California Department of Forestry and Fire Protection
(CAL FIRE) California Climate Investments
Fire Prevention Grants Program
Project Scope of Work

Project Name: Dunsmuir Fuels Mitigation Project

Project Tracking Number: 21-FP-SKU-0181

Project Description Summary: Please provide a paragraph summarizing proposed project including the location, habitable structures, acres treated, etc. (Please type in blank space below. Please note there is no space limitations).

The Dunsmuir Fuels Mitigation Project will reduce hazardous fuels in the Dunsmuir Wildland-Urban Interface in the City of Dunsmuir located in southern Siskiyou County. The project will seek environmental compliance on approximately 690 acres in the community with a subset of that area, approximately 183 acres, receiving on-the-ground fuel reduction treatments. The approximately 510 acres that will only obtain CEQA compliance and landowner access agreements will not receive on-the-ground treatments through this grant, but will be in position to seek funding for treatments in the future. The project is prioritized based on the Dunsmuir Community Wildfire Protection Plan and will carry out hazardous fuel reduction treatments adjacent to the primary evacuation roads to provide for greater safety of citizens and firefighters during evacuation in the event of an inevitable wildfire in the steep, heavily forested Sacramento River canyon. The fuels treatment will reduce wildfire hazard and potential damage to approximately 1,500 habitable structures, critical business and city infrastructure and improve life safety for 2,200 residents in the at-risk, low-income communities of Dunsmuir, south Dunsmuir and Castella.

A. Scope of Work

This item is broken into project specific criteria depending on the type of project being proposed: Wildfire Prevention Planning, Wildfire Prevention Education or Hazardous Fuels Reduction. Please ***answer one section of questions*** that pertain to the primary activity type for your project.

Section 1: Hazardous Fuels Reduction

1. Describe the geographic scope of the project, including an estimate of the number of habitable structures and the names of the general communities that will benefit.

2. Describe the goals, objectives, and expected outcomes of the project.

3. Provide a clear rationale for how the proposed project will reduce the risks associated with wildfire to habitable structures.

4. Identify any additional assets at risk to wildfire that will benefit from the proposed project. These may include, but are not ted to, domestic and municipal water supplies, power lines, communication facilities and community centers.

5. How will the project/activity utilize the left-over woody biomass? Will the project/activity use a biomass facility to reduce greater greenhouse gas emissions?

Response (Section 1 Hazardous Fuel Reduction):

A1. (Project Scope)
Dunsmuir and the surrounding area exist almost entirely within the State's designated "**Very High Fire Hazard Severity Zone"** and is located in **Tier 3 "Extreme" on the CPUC Fire Threat Map** where there is an extreme chance for human and property impacts due to wildfire. Dunsmuir is highly vulnerable to devastating wildfires that could cause major structural damage to the City and surrounding area. In the past decade, the number of acres burned in forest land has increased relative to other vegetation strata. This is due to increased fuel loading in that ecotype over the past century. The destructive fire history in the county and likelihood of future high-severity fire makes the region and the population highly vulnerable to catastrophic wildfire events.

The project has assigned a Project Influence Zone (PIZ) with a 1-mile radius; this is considered a conservative estimate for the benefit area. FEMA and Cal OES typically accept a 2-mile radius for a project benefit area. The 1-mile PIZ covers the whole Dunsmuir community and northern Castella; a 2-mile PIZ would reach further into Castella. (Refer to Project Maps)

Of the 690 acres in the proposed project boundary, it is estimated that all 690 acres will be included in the site analysis to meet CEQA requirements. Of the 183 acres proposed for fuel reduction treatments, it is estimated that between 125 and 150 acres will receive vitally needed roadside fuel reduction treatments adjacent to the primary evacuation routes and other identified areas in the Dunsmuir WUI. The fuels treatment will reduce wildfire hazard and potential damage to approximately 1,500 habitable structures and improve life safety for 2,200-plus residents in the at-risk, low-income communities of Dunsmuir, and unincorporated south Dunsmuir. The project will also directly benefit the critical business and city infrastructure including schools, water, power and fire suppression, the natural and historic resources, and the important evacuation routes that lead to Interstate 5. The reduction of fuels adjacent to roadsides in the Dunsmuir WUI could appreciably increase the time and efficiency of evacuations and should greatly reduce vulnerabilities. Reducing the effects of wildfire in the Dunsmuir WUI could also keep an uncontrolled large-scale wildfire from moving into other communities in the south Siskiyou area, including the City of Mt. Shasta to the north and Castella to the south.

This project is adjacent to and/or shares a boundary with five other high priority projects:

- The Azalea (I-5) Fuels Reduction Projects Phase I
- The Azalea (I-5) Fuels Reduction Projects Phase II
- The I-5 Mount Shasta Project
- Mount Shasta's South Old Stage Hwy 89 Project
- USDA Forest Service's Hwy 89 Project

The project is designed to complement other fuel treatments by combining treatments with this project to provide a more substantial fuel break for extreme fire conditions. The network of complementing fuel treatments in the project location will provide more protection than a single,

lineal fuel break with a greater chance to modify fire behavior with multiple suppression points for responding firefighters and evacuation routes for the community. (See maps for detail.)

A strategically positioned and substantial fuel treatment zone along the valley floor and Interstate 5 corridor through Dunsmuir may modify fire behavior and prevent a wildfire from spreading to the opposite side of the canyon. Research following the 2014 Bald Fire in Lassen National Forest found that fuel treatments were effective when designed wider than generally prescribed (greater than the typical DFPZ of 1,300 to 2,625 feet) leveraging existing features, such as roads, and coupled with strategically placed fuel treatments in the wildland to mediate fire behavior before the fire reaches the fuel break. In these situations, the treatments may modify wildfire intensity across the entire fire and that even during extreme fire conditions, the treatments can result in resilient forest structures (Kennedy et al. 2019).

A2. (Goals, Objectives and Outcomes)

Goal 1: ***Improve the egress and evacuation of the public and the ingress of emergency response personnel in the event of a catastrophic wildfire in and adjacent to Dunsmuir.***

Objectives:
a) Develop an Action Plan to implement the Dunsmuir Fuels Mitigation Project, including hiring a registered professional forester/project manager, preparation of RFP's, bidding and selection of contractors, selection of fuel reduction treatment areas and activities, landowner outreach and public education, grant reporting and evaluation, and overall coordination of cooperating entities.

b) Obtain CEQA compliance and landowner access agreements on 690 acres.

c) Provide 125 to 150 acres of fuel reduction treatments adjacent to the primary roadways and evacuation routes identified in the Project Maps section.

Expected Outcomes:

- Implement fuel treatments on 125 – 150 acres.
- Safer egress and ingress conditions for residents and emergency personnel.
- Reduced risk of wildfire ignition and/or reduced rate of spread of a potential wildfire.
- Create continuous fuel treatments in the south Siskiyou County region by aligning this work with neighboring projects.
- Obtain environmental compliance and landowner access on an additional 510 acres that will be treated in future projects.

Goal 2: ***Engage the community, government partners, fire agency cooperators, and interested parties in reducing the wildfire threat to life safety within and adjacent to the Dunsmuir community.***

Objectives:
a) Hold regular monthly or "as needed" meetings of the Dunsmuir Disaster Planning Advisory Committee (DPAC) and its Fire Safe Committee to support project planning and management,

public education and awareness, and other activities to promote wildfire prevention and mitigation.
b) Continue to look for opportunities to collaborate, engage city leaders and the public, and identify grant funding sources for wildfire mitigation and education projects.

