U.S. Department of Homeland Security
FEMA Region 10
130 228th Street, SW
Bothell, WA 98021-8627

FEMA

Finding of No Significant Impact

Medford Hazardous Fuels Reduction Project
Medford, Oregon
Hazard Mitigation Grant Program, DR-4562-0024-OR

The City of Medford (City) applied to the Federal Emergency Management Agency (FEMA) through the Oregon Office of Emergency Management (OEM) for a wildfire mitigation project under FEMA's Hazard Mitigation Grant Program (HMGP). The HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 (Public Law 93-288, as amended, 42 U.S. Code [USC] §§5121-5207).

The proposed project consists of two separate fuels reduction treatment areas, totaling 1,350 acres, along the Bear Creek Greenway and within Prescott Park in the City of Medford. Fuels reduction treatments would occur on up to 700 acres of the Bear Creek Greenway (approximately 1,219 acres) that runs adjacent to the 7-mile riparian corridor within the City. Fuels reduction methods would vary at public and private property along the riparian corridor and upland areas within the Bear Creek Greenway. Fuels reduction treatments would also occur on up to 650 acres within Prescott Park (1,740 acres) on the east side of the City.

The purpose of the proposed fuel treatments is to reduce wildfire hazard risk associated with wildfire ignition and spread within project areas and adjacent properties by removing dead, diseased, and dying trees; highly flammable, non-native vegetation considered hazardous fuels; and control invasive species through brush removal, mowing, and chemical (i.e., herbicide) treatments. In-water work would not occur at either project site. The need for these fuel treatments is driven by the increase in wildfire hazards and recorded fire history in the region that has resulted from the combination of long-term changes in environmental conditions, dry fire seasons, rugged terrain, and an uptick in urban development in or near wildlands.

The proposed fuel treatments at Bear Creek Greenway would encompass a combination of public City-owned and privately-owned residential and commercial parcels. Defensible space treatment and hazardous fuels reduction would voluntarily occur on up to 589 private properties. Vegetation within the Bear Creek Greenway that is proposed for removal includes primarily invasive species, such as Himalayan blackberry (*Rubus armeniacus*), English ivy (*Hedera helix*), puncture vine (*Tribulus terrestris*), and tamarisk (*Tamarix*). Native hardwood and conifer species, such as black cottonwood

(*Populus trichocarpa*), bigleaf maple (*Acer macrophyllum*), and Douglas fir (*Pseudotsuga menziesii*), would also be removed.

The Prescott Park fuels reduction treatments would occur entirely on City-owned park property. Vegetation proposed to be removed consists of mixed conifer and hardwood trees, such as ponderosa pine (*Pinus ponderosa*), Douglas fir, California black oak (*Quercus kelloggii*), and Oregon white oak (*Quercus garryana)*. Understory shrubs would be thinned and removed, such as buck brush (*Ceanothus cuneatus*) and whiteleaf manzanita (*Arctostaphylos manzanita*), as would herbaceous grasses in the understory.

The fuels reduction treatments at both the Bear Creek Greenway and Prescott Park would include thinning understory vegetation, removing ladder fuels, reducing flammable vegetation fuels, and replacing flammable vegetation with fire-resistant vegetation to protect life, property, and at-risk buildings and structures. These activities would provide a break in the forest canopy, which would force a fire to the ground where wildland firefighters can more safely and easily manage suppression. While untreated forest would remain within and adjacent to each of the treatment areas, the hazardous fuels reduction within the treatment areas would contribute to containment by reducing the intensity and extent of wildfires. This would likely reduce the risks to people living in the vicinity of the treatment areas around the City. Together these treatments would change the composition and density and increase the structural diversity of the conifer and woodland forests along Bear Creek and at Prescott Park. The proposed fuels reduction treatment methods would favor healthier and larger trees as well as more unique and rare species. Each of these factors would contribute to reduced wildfire danger in the City and surrounding Rogue Valley.

The proposed treatment activities along the Bear Creek Greenway would include three components: fuels reduction around structures and select properties along the riparian corridor of Bear Creek, fuels reduction within the forest and woodland habitats along the riparian corridor, and targeted removal and control of invasive species. The specific management prescriptions at Bear Creek include manual (thinning, pruning, brush piling and chipping), mechanical (mowing and chipping), and chemical (herbicide application) fuel treatment methods. The proposed treatment activities that would be implemented at Prescott Park also include three components: fuels reduction around critical facilities and structures, fuels reduction within the forest and woodland habitat, and targeted removal and control of invasive species. The management prescriptions at Prescott Park only include manual and mechanical methods.

The City would implement ongoing maintenance for four years following completion of the proposed fuel treatments. Within the Bear Creek Greenway and where feasible, the City currently conducts long-term riparian cleanup and management of invasive species. This cleanup has historically included clearing of vegetation, invasive or not, within a 50-foot riparian setback and replacing the removed vegetation with more desirable native species. Within Prescott Park, the City conducts long-term vegetation management and defensible space maintenance near critical infrastructure.

Findings

FEMA prepared an Environmental Assessment (EA) pursuant to the National Environmental Policy Act (NEPA), 42 USC §§ 4321-4347, as amended; and in accordance with Department of Homeland Security (DHS) Instruction Manual 023-01-001-01, *Implementation of the National Environmental Policy Act*; FEMA Instruction 108-1-1, *Instruction on Implementation of the Environmental Planning and Historic Preservation Responsibilities and Program Requirements*, and FEMA Directive 108-1, *Environmental Planning and Historic Preservation Responsibilities and Program Requirements*.

The EA, which is incorporated by reference in this Finding of No Significant Impact (FONSI), identified and evaluated potential individual and cumulative environmental impacts from the Proposed Action and a No Action Alternative. It also described other alternative methods that were considered and dismissed. The analysis determined the Proposed Action would not affect geology, wild and scenic rivers, coastal resources, land use and zoning, and sole source aquifers, because the resource or consideration does not exist in the project area or because proposed activities would have no effect on them. Negligible to moderate impacts were identified for geology and soils, air quality, surface water and water quality, wetlands, floodplains, vegetation, birds, fish and crustaceans, insects, wildlife, cultural resources and historic properties, traffic, noise, public health and safety, visual quality, recreation, and hazardous materials. However, none of these potential impacts would be significant with implementation of project conditions to avoid, minimize, and mitigate impacts as listed in Attachment A. In the long-term, the Proposed Action would have beneficial effects on several resources (i.e., geology and soils, air quality, surface water and water quality, wetlands, floodplains, vegetation, birds, fish and crustaceans, insects, wildlife, traffic, public health and safety, economics, visual quality, recreation, and hazardous materials) because of the resulting reduced risk of wildfire.

The Draft EA was made available to the public and interested parties for review and comment from April 29 to June 13, 2025. As described in the EA, FEMA and the City used various public outreach methods to make the Draft EA available for review. During the public review period, FEMA received no comment letters from the public, Native American tribes, or federal, state, and local agencies.

Conclusion

The Proposed Action is the selected alternative because the No Action Alternative would not address the purpose and need stated in the EA, and no other practical alternatives were identified. Based on information contained in the grant application, the EA, and the project conditions listed in Attachment A of this FONSI; and in accordance DHS's Instruction Manual, FEMA's Instruction and Directive; and Executive Orders (EOs) addressing floodplains (EO 11988) and wetlands (EO 11990); FEMA has determined that the Proposed Action will not cause significant impacts on the quality of

the natural and human environment. As a result of this FONSI, an Environmental Impact Statement (EIS) will not be prepared and the project may proceed as described in the grant application, the EA, and the project conditions in Attachment A.

APPROVAL

SCIENCE A KILNER

Digitally signed by SCIENCE A KILNER
Date: 2025.07.22 14:36:40 -07'00'

Science Kilner — Date
Regional Environmental Officer
FEMA Region 10

ENDORSEMENT

ROBERT M BURTON

Digitally signed by ROBERT M BURTON
Date: 2025.07.23 07:11:27 -07'00'

Robert Burton — Date
Hazard Mitigation Assistance Branch Chief
FEMA Region 10

Attachment A – Mitigating Actions

The City of Medford (City; subrecipient) shall implement the Proposed Action, including all City-proposed best management practices intended to mitigate potential impacts. Additionally, the City shall comply with all conditions required by the FEMA. These combined mitigating actions and conditions are listed in Section 6.2 of the EA and below:

- All construction activities will comply with Oregon Administrative Rules (OAR) 340-208, which contains requirements related to visible emissions (e.g., diesel-related opaque emissions), and fugitive emissions (e.g., dust from road grading, excavation, and transport of soil to and from the project site).

- Construction contractors and subcontractors shall be required to use reasonable precautions to minimize fugitive dust emissions and comply with OAR 340-208-0210 such as water application, spraying water in work areas, washing truck wheels, using gravel driveways at construction and staging access points, covering piles, minimizing traffic and traffic speeds on bare soils, covering of open bodied trucks, daily clean-up, and minimizing the idling of diesel-powered equipment.

- Riparian protection zones (setbacks) will be maintained at a distance of 40 feet for perennial and intermittent streams (including a 50-foot no work zone from either bank of Bear Creek).

- The use of herbicides will be site-specific and will only be used by certified, licensed applicators that follow US Environmental Protection Agency (US EPA) guidelines, the FEMA Endangered Species Programmatic (FESP), and the Oregon Department of Agriculture (ODA) Pesticide and Fertilizer Program buffers and state mandates.

- Herbicide use will be restricted to specific work windows from October 1 to April 14 at the treatment area within the Bear Creek Greenway. Application rates and methods will be limited and specified as either hand selective spraying or spot spraying. Broad spraying of herbicides will be prohibited. No herbicides will be permitted at Prescott Park.

- Notice of herbicide use will be announced through public noticing, signage, and other outreach efforts at least 24 hours in advance of herbicide application; these notifications will also remain posted for at least 24 hours after applications.

- Spill cleanup kits will be present when and where herbicides are used, transported, or stored.

- Compliance with the FESP and other guidelines (e.g., The Freshwater Trust [TFT] guidelines) will involve specific invasive and non-native plant controls proposed near waterways, wetlands, and within the riparian zone to limit the number of applicators using chemical treatments, ensure herbicides are not used in sensitive areas, and reduce the potential for accidental surface water contamination. These controls include weather-related use restrictions and setbacks where necessary in accordance with the FESP and TFT Guidelines. The current plan is to use these TFT

buffers, which are more restrictive than what is allowed under the FESP; however, the City may elect to use the allowed buffers as established by the FESP.

- Spot spraying and hand selective herbicide applications using aquatic glyphosate will be restricted to a minimum of 5 feet from the Bear Creek waterline (i.e., Ordinary High Water Mark [OHWM]). Spot spraying using aquatic imazapyr will be restricted to a minimum of 75 feet from the Bear Creek waterline, and hand selective herbicide applications using aquatic imazapyr will be restricted to a minimum of 5 feet from the Bear Creek waterline. No herbicide use will be permitted in areas within 5 feet from the Bear Creek waterline.

- Spill prevention measures and fuel containment systems designed to completely contain a potential spill, as well as other pollution control devices and measures (such as diapering, parking on absorbent material, etc.) adequate to provide containment of hazardous materials, will be implemented.

- Burn piles will be no larger than 6-by-6-by-4 feet, will be burned during the wet season, will not occur within 10 feet of trees or on steep slopes, and will be given 8 to 12 months to dry out in order to reduce risk of ignition and damage to residual trees and vegetation.

- No more than 10 larger trees will be removed along Bear Creek.

- During project activities, the City shall focus tree removal on non-native trees and shall replant with native tree species. Tree removal will also only occur after a tree survey that verifies the species and size of trees proposed for removal and confirmation by the Oregon Department of Fish and Wildlife (ODFW).

- The City shall maintain all trees adjacent to or overhanging a structure free of dead or dying wood and cut the trees back and remove dead or dying wood.

- The City shall retain four snags that measure greater than 80 cm (31.5 inches) (best for nesting) for every 5 acres and retain 30 snags that measure between 25 and 70 cm (9.8 to 27.6 inches) diameter breast height (dbh) (for general foraging) for every 5 acres. Retained snags will support wildlife habitat and nesting provided a certified arborist or forester determines the snag does not present a hazard to the public or property owner.

- In order to protect valuable mature trees, the City shall retain “safe snags” (i.e., top removed, trunk retained standing) in locations where a limb fall would not pose a hazard to life or property, and where access is sufficient for a boom truck to reach the tree.

- In areas with limited access, any disturbance to understory vegetation will be restored with loose straw mulch and native grass seeding.

- Treatments occurring within the breeding season will be subject to the prohibitions of the Migratory Bird Treaty Act (MBTA) which is managed by the U.S. Fish and Wildlife Service (USFWS).

To avoid project actions resulting in "take" of migratory birds, the City shall implement one or more of the following measures:

  - Clear vegetation outside the nesting season for those species that may be utilizing existing habitat conditions within the Project area.
  - Review and determine which migratory birds are likely to nest within the Project area to refine the active nesting season. Contact local experts (e.g., ODFW) as needed to confirm.
  - Inspect vegetation for active nests prior to clearing. If an active nest is encountered, avoid disturbing it.
  - If no seasonal avoidance or pre-work inspection and avoidance for active nests are feasible, the City shall further coordinate with the USFWS MTBA office for incidental take permit.

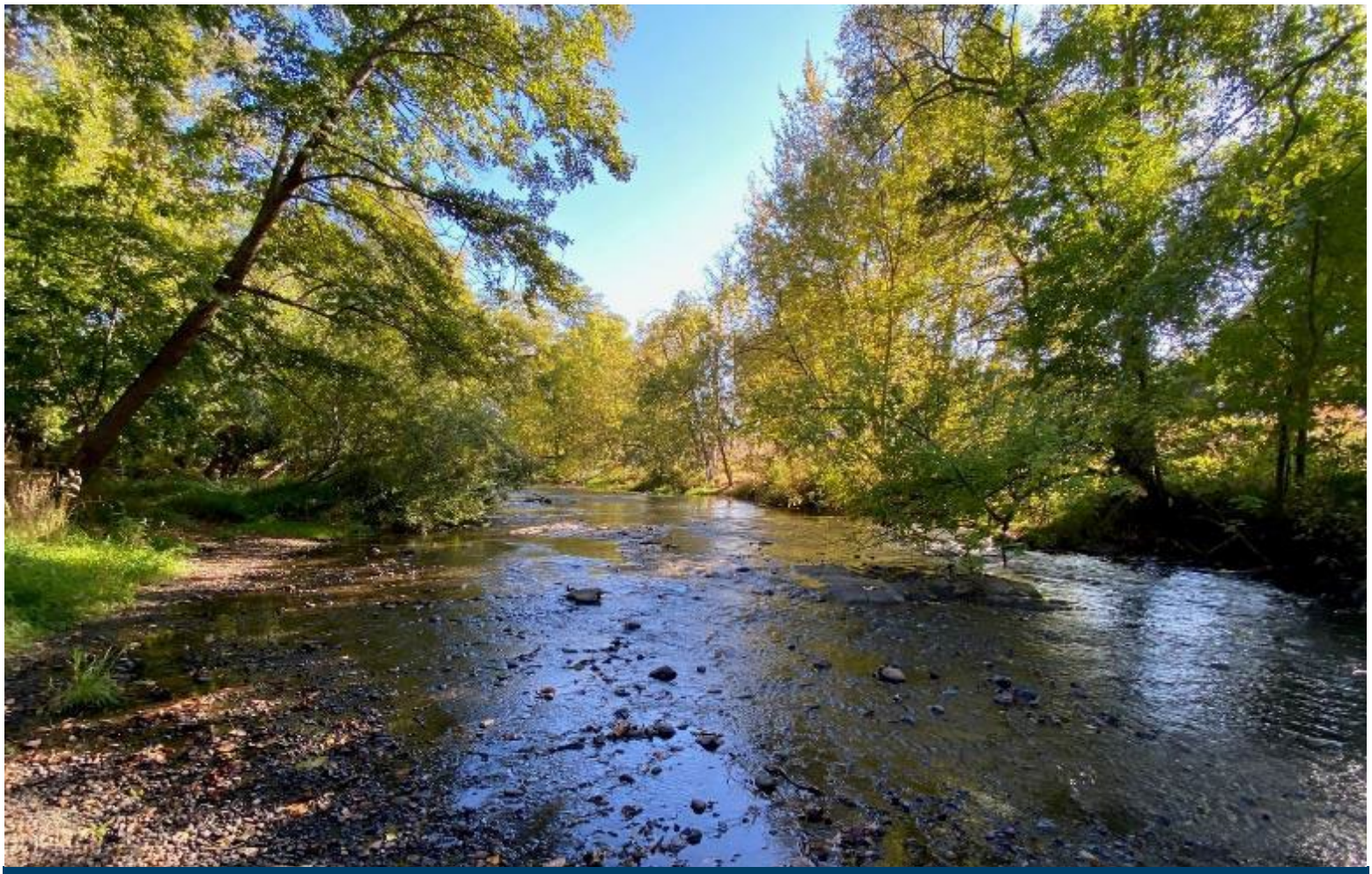
- In the event that any archeological resources are discovered during project implementation, work will immediately cease, the area will be secured, and the City shall notify FEMA and the Oregon State Historic Preservation Office (SHPO) for further evaluation.

- An Inadvertent Discovery Plan will be prepared for the Proposed Action. Should cultural/tribal resources or human remains be discovered during project-related activities, the protocols described therein will be immediately followed.

- To avoid potential adverse effects in the Bear Creek Area of Potential Effect (APE), a 30-meter buffer will be placed around the two (2) archaeological sites that remain unevaluated. Project activities related to wildfire fuels mitigation work can occur within these buffers under the conditions that 1) all activity will be done with handheld tools, 2) vegetation waste will be carried out and not dragged for disposal outside of these buffers, 3) no burning or chipping will occur within these buffers, and 4) there will be no mechanized vehicle activity allowed in these areas. However, mowing, which is an activity that has historically occurred within these site boundaries and is not likely to cause ground disturbance, is recommended to continue within the boundaries of the sites. Additionally, work will be done during dry conditions to minimize ground disturbance.

- To avoid potential adverse effects in the Prescott Park APE, a 20-meter buffer will be placed around the six (6) archaeological sites that remain unevaluated. Project activities related to wildfire fuels mitigation work can occur within these buffers under the conditions that 1) all activity will be done with handheld tools, 2) vegetation waste will be carried out and not dragged for disposal outside of these buffers, 3) no burning or chipping will occur within these buffers, and 4) there will be no mechanized vehicle activity allowed in these areas. Additionally, work will be done during dry conditions to minimize ground disturbance.

- Noise-producing equipment like chainsaws and gasoline-based equipment will be prohibited during nighttime hours from 10 p.m. to 7 a.m.



City of Medford, Oregon

Medford Hazardous Fuels Reduction Project

Final Environmental Assessment

July 2025

Hazard Mitigation Grant Program Subgrant No. 4562-0024
Subapplicant: City of Medford, Oregon

FEMA

Cover photograph: View of Bear Creek from Bear Creek Park in the City of Medford (2022). Photograph credit *Juliana Prosperi / WSP USA Environment & Infrastructure Inc*.

Lead Agency: U.S. Department of Homeland Security, Federal Emergency Management Agency (FEMA)

The published draft of this document was prepared for FEMA by:

WSP USA Environment & Infrastructure Inc.
Contract No.: 70FA6020D00000003
Task Order: 70FA6022F00000061

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Acronyms and Abbreviations

ºC	Degrees Celsius
ºF	Degrees Fahrenheit
ACS	American Community Survey
APE	Area of Potential Effect
asl	Above Sea Level
BA	Biological Assessment
BFE	Base Flood Elevation
BCRI	Bear Creek Restoration Initiative
BP	Before Present
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CH_4	Methane
City	City of Medford
cm	Centimeters
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CWA	Clean Water Act
CWPP	Community Wildfire Protection Plan
dBA	A-Weighted Decibels
dbh	Diameter at Breast Height
DCH	Designated Critical Habitat
DHS	Department of Homeland Security
DNL	Day-Night Average Sound Level
EA	Environmental Assessment
EFH	Essential Fish Habitat
EO	Executive Order
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FESP	FEMA Endangered Species Programmatic and Biological Opinion
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FRBB	Franklin's Bumble Bee
GBIF	Global Biodiversity Information Facility
GIS	Geographic Information Systems
GPS	Geographic Positioning Systems
HMGP	Hazard Mitigation Grant Program

HPZ	High Priority Zone
I-5	Interstate 5
IPaC	Information for Planning and Consultation
MBTA	Migratory Bird Treaty Act
MJNHMP	Multi-Jurisdictional Natural Hazard Mitigation Plan
MRLC	Multi-Resolution Land Characteristics Consortium
MSA	Magnuson-Stevens Fisheries Conservation and Management Act
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NLCD	National Land Cover Database
NHMP	Natural Hazard Mitigation Plan
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO_2	Nitrogen Dioxide
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRF	Nesting, Roosting, Foraging
NRHP	National Register of Historic Places
NSO	Northern Spotted Owl
NWCC	Northwest Interagency Coordination Center
NWI	National Wetlands Inventory
O_3	Ozone
OAR	Oregon Administrative Rules
ODA	Oregon Department of Agriculture
ODF	Oregon Department of Forestry
ODFW	Oregon Department of Fish and Wildlife
ODOT	Oregon Department of Transportation
OEM	Oregon Office of Emergency Management
OHWM	Ordinary High-Water Mark
ORBIC	Oregon Biodiversity Information Center
ORSC	Oregon Residential Specialty Code
OSU	Oregon State University
Pb	Lead
RVCOG	Rogue Valley Council of Governments
SFHA	Special Flood Hazard Area
SFR	Substantial Floral Resources
SHPO	State Historic Preservation Office
SO_2	Sulfur Dioxide

TFT	The Freshwater Trust
TMDL	Total Maximum Daily Load
USACE	U.S. Army Corps of Engineers
USDOT	U.S. Department of Transportation
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
WSR	Wild and Scenic Rivers
WUI	Wildland Urban Interface

Glossary

Adverse Impact: Negative outcome on a human or natural value.

Brush: A collective term that refers to stands of vegetation dominated by shrubby, woody plants, or low growing trees.

Buffer: Untreated areas, also referred to as setbacks, along a waterway or around a wetland or drainage feature where surface runoff enters streams within which certain treatment methods are prohibited (e.g., herbicides are not permitted in these areas). Buffers also refer to the distance perpendicular to the bankfull elevation for streams or the waterline (Ordinary High-Water Mark) depending on the buffer required by guidance, the upland boundary for wetlands, or the upper bank for roadside ditches that would be flagged as no-application zones for herbicide application.

Canopy: The cover provided by the crowns of trees. A closed canopy occurs when the crowns of adjacent trees touch to form a continuous cover over the forest floor. An open canopy occurs when trees are more widely spaced so that their crowns do not touch or where there are gaps in the canopy.

Conifer Trees: Conifer trees are types of common softwood trees that are identified by pine-like needle leaves and seed-producing cones.

Diameter at Breast Height: Diameter at Breast Height (dbh) is the standard for measuring trees. dbh refers to the tree diameter measured at approximately 4.5 feet above the ground.

Disaster: An occurrence of a hazard that causes a negative outcome.

Ground Fuel: All combustible materials below the surface litter, including duff, tree or shrub roots, punchy wood, peat, and sawdust, that normally support a glowing combustion without flame.

Hardwood Trees: Trees with broad, flat leaves as opposed to conifer or needled trees.

Hazard: Something that is potentially dangerous or harmful, and is often the root cause of an unwanted outcome.

Hazardous Fuels Reduction: Includes thinning vegetation, removing ladder fuels, reducing flammable vegetative materials, and replacing flammable vegetation with fire-resistent vegetation for the protection of life and property. Targeted vegetation may include excess fuels or otherwise flammable species.

Ladder Fuels: Includes shrubs, small trees, down wood or brush, and low limbs that may provide a route for a fire to climb from ground fuels up into the forest canopy.

Ordinary High-Water Mark: The highest elevation that water attains in a steam channel on a regular basis. Interchangeable with Waterline.

Setback: Untreated areas, also referred to as buffers, along a waterway or around a wetland or drainage feature where surface runoff enters streams. Herbicides are not permitted in these areas.

Slash: Debris left after logging, pruning, thinning, or brush cutting; includes logs, chips, bark, branches, stumps, and broke understory trees or brush.

Thinning: Removal of some trees, branches, or shrubs from a forest stand.

Waterline: The level reached by the sea or a river visible as a line on a rock face, beach, or riverbank. Interchangeable with Ordinary High-Water Mark.

Wildfire: Any uncontrolled fire that spreads through vegetative fuels such as forests, shrubs, or grasslands, exposing and possibly consuming structures.

Wildland Urban Interface: The geographical area where buildings and structures and other human development meet or intermingle with wildland or vegetative fuels.

