes exceeding 50% and shall not occur on any unstable areas, regardless of slope percentage. Suitability for equipment operations related to slope and soil stability shall be determined by the RCDTC Project Manager or a Sierra Pacific Industries Registered Professional Forester.

Schedule:
Responsible Party:  
Verification of Compliance:  
Monitoring Party: RCDTC/SPI
Initials: ____________  
Date: ____________
Hydrology and Water Quality

Mitigation Measure #HYDRO 1: Mulching of Exposed Soil and Installation of Waterbars

Any newly-exposed soil of over 100 square feet in area shall be mulched with chips or brush to minimize the potential for erosion. Hand water bars shall be installed to divert water onto stabile vegetation and away from watercourses, as needed. Verification of proper installation and sufficiency of both mulching and waterbars shall be made by the RCDTC Project Manager or SPI Registered Professional Forester prior to and following the season’s first precipitation event and recorded in the project file.

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

Mitigation Measure #HYDRO 2: Protection of Drainage Features

Any existing drainage features shall be protected from project related impacts and shall remain free of obstruction.

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

Hazards and Hazardous Materials

Mitigation Measure #HA/HAZ 1: Protection Against Hazardous Material Spills in Streams and Riparian Zones

To reduce potential impacts associated with fuel spills in streams and riparian areas, the RCDTC Project Manager or SPI Registered Professional Forester 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. Within the Tramway Road-South Unit where herbicide applications will be conducted, no mixed herbicide shall be transported across live streams at any time. Only unmixed herbicides and other chemicals in their original sealed containers shall be allowed transport across live streams. 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 of SPI Registered Professional Forester.

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

Mitigation Measure # HA/HAZ 2: Equipment Refueling and Maintenance Precautions

The RCDTC Project Manager or SPI registered Professional Forester shall select refueling and maintenance sites for all equipment including power hand tools on flat sites that are away from MTEBs and other buffers related to dry or wet waterways along with areas that could potentially flow into a stream in the event of an accidental spill. Such sites shall also be established outside of MTEBs 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 at all refueling and maintenance areas. Equipment operators shall be responsible for the immediate containment and removal of any spilled material and shall immediately inform the RCDTC Project Manager or SPI Licensed Professional Forester of such spills. The RCDTC Project Manager or SPI Registered Professional Forester shall then immediately contact appropriate authorities including the CDFW. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should a spill occur. Equipment shall be stored and maintained within properly cleared areas. The RCDTC Project Manager or SPI Registered Professional Forester 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/SPI
Mitigation Measure # HA/HAZ 3: Herbicide Mixing and Loading Precautions

Within the Tramway Road/South Unit, the RCDTC Project Manager or SPI Registered Professional Forester shall select herbicide mixing and loading areas on flat sites that are away from stream and riparian MTEBs along with other no treatment buffer areas related to dry or wet waterways or areas that could potentially flow into a stream in the event of an accidental spill. Such sites shall also be established outside of MTEB’s and other exclusion zones established in order to protect wildlife and plant resources. Chemical containment equipment including absorbent sheets and waddles shall be made available at herbicide mixing and loading areas. The RCDTC Project Manager, SPI Registered Professional Forester and SPI or RCDTC licensed applicator shall be responsible for the immediate containment and removal of any spilled herbicide or other chemical material and shall immediately contact appropriate authorities including the CDFW. Herbicide application equipment shall be stored and maintained within properly cleared areas. The RCDTC Project Manager shall inspect herbicide mixing and loading sites along with storage areas to assure compliance with Mitigation Measure #HA/HAZ 3. These inspections shall also verify the 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/SPI
Initials: ____________
Date: ____________

Mitigation Measure # HA/HAZ 4: Equipment Inspections Related to Oil and Fuel (North Unit and Tramway Road South Unit)

Contractors, the RCDTC Project Manager or SPI Registered Professional Forester 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. The results of these inspections 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/SPI
Mitigation Measure # HA/HAZ 5: Equipment Inspections Related to Herbicides and Other Hazardous Materials (Tramway Road South Only)

All herbicide application equipment shall be periodically inspected by the Contractor, RCDTC Project Manager or SPI Registered Professional Forester for leaking herbicide and surfactants. Any such leaks shall be repaired prior to resuming chemical applications. The results of these inspections 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/SPI
Initials: ____________
Date: ____________

Mitigation Measure # HA/HAZ 6: Protection of Wildlife During Herbicide Applications (Tramway/ Road South Unit Only)

To reduce wildlife disturbance, the SPI Registered Professional Forester or RCDTC Project Manager shall direct crews to avoid spraying all wildlife observed in herbicide treatment areas within the Tramway Road/South Unit. Areas not sprayed due to the presence of wildlife may be sprayed once wildlife has left the treatment area. Those areas having suspected occupied nesting or denning habitats shall also be avoided and not treated until wildlife have left the area. The RCDTC Project Manager or SPI Registered Professional Forester shall demonstrate compliance with this measure through the submission of annual reports due to the California Department of Fish and Wildlife’s Northern Region Lake and Streambed Alteration Agreement Program no later than December 31 of each year that the project is implemented.

Schedule:
Responsible Party:
Verification of Compliance:
Monitoring Party: RCDTC/SPI/CDFW
Initials: ____________
Date: ____________
Mitigation Measure # HA/HAZ 7: Protection of MTEBs During Herbicide Applications

The RCDTC Project Manager shall ensure that no herbicides enter into MTEBs or other buffer areas at any time during project implementation. Portions of target plants hanging over and MTEBs or other buffer areas shall be moved out of such locations prior to treatment and no spraying shall occur. This standard shall be achieved by using a Licensed Pest Control Advisor along with Licensed Pesticide Applicators who shall conduct daily equipment checks to minimize the likelihood of a spill or accidental release of herbicide. If herbicides are inadvertently released into any MTEB or other buffer area, the Licensed Pesticide Applicator shall report such release immediately to the RCDTC Project Manager or Sierra Pacific Industries Registered Professional Forester who shall report the incident to the DFG and USFWS within 72 hours of occurrence including its location, date, time, herbicide type and concentration, reason for the inadvertent release, measures taken to reduce chemical impact along with those undertaken to avoid future releases.

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

Mitigation Measure # HA/HAZ 8: Timing of Herbicide Applications Related to Listed Species

Herbicide treatments shall occur outside the breeding period of all special status species shown in Attachment B: Results of Database Inquiries and Species Review. Any special status wildlife species that may be found during project implementation shall be moved to a safe location under directives obtained from the Wildlife Branch of Region 1, California Department of Fish and Wildlife. Personnel conducting vegetation treatments or herbicide applications shall search for and relocate special status species that may be under vegetation prior to any cutting, chipping, piling, pile burning or herbicide applications. Personnel involved with the movement of wildlife shall not handle chemicals.

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

**Mitigation Measure # HA/HAZ 9: Qualification of Herbicide Application Personnel**

All applications of herbicide shall be done by a Qualified Licensed Applicator and under the supervision of a Licensed Pest Control Advisor in accordance with applicable, federal, state, and local laws or guidelines. All applicators shall be trained to safely handle and apply herbicides per State of California Regulations as well as those of the Tehama County Department of Agriculture.

**Schedule:**

**Responsible Party:**

**Verification of Compliance:**

Monitoring Party: RCDTC/SPI/ Tehama County Department of Agriculture  
Initials: ____________  
Date: ____________

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**Mitigation Measure # HA/HAZ 10: Mixing of Herbicides**

A clean tank shall be used for gathering stream water to be mixed in chemical tanks, no mixing shall occur within MTEB or other buffer area. No mixing shall occur in or near any storm water inlet.

**Schedule:**

**Responsible Party:**

**Verification of Compliance:**

Monitoring Party: RCDTC/SPI  
Initials: ____________  
Date: ____________

---

**Mitigation Measure # HA/HAZ 11: Use of Herbicide Dyes and Stains**

In order to increase applicator accuracy, avoid missed vegetation and overspray as well as to indicate personal exposure to herbicides, a suitable stain or dye shall be incorporated into the herbicide prior to application.

