

ROADSIDE HAZARDOUS FUELS REDUCTION TREATMENT

Planning Guide

An introductory guide to the organization, planning, and implementation of roadside hazardous fuels reduction projects.



This guide has been developed by the Humboldt County Fire Safe Council County Coordination Team, and County of Humboldt Public Works, Natural Resource Planning, with funding from the California Fire Safe Council



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Roadside Hazardous Fuels Reduction Treatment Planning Guide

INTRODUCTION

The intention of this document is to serve as a planning guide for fire safe councils, non-profit organizations, and private companies that perform hazardous fuels treatments along roads. It is meant to provide general guidance in the planning and implementation of standard projects and is not intended to cover every situation or detail.

As the wildfire threat continues to increase, it has become essential to reduce roadside vegetation that could threaten safe evacuation and/or prevent safe fire suppression teams from gaining access to homes and neighborhoods. In addition, roadside ignitions from vehicular traffic (from tossed cigarettes, dragging chains, etc.) have been increasing, due in part, to higher summer temperatures. Decreasing the potential of wildfire spread from roadside ignitions and maintaining visual and spatial clarity for safe ingress and egress can be



addressed through vegetation management. Humboldt County maintains a portion of the vegetative roadside edge through mowing and mastication, but to expand on those narrow treatments, one must have the permission of the landowner and understand the necessary details and challenges of doing roadside crew work.

OBJECTIVES OF ROADSIDE FUELS REDUCTION TREATMENTS

Understanding the objectives of each roadside treatment project is an important first step and each road segment will differ depending on traffic, slope, vegetation type, road width, etc. Roadside fuels reduction treatments are often implemented for one or more of the following reasons:

- to increase safe ingress of first responders
- to increase safe egress for evacuation of residents/tourists
- to decrease the risk of spread from roadside ignitions
- to decrease the risk of spread from one side of the road to the other
- to increase visibility for traffic safety
- to promote tree canopy that will shade the ground enough to inhibit the growth of stump sprouts and seedlings (i.e., Roadside Shaded Fuel Break)

IDENTIFYING PRIORITY ROADS AND ROAD SEGMENTS

Since much of the funding for roadside treatment comes from public sources, it is important to have a reason in prioritizing one road segment over another and this process should be done collaboratively and with an understanding of community safety.

Considerations in this prioritization process may include:



A. Prioritize roads and road segments that are one way in and one way out leading to developed areas. Start with forested roads leading to or from the most densely populated areas, highest fire hazard severity, highest level of fuel loads, and/or highest numbers of potential evacuees.

B. Refer to Community Wildfire Protection Plans (CWPP) and/or Firewise Risk Assessments/Action Plans.

The Humboldt County CWPP and information about

Firewise Communities are available online: humboldt.gov/FireSafeCouncil.

C. Seek guidance from local fire safe councils, Firewise groups, fire departments, road associations, County Roads Division (as applicable), and CAL FIRE units.

D. Create a map that you can use to track ownership, make notes, attach photos (if a digitally tracking map). See *Section IV. Map the Target Area*.

E. Think in terms of phased treatments if the segment you are planning to treat is adjacent to other areas of the road needing treatment. Consider when to maintain or follow with the next treatment.



F. Drive the road while looking for:

1. Forested sections of road where there are ladder fuels that could lead fire up into the canopy.
2. Trees, branches, and brush close to the edge, particularly on narrow sections of road.
3. Areas of poor visibility such as along road curves.
4. Thick, high fuel on both sides of the road that could create a fire tunnel.
5. Dangerous switchbacks.
6. Walls of vegetation left from roadside maintenance done with equipment.
7. Hazardous low-hanging branches.

8. Precariously perched dead or dying trees.
9. Steep slopes with thick vegetation.
- G. Always keep in mind your project's limitations and permitting triggers. For instance, your contract scope or permit may require a buffer or lighter treatment type in Stream Management Areas (SMAs).
- H. Never cut trees or branches that could fall on PG&E lines or telephone wires.
- I. Do not work on public lands unless you are specifically contracted to do so.
- J. Always keep crew safety in mind; for example, avoid steep overhanging slopes that lead directly to a road, avoid cutting trees that could fall on the road or could roll onto the road.
- K. Solid fence lines inhibit crew work; however, some wire fences can easily be included in the project area so long as you are careful to avoid damaging them or you have a plan to repair them.
- L. Know who on your crew is allergic to poison oak and ensure they take precautions.