1. Introduction

The Department of Homeland Security's (DHS's) Federal Emergency Management Agency (FEMA) is proposing to provide financial assistance to the City of Medford (City) through the Oregon Office of Emergency Management (OEM) for fuels reduction activities on public and private property in the City (see **Figure 1**). On September 8, 2020, the Almeda Fire started near the City of Ashland, Oregon and rapidly spread along Bear Creek due to strong winds and dry vegetation conditions, burning more than 3,000 acres and over 2,500 structures as it progressed through the cities of Talent and Phoenix before being contained in the City of Medford (RVCOG 2023). The Table Road Rock Fire also started on September 8, 2020, near the City of Central Point, and burned approximately 116 acres of land, primarily along Bear Creek. These wildfires have prompted Rogue Valley communities and many of the agencies and organizations responsible for public health and safety in the region to reduce natural wildfire hazards.

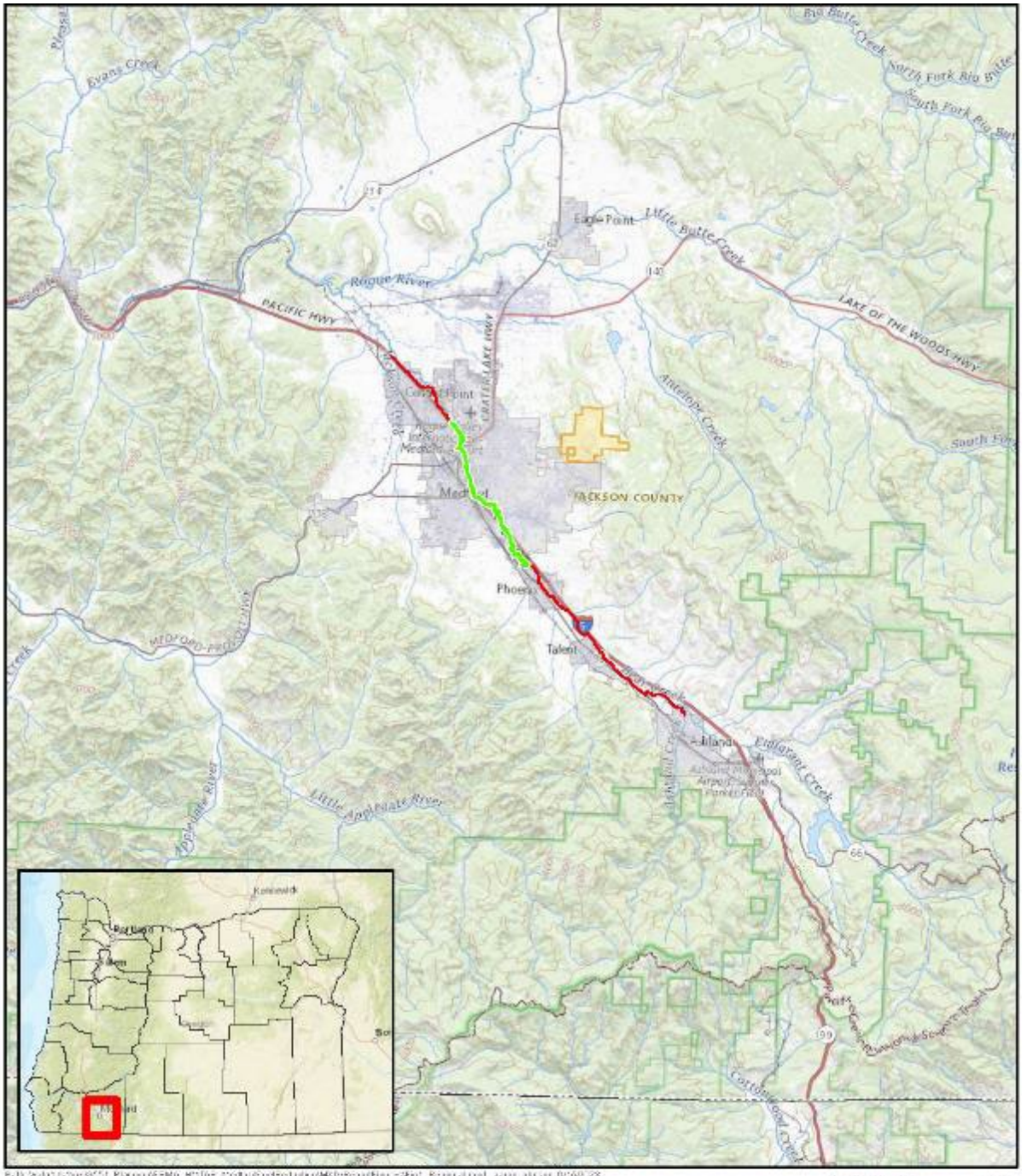
The City is proposing to treat up to 700 acres along the Bear Creek Greenway and up to 650 acres at Prescott Park in Jackson County, Oregon. The proposed fuels reduction and vegetation management treatments would reduce the volume of hazardous trees and fuels and decrease the overall risk for wildfire ignition and spread. It would also have a secondary benefit of helping manage invasive species.

The City applied for wildfire mitigation grant funding in January 2022 under FEMA's Hazard Mitigation Grant Program (HMGP). The HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act). As stipulated by the HMGP, a portion of the proposed project costs must come from non-federal funds. The proposed project consists of two fuels reduction and vegetation management treatment areas: one treatment area along the Bear Creek Greenway and one treatment area in Prescott Park. If awarded, the Oregon OEM would be the direct recipient of the grant, and the City would be the subrecipient. The HMGP funds were made available via a Presidential disaster declaration (FEMA DR-4562-OR) on September 15, 2020.

FEMA has prepared this Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) of 1969 as amended, the DHS Directive 023-01-01, DHS Instruction 023-01-001, FEMA Directive 108-1, and FEMA Instruction 108-01-1 to meet the agency's obligations under NEPA, 42 United States Code (USC) 4321 *et seq*. FEMA acknowledges that on February 25, 2025, CEQ published Interim Final Rule, 90 FR 10610, *Removal of National Environmental Policy Act Implementing Regulations*.

This EA was prepared and analyzed using information from the City's HMGP application package and discloses the potential environmental impacts of the Proposed Action and alternatives. FEMA must consider potential environmental impacts before funding or approving federal actions and applicant-proposed projects. Therefore, FEMA will use the findings in this EA and associated public comments to determine whether to prepare an Environmental Impact Statement or to issue a Finding of No Significant Impact (FONSI).

Figure 1: Location and Vicinity Map



1.1. Project Area

The two proposed treatment areas are in the Rogue Valley geographic area, a rain shadow between the Cascade Range and Siskiyou Mountains located in Jackson County in southwestern Oregon. Within this valley, most of the rain associated with the Pacific Northwest and Oregon effectively skips Medford, leaving it drier and sunnier. Medford's climate is considerably warmer, both in summer and winter, than its latitude would suggest. The two fuels reduction treatment areas are located in Medford along the Bear Creek Greenway and within Prescott Park. **Figure 1** identifies the project areas in relation to the City/region as a whole. Regional access to the project areas is provided via Interstate 5 (I-5).

Both proposed project treatment areas are within highly vulnerable Wildland-Urban Interface (WUI) areas, adjacent or proximate to natural areas, waterways, and open spaces that contain large areas of highly flammable non-native vegetation, stands of dead trees, and vertical ladder fuels. The proposed treatment areas at the 1,219-acre Bear Creek Greenway and 1,740-acre Prescott Park total 700 and 650 acres, respectively. Proposed treatment activities are intended to assist the City in meeting its public health and safety goals as outlined in the Environmental Element of the City's Comprehensive Plan (City of Medford 2018) and the City 2022 Natural Hazards Mitigation Plan (NHMP) regarding WUI fires and preparation for and prevention of wildfires by implementing mitigation strategies to reduce wildfire risk along the Bear Creek Greenway and within Prescott Park while maintaining appropriate vegetation management to promote fish and wildlife habitat.

1.2. Environmental Trends

Reasonably foreseeable environmental trends have influenced the proposed project's objectives, alternatives, and design, as well as FEMA's analysis of the future conditions with and without the Proposed Action. These environmental trends set the context for the chapters that follow.

1.2.1. WEATHER

The weather in the project vicinity is characterized as Mediterranean, with warm summers and mild winters (RREV 2018). The growing season is long, and the spring is cool and wet. Rainfall in July and August is less than 0.6-inch per month. In the Pacific Northwest, precipitation is strongly influenced by topography, particularly the coastal mountain ranges.

Jackson County has experienced recent severe and frequent wildfires that are not likely to decrease in intensity or number.

1.2.2. WILDFIRES

At the end of the 2020 wildfire season more than 1.1 million acres had burned in Oregon (one of the most severe wildfire seasons in Oregon's history), affecting more than 4,300 homes. By mid-August in the 2020 wildfire season, Oregon wildfires had burned over a million more acres than they had by that time the prior year (Northwest Interagency Coordination Center [NWCC] 2020). According to the Oregon Department of Forestry (ODF), there were a total of 2,027 fires in the state during the 2020

fire season (including the devastating Almeda and Table Rock Road Fires), a significant increase over the prior 10-year average of 783 fires annually (ODF 2020). Fires in the Medford area are also common; between 1992 and 2019, 18 percent of all fires were caused by lightning and 82 percent were caused by human activity. The recent wildfire history for Jackson County suggests that the risk of destructive wildfire remains elevated. A total of 17 significant fires burned in Jackson County from 2000 to 2020 (see **Table 1**).

Table 1: Recent Wildfires in Jackson County (2000-2020)

Fire	Year	Burned Area (acres)
Antioch Road	2000	376
Squire Peak/Wall Creek/Lost Creek	2002	3,125
Timbered Rock	2002	27,111
Cove Road	2003	700
Doubleday	2008	1,244
Oak Knoll	2010	<100
Douglas Complex	2013	48,324
Beaver Complex (Salt Creek and Oregon Gulch Fires)	2014	35,302
Rogue River Drive	2014	500
790	2014	2,277
Bunker Hill Complex	2015	388
National Creek Complex (National and Crescent Fires)	2015	20,945
Miller Complex	2017	39,715
Greenway Fire	2018	116
Miles Fire	2018	54,134
Almeda Drive Fire	2020	3,000
Table Rock Road	2020	115

Source: City of Medford 2022, State of Oregon 2020

Josephine and Jackson County's 2019 Rogue Valley Integrated Community Wildfire Protection Plan (CWPP) was developed to identify wildfire hazards and propose ways to mitigate their risk. The CWPP identifies fuel hazards, assets at risk from wildfire, and fire history for the area. The Proposed Action follows recommendations and guidance set forth from the Rogue Valley CWPP (Josephine and Jackson Counties 2019), the Bear Creek Fire Management Plan (City of Medford 2021), the Prescott Park Strategic Fire Management Plan (2020), the City of Medford NHMP (2022), and Jackson

County's Multi-Jurisdictional Natural Hazard Mitigation Plan (MJNHMP) (University of Oregon and Jackson County Emergency Management 2024).

Fuels and vegetation treatment projects would align with Section 4, *Mitigation Strategy*, of the Jackson County MJNHMP, which aims to "protect life, property and the environment, [and] reduce risk and prevent loss from natural hazard events through coordination and cooperation among public and private partners" and Priority Action WF-1, which encourages "…*the coordination of fire mitigation action items through the Rogue Valley Integrated Community Wildfire Protection Plan*." Fuels and vegetation treatment projects align with Action Item 12.2 of the Medford NHMP, which promotes "…*wildfire mitigation through public education, fuels reductions, and the improvement of transportation corridors*…" and Action Item 12.3, which aims to "…*practice fuel reduction and weed abatement in public property like Bear Creek Natural Area, vacant lots, alleys, and side roads*…" and "…*assist local community members with fire hazard reduction on their property*." These measures would also align with the Section R327, *Wildfire Hazard* Mitigation, of the 2021 Oregon Residential Specialty Code (ORSC), which provides minimum standards for dwellings and their accessory structures. Additionally, fuels and vegetation treatment projects would align with objectives in the Rogue Valley Integrated CWPP, which identifies all of Medford as a priority fuels reduction treatment area.

2. Purpose and Need

FEMA's HMGP provides funds to eligible state and local governments, federally recognized tribal governments, and nonprofit organizations to help implement long-term hazard mitigation measures after a presidential disaster declaration. The purpose of the HMGP is to reduce the loss of life and property resulting from natural disasters and to enable risk mitigation measures to be implemented during the recovery from a declared disaster. Specifically, the purpose of the Proposed Action is to reduce hazards associated with wildfire ignition and spread within project areas and adjacent properties.

The need for these measures is driven by the increase in wildfire hazards and recorded fire history in the region that has resulted from the combination of environmental conditions, dry fire seasons, rugged terrain, and an uptick in urban development in or near wildlands, which increases the risk of fires in the WUI (Josephine County Emergency Management 2017; Josephine and Jackson Counties 2019).

According to the 2018 Jackson County MJNHMP, the probability of Jackson County experiencing a wildfire is "high," meaning a significant incident is likely to occur within the next 10 to 35 years. The 2019 Rogue Valley Integrated CWPP identifies a large portion of both Josephine and Jackson counties, including the Rogue Valley and the entirety of the City of Medford, as a community at risk as well as a WUI area adjacent to forested federal lands (Josephine and Jackson Counties 2019). Additionally, the City has a considerable number of low-income communities that are financially unable to implement substantial fire mitigation activities in the absence of funding assistance.

The influence and effects of fire have changed as attempts have been made to suppress it. Past fire exclusion policies, as well as other historic and existing land management practices, have resulted in the loss of historic burn mosaics, reductions in forest diversity, and the accumulation of more continuous, dense wildland fuels. Uninterrupted (continuous) fuels have led to larger, more intense wildfires, which are increasingly difficult and expensive to suppress, especially during periods of very dry and/or windy weather or episodes of widespread lightning activity. These conditions can quickly overwhelm local, state, and federal firefighting resources (Josephine and Jackson Counties 2019).

As previously described, both project areas are within highly vulnerable WUI zones. The Bear Creek Greenway represents one of the largest, most concentrated corridors of vegetation and riparian area within the broader, largely developed center of the City. It is surrounded by residential and commercial development on both sides, which results in a higher likelihood of fire ignition and spread due to both human intervention and the tunnel-like and downstream wind patterns that occur along Bear Creek. High densities of vegetation in the Bear Creek Greenway, including non-native invasive species, have also resulted in bulked up fuel loads and increased fuel continuity, creating a higher risk of crown fires and the potential for more rapid fire spread. For example, the large majority of the Bear Creek Greenway has a canopy base height of less than 0.4 meters (1.3 feet), which means that wildfire can easily propagate vertically from surface fuels into canopy fuels, further increasing the speed of fire spread. Portions of the Bear Creek Greenway also have medium-to-high canopy bulk densities, which represent canopy fuels packed close together that result in a higher likelihood of the fire moving through the forest canopy (City of Medford 2021).

As depicted in **Figure 7**, the portion of the Greenway between N Phoenix Road and the Quail Point Golf Course generally has the highest risk of wildfire. However, due to the characteristics identified above, the overall risk of rapid fire spread and resulting damage from a wildfire in/around the Bear Creek Greenway is high.

The majority of Prescott Park is mapped as either extreme or high in terms of fire risk rating, as seen in **Figure 8**. This is due to a variety of factors, including fuel load, vegetation type, topography, and historical and current management regimes. The southwestern portion of the park has the highest risk due to its high chance of fuel ignition and its proximity to infrastructure (ODF et al. 2020).

The effectiveness of fuels reduction and vegetation management can be seen when looking at the impacts of the 2020 Almeda and Table Rock Road fires, where it was evident that treated and restored areas, where riparian restoration and fuels reduction treatments were in place prior to the fires, significantly changed the progression of the fire by slowing its spread and reducing its severity (BCRI 2023). Medford's Municipal Code Section 7.430, *Nuisance Described, Offense Punishable*, was amended in 2020 and identifies dead or dried grass/weeds/brush/bushes/vegetation over a height of 10 inches as a fire hazard. This section also outlines guidelines relating to vegetation clearing and/or fire breaks to be used for mitigation requirements. Specifically, for structures in wildfire hazard zones, minimum 100-foot firebreaks (defensible space) must be provided around the perimeter of the structure.

3. Alternatives

NEPA requires federal agencies proposing a major action (as defined at 42 USC 4336) to consider a reasonable range of alternatives that meet the purpose of and need for action in their review. This section describes the No Action Alternative, the Proposed Action, and alternatives that were considered but dismissed from further analysis.

This EA uses the FEMA basic terminology (https://emilms.fema.gov/is_0559/groups/108.html) which defines the following: A *hazard* as something that is potentially dangerous or harmful and it is often the root cause of an unwanted outcome. An adverse *impact* is a negative outcome on a human or natural value. A *disaster* is an occurrence of a hazard that causes a negative outcome. For example, wildfire (the hazard) can cause damage or loss of property and public infrastructure (the impacts). The *risk* is the combination of the hazard and impacts; for example, the potential or probability of the wildfire spreading and damaging property and public infrastructure (FEMA 2024).

For an alternative to be considered effective at addressing the purpose and need for the Proposed Action, it must meet the following selection criteria:

- Reduce the loss of life and property resulting from natural disasters and enable wildfire risk mitigation actions to be implemented during the recovery from a declared disaster.
- Manage vegetative fuels and control invasive plants by thinning and pruning trees and vegetation to increase the canopy base height and decrease the canopy bulk density (how packed the fuels are in the canopy) to decrease the likelihood of wildfire within the City of Medford.
- Involve prescriptive and landscape-level hazardous fuels reduction along Bear Creek Greenway and within Prescott Park to reduce the intensity and extent of wildfires and to increase the level of fire protection within the City of Medford and the wider vicinity of the treatment areas.

3.1. No Action Alternative

Under the No Action Alternative, FEMA's HMGP would not fund the proposed fuels reduction activities along Bear Creek Greenway or within Prescott Park. Under this alternative, the City would continue to pursue federal and state assistance for hazardous fuels reduction, various private property owners may conduct independent fuels reduction, and wildfire mitigation would continue as the City requires for new construction or development. However, current wildfire hazards in the treatment areas may not be substantially reduced at the pace and scale needed under the No Action Alternative, so the risk to people, residential properties, infrastructure, and forest resources in highly vulnerable WUI areas would remain and continue to compound based on other environmental factors (e.g., increasing temperatures, continued drought, accumulation of fuels).

3.2. Proposed Action

The Proposed Action consists of two separate fuels reduction treatment areas, totaling 1,350 acres, along the Bear Creek Greenway and within Prescott Park in the City of Medford (see **Figure 1**). Fuels reduction treatments would occur on up to 700 acres of the Bear Creek Greenway (approximately 1,219-acre) that runs adjacent to the 7-mile riparian corridor within the City (see **Figures 2** and **3**). Fuels reduction methods would vary at public and private property along the riparian corridor and upland areas within the Bear Creek Greenway, as described further in **Section 3.2.1** (see **Figure 4**). Fuels reduction treatments would also occur on up to 650 acres within Prescott Park (1,740 acres) on the east side of the City (see **Figure 5**). The Proposed Action would reduce wildfire risk by removing dead, diseased, and dying trees and highly flammable, non-native vegetation considered hazardous fuels (see **Figure 6**), and would control invasive species through brush removal, mowing, and chemical (i.e., herbicide) treatments. In-water work would not occur at either project site.

The Bear Creek Greenway is a continuous, 20-mile paved multi-use trail that runs parallel to Bear Creek, which runs through the City for approximately 7 miles and links the regional cities of Ashland, Talent, Phoenix, and Central Point to the Dean Creek Frontage Road (near Seven Oaks Interchange on I-5) north of the City of Central Point. The Greenway itself was severely impacted during the 2020 fire season by the Almeda and Table Rock Road fires. Both fires caused changes to the Bear Creek watershed that resulted in the loss of riparian vegetation, increases in soil erosion and sedimentation, and adverse impacts to water quality (BCRI 2023).

The Bear Creek Greenway portion of the Proposed Action would encompass a combination of public City-owned and privately-owned residential and commercial parcels. Defensible space treatment and hazardous fuels reduction would voluntarily occur on up to 589 private properties, depending on access, permission, and response to City outreach efforts. Vegetation within the Bear Creek Greenway includes several invasive species (e.g., Himalayan blackberry [*Rubus armeniacus*] and English ivy [*Hedera helix*]), as well as several native hardwood and conifer species (e.g., black cottonwood [*Populus trichocarpa*], bigleaf maple [*Acer macrophyllum*], Douglas fir [*Pseudotsuga menziesii*], incense cedar [*Calocedrus decurrens*], Oregon ash [*Fraxinus latifolia*], Oregon white oak [*Quercus garryana*], ponderosa pine [*Pinus ponderosa*], and white alder [*Alnus rhombifolia*]). Vegetation proposed to be removed within the City-owned and privately-owned parcels includes these native conifer and hardwood species. Non-native and invasive species proposed for removal include Himalayan blackberry, English ivy, puncture vine (*Tribulus terrestris*) (also called goat head), tamarisk (*Tamarix*), purple loosestrife (*Lythrum salicaria L*), and reed canary grass (*Phalaris arundinacea*).

Prescott Park is located on the east side of Medford, approximately 7 miles from the Bear Creek Greenway fuels reduction treatment area, along Hillcrest Road and off Roxy Ann Road near the Eagle Trace Subdivision. Prescott Park sits at an elevation of 3,571 feet above mean sea level and is more than 2,000 feet above the valley floor near the Bear Creek Greenway. The Prescott Park fuels reduction treatments would occur entirely on City-owned park property. Vegetation within the Prescott Park project area is characterized by a mixture of grasslands, shrub canopy, oak savannah, oak chaparral, oak woodland, pine woodland, and mixed conifer/hardwood forest. Vegetation

proposed to be removed consists of mixed conifer and hardwood trees, such as ponderosa pine, Douglas fir, California black oak (*Quercus kelloggii*), Oregon white oak, and Pacific madrone (*Arbutus menziesii*). Understory shrubs, such as buck brush (*Ceanothus cuneatus*) and whiteleaf manzanita (*Arctostaphylos manzanita*), would be thinned and removed, as would herbaceous grasses in the understory.

The fuels reduction treatments at both the Bear Creek Greenway and Prescott Park would include thinning understory vegetation, removing ladder fuels, reducing flammable vegetation fuels, and replacing flammable vegetation with fire-resistant vegetation to protect life, property, and at-risk buildings and structures. These activities would provide a break in the forest canopy, which would force a fire to the ground where wildland firefighters can more safely and easily manage suppression.

While untreated forest would remain within and adjacent to each of the treatment areas, the hazardous fuels reduction within the treatment areas would contribute to containment by reducing the intensity and extent of wildfires. This would likely reduce the risks to people living in the wider vicinity of the treatment areas around the City. Together these treatments would change the composition (i.e., species mix) and density (i.e., trees per acre), and increase the structural diversity, of the conifer and woodland forests along Bear Creek and at Prescott Park. The proposed fuels reduction treatment methods would favor healthier and larger trees as well as more unique and rare species. Each of these factors would contribute to reduced wildfire danger in the City and surrounding Rogue Valley.

The following sections detail the proposed project components.