**Schedule:**

**Responsible Party:**

**Verification of Compliance:**

Monitoring Party: RCDTC/SPI  
Initials: ____________  
Date: ____________
Mitigation Measure # HA/HAZ 12: Protective Clothing

All workers involved with herbicide applications shall wear appropriate protective clothing and related safety equipment (masks, gloves, etc.) as per the guidelines of the California Department of Industrial Relations Division of Occupational Safety and Health and those of the manufacturer.

Schedule:

**Responsible Party:**

**Verification of Compliance:**

Monitoring Party: RCDTC/SPI

Initials: ____________

Date: ______________

Mitigation Measure # HA/HAZ 13: Wash Stations

Clean soap and water shall be readily available on site for the purpose of emergency washing. Wash stations shall be located away from any natural waterway to avoid contamination of waterways and ponds in the area.

Schedule:

**Responsible Party:**

**Verification of Compliance:**

Monitoring Party: RCDTC/SPI

Initials: ____________

Date: ______________

Mitigation Measure # HA/HAZ 14: 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/SPI

Initials: ____________

Date: ______________
Mitigation Measure # HA/HAZ 15: Signage Within Herbicide Application Areas

Prior to and during herbicide application, signs shall be posited along access points to minimize potential exposure by the public.

**Schedule:**
**Responsible Party:**
**Verification of Compliance:**
Monitoring Party: RCDTC/SPI
Initials: ____________
Date: ____________

Mitigation Measure # HA/HAZ 16: Notification of Landowners and Residents Within Herbicide Application Areas

Landowners and residents shall be informed in writing as to the date when herbicides shall be applied on particular properties. This notification shall provide information regarding the chemicals to be used and Mitigation Measures developed to reduce environmental impacts. The notification shall recommend that all persons and animals stay out of treatment areas for a specified period of time.

**Schedule:**
**Responsible Party:**
**Verification of Compliance:**
Monitoring Party: RCDTC/SPI
Initials: ____________
Date: ____________

Mitigation Measure # HA/HAZ 17: Wind Speed During Herbicide Applications

No herbicide applications shall take place when wind velocity is less than two (2) miles per hour or exceeds ten (10) miles per hour or when there is greater than a thirty percent (30%) forecast of rain within six (6) hours of treatments. Wind speeds shall be monitored hourly.

**Schedule:**
**Responsible Party:**
**Verification of Compliance:**
Monitoring Party: RCDTC/SPI
Initials: ____________
Date: ____________
**Mitigation Measure #HA/HAZ 18: Fire Protection Equipment**

To reduce impacts associated with exposure of people or structures to wildland fires, the RCDTC Project Manager or SPI Registered Professional Forester 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 RCDTC Project Manager, SPI Registered Professional Forester, applicators and all workers 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. Only appropriately Certified Pesticide Applicators who are trained in wildfire prevention and suppression shall be used in the execution of project work. All motorized equipment shall have approved spark arrestors.

**Schedule:**

**Responsible Party:**

**Verification of Compliance:**

Monitoring Party: RCDTC/SPI

Initials: ____________

Date: ____________

---

**Mitigation Measure #Trans/Traffic 1: Operations During Hunting Season (Tramway/Road South Unit Only)**

In order to reduce impacts to local traffic utilizing the publicly maintained Tramway Road, all project work within the Tramway Road/South Unit shall cease during the local deer hunting season (Zone C-4) 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/SPI

Initials: ____________

Date: ____________
Appendix B
Results of California Natural Diversity Database Inquiries
And Species Review

Formally Listed Species Found in the Immediate Vicinity of the
Tramway Road/A-Line Road/F-Line Road/Road 90-A Shaded Fuel Break Project Area

In consideration of the area covered by the Tramway Road/A-Line Road/F-Line Road/Road 90-A Shaded Fuel Break Project, an eleven quadrangle check was made of the Department of Fish and Game’s California Natural Diversity Database (CNDDB) during June 2014. The Cal Fish database along with a number of other references including the California Department of Fish and Game 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 Sensitive Species along with California Rare Plant Ranking List 1, List 2 and List 3.

7.5 Minute Quadrangles Used For California Natural Diversity Database Check

Of the Tramway Road/A-Line Road/F-Line Road/Road 90-A Shaded Fuel Break Project Area

<table>
<thead>
<tr>
<th>Barkley Mtn.</th>
<th>Finley Butte</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grays Peak</td>
<td>Hagaman Gulch</td>
</tr>
<tr>
<td>Lassen Peak</td>
<td>Lyonsville</td>
</tr>
<tr>
<td>Manton</td>
<td>Mineral</td>
</tr>
<tr>
<td>Onion butte</td>
<td>Panther Springs</td>
</tr>
<tr>
<td>Viola</td>
<td></td>
</tr>
</tbody>
</table>

The following results relate to the above mentioned query of the California Natural Diversity Database and other information sources related to listed Endangered, Threatened, or Sensitive 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.

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Federal Endangered</td>
</tr>
<tr>
<td>2</td>
<td>Federal Threatened</td>
</tr>
<tr>
<td>3</td>
<td>California Endangered</td>
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<tr>
<td>4</td>
<td>California Threatened</td>
</tr>
<tr>
<td>5</td>
<td>California Fully Protected</td>
</tr>
<tr>
<td>6</td>
<td>California Protected</td>
</tr>
<tr>
<td>7</td>
<td>California Species of Special Concern</td>
</tr>
<tr>
<td>8</td>
<td>Federally Proposed Endangered</td>
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<td>9</td>
<td>Federally Proposed Threatened</td>
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<tr>
<td>10</td>
<td>Federal Candidate</td>
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<tr>
<td>11</td>
<td>BLM Sensitive</td>
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<tr>
<td>12</td>
<td>CDF Sensitive</td>
</tr>
<tr>
<td>13</td>
<td>Harvest</td>
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<tr>
<td>14</td>
<td>DFW Watch List</td>
</tr>
<tr>
<td>15</td>
<td>California Candidate Species</td>
</tr>
<tr>
<td>16</td>
<td>Forest Service Sensitive Species*</td>
</tr>
</tbody>
</table>

*Forest Service Sensitive species were analyzed during the environmental analysis conducted in the preparation and preparation of this IS/MND document based upon input from Lassen National Forest fisheries personnel.
List of Species Identified In the California Natural Diversity Database and