ROADSIDE PROJECT EXAMPLE

In 2020, a road segment that was prioritized in the Lower Mattole Fire Safe Council's CWPP 2016 was funded for hand crew-based hazardous fuels treatment by both the County and PG&E. The road segment served a dense neighborhood without an alternative evacuation route. The segment included hazardous low branches, a thick eucalyptus forest, an old fence line tangled in brush, a one-lane temporary bridge over a creek, and nearby power lines and phone lines. Treatment areas excluded the SMA, and nearby utility lines. Four landowners agreed to project treatments. One landowner specifically requested the Mattole Restoration Council to treat only the first 30 feet beyond the County right-of-way, rather than the typical 50 feet. Another landowner used his excavator to pull a third landowner's inessential

hazardous fence line as an in-kind match to the project. To treat the thick Eucalyptus, PG&E funded the purchase of a clearing saw. The eucalyptus logs were cut into firewood for over 20 elderly residents with a log splitter. This project also left 4' logs stacked for later pickup for firewood by the neighborhood.

IDENTIFY YOUR PARTNERS

Before beginning roadside fuel reduction work, identify the agencies, organizations, and landowners connected to the road segment. Each may play an important role in helping you plan and implement treatments safely and legally. Partners can assist with permitting, funding, access agreements, project coordination, and environmental compliance. Early communication with the appropriate public agencies, nonprofit organizations, and private landowners or utilities helps ensure that work is well-coordinated, efficient, and supported by the entities responsible for the roadway and surrounding lands.

PUBLIC AGENCY PARTNERS

Public agencies—including the County of Humboldt, local fire related districts, Resource Conservation Districts (RCDs), U.S. Forest Service (USFS), California State Parks, or the Bureau of Land Management (BLM) may play a central role in roadside fuel reduction projects. These agencies may assist with planning, permitting, funding, access agreements, environmental compliance, or on-the-ground support to ensure projects are safe, coordinated, and consistent with local regulations. Begin by identifying the appropriate contact.

- **County Roads:** The County may assist with planning and permitting, including securing a County Encroachment Permit for work within the right-of-way. They can also help ensure compliance with the California Environmental Quality Act (CEQA) if required and may be able to assist with traffic safety measures, such as temporary signage and flaggers.
- **State or Federal Lands:** If your project area is adjacent to or crosses public lands, request a site visit with the relevant agency representative to confirm legal boundaries and determine applicable requirements.
- **Resource Conservation Districts (RCDs):** RCDs are local public agencies that work closely with landowners, communities, and other partners to implement conservation

and wildfire resilience projects. They may be able to assist with planning, permitting, grant applications, and project coordination for roadside fuel reduction efforts.

- **Local Fire Protection Districts and Volunteer Fire Departments:** These local government agencies are responsible for providing fire protection and emergency response within their service areas. They can be valuable partners for planning roadside fuel reduction projects, offering local knowledge of access routes, safety considerations, and community priorities. Fire districts may also be eligible for grant funding and can assist with crew coordination, equipment, or traffic safety during implementation.

NONPROFIT PARTNERS

Local nonprofits—including 501(c)(3) organizations can be valuable collaborators for grant writing, planning, and project management. These partners often have experience applying for and administering funding from programs such as CAL FIRE Wildfire Prevention or Forest Health Programs, and California Fire Safe Council grants. Often these organizations are focused on ecological goals or community safety goals, both of which can be aligned with roadside hazardous fuels reduction projects.

PRIVATE PARTNERS

If the roadside area is adjacent to privately owned land, landowners may need to provide permission for access or vegetation treatment. Coordination with utilities such as PG&E may also be necessary when working near powerlines or utility corridors. Private landowners and businesses can contribute in-kind support or cost-share funding to help implement treatments and maintain defensible road corridors.

MAP THE TARGET AREA

A map of the target area can be a useful tool for discussing the project area with your crew lead and affected landowners; communicating work completed to your funder or contract manager; and reporting treatments to those responsible for tracking CWPP and/or Firewise accomplishments. ArcMap or Google Earth can be used to prepare maps in advance. ArcGIS Field Maps and Avenza Maps are two commonly used applications for updating or annotating prepared maps in the field. (See *Exhibit A: Project Area Map Example*)

- Include a larger section of road than you think you will be able to treat so if you make better progress than expected or if a landowner backs out, you are able to adapt your project.
- Include a labeled roads layer and parcel layer (include the parcel #s and landowner names, if possible).
- Draw a representative polygon illustration where work is planned on both sides of the road or one side if there is a meadow or some other reason that areas can't be treated or don't need treatment.
- Work with the relevant agency on an appropriate course of action for Streamside Management Areas and mark these areas on the map, if applicable.
- Indicate the type and location of any hazards.
- Include a scale bar and north arrow.
- Use recent aerial imagery or a USGS topo as the base map.