Expected Outcomes:

- Increased citizen participation in wildfire mitigation, safety and prevention activities
- Improved capacity to expand community wildfire resilience for life safety and value protection

A3. (Risk Reduction)

Southern Siskiyou County and northwest Shasta County is a region that normally receives high annual precipitation able to support a high biomass, biodiverse temperate coniferous forest. However, recent high-severity wildfire activity in similar forest types in Shasta, Siskiyou and neighboring counties is evidence that these forests are in threat of destabilizing and risk conversion to vegetation dominated by shrubs and fire-prone species reducing fire resiliency and increasing wildfire threat to the surrounding ecosystems and communities (Serra-Diaz et al. 2018). Research suggests that California's northern coastal mountains will see intensified burn severity during low-precipitation years. Studies found that areas of these forests that burned had much lower fuel moisture and higher climatic water deficit and the percentage of high-severity burn areas doubled, especially during the 2012-2016 drought. The findings highlight the importance of targeting areas with high burn severity risk, such as northern California temperate coniferous forests, when planning for fire adaptation and mitigation strategies in a changing climate and intensifying extremes (Huang et al. 2020).

Human caused fires frequently start in lower elevations at the base or lower portion of slopes, i.e. roadsides, stream or river corridors, hiking trails, or railway corridors adjacent to community structures or neighborhoods that can rapidly turn into deadly and damaging wildfires (Siskiyou CWPP 2019). Evidence of the destructive potential of human caused wildfires staring at low slope locations was the 2018 through 2021 wildfire seasons where numerous high-severity wildfires heavily impacted the northern Sacramento River watershed or Siskiyou County. The 2021 Lava Fire burned 26,409 acres and destroyed 23 structures. The 2021 River Complex burned 199,353 acres and destroyed 94 structures. The 2021 Salt Fire burned 12,660 acres and destroyed 21 homes. The 2021 Antelope Fire burned 145,632 acres. The 2021 Tennant Fire burned 10,580 acres. The 2020 Slater Fire burned 157,229 acres, destroyed 150 structures and caused 2 deaths. The 2018 Carr, Delta and Hirz Fires combined to burn 339,112 acres approximately 10 miles south of the project site with impacts to the Interstate 5 and Sacramento River corridor. The Carr Fire burned 229,651 acres across Shasta and Trinity Counties, ranking it the 7th-largest wildfire in recorded history of California at the time. During these incidents, approximately 40,000 residents were evacuated and Interstate 5 was closed for five days. The fires resulted in the destruction of approximately 1,640 structures and caused eight deaths.

The primary roads in Dunsmuir are overgrown with hazardous vegetation at levels that pose a threat to the safe ingress and egress for residents, tourists, firefighters and emergency personnel. Fuel reduction along these critical transportation/evacuation routes will lessen the probability of high-severity wildfires spreading into the area destroying property and the surrounding forest ecosystems by allowing first responders to safely deploy fire suppression resources along these

corridors. Roadside fuel treatments are considered a high priority treatment in every WUI area of Siskiyou County and should be applied to all public and private road systems (Siskiyou CWPP 2019). These treatment actions can moderate fire intensity adjacent to roads, driveways and other features thereby providing safer operational space for firefighters, improving access for firefighting equipment, and providing safer evacuation routes for residents and visitors during a wildfire event. Reducing fuels will lower the risk of vehicle-related wildfire (cause of the Carr Fire and potential cause of the Delta Fire) and shaded fuel breaks will inhibit the spread of wildfire, lower the temperature of fire and dramatically reduce greenhouse gas emissions when a wildfire occurs.

Under current conditions, a wildfire in the Dunsmuir WUI poses a dangerous emergency and evacuation situation that could be complicated by limited and/or overloaded transportation routes, human behavior, vulnerable and mobility-limited residents, visitors, and other factors. The lead time required to conduct mass evacuations during a wildfire event can be very short and immediate. Examples of rapid WUI wildfire emergency escalation without time for advance evacuation warnings are numerous, e.g., the 2021 Haypress, 2021 Lava, 2020 Slater, 2018 Klamathon, 2018 Camp and the 2014 Boles Fires.

A4. (Assets at Risk)
Dunsmuir is a designated "Community at Risk" that exists almost entirely within the State's designated "**Very High Fire Hazard Severity Zone"** and located in **Tier 3 "Extreme" on the CPUC Fire Threat Map** where there is an extreme chance for human and property impacts due to wildfire. Most homes are single-family dwellings with densely packed residential areas in the central and north parts of the City. Multiple businesses and historic buildings are at risk including the Dunsmuir Elementary School, High School, Community Center, grocery store, several churches and the Post Office.

The project is also in close proximity to the Sacramento River and its watershed, which supports a diversity of wildlife including deer, black bears, mountain lions, foxes, water fowl and fish such as brown and rainbow trout. The Upper Sacramento River is a state-designated Wild Trout fishery and Blue-Ribbon trout fishing stream with exceptional water quality and brings in a high volume of tourism year round. It is one of the area's greatest ecological, recreational, and economic assets that could be devastated in the event of wildfire in this watershed. Water quality and fish mortality would be impacted by not only erosion and landslides, but in the event of infrastructure loss, water contamination from multiple pollution sources would have significant and far-reaching effects.

An additional concern is the large increase in tourists and part-time residents during the Covid-19 pandemic. Last summer season the town was inundated to the point where there were days when traffic was backed up on the city's main street. With the lifting of Covid-19 restrictions, economic forecasts for Siskiyou County show that 2022 will likely be the busiest summer season yet. With essentially one way in and out of the City, fuel reduction is of utmost importance to limit the potential for fire, especially when the City is facing higher than normal traffic volumes.

Although Dunsmuir is a relatively small community, it is not small in terms of local and state level infrastructure components located within the narrow corridor. These critical infrastructure

components affect the livelihood of people throughout the state and the nation with respect to resources, transportation and power. Major infrastructure within and adjacent to Dunsmuir includes:

- Sacramento River – critical water for the state agriculture; food for the nation
- Municipal water tank – water supply for Dunsmuir residents
- Interstate 5 - key transportation corridor of the west
- Union Pacific Railroad railway - key supply and transportation corridor of the west
- Pacific Power Transmission Corridor - 69 kV line on the west side of the interstate
- California-Oregon Transmission Project - 110 kV on the east side of the corridor
- Pacific Power distribution power lines - homes/businesses
- Communication sites on Mount Bradley and Soda Ridge - utilized by local, state, and federal agencies
- Productive timberlands – managed by the U.S. Forest Service and/or private timber companies

The Dunsmuir-Castella Fire Department is a valued asset with five locations/stations that provides fire and emergency medical services to the City of Dunsmuir and is comprised of three different governmental entities: City of Dunsmuir, Dunsmuir Fire Protection District, and the Castella Fire Protection District. The Department has a response area of over 30 square miles and maintains an automatic mutual aid agreement with the Mt. Shasta City Fire Department.