Figure 2: Bear Creek Greenway Location and Vicinity Map (North Section)

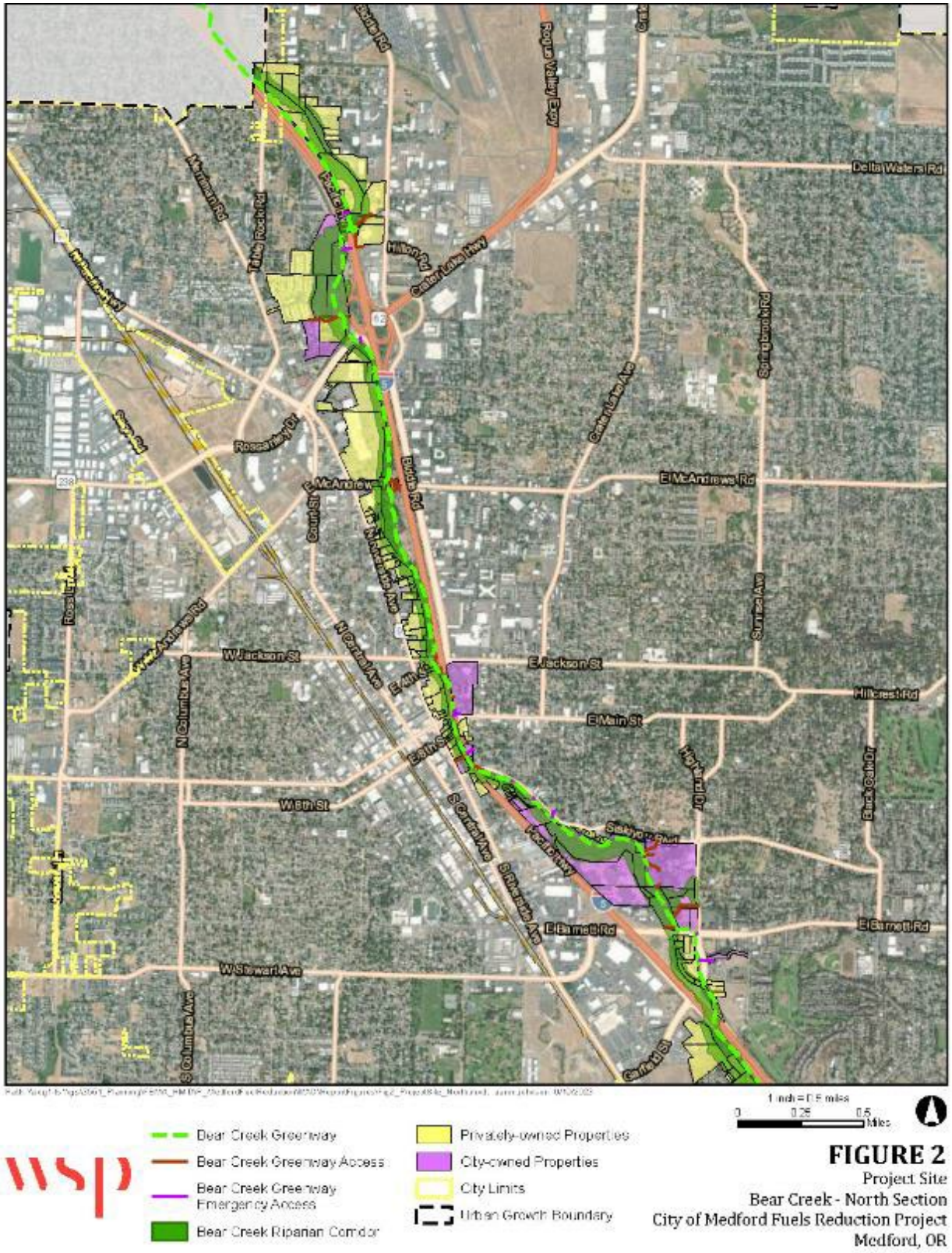


FIGURE 2
Project Site
Bear Creek - North Section
City of Medford Fuels Reduction Project
Medford, OR

Figure 3: Bear Creek Greenway Location and Vicinity Map (South Section)

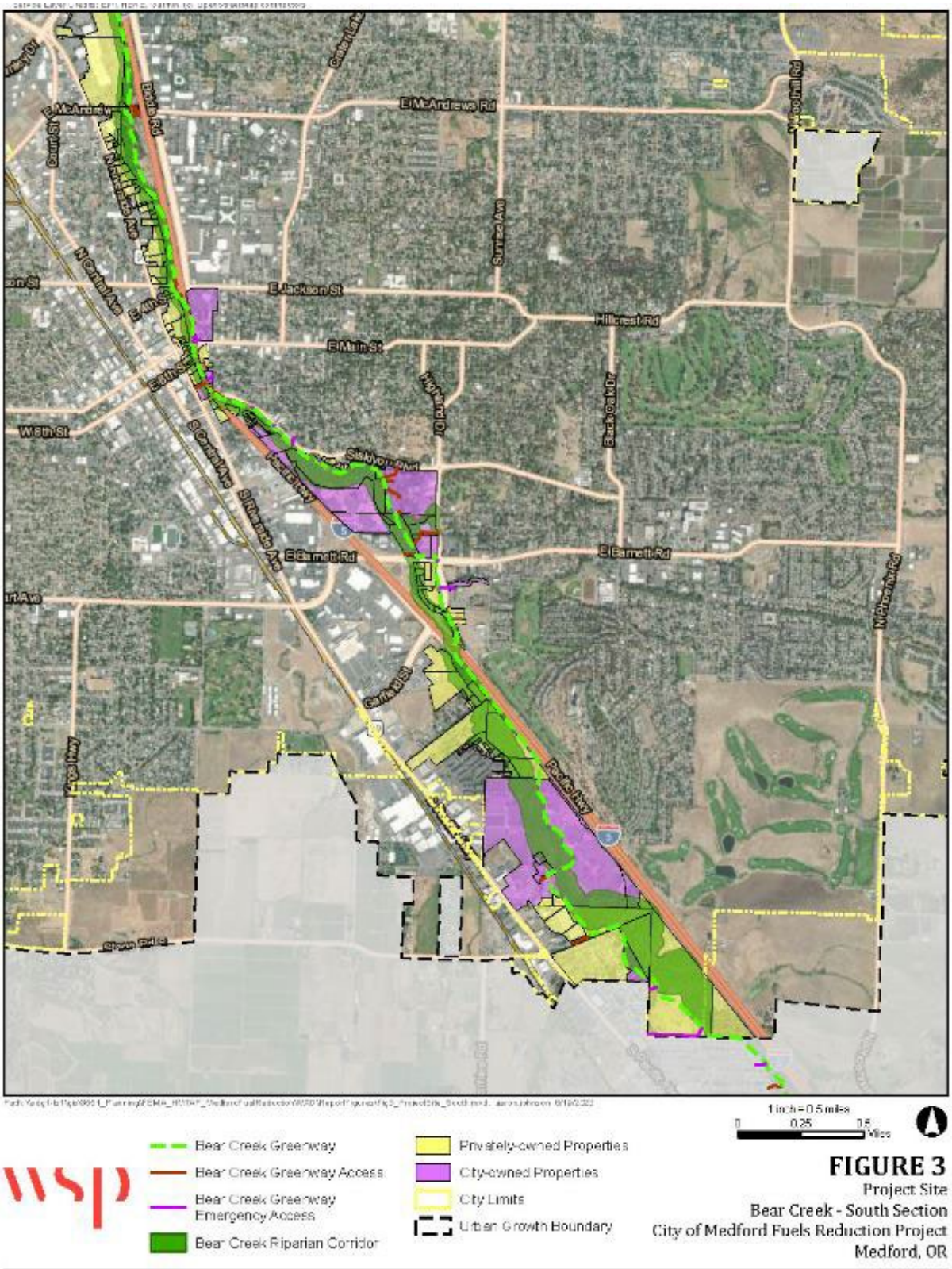


Figure 4: Bear Creek Riparian Area Detail Map

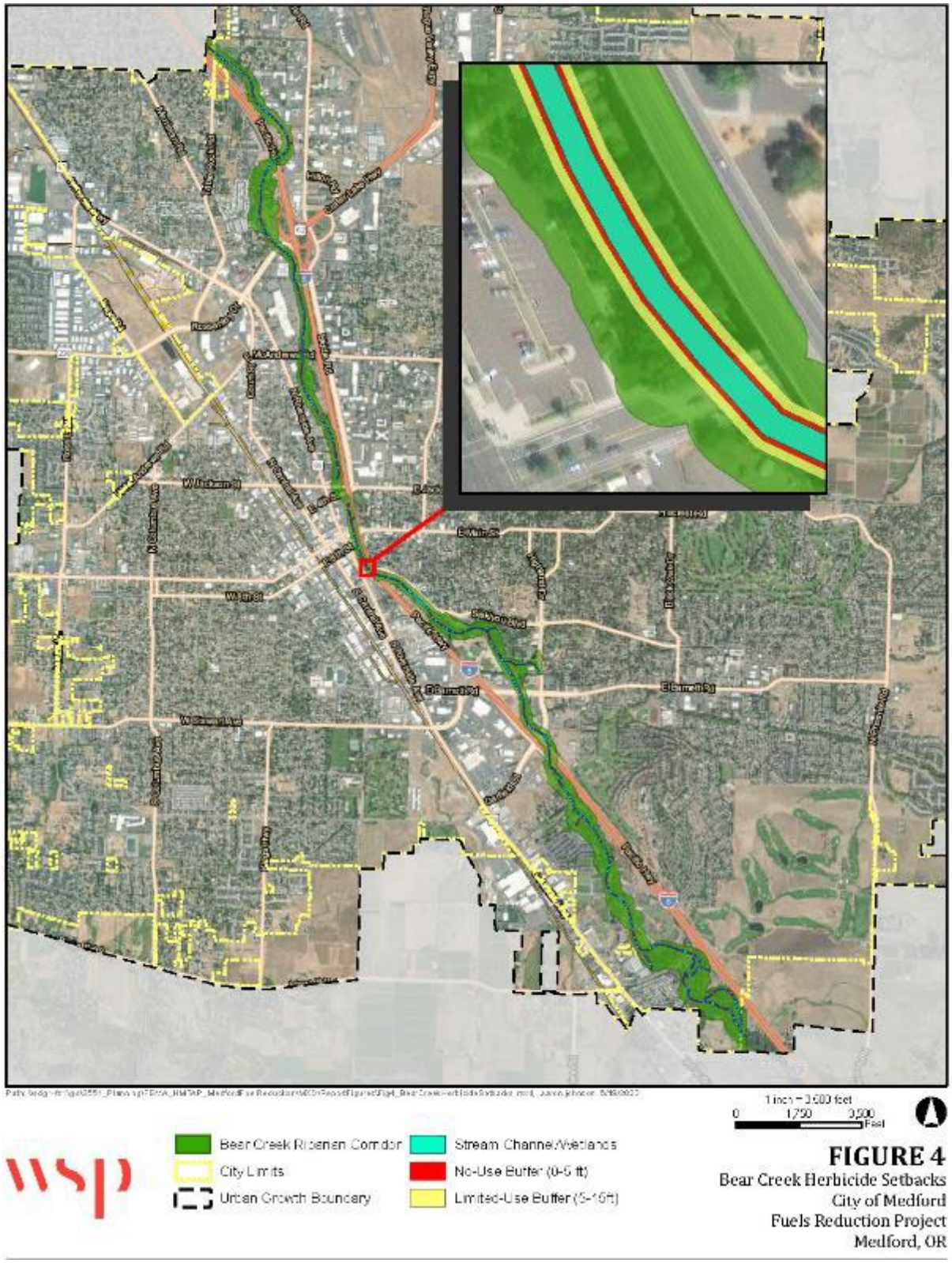


Figure 5: Prescott Park Location and Vicinity Map

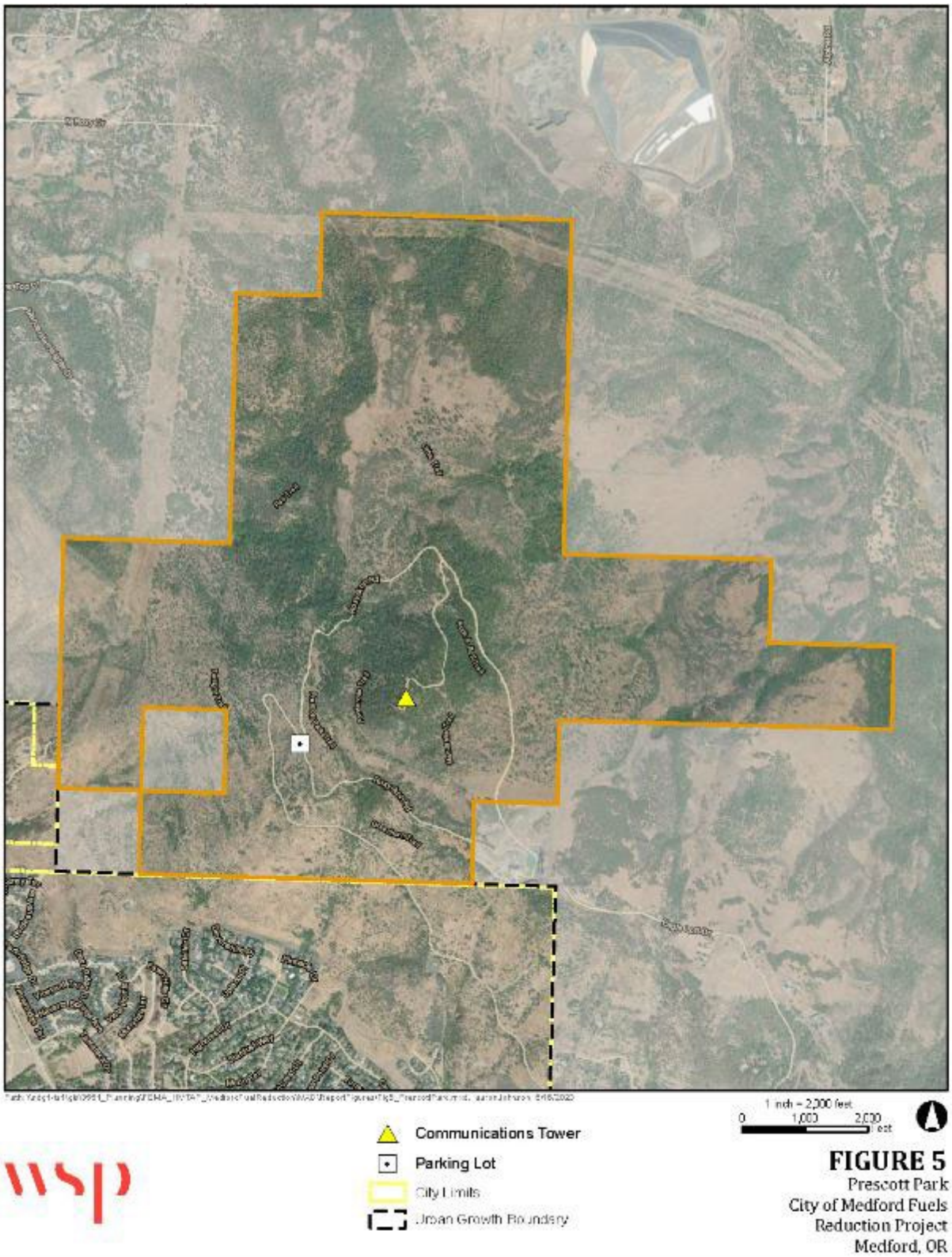


Figure 6: Representative Vegetation along Bear Creek

Representative photos of the Bear Creek Greenway that show potential proposed areas for thinning understory vegetation, removing ladder fuels, and reducing invasive fuels like Himalayan blackberry.

FIGURE 6
Bear Creek Greenway
City of Medford Fuels Reduction Project
Medford, OR

3.2.1. PROPOSED FUELS REDUCTION TREATMENTS

Fuels reduction treatments are activities taken to reduce the risk of ignition by removing vegetative fuels from an area. These fuel treatment methods include thinning, pruning, and chipping, as well as chemical applications. The Proposed Action activities that would be implemented along the Bear Creek Greenway include three components: fuels reduction around structures and select properties along the riparian corridor of Bear Creek, fuels reduction within the forest and woodland habitats along the riparian corridor, and targeted removal and control of invasive species. The specific management prescriptions at Bear Creek include manual (thinning, pruning, brush piling and chipping), mechanical (mowing and chipping), and chemical (herbicide application) fuel treatment methods.

The proposed treatment activities that would be implemented at Prescott Park also include three components: fuels reduction around critical facilities and structures, fuels reduction within the forest and woodland habitat, and targeted removal and control of invasive species. The management prescriptions at Prescott Park only include manual and mechanical methods. These proposed treatment activities, equipment types, and timing for each treatment type are summarized in Table 2 below.

Table 2: Proposed Fuels Reduction Treatments

Treatment Type	Treatment Activity	Equipment Types	Timing
Manual (at both sites)	Strategic vegetation trimming, thinning, pruning, and brush piling by hand	Chainsaws, Hand Saws, Brush Cutters	October 1 – April 14
Mechanical (at both sites)	Skidding, mastication, and routine mowing using power-operated equipment.	Tractors/Skidders, Mowers, Masticators, Biomass Chipper	October 1 – April 14
Chemical (only at Bear Creek Greenway)	Direct herbicide application treatments that target and limit the growth of invasive plant species	Aquatic glyphosate for hand selective or spot spraying use 5 feet from waterline, *or* Aquatic Imazapyr for spot spray treatment use 75 feet from waterline and for hand selective use 5 feet from waterline	October 1 – April 14

Treatment Types

Manual

Manual treatments involve the use of hand tools such as chainsaws, handsaws, axes, and other tools to remove and separate vegetative and hazardous fuels. Hand crews would use manual methods to treat large areas within both project sites and would maintain a specific structure and composition of the conifer and woodland forest.

Mechanical

Mechanical treatments involve the use of larger power tools and vehicles to break up the vegetative fuels. These would likely include chainsaws, chippers, 1 to 2 rubber tracked machines, an additional rubber tracked skid steer, a brush hog for mowing, and a dump trailer hauled by an all-terrain vehicle (ATV). Use of mechanical equipment is often limited by terrain and accessibility constraints and would therefore be used in combination with manual methods to treat large areas on both project sites. Mechanical fuels reduction activities would also mitigate fire risk and improve tree stand and tree-level vigor.

Chemical

The use of chemical treatments like herbicide applications prevents and manages the future growth of invasive plant species. Herbicide applications would be used with specific restrictions to safeguard human life and environmental resources and limit impacts to nearby waterways and the larger watershed.

Herbicide applications would occur per label instructions as authorized by regulatory entities including the USEPA, the Oregon Department of Fish and Wildlife (ODFW), and the Oregon Department of Agriculture (ODA) Pesticide and Fertilizer Program. Additionally, the use of herbicides would be consistent with the guidelines outlined in the FEMA Endangered Species Programmatic (FESP)(NMFS 2018), as well as The Freshwater Trust's (TFT) Herbicide Use and Restriction Guidelines (2017).[1,2] Because the City has applied for federal HMGP funds to implement long-term hazard mitigation measures for fuels reduction activities, herbicide use on non-federal lands (i.e., City property, private property) would still need to adhere to the FESP guidelines.

[1] The City can follow other herbicide use guidelines established by local non-profit organizations working in Rogue Valley, such as The Freshwater Trust, as long as these guidelines (i.e., TFT Herbicide Use and Restriction Guidelines [2017]) also comply with the FESP.

[2] Endangered Species Act Section 7 Programmatic Conference and Biological Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for Standard Local Operating Procedures for Endangered Species to fund actions under the Stafford Act Authorized or Carried Out by the Federal Emergency Management Agency in Oregon, Washington, and Idaho (FEMA Endangered Species Programmatic [FESP]). January 9, 2018 (NMFS and FEMA 2018).

The use of herbicides would be site-specific and would only be used by certified, licensed applicators that follow USEPA guidelines, the FESP, and the ODA Pesticide and Fertilizer Program buffers and state mandates. Applicators would remain up to date on current laws and regulations and would be provided field training as needed. The City's use of field maps, Geographic Positioning Systems (GPS), Geographic Information Systems (GIS), and other spatial field tools would ensure avoidance of areas that are flagged as no-application buffer zones or setbacks. Buffers or setbacks that are usually flagged as avoidance areas reduce herbicide exposure, which may occur because of drift or runoff. Herbicide carriers, which refer to the solvents that contain the chemical herbicide solution, would be limited to water, or specifically labeled vegetable oil. A non-hazardous indicator dye would also be used when applying herbicides within 100 feet of waterways to further limit use within sensitive areas. Additionally, herbicide applications would be limited to direct treatment uses that target and control flammable non-native plant species and noxious weeds during specific seasons of the year when the target species are most vulnerable to treatment.

Herbicide use would be restricted to specific work windows from October 1 to April 14 at the treatment area within the Bear Creek Greenway. Application rates and methods would be limited and specified as either hand selective spraying or spot spraying. Broad spraying of herbicides would be prohibited. Notice of herbicide use would be announced through public noticing, signage, and other outreach efforts at least 24 hours in advance of herbicide application; these notifications would also remain posted for at least 24 hours after applications. Spill cleanup kits would be present whenever and wherever herbicides are used, transported, or stored.

Compliance with the FESP and other guidelines (e.g., TFT) would involve specific invasive and non-native plant controls proposed near waterways, wetlands, and within the riparian zone to limit the number of applicators using chemical treatments, ensure herbicides are not used in sensitive areas, and reduce the potential for accidental surface water contamination. These controls include weather-related use restrictions and setbacks where necessary in accordance with the FESP and TFT Guidelines. The current plan is to use these TFT buffers, which are more restrictive than what is allowed under the FESP; however, the City may elect to use the allowed buffers as established by the FESP. See Table 3 for an overview of herbicide-related guidelines and restrictions for no-application buffer widths that meet the TFT guidelines and that would apply to herbicide applications along Bear Creek where there are streams, roadside ditches, or wetlands with flowing or standing water present.

Table 3: Proposed Herbicide Buffer Distances by Formula, Stream Type, and Application Method

Herbicide	Spot Spraying	Hand Selective
Aquatic Glyphosate	5 feet from waterline[1]	5 feet from waterline
Aquatic Imazapyr	75 feet from waterline	5 feet from waterline

[1] Waterline is defined as the Ordinary High-Water Mark (OHWM) (NMFS 2018).

The proposed no-application buffer widths are adapted from the more restrictive TFT 2017 guidelines which specify distance from the waterline for 3 of the potential application methods; the

spot spraying of Aquatic Imazapyr would need to be at least 15 feet from the bankfull point (NMFS 2018, TFT 2017). The adaptation of 75 feet from the waterline for spot spraying of Aquatic Imazapyr should greatly exceed 15 feet from bankfull of Bear Creek. , These no-application buffer zones would be flagged or marked prior to herbicide application to ensure that all buffers are in place and functional during treatment. Applications would not exceed maximum application rates for the treatment area according to the FESP. The applicator would also prepare and implement an herbicide transportation and safety plan to reduce the likelihood of a spill or misapplication, take remedial actions in the event of spills, and report the spill or misapplication events to the City and appropriate regulatory agency.

3.2.2. VEGETATION TREATMENT ACTIVITIES

Bear Creek Greenway Activities

Treatment types that would be implemented at Bear Creek Greenway include fuels reduction around structures, select public properties, and up to 589 private properties along the riparian corridor of Bear Creek; fuels reduction within the forest and woodland habitats along the riparian corridor; and targeted removal and control of invasive species (e.g., Himalayan blackberry). Because wildfire hazard risk is based hazards to potential structures and burn probability, proposed fuel treatments focus on vegetation removal in treatment areas closest to structures. Next, fuel reduction within the forest and woodland habitats is proposed to increase the canopy base height and the canopy bulk density. Canopy base height, or the proximity of the canopy fuels to the surface fuels (average height from the ground to the forests lowest tree branches) can be increased to limit ladder fuels, like shrubs and understory trees from igniting the canopy. Canopy bulk density, or how packed the fuels are in the canopy, can be decreased to reduce the likelihood that a fire can move through the forest canopy. Fuels reduction around structures and property within the riparian corridor entails defensible space maintenance; removal of dying, dead, or hazardous trees; manual thinning and pruning; and mechanical mowing and chipping. All vegetation removal and management within 40 feet of Bear Creek would ensure compliance with ODFW guidelines and seek the Department's approval. Wildfire risk along Bear Creek Greenway is illustrated in **Figure 7.**

Figure 7: Bear Creek Greenway Wildfire Risk

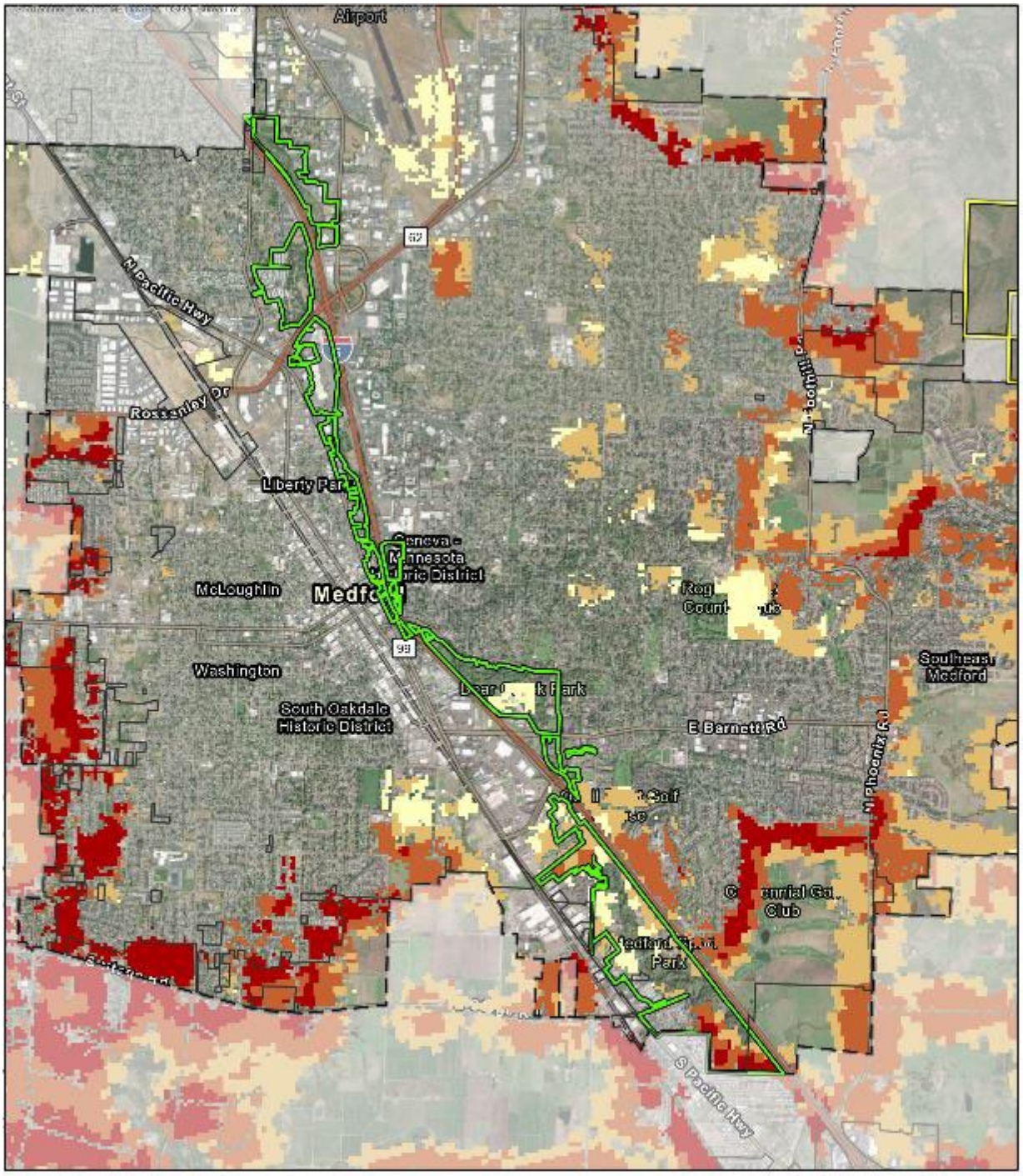


FIGURE 7
Bear Creek Greenway Wildfire Risk
City of Medford Fuels Reduction Project
Medford, OR

Defensible Space

The City would establish 30 feet of defensible space around all participating property structures within the Bear Creek Greenway. This would involve cutting grass to 10 inches or less while avoiding exposing soil, limbing tree branches up to 10 feet from the ground, treating shrubs and climbing vines by clearing dead or dying materials, and clearing trees from structures. The City would establish 10-foot minimum clearances around roads and the Bear Creek Greenway. The City would remove all portions of trees within 10 feet of chimney or stovepipe outlets; they would also treat all trees adjacent to or overhanging a structure free of dead or dying wood and cut the trees back and remove dead or dying wood.