ENVIRONMENTAL COMPLIANCE & PERMITTING

This section describes typical scenarios and is not inclusive of all possible compliance and permitting requirements. For projects along a State or federally maintained road, work closely with the appropriate entity as there may be additional requirements.

ENVIRONMENTAL COMPLIANCE

- CEQA & NEPA - State or federal funding sources require compliance with the CA Environmental Quality Act (CEQA) or the National Environmental Protection Act (NEPA), respectively. If your organization is not qualified to serve as a Lead Agency, work with your funder to make a plan for environmental compliance.
- SMAO - In Humboldt County, the Streamside Management Areas and Wetlands Ordinance (SMAO) provides minimum standards pertaining to certain areas. Depending on the nature of the treatment and distance to nearby streams and other wet areas, this ordinance may apply.

PERMITTING

- Encroachment permit - an encroachment permit from the Humboldt County Department of Public Works will be required if work will encroach upon the county right-of-way or impede the normal flow of traffic in any way. This permit may not be required if collaborating directly with the Department. In some

cases, the permit fee may be waived if the project provides public benefit. Some contractors maintain year-round encroachment permits.

- The Encroachment Permit application is available online: humboldt.gov/2291/Encroachment-and-Transportation-Permits

LANDOWNER OUTREACH & PERMISSION

This section is required for any roadside treatment project. Any work on any property needs to have signed landowner or manager permission. If the land is publicly owned, the land manager might be the contact, such as the BLM or State Parks. However, those agencies usually work under a separate contract or agreement. For the purposes of this guide, it is assumed that roadside treatments extend beyond any right-of-way of the road into private property. All private property landowners in the project area should be notified of the project and all participating landowners will need to sign a permission form. Participating landowners are those whose property will have fuels treated as part of the project. These participating landowners might have specific concerns or parameters of the project that need addressing and making personal contact is important to understand their concerns. In addition, landowners can be very helpful in reducing barriers to implementation, such as facilitating the removal of old fencing. Finally, they also might be helpful in encouraging their neighbors' participation.

STEPS TO OBTAINING LANDOWNER PERMISSION

1. Through publicly available information or partner entities, identify the landowners that need to give permission for work on their roadside property.
2. Begin with an email or call to explain the reasons for the project.
3. Landowner Agreements are necessary when work will take place on private property, including work that extends beyond a deeded access easement. These agreements typically provide information about the project and a release of liability. They can also provide an opportunity for landowners to make specific requests, for example: a desire for some screen from the road, or treatment of only 30 feet instead of 50 feet. (See *Exhibit B: Landowner Agreement Example*)
4. Collect more access agreements than you think you need as there is high potential the project can expand or will be treated in a different phase. For landowners on the periphery of your project area, make sure they understand you may not get to them.
5. To the extent feasible, make sure nearby landowners are aware of the project even if no work will occur on their land. For example, the project may cause a

traffic disruption that may affect them. If on a scheduled school route or for emergency vehicles, avoid stopping traffic for more than a few minutes.

ORGANIZING YOUR OWN CREW

Typically, an organization or company employs both a project supervisor and a crew leader. The project supervisor is responsible for communicating with all entities from the landowner to the larger community, including the funder. The crew leader organizes a skilled workforce that has experience or certifications to do the job (e.g., S-212 training for anyone using a chainsaw or pole saw).

Alternatively, the organization or company can contract with a fuels crew contractor for the work. In addition, it may be important to hire a traffic safety crew.

- A. Identify your Roadside work crew and either employ or contract as necessary.
- B. Procure or rent supplies for traffic safety if doing it yourself: traffic radios, hardhats/vests for flaggers, traffic signs, paddles (stop/slow).
- C. Procure or rent crew supplies: flagging, pole saw, chainsaw, safety vests, full face hard hats, rake/broom for chipper clean up, water jug for washing, TecNu, First-Aid kit (See *Exhibit F: First-Aid Kit List Example*), gloves, ear protection, chipper, loppers (can be used to clear poison oak from entry/exit points ahead of crew work), drinking water, crew truck, cones—6 to 20 (even if County provides signage you will need cones to protect your crew/truck/chipper).

SITE PREPARATION

Site Prep involves detailing the project site to ensure landowners' concerns are addressed and the crew will be able to safely navigate the site. It is always important to budget for Site Preparation or "Site Prep". Communities should be informed ahead of time about both the expected traffic impacts and the **purpose and benefits** of the fuel reduction treatments.