A5. (Utilization of Woody Biomass)
All biomass segments will be cut into movable lengths not exceeding four feet in length and left for property owners for firewood. More than 80% of households utilize firewood for heat. Masticated biomass will be leveled to no more than a four-inch chip depth, remaining on fuel beds as good retardant coverage against rapid regeneration of new vegetation. When viable, chipper material will be delivered to Roseburg Forest Products' nearby Weed cogeneration plant for utilization into electric power. Strategic utilization of biomass can divert material from decay and open pile burning now occurring by landowners and produce net GHG benefits outside of the forest. Utilization of this material contributes to beneficial use by producing renewable electricity and potentially biofuels, offsetting consumption of fossil fuels.

B. Degree of Risk

1. Discuss the location of the project in relation to areas of moderate, high, or very high fire hazard severity zone as identified by the latest Fire and Resource Assessment Program maps. Fire hazard severity zone maps by county can be accessed at: http://www.fire.ca.gov/fire_prevention/fire_prevention_wildland_zones_maps.php
2. Describe the geographic proximity of the project to structures at risk to damage from wildfire in the WUI. (Please type in blank space below. Please note there is no space limitations).

B1. (Project Location and Fire Hazard Severity)
The potential risk of wildfire to the Dunsmuir community is very high as it exists almost entirely within the "**Very High Fire Hazard Severity Zone**" – CAL FIRE's designation for places

highly vulnerable to devastating wildfires. **Almost every Dunsmuir resident lives in this Very High Fire Hazard Severity Zone.** The project is located in **Tier 3 "Extreme" on the CPUC Fire Threat Map** where there is an extreme chance for human and property impacts due to wildfire. This risk, combined with hazardous roadside vegetation on primary evacuation routes, underlines the need for fuels reduction work as well as property owner education regarding defensible space and home hardening. In addition, the Dunsmuir WUI has been identified by the United States Forest Service as an area of great concern and is a ***very high*** priority as described in both the 2019 Siskiyou County CWPP and the 2016 Dunsmuir CWPP.

This project is located in Siskiyou County where there are almost 1.4 million acres of SRA lands including lands in and around the project area. Siskiyou County is geographically California's fifth largest county, consisting of 29 rural communities nearly all in high to Very High Fire Hazard Severity Zones, dispersed over 4 million rural acres with recent devastating wildfires, such as the 2020 Slater Fire. This region is bisected by Interstate 5, intersected by State Highway 89, and populated by heavily used Union Pacific RR, as well as abandoned railroad lines. There is a large threat of wildfire from lightning, vehicles, transients, and other human ignition sources. This area is also subject to flooding, wildfire, earthquake, landslide, avalanche, severe weather, drought, dam failure, and volcanic eruption.

B2. (Potential Impact of Wildfire and Proximity of the Project to Structures)
There is significant potential impact of wildfire to structures in the project area based on topography, fuels, weather, fire history and difficult ingress and egress for fire fighters and residents. Dunsmuir is surrounded by dense wildland forest and shrub vegetation on very steep terrain with limited access. Fires in this type of situation are dangerous since they are not readily accessible by most fire equipment due to the steepness of the terrain and limited access roads. The impacts to Dunsmuir from a major fire in this canyon would be devastating. The canyon creates a wind funnel that can push a fire at very high speeds north or south through the City, in addition to going up the sides of the canyon, resulting in major loss of infrastructure and possibly loss of life due to insufficient time to safely evacuate.

Dunsmuir was incorporated in 1909. This historic rural forested community is particularly vulnerable to anthropogenic changes to forest structure, a changing climate and intensifying extremes**. Practically every structure in Dunsmuir is prone to wildfire risk.** This risk includes residential structures, road and transportation infrastructure, water pipelines, transmission lines, schools, and every type of business physically located in the City. The majority of structures are within the proximity of the project's boundaries and the risk is addressed by creating fuel breaks of generally up to several hundred feet of either side of the applicable roads and/or identified features.

C. Community Support

1. Does the project include any matching funds from other funding sources or any in-kind contributions that are expected to extend the impact of the proposed project?
2. Describe plans for external communications during the life of the project to keep the effected community informed about the goals, objectives and progress of the project.

Activities such as planned press releases, project signage, community meetings, and field tours are encouraged.

3. Describe any plans to maintain the project after the grant period has ended.
4. Does the proposed project work with other organizations or agencies to address fire hazard reduction at the landscape level?
   (Please type in blank space below. Please note there is no space limitations).

C1. (Matching Funds and In-Kind Contributions).
The FSC of Siskiyou County will commit $2500.00 in coordination and implementation of the project and the Dunsmuir Disaster Planning and Advisory Committee (DPAC) and its Fire Safe Committee members will contribute volunteer project time with monthly meetings and community outreach to help support local coordination and public education. It is estimated that this volunteer time over the life of the project is worth approximately $7,000.00 calculated at approx. 250 hours @ $28.00 per hour. The Dunsmuir Fire Chief and the Dunsmuir Volunteer Fire Company will also participate and provide as needed support and advise to contribute to the success of the project.

C2. (External Communications)
Community outreach will be developed early in the project and will continue throughout implementation. Signs will be made and installed in the community explaining the project and photos will be used to better educate the community on wildfire mitigation. DPAC and its Fire Safe Committee will persist in keeping the public informed of progress through its monthly meetings, reports to elected officials and city staff, and public forums as needed. This will provide the surrounding residents, visitors, City leaders and partners with information about the project and its goals. The positive impact of visible fuel reduction along evacuation routes will be a tangible demonstration to local citizens and is expected to help encourage reluctant property owners to join the project.

C3. (Maintenance)
The majority of the project is on private property and the work will require landowners to execute an entry permit that will only be valid for the project period. This project will not establish a long-term agreement to provide legal access for maintenance. Educating participating landowners on methods to maintain the treatments is an effective approach. During landowner outreach and through project implementation, landowners will have a chance to meet registered foresters and resource professionals that will educate and inform landowners on best management practices to keep hazardous fuel from returning, which will happen without maintenance. Landowners will be informed that maintenance on an annual basis will be less labor intensive and more cost effective compared to conducting vegetation treatment less often. **The City's new Hazardous Vegetation and Combustible Material Abatement Ordinance is in place to provide enforcement for the removal of hazardous vegetation and combustible material within the community. Issues with obtaining homeowners insurance in the region and incentives from insurance companies will further encourage landowners to maintain the treatments on an ongoing basis.**

C4. (Collaborative Work)
Our Fire Safe Councils have an excellent history of agency collaboration with proactive community support and involvement at the landscape level by residents, landowners and many

other invested parties. Local city governments, community service districts, Siskiyou County government, local volunteer fire departments and fire districts, CAL FIRE, Pacific Power, Union Pacific Railroad, Caltrans, Klamath National Forest, and Shasta-Trinity National Forests have donated time, money, and human resources to multiple planning efforts, fuel reduction, and education outreach programs that foster landscape-level fire management. Both the Fire Safe Council of Siskiyou County (FSCSC) and the Dunsmuir Disaster Planning Advisory Committee (DPAC) and its Fire Safe Committee are committed to full stakeholder participation during the project and have demonstrated collaboration in past activities. All stakeholder advisors will be consulted regularly for input and technical advice, invited to participate in regular DPAC meetings and encouraged to join in public outreach opportunities relative to the project.

Dunsmuir is well positioned to implement this project as evidenced by the success of DPAC and its commitment to wildfire safety in the community. The Dunsmuir Fire Chief and a supportive City Council will all contribute to the success of the project. The City Planner has completed, with help from DPAC, a Local Hazard Mitigation Plan Annex to Siskiyou County and an updated Safety Element to Dunsmuir's General Plan. All of these successes point to collaborative work and a commitment in Dunsmuir to reduce the potential for fire and to promote the public health, safety and welfare of the community.