Vegetation Thinning and Tree Removal

Tree removal is proposed if the trees are less than 10 inches diameter at breast height (dbh) and at least 40 feet away from Bear Creek. The City would focus tree removal on non-native trees and would replant with native tree species. Tree removal would also only occur after a tree survey that verifies the species and size of trees proposed for removal and confirmation by the ODFW. The City would then follow-up with a post-removal survey to confirm all flagged trees were removed.

Hand crews would thin, prune, and chip vegetation to improve the landscape within the riparian corridor. Additionally, they would retain four snags that measure greater than 80 centimeters (cm) (31.5 inches) (best for nesting) for every 5 acres and retain 30 snags that measure between 25 and 70 cm (9.8 to 27.5 inches) dbh (for general foraging) for every 5 acres. Retained snags would support wildlife habitat and nesting provided a certified arborist or forester determines the snag does not present a hazard to the public or property owner. Snags would be left if the City can retain at least 20 feet of the tree without an increased danger due to instability or falling. The City also proposes to retain “safe snags” (i.e., top removed, trunk retained standing) in locations where a limb fall would not pose a hazard to life or property, and where access is sufficient for a boom truck to reach the tree. Where access is not sufficient, the City would request to fell, buck up limbs, and retain main stem on the floodplain for habitat in coordination with the ODFW. To reduce risk to pedestrians and infrastructure, up to 10 hazard trees would be removed along Bear Creek.

Further, the City would remove all tree limbs and branches within 10 feet of the ground or to at a minimum one-third the total height of the tree. Dead and dying vegetation and any combustible material would also be removed from both City-owned and participating private property parcels included in the treatment area. This includes removal of ladder fuels to the fullest extent possible (i.e., up to 10 feet or one-third the height of the existing trees) to reduce potential crowning. Vegetation would then be chipped and appropriately disposed to prevent further spread of invasive species. These reductions in stand density and accompanying treatments would be implemented to protect critical infrastructure, mitigate fire risk, protect valuable mature trees, and improve stand and tree-level vigor.

Invasive Species Removal and Herbicide Applications

Along Bear Creek Greenway, herbicide applications would be limited to direct treatments targeting non-native plant species, such as Himalayan blackberry and English ivy. Specific methods and restrictions for herbicide use are detailed above.

Prescott Park Activities

Treatment types at Prescott Park would be focused on fuels reduction around critical facilities and structures (e.g., communication tower), fuels reduction within the forest and woodland habitat, and targeted removal and control of invasive species. Wildfire risk at Prescott Park is illustrated in **Figure 8.**

Figure 8: Prescott Park Wildfire Risk

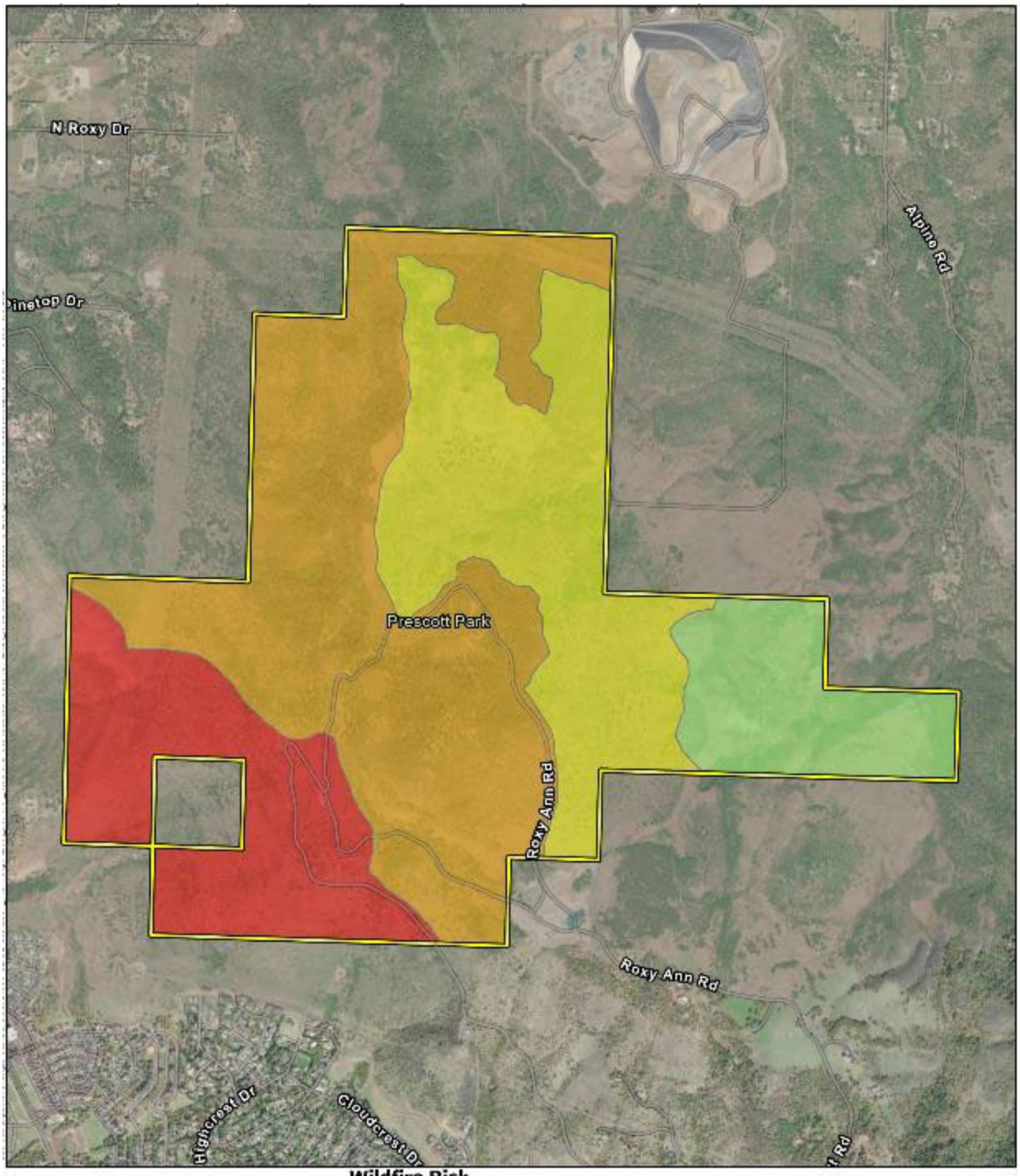


FIGURE 8
Prescott Park Wildfire Risk
City of Medford Fuels Reduction Project
Medford, OR

Vegetation Thinning and Tree Removal

At Prescott Park, the City would hire a private contractor for the work activities, including all marking, flagging, and assessments of trees. Hand crews would retain large mature and native tree species for wildlife habitat. They would specifically retain at least four or more nest snags that are greater than 80 cm (30 inches) dbh per every 5 acres. Crews would also retain at least 30 foraging snags between 25 to 70 cm (9.8 to 27.5 inches) dbh per every 5 acres for birds and wildlife habitat. Additionally, foraging snags for wildfire habitat would be cut or left if they measure at least 20 feet in height based on the discretion of a certified arborist or forester that can determine if the snag does not present an increased hazard (e.g., danger of falling) to the public.

Similar to along the Bear Creek Greenway, the City plans to retain "safe snags" or felling, bucking up limbs, and retaining the main stem—depending on accessibility—at Prescott Park. Stand density reduction and accompanied treatments would be implemented to protect critical infrastructure and valuable mature trees. Ladder fuels would also be removed to reduce potential crowning and to provide firefighters more time to safely engage in fire suppression activities. In summary, manual fuels reduction activities would mitigate fire risk while also improving tree stand and tree-level vigor.

Invasive Species Removal

Invasive species would be removed and managed through manual brush removal, piling, and pile burning. No herbicide applications are proposed at Prescott Park.

3.2.3. ACCESS, STAGING AREAS, AND DISPOSAL

Access to both project treatment areas would be provided via existing roads and pathways.

Within Bear Creek Greenway, crews of 6 to 10 people would utilize the paved path that runs along the entire Greenway to transport crew members, vehicles, and biomass chippers. These vehicles would have rubber tires and would use current access pathways and trails along the Greenway. Where vegetation is unable to be chipped, it would be hauled offsite to Biomass One, a certified disposal facility in White City that diverts wood waste from landfills by converting it into carbon-neutral electricity and environmental engineering materials. Vegetation that is not accepted at Biomass One, such as Himalayan blackberry and English ivy, would be disposed of at Rogue Disposal and Recycling, Inc. facilities. Existing access pathways and trails would also be used to facilitate work and future access for invasive species control and emergency response. These main access roads, trails, and pathways (e.g., the Bear Creek Greenway) are depicted in **Figures 2, 3, 4 and 5**. They consist of natural, surface-graded tracks approximately 8 feet wide that retain natural floodplain roughness and forms and are seeded with cover species to avoid the spread of weeds into riparian areas on exposed soils. For areas with limited accessibility, any disturbance to understory vegetation and soils would be restored with the application of loose straw mulch (approximately 50 percent coverage) and native grass seeding. The City would also implement preventative erosion control measures with vegetation removal activities on any slope that exceeds 20 percent or greater grade. Select erosion control measures would also comply with local guidance and specific agency input.

Within Prescott Park, service roads would be utilized to transport hand crews. Vehicular access to Prescott Park would be provided via Hillcrest Road and Roxy Ann Road and the approximate 18- to 20-foot-wide dirt and gravel loop road that travels through the park. The City would use existing service roads, such as a single-lane spur road to the summit located on the east slope of Roxy Ann Peak, to transport hand crews. Hand crews would then walk to specific work sites, as needed. None of the illegal off-road vehicle trails that have been established around Prescott Park would be used for fuels reduction activities.

Neither work location would require a staging area, as crews and their equipment would depart the site daily.

3.2.4. LONG-TERM MAINTENANCE PLAN

The City (Subapplicant), via a Statement of Assurances for Maintenance of Hazard Mitigation Projects (signed January 28, 2022) would assure ongoing maintenance for four years following completion of the proposed fuel treatments. The City plans to conduct long-term maintenance along the Bear Creek Greenway and within Prescott Park through the continuation of current maintenance activities. Within the Bear Creek Greenway and where feasible, the City currently conducts riparian cleanup and management of invasive species, which has historically included clearing of vegetation, invasive or not, within a 50-foot riparian setback and replacing the removed vegetation with more desirable native species according to a native plant list approved by the local non-profit organization TFT and RVCOG. Planting is done in late fall or winter at roughly 800 stems per acre. The City's goal is to fill open spaces and canopy gaps to reduce reinvasion by sunlight-dependent invasive species or weeds and to accelerate development of shade canopy while restricting ladder fuels. Replanting would focus on the riparian buffer area, with less emphasis on spots further away from Bear Creek. These practices are consistent with the Bear Creek Fire Management Plan's maintenance recommendations, which emphasize the need for consistent removal of invasive plans and native plant establishment. The City's annual budget would support long-term maintenance activities.

The 7-mile stretch of Bear Creek Greenway within the City also has access to fire hydrants and water sources to support water trailers and buckets for irrigation. Organic mulch, especially around newly planted vegetation, would be used to help contain moisture and prevent weed encroachment. The City also works with several local organizations, such as the RVCOG and TFT, that are part of a local restoration group (i.e., BCRI) and provide annual assistance with restoration plans focused near wetlands and waterways.

Within Prescott Park, the City has historically conducted vegetation management and defensible space creation (near critical infrastructure). This practice is consistent with the Prescott Park Fire Management Plan's recommendation to conduct maintenance using manual methods. The City's annual budget would support the continued maintenance of high risk wildfire risk areas within Prescott Park.

Medford's Parks, Recreation, and Facilities Department would oversee ongoing maintenance activities on public property. Private property owners who participate in fuels reduction activities

along the Bear Creek Greenway would be responsible for maintaining the post-abatement condition of their properties for at least four years. Property owners would be required to sign a maintenance agreement prior to relevant vegetation management activities, and compliance would be monitored and enforced by the City's Code Enforcement Division.

3.2.5. SCHEDULE

The proposed fuels reduction treatment activities would span three years and would involve four different work activities, including: 1) vegetation management and hazard tree identification; 2) manual and mechanical fuels reduction of non-native vegetation; 3) herbicide applications (only on the Bear Creek Greenway); and 4) ongoing public participation and outreach efforts. While some of these activities would be conducted simultaneously, other activities would occur dependent on the time of year given that these activities cannot be completed during the fire season (mid-May through late September), and would be timed to avoid wildlife or insect migration or foraging periods, or nesting bird seasons (generally between March 15 and August 31; see **Section 4.4, Biological Resources**, for specific nesting periods and flight seasons). Therefore, treatments are generally expected to occur between October 1 and April 14. Initial outreach efforts would focus on proposed fuels reduction treatments at public and privately owned parcels along Bear Creek Greenway. Outreach would be conducted by a hired project manager and would include provision of information on how to participate, as well as the opportunity for interested parties to ask questions about the maintenance agreements that would be required.

During the first year, the City would conduct outreach with property owners near the Bear Creek Greenway located south of Barnett Road in the southern portion of Medford, followed by staging and site preparation work on City-owned parcels along the Bear Creek Greenway in southern Medford. The City would also initiate fuels treatment at Prescott Park, which is expected to take 10 to12 months to complete.

During the second year, the City would treat vegetative fuels on City-owned and participating privately owned property further along Bear Creek, primarily between Barnett Road and Crater Lake Highway (State Route 62). The work activities during the second year are anticipated to take approximately six months (October 1 to April 14) to complete.

During the third year, the City would continue to conduct fuels reduction activities on participating private and public property between Barnett Road and Crater Lake Highway (see **Figures 2, 3, and 4**). The work activities during the second year are anticipated to take approximately six months (October 1 to April 14) to complete.

3.2.6. MITIGATION MEASURES

Project activities would incorporate various mitigation measures and best management practices (BMPs), including herbicide restrictions and guidelines, buffers and setbacks from water bodies, and specific work windows, all designed to avoid and minimize impacts to different resources. For a full list of mitigation measures, see **Section 6.2, *Project Conditions and Mitigation Measures***.

3.3. Alternatives Considered and Dismissed

Other alternatives to reduce wildfire hazards were considered but not retained for further consideration. Aside from the Proposed Action and No Action Alternative, these alternatives included the continuation of annual fuel reduction treatments within Prescott Park and Bear Creek Greenway via general City funds, which amount to roughly $50,000 per year. Fuels reduction treatments under this dismissed alternative would not address private property owned within the Bear Creek Greenway, which accounts for more than 50 percent of all property in the Greenway. If the City spends roughly $50,00 per year on fuels treatment, this dismissed alternative would take 25 to 30 years to conduct mitigation activities on the entirety of City-owned property at Prescott Park and the Bear Creek Greenway. Also, current fuels reduction activities only address approximately 2 to 3 acres a year along Bear Creek Greenway, and 5 acres within Prescott Park.

Under this alternative considered and dismissed, existing conditions at both Prescott Park and the Bear Creek Greenway would continue to deteriorate, and people and nearby structures would continue to be at risk from catastrophic fire events. The City would continue to implement defensible space requirements for new construction (and additions) and ban new plantings of known flammable plant species, and the Firewise Community Program, which assists community members and local fire professionals in reducing wildfire risks in their local area, would continue to operate. Regardless of these activities, though, the wildfire risk near residential neighborhoods would remain high, and the potential for embers to spread and cause spot fires within city limits would also remain high. In short, risk for wildfire and its environmental, economic, and social consequences would not be sufficiently reduced.

Another alternative considered and dismissed involved the treatment of the entire 1,219 acres of the Bear Creek Greenway and 1,740 acres of Prescott Park. While this alternative would successfully reduce the risk of ignition and spread of wildfire in the project areas, it was dismissed for two reasons. First, this alternative would not maximize economic feasibility, since not all portions of the project areas are at high risk for wildfire (see **Figures 7 and 8**). This lower risk in portions of the project areas is due to several reasons, including maintained parkland status, a lower density of flammable vegetation (e.g., canopy bulk density), or a high density of developed infrastructure. Treating the entirety of the Bear Creek Greenway and Prescott Park would also result in more significant adverse environmental impacts. For example, the Proposed Action involves the selective removal of vegetation to ensure the continuation of ecological and aesthetic functions; certain segments of the Greenway and of Prescott Park would be undisturbed in order to maintain the integrity of riparian and other habitats. Therefore, in order to maximize economic feasibility and minimize environmental impacts, this alternative has been dismissed from further consideration.

4. Affected Environment, Potential Impacts, and Mitigation

This section describes the existing setting for each of the resource categories and evaluates the potential impacts for each of the alternatives identified in **Section 3**, *Alternatives*. Potential impacts

are evaluated based on the criteria listed in **Table 4**. The study area generally includes the treatment areas and access areas necessary to implement the Proposed Action (refer to **Section 3.2**, *Proposed Action*). If the study area for a particular resource category is different from the proposed treatment area, the differences are described in the appropriate subsection. This section begins with a discussion of methodology, impact criteria. Environmental trends were discussed in **Section 1.2**.

4.1. Methodology

The NEPA compliance process requires agencies to consider direct and indirect effects or impacts on the environment. The NEPA Regulations defined effects as "*...ecological... aesthetic, historic, cultural, economic, social, or health*" (40 CFR §1508.1[g](4], now federal agency guidance). For each of these resource categories, the impact analysis follows the same general approach in terms of impact findings. For most resources, the methodology includes gathering data on the current condition of the resource in the action area from existing data sources, including trends and limited field investigations; evaluating how each alternative would or would not change the existing condition; and determining whether that change would comply with the regulations and guidance.

4.1.1. IMPACT CRITERIA

When possible, quantitative information is provided to establish impacts. Qualitatively, these impacts will be measured as outlined below in **Table 4.**

Table 4: Evaluation Criteria for Potential Impacts

Impact Scale	Criteria
Negligible (No Impacts or No Change is often used in the discussion to indicate Negligible)	The resource area would not be affected, or changes or benefits would be either nondetectable or, if detected, would have impacts that would be slight and local.
Minor	Changes to the resource would be measurable, although the changes would be small and localized. Adverse impacts would be within or below applicable regulatory standards.
Moderate	Changes to the resource would be measurable and have short- or long-term adverse or beneficial localized or regional-scale impacts. Adverse impacts would be within or below applicable regulatory standards. Mitigation measures may reduce any potential adverse impacts.

Impact Scale	Criteria
Major	Changes would be readily measurable and would have substantial consequences on a local or regional level. Adverse impacts that exceed regulatory standards could be significant if mitigation measures do not offset the adverse impacts.

4.1.2. SCOPING

The NEPA Regulations required agencies to use "*...the scoping process, not only to identify significant environmental issues deserving of study, but also to deemphasize insignificant issues, narrowing the scope of the environmental impact statement process accordingly*" (40 CFR §1500.4[i], now federal agency guidance). FEMA has determined that the following resource areas are not affected by the Proposed Action and are not evaluated further in this EA:

Geology: The proposed establishment of defensible space and hazardous fuels reduction activities are surface-level activities that would not affect the underlying geology (e.g., bedrock) within any of the proposed treatment areas. Issues related to surface soils and topography are discussed in **Section 4.2.1., *Topography and Soils***.

Wild and Scenic Rivers: None are located in the proposed project area; the closest Wild and Scenic River (WSR) to the project vicinity is the Rogue WSR, with the closest section with WSR designation terminating more than 25 miles to the east. Therefore, this project would have no visual or physical effect on WSRs (NPS 2021).

Coastal Zone Consistency: The proposed project areas are more than 40 miles east of the closest Coastal Zone area designated by the State of Oregon, and do not lie within or adjacent to any estuaries (Oregon Department of Land Conservation and Development, Coastal Zone Management Program 2023). Therefore, this project would not have any effects on the Coastal Zone (Coastal Zone Management Act compliance) or estuaries (Statewide Planning Goal 16 compliance).

Land Use and Zoning: The proposed fuel reduction activities would not change existing land uses and are consistent with the current zoning. The proposed fuel reduction treatment activities along Bear Creek are located within the City limits. The fuel reduction treatment activities at Prescott Park are not located within City limits, but the parkland is owned by the City.

Sole Source Aquifers: According to the USEPA's sole source aquifer map, there are no sole source aquifers designated in Jackson County (USEPA 2022a).

4.2. Physical Resources

This section describes the potential impacts on physical resources in the project area. For this assessment, physical resources include topography and soils, and air quality.

4.2.1. TOPOGRAPHY AND SOILS

The project areas are located within the Rogue Valley, which has a variety of geographic features: grasslands, prairies, mesas, mountainous terrain, valleys, ravines, timberland, wetlands, rivers, seasonal creeks and ponds, and associated floodplains (RREV 2018). The elevation in the proposed treatment areas ranges from roughly 1,280 feet above sea level (asl) to 3,573 feet asl (Topographic Maps 2023). The majority of the proposed treatment areas are characterized by slopes measuring less than 20 percent (Natural Resources Conservation Service [NRCS] 2022). The Bear Creek project area is characterized as generally flat, typical of areas in and around a creek bed, while the Prescott Park project area is situated approximately 2,000 feet above Bear Creek and the valley floor and is characterized by steeper and more varied terrain.

The Farmland Protection Policy Act requires federal agencies to minimize the unnecessary conversion of farmland into nonagricultural uses. According to the NRCS (2022), the following units (all from the Bear Creek area) are prime farmland: Abin silty clay loam, Central Point sandy loam, Medford silty clay loam, and Coleman loam (if drained). Farmland of Statewide Importance includes Coker clay and Camas gravelly sandy loam (from Bear Creek) and Carney clay, Carney cobbly clay, Carney-Table Rock complex, and Coker clay (from Prescott Park) (NRCS 2022). However, all of the proposed treatment areas are located on or immediately adjacent to rural residential properties within the City limits that are not under active agricultural operations.

No Action Alternative

Topography and soils play an important role in determining the risk for wildfire ignition and the ease with which it spreads. Under the No Action Alternative, the City would continue to implement limited fuel reduction activities, as could private property owners. These sporadic and geographically scattered activities would result in *short-term, negligible adverse impacts* on soils and geological processes as a result of limited ground disturbances. Additionally, although the project areas are not on or adjacent to any active agricultural operations, the presence of prime and important farmland soils at Bear Creek and Prescott Park means there would also be *negligible adverse impacts* on farmland soils. While fuel reduction activities would result in mild potential for erosion due to vegetation removal, they would not take any active farmland out of production or otherwise result in the removal of farmland soils.

Further, it is unlikely that these limited fuel reduction activities would be implemented to the same extent in the absence of proposed funding assistance. In the event of a major wildfire, there would be a substantial loss of vegetation, which could result in higher soil temperatures, increased evaporation, soil erosion, and reduced soil moisture. Intense wildfires can also alter the physical and chemical properties, including the moisture, temperature, and biotic characteristics, of soils (Neary et al. 2005). In addition, the loss of vegetation could result in substantial increases in soil erosion, which may occur rapidly or may continue to occur several years after a burn (Barkley 2019). Extreme heat generated from wildfires can also cause soils, including farmland soils, to form hydrophobic layers that repel water, resulting in decreased infiltration. Hydrophobicity occurs when plants burn in wildfires, releasing a gas into the soil that cools and solidifies into a waxy, water-repelling substance

that coats soil particles. Increased soils hydrophobicity that leads to reduced infiltration prevents precipitation from being absorbed into the soil and results in increased surface runoff volume and velocity that can lead to accelerated erosion of soils. Therefore, the No Action Alternative could result in *long-term, major adverse impacts* to soils and prime farmland soils as a result of continued intense wildfires that could occur in the absence of coordinated fuel reduction activities.