- D. Walk the entire length with the Crew Leader and landowner to discuss treatments, challenges, setbacks, etc. Use flagging to show the boundaries of the project and/or special concerns, for example "leave" trees or special treatment areas.
- E. Schedule with County/Crew/Landowners. Ensure all entities know how to safely access the project area and what to expect during the implementation phase.
- F. Notify the community that there will be traffic delays. Community bulletin boards, mailers, signs, and radio announcements are examples of ways to get the word out.

Call the participating landowners and keep them abreast of the project timeline and what to expect.

TRAFFIC SAFETY

Identify a Traffic Safety Supervisor (which might be the Project Supervisor). This supervisor ensures communication to the Crew Leader (or a separate Project Supervisor depending on size and type of project) regarding traffic activity at all times. Never should a vehicle or pedestrian be allowed access in the project area without communication to the Crew Leader.

- If you are managing traffic safety as part of the work, ensure appropriate safety measures which could include road signage, safety cones, 2-way radios, traffic paddles, and traffic flaggers. If you are working under a County Encroachment Permit, it will specify proper signage/safety measures for the road segment. In general, stop all traffic for crew safety with a clearly marked closed lane on the treatment side. Each end of the closed lane should have a flagger with a radio that can communicate with the Project Supervisor or Crew Leader. Once all communications have occurred the open lane can allow one-way traffic. Flaggers must communicate to “Hold” or “Send” to ensure traffic safety on either end. They should also inform the sending flagger when all vehicles have cleared the area.
- Ensure your Project Supervisors or anyone doing traffic control has had Traffic Safety training. There are many resources to obtain quality Traffic Safety training, both in person and online. The following is a link to an online course that was developed to comply with OSHA Safety Standards:
<https://www.onlinesafetraining.com/store/safe-training-online-ltd-store/productdetails/traffic-control-persons-for-construction>
- For work along a county road, consider requesting signage/flagging assistance from the Department of Public Works.

PROJECT IMPLEMENTATION

It is important to clearly identify all personnel roles and who has the authority to make decisions regarding the project. The Project Supervisor should be the person that communicates about the project with the Crew Leader, the participating landowners, the community, the traffic safety crew, and any agencies and the funder. Typically, the Project

Supervisor will work with the Crew Leader on creating the Work Plan, the Job Hazard Analysis, and the Emergency Action Plan. A Crew Leader is responsible for ensuring crew safety at all times and for direction and supervision of crew work.



A. Ensure Communications and Safety Plans ahead of time.

- Make a Work Plan (See *Exhibit C: Work Plan Example*) and communicate with the crew so everyone is aware of the assignment and the hours and dates of work. The Work Plan should identify the Project Supervisor and Crew Leader.

- Make a Job Hazard Analysis (See *Exhibit D: Job Hazard Analysis Example*) for use during work safety meetings. The Job Hazard Analysis identifies any and all potential hazards that may be encountered in the course of work.

- Make an Emergency Action Plan (See *Exhibit E: Emergency Action Plan Example*) specific to the project. The Emergency Action Plan outlines what to do and

where to go in the case of an emergency.

B. Anticipate challenges: fence lines, high traffic times, tool breakdown, etc. and prepare ahead.

C. Keep affected landowners apprised as the project moves forward. Communicate with them about their preferences and your ability to accommodate them.

D. Make a plan for where to safely park crew truck/vehicles.

E. Hold daily safety meetings/plan for where to meet for breaks.

F. Take Before photos to demonstrate site conditions. Ideally, select photo points where there is a prominent feature (such as a fence post or large leaf tree) that can be referenced when it is time to take After photos.

G. Treat your road segment according to your Work Plan! Promote a Shaded Fuel Break by reducing fuel loads both vertically (limbing



up large trees) and horizontally (removal of understory fuels such as brush and small diameter trees up to 8" DBH, where appropriate).

H. Chip Management

- Ideally leave chips on site but thoroughly rake out any chip piles not only to avoid spontaneous combustion or a roadside ignition, but to incorporate as organic material into the forest floor.
- If you can't leave chips on site, plan for chip transport and disposal.

I. Firewood

- Check first to see if the landowner will use removed material as firewood. If so, communicate where you will leave the sections for them to retrieve.
- Alternatively, and if appropriate, consider leaving 4-foot-long sections of bucked trees near the roadside where people can easily pick them up for later firewood creation.