D. Project Implementation

1. Discuss the anticipated timeline for the project. Make sure to take seasonal restrictions into account.
2. Verify the expected time frames to complete the project will fall under the required completion dates depending on the source of the funds awarded.
3. Using bullets, list the milestones that will be used to measure the progress of the project.
4. Using bullets, list the measurable outcomes (i.e., project deliverables) that will be used to measure the project's success.
5. If applicable, how will the requirements of the California Environmental Quality Act (CEQA) be met?
6. Are there any existing forest or land management plans; Conservation Easements; Covenant, Conditions & Restrictions (CC&R's); matters related to zoning; use restrictions, or other factors that can or will limit the wildfire prevention proposed activity?

   (Please type in blank space below. Please note there is no space limitations).

D1. (Anticipated Timeline):
FSCSC=Fire Safe Council of Siskiyou County DPAC/FSC= Dunsmuir DPAC/Fire Safe Committee

Sequential Tasks	Timeframe	Responsible Party
Prepare/Submit Grant		FSCSC/Local FSC
Approve/sign grant funding Commitment		FSCSC/ CALFIRE
Request/obtain grant planning funds	Months 1-2	FSCSC/ CALFIRE
Project management, including solicitation and hiring	Months 1-48	FSCSC/DPAC/FSC

Prepare Request for Proposals for contractors, i.e., archaeologist, R.P.F., fuel reduction contractors, and chip trucks. Seek out and contact potential contractors. Accept bids and select best contractors.	Months 1-6	FSCSC
Archeologist and R.P.F. to produce and oversee successful CEQA	Months 1-36	FSCSC
Prepare project maps	Months 1-12	GIS Specialist/RPF/FSCSC
Produce Landowner Agreements plus obtain landowner permissions	Months 1-24	FSCSC
Perform fuel reduction activities on 125 to 150 acres	Months 4-48	Contractors/ FSCSC PM
Travel to and from work sites	Months 1-48	FSCSC /DPAC/FSC
Purchase office, field, and other supplies	Months 1-48	FSCSC /DPAC/FSC
Hold Monthly FSC Meetings and 5-10 public meetings for fire prevention education and project planning/implementation	Months 1-48	FSCSC /DPAC/FSC Stakeholders and Public
Make and install signs explaining the fuel reduction project	Months 4 and 48	FSCSC/DPAC/FSC
Overall Project Coordination and Fiscal Sponsor duties including quarter reports and final reports	Months 1-48	FSCSC

D2. (Completion):
Timeframes mentioned above are based on a 48-month grant cycle and will be successfully completed and compliant within the March 15, 2025 deadline.

D3. (Milestones):
Milestones include but are not limited to the following:

- Grant award and agreement
- Completion of initial public meetings to discuss next steps with residents and fire safe councils
- Completions of solicitations for and hiring of project management
- Completion of Action Plan
- Landowner agreements produced
- Signed agreements acquired through mailings and public meetings
- Completion of solicitations for and hiring of archeologist and RPF for CEQA process
- CEQA approval by CAL FIRE
- Completed solicitation for and hiring of fuel reduction contractors, i.e., mastication contractor and hand crews. All required documents signed
- All on-the-ground layout by forester and project manager to successful completion
- Public meetings held to discuss project progress
- Contractors start on the ground fuels reduction and defensible space treatments
- Contractors complete fuels reduction and defensible space treatments directed by project manager and forester that ensure requirements for project are met
- Approval of project by CAL FIRE Battalions Chiefs and Foresters
- Informational and educational meetings and out reaches concerning project and outcomes completed

- All quarterly and final reports successfully completed and submitted to CAL FIRE grants office

D4. (Project Deliverables):

- Obtain environmental compliance on approximately 690 acres
- Complete on-the-ground fuel reduction treatments approximately 183 acres. *(The approximately 510 acres that will only obtain CEQA compliance and landowner access agreements will not receive on-the-ground treatments through this grant, but will be in position to seek funding for treatments in the future once CEQA is in place.)*
- Provide critical wildfire protection to residential areas, transportation routes, powerlines, and other infrastructure.
- Create safer ingress/egress for firefighters
- Garner greater landowner/resident participation in disaster preparedness through education and by clearly demonstrating hazard mitigation techniques.
- Facilitate at least 5-10 public meetings, including educational outreach relative to proposed project which will be staged in neighborhoods, city councils, County Board of Supervisors, and for citizens at numerous other venues.

D5. (CEQA):

CEQAs have been acquired for previous fuel reduction projects administered by the Fire Safe Council of Siskiyou County (FSCSC). CEQA compliance will be acquired by hiring an archaeologist for a survey of the project area plus requisite reports. A Registered Professional Forester will then assist with CEQA work-up, and submission of all applicable CEQA documents to Siskiyou Unit CAL FIRE Resource Management, et al. for their review and submission to CAL FIRE Sacramento. Upon approval by CAL FIRE, a Notice of Exemption is expected to be issued.

D6. (Existing Restrictions/Limitations on Land Use):

There are no known restrictions of any kind that would limit the implementation of this project.

E. Administration

1. Describe any previous experience the project proponent has with similar projects. Include a list of recent past projects the proponent has successfully completed if applicable. Project proponents having no previous experience with similar projects should discuss any past experiences that may help show a capacity to successfully complete the project being proposed. This may include partnering with a more experienced organization that can provide project support.
2. Identify who will be responsible for tracking project expenses and maintaining project records in a manner that allows for a full audit trail of any awarded grant funds. (Please type in blank space below. Please note there is no space limitations).

E1. (Previous Experience)

Siskiyou County is a region with an intact forestry sector able to supply Licensed Timber Operators, RPFs and resource professionals that can meet the labor and capacity demands for this project.

Since its inception in 2002, the FSCSC has held monthly meetings, completed our county-wide CWPP, helped other Fire Safe Councils to complete local CWPPs, sponsored many educational events, workshops, forums, and worked on numerous fuel reduction projects. FSCSC has a 7-member volunteer Board of Directors under whose direction we provide strategy, policy, and support to 23 local Fire Safe Councils in Siskiyou County. Most of the board members are also volunteers with their local Fire Safe Councils. The Board of Directors meets several times a year and the officers take an active role in helping with project management, accounting and oversight of two paid contract professional coordinators, a CPA, and a bookkeeper. The FSCSC had a Federal OMB 133 Audit in 2014 with no significant adverse findings and reflected rigorous management of fiduciary responsibilities on our part.