Proposed Action

Based on the proposed treatment activities, implementation of the Proposed Action would have *short-term, minor adverse impacts* on soils, particularly those classified as Prime Farmland or Farmland of Statewide Importance. The establishment of defensible space, hazardous fuels reduction, and treatment of invasive species would be conducted using manual and mechanical methods in both treatment areas, as well as chemical methods in the Bear Creek project area. Heavy equipment would be used for some vegetation management activities. However, the only ground disturbance that would occur would be the removal of up to 6 inches of the root systems of invasive plants to prevent their reestablishment. Root balls would not be disturbed during the creation of defensible space or hazardous fuels reduction. In addition, most larger trees and shrubs would be retained, along with "safe snags." During the establishment of defensible space and related grass-cutting, care would be taken to avoid exposing soils. Vegetation would be chipped and spread, pile burned, or hauled offsite after its removal, depending on site conditions. Within the Bear Creek treatment areas, spreading chipped material would retain moisture and also reduce potential for soil erosion. Pile burning would only occur on invasive species at Prescott Park. Previous studies have shown that dispersed pile burning does not result in extreme soil heating, substantial erosion, or detrimental changes in soil fertility around the burn pile (Hubbert et al. 2015). Additionally, where access is not available via trailheads or established paths, any disturbance to understory vegetation and soils to provide access to project sites would be restored with the application of loose straw mulch (approximately 50 percent coverage) and native grass seeding. It is important to note that although some soil types in the project areas are classified as Prime Farmland or Farmland of Statewide Importance, the land in which vegetation management activities would occur is not zoned for agriculture or in active agricultural production. Additionally, project areas are within City limits.

Over the long-term, ongoing, smaller-scale maintenance activities—including weed abatement, removal of invasive species, and revegetation with native plant species—could affect topography and soils. However, due to the low intensity and frequency of maintenance activities, as well as their surficial nature, there would be no change to topographic features, and any impacts to topography and soils resulting from maintenance activities would be *negligible.* Additionally, the health and diversity of forested areas would be improved under the Proposed Action, and the risk of wildfire spread and intensity in and around the project treatment areas would be reduced, thereby reducing the potential for substantial future soil erosion that can occur in burn scars following significant wildfires. This would result in *long-term, minor beneficial impacts* on soils, including Prime Farmland and other Important Farmland soils.

4.2.2. AIR QUALITY

The Clean Air Act (CCA), amended in 1990, requires the USEPA to set National Ambient Air Quality Standards (NAAQS) for six pollutants harmful to human and environmental health, including ozone (O_3), particulate matter, nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), and lead (Pb) (USEPA 2014). The CAA Amendments of 1990 define a "non-attainment area" as a locality where air pollution levels persistently exceed NAAQS or that contribute to ambient air quality in a nearby area that fails to meet standards. Maintenance areas are areas that had a history of non-attainment but are now consistently meeting the NAAQS. According to the USEPA's Green Book (2022b), Jackson County is not in an air quality non-attainment area nor in a maintenance area (USEPA 2022b). Therefore, the project area would not require USEPA and/or local air quality permits. The City does not have any specific ordinances related to dust or air quality, and Jackson County has no ordinances specific to the proposed project but generally requires dust be monitored during construction and mitigated on a complaint basis. The USEPA has established emission standards for some on-road and off-road vehicle emissions.

Air quality is negatively affected by everyday activities, such as vehicle use, and major events such as wildfires. Wildfire smoke is composed of carbon dioxide, water vapor, particulate matter, carbon monoxide, nitrogen oxides, organic chemicals such as hydrocarbons, and trace minerals, which affect air quality (USEPA et al. 2019). Air quality can also be affected by fugitive dust, which is particulate matter that is released into the air by wind or human activities and can have human and environmental health impacts.

The City of Medford is located in the Klamath Mountain Ecoregion, which has mild and sub-humid weather that supports conifer and hardwood forests in the Pacific Northwest and Northern California (Thorson et al. 2003). Temperatures in Medford range from an average low of 31°F in December and January to an average high of 88°F in July and August. Medford receives an average of 21.1 inches of rain annually. Most of the precipitation occurs in the fall, winter, and spring. Summer precipitation is very low, which increases the risk of wildfire spread. Changes in these average temperatures and precipitation patterns can affect species distribution and weather patterns. Earlier spring snowmelt and higher temperatures also increase the risk of wildfires in the region, and North American wildfires have increased in intensity and frequency over the past 50 years, as detailed in **Section 1.2.2** *Wildfires* (USEPA 2024).

No Action Alternative

Under the No Action Alternative, limited fuel reduction activities would continue to be carried out by the City and by private property owners, which would have *short-term, negligible adverse impacts* on air quality from vehicle and equipment use. However, under this alternative, the risk of wildfire spread in the two proposed treatment areas would remain high. Wildfire smoke can deteriorate air quality and expose vulnerable populations to harmful pollutants (USEPA et al. 2019). Particulate matter, specifically, can have many harmful effects, including eye and respiratory tract irritation, reduced lung function, asthma, and heart failure (USEPA et al. 2019). In addition to particulate

matter in smoke, fire in developed areas, such as the Bear Creek corridor that runs through multiple cities, produces a variety of other airborne toxins when buildings and their contents burn.

Smoke from major wildfires can also affect air quality in large areas, impacting people far from the fire, even several states away. In many cases, the toxicity of particles in smoke actually increases the further it travels from the site of a fire; as smoke is carried in the wind, the particles undergo chemical reactions that result in highly reactive compounds (Hirschlag 2024). Smoke and resulting pollutants from wildfire typically stay in the atmosphere for two to three weeks but have been documented to remain for up to eight months in some cases, contributing to longer-term impacts on air quality at a regional scale (Yu et al. 2019). In the event of a wildfire, the No Action Alternative could have *longer-term, moderate to major adverse impacts* on air quality, depending on the intensity and scale of the wildfire.

Proposed Action

The Proposed Action would generate *short-term, negligible adverse impacts on air quality* due to additional vehicle and equipment use, particularly due to construction-related dust; the use of heavy equipment such as chainsaws, tractors, and chippers; and crew movement from one site to another during the implementation of fuel reduction activities. Vehicle use on dirt or gravel roadways, which exist both in the Bear Creek and Prescott Park areas, can contribute to fugitive dust, while internal combustion engines can produce particulate matter and other air pollutants. Short-term adverse impacts from vehicle and equipment use under the Proposed Action would be more than under the No Action Alternative; however, adverse impacts are still determined to be *negligible*.

Prescott Park invasive species pile burning would be limited and authorized and conducted according to burn permits issued by ODF (for larger treatment areas), would occur outside of the declared fire season, and would involve the implementation of smoke management programs to avoid impacting sensitive receptors and population centers. Therefore, the Proposed Action would have *short-term, negligible adverse impacts on air quality* as a result of the pile burning that would take place. However, all impacts relating to air quality would be short-term and temporary.

Overall, implementation of the Proposed Action would result in temporary construction-related criteria air pollutant emissions. Following the completion of project activities, occasional criteria air pollutant emissions would occur as a result of long-term maintenance activities. However, these activities would occur infrequently and on an as-needed basis. In addition, completion of the Proposed Action would reduce the risk of wildfire ignition and spread in the City, which could result in avoidance of future air pollutants from wildfire. Therefore, the Proposed Action would have *long-term, minor beneficial impacts* on air quality.

4.3. Water Resources

This section describes the water resources affected environment and potential effects on surface water, water quality, wetlands, and floodplains for each alternative. Federal protections for addressing water resources include, but are not limited to, the Clean Water Act (CWA), Executive

Order (EO) 11990, *Protection of Wetlands*; and EO 11988, *Floodplain Management*. Other federal, state, or local permits may be required, as identified in **Section 6.1**, *Permitting, Project Conditions, and Mitigation Measures.*

4.3.1. SURFACE WATER AND WATER QUALITY

The CWA establishes requirements for states and tribes to identify and prioritize Waters of the United States that do not meet water quality standards. Under Section 303(d) of the CWA, the Oregon Department of Environmental Quality (ODEQ) is required to develop a list of the surface waters in the state that do not meet water quality standards developed for protection of beneficial uses. Water bodies which are listed as impaired must have Total Maximum Daily Loads (TMDLs) developed for each pollutant for which that waterbody is "listed" (ODEQ 2006).

Bear Creek runs throughout the Bear Creek treatment area in Medford. Its total length is 29.5 miles, roughly 7 miles of which run throughout the City of Medford. It is classified as riverine, upper perennial, unconsolidated bottom, and permanently flooded. Six smaller riverine habitats (all less than 5 acres) branch off of Bear Creek, all classified as either riverine intermittent or riverine unknown perennial (USFWS 2022a).

There are four riverine habitats within the vicinity of Prescott Park, all of which are found in its outer portions. Three are classified as riverine intermittent, and one is classified as riverine unknown perennial (USFWS 2022a).

According to the ODEQ, Bear Creek is listed as impaired for temperature under the year-round criteria and spawning criteria and iron (Aquatic Life Toxics) under Category 5 parameters, and flow modification, habitat modification, *E. coli*, dissolved oxygen (also under year-round and spawning criteria), pH, and excess algal growth under Category 4 parameters. The USEPA classifies Bear Creek as impaired for aesthetic quality, aquatic flora and fauna, and water contact recreation, and as attaining for fishing (ODEQ 2022). To address water quality concerns, ODEQ has developed and put in place plans for addressing *E. coli*, dissolved oxygen, and pH impairments (ODEQ 2022).

No Action Alternative

Under the No Action Alternative, limited fuel reduction activities would continue to be implemented by the City and by private property owners. These activities could indirectly affect water quality due to the delivery of sediment to waterways as a result of erosion and sedimentation. However, given the scattered nature of these activities and the limited ground covered each year, further impacts to surface waters and water quality would be slight, local, *short-term, and negligibly adverse*.

However, under the No Action Alternative, the risk of wildfire spread would remain high. If a wildfire occurs and spreads, loss of vegetation would further impact surface water quality through substantial increases in erosion, sedimentation, and contaminants, particularly those associated with ash. Wildfire incinerates soil, destroying organic matter such as fungi and tree root elements that hold soil in place. This can lead to reduced absorption and retention of water in the soil, thereby increasing erosion (NPS 2023). Additionally, as described in **Section 4.2.1**, *Topography and Soils*,

intense heat from major wildfires can cause soils to form hydrophobic layers, which can further decrease infiltration and aquifer recharge, resulting in increased surface runoff and velocity that can lead to accelerated soil erosion, stream discharges, and sedimentation. Sedimentation is the process by which fine sediments, such as clay, silt, and sand, settle out of the water column, often resulting in these small particles filling the space between larger substrates, such as gravel or cobble. Depending on precipitation levels in the days, weeks, and months after a wildfire, sedimentation can pose a significant threat to water quality; if precipitation is low, suspended sediment concentration resulting from erosion and contaminant discharge can persist for more than a year. On the other hand, if precipitation is high, sedimentation may be extremely high but taper off quickly due to increased flow velocity (Sever 2020).

Contaminants resulting from wildfire can exacerbate water quality degradation during and after a wildfire; during active burning, ash and contaminants associated with ash settle on streams, lakes, and other water bodies. Additionally, in the aftermath of a large wildfire, rainstorms can flush large quantities of ash, sediment, nutrients, and contaminants into these water bodies, furthering contamination and affecting everything from total dissolved solids (TDS) to pH levels (NPS 2023; USEPA 2019). Loss of shade-providing vegetation will also increase water temperature through direct solar input, which exacerbates other water quality issues. Erosion, sedimentation, and increases in contaminant levels all have the potential to exacerbate various water quality concerns and parameters, including those identified as impaired by ODEQ, such as temperature, flow modification, and pH. Therefore, the No Action Alternative could have *long-term, moderate to major adverse impacts* on surface waters and water quality, depending on the scale and intensity of a wildfire.

Proposed Action

While the Proposed Action would not involve in-water activities, the establishment of defensible space and hazardous fuels reduction treatments in the vicinities of Bear Creek and Prescott Park could still indirectly affect water quality, as these activities would involve the removal of vegetation and could increase the potential for erosion and sedimentation issues in adjacent or nearby aquatic systems. Specifically, earth-disturbing activities, which would be limited to tree removal, can increase the delivery of sediment to waterways, as well as increase turbidity in the water column. Sediment introduced into waterways can degrade habitat and reduce primary biological productivity. Additionally, the use of construction equipment near waterbodies increases the risk of harmful substances, such as fuel, lubricants, hydraulic fluids, or coolants, entering the water. However, no equipment would be used within Bear Creek or adjacent water bodies and various measures would be taken to minimize impacts to surface water and water quality.

In Bear Creek, vegetation management activities would involve manual, mechanical, and chemical methods. Mechanical methods would not be used to remove vegetation less than 40 feet from Bear Creek; only hand or manual methods would be used within 40 feet of the creek. The only exception is that mastication, a form of mechanical removal, would be permitted up to the waterline to remove invasive species, such as Himalayan blackberry, where feasible based on slope and accessibility. Within 20 feet of the waterline, limitations would also be placed on tree thinning and ladder limb

removal to maintain a riparian buffer. Further, all vegetation removal and management within Bear Creek would undergo ODFW review. The proposed riparian buffer from any streams or waterbodies, including Bear Creek, would help retain stream shade and filter surface water runoff.

The use of ground crews and hand-operated tools during manual treatment activities would result in negligible soil disturbance and mobilization of fine sediments. All gas-powered equipment would be maintained in good repair and fueling would take place at the City Service Center. Also, portable combustible machinery like chainsaws will be fueled a minimum of 50 feet from Bear Creek or other waterbodies.

During defensible space activities and hazardous fuel reductions, root balls would not be disturbed, and some vegetation would be retained according to treatment specifications (refer to Section 3.2.2, *Vegetation Treatment Activities*), which would help prevent substantial erosion from vegetation removal. Prescott Park invasive species pile burning would be conducted in compliance with local and state regulations, as described in Section 3.2.1, *Proposed Fuels Reduction Treatments*.

The use of herbicides for invasive species management along the Bear Creek Greenway could create the potential for impacts to surface water quality. However, all herbicides would be used with specific restrictions and outside established no-application buffers to limit impacts to waterways such as Bear Creek. The use of herbicides would be conducted in a manner consistent with the guidelines outlined in the FESP, as well as those in TFT's *Herbicide Use and Restriction Guidelines* (2017). TFT is a non-profit organization working in the Rogue Valley that provides additional guidelines that adhere to, or in some cases are more stringent than, those outlined in the FESP (NMFS 2018). The following guidelines and restrictions would be implemented:

- Herbicide carriers would be limited to water or specifically labeled vegetable oil.
- A non-hazardous indicator dye would be used when applying herbicides within 100 feet of waterways to further limit use within sensitive areas.
- Herbicide applications would be limited to direct treatment uses, including hand selective spraying and spot spraying.
- Spill cleanup kits would be present whenever and wherever herbicides are used, transported, or stored.
- Weather-related use restrictions and setbacks would be used where necessary; for example, herbicide application would not occur if wind speeds exceeded 10 miles per hour or less than 2 miles per hour. Additionally, applicators would account for wind direction and potential impact area downwind, and spray would be kept as low as possible to reduce wind effects.

- Herbicides would not be applied during temperature inversions, when air temperature exceeds 80°F, during active rain, or when soil is saturated. Application would also be completed more than 48 hours after or 48 hours prior to any forecasted precipitation.

- Herbicide mixing would occur more than 150 feet from any perennial or intermittent waterbodies to minimize the risk of accidental discharge, and the washing of spray tanks would occur a minimum of 300 feet away from any surface water.

Refer to **Table 3** in **Section 3.2.1**, *Proposed Fuels Reduction Treatments*, for additional overview of herbicide-related guidelines and restrictions for no-application buffer widths that meet or exceed the FESP guidelines and that would apply to herbicide applications along Bear Creek where there are streams, roadside ditches, or wetlands with flowing or standing water present. These no-application buffer zones would be flagged or marked prior to herbicide application to ensure that all buffers are in place and functional during treatment.

Although the majority of vegetation management activities would not have impacts on surface water and water quality, the ground disturbance caused by removal of up to six inches of root systems of invasive species, as well as the possibility of herbicide contamination during initial treatment and longer-term maintenance activities, could result in *short-term, minor adverse impacts* to surface water and water quality, including parameters for which ODEQ has identified Bear Creek as impaired, such as pH and dissolved oxygen. Although these impacts may be measurable, they would be small and localized and would not be likely to result in new/significant exceedances of impaired ODEQ parameters. Additionally, as discussed, various BMPs and herbicide restrictions would be implemented throughout project activities in order to minimize any potential adverse impacts.

Over the long term, implementation of the Proposed Action would reduce the risk and severity of wildfire spread in the treatment vicinities, and therefore would reduce the risk of impacts associated with wildfire on water resources (as described in the No Action Alternative), including those identified as impaired by ODEQ, such as pH and dissolved oxygen. Further, the proposed treatment activities would increase the overall ecological integrity of the riparian corridor (e.g., by removing invasive species), which could result in improved overall water quality. Therefore, although the Proposed Action could result in minor adverse impacts due to earth-disturbing activities and potential herbicide contamination, the *long-term, minor beneficial impacts on waterbodies* within the vicinity of the treatment areas outweigh both these potential impacts and the risks associated with the No Action Alternative.

4.3.2. WETLANDS

EO 11990, *Protection of Wetlands,* requires federal agencies to consider alternatives to work in wetlands and to limit potential impacts on wetlands if there are no practicable alternatives. FEMA regulation 44 CFR Part 9, *Floodplain Management and Protection of Wetlands,* sets forth the policy, procedures, and responsibilities to implement and enforce EO 11990 and prohibits FEMA from funding activities in a wetland unless no practicable alternatives are available. Wetlands are defined by the U.S. Army Corps of Engineers (USACE) and the USEPA as "*…areas that are inundated or*

saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions…" (33 CFR §328.3[b]). The USACE has the authority to regulate jurisdictional wetlands as Waters of the U.S. under Section 404 of the CWA; however, EO 11990 provides guidance concerning how to mitigate or minimize any net loss of both jurisdictional and non-jurisdictional wetlands.

According to the USFWS National Wetland Inventory (NWI) maps, there are several potential wetlands that occur throughout the proposed project areas. Wetland classifications within the project areas include riverine, freshwater forested/shrub wetland, and freshwater pond (USFWS 2022a).

Within the project areas, there are eight wetlands designated by the City of Medford as locally significant or potentially significant. Three of these are riverine habitats, which cover a total of 5.67 acres. The other five are freshwater forested/shrub wetland habitats, which cover a total of 12.05 acres (Wetland Consulting 2002).

ODF requires riparian management areas of 100 feet around significant wetlands (larger than 8 acres) and bogs. The only wetlands larger than 8 acres throughout all of the treatment area are Bear Creek and a riverine wetland in the eastern portion of Prescott Park that totals 47.74 acres. Other wetlands would be protected by Oregon Administrative Rules (OAR) 629-655, which require operators to minimize disturbance to understory vegetation and soils in and around wetlands and retain downed wood and snags in wetlands.

Figure 9: Surface Waters and Wetlands

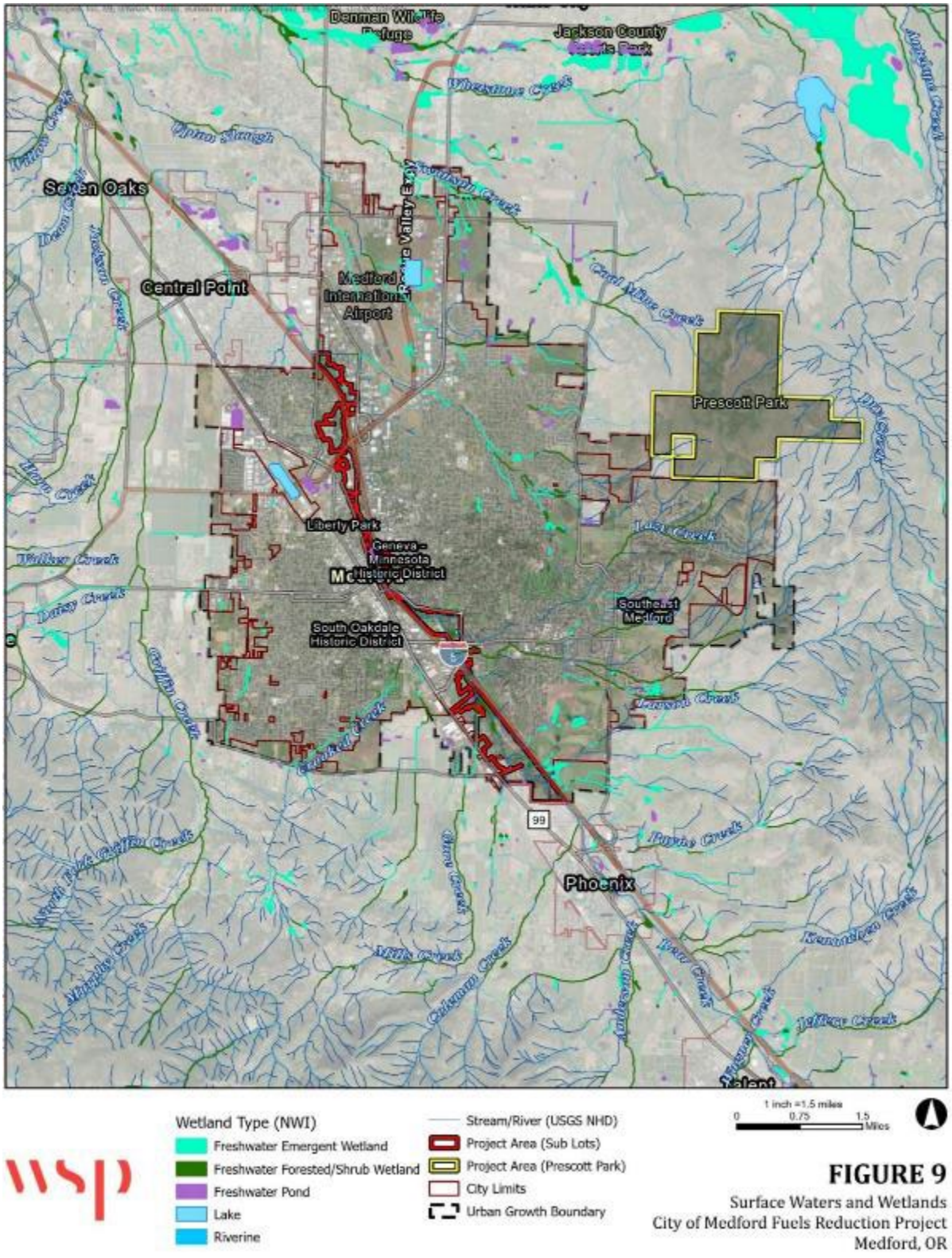


FIGURE 9
Surface Waters and Wetlands
City of Medford Fuels Reduction Project
Medford, OR

No Action Alternative

Under the No Action Alternative, limited fuel reduction activities would continue to be conducted in the project areas by the City and by private property owners. These mitigation activities, particularly those conducted by homeowners on private property, would be unlikely to be regulated by the state, and could affect wetlands if clearing of vegetation occurs around or within a wetland. Therefore, the No Action Alternative could result in *short-term, minor adverse impacts* to wetlands. Additionally, this alternative would not substantially reduce the risk of wildfire spread through the treatment areas, which could destroy or deteriorate vegetation in nearby wetlands. Destruction of vegetation in or around nearby wetlands would damage habitat for wildlife and lessen the effectiveness of wetlands at filtering pollutants and maintaining water quality. Therefore, the No Action Alternative would have *long-term, moderate to major adverse impacts* on wetlands, depending on the scale and intensity of a wildfire.

Proposed Action

As described in **Section 3.2**, the Proposed Action would not involve in-water activities. Riparian protection zones would be as follows: work in the immediate vicinity of wetlands (less than 40 feet away) would only involve the use of ground crews and hand-operated or manual power tools, as well as mastication, a form of mechanical removal, which would only occur up to the waterline for removal of Himalayan blackberry. All vegetation removal and management within 40 feet of Bear Creek would ensure compliance with ODFW guidelines and seek the ODFW's approval. In the vicinity of any wetlands, various best management practices would be implemented, monitored, and maintained in order to control erosion and sedimentation, and provide protection for any protected species habitat (see **Section 4.4**, *Biological Resources*). Therefore, implementation of the Proposed Action, including initial treatment and longer-term maintenance activities, would result in *short-term, minor adverse impacts* on wetlands. Additionally, the Proposed Action would reduce the risk that a major wildfire would spread throughout the proposed treatment areas and damage nearby wetland vegetation; therefore, there would be *long-term, minor beneficial impacts* on wetlands.