J. Discuss ways to improve/other challenges during saw maintenance/cleanup at the end of the day!

K. Take Action photos and After photos. Put before and after photos side by side to demonstrate success in meeting the objectives. (See *Exhibit G: Action and After Photo Documentation Example*)

LIST OF EXHIBITS

Exhibit A: Map examples: Before and After

Exhibit B: Landowner Agreement Form Example

Exhibit C: Work Plan Example

Exhibit D: Job Hazard Analysis Example

Exhibit E: Emergency Action Plan Example

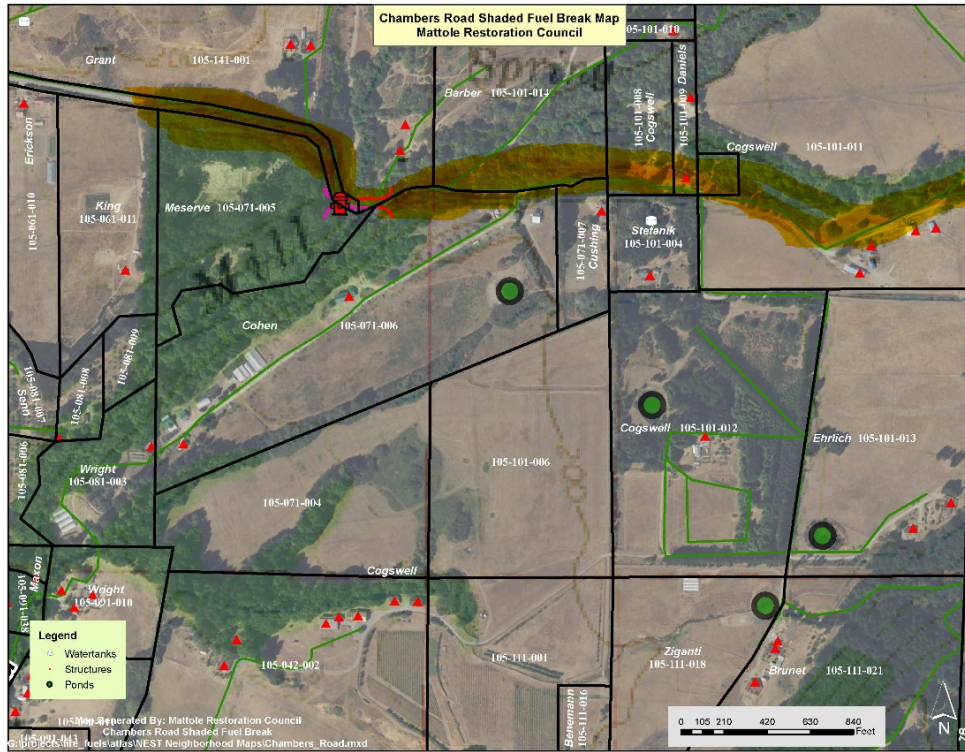
Exhibit F: First-Aid Kit List Example

Exhibit G: Photo Documentation Example



EXHIBIT A

Map examples: Before and After





**LANDOWNER AGREEMENT
COMMUNITY WILDFIRE PROTECTION PLAN
IMPLEMENTATION**



1. PURPOSE:

Consistent with the mission of the Humboldt County Fire Safe Council and the priorities of the Humboldt County Community Wildfire Protection Plan (CWPP), the County of Humboldt is seeking to assist residents in reducing the risk of wildfire ignition and/or damage through the treatment of hazardous fuels. This agreement is intended to facilitate access to private property to accomplish one or more of the following treatments further described below: defensible space assistance; chipping service; and roadside clearance along County roads.

2. PERMISSION TO ENTER:

_____ (“LANDOWNER”), through this Agreement, hereby grants to the County of Humboldt (“COUNTY”), and to the COUNTY’s authorized employees, agents and contractors (“Program Representatives”), permission to enter upon LANDOWNER’s real property identified as Assessor Parcel Number(s) _____ to perform one or more of the following activities:

- a) **Defensible Space Assistance:** Contractors will reduce flammable vegetation, including, without limitation¹, pruning trees and removing woody debris, based on a customized prescription and consistent with state standards². In general, work will be performed up to one hundred (100) feet from homes and outbuildings.

LANDOWNER confirms that they meet the priority criteria by checking one or more of the applicable box(es) below:

- Over the age of 65
- Unable to perform manual labor due to a disability
- Household income at or below the low-income threshold based on household size:

Household Size:	1	2	3	4	5	6	7	8
Total Income:	\$43,650	\$49,850	\$56,100	\$62,300	\$67,300	\$72,300	\$77,300	\$82,250

- b) **Chipping Service:** Contractors will chip piles of woody debris prepared by landowners using a towed chipper. Piles must be easily accessible from a driveway or road.
- c) **Roadside Clearance:** Vegetation will be treated within a fifty (50) foot buffer on either side of the road. Within the 100-foot fuel break, the treatment area on either side of the road may be wider or narrower depending on a variety of conditions, including landowner specifications. Work will generally consist of thinning and pruning trees and cutting brush to eliminate the horizontal and vertical continuity of wildfire fuels. *If necessary, LANDOWNER may include special conditions or limitations for contractors as an attachment to this Agreement.*

Access shall be limited to those portions of LANDOWNER’s real property where the actual work is being performed and to those additional portions of the real property that must be traversed to gain access to the site. LANDOWNER warrants to COUNTY that they have exclusive rights to grant access to the real property as described herein.