Other Sources of Biological Information

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Genus/Species</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>PACIFIC FISHER</td>
<td>(Marten pennanti (pacific) DPS)</td>
<td>7,10</td>
</tr>
<tr>
<td>GRAY WOLF</td>
<td>(Canis lupis)</td>
<td>1</td>
</tr>
<tr>
<td>SIERRA NEVADA RED FOX</td>
<td>(Vulpes vulpes necator)</td>
<td>4,12</td>
</tr>
<tr>
<td>BROAD FOOTED MOLE</td>
<td>(Scapanus latimanus)</td>
<td>7</td>
</tr>
<tr>
<td>WESTERN RED BAT</td>
<td>(Lasiurus blossevillii)</td>
<td>7,12</td>
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<tr>
<td>SPOTTED BAT</td>
<td>(Euderma maculatum)</td>
<td>7,11</td>
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<tr>
<td>PALLID BAT</td>
<td>(Antrozous pallidus)</td>
<td>7,11,12</td>
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<td>TOWNSEND'S BIG-EARED BAT:</td>
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<td>WESTERN MASTIFF BAT</td>
<td>(Eumops perotis)</td>
<td>7,11</td>
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<tr>
<td>Fringed Myotis</td>
<td>(Myotis thysanodes)</td>
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<td>DUSTY FOOTED WOOD RAT</td>
<td>(Neotoma fuscipes)</td>
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<tr>
<td>CALIFORNIA VOLE</td>
<td>(Microtus califonicus)</td>
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<td>BLACK-TAILED JACKRABBIT</td>
<td>(Lepus californicus)</td>
<td>1,3,14</td>
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<tr>
<td>SIERRA NEVADA SNOWSHOE HARE</td>
<td>(Lepus americanus tahoensis)</td>
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<td>NORTHERN FLYING SQUIRREL</td>
<td>(Glaucomyys sabrinus)</td>
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<tr>
<td>RINGTAIL</td>
<td>(Bassariscus astutus)</td>
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<tr>
<td>WESTERN SPOTTED SKUNK</td>
<td>(Spilogale gracilis)</td>
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<td>AMERICAN MARTEN</td>
<td>(Martes Americana)</td>
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<td>(Martes Americana Sierrae)</td>
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<tr>
<td>CALIFORNIA WOLVERINE</td>
<td>(Gulo gulo)</td>
<td>4,5,12</td>
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<tr>
<td>Species (Common Name)</td>
<td>Scientific Name/Span</td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>-----------------------</td>
<td></td>
</tr>
<tr>
<td>American Badger</td>
<td>(Taxidea taxus)</td>
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<tr>
<td>Northern River Otter</td>
<td>(Lontra Canadensis)</td>
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<tr>
<td>Mountain Lion</td>
<td>(Felis concolor)</td>
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<tr>
<td>Foot Hill Yellow Legged Frog</td>
<td>(Rana boylil)</td>
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<tr>
<td>California Red Legged Frog</td>
<td>(Rana aurora draytonii)</td>
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<td>Cascades Frog</td>
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<td>Pacific Tailed Frog</td>
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<td>(Taricha torosa)</td>
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<td>Western Spade Foot Toad</td>
<td>(Spea hammondii)</td>
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<td>(Oncorhynchus tshawytscha)</td>
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<td>Central Valley DPS Winter Run Steelhead Trout</td>
<td>(Oncorhynchus mykiss irideus)</td>
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<td>Bald Eagle</td>
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<td>Olive-Sided Flycatcher</td>
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<td>Yellow-Brested Chat</td>
<td>(Icteria virens)</td>
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<td>Spotted Towhee</td>
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<td>(Pipilo crissalis Vigors)</td>
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<td>(Amphispiza belli)</td>
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<td>Grasshopper Sparrow</td>
<td>(Ammodramus savannarum)</td>
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<td>Song Sparrow</td>
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<td>(Lampropeltis zonata)</td>
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<td>(Thamnophis sirtalis)</td>
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<td>Northwestern Moonwort</td>
<td>(Botrychium pinnatum)</td>
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<td>Butte County Fritillary</td>
<td>(Fritillaria eastwoodiae)</td>
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<td>Cascade Alpine Campion</td>
<td>(Silene suksdorfii)</td>
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<td>Upswept Moonwort</td>
<td>(Botrychium ascendens)</td>
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<td>Three-Ranked Hump Moss</td>
<td>Melesia triqueta</td>
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<td>Obtuse Starwort</td>
<td>(Stellaria obtusa)</td>
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<td>(Silky crypantha)</td>
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<td>Scientific Name</td>
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<td>(Rupertia Hallii)</td>
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<td>(Limnanthes floccosa ssp. floccose)</td>
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<td>BROAD-NERVED HUMP MOSS</td>
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<td>LONG-STIPED CAMPION</td>
<td>(Silene Occidentalis Longistipitata)</td>
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<td>LASSEN PEAK COPPER MOSS</td>
<td>(Haplodontium Tehamense)</td>
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<td>(Packera Indecora)</td>
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<td>(Draba Aureola)</td>
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<td>(Smelowska Ovalis Congesta)</td>
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<td>SQUARESTEM PHLOX</td>
<td>(Phlox Muscoides)</td>
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<td>NORTHERN SPLEENWORT</td>
<td>(Aspenium septentrionale)</td>
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<td>SNOW FLEABANE DAISEY</td>
<td>(Erigeron nivalis)</td>
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<td>LITTLE HULSEA</td>
<td>(Hulsea Nana)</td>
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<td>BAKER’S GLOBE MALLOW</td>
<td>(Lliamna bakeri)</td>
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<td>FINGER RUSH</td>
<td>(Juncus digitatus)</td>
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<td>WHITE-STEMMED CLARKIA</td>
<td>(Clarkia Gracilis ssp. albicaulis)</td>
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<td>TRACY’S SANICLE</td>
<td>(Sanicula tracyi)</td>
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**Mammals**

**PACIFIC FISHER** (*Martes pennanti* (pacific) **DPS**): The Pacific fisher (*Martes pennanti*) is a specialized forest carnivore that is associated with closed-canopy, late-succession forests throughout its range. The project area Shaded Fuel Break project area is within second growth stands of relatively small young mixed conifer species as well as pockets of open chaparral. If the Pacific fisher is observed during project work, surveys will be made for observation areas as well as resting and denning sites by RCDTC personnel. If such sites are identified, they will be flagged for avoidance by equipment and personnel.
Gray Wolf (Canis lupis): 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. The Gray Wolf can readily limb into crooked trees with branches that 10’ or less above ground. Dens 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. This wolf is active all year round being crepuscular, nocturnal and occasionally active in daytime. It also requires a permanent water source near den sites. This species is non-migratory with a home range averaging between .5 and 2 miles. Mating occurs from February through March. In California, most births occur in April, following a gestation of approximately 63 days. One litter is produced per year ranging between 2 and 7 pups with an average litter size of 4 pups. Sightings have been made north of the project area but none along the fuel break’s proposed route.

Given the relatively small home range of this species, no sightings have occurred within roughly 10 miles of the project’s impact area, all fuel treatments will occur immediately adjacent to major wild land roads and there are continuous forest management operations occurring in the vicinity of the project area, the potential for the Gray wolf to inhabit the Tramway Road/A-Line Shaded Fuel Break project site is minimal. If Gray wolfs are observed during project work, surveys will be conducted in order to locate observation areas as well as resting and denning sites. Observations will be made by RCDTC personnel and if such sites are identified, they will be flagged for avoidance by equipment and personnel. In addition, Mitigation Measures 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): The subspecies V. v. necator is found in the Cascades 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. Most sightings of the species have been above 7000’. The lowest elevations sightings have occurred at approximately 3900’. V.v. necator hunts 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). After a gestation period of 52 days, young are born in early spring (March-through May).

The only known current population is around the vicinity of Lassen Peak. The western extent of the Lassen Peak distribution includes 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 in the subalpine zone and these do not exist within the project area. The fox may hunt in forest openings, meadows and barren rocky areas associated with high elevation habitats none of which are found along the roads to be include in the project area.

Sightings of the subspecies have been reported from the 5,000’ to 7,000’ elevation range with movement in the winter down to 4,700’ and in the summer to over 6,000’. There are two recorded observations of the Sierra Nevada Red Fox within a five-mile radius of the Tramway Road/South unit of the project area. 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 state forest stands and elevation compatibility, Sierra Nevada Red Fox habitat has been determined to be found within the project area and as result, the following protection measures have been developed for the protection of this species during development of fuel break infrastructure.

- Prior to implementation of all fuel treatments a Registered Professional Forester under the supervision of an SPI Biologist will initiate a meso-carnivore camera survey or a walk through survey for den structures within the project area.
- If a Sierra Nevada Red Fox is discovered by camera station or walk through survey, a California Endangered Species Act consultation shall be initiated with the California Department of Fish and Wildlife (DFW).
- If necessary, a minor amendment to the project work scope shall be prepared reflecting the protection measures agreed to by the SPI Registered Professional Forester and the DFW.
- Survey results, positive or negative, will be reported to DFG.
**BROAD FOOTED MOLE** (*Scapanus latimanus)*: This mole species is largely subterranean, requiring friable soil for burrowing. It is common to most of California. Within Eastern Tehama County, optimal habitat includes annual and perennial grassland, pastures, montane and valley foothill riparian, and aspen. The species is also found in a variety of open forest habitats. Its elevation range extends up to 9,840 ft. The Broad Footed Mole feeds just below the ground surface by burrowing and detects some prey by vibrations in the soil. It may feed at deeper levels when conditions are dry or cold. Nests are made of grass and leaves in an additional tunnel greater than 1 foot in depth. During the wet season, this species moves away from flooded areas and into chaparral or other dry habitats. Breeding occurs from February to May. The presence of this species is not anticipated due to the project area’s lack of annual and perennial grassland, pastures, montane and valley foothill riparian and aspen habitats.