4.3.3. FLOODPLAINS

EO 11988, *Floodplain Management*, requires federal agencies to avoid, to the extent possible, short- and long-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practical alternative. FEMA regulations (44 CFR Part 9.7) use the 100-year floodplain (1-percent-annual-chance) as the minimal area for floodplain impact evaluation and the 500-year floodplain (0.2-percent-annual-chance) for critical actions (facilities). Floodplains are environmentally sensitive, ecologically diverse, and hydrologically important areas within a watershed. Naturally functioning floodplains help moderate flood events through storage and infiltration of runoff, and also help to filter potential nutrients and pollutants therein before reaching surface waters. Similarly, floodplains also help reduce sedimentation of surface waters through their slowing of surface water flow, allowing pollutants and fine sediments to settle out before entering a watercourse (e.g., creek, river, etc.).

To satisfy the requirements of EO 11988, the Water Resources Council developed an eight-step process that agencies should carry out as part of their decision making on projects that have potential impacts to or are within a floodplain. The eight steps reflect the decision-making process required in Section 2(a) of the EO and are reflected in FEMA regulations at 44 CFR Part 9.6. The first step is to determine if the Proposed Action is in the base floodplain. The proposed fuel reduction treatment area near Bear Creek would be located within a floodplain. See **Appendix E**, Floodplains and Wetlands Eight-Step Process.

The City of Medford participates in the National Flood Insurance Program. The Bear Creek treatment area is shown on FEMA Flood Insurance Rate Map (FIRM) Panel Numbers 41029C1957F, 41029C1959F, 41029C1978F, 41029C1986F, and 41029C1987F, effective September 3, 2011 (See Appendix D. FEMA FIRM Floodplain Panel No. 41029C1957F, 41029C1959F, 41029C1978F, 41029C1986F, and 41029C1987F). Bear Creek and the land immediately adjacent to it is all mapped as a Special Flood Hazard Area (SFHA), Regulatory Floodway (Zone AE). An additional 0-1,000 feet of land (depending on topographic features) bordering sides of the creek are mapped as an SFHA with Base Flood Elevation (BFE) ranging from 1,283.7 to 1,463.2 feet. Outside of these zones in the creek's close vicinity, land is either mapped as Zone X, Area of Minimal Flood Hazard, or Zone X ,0.2-percent Annual Chance Flood Hazard (500-year flood) (FEMA 2022).

The Prescott Park treatment area fall within FIRM Panel Numbers 41029C1981F and 4155890407C, both dated May 3, 2011, and 4155890409B, effective April 1, 1982. Panels 41029C1981F and 4155890407C fall entirely within Zone X, Area of Minimal Flood Hazard; Panel 4155890409B falls entirely within Zone C, Area of Minimal Flood Hazard (FEMA 2022).

No Action Alternative

In the absence of a major wildfire, the No Action Alternative would have *short-term, negligible adverse impacts* on floodplains as a result of ongoing fuel reduction activities carried out by the City of Medford and by various private property owners. As described for the Proposed Action, some of these activities may occur within a mapped 100-year floodplain. However, this alternative would not meaningfully reduce the risk of wildfire spread, which could damage or eliminate existing vegetation in and beyond the treatment areas, depending on the scale and intensity of a wildfire. Loss of vegetation would adversely affect natural floodplain functions. The additional sedimentation in the long-term could lead to an increase in the BFE and, thus, greater flood risks to properties in the affected floodplain. Therefore, the No Action Alternative could have *long-term, minor to moderate adverse impacts* on floodplains in and around the treatment areas, depending on the intensity and scale of a wildfire.

Proposed Action

Under the Proposed Action, some defensible space, hazardous fuels reduction, and invasive species treatments would occur in SFHAs within the Bear Creek project area. However, the Proposed Action would not cause an increase in BFEs or modify existing floodplains. Additionally, the Proposed Action would not directly or indirectly support development on the floodplain, given that the Bear Creek project area consists of developed parcels and designated recreation areas. Implementation of the

Proposed Action would result in *short-term, minor adverse impacts on floodplains* related to the potential for erosion and sedimentation during initial treatment activities and longer-term maintenance activities (refer to **Section 4.3.1**, *Surface Water and Water Quality*).

The Proposed Action would help reduce the risk of wildfire ignition and spread, as well as associated erosion, surface runoff, and flooding that could adversely impact floodplains. Therefore, there would be *long-term, minor beneficial impacts* on floodplains in and around the proposed treatment areas.

4.4. Biological Resources

This subsection describes the potential impacts on vegetation, fish, birds, and other wildlife, including threatened and endangered species and their critical habitat. The Endangered Species Act (ESA) gives USFWS and the National Marine Fisheries Service (NMFS) authority for the protection of threatened and endangered species. This protection includes a prohibition on direct take (e.g., killing, harassing) and indirect take (e.g., destruction of habitat). The ESA defines the action area as "all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action" (50 CFR Part 402.02). Therefore, the action area where effects on listed species must be evaluated may be larger than the project area where project activities would occur. Section 7 of the ESA requires federal agencies, in this case FEMA, to consult with USFWS and/or NMFS, as appropriate, regarding species protected under the ESA.

FEMA completed a Biological Assessment (BA) for the Proposed Action (FEMA 2023). With the BA, FEMA initiated informal consultation with USFWS on January 10, 2024, to ensure the proposed project is not likely to jeopardize the continued existence of species listed as threatened, endangered, or proposed (to be listed), nor result in the destruction or adverse modification of designated or proposed critical habitat under its jurisdiction. USFWS provided a letter of concurrence on February 5, 2024, on FEMA's determinations detailed below. FEMA notified NMFS under the FEMA Endangered Species Act Programmatic (WCR-2016-6048) on January 10, 2024 (Appendix B).

4.4.1. VEGETATION (INCLUDING ESA-LISTED PLANTS AND THEIR HABITAT)

Vegetation is important for wildlife foraging and habitat, wetland, and floodplain functions, and protecting water and air quality. Changes in vegetation composition and density can affect these other resources. Medford is located within the in the Rogue/Illinois/Scott Valleys Level IV ecoregion within the Klamath Mountains Ecoregion (Ecoregion 78) of Oregon. Ecoregion 78 encompasses the highly dissected ridges, foothills, and valleys of the Klamath and Siskiyou mountains. It supports a mosaic of both northern Californian and Pacific Northwestern conifers and hardwoods. Further, the Level IV ecoregion (Rogue/Illinois/Scotts Valley) supports Oregon white oak and California black oak woodland, ponderosa pine, and grassland habitat. As in other highly developed valleys, little original vegetation remains. Remnants of oak savanna, prairie vegetation, and seasonal ponds persist on the mesa tops of the Table Rocks north of Medford. Elsewhere, land uses include orchards, cropland, and pastureland. Weather, vegetation, and resulting land use are more similar to northern California's inland valleys than to the Willamette Valley (Thorson et al. 2003).

A portion of Prescott Park and portions of the Bear Creek Corridor (south of the project area) burned during the 2020 wildfires. The fire burned at high severity through most of its path killing most of the trees and shrubs. In the second year after the fire, vegetation growth was robust as is typical in post-fire ecosystems given the nutrient enriched soils and abundant sunlight. The Bear Creek Corridor Post-Almeda Fire Vegetation Assessment was conducted in 2022 and describes the post-fire vegetation as occasional remnant trees that survived the fire, resprouting native trees and shrubs, abundant invasive species, barley planted for erosion control, and a mix of planted and naturally seeded forbs (RVCOG 2022).

The Bear Creek area is dominated by tree canopy, grassland, and riparian land cover. Vegetation within the Bear Creek Greenway includes several invasive species, including Himalayan blackberry and English ivy, as well as several native hardwood and conifer species including black cottonwood, bigleaf maple, Douglas fir, incense cedar, Oregon ash, Oregon white oak, ponderosa pine, and white alder (FEMA 2023). The Prescott Park area is dominated by shrub/scrub land cover, with evergreen forest in the center of the park at higher elevations. Vegetation within the Prescott Park project area is characterized by a mixture of grasslands, shrub canopy, oak savannah, oak chaparral, oak woodland, pine woodland, and mixed conifer/hardwood forest (FEMA 2023). The proposed treatment areas at the two project sites are located on public and private properties within rural residential areas that are surrounded by rugged, mountainous, and forested landscapes.

EO 13112, *Invasive Species,* requires federal agencies to prevent the introduction of invasive species and provide for their control to minimize the economic, ecological, and human health impacts that invasive species cause. Invasive plant species, such as Italian thistle (*Carduus pycnocephalus*), spotted knapweed (*Centaurea stoebe*), yellow tuft *(Alyssum murale and A. corsicum*), and yellow floating heart (*Nymphoides lamatha*), may be present in Jackson County (ODA 2020).

ESA-listed Species

The USFWS Information for Planning and Consultation (IpaC) database was used to identify proposed, threatened, and endangered plant species that could occur in the Bear Creek and Prescott Park project areas. **Table 5** presents the ESA-listed threatened or endangered plant species and their designated critical habitat that were identified to occur in the region, but not within the project area. The likelihood of each of these threatened and endangered plant species to occur in the two project areas is further explained below.

Table 5: ESA-listed Plants and Designated Critical Habitat (DCH) with Potential to Occur in Project Areas

Species	ESA Status	Presence	DCH
Cook's lomatium *Lomatium cookii*	Endangered (11/07/2002)	No	No

Species	ESA Status	Presence	DCH
Gentner's fritillary *Fritillaria gentneri*	Endangered (12/10/1999)	No	N/A (none designated)
Large-flowered woolly meadowfoam *Limnanthes pumilassp. Grandiflora*	Endangered (11/07/2002)	No	No

Source: FEMA 2023

Cook's lomatium (*Lomatium cookii*) is a perennial forb of the carrot family that grows between 6 to 20 inches in height, with smooth basal leaves and yellow flowers. This plant is endemic to southern Oregon; it can be found in the Rogue River Valley of Jackson and Josephine counties in southwest Oregon and the Illinois River Valley of Josephine County, Oregon. This species can be found in vernal pools, seasonally wet meadows within oak and pine forests, and other locations with adequate soil moisture.

Soil data for the project area shows that approximately 75 acres (5 percent) of the Bear Creek project area includes Agate-Winlo soils, which are silty clay loam soils that support Cook's lomatium. However, the majority of the Bear Creek Greenway is considered developed (ranging from low intensity to high intensity development) with woody wetlands and emergent herbaceous wetlands, according to the Multi-Resolution Land Characteristics Consortium (MRLC) National Land Cover Database (NLCD), limited to smaller sections of the project area. The Prescott Park project area includes shrub and evergreen forest with minimal development and is not expected to contain habitat and soils suitable for Cook's lomatium. Any small sections of wetlands and surrounding meadows are not anticipated to be impacted, and hazardous fuel treatment is not anticipated to alter hydrology in the project area. Additionally, the nearest known location of Cook's lomatium occurs approximately 1.6 miles away from the northeastern edge of the Bear Creek corridor and 4 miles away from the Prescott Park boundary.

Gentner's fritillary (*Fritillaria gentneri*) is a perennial herb of the Liliaceae (lily) family with deep red to maroon bell-shaped flowers produced on a single stalk ranging from 40 to 70 cm (15.7 to 27.6 inches) tall *(*ODA 2023*).* This plant occurs in the rural foothills of the Rogue and Illinois river valleys in Jackson and Josephine counties and occurs in a variety of habitats, from shaded riparian areas to open grasslands, but is typically associated between meadow and oak woodland.

According to the 2023 Oregon Biodiversity Information Center (ORBIC) GIS dataset, the nearest known location of Gentner's fritillary occurs approximately 5.5 miles west of the Bear Creek Greenway and approximately 10.5 miles west of Prescott Park. The species is also often found in grassland and chaparral habitats within, or on the edge of, dry, open woodlands. Given the lack of these open chaparral habitats around Bear Creek Greenway and the distance from the nearest known occurrence from Prescott Park, Gentner's fritillary is not likely to occur within the two project areas. Additionally, the project's fuel reduction activities would be focused on removing potential

fuels from the area (treating invasive plants, larger shrubs, and ladder fuels), which would not target perennial herbs.

Large-flowered woolly meadowfoam (*Limnanthes pumila grandiflora*) is an annual herbaceous forb in the meadowfoam family (*Limnanthaceae* sp.). It grows 2 to 6 inches tall, with stems and leaves that are sparsely covered with short, fuzzy hairs. The flowers consist of five yellowish to white petals densely covered with woolly hairs.

There is DCH (Critical Habitat Unit Number RV7) for the woolly meadowfoam approximately 3 miles north of the Prescott Park project area (USFWS 2010). The primary constituent elements found within DCH include vernal pool habitat, dominant native plant association of this habitat, and hydrology and soils that provide adequate soil moisture. While Prescott Park includes shrub and evergreen forest and minimal development, because the park lacks vernal pools, the project area is not expected to contain habitat suitable for the woolly meadowfoam. Further, any small sections of wetlands and surrounding meadows are not anticipated to be impacted, and hazardous fuel treatment is not anticipated to alter hydrology in the project area. As mentioned above, because the Bear Creek Greenway is considered developed with scattered woody wetlands and emergent herbaceous wetlands, it is also unlikely woolly meadowfoam would occur in the Bear Creek Greenway project area.

No Action Alternative

Under this alternative, the City, as well as various private property owners, would continue to conduct limited fuel reduction activities, resulting in *short-term, negligible to minor adverse impacts* to all vegetation. However, the risk of wildfire spread would remain high. Although fire is a natural component of ecosystems in and near the treatment areas, years of fire suppression and historic fuel management practices (described in Section 2, *Purpose and Need*) have increased fuel densities, which has exacerbated the intensity and extent of wildfires in the area. Depending on the intensity and scale of wildfire, there could be a partial or complete loss of vegetation in and around the two project areas. In addition, a major wildfire could result in changes to soil characteristics that could prevent regrowth of forest vegetation for years after a fire, and also alter the distribution of the forest species currently present in each treatment area. In the event of a major wildfire, non-native or invasive species that have higher-than-average resiliency could become more well-established in the project areas (i.e., fire-tolerant grass species that spread and contribute to greater fire risk than areas dominated by native vegetation). Depending on the intensity and scale of future wildfires there could therefore be *long-term, moderate to major adverse impacts* on general site vegetation under the No Action Alternative (FEMA 2023).

Under the No Action Alternative, there would be *no short- or long-term impacts to threatened or endangered plant species* (including Cook's lomatium, Gentner's fritillary, and large-flowered woolly meadowfoam) as none of these ESA-listed plant species or their DCH are present at the two project areas.

Proposed Action

General Vegetation. The Proposed Action would remove native conifer and hardwood species, as well as non-native and invasive species, and would therefore have *short-term, minor adverse impacts* on vegetation. However, tree removal would focus on dead, dying, or hazardous trees, or trees that post a risk to structures, and no more than 10 large hazardous trees are proposed for removal along Bear Creek. Reducing hazardous and ladder fuels would reduce the ability of a fire to climb into crowns of remaining trees, effectively forcing a fire to the ground. The implementation of the Proposed Action would change the composition and density of the tree stands, and increase the structural diversity, of the conifer and woodland forests along Bear Creek and at Prescott Park, favoring healthier and larger trees and unique or native species. All of these factors would contribute to a more fire-resilient vegetation community and would therefore reduce wildfire danger. Additionally, in areas with limited access, any disturbance to understory vegetation would be restored with loose straw mulch and native grass seeding. Therefore, the Proposed Action would have *long-term, minor beneficial impacts* on existing vegetation communities.

The application of herbicides could potentially result in *short-term, minor adverse impacts* to vegetation. However, herbicide use would be extremely restricted, with multiple measures (described in **Section 3.2**, *Proposed Action*) put in place to prevent chemical treatments from inadvertently harming non-target species. Additionally, the herbicides would target and control flammable, non-native plant species and noxious weeds. Therefore, the Proposed Action would have long-term *minor beneficial* impacts to existing native vegetation communities.

Prescott Park pile burning would be conducted in accordance with local and state regulations, as necessary, including burning outside of the fire season and when conditions are wet and rainy with little to no wind. Burn piles would also be positioned to avoid harming retained trees and shrubs. Therefore, pile burning would have short-term, *minor adverse impacts* on vegetation. Where slashed material is not burned, smaller cut material would be chipped or, if not possible, hauled offsite to a certified disposal facility.

As discussed, implementation of the Proposed Action would result in *short-term, minor adverse impacts* on vegetation resulting from the removal of individual trees and shrubs, the application of herbicides, and low-intensity pile burning during initial treatment and periodic maintenance activities. However, the Proposed Action would have *long-term, moderate beneficial impacts* on existing vegetation communities, as the proposed fuels treatments would increase community fire resilience, control invasive species presence, and reduce the ability of a wildfire to spread rapidly throughout the area. The proposed treatments at both parks would reduce overcrowded tree stands and thickets of hardwoods and conifer and shrubs, which would create more space and multi-layer stand conditions that support the development of more diverse and larger tree stands that are more fire resilient.

Cook's Lomatium, Gentner's Fritillary, and Large-Flowered Woolly Meadowfoam. Due to a lack of known populations within the project areas and no plant DCH within or adjacent to the project areas (as described above), there would be *no impact on threatened or endangered plant* species

(including Cook's lomatium, Gentner's fritillary, and large-flowered woolly meadowfoam) as a result of the Proposed Action (FEMA 2023).

4.4.2. BIRDS (INCLUDING THREATENED AND ENDANGERED AND THEIR HABITAT)

This section discusses impacts on birds that may be protected by acts or executive orders. In addition to the ESA described above, the Migratory Bird Treaty Act (MBTA) of 1918 provides protection for migratory birds while the Bald and Golden Eagle Protection Act prohibits the take, possession, sale, or other harmful action of any golden eagle (*Aquila chrysaetos*) or bald eagle (*Haliaeetus leucocephalus*), alive or dead, including any part, nest, or egg, except under the terms of a valid permit issued pursuant to federal regulations.

The proposed treatment areas are within the Pacific Flyway, which includes numerous migratory bird species protected under the MBTA. The 2024 IpAC (USFWS 2024) report of the project area included a list of Birds of Conservation concern or deserving of special attention were summarized according to USFWS' IpaC (USFWS 2024). Migratory birds that may occur in and near the proposed project areas include, but not limited to, Allen's hummingbird (*Selasphorus sasin*), black swift (*Cypseloides niger*), California gull (*Larus californicus*), Cassin's finch (*Haemorhous cassinii*), chesnut-backed chickadee (*Poecile rufescens rufescens),* Clark's grebe (*Aechmophorus clarkia*), evening grosbeak (*Hesperiphona vespertina*), flammulated owl (*Psiloscops flammeolus),* lesser yellowlegs (*Tringa flavipes*), marbled godwit (*Limosa fedoa*), oak titmouse (*Baeolophus inornatus*), olive-sided flycatcher (*Contopus cooperi*), Oregon vesper sparrow (*Pooecetes gramineus affinis),* rufous hummingbird (*Selasphorus rufus*), short-billed dowitcher (*Limnodromus griseus*), western grebe (*Aechmophorus occidentialis*), western screech-owl (*Megascops kennicottii cardonensis),* willet (*Tringa semipalmata*), and wrentit (*Chamaea fasciata*) (USFWS 2024). The migratory bird nesting season for these species is from March 15 to August 31. Lesser yellowlegs, marbled godwits, and willets are not known to breed in the vicinity of the proposed treatment areas. Bald and golden eagle nesting may also occur within the vicinity of the proposed treatment areas (January 1 to September 30). Additionally, bald and golden eagles could occasionally pass through the proposed treatment areas while foraging (FEMA 2023).

ESA-listed Species

The USFWS IpaC was used to identify proposed, threatened, and endangered species in the project areas. The nesting season for these migratory birds is generally March 15 through August 31, depending on the species. **Table 6** presents the ESA-listed threatened or endangered birds and their designated critical habitat that were identified to occur in the region, but not within the project area.

Table 6: ESA-listed Birds and DCH with Potential to Occur in Project Areas

Species	ESA Status	Presence	DCH
Northern spotted owl *Strix occidentalis caurina*	Threatened (6/26/1990)	No	No

Source: FEMA 2023

The **northern spotted owl (NSO) (*Strix occidentalis caurina*)** is a medium sized owl found in the Cascades and surrounding forested foothills. The species inhabits forests with dense, closed canopies of mature and old-growth trees, abundant logs, standing snags, and live trees with broken tops. The NSO feeds nocturnally on small mammals within arboreal habitat. This species typically nests within tree cavities and broken treetops in both living and dead trees. Breeding, nesting, and young rearing takes place from February through June (FEMA 2023).

Typically, NSO nesting, roosting, foraging (NRF) habitat is contiguous forest (>5 acres) with moderate to high canopy closure (60 to 90 percent), several tree species of varying sizes and age (multi-layer canopy), >20 inches dbh for nesting trees, large overstory trees, and sufficient open spaces amongst lower branches to fly under the canopy (Buchanan et al. 1993, Washington Department of Fish and Wildlife [WDFW] 2005, USFWS 2019). Contiguous forest is a forested area dominated by conifer that is separated from other forest by at least 328 feet (100 meters) or is otherwise surrounded by non-habitat (FEMA 2023).

At the Bear Creek Greenway project area, project activities would occur in the urban riparian zone, within the city limits of Medford and the urban growth boundary. The habitat conditions along Bear Creek are highly modified, and likely occupied by various corvid species or the occasional Barred Owl, which would make utilization by NSO unlikely (FEMA 2023).

The nearest documented NSO site is 3 miles east of the Prescott Park project area (OSU 2023), and the nearest NSO DCH (per November 2011 update) is 6 miles to the southeast. NSO habitat conditions at Prescott Park and the surrounding terrain are largely unsuitable for NSO, apart from two separated stands (each about 2 acres) in Prescott Park that are modeled as Highly Suitable, and a 7-acre stand of Marginal habitat to the south. However, there is also 2 miles of unsuitable habitat between Prescott Park's suitable habitat portion and the next nearest stand of suitable habitat, which would be just outside the established NSO circle to the east. In addition, great horned owls (*Bubo virginianus*) and young have been documented in Prescott Park, which would preclude NSO utilization. Existing conditions in the two project areas, along with the absence of DCH, mean that there is no expectation of NSO presence within the project areas.

No Action Alternative

Under the No Action Alternative, limited fuels reduction activities would continue to be conducted by the City and by private property owners. These activities would occur on such a small scale that it is likely that *short-term adverse impacts* to birds and their habitats would be *negligible*. However, as discussed above, depending on the intensity and scale of future wildfires, there could be long-term, adverse impacts on vegetation (partial or complete loss of rearing and foraging habitat) under the No Action Alternative, which would result in *long-term, minor to moderate adverse impacts on all birds (including migratory birds and bald and golden eagles) from habitat loss.*

Under the No Action Alternative, there would be *no short- or long-term impacts to threatened or endangered bird species* (NSO), as there is no expectation of NSO presence at either project area, nor is there any NSO DCH present.

Proposed Action

General Bird Species and Migratory Birds. The Proposed Action could affect avian species, including migratory birds, during the period of overlap between project activities and the bird nesting season for relevant species, as listed above (from March 15 to April 14). The disturbances in the proposed treatment areas could result in inadvertent nest destruction, birds abandoning nesting activities, and their displacement from preferred foraging areas. Ground-nesting and shrub-nesting birds would be impacted to a greater extent than birds nesting in the upper canopy of trees. However, treatments occurring within the breeding and nesting season would be subject to the prohibitions of the MBTA. For work occurring between March 15 and April 14, an avian survey for active nests would be required prior to treatment. If present, avoidance measures would be implemented during the proposed treatments, and all appropriate permits would be secured from the USFWS MBTA office. Therefore, the Proposed Action could have *short-term, minor adverse impacts* on all avian species, including migratory birds, during initial treatment activities and periodic maintenance, which would involve continued removal of invasive species and revegetation with native plants.

In the Bear Creek project area, vegetation management activities would primarily take place along the waterway, near residential structures, and along roadways and driveways, where eagles are unlikely to occur or to be previously acclimated to typical suburban human-caused noise. Prescott Park has a higher possibility for presence of bald and golden eagles, but project activities would only slightly overlap with their nesting season (from January 1 to April 14). For work occurring between January 1 and April 14, an avian survey for active nests would be required prior to treatment, similar to that required for other migratory birds. Additionally, conducting treatment activities within 660 feet of an occupied eagle nest would require coordination with the local USFWS office to minimize potential impacts. Therefore, implementation of the Proposed Action would have *short-term, negligible adverse impacts* to bald and golden eagles, if present.

Over the long-term, there would be *minor beneficial impacts* on all avian species, including migratory birds and bald and golden eagles, due to the reduction of wildfire intensity and spread, and associated widespread vegetation loss, depending on scale or intensity of a wildfire.

Northern Spotted Owl. Since there is no expectation of NSO presence in the area, nor is there DCH within the Project area, the proposed action would have *no impact on NSO*.