¹ Specialized work such as the removal of large trees or high limbs overhanging a structure is outside the scope of these services.
² Ready for Wildfire, Defensible Space webpage: <https://tinyurl.com/qlbgpz9>

3. PHOTO DOCUMENTATION:

LANDOWNER hereby grants COUNTY, and its Program Representatives, permission to document work with photographs.

I hereby authorize use of my image and/or images of work performed on my property in promotional or educational materials or other related endeavors. _____ (initials)

4. LANDOWNER NOTIFICATION:

COUNTY's Program Representatives shall give LANDOWNER reasonable actual notice at least two (2) weeks in advance of, and any necessary arrangements will be made prior to, each requested access. Reasonable and actual notice may be given in person or by mail, email or telephone.

5. AGREEMENT TERM:

This Agreement shall begin upon execution by both parties and shall remain in full force and effect until completion of the work set forth herein. Duration of work on any particular property will depend on the size of the work area and density of fuels.

6. LIABILITIES:

LANDOWNER hereby agrees to hold harmless, defend and indemnify COUNTY, and its Program Representatives, agents, officers and/or successors in interest, from and against any claims, demands, losses, damages, liabilities, costs and expenses of any kind or nature, including, without limitation, attorneys' fees and other costs of litigation, arising out of, or in connection with, the performance of any activity that is part of the fuels project, except where such loss or damage was caused by the sole negligence or willful misconduct of COUNTY or its Program Representatives, agents, officers, employees or volunteers.

IN WITNESS WHEREOF, the parties hereto have entered into this Agreement as of the last date indicated below.

LANDOWNER:

Print Name: _____

Signature: _____

Date: _____

Mailing Address: _____

Physical Address of Work Location (if different): _____

Phone Number: _____ Email Address: _____

COUNTY OF HUMBOLDT:

Print Name and Title: _____

Signature: _____

Date: _____

EXHIBIT C
Organization or Company
Work Plan Example

Landowner Information:

Name

Address

Phone

Title of Project:

Work Dates/times:

Project Meeting Place:

Specific Project Notes: Site has been flagged, Retain native oaks, madrones. Be aware of fence lines, livestock. Traffic safety provide by County.

Work Plan

Step 1: Remove hazardous roadside fuels to a distance of 50 feet from road edge (notice flagging), including brush and smaller tan oak and young Douglas-fir trees up to 8" DBH.

Step 2: Limb up retained trees with pole saw by removing lower branches up to 12' from base.

Step 3: Drag reduced fuels to roadside and prepare piles (stacks) for the chipper where feasible or lop and scatter below 18" on steep slopes, stack 4 ft sections of larger material for community or landowner firewood.

Step 4: Utilize chipper with full crew to chip a week's worth of piled material.

Step 5: Rake out chipper piles.

Work Crew Details (Names with phone #s)

Crew Size: 6 + Traffic Supervisor

Traffic Supervisor:

Saw Crew Leader:

Saw Crew:

Chipper Operator:

Chipper Crew:

Mobilization Details

Sawyer Crew will meet at such and such with dates.

Chipping Crew will meet at such and such on date.

Tentative Saw Crew Schedule

6:30 AM- meet for drive in crew truck.

7:00 AM- Arrive on site- others closer to project site meet crew truck.

7:15 AM- Safety meeting/first day Project meeting will be 30 minutes, after that, 15 minutes.

7:30 AM- Begin work operations.

10:00 AM- 10 to 15-minute break.

12:00 PM -Lunch.

12:30 PM- Continue work operations.

3:00 PM- Stop saws, clean saws, discuss any concerns.

3:30 PM- Load into crew truck, return to homes.

Tools Needed

Saw Crew: 6 chainsaws, 1 x power pole saw, 1 Silky pole saw, extra sharp chain/maintenance tools, loppers, all necessary PPE, camera, JHA, first aid kit, rake, water, Tecnu, fire extinguisher, bar oil, fuel, water for washing, extra drinking water, extra snack bars, 2-way radios, timecards/binder of project materials (or some use an iPad)

Individuals carry lunch, water, extra shirts if its hot or there is work in poison oak.