The FSCSC has been the recipient of multiple, federally funded and private grants and serves as fiscal sponsor for many local fire safe councils' grants. Almost all of the fuel reduction acres completed with funding from these grants was in the SRA. The FSCSC has completed 24 grants ranging in purpose from fuel reduction and defensible space, constructing water tanks, chipper purchase, community wildfire protection plans, to public education outreach events. Many of our partners in those grants were sources of large portions of our required "in-kind" matching funds, including county and local governments, local volunteer fire departments, residents and other stakeholders, fire safe council members and other volunteers, Caltrans, Union Pacific Railroad, and CAL FIRE. These include but are not limited to:

- 2021 Prevention Grant: I-5 (Azalea Phase II) Fuels Reduction Project
- 2020 Wyden Amendment (Stevens Funding): Hwy-89/Old Stage Rd Fuels Reduction project
- 2019 Prevention Grant: Juniper Flat Comprehensive Fuels Reduction Project
- 2017 Wyden Amendment (Stevens Funding): Eddy Drive Fuels Reduction Project
- 2016 SRA grants for producing the Dunsmuir CWPP for the Dunsmuir Fire Safe Council. This project was successfully completed with a CAL FIRE signed document.
- 2017 SRA grant for updating the Siskiyou County CWPP. This Project was successfully completed March 2019 and can be found at http://firesafesiskiyou.com/
- 2010 Multi-Communities Fuel Reduction Project - successfully completed in 2011. Interstate 5 roadside fuels reduction for ingress / egress, defensible space assistance for landowners, and education/outreach to five community groups in multiple areas of Siskiyou County.
- 2012 Southwest Mt. Shasta Fuel Reduction Project - successfully completed in 2013. Roadside fuels reduction for ingress/egress, defensible space assistance for landowners and education/outreach to community groups as well as interfacing to Mt. Shasta Area Fire Safe Council's 2010 South Mt. Shasta Fuel Reduction fuel breaks.
- 2013 Northeast Mt. Shasta Fuel Reduction Project; West Weed Fuel Reduction Project, Phase II; Klamath River Fuel Reduction Project; Black Mt. Fuel Reduction Project, Phase

II. Roadside evacuation route fuels reduction for ingress/egress and construction of strategically located shaded fuel breaks.

- 2016 N. Sacramento Headwaters Fuels Reduction Project: completed the last of 4 project phases constructing fuel breaks completely around City of Mt. Shasta.
- RAC grants: Pleasant Valley Senior Fuel Reduction (completed 25 acres of fuel reduction in Dorris, CA); Butte Valley Fire Company Water Tank (construction of a 10,000-gallon water tank for emergency fire response), Hammond Ranch Fire Company Water Tank Project (construction of a 10,000-gallon water tank for emergency fire response), Siskiyou County Fire Warden Brush Chipper (purchased a Morbark chipper for SKU CALFIRE hand crew use on fuel reduction projects).
- Funded through the U.S.F.S. and California Fire Safe Council: 2014 Butte Valley Fire Safe Council Fuel Reduction Project and Black Mt. Fuel Reduction, Phase III. Also recently received were 5 Steven's Fund grants (USFS) for fuel reduction in and around communities of Tennant, Bray, and northeast Mt. Shasta.
- Other past grants: State Farm Insurance, Cross Petroleum and Pacific Power educational grants, 2 BLM facilitation grants, 2 grants to develop and update countywide CWPP.

The Dunsmuir Disaster Planning Advisory Committee (DPAC) is capable of working with the FSCSC to enhance project administration and success. DPAC is an experienced, established committee that meets monthly and will dedicate meeting time to work with stakeholders to enhance the success of the project. DPAC's relationships, experience and collaborative efforts are evidenced by their activities since 2019 including the hazardous vegetation/combustible material abatement ordinance, local hazard mitigation planning, two fire safety public forums, a community electronic newsletter largely focused on fire safety and prevention, two green waste drop-off event and door-to-door promotion of countywide green waste events, a City of Dunsmuir Wildfire Safety Guide and distribution of defensible space and home-hardening educational materials.

E2. (Responsibility for Tracking and Maintaining Records)
The Fire Safe Council of Siskiyou County (FSCSC) will act as the fiscal sponsor, assume legal responsibility for the management of the grant funds and be responsible for tracking project expenses and maintaining project records in a manner consistent with grant terms and conditions and that allows a full audit trail of awarded grant funds. The FSCSC will utilize its contract CPA, bookkeeper and two contract coordinators/project managers to provide general operations oversight and work closely with DPAC to maintain accounting records, produce reports, provide project management, and other record-keeping services. Additionally, the FSCSC Board of Directors will oversee and monitor these activities.

F. Budget

A detailed project budget should be provided in an Excel spreadsheet attached to this grant application. The space provided here is to allow for a narrative description to further explain the proposed budget.

1. Explain how the grant funds, if awarded, will be spent to support the goals and objectives of the project. If equipment grant funds are requested, explain how the equipment will be utilized and maintained beyond the life of the grant.
2. Are the costs for each proposed activity reasonable for the geographic area where they are to be performed? Identify any costs that are higher than usual and explain any special circumstances within the project that makes these increased costs necessary to achieve the goals and objectives of the project.
3. Is the total project cost appropriate for the size, scope, and anticipated benefit of the project?
4. Using bullets, please list each object category amount that you are requesting and the detail of how that would support meeting the grant objectives.
   (Please type in blank space below. Please note there is no space limitations).

F1. (Explanation of Grant Funds)
The majority of direct costs are allocated under Contractual expenses. Contractors will be selected to deliver activities outlined in this Scope of Work. The contractor(s) will be responsible for the following deliverables:

- Develop project Action Plan with FSCSC and DPAC
- Complete all environmental compliance, including CEQA/NEPA determination
- Conduct community and private property owner outreach, including obtaining Right-of-Entry Agreements
- Develop Site Work Plans with FSCSC and DPAC
- Develop RFP process for Subcontractors, and award sub-contracts (as necessary).
- Meet project deliverables (outlined in E4 of this Scope of Work)
- Complete project objectives (outlined in A2 of this Scope of Work)
- Complete project objectives within the timeframe (outlined in E1 of this Scope of Work)
- Maintain auditable records for the entire project.

In addition to contractor costs, the FSCSC is allocating a percentage of project funds to Indirect Costs to support the project's fiscal and administrative tasks (see below). No equipment funds are requested.

F2. (Cost Justification)

- All costs for this project are reasonable and prudent, priced at or below the geographic areas' industry standards and were determined by vendor estimates. Mechanical/Manual Treatment contractors charge $2,000 to $5,000 per acre in this area.
- Foresters and Natural Resource Specialists charge $100 to $250 per hour
- Office and forestry supplies are per mid-range cost of items found online and quoted from local vendors
- Educational and CCI signs costs are per vendor estimates

F3. (Appropriateness of Costs)
Project costs are appropriate for a project of this size because costs were measured on a per acre basis for fuel reduction contractors. Costs for professional contractors was based on approximate

hours required for archeologists, botanists, RPF and other resource professionals. Supply costs were determined by vendor estimates plus past experience of items needed for a project of this size. This project assumes a non-prevailing wage basis for hazardous fuel reduction work. If a coverage determination changes the status of hazardous fuel reduction work, the project budget or acres may need adjustment.

Given the expected volume of hazardous fuel reduction work in Shasta, Lassen, Siskiyou, and Trinity counties contractor bids will likely be impacted by the available work. It is difficult to estimate the competitive bidding environment in 12 to 24 months for hazardous fuel contractors / licensed timber operators. The project is designed to have a variable treatment area that can be adjusted based on the selected bid cost per acre. Due to the scale of the project, the hazardous fuel reduction treatments proposed will still deliver the desired results even if the lower bound acreage is treated due to higher than anticipated competitive bid costs. Landowner participation through execution of right-of-entry agreements will also affect the acres that are available for treatment. Under full landowner participation and a cost-effective bidding environment, the project can treat up to 150 acers at a total project cost of $2,762.5 per acre. Under less competitive bidding environment, the project may only treat 125 acres at a total project cost of $3,946 per acre. The total project cost is expected to be approximately $3,000 to $3,500 per acre. Adjustments to treatment boundaries and acreage due to project costs will be coordinated with the SKU CAL FIRE Unit to maximize the effectiveness of the treatments.