4.4.3. FISH AND CRUSTACEANS (INCLUDING THREATENED AND ENDANGERED AND THEIR HABITAT)

Bear Creek provides a valuable spawning and tributary habitat for anadromous and resident fish species before it enters into the Rogue River. Fish species found in Bear Creek include resident Rainbow Trout along with winter and summer steelhead anadromous forms (*Oncorhynchus mykiss)*, Coho Salmon (*Oncorhynchus kisutch)*, spring and fall Chinook Salmon (*Oncorhynchus tshawytscha)*, Cutthroat Trout (*Oncorhynchus clarkii)*, and Pacific Lamprey (*Entosphenus tridentata*) (City of Medford 2018). Westslope cutthroat trout (*Oncorhynchus lewisi*) can be found in the John Day

watershed and Lahontan cutthroat trout (*Oncorhynchus clarkia henshawi)* can be found in the far southeastern part of Oregon.

The Prescott Park project area contains several small riverine wetland habitats, most of which are intermittent and ephemeral upper watershed tributaries, such as Coal Mine Creek and Lazy Creek on the western edge of the park boundary. Some of the water features in this higher elevation park may contain water, soils, and vegetation suitable for wetland habitat within the known tributaries and adjacent drainages; however, because these tributaries and drainages lack year-long flows and typically only convey water from upland areas during times of high rainfall in late winter or early spring, Prescott Park is not likely to support significant fish or crustacean populations. The fish-bearing streams and essential salmonid habitat of the drainage occur well outside Prescott Park and surrounding parcels (Oregon State University and Institute of Natural Resources 2014).

ESA-listed Species

NMFS has authority for the protection of anadromous and marine fish and designates critical habitat for ESA-listed fish. Chinook salmon's Southern Oregon/Northern California Evolutionarily Significant Unit (ESU) is not designated as endangered or threatened under the ESA; as a result, there is no Designated Critical Habitat (DCH) for Chinook salmon in the project areas (NOAA 2024a). Coho Salmon's Southern Oregon/Northern California ESU, on the other hand, is designated as threatened under the ESA (NOAA 2024b). This ESU's DCH includes all river reaches accessible to listed Coho Salmon between Cape Blanco, Oregon and Punta Gorda, California (NMFS 2014). Therefore, Bear Creek and any riverine habitats within Prescott Park are DCH for Coho Salmon.

The Magnuson-Stevens Fisheries Conservation and Management Act (MSA) designates Essential Fish Habitat (EFH) for certain commercially managed marine and anadromous fish species to protect their habitat from being lost because of disturbance and degradation. Bear Creek is considered EFH for Chinook Salmon and Coho Salmon.

The **vernal pool fairy shrimp (*Branchinecta lynchi*)** is the only ESA -listed (Threatened) small (0.4 to 1.0 inch in length) crustacean present in the region. It was identified in 1990 and is currently found in vernal pools located in Jackson County, Oregon. This species is found on alluvial fan terraces associated with Agate-Winlo soils and in the Table Rocks area on Randcore-Shoat soils underlain by lava bedrock (USFWS 2005). Vernal pool fairy shrimp are found only in vernal pools and are not associated with riverine, marine, or other permanent bodies of water. Vernal pools form when water fills up small depressions for a variable period of time, usually occurring seasonally (FEMA 2023). Although the vernal pool fairy shrimp is more widely distributed than most other fairy shrimp species, it is generally uncommon throughout its range, and rarely abundant where it does occur (USFWS 2005). According to OSU ORBIC GIS data (2023), the nearest known location of vernal pool fairy shrimp occurs north of Medford, approximately 4.5 miles north of the Bear Creek Greenway project area and 3.5 miles north of the Prescott Park project area. This documented location is the same as the mapped DCH for the fairy shrimp. There are no known occurrences of fairy shrimp within the project area and no known locations of vernal pools.

No Action Alternative

Under the No Action Alternative, limited fuels reduction activities would continue to be implemented by the City and by some private property owners in a potentially inconsistent manner. However, these activities would be on a small scale and fairly negligible impacts. However depending on the scale and intensity of a wildfire sourced by unmanaged fuels, the No Project Alternative would likely result in adverse impacts to general water quality(as discussed in **Section 4.3.1**, *Surface Water and Water Quality*), which would result in overall reduction in the quality and function of aquatic habitat. Therefore, the No Project Alternative could cause *long-term, minor to moderate indirect adverse impacts* on residential fish species, which would include ESA-listed Coho Salmon and their DCH.

Proposed Action

General Fish and Crustaceans (Including ESA-listed Coho Salmon). As described in **Section 4.3.1**, *Surface Water and Water Quality*, the Proposed Action would result in minor adverse impacts on surface water and water quality due to the ground disturbance caused by removal of up to six inches of root systems of invasive species, as well as the possibility of herbicide contamination. As a result, initial treatment and periodic maintenance activities associated with the Proposed Action could result in *short-term, minor adverse impacts* on general aquatic habitat, residential fish and other aquatic species which includes ESA-listed Coho Salmon and their DCH.

Over the long-term, though, the Proposed Action would reduce the risk of ignition and spread of wildfire throughout the project areas, which would consequently reduce the risk of contamination of surface water and a deterioration in water quality. Therefore, implementation of the Proposed Action could have *long-term, minor beneficial impacts* on general aquatic habitat, residential fish and other aquatic species, which includes ESA-listed Coho Salmon and their DCH.

Vernal Pool Fairy Shrimp. There is potential that small rain fed vernal pools could form during winter and spring months when work is occurring. However, in the vicinity of any wetlands, various best management practices would be implemented, monitored, and maintained in order to control erosion and sedimentation, and provide protection for any protected species habitat. For example, herbicide treatment would avoid wetlands with a 3-foot minimum buffer around all wetland boundaries that would be flagged or marked prior to application (FEMA 2023). Therefore, due to a lack of presence in the project area and a lack of DCH adjacent to the project areas, there would be *no impact* on vernal pool fairy shrimp or its DCH in the short- or long-term.

4.4.4. INSECTS (INCLUDING THREATENED AND ENDANGERED AND THEIR HABITAT)

The Prescott Park and Bear Creek project areas are home to a variety of insects, including spike-topped apple snail (*Pomacea diffusa*), compost earthworm (*Eisenia veneta*), earthworm (*Lumbricus variegatus*), house cricket (*Acheta domesticus*), dragonfly (*Aeschna spp.*), mosquito (*Culex spp.*), and harvester ant (*Pogonomyrmex salinus*) (ODA 2017).

ESA-Listed Species

The USFWS IpaC database was used to identify proposed, threatened, and endangered insect species that could occur in the project areas. **Table 7** presents the ESA-listed candidate and endangered species and their designated critical habitat that were identified to occur in the region, but not within the project area.

Table 7: ESA-listed Insects and DCH with Potential to Occur in Project Areas

Species	ESA Status	Presence	DCH
Franklin's Bumble Bee (*Bombus franklini*)	Endangered (9/23/2021)	Potential	N/A
Monarch Butterfly (*Danaus plexippus*)	Candidate	Potential	N/A

Source: FEMA 2023

Franklin's bumble bee (FRBB) (*Bombus franklini*) was first identified in 1921 and currently is believed to have the most limited distribution of any North American bumble bee. It is found in the Siskiyou Mountains between Oregon and California, an area roughly 190 miles long and 70 miles wide. Although there is no established DCH for FRBB, two important habitat needs have been identified: sufficient floral resources for nectaring throughout the colony cycle, and relatively protected areas for breeding and shelter (USFWS 2021). Flight season is mid-May to the end of September, though some historical encounters include sightings in October.

Both the Bear Creek and Prescott Park project areas fall entirely within the FRBB High Priority Zone (HPZ) (USFWS 2022c). FRBB is presumed to be extremely rare, and there are no known populations of the species across any level of ecological conditions or spatial extent (USFWS 2023). The last known observation of FRBB at any location occurred in 2006 (USFWS 2021).

Substantial Floral Resources

FRBB habitat is characterized by the resources on which the species directly relies, including substantial floral resources, nesting habitat, and overwintering habitat. Substantial Floral Resources (SFRs) should contain a diverse and abundant group of insecticide-free native flowering plants that provide both pollen and nectar throughout the colony's active flight period.

The lack of species sightings within the Bear Creek or Prescott Park project areas may indicate lack of suitable SFRs based on the land cover and type of habitat expected (overrun with invasives) or may be indicative of selection for areas less frequented/modified by human activity. The Bear Creek project area includes various categories of land cover but primarily consists of tree canopy and grassland, both of which are likely modified and maintained. In comparison, the Prescott Park project area includes shrub and evergreen forest with minimal development and may contain interspersed SFR habitat types suitable for FRBB foraging. The 2020 fire season resulted in major ecological disturbance, causing clearing in ground cover and sections of tree mortality. It is expected that large-

scale and high temperature wildfires would cause loss of individual bees and result in negative effects to a colony, if not outright loss of the colony entirely (USFWS 2021). However, fire is a primary factor in the maintenance of grassland and meadow habitat that supports bumble bee species (USFWS 2021). In the years following a wildfire, it is expected that secondary succession plants begin to colonize the previously disturbed area, resulting in an increase in floral resources following the fire that attract foraging bees from the surrounding area. It is unclear how long it takes for bees to return following a severe disturbance (FEMA 2023).

There is potential that SFR may exist in small sections within the Prescott Park project area.

Nesting Habitat

Nesting habitat includes abandoned rodent burrows, bunch grasses, and rock piles, likely occurring within SFR habitat or within 100 meters of SFRs. Nesting occurs during the active flight season and is not reasonably certain to occur in locations containing these features beyond 100 meters from SFRs. Since FRBB requires constant and diverse blooming flowers from spring to autumn, preferred sites would be in open (non-forested) meadows near seeps and wet meadow environment (FEMA 2023).

Overwintering Habitat

Overwintering habitats are generally protected sites for the queens to hibernate and are often similar to nesting sites. This habitat is essential for the continuation of colonies over multiple years. Due to the low number (or complete absence of) FRBB nest sites and individuals throughout the project area, the presence of overwintering habitat within the project area is also unlikely. Therefore, the probability of the species' overwintering is unlikely.

For additional detail on varying habitats for FRBB, as well as discussion of historical documented and recorded sightings, see Appendix B, Biological Assessment.

As discussed above, the presence of this species within the project areas is highly unlikely. However, due to the difficulties associated with observation and documentation of bumble bees, their presence cannot be entirely ruled out. As stated above, the project areas fall entirely within FRBB's HPZ, where it would be most likely to occur based on historical detection locations and modeled habitat. Therefore, pollinator and habitat surveys, consultation, and conservation should be prioritized in these areas (FEMA 2023).

Western North American monarch butterflies (*Danaus plexippus*) spend their summers in the northern U.S. and Canada and complete their migration to California during the winter. Monarchs will fly between 2,000 to 3,000 miles to an overwintering site. Total migration takes about three to four generations of butterflies before they arrive back at the starting point (Nature Works 2023). The monarch's summer habitat includes open fields and meadows that contain milkweeds, where adults lay their eggs.

Due to a loss of habitat, the monarch population has declined significantly. Genetically modified crops, overuse of herbicides and insecticides, and destruction of natural areas due to overdevelopment are some of the leading causes of this species decline (Xerces 2023).

Since the monarch butterfly is currently listed as a candidate species, no ESA determination or consultation is needed.

No Action Alternative

Under the No Action Alternative, limited fuels reduction activities would continue to be implemented by the City and by private property owners. These activities could affect habitat or nesting sites for FRBB, but impacts would likely be *short-term* and *negligible* due to the small scale of ongoing activities. However, the No Action Alternative would not significantly reduce the risk for ignition and spread of wildfire throughout the project areas. Therefore, if a wildfire were to occur in the area, its spread could have the potential to damage or destroy SFR, nesting, or overwintering habitat resources, and would pose risk of injury or fatality to individual insects. Consequently, depending on the scale and intensity of a wildfire, the No Action Alternative could result in *long-term, moderate to major adverse* impacts on FRBB and other insects that are present.

Proposed Action

General Insects. Manual and mechanical treatment activities would generally not result in direct impacts to insect species present in the project areas.

Studies have shown that herbicides may result in negative acute impacts to invertebrates (Henderson et al., 2010). Direct impacts to individuals normally occur through oral ingestion of herbicides or through contact exposure of herbicide residue on plants. The severity of potential effects from exposure to herbicides depends largely on the amount of time that chemicals are expected to remain in the project areas; the half-lives of aquatic glyphosate and aquatic imazapyr can vary greatly depending on soil type and weather conditions, but generally range from 2 to 197 (for glyphosate) and 10 days (for imazapyr). However, herbicide application would target invasive plant species through spot spraying and selective application rather than broadcast spraying.

Application drift also creates the potential for exposure to herbicides outside of the project areas. However, the majority of herbicide treatments would occur well within the project areas rather than at their boundaries; therefore, most of the potential drift zone would remain within the project area rather than outside of it. This, plus the lower—than-average height at which herbicides would be applied, severely limits potential for incidental drift exposure (FEMA 2023). Overall, *short-term impacts to general insect species resulting from the Proposed Action would be negligibly adverse.*

Over the long term, fuels reduction activities associated with the Proposed Action would improve habitat conditions by increasing open forest habitat, removing invasive species, increasing native plant diversity, and reducing wildfire risk. Therefore, implementation of the Proposed Action would result in *long-term, minor beneficial impacts* to insects.

FRBB. Proposed fuels treatments within the project area may have the potential to affect individuals and suitable nesting habitat. Manual and mechanical treatment actions would generally not result in direct effects to FRBB.

However, studies have shown that herbicides may result in negative acute impacts to invertebrates, including bees (Henderson et al., 2010). Direct impacts to individuals normally occur through oral ingestion of herbicides or through contact exposure of herbicide residue on plants. The severity of potential effects from exposure to herbicides depends largely on the amount of time that chemicals are expected to remain in the project areas; the half-lives of aquatic glyphosate and aquatic imazapyr can vary greatly depending on soil type and weather conditions, but generally range from 2 to 197 (for glyphosate) and 10 days (for imazapyr). Herbicide application would target invasive plant species through spot spraying and selective application rather than broadcast spraying and the applications are not expected to occur within close proximity to SFR. Once applied, herbicides would not be highly mobile within the soil, and are therefore not likely to reach overwintering underground nests if any are present. Residual chemicals from herbicide application are expected to decompose in place within the soil and would not be expected to remain in the ecosystem through FRBB's next flight season (FEMA 2023).

Application drift also creates the potential for exposure to herbicides. As a result, a conservative potential drift zone was set at a 50 feet buffer around the project areas to account for a worst-case scenario of application drift. Primary components of this buffer are urban residential structures, manicured lawns, and roads, none of which are ideal for SFR. Additionally, the majority of herbicide treatments would occur well within the project areas rather than at their boundaries; therefore, most of the potential drift zone would remain within the project area rather than in the buffer. This, plus the lower—than-average height at which herbicides would be applied, severely limits potential for incidental drift exposure (FEMA 2023).

FRBB are most vulnerable to adverse effects during the active flight season (May 15 to September 30), but no project activities would take place during this window. As a result of the timing of project activities (occurring between October 1 and April 14), as well as the low potential for application drift, *direct short-term impacts to FRBB themselves would be negligible* (FEMA 2023).

As discussed above, there are three major habitat requirements for FRBB: substantial floral resources (SFR), nesting, and overwintering.

Substantial Floral Habitat

As discussed above, any intact SFR habitat in the Bear Creek project area, if it were present, is segmented by moderate development and is unlikely to be utilized by FRBB (USFWS 2023). Additionally, herbicide applications within the Bear Creek Greenway would only be applied to invasive species in late fall, when local plants are done flowering and would no longer be potentially used as a floral foraging resource. This would avoid any potential impact to floral foraging resources that pollinators may be using (FEMA 2023). Therefore, there would be *no adverse impacts* to SFR in the Bear Creek project area.

Project impacts to potential SFR in the Prescott Park project area may include temporary loss of floral resources, which can lead to nutritional stress, avoidance of an area, deterioration of body condition, and reduced reproductive output due to the need to find appropriate nesting habitat elsewhere. However, restrictions in timing to ensure that work occurs outside of the active flight season would sufficiently avoid direct impacts to SFR habitat; therefore, there would be *short-term, negligible direct adverse impacts* on SFR habitat in the Prescott Park project area during initial treatment and periodic maintenance activities.

Nesting Habitat

The potential for impacts to suitable nest sites that could be utilized during the active flight season are minimal. As discussed above, high quality SFR likely do not appear present within Bear Creek. Additionally, it is unlikely that any nest sites would be crushed or damaged by heavy equipment used for mechanical treatment, since equipment would utilize existing pathways and trails. Within Prescott Park habitat types, there is potential that SFR may exist in small sections throughout the project area. However, the potential for damage to suitable nesting sites by hand crews conducting manual treatment is low. Due to these site characteristics, as well as restrictions on timing that would ensure that work only occurs outside of the active flight season, there would be *short-term, negligible direct adverse impacts* on FRBB nesting sites during initial treatment activities and periodic maintenance.

Overwintering Habitat

As discussed above, the presence of overwintering habitat within the project area is unlikely. Therefore, the probability of the species' overwintering is also unlikely. Regardless, decompression or crushing of overwintering sites would be avoided due to the utilization of existing pathways and trails in the Bear Creek project area and the utilization of solely manual treatment by hand crews in the Prescott Park project area. Therefore, there would be *short-term, negligible, direct adverse impacts* to overwintering sites during initial treatment activities and periodic maintenance.

It is considered very unlikely that FRBB would be present in the project area; if the species were to occur in the project area, numbers would be extremely minimal. Further, project actions would be conducted in a timeframe and manner to avoid and minimize adverse impacts to FRBB, if present; therefore, any impacts to FRBB would be *short-term and negligible adverse impacts.*

Over the long term, fuels reduction activities associated with the Proposed Action would improve habitat conditions by increasing open forest habitat, removing invasive species, increasing native plant diversity, and reducing wildfire risk. Therefore, implementation of the Proposed Action would result in *long-term, negligible beneficial impacts* to FRBB given it is unlikely that FRBB would be present in the project area.

Western North American Monarch Butterfly. The project is not anticipated to impact the monarch butterfly since, As discussed above, this species is not expected to be present during proposed work windows and work would not affect milkweed plants. Therefore, there would be *no short term or long-term adverse impacts to the Western North American monarch butterfly.*

4.4.5. WILDLIFE (INCLUDING THREATENED AND ENDANGERED AND THEIR HABITAT)

The Bear Creek project area is home to a variety of wildlife, including mammals, amphibians, and reptiles. Species found in the project area include ringtail (*Bassariscus astutus*), silver-haired bat (*Lasionycteris noctivagans*), Hoary bat (*Lasiurus cinereus*), California myotis (*Myotis californicus*), Western toad (*Anaxyrus boreas*), Clouded salamander (*Aneides ferreus*), Foothill yellow-legged frog (*Rana boylii*), Western pond turtle (*Actinemys marmorata*), and California mountain kingsnake (*Lampropeltis zonata*) (BCRI 2023).

Prescott Park is home to forbs-grasslands, oak/shrub communities, and mixed coniferous forest. These habitat types support black-tailed deer (*Odocoileus hemionus columbianus*), Roosevelt elk (*Cervus canadensis roosevelti*), raccoons (*Procyon lotor*), skunks (*Mephitidae*), bobcats (*Lynx rufus*), coyotes (*Canis latrans*), weasels (*Mustela*), squirrels (*Sciuridae*), and cougars (*Puma concolor*) within the park (City of Medford 2008).

ESA-listed Species

The IpaC database was used to identify proposed, threatened, and endangered terrestrial species that could occur in the project area. **Table 8** presents the ESA-listed threatened or endangered terrestrial species and their designated critical habitat that were identified to occur in the region, but not within the project area.

Table 8: ESA-listed Mammals and DCH with Potential to Occur in Project Areas

Species	ESA Status	Presence	DCH
Gray Wolf (*Canis lupus*)	Endangered	No	No
Pacific Marten (*Martes caurina*)	Threatened	No	No (Proposed)

Source: FEMA 2023

The **gray wolf (*Canis lupus*)**, being a keystone predator, is an integral component of the ecosystems to which it typically belongs. The wide range of habitats in which wolves can thrive reflects their adaptability as a species, and includes temperate forests, mountains, tundra, taiga, and grasslands. In 1978, the gray wolf was reclassified as an endangered population at the species level (*C. lupus*) throughout the contiguous U.S. and Mexico, except for the Minnesota gray wolf population, which was classified as threatened (FEMA 2023). Recent ODFW data indicates the known extent of gray wolf packs within Oregon, with the Rogue pack nearest to the project area. While gray wolves are known to occur in Jackson County, the known extent is a substantial distance away from Medford and the project areas. Even with undocumented adults ranging outside of the currently known extents, it is highly unlikely that adults would enter the urban area and be present at the worksite during project work activities.

The **Pacific marten (*Martes caurina*)** is a medium-sized carnivore that has historically occurred throughout the coastal forests of northwestern California and Oregon. There are two distinct coastal

Oregon populations. The project areas fall within the range of the Southern Coastal Oregon population (FEMA 2023). Pacific martens can be in found in older forests that have a mixture of old and large trees, multiple canopy layers, snags and other decay elements, dense understory development, and a biologically complex structure and composition (USFWS 2018). Large-diameter trees with large horizontal limbs, standing snags with cavities or chambers, and downed hollow logs provide resting habitat between foraging activities and provide protection from predators. Denning occurs within large diameter live and dead trees with cavities. Martens may pick den sites where suitable foraging habitat is within proximity (USFWS 2018).

While Pacific marten are likely present in Jackson County, there are no documented occurrences of the species within the project areas. According to the 2023 ORBIC GIS dataset, the nearest known occurrence of the Pacific marten is over 30 miles east of Medford. The project area does not overlap with Pacific marten DCH, nor does it contain large extents of dense understory or otherwise complex habitat features.

No Action Alternative

Under the No Action Alternative, limited fuels reduction activities would continue to be implemented by the City and by private property owners. These activities could affect habitat for ESA-listed mammals and other present wildlife, but adverse impacts would likely be *short-term* and *negligible* due to the small scale of ongoing activities. However, the No Action Alternative would not significantly reduce the risk for ignition and spread of wildfire throughout the project areas. Therefore, if a wildfire were to occur in the area, its spread could have the potential to damage or destroy vegetation and habitat resources and would pose risk of injury or fatality to individual animals. Consequently, depending on the scale and intensity of a wildfire, the No Action Alternative could result in *long-term, moderate to major adverse impacts* on ESA-listed mammals and other present wildlife.

Proposed Action

General Wildlife. Due to short term site disturbances but retention as open space, the Proposed Action would result in *minor, short-term adverse impacts* to general non-ESA listed terrestrial wildlife during initial treatment activities and periodic maintenance. However, in the event of a wildfire, these species would be at decreased risk of losing habitat or life due to the reduced risk of ignition and spread of wildfire. Therefore, the Proposed Action would result in *long-term, minor beneficial impacts* on all terrestrial species.

Gray Wolf and Pacific Marten. Due to the anticipated absence of gray wolves, the lack of historical presence of Pacific marten, and the lack of gray wolf and Pacific marten DCH in and around the project areas, there would be *no short- or long-term impacts* to gray wolves or Pacific marten as a result of the Proposed Action.

4.5. Cultural Resources and Historic Properties

This section provides an overview of potential impacts on cultural resources, including historic properties. Section 106 of the National Historic Preservation Act of 1966 (NHPA) requires that activities using federal funds undergo a review process to consider potential effects on historic properties that are listed in or may be eligible for listing in the National Register of Historic Places (NRHP). This process is completed in consultation with the State Historic Preservation Office (SHPO)and Tribes, including Tribal Historic Preservation Officers (THPO).

Historic properties include prehistoric or historic archeological sites, structures, and districts. Cultural resources may include objects, artifacts, and cultural properties of historic or traditional significance, referred to as Traditional Cultural Properties. These properties may have religious or cultural significance to federally recognized Indian Tribes. Cultural resources also include other physical evidence of human activity considered to be important to culture, subculture, or community for scientific, traditional, religious, or other reasons. Important living cultural resources, such as salmon and culturally relevant plants, important for traditional, religious, and other reasons, may also be included.

Pursuant to 36 CFR §800.4(a)(1), an Area of Potential Effects (APE) was defined to include the treatment areas within which the undertaking may directly or indirectly affect cultural resources. Within the APE, impacts on cultural resources were evaluated for both historic structures (i.e., above ground cultural resources) and archaeology (i.e., below ground cultural resources).

Cultural resources surveys were completed by Dudek (2024) to summarize the existing known cultural resources within the Prescott Park and Bear Creek Greenway APE (Windler, Pizzimenti, and Donovan-Boyd 2024; Windler, Dols, Brisentine, and Donovan-Boyd 2024).