Chipper Crew: All necessary PPE (gloves/hardhat/ear protection), chipper, extra cones, 2nd rake.

Additional Info:

EXHIBIT D
Organization/Company
Job Hazard Analysis
Saw/Chipper Crew

Project:

Date:

Employees Present:

Is anyone allergic to bee stings?

Does that employee have proper medication?

If anyone has any other medical conditions you want to share with us, please let us know (in private if preferred)?

Does everyone know where the first aid kit is and what to do in case of injury?

Potential Hazards

Hazard: Cars driving fast or near you

Action: If you are working near the roadside edge, always stop work when a vehicle is allowed through the traffic safety zone and watch the vehicle come into view and depart. Warn others on crew.

Hazard: Dehydration/Heat Stress

Action: Drink at least one gallon of water per 8 hour workday. Wear breathable cool clothing. Apply sunscreen throughout the day. If you feel dizzy or ill, find a cool shaded place, drink water, wet clothing with water, and rest. Crew leads must provide 2 gallons of water per employee in work truck.

Hazard: Cold stress/Hypothermia

Action: Wear appropriate clothing. Wear appropriate raingear. Bring extra clothes and socks. If you fall in a waterway, remove wet clothing and put warm clothing on and seek warmth at a nearby vehicle, or start a fire.

Hazard: Working on steep unstable ground

Action: Be alert, watch where you step. Wear appropriate footwear.

Hazard: Working with Chainsaws, and other hand tools

Action: Be aware of others around you. When working with or carrying a chainsaw or other tool, be hyper-aware. Be aware that others know when branches or trees will be coming down. Watch out behind you. Don't saw anything above your skill level. Always inquire with other sawyers. Brace yourself to avoid falling backwards, or if you do fall, be sure it isn't over a bank or onto a sharp object. Always wear PPE.

Hazard: Working with and around Chipper

Action: Always block the tires. Always secure area of roadway for safe vehicular traffic (signs and cones). Be aware of traffic needing to pass-always look over your shoulder. **Don't wear loose clothing.** Always know who is working the safety bar. Don't be in a hurry. Wear PPE. Ensure safe communication with others. Don't put hands into the feed shoot. Use larger material to push smaller material in. Be aware how material, especially dry material, can whip around outside of feed shoot. Stop chipper when necessary.

Hazard: Swamping removed material

Action: Wear appropriate PPE. Be very aware of distance from sawyers. Be aware to look for and communicate vehicular traffic if on a roadside. If preparing to chip, bring butt ends of all material in rows that can be easily grabbed by the armload to feed chipper. Be aware of poison oak. Be aware of careful walking. Be aware of blind spots with helmets. Take care always to communicate.

Hazard: Driving on 4x4 roads

Action: Drive slow. Be aware of rocks and downed wood on road. Headlights on.

Hazard: Carrying weight of up to 60 lbs.

Action: Only carry what you think is safe.

Hazard: Stream/ River Crossing

Action: Cross waterway facing upstream and with a stick if possible. If flow is higher than your knee, lock arms with a partner when crossing. Never carry more than you are comfortable with when crossing waterways.

Hazard: Watch out for your Eyes!

Action: Wear eye protection. Always be cautious when pulling plants that have thorns or stiff branches at eye-level.

Hazard: Contact Dermatitis and other skin irritations and rashes.

Action: Learn to identify and be aware of plants like Poison Oak, Cow Parsnip and Nettles as some people develop severe reactions when they come in contact with these plants. Try to avoid contact as much as possible. Make sure to wash all exposed areas with Tecnu as well as clothes as soon as possible.

Hazard: Tick Bites

Action: Wear light colored clothing (so ticks can be easily seen and brushed off), long sleeves and long pants, and if possible, tuck pants into boots or socks. Apply insect repellent if desired. Promptly shower or bathe after working in tick-infested areas to wash away loose ticks. If bitten, use a fine-tipped tweezers and grasp the tick as close to the skin's surface as possible (avoid squeezing the body of tick). Pull upward with steady even pressure, **DO NOT** twist or jerk, this can cause the mouth parts to break off and remain in skin. If this happens, try to remove mouth parts with tweezers. Clean bite area and hands with rubbing alcohol, iodine or soap and water. If possible, keep tick for future identification. If you develop a rash or fever within several weeks of tick bite, see a doctor.

Hazard: Bear Safety (California Black Bear)

Action: When hiking or working stay with the group and do not wander off alone. Make as much noise as possible as you hike/work in dense cover, singing, talking, clapping, etc. Bears tend to be more active at dawn and at dusk so be more aware during these times of day. Keep an eye out for signs of a bear such as tracks, scat, digs and marked trees. If you encounter a bear, remain calm and do not make sudden movements or loud noises. Do not throw anything at the bear and give it plenty of room. Slowly back away and leave the area and NEVER run.