F4. (Justification in Meeting Grant Objectives)
Project acres and contractual costs are estimates and subject to change. Total project acres are variable and dependent on each landowner's execution of a right-of-entry agreement. Total cost for contractual services is variable on a per acre basis and dependent on competitive contractor bidding.

Salary, Wages and Benefits: No salary, wages and benefits are requested.

Contractual: $777,950.00

- **Mechanical and Manual Treatment contractors** to perform on-the-ground fuel reduction at approximately $3,250 per acre for 150 acres; a total cost of $487,500.00.
- **Professional/Project Management Contractors**: Archeologist, botanists, RPF and other resource personnel combined costs for CEQA are at $225 per acre (based on past projects cost) for 690 acres at a total cost of $155,250.00. Project managers/Natural Resources Specialist and staff at $65 per hour using 2 people at 20 hours each per week at 26 weeks per year for 4 years is estimated to be 2,080 person hours at a total cost of $135,200.00.

Travel: $3,758.40

- Travel cost at the federal allowable per mile is .58. It is estimated that travel to and from project area is approximately 20 miles daily. Traveling 20 miles 3 times per week for 27 weeks for 4 years equals $3,758.40.

Supplies: $18,225

- Office Supplies/Outreach and Education Materials: $10,000

Office supplies to be used by project managers and volunteers include but are not limited to printers, paper, ink, computers, and software. These activities are necessary to bring project to completion. Outreach and public education materials, project signs, landowner mailings and other communication materials are included.

- Forestry Supplies: $8,225
  To help complete project by project managers working in the field and to help volunteers working in project areas with in-kind and maintenance are items such as PP&E, power pole saws, chain saws, chain and fuel for chain saws, basic mechanic tool kits, back pumps, flagging, shovels, McClouds, wheel barrows and other items as needed.

10 % Indirect Cost: 79,993.00

Total Estimated Project Cost: $879,926.40

G. California Climate Investments

The space provided here is to allow for a narrative description to further explain how the project/activity will reduce Greenhouse Gas emissions.

1. How will the project/activity reduce Greenhouse Gas emissions?
   (Please type in blank space below. Please note there is no space limitations).

G1. (Reduce Greenhouse Gas Emissions)

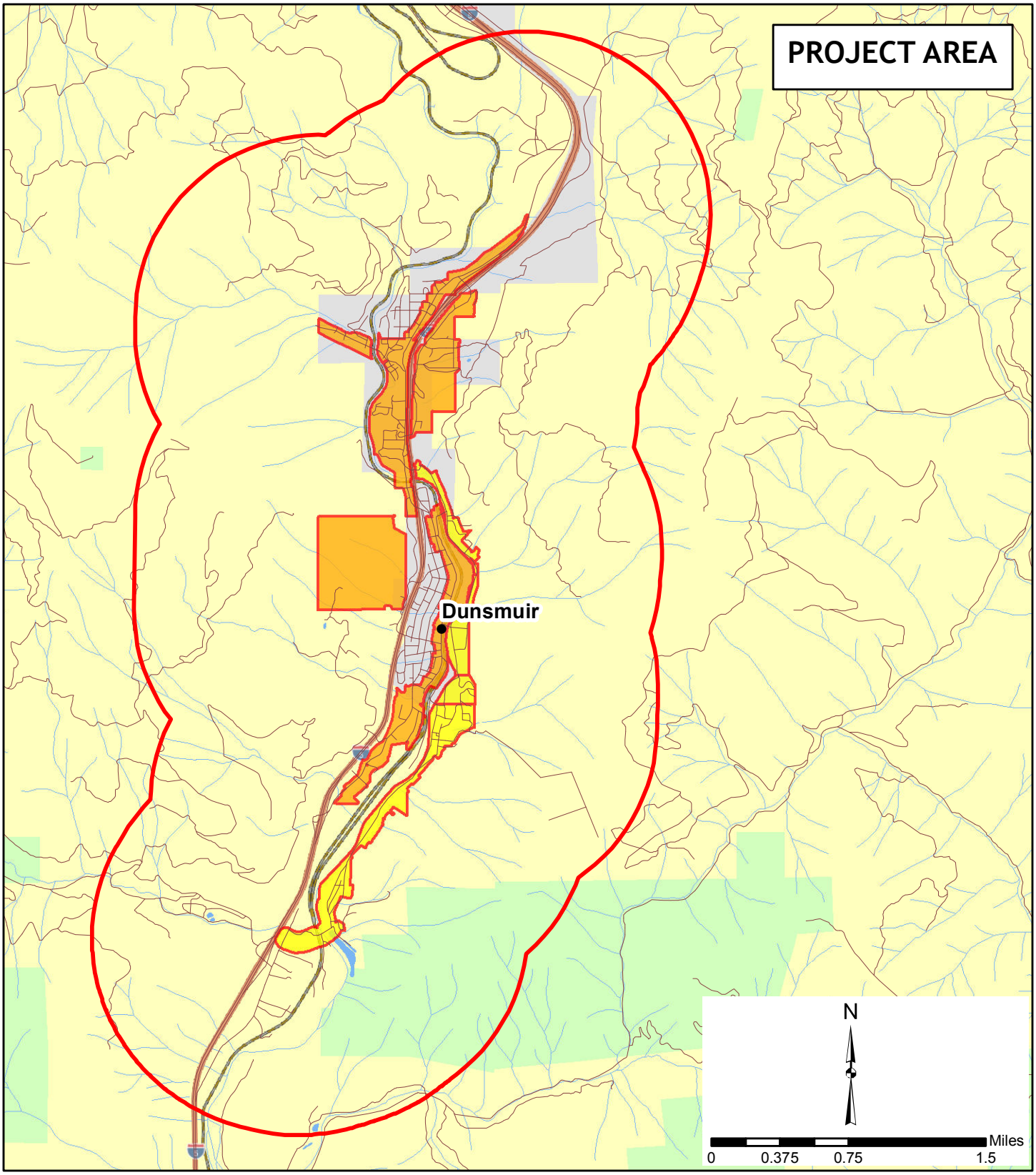
During moderate-to high-severity wildfires, the plume can emit millions of metrics tons of CO_2 in a few weeks in addition to carbon monoxide and particulates, including black carbon. Wildfire is the single biggest source of black carbon emissions in the State (California Air Resources Board, 2017). Observations suggest that a portion of high severity burn areas within these fires may not reestablish as forests, but rather will transition to shrub systems (Collins & Roller, 2013). Fire frequency has been found to increase in these areas as fuel conditions are created that allow for repeated high-severity fire in short succession, hindering the regrowth of forest and maintaining shrub dominance (Coppoletta, Merriam, & Collins, 2016).

Reducing fire severity will reduce the need of this management effort which is often fragmented based on ownership. Where land is not managed post-fire, the land is likely to convert to shrub cover for many years, resulting in reduced fire resiliency, fewer trees and less carbon sequestration. Where management activities didn't remove dead trees, emissions from a burned area may be five times greater than the active fire emissions (Auclair & Carter, 1993) due to decay if biomass is not utilized. In a forest wildfire, less than 15% of the carbon in a stand is usually emitted in the plume (Campbell, Fontaine, & Donato, 2016). In a high severity burned area, the remaining 85% will decay in subsequent decades or be emitted in a future wildfire plume. The loss of sequestration and subsequent decay from the now dead trees could make the stand a net source of emissions for a decade or more (Dore et al., 2012) until the trees regrow sufficiently to sequester the carbon release from the decaying material.