**WESTERN RED BAT** (*Lasiurus blossevillii)*: 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. Roost trees are typically large diameter cottonwoods, and willows. Foraging occurs in and amongst vegetation and this species forages regularly over the same territory. Foraging has been noted in habitats such as oak woodland, low elevation conifer forests and along riparian corridors. This species may forage 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.

The western red bat was ranked in the top five species of conservation concern as less than 6% of relatively intact old growth, riparian forest remains. Given the level of agency concern over the long term viability of Western Red Bat populations and the important roll riparian corridor species play in the bats natural history, this project’s work scope along with numerous Mitigation Measures have been designed that will protect this habitat type. Among these protective measures are wide riparian buffers. Of equal importance to the long term viability of this species is the fact that the level of fuels management afforded by this project will significantly reduce the risk of catastrophic wildfire that could completely denude riparian zones that intersect the Tramway Road/A-Line Shaded Fuel Break project area. In addition, the Fuel break’s importance in controlling wildfire will help to protect the upslope conifer forest habitats of the Western Red Bat.
SPOTTED BAT (*Euderma maculatum*): 7,11 Within Northern California, the spotted bat occupies a number of habitats including grasslands and mixed conifer forests. The species elevation range extends from below sea level to 10,000 feet. The Spotted Bat feeds in flight over water and at ground level. Roosting and nesting preference is for rock crevices and cliffs. Mating season is in autumn and most births occur before mid-June. Project work is anticipated to be conducted over a short period of time after mating season and prior to the late winter and early spring birthing period. In addition, there are no rock crevasses, cliffs or open bodies of water within the project impact area or surrounding lands.

PALLID BAT (*Antrozous pallidus*): 7,11 The Pallid Bat generally inhabits shrublands, woodlands, grasslands and occasionally cottonwood-riparian zones within those habitats. It is most common in areas having rocky outcroppings, particularly near water. During 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. Recreational activities may impact roosting bats sometimes resulting in the abandonment of young and roosts. Fuel break implementation has been designed so that no rocky outcroppings will be impacted. No large trees of a size suitable for nesting will be removed or otherwise impacted within the projects area’s chaparral belt or mixed conifer stands.

TOWNESEND’S BIG-EARED BAT (*Corynorhinus townsendii*): 7,11 *C. townsendii* occurs primarily in oak woodlands and lower 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. There are no caves within or adjacent to the project area that could be used as habitat. As result, the presence of this species is not anticipated. In addition, this project’s work scope is such that activities related to vegetation treatments would occur within a particular area for a very short period of time and once completed ambient conditions would soon return.

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, this bat needs vertical faces 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 occurs most frequently in early spring (March), parturition may occur from early April through August or September. There are no rock outcrops or vertical faces within the project’s impact area and no large trees of a size suitable for nesting will be impacted. Consequently no impacts to this species are anticipated.

**FRINGED MYOTIS (Myotis thysanodes)**: Myotis thysanodes is widespread in California. Optimal habitats are pinyon-juniper, valley foothill hardwood and hardwood-conifer, generally at elevations ranging from 4,000”-7,000” ft). Fringed myotis feeds mostly on beetles, moths, arachnids, and orthopterans. This bat roosts in caves, mines, buildings, and crevices and can be easily disturbed. Separate day and night roosts may be used. 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. This 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 area contains no sites such as caves, rock crevasse or buildings which could be used as roosting sites.

**DUSTY FOOTED WOOD RAT (Neotoma fuscipes)**: The presence of Dusky-footed Woodrat is usually noticed by large houses built from sticks, twigs, cacti, horse and cow 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. Neotoma fuscipes eats primarily woody plants, including the leaves, flowers, nuts and berries and it has been shown to forage above ground. Given the variety of habitat developed throughout the project site and surrounding area attributable to older burns and other Fuel breaks, the impact to this species viability due to project work is considered minimal.
CALIFORNIA VOLE (Microtus californicus): The California Vole, is on the U.S. Endangered Species List. It is classified as endangered in California. Non-native plants and animals introduced into its environment have contributed to the decline of this vole species. Exotic plants have replaced those species needed for its survival and this species has suffered from having to compete with the House Mouse and other non-natives. The Vole’s major reproductive season is September–December, or several months after autumn rains and it terminates with desiccation of vegetation, usually in June. In some years, there may be a minor reproductive period in autumn, with sporadic pregnancies the rest of the year. California Vole habitat within Eastern Tehama County includes grassy meadows suitable for burrowing. This species feeds on grasses and other green vegetation when available. During the winter, it eats mostly roots and other underground parts of plants. Like most voles, this species considerably alters its habitat with its burrows, runways, and cuttings. Its main predators are hawks, owls, weasels, and snakes. No significant impacts to Microtus californicus are anticipated as project work will occur exclusively above the soil surface and no grassy meadows will be impacted.

BLACK-TAILED JACKRABBIT (Lepus californicus) This species is common throughout the state, except at the highest elevations. Abundant at lower elevations in early stages of forest and chaparral habitats where shrubs are used for cover. The Black-Tailed Jackrabbit prefers grasses and forbs but will eat almost any vegetation that occurs in the area, up to about 20” above the ground. Young are born beneath vegetation that provides some overhead cover. Intermediate canopy stages of shrub habitats, open shrub/herbaceous and tree/herbaceous edges provide suitable habitat. Lepus californicus breeds throughout the year, with the greatest number of births occurring from April through May. The project area consists largely of conifer species growing in thickets. Although there are pockets of shrub and herbaceous plants, these stands are in an advanced stage of development and not well suited as habitat for the Black Tailed Jackrabbit. Fuel treatments within shrub stands will create a variety of serial stages within chaparral vegetation. As result of these factors, no significant impacts to Lepus californicus are anticipated and project work is expected to improve shrub habitats.

SIERRA NEVADA SNOWSHOE HARE (Lepus americanus tahoensis) Lepus americanus tahoensis is found primarily in montane riparian habitats with thickets of alders and willows as well as in stands of young conifers interspersed with chaparral. 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 species breeding period is 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 ground as well as in patches of ceanothus and manzanita within or bordering fir or pine forests. Impacts to this species attributable to development of the Tramway Road/A-Line Shaded Fuel Break will be minimal as all riparian areas will be protected with wide no treatment zones. Treatments of chaparral habitat used by this species will be limited to areas adjacent to the roadway.

**NORTHERN FLYING SQUIRREL (Glaucomys sabrinus)**: This year round resident of Eastern Tehama County inhabits dense, mature conifer stands containing large trees and snags that are intermixed with various riparian species. The Northern Flying Squirrel inhabits elevations ranging between 5000’ and 8000’. This species forages in trees and on the forest floor. It uses cavities in mature trees, snags, or logs for cover and nesting. Some nests are constructed on tree branches using twigs and leaves. Breeding occurs in March followed by a 37 to 40 day gestation period. The highest elevation found within the project areas is 5,200’ which is at the lower end of the Northern Flying Squirrel’s range. In addition, no large trees or snags suitable for nesting sites will be removed. As a consequence impacts to *Glaucomys sabrinus* is anticipated to be minimal.