If a Bear Charges...

- Most bears charge as a bluff, they may run towards you and then stop abruptly or suddenly veer off. Stand your ground until the bear has stopped or left and then slowly back away. Never run or climb a tree.
- Use Bear Spray (after learning how to use it)

If a Bear Attacks...

- Be loud, and make yourself appear larger, waive your arms, open your jacket and stand your ground.
- Fight back using any objects you have, (rocks, water bottles, weed wrenches, etc)
- Use Pepper Spray when the bear is within 40 feet of you and aim for the face.
- Never play dead with a black bear unless you are certain it is protecting its cubs.

Are there any additional safety topics you would like to discuss?

Have we addressed all potential hazards on this project?

Have we provided you with proper training for the tools and equipment to be used during this project?

Have we provided you with proper safety equipment to complete the tasks of this project?

Print name

Signature

Date

EXHIBIT E
Organization or Company
Emergency Action Plan example

EMERGENCY: DIAL 911

Fill this out BEFORE arriving at worksite. Print copies for crew-lead, first-aid lead and other necessary personnel.

Designate crew member roles: communications lead, first aid lead, and secondary options for both.

"Degrees, minutes, seconds" is the more widely used format for reporting GPS coordinates.

Project Information

Project Name:

Project Date(s):

Crew Leader, Name, phone/email:

Worksite Location Information

Address/Road Name/Trailhead:

Property Owner(s) Name and Contact Information:

Nearest Town/County:

Road/Milepost:

GPS Coordinates of Site:

Gate Code?:

GPS Coordinates of Helispot(s):

Notes:

Primary Communication Device:

Alt Communication:

Best location reception:

Notes:

Additional Contact Information

Volunteer Fire Department/Company:

CAL FIRE:

Hum Cty Sherriff:

CHP:

Center for Disease Control: 800-222-1222

Cal-OSHA Field Office (Redding): 530-224-4743

Local Hospitals

St. Joseph Hospital: 707-445-8121

Address: 2700 Dolbeer St, Eureka, CA 95501

Organization/Company Staff and Crew Information (name, phone and email)

- 1.
- 2.
- 3.
- 4.
- 5.

If Using a Radio

Stand in a clear location, hold the radio upright. Wait for two seconds after keying the mike, then speak. Try at least three times, at least 10 seconds apart. If needed, move locations and/or change channels.

Channel, Repeater:

Dispatch Center:

Script:

Script Example: "XXXXX Fire, this is Smith with the XXX Field Crew, with emergency traffic, we need a medical response at the Milepost. XXXX. If on private land, "Someone will meet you at the gate to guide you in..."

Radio Alphabet

Alpha Bravo Charlie Delta Echo Foxtrot Golf Hotel India Juliet Kilo Lima Mike

November Oscar Papa Romeo Sierra Tango Uniform Victor Whiskey X-ray Yankee Zulu

If Using a Phone:

If you're calling 911: Be aware that 911 dispatchers may not be familiar with the private/public land unit you're on. The dispatcher needs:

1. Your phone number in case the call gets disconnected
2. The location you're calling from
3. What type of emergency you have (medical, require ambulance/air support, injury specifics)

Instructions for Other Devices:

Satellite Phone: Hold power button until phone turns on, wait for service bars to show, enter number as usual, keep conversation direct.

Nearest Hospital:

Phone:

Address:

Distance from Work:

EXHIBIT F

Fire and Fuels First Aid Kit

To be inventoried weekly and after any use.

Minimum supplies by CAL OSHA regs:

Four sterile gauze pads (at least 4 x 4 inches).
Two large gauze pads (at least 8 x 10 inches).
Box adhesive bandages (band-aids).
One package gauze roller bandage at least 2 inches wide.
Two triangular bandages.
Wound cleaning agent such as sealed moistened towelettes.
Scissors.
At least one blanket
Tweezers.
Adhesive tape.
Latex gloves.
Resuscitation equipment such as resuscitation bag, airway, or pocket mask.
Two elastic wraps
Splint.
Directions for requesting emergency assistance

Additional items in this Kit:

Quik Clot
Moleskin
Wound Wash
Eye wash kit
TecNu
Benadryl
Burn Gel
Butterfly bandages
Surface chucks for cleaning wound in a dirty environment

EXHIBIT G

Action and After Photo Documentation Example



Good Action Photo



Before Picture (Notice the stump as a reference)



After Picture (perspective is shown by the reference stump and similar location of picture origin)