The project will reduce the severity and extent of future wildland fires through tools such as fuels reduction, thinning, and sustainable timber management practices, including biomass utilization. These activities will reduce greenhouse gas emissions. Biomass utilization, unknown at this time, is expected from this project and will reduce decay from biomass being left on site and can offset fossil fuel consumption. Coupled with other mitigation projects in south Siskiyou County, the project seeks to limit shrub invasion and reduce potential of moderate-to high-severity burns by managing hazard fuels and vegetation to remove competition from many small, closely-spaced, fire-vulnerable species into a smaller number of resilient larger trees, thereby improving fire resiliency and carbon stocks.

Greenhouse gas emissions are expected to occur at a minimal level when the project starts. Co-benefits will occur at the beginning of the project as soon as jobs are created and fuel reduction activities begin. As high-risk and fire prone acreage is transformed to low-risk acreage, the potential scale and magnitude of wildfire will be reduced, reducing the potential emissions associated with wildfire. GHG benefits will be experienced in terms of conversion of fire-prone vegetation and dead/decaying trees to biomass products offsetting fossil fuels. Long-term benefits to the ecosystem will happen as the landscape returns to more historic conditions that promote fire resilience and carbon sequestration.

Maintenance is strongly advocated by Fire Safe Councils to landowners in all outreach opportunities, plus other educational venues, and even in casual meetings. The watchwords to landowners are, “Take Responsibility.” The Dunsmuir Volunteer Fire Department will make available purchased hand tools from this project as well as expert advice for property owners in the area. Co-benefit outcomes will also be maintained through the increased capacity of the Dunsmuir community and the collaborative work with the Fire Safe Council of Siskiyou County and other partners. The project will also help to bring more awareness to the community, decision makers and landowners of the need to implement on-going, best-practice fuel reduction strategies on the surrounding terrain. Increasing public awareness will build capacity in local fire safe activities and will in the future foster more community involvement.



PROJECT NAME: DUNSMUIR FUELS MITIGATION PROJECT
PROJECT TRACKING NUMBER: 21-FP-SKU-0181
PROJECT PROPONENT: FIRE SAFE COUNCIL OF SISKIYOU COUNTY

Project Influence Zone

Treatment Influence Zone

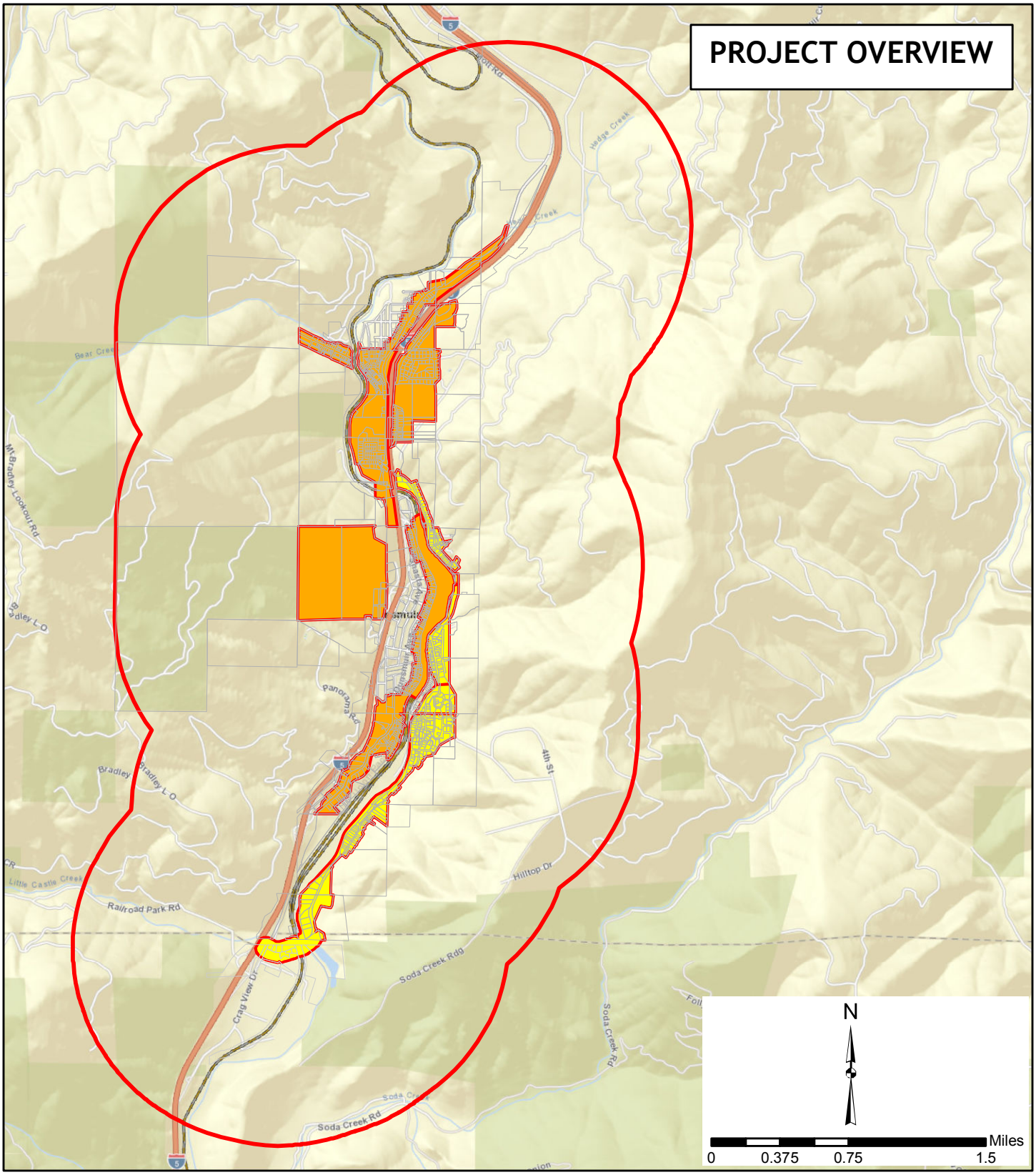
CEQA Compliance Area

CEQA Compliance and Fuel Reduction Treatments Area

Local Responsibility Area (LRA)

State Responsibility Area (SRA)

Federal Responsibility Area (FRA)