**RINGTAIL (Bassariscus astutus)**: The ringtail occurs in various riparian, forest and shrub habitats at elevations ranging from sea level to 8,800 ft. For diurnal rest sites, ringtails use trees as well as rock outcropping. Its principal habitat requirements related to den sites which include boulders or in hollows of trees with sufficient food in the form of rodents and other small animals. Ringtails are primarily carnivorous and prey mainly on rodents (woodrats and mice) and rabbits. They will also take substantial amounts of birds, eggs, reptiles, invertebrates, fruits (berries of madrone, manzanita, cascara, cacti and mistletoe), seeds, acorns and some carrion. Foraging habitats include rocks, and in trees, near water.

During summer and fall, the ringtail’s diet consists primarily of insects. Birds, mammals, and carrion are eaten in the spring and winter. Breeding occurs from February to June with a peak in March through April.
and litters are born in May or June. Dens can include a hollow tree, rock pile, a crevice in a cliff, or abandoned burrows or woodrat nests. The project route will not impact rock outcroppings and no trees within chaparral stands will be removed or damaged. Wide buffers will be established along riparian areas. In addition, opening up the current extensive stands of dense, old growth chaparral is expected to create a variety of habitats that are conducive to the development of this species plant and animal food sources.

**WESTERN SPOTTED SKUNK (Spilogale gracilis):** The Western Spotted Skunk occupies a variety of habitats including rocky bluffs, cliffs, hollow logs, brush-bordered canyon streams or stream beds. They feed on a variety of food sources from an array of habitat types including bird eggs, young rabbits, mice, and arthropods such as grasshoppers and scorpions. Breading occurs in September and October with young born in late April. The array of habitats created through fuel reductions is expected to improve this species’ food sources, shelter, foraging and breeding sites. Streamside zones will be protected with wide riparian corridors.

**AMERICAN MARTEN (Martes Americana):** Optimal habitat for Martes Americana include various mixed evergreen forests having more than 40% crown closure with large trees and snags. Important habitats include subalpine conifer and mixed conifer stands. The American marten forages on the ground and in trees, snags, logs, and rocky areas. Individuals may travel up to 15 miles during hunting. Cavities in large trees, snags, stumps, logs, burrows, caves and crevices in rocky areas are used for dens as well as cover. Nests are located in cavities and lined with leaves, grass, mosses, or other vegetation. Habitat with limited human use is important. Martens require a variety of different-aged stands, particularly old-growth conifers and snags which provide abundant cavities. Small clearings, meadows, and riparian areas provide foraging habitats, particularly during snow-free periods.

Breeding occurs in the summer and litters are born in March and April, some as late as June. Extensive even-aged forest management and removal of mature mixed conifer stands within Eastern Tehama County have been detrimental to the viability of this specie’s local population. The project area is located immediately alongside a paved road and as a result, impacts related to road use occur. In addition, the project area has had numerous harvest entries and as a result stands of old growth conifers in the area are non-existent. Considering these pre-project impacts, the presence of the American Martin in the vicinity of the Tramway Road/A-Line Shaded Fuel Break project area is not likely and thus project impacts to the species would be minimal.
SIERRA MARTEN (Martes Americana Sierrae)\textsuperscript{10} : In California, Americana Sierrae 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, Whitebark pine, and mountain hemlock. The species’ elevation range is from 8,596” to 11,073” which is above the highest point within the project area.

CALIFORNIA WOLVERINE (Gulo gulo):\textsuperscript{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, wet meadow, and montane riparian areas. Most sightings in the Northern California have occurred at elevations ranging from 1,600 ft to 4,800 ft. Gulo gulo forages in open to sparse tree habitats on ground, in trees, burrows, among rocks, in or under snow, and sometimes in shallow water. Gulo gulo prefers areas with low human disturbance. Caves, hollows in cliffs, logs, rocky outcrops, and dense forest stands are used for cover. The Wolverine’s mating season is from May to July. The young are born from January through April. The project is located along a wildland land road used for land management and timber harvest activities within the surrounding area. Also the project area does not contain the open forested habitats normally used by this species. As result no impacts to Gulo gulo are anticipated.

AMERICAN BADGER (Taxidea taxus)\textsuperscript{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. 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.
NORTHERN RIVER OTTER (Lontra Canadensis)  

The Northern River Otter is a year round resident of rivers, large streams, lakes, wetlands, estuaries, and coastal areas. The species occurs along river drainages in the Cascade Range and other areas of the state. Lontra Canadensis is most abundant at foothill elevations. Preferred cover is provided by thickets, tall wetland plants, hollow logs, stumps, snags, burrows and other cavities. Nests are normally created in burrows and cavities within banks, rocks, trees, stumps, in hollow logs, thickets, or on platforms made of wetland plants associated with a large, permanent water source. In California most young are born during March and April. If unknown individuals are present within the riparian areas of the project site, their habitat will be protected thought the development of no treatment zones on both sides of all stream channels. Also, vegetation treatments will not impact large woody debris or snags that could be used as nesting cavities.

MOUNTAIN LION (Felis concolor):  

Mountain lions inhabit an array of landscapes within Eastern Tehama County including chaparral, foothill oak woodlands and conifer forests. These areas contain woody vegetation, deer and solitude which are some of this species' primary life requirements. Areas too small to accommodate the species home range which can be 100 miles or more, cannot support Lion populations unless they are connected to one another by suitable corridors of vegetation that provide a large enough accessible area in the aggregate. Mountain Lions preferred prey is deer which require open and closed vegetation types in order to maintain sufficient herd sizes. Felis concolor will also prey on beaver, porcupines, rabbits, skunks, and other small mammals, birds, and fish. Females breed at two or three years of age, then every 18 to 20 months thereafter. Young may be born at any time of the year. The Tramway Road/A-Line Shaded Fuel Break will impact a very limited portion of Eastern Tehama County's chaparral and low elevation conifer forests. Project work will be limited to an area immediately adjacent to a wildland road that is used by various land management entities which reduces the chances of this specie’s presence. Once project work is completed, a variety of habitat types will have been develop that replace the current solid stands of dense overgrown second growth coniferous forests and chaparral that occupy the area. It has been noted by local ranchers that areas where chaparral stands have been opened up due to fire or mechanical treatments immediately develop into important feeding sites for deer herds which are the Mountain Lion's preferred prey.
Amphibians

FOOTHILL YELLOW LEGGED FROG (*Rana boylii*): 7,11 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 are 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 by 150’ no treatment zones along both sides of wet or day stream channels.

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. This project is not anticipated to impact the species as 300’ no treatment areas will be established along both sides of wet or day stream channels. As part of the field preparation for the THP’s that were developed for harvest activities around the project area, an RPF inventoried and mapped all watercourses in the THP Area. The majority of this inventory occurred during the winter/spring period (specifically January- May). No California Red legged Frogs were observed during the watercourse inventory. Per Mitigation Measure # BIO 1: Stream and Watercourse Buffers, no project work will occur within any riparian exclusion zone and these will be established prior to implementation of project work.

CASCADES FROG (*Rana cascadae*): 7,16 In California, Cascades frog distribution is associated with montane and sub-alpine landscapes. Known extant California populations appear to be restricted to elevations above 3000’ in a highly fragmented “island” distribution. The range of *Rana cascadae* a Species of Special Concern includes Lassen National Park and areas surrounding its boundaries. This frog occupies aquatic and riparian habitats within mountain meadows, streams, ponds and lakes located above 3000’ and have a breeding period of May to August. The design of the Tramway Road/A-Line Shaded Fuel Break project’s work scope incorporates protections for this species including 150’ no treatment areas around all streams, springs and wet areas.
WESTERN POND TURTLE (Actinemys mamorata): The Western Pond Turtle is listed as a Species of Special Concern throughout Northern California. This species require some slack or slow water aquatic habitat and as a result is 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 aerial and 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 is anticipated due to the 150’ no treatment areas that will protect both aquatic and riparian habitats as well as aerial basking sites.

PACIFIC TAILED FROG (Ascaphus truei): 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 Tramway Road/A-Line Shaded Fuel Break project area consist of small young 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 by the 150’ no treatment areas established along all wet and dry streams.

CALIFORNIA NEWT (Taricha torosa): The California Newt can be found in Northern California from sea level to above 6,000 feet. 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 due to the 150’ exclusion zone developed along both sides of dry and wet streams.

**WESTERN SPADEFOOT TOAD (Spea hammondii):** 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 feet 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. All annual and perennial stream channels will be protected by a 150’ wide no treatment buffer where no project work will occur.

**Fishes**

**Central Valley SPRING RUN CHINOOK SALMON (Oncorhynchus tshawytscha)**

Battle Creek, Paynes Creek and Antelope Creek are known to support Fall-run Chinook Salmon when water conditions are adequate downstream from the project area. Battle Creek and Antelope Creek are also considered habitat for Spring run Chinook Salmon. Low flows and inadequate spawning gravel have been identified as significant factors limiting salmon production in Paynes Creek and Antelope Creek. Aquatic and riparian habitat conditions within the project area will be protected by 150’ no treatment buffers and it is anticipated that the fuel break infrastructure developed thought this project will help to reduce the threat of catastrophic wildfire within this potion of Eastern Tehama County which could denude riparian vegetation along these important anadromous fish streams.
CENTRAL VALLEY DPS WINTER RUN STEELHEAD TROUT (*Oncorhynchus mykiss irideus*)\(^2,7\) 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* is present in Paynes Creek and has had an historical presence in this stream. In addition, Paynes Creek has been determined to be a location warranting restoration of steelhead. Per Lassen National Forest personnel, designated critical habitat is found within the South Fork of Battle Creek and Panther Creek both of which are located within the A-Line Road/F-Line Road/Road 90A segment of the overall project area. In order to prevent indirect impacts to *Oncorhynchus mykiss irideus* related to the introduction of sediments into stream courses passing through the project site and into important anadromous fish habitat, 150’ no treatment buffers and other protective measures have been incorporated into this project’s work scope.

**Birds**

**GOLDEN EAGLE (*Aquila chrysaetos*):**\(^5,11,12\) This California fully protected species’ habitat within the Northern interior 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. Nesting 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. Fuel break development will rushoccur within closed dense canopied stands of small second growth, mixed conifer species and chaparral on flat terrain and there are no canyons or open mountain slopes in the vicinity.

**BALD EAGLE (*Haliaeetus leucocephalus*):**\(^3,5\) *Haliaeetus leucocephalus* 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. The eagle roosts in dense, sheltered and remote conifer stands containing large old-growth or dominant live trees having open branchwork. 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 normally does not occur if human disturbance is evident. In addition, the mixed conifer forests within the project area’s vicinity consist of small second growth stands containing extensive fir thickets. The nearest open areas containing large streams are within the canyon of Battle Creek’s South Fork to the north, Antelope Creek to the south and the meadow areas adjacent to Lyonsville through which Judd Creek flows. Both Tramway Road and the A-Line are used in connection with land management and timber harvest activities. As a result there is roadside disturbance which would reduce the probability of the area containing this species.

**NORTHERN GOSHAWK (Accipiter gentilis)** The 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. *Accipiter gentilis* occupies dense middle and high elevation old growth conifer forests. The species nests 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 and breeding sites during the period of April through mid June. Project work in not anticipated to impact this species as wide no treatment buffers will be established along all riparian corridors and the project’s impact area contains no wet meadows or those containing streams, ponds or other water features. No trees or standing snags over 10” in diameter will be cut.

There are no confirmed occurrences of a northern goshawk territories located within the project area. Query’s of SPI's wildlife database conducted in connection with various timber harvest plant prepared throughout the project area and reported in those planning documents resulted in reported sightings of goshawk(s) in the Lyman Springs area and sites future south outside this project’s impact area. There were no observations of goshawks, goshawk nests, plucking posts or other signs of the species made by the RPF during field inspections related to the preparation of these documents. SPI’s Raptor Policy will ensure protections for this species if an occupied nest is discovered during fuel treatment operations and equipment operations along with other personnel involved in treatment operations shall protect nest tree, screening trees and perch trees.
OSPREY (*Pandion haliaetus*): The 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 of sticks at the top of large snags, dead-topped trees, cliffs and human made structures. Nest may be as much as (250 ft) 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 ft. The osprey arrives on nesting grounds mid-March to early April and breeds generally from March to September. No large trees suitable for nesting and cover will be removed in connection with project work and as result no significant impacts to the Osprey are anticipated.

PURPLE MARTIN (*Progne subi*): The 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. Coniferous habitats, such as Ponderosa pine and Douglas-fir are also used as are riparian areas. This species inhabits open forests, woodlands and riparian areas in breeding season. *Progne subi* 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. The Purple Martin forages over riparian areas and woodlands. It nests from April into August, with peak activity in June. The occurrence of this species is not anticipated due to a lack of tall trees or open bodies of water. If individuals inhabit riparian areas along streams or around springs located within the Tramway Road/A-Line Shaded Fuel Break project area, they will be protected by the 150’ no impact zones established on both sides of all wet and dry stream channels.

PRAIRE FALCON (*Falco Mexicanus*): Falco Mexicanus 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 associated primarily with perennial grasslands, savannas, rangeland, and some agricultural fields. The Prairie Falcon diet consists primarily of small mammals, some small birds, and reptiles. It catches prey in air and on ground in open areas after diving from a perch with rapid pursuit, or dives from searching flight
50” to 300” above ground. This falcon requires sheltered cliff ledges 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.

No vegetation treatments will occur within open area other than brush fields where vegetation is too dense to harbor Prairie Falcon prey. Given the lack of vegetative fuel around rock faces, rocky outcrops and cliff ledges, treatments will generally not occur in those areas as well. This project shall incorporate special protection measures related to raptors as described under Mitigation Measure #BIO 6: Raptor Protection. It is anticipated that through the reduction of brush species within open areas habitat utilized by the species' prey will be improved and expanded.

**PEREGRINE FALCON (Falco peregrinus):** This California Department of fish and Wildlife fully protected species requires riparian areas and wetlands near cliff ledges that are typically used for cover breeding and nesting purposes. None of these features are found near the project area. Falco peregrimus also requires large tree snags for perches none of which will be removed in connection with project work. This species' breeding period is from March to late August. As result of these factors, no impacts to this species are anticipated.

**BLACKED BACKED WOOD PECKER (Picoides arcticus):** The Black-backed Woodpecker (BBWO) inhabits boreal and montane forests across much of the northern tier of North America. In California, they are known to inhabit forests above 5000 feet in elevation from Tulare County to the Oregon border. They are a medium-sized that generally requires large-scale forest disturbances, 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. They feed on mostly wood-boring insects and their larvae in the trunks of trees and logs. BBWOs utilize cavity nests, generally about 2.75 inches in diameter built 6’ to 12” above ground. New nests are excavated each breeding season which normally runs from April 1st to July 15 with nests usually excavated in May. Since the majority of the project area is below 5000 feet, it is unlikely BBWO are present within treatment areas. In addition, only those live or dead conifer and deciduous trees 10” in diameter and under (oak species 6” in diameter and under) along with brush species will be treated. Consequently no potential BBWO nest trees or snags containing appropriate nesting cavities will be impacted.
**SHORT EARED OWL (Asio flammeus):**  
Short-eared Owls inhabit 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 ground. Foraging habitat is similar to nesting habitat and includes grasslands, prairies, marshlands, and seasonal wetlands. Although communal roosts occur in clumps of dense conifers, optimal habitat requires numerous open areas which are not found within this project’s impact area. The tall, dense, single species stands of chamise chaparral within portions of the project area hinder the development of herbatious vegetation that is considered suitable for nesting habitat. Breeding habitat must have sufficient ground cover to provide sources of small mammals for food. The current height and extent of vegetation within the project area makes locating and catching these food sources very difficult. Trees of sufficient size for winter nesting will not be impacted by project work as only a portion of those conifers and deciduous species 10” in diameter and under (oak species 6” in diameter and under) will be treated.