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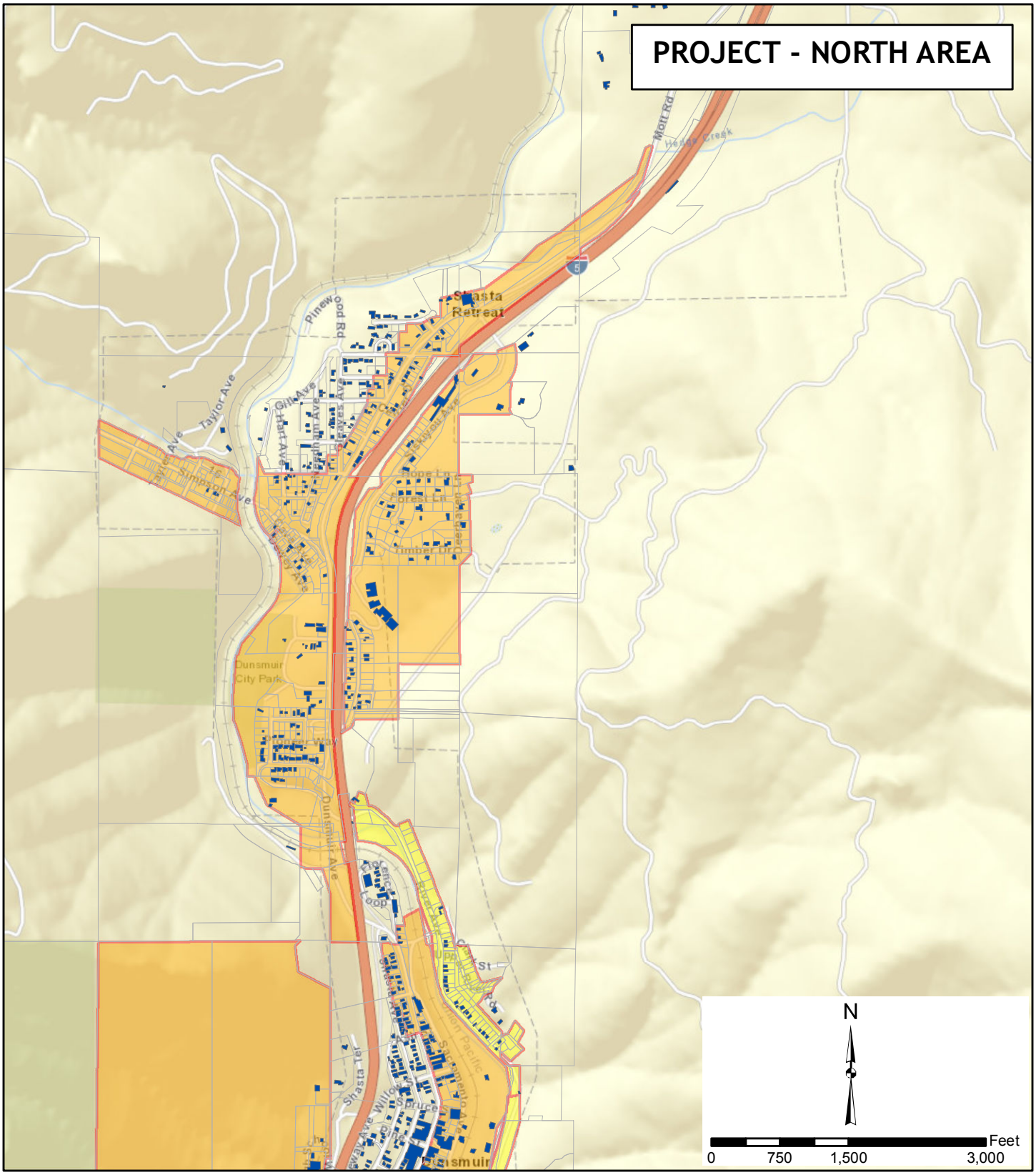
Parcel Boundary

Project Influence Zone

Treatment Influence Zone

CEQA Compliance Area

CEQA Compliance and Fuel Reduction Treatments Area



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TREATMENT AREA: 690 ACRES

PROPOSED TREATMENTS:
CEQA COMPLIANCE: 690 ACRES
HAZARDOUS FUEL REDUCTION: 125-150 ACRES

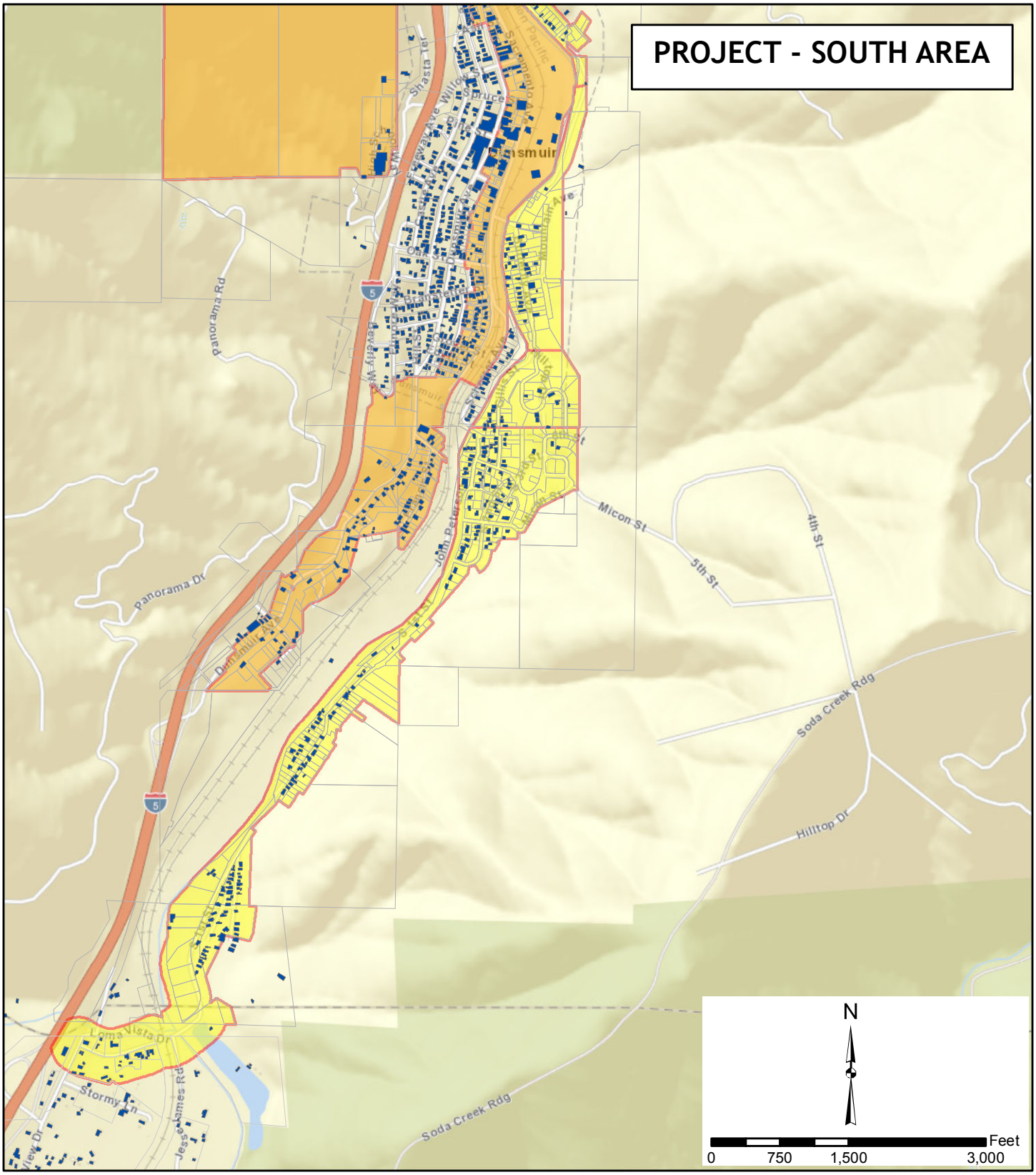
Structure

Parcel Boundary

Treatment Influence Zone

CEQA Compliance

CEQA Compliance and Fuel Reduction Treatments Area



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