**GREAT GRAY OWL (Strix nebulosa):**  
The traditional range of *Strix nebulosa* 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 lodge pole pine habitats normally in the vicinity of wet meadows. This owl uses small trees and snags within wet meadows or at their edges. Nesting occurs in broken topped snags 24” in diameter and greater. Peak egg laying period is generally from March through May. Vegetation within the Tramway Road/A-Line Shaded Fuel Break project area consists of dense second growth mixed conifer species containing few if any large old growth trees or snags. The nearest meadow habitat to the project’s impact areas is in the vicinity of Lyonsville located approximately two miles to the southeast of the project’s southern boundary. No large trees or snags will be removed. As a result of these factors, impacts to *Strix nebulosa* anticipated to be negligible.
CALIFORNIA SPOTTED OWL (*Strix occidentalis occidentalis*): These owls are opportunistic hunters, 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. The California Spotted Owl’s roosting habitat appears to be related closely to their thermo regulatory needs and include a variety of habitat types. During project work, all fuel treatments operations will be conducted in accordance with SPI’s raptor policy to insure species protection and the maintenance of functional habitat. Specific protection measures are outline in the policy.

WILLOW FLYCATCHER (*Empidonax traillii*): 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. This species has specific habitat requirements that 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 of Empidonax traillii 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. In recognition of the potential for loss of riparian habitat for this species, wide riparian buffers have been established along all stream corridors within the project area and there are no meadows within the project’s impact area. In addition, those segments of all riparian areas within the 150’ exclusion zone will be surveyed for evidence of this species.

OLIVE-SIDED FLYCATCHER: (*Contopus cooperi*) This species 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, and Douglas-fir, red fir, and lodgepole pine forests. This species feeds on flying insects over forest canopy or adjacent meadows, clearings, or shrub-covered slopes. *Contopus cooperi* requires large, tall trees, for nesting, roosting sites,
singing posts and hunting perches. 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. The species peak egg laying period is in June. The timber stands within the project area are dense thickets of small mixed conifer trees and there are no open areas within or adjacent to the project impact zone. As a result, no significant impacts to this species are anticipated.

**LOGGERHEAD SHRIKE: (Lanius ludovicianus):** 1,7 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. The amount of cover provided is more important than the type of plant in terms of nest site criterion. The nest is usually well hidden and located on top of an existing nest. That portion of the project area containing open chaparral sites is limited. Completion of fuel break 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 improved and protected through the thinning of overstocked timber stands as well as a reduction in chaparral vegetation. These lookout perches will also be protected through a reduction of wildfire threats attributable to roadside ignitions.

**YELLOW WARBLER (Dendroica petechia):** 7 Yellow Warblers generally occupy 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. 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. It’s diet consists largely of animal matter, including ants, bees, wasps, caterpillars, beetles, true bugs, flies, and spiders. Mitigation Measures developed for this project related to riparian buffers will assure that aquatic and streamside habitats will remain intact. The vegetation treatments completed in connection with project work will result in the creation of variations in brush age and size classes that create well utilized browsing habitat.
YELLOW-BRESTED CHAT (*Icteria virens*) 7 Nesting Yellow-breasted Chats occupy 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 nesting strata. 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). Potential project impact to the Yellow-breasted Chat will be minimized through the establishment of riparian buffers.

SPOTTED TOWHEE (*Pipilo crissalis*) 7 / CALIFORNIA TOWEE (*Pipilo crissalis Vigors*) 2,3: The Spotted Towhee and the California Towhee live in chaparral and other tangled, shubby, and dry habitats at elevations ranging from 2,680’ to 6,200’. California Towhees hop or run on the ground but tend to stay close to the protection of low shrubs and trees. The towhee breeds in relatively small and sometimes isolated patches of dense thickets of willows along stream sides, springs and seeps. Foraging normally occurs in adjacent arid uplands. Both species of Towhees will be protected through the development of no treatment zones along riparian corridors. Through the control and management of wildfire within this portion of Eastern Tehama County, long term developments of healthy sustainable scrub and woodland stands in various stages of seral development are anticipated.

RUFOUS-CROWNED SPARROW (*Aimophila ruficeps*) 7 A common resident of sparse mixed chaparral, this species frequents steep, often rocky hillsides with grass and forb patches as well as grassy slopes without shrubs, if rock outcrops are present *Aimophila ruficeps* ground forages in herbage and in litter beneath shrubs and live oak stands. Nests are built on the ground concealed at the base of grass tussocks, shrubs or occasionally in a large shrub. The species breeds from mid-March to mid-June with a peak in May. It feeds on steep, dry herbage-covered hillsides with scattered shrubs and rock outcrops. The limited amount of open chaparral and grasslands within the project area is on relatively flat topography which is less suitable as habitat.
SAGE SPARROW (*Amphispiza belli*): Habitat for this species of sparrow adheres closely to chamise dominated landscapes. As a ground-foraging omnivore during breeding season and ground gleaning granivore during 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 species as the 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 reductions in Sage Sparrow populations. On the other hand, long-term fire suppression in California chaparral may allow shrubs to grow higher and thicker than what is preferred by this species. *Amphispiza belli* may prefer recently burned chaparral because it has a low, open shrub structure. With the removal of tall dense stands of chaparral, semi open foraging habitats will be increased. With a more open canopy that develops from fuels treatments, it is anticipated that a greater variety of plant species such as succulents and fruit bearing shrubs will develop. Considering that the Fuel break’s maximum width will be 300’, this species will have access to a considerable amount of dense chaparral vegetation for nesting sites.

GRASSHOPPER SPARROW (*Ammodramus savannarum*): The 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. The 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 ground depressions hidden at the base of overhanging clumps of grasses and forbs. It uses scattered shrubs for singing perches. This species breeding period is from early April to mid-July, with a peak in May and June. Presently the Tramway Road/A-Line Shaded Fuel Break project area has very little in the way of grasslands and forbs as it is composed almost entirely of dense, young mixed conifer stands and old growth chaparral having a closed canopy. The current vegetation within the project area
has not only limited this avian species foraging and nesting opportunities, it has reduced food sources through the development of largely single species stands that limits the diversity of inhabiting insects. Through the removal of some dense brush along Tramway Road and A-Line Road, multi-stored stands of chaparral will be created which will increase habitat diversity and life function opportunities for this species.

**SONG SPARROW (Melospiza melodia)** 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 Sparrows 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. The Song Sparrow nests in shrubs, thickets, emergent vegetation and small trees, usually within 4’ of ground. It will also nest on the ground hidden under low, dense vegetation, usually near water, in emergent vegetation, or in other moist sites. Nesting season usually begins in April. Breeding occurs in dense riparian thickets, emergent wetlands and other moist situations. If this species is present within the project area, impacts are anticipated to be minimal due to the buffer zones that will be created around wet and dry stream channels along with all springs. In addition, the project’s impact area contains no meadow sites.

**VAGRANT SHREW (Sorex vagrans):** The vagrant shrew is common in the Sierra Nevada and Cascades from the Oregon border to Northern Inyo Co. Optimal habitats are valley foothill and 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’. Sorex vagrans forages 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. Impacts to the Vagrant Shrew will are expected to be minimal as project work will be conducted outside of moist riparian zones. In addition the project area contains no perennial grasslands or emergent wetlands and no large woody debris will be removed from the project area.
Reptiles

GOPHER SNAKE (*Pituophis catenifer*): 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. Considering that all project work will be above ground, no impacts to *Pituophis catenifer* are anticipated.

**CALIFORNIA MOUNTAIN KING SNAKE (*Lampropeltis zonata*):** 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 also is found beneath logs and under bark. *Lampropeltis zonata* prefers southwestern facing slopes and often retreats under rocks. *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. The project area contains no rocky areas. No large woody debris will be removed in the execution of project work.

**COMMON GARTER SNAKE (*Thamnophis sirtalis*):** 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 do inhabit the project area, impacts from project work will be very short term in nature and related only to chipper and chainsaw noise. Once work is completed within a particular area, pre project ambient noise levels will return.
RUBBER BOA (Charina bottae): 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 will be protected by established no impact zones. In addition fuel treatments will not entail removal of large woody debris or snags.

STRIPED RACER (Masticophis lateralis): 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. Treatment sites within the Tramway Road/A-Line Shaded Fuel Break project area do not contain open canopied stands, much large woody debris or rock outcrops. Consequently, the occurrence of this species is not anticipated. Any large woody debris found within the project area will be uncut and left on site.

Insects
No listed Insect species were identified in the May 2013 CNDDDB search

Crustaceans
No listed Crustacean species were identified in the May 2013 CNDDDB search
Plants

In identifying potential and actual plant occurrences within the project area, RCDTC personnel made a search of the California Natural Diversity Database in early 2014. In addition, searches of SPI’s botany database were made by company foresters in the preparation of various timber harvest plans prepared near the project area. SPI’s botanic survey team conducted surveys of these areas as well. These surveys were conducted during appropriate floristic windows for each species identified for surveys. The provisions of Mitigation Measures #BIO 1: Stream and Water Course Treatment Buffers, #BIO 2 Stream Crossings, #BIO 3: Pre Project Implementation Surveys, and #BIO 4: Protection of Previously Unidentified Listed Plants, are expected to protect listed plant species and reduce the potential for impact to a less than significant level.

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 feet and 4,500 feet in elevation within purple needle grass grassland, serpentine bunchgrass grassland, and mixed oak. Several sightings for this plant have been made east of the project area but none have been made within the 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 2,300 feet. It often occurs near streams and other sites where soil moisture is constant. It often occurs near streams and other sites where soil moisture is constant. Although fuel treatments will reduce a portion of small trees and brush in the understory, no larger conifer or deciduous trees greater than 10” in diameter (oak species 6” in diameter and under) will be removed. As a result, closed canopy conditions utilized by this species will not be impacted. On those sites having few large trees, it is anticipated that the removal of small trees and woody species in the understory will create grassy areas which can also be used by this plant. Finally, streamside areas where soil moisture is higher will be protected through the streamside buffers established under Mitigation Measure #BIO 1 Stream and Watercourse Treatment Buffers.
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 Fuel break 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 Broke off 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 ft.) in elevation. While much of the Tramway Road/A-Line Shaded Fuel Break project 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 endangered 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*. 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. Thinning operations of this project will be excluded from all riparian corridors. In addition, no physical impacts will occur to roadside ditches or drainage ways that could disturb this species other than additional sunlight entering the 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’. All riparian areas and springs within the project area will be protected by extensive no treatment zones in addition, the normal elevation range of this plant is far higher than that of the project site. As a result, the probability of Upswept Moonwort being found within the project’s impact area is minimal.

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 surrounded by a no treatment buffer as prescribed in Mitigation Measure #BIO 1: Stream and Watercourse Treatment Buffers.

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’ feet. It grows in a prostrate manner and the plants blooming period is between May and early September.

CRYPTANTHA CRINITA (*Silky crypantha*): 182 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. Although no surveys were made for this plant, it is anticipated that thinning of vegetation in dense mixed conifer stands and
chaparral fields will open up these sites and provide additional open areas for this 1B2 rated species to expand.

**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 species can sometimes be found within disturbed sites such as roadsides and timber harvest areas. The fuel treatments proposed for this project will create openings within chaparral stands, dense thickest of mixed conifer species as well as timber harvest areas adjacent to Tramway Road and A-Line Road. The project’s roadside location will result in opening up potential roadside sites suitable for this plant's development.

**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 10 miles to the north and east of the 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 feet. The vast majority of the California occurrences are found in sites that meet the definition of a fen which are not found within the this project’s impact area. In addition the uppermost portion of the Tramway Road/A-Line Shaded Fuel Break project area is below the lower elevation limit of this plant.

**LONG-STIPED CAMPION (Silene Occidentalis Longistipitata):** 1B.2 This perennial herb species grows in chaparral and conifer forest habitats. It is anticipated that removing or thinning solid stands of vegetation within the project area will benefit the development of this species and increase its population.

**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):** 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. Opening up the mixed conifer stands within the project area will result in additional sunlight penetrating the forest floor and as a result stimulate the growth of this species if individuals inhabit the project area.

**GOLDEN ALPINE DRABA (Draba Aureola):** 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 lower elevation range of this plant. As a result, the probability of this plant being found within the project’s impact area is minimal.

**LASSEN PEAK SMELOWSKIA (Smelowskia Ovalis Congesta):** 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):** 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):** 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): Throughout its range, Phlox Muscoides occupies dry, open, rocky, gravelly, or sandy sites with little forest or brush cover. As a result, no cutting or herbicide treatments will occur in areas that could contain this species.

NORTHERN SPLEENWORT (Asplenium septentrionale): 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”. Although project work may occur around or adjacent to rocky sites, these will not impact this species due to Mitigation Measures related to control of herbicide spray. Through a reduction in small tress and bush species, it is anticipated that more sunlight will reach rocky slopes and the forest floor making more light conditions that are more conducive for this plant.

SNOW FLEABANE DAISEY (Erigeron nivalis): This plant is found on rocky sites, gravel bars, banks, roadsides, meadows, open woods at elevations ranging between 3,900” and 12,100”. Flowering occurs between May and August. Fuel treatments will only occur in very dense timber and brush stands which would not support the Snow Fleabane Daisy. In addition, thought the removal of some brush and small trees in less dense stands, more open wooded areas will be created that are more conducive to the introduction and development of this plant.

LITTLE HULSEA (Hulsea Nana): 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 above the highest point within the project area. Sightings have been found further east of the project area in the vicinity of Broke off Peak and Lassen Peak.

BAKER’s GLOBE MALLOW (Lliamna bakeri): 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 4500’ and 6000’ above sea level. 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. In Shasta County volcanic lava fields are found to be the preferred site where high temperature variations can occur without fire. 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. Collecting of this showy species may also represent a potential threat particularly to small disjunct clumps. With the development of Tramway Road /A-Line Fuel Break, it is anticipated that the controlled use of low intensity wildland fire could be reintroduced into adjacent timber lands which would result in improved germination of seeds stored in forest letter and allowing their contact with mineral soils. In addition by removing small trees and bush along the project route, more sunlight can enter the forest floor and improving the growth of any germinating seeds.

**FINGER RUSH (Juncus digitatus):** 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 Tramway Road A-Line Fuel Break Project area. No sightings have been noted within the project area.

**WHITE-STEMMED CLARKIA (Clarkia Gracilis ssp. albicaulis):** This annual plant has a CNPS rating of 1B.2 and grows abundantly in open woodlands and grassy meadows that have been created by wildfire. It is anticipated that removing a significant portion of the large woody chaparral vegetation within the project area will increase the percentage of open sites and the likelihood of this species becoming established within the project area.

**TRACY’S SANICLE (Sanicula tracyi):** 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. In addition to minimal impacts occurring to
this species attributable to this shaded fuel break project, it is anticipated that habitat for this species will
improve thought project work. Currently the project area is covered by either thickets of small sometimes
suppressed mixed conifer species or openings containing dense stands of chaparral bush. In both
instances, fuels manipulation will result in increased sunlight reaching the soil surface allowing the plant
geminate and develop.
Appendix C
Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities
Appendix D
Sierra Pacific Industries Fisher Protection Measures
Appendix E
California Natural Diversity Database Printouts
Tramway Road/A-Line Road/F-Line Road/Road 90-A Shaded Fuel Break Project
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