Precontact Context

Archaeological evidence indicates that Native peoples have lived in southwestern Oregon for at least 12,800 years. The earliest time period is defined as the Paleoindian Period, which lasted from the arrival of the first humans in the region up through around 10,000 before present (BP). While sites with evidence of Paleoindian occupation have been identified in other areas of Oregon, such sites have not been found in southwestern Oregon to date. Instead, evidence of a Paleoindian presence in the region has thus far been limited to individual Clovis points that have been found on the surface.[3] The next period, which included parts of the early and middle Holocene, began about 10,000 B.P. and lasted through eruption of Mount Mazama in about 7,600 B.P. This period was characterized by broad-based hunting with a secondary emphasis on gathering. The period that followed the eruption of Mount Mazama lasted from about 7,600 B.P. through 1,700 B.P. and included parts of the middle Holocene and the early part of the late Holocene. Despite spanning nearly 6,000 years, the evidence

[3] The Clovis point is a large, bifacially flaked stone tool containing a prominent “flute” or flake scar at its base, with lateral and basal edge grinding.

from this period indicates that there was a high degree of stability and cultural continuity within southwestern Oregon during this period. The long tenure of this cultural tradition is thought to be due in large part to southwestern Oregon's environment and geography: numerous valleys separated from each other by often steep and rugged terrain, with both upland and lowland areas offering numerous resources for subsistence. The early Native peoples of southwestern Oregon, in turn, adapted to the local conditions by maintaining a relatively mobile lifestyle and living in small autonomous groups, a pattern that was largely followed until the period of first contact with non-Native peoples in the early 19th century. This pattern is particularly evident in the types of sites that are associated with the Glade Tradition, the vast majority of which have been identified as either seasonal camp sites or as sites associated with specific tasks (e.g., tool manufacturing or resource processing). One important site with components from this period, the Gold Hill site, is located along a terrace of the Rogue River opposite the town of Gold Hill approximately 8.5 miles northwest of the APE. This site was a large village site that was used recurrently between around 3,000 B.P. up until 1,000 B.P. The site has yielded a large assemblage of tools associated with the Glade Tradition including many medium-sized foliate projectile points, along with features associated with human burial and hearths with associated fire cracked rock, charcoal, and bone and antler fragments. Several large obsidian blades associated with human burials at the Gold Hill site originated from sources located more than 175 miles away in east-central Oregon and in northeastern California, again indicating either trade or long-distance travel.

The final period, which occurred during the late Holocene, began around 1,700 B.P. and lasted until around 200 B.P. This period included a number of changes from the preceding period, such as evidence of a larger population and the appearance of new tools, including arrow points, which indicate the adoption of bows and arrows for hunting during this period.

Ethnographic and Historic Context

Anthropologists have classified the Native peoples who traditionally lived in the lands that include the APE into three groups: the Lowland, Upland, and Northern Takelma people. The Takelma people traditionally occupied the APE in the Rogue Basin and Valley. Also within the Rogue Basin, and bordering the Takelma, were the traditional homelands of the Shasta, Southern Molalla and Dakubetede people.

The Takelma people, in addition to the Lowland group, include the Upland Takelma (Latgawa) in the east and south in the Rogue River, Bear Creek, and Little Butte Creek drainages, and the Northern Takelma, in the upper Rogue River in the western Cascades.

Each village group among the Takelma was associated with a permanent winter village. The Takelma followed a seasonal round in which they hunted, fished, and gathered various resources as they became available during the year. Other seasonal subsistence activities were conducted in upland settings; these included hunting, gathering and processing plant foods, and acquiring raw materials for making tools and other household items. The Takelma had a robust basketry tradition that was integral to every stage of their lifeways from the collection, transportation, and storage of resources

to the preparation and serving of food and water; baskets were produced in various sizes and shapes depending on their intended function.

In the 1850s, the gold rush brought Euro-Americans to the region and also brought increased pressure from miners and American settlers on the inhabitants of the region. As a result, the Rogue River War began following a series of massacres and battles between the settlers and the Indians. In the fall of 1853, federal authorities signed the "Treaty with the Rogue River" with some of the Takelma and Athapaskan chiefs and established the Table Rock Indian Reservation along the north bank of the Rogue River just north of present-day Medford. This reservation was short-lived and, after three years of hostilities, many Takelma were removed to the Grand Ronde and Siletz Reservations. Many people, however, chose not to move to the reservations and settled in various places in the region.

The APE is located approximately 7 miles south/south-southeast of the Table Rocks (*Ti'tanak* in the Takelma language), volcanic plateaus with great cultural significance to the local Tribes.

The Takelma language was extinct in southwestern Oregon by 1940, but it survived through anthropologist and linguist Edward Sapir's recordings of Frances Johnson, the last known speaker of Takelma. Then, in 2019, the Cow Creek Band of Umpqua Tribe of Indians received a three-year grant from the Federal Administration for Native Americans to initiate a restoration of the Takelma language. The tribe's work on the Takelma Language Program has yielded the creation of a Takelma dictionary, in-person and virtual language classes, books and e-books, and restored audio of the language being spoken.

The historic period in the interior of southwestern Oregon began with the arrival of fur trappers, traders, and explorers from the U.S., Canada, and Europe in the early 19th century. Beginning in the 1840s, most Euro-American emigrants arrived by way of the Oregon Trail and opted for lowland portions of the Umpqua River drainage that could be easily farmed and were relatively close to the Applegate Trail, the main thoroughfare at the time.

Euro-American settlement in the Rogue Valley during the 1840s and early 1850s was limited to a small number of outposts but the discovery of gold along Jackson Creek and in Rich Gulch between 1851 and 1852 brought a significant influx of prospectors and settlers to the valley.

In the early 1880s, the Oregon and California Railroad (O&C) began laying track south of Roseburg and towards Grants Pass; the first train arrived along the west bank of Bear Creek in what is now the City on January 18, 1884.Thirty-six buildings, including a saloon, two blacksmith shops, and a general store, were constructed within the first few months of the O&C's arrival in Medford. By the middle of the 20th century, the areas surrounding the APE were largely urbanized by the growth of Medford and other developments along the Interstate 5 corridor in the Rogue Valley.

Archaeological Resources

The cultural resources investigations carried out by Dudek (2024) for the Proposed Action included background research, a literature review, a cultural resources and archaeological pedestrian survey,

archaeological subsurface testing (Bear Creek project area only, 179 shovel probes; SHPO Permit No. 3864), and a reconnaissance-level survey for built environment resources (Prescott Park project area only). The pedestrian survey for the Bear Creek APE was conducted over two field missions between April 9 and April 25, 2024, and the pedestrian survey for the Prescott Park APE was conducted between January 15 and February 2, 2024.

At the Bear Creek project area, ten previously recorded archaeological resources were identified within the APE. Nine of these have been determined not eligible for listing in the NRHP. One previously recorded resource, a precontact camp site, is considered unevaluated for the NRHP. During the pedestrian survey at Bear Creek, Dudek updated two previously recorded archaeological sites (including the precontact campsite and historic debris scatter) and identified seven new archaeological resources within the APE: one precontact lithic material site, two historic-period sites (one historic bridge and one historic debris scatter), one multi-component site, one precontact isolate, and two historic-period isolates. Six of these newly identified archaeological resources were recommended to be not eligible for the NRHP. The precontact lithic material site is considered unevaluated for listing in the NRHP. No built environment resources were identified within the Bear Creek portion of the APE (Windler, Pizzimenti, and Donovan-Boyd 2024).

At the Prescott Park project area, only approximately 610 out of 650 acres were surveyed; the remaining 40 acres had slopes exceeding 30 degrees and could not be safely accessed. During the pedestrian survey, Dudek identified one previously recorded archaeological site, three newly identified archaeological isolates, and seven newly identified archaeological sites. Five archaeological resources—four of the historic-period archaeological sites and the historic-period isolate—were recommended to be not eligible for the NRHP. Six archaeological resources—the previously recorded precontact archaeological site, one newly identified precontact site, two newly identified historic-period sites, and two newly identified precontact isolates—are considered unevaluated for listing in the NRHP. Three built environment resources were previously recorded within the Prescott Park APE, all of which were built by the Civilian Conservation Corps (CCC) as part of the 1936 Prescott Park Master Plan. Two newly recorded built environment resources were identified within the Prescott Park APE. However, all built environment resources within the APE were recommended to be not eligible for listing in the NRHP (Windler, Dols, Brisentine, and Donovan-Boyd 2024).

No Action Alternative

Under the No Action Alternative, limited fuel reduction activities would continue to be implemented by the City and by private property owners. These activities could result in limited ground disturbance, which could negatively affect previously recorded or unknown buried archaeological resources. However, given the geographically dispersed nature of these activities and the limited ground that would be covered each year, *short-term adverse impacts to archaeological resources and historic structures would be negligible*.

However, under this alternative, the risk of wildfire spread would remain high. Depending on the scale and intensity of a wildfire, the No Action Alternative could result in direct (through burning) or

indirect (through effects to soil, as described in **Section 4.2.1**, *Topography and Soils*) impacts to surface-level and buried cultural and archaeological resources. As a result, the No Action Alternative could have *long-term, minor to moderate adverse impacts on archaeological resources and historic structures*.

Proposed Action

As described in **Section 3.2**, *Proposed Action*, implementation of the Proposed Action would involve manual, mechanical, and chemical methods of vegetation management to establish defensible space; trim or remove dead, diseased, and dying trees and vegetation; and control invasive species. The only ground disturbance that would occur would be the removal of up to 6 inches of the root systems of invasive plants to prevent their reestablishment in the Bear Creek Greenway. Root balls would not be disturbed during the creation of defensible space or hazardous fuels reduction. In addition, most larger trees and shrubs would be retained, along with "safe snags." During the establishment of defensible space and related grass-cutting, care would be taken to avoid exposing soils. Regardless, the use of chippers, rubber tracked machines, and other trucks and trailers could potentially impact buried archaeological resources. As such, the Proposed Action would avoid and minimize potential impacts to cultural resources by implementing the following measures:

- To avoid potential adverse effects in the Bear Creek APE, a 30-meter buffer will be placed around the two (2) archaeological sites that remain unevaluated (sites 35JA1087 and 15891.02-01). Project activities related to wildfire fuels mitigation work can occur within these buffers under the conditions that 1) all activity will be done with handheld tools, 2) vegetation waste will be carried out and not dragged for disposal outside of these buffers, 3) no burning or chipping will occur within these buffers, and 4) there will be no mechanized vehicle activity allowed in these areas. However, mowing, which is an activity that has historically occurred within these site boundaries and is not likely to cause ground disturbance, is recommended to continue within the boundaries of the sites. Additionally, work will be done during dry conditions to minimize ground disturbance.

- To avoid potential adverse effects in the Prescott Park APE, a 20-meter buffer will be placed around the six (6) archaeological sites that remain unevaluated (35JA146, 15891.01-07, 15891.01-01, 15891.01-02, 15891.01-08i and 15891.01-09i). Project activities related to wildfire fuels mitigation work can occur within these buffers under the conditions that 1) all activity will be done with handheld tools, 2) vegetation waste will be carried out and not dragged for disposal outside of these buffers, 3) no burning or chipping will occur within these buffers, and 4) there will be no mechanized vehicle activity allowed in these areas. Additionally, work will be done during dry conditions to minimize ground disturbance.

- In the event that any archeological resources are discovered during project implementation, work would immediately cease, the area would be secured, and the City would notify the FEMA and the Oregon SHPO for further evaluation (Appendix A).

If all of the recommendations above are implemented, it is unlikely that cultural resources would be impacted by fuel treatment activities within the proposed project areas. The Proposed Action would not alter any existing structures within the proposed treatment areas.

For the Prescott Park project area, archaeologists were able to survey the APE without an Oregon Archaeological permit since no ground disturbance in the form of shovel probes was required. Consultation letters notifying The Cow Creek Band of Umpqua Tribe of Indians, The Confederated Tribes of the Grand Ronde, The Confederated Tribes of the Siletz Indians of Oregon, and Tolowa Dee-ni' Nation of the cultural resources survey were sent by FEMA on February 6, 2024. FEMA consulted with the Oregon SHPO and Tribes on August 12, 2024, and again on November 7, 2024, and made a *No Adverse Effects* to Historic Properties determination with the above noted conditions. The Oregon SHPO concurred on December 6, 2024, and no Tribal Response was received (Appendix A).

An Oregon Archaeological Permit was required for the survey of the Bear Creek portion of the APE due to the need for ground disturbance in the form of shovel probes. Consultation letters notifying The Cow Creek Band of Umpqua Tribe of Indians, The Confederated Tribes of the Grand Ronde, The Confederated Tribes of the Siletz Indians of Oregon, and Tolowa Dee-ni' Nation of the cultural resources survey were sent by FEMA on February 6, 2024. FEMA consulted with the SHPO and Tribes on August 29, 2024, and made a *No Adverse Effects* to Historic Properties determination with the above noted conditions (Appendix A). No response was received by the Oregon SHPO or the Tribes within 30 days.

In the event that any archeological resources are discovered during project implementation, work would immediately cease, the area would be secured, and the City would notify the FEMA and the Oregon SHPO for further evaluation (Appendix A).

4.6. Quality of Life Resources

This section discusses other resources that impact people's quality of life. Specifically, traffic, noise, and visual impacts.

4.6.1. TRAFFIC

Construction projects have the potential to disrupt traffic patterns or increase traffic volumes to unacceptable levels of service. Regional access to the two project areas is provided by I-5. Local access to the Bear Creek treatment area is provided by various residential roadways throughout the City of Medford, and local access to Prescott Park is provided by Roxy Ann Road. Most of the individual Bear Creek treatment areas are located on local residential streets, and Prescott Park has a well-developed trail and access road system; therefore, there are paved routes or well-maintained dirt roads for residents, visitors, and emergency responders.

No Action Alternative

Under the No Action Alternative, some limited fuels reduction activities would continue to be implemented by private property owners and the City of Medford. The increase in traffic resulting

from these activities would result in *short-term, negligible adverse impacts* on transportation infrastructure given that the timing of the activities would not be coordinated or monitored. Additionally, even with the implementation of these activities, the potential for a major wildfire to spread would remain high. Wildfire may encroach upon roadways and wildfire smoke may inhibit the ability to see roadways clearly. In recent years, fires in Jackson County have required the closure of highways due to reduced visibility from smoke, debris hazards, and fire safety concerns. For example, the Klamathon Fire in 2018 prompted the Oregon Department of Transportation (ODOT) to close portions of I-5 in Jackson County as a result of the fire's rapid spread (Robertson 2018). Further, with limited options for emergency vehicle and escape route access, the spread of wildfire could inhibit the ability for evacuation or increase the risk for firefighters. Therefore, the No Action Alternative could have *intermittent*, *minor to moderate adverse impacts* on transportation infrastructure and traffic, depending on the scale and intensity of a wildfire.

Proposed Action

Under the Proposed Action, crews would access Bear Creek treatment area via the paved Bear Creek Greenway, as well as other existing, surface-graded paths (see **Figures 2 and 3**). The treatment area in Prescott Park would be accessed via Hillcrest Road and Roxy Ann Road, as well as the approximate 18- to 20-foot-wide dirt and gravel road that loops around the park. Within the park, existing service roads would be utilized to transport hand crews. Work on each of the proposed treatment areas would require a small number of vehicles for a short duration, and none of the roads or paths to be used by crews are major throughfares. Additionally, no road closures or detours are expected, given that crews and equipment would be removed daily and, as a result, no staging areas would be required. Therefore, there may be *short-term, negligible adverse impacts* on transportation infrastructure and traffic from project activities and crew and equipment transportation during initial treatment and periodic maintenance.

Over the long term, the coordinated fuel reduction treatment activities would reduce the risk of wildfire spread throughout the Bear Creek Greenway and in Prescott Park, which would reduce potential impacts from wildfire smoke and damage to transportation infrastructure within those areas. In addition, the Proposed Action would improve safety and access for residents, and emergency responders in the event of a local wildfire. Therefore, the Proposed Action would have *long-term, minor beneficial impacts* on transportation infrastructure and traffic. However, absent regional landscape-scaled wildfire mitigation, these areas would continue to be impacted by smoke or transportation infrastructure disruptions from wildfires in the region.

4.6.2. NOISE

Within this discussion, noise is generally defined as sounds that disrupt normal human activities or otherwise diminish the quality of the human environment. (Indirect noise issues related to wildlife are addressed in **Section 4.4**, *Biological Resources*.) Due to the wide range of pressure and intensity encountered during measurements of sound, a logarithmic scale is used, based on the decibel (dB).

The U.S. Department of Transportation (USDOT) National Transportation Noise Map provides data on average noise levels throughout the country. Within the Bear Creek project area, noise levels range from less than 45.0 A-weighted decibels (dBA) to approximately 89.0 dBA, depending on proximity to the I-5, the major transportation route in Medford. In the Prescott Park treatment area, noise levels are less than 45.0 dBA. These measurements represent A-weighted 24-hour equivalent sound levels (L_{eq}) (i.e., A-weighted, average sound level for the entire 24-hour day) (USDOT 2020).

Human response to noise can vary according to the type and characteristics of the noise source; the distance between the noise source and the receptor; the sensitivity of the receptor; and the time of day. Noise events that occur during the night (10 p.m. to 7 a.m.) are more annoying than those that occur during normal waking hours (7 a.m. to 10 p.m.). Human noise-sensitive receptors are, in general, those areas of human habitation or substantial use where the intrusion of noise has the greatest potential to adversely affect the occupancy, use, or enjoyment of the environment. Typical sensitive receptors include residences, schools, churches, hospitals, nursing homes, and libraries.

Sensitive receptors near the proposed treatment areas consist largely of residences, including those which would receive treatment, as well as nearby residences not participating in the program. There are several schools, places of worship, hotels, and parks, as well as one library, that are located within a quarter mile of the treatment area at Bear Creek. At the Prescott Park treatment area, the nearest residences are more than 0.2 mile away. No other sensitive receptors occur within a quarter mile of the Prescott Park project area.

There are no statutory or regulatory thresholds for noise impacts on humans. Oregon's Administrative Rules do not establish specific thresholds for noise exposure as it relates to the use of machinery, and Jackson County has not developed or implemented a noise ordinance. Medford Municipal Code Section 5.225(1)(f) prohibits unnecessary noise in residentially zoned neighborhoods between the hours of 2200 and 0700.

No Action Alternative

Under the No Action Alternative, some limited fuels reduction activities may still be implemented by at-risk property owners on their own initiative, and the City may continue small-scale vegetation maintenance activities. The tools and equipment used for these activities would be similar to those already in use for general landscaping maintenance around residences and on public land where current vegetation management occurs near Bear Creek and Prescott Park, including chainsaws and other hand-operated power tools. There would be *short-term, negligible adverse impacts* on noise experienced by sensitive receptors near the project areas. There would be no long-term impact on noise as a result of the No Action Alternative.

Proposed Action

The Proposed Action would not generate any new long-term noise; therefore, this section addresses only treatment activity-related impacts. Noise levels vary with the level of fuel reduction treatment

activities, types of equipment operating at a particular time, and proximity of treatment activities to sensitive receptors.

Implementation of the Proposed Action would increase noise levels within the immediate vicinities of the treatment activities for the duration of the work. The creation of defensible space would involve work within 30 feet of the nearest sensitive residential land use within the Bear Creek Greenway project area and more than 1,000 feet of the nearest sensitive residential land use within the Prescott Park project area.

These residences, and other nearby receptors (such as recreationists utilizing Prescott Park as a public recreational resource), would experience short duration, temporary, intermittent increases in noise emanating from three primary sources: increased truck traffic moving crews, equipment, and vegetation to and from project area; noise in the treatment areas from daily construction worker parking; and equipment/machinery used for vegetation treatment activities.

The majority of noise would be generated by the operation of hand-operated power tools, such as chainsaws, as well as by mechanical tools such as tractors, mowers, and masticators. The loudest equipment likely to be used in the Bear Creek project area would be a masticator, which can produce noise levels up to 67 dBA when perceived from approximately 50 feet away (Broyles et al. 2017). At a distance of 30 feet from the project area, the nearest sensitive residentially zoned area would experience noise levels up to 72 dBA. The loudest equipment likely to be used within Prescott Park project area would be chainsaws, which can produce noise levels up to 85 dBA when perceived from approximately 50 feet away. At a distance of more than 1,000 feet, the nearest residentially zoned area would experience noise levels up to 59 dBA. Recreationists in the park could be exposed to elevated noise levels, depending on their proximity to equipment; this exposure, however, would not be prolonged given that runners, walkers, and cyclists would only experience it for brief periods of time.

The implementation of the Proposed Action would increase noise levels within the immediate vicinity of the work for the duration of the treatment activities and during periodic maintenance. However, the operation of hand-operated power tools and construction equipment would not occur between the hours of 10:00PM and 7:00AM, consistent with Medford Municipal Code Section 5.225(1)(f). Therefore, the implementation of the Proposed Action would result in short-term, *minor adverse impacts on noise*. Following the completion of the proposed treatment activities, there would be no long-term change to the ambient noise environment.

4.6.3. PUBLIC HEALTH AND SAFETY

Wildfire can adversely impact public health and safety, as local emergency services may be overwhelmed, and evacuation routes may be restricted. Fuel reduction treatment projects may also adversely impact residents and businesses. As described in **Section 2**, *Purpose and Need*, Jackson County has a high risk and documented history of wildfires. Wildfire smoke can exacerbate respiratory health issues, such as asthma and chronic obstructive pulmonary disease. Wildfire

smoke may contribute to respiratory infections and cardiovascular concerns. (Refer to **Section 4.2.2**, *Air Quality*.)

Firefighting and emergency medical services are provided by Medford Fire Department, with five fire stations throughout Medford. Residential and commercial structures along the Bear Creek Greenway have varying risks (from low to very high) of ignition and damage, but the areas with the highest risk are found between North Phoenix Road and Quail Point Golf Course in southern Medford primarily due to the density of the ladder and canopy fuels (City of Medford 2021). Although Prescott Park does not contain any residential development, the area is heavily used as a recreational resource. As mentioned in Section 2, *Purpose and Need,* more than half of Prescott Park is classified as having either high or extreme fire risks, particularly the southwestern portion (ODF et al. 2020).

Impacts to public health and safety are measured in this section by considering whether implementation of the alternatives would cause significant reductions in levels of emergency services and response times.

No Action Alternative

Under the No Action Alternative, the City would continue to implement limited fuels reduction activities, as could private property owners. However, the frequency and extent of these activities would not substantially change current conditions. Therefore, the risk of increased intensity and wildfire spread would remain high. In the event of a wildfire, there is an increased risk to public health and safety and to services provided to protect public safety, such as firefighters and police officers. Anyone who is directly exposed to flames and flares from a wildfire can suffer severe, often fatal burns, as well as severe damage from smoke inhalation.

On a larger scale, wildfires can generate substantial amounts of particular matter, which can affect the health of people breathing in smoke-laden air. This is a particular concern for vulnerable populations, such as youth and the elderly, as described in **Section 4.2.2**, *Air Quality*, wildfires can also generate substantial amounts of carbon monoxide, which poses a health concern for frontline firefighters and those close to flames. In addition, fires that are burning residences and other buildings can release toxic materials into air, soils, and water, posing health risks to populations both during the fire and later during cleanup and recovery (CalRecycle 2020).

Heavy rain conditions in burn scars following wildfires can contribute to sediment and debris in nearby waterways, which can affect downstream water quality and damage structures, roads, and utilities critical to the safety and well-being of citizens. Under the No Action Alternative, there could be long-term, *minor to major adverse impacts on public health and safety,* depending on the scale and intensity of a wildfire.

Proposed Action

Several activities under the Proposed Action could have the potential to affect public health and safety, particularly relating to the risk of wildfire and the ability of emergency services to respond to/access hazards in the area. However, various project components would minimize the potential

for impacts. For example, the use of herbicides is prescriptive and would be heavily monitored, as described in Section 4.3.1, *Surface Water and Water Quality*, in order to ensure protection of human life, the environment, and any watersheds/waterways. Invasive species burn piles would be no larger than 6-by-6-by-4 feet; would be burned during the wet season; would not occur within 10 feet of trees or on steep slopes; and would be given 8 to 12 months to dry out in order to reduce risk of ignition and damage to residual trees, and to minimize smoke by burning hot and clean. Additionally, the large project area and the long timeframe over which project activities would be completed mean that, at any given time, project activities would be occurring on a smaller scale and only at specific properties. Therefore, implementation of the Proposed Action would result in *short-term, negligible adverse impacts to public health and safety* during initial treatment activities and periodic maintenance.

Under the Proposed Action, the reduction of hazardous fuels would help to reduce the spread of wildfire in the proposed treatment areas, and the establishment of defensible space would lower the risk of ignition for structures. This would create a safer environment for residences and firefighters and would allow for easier control of a wildfire. Overall, this would result in a lower risk for injuries or deaths from direct exposure to wildfire.

In addition, when wildfires are controlled more quickly, a smaller area may be burned, and less sediment and debris may be transported downstream during future precipitation events that could potentially cause damages to infrastructure. The Proposed Action would also likely reduce workload for firefighters and other emergency responders, allowing them to remain available to respond to other emergencies throughout their service areas. Therefore, the Proposed Action would have long-term, *moderate beneficial impacts on public health and safety*.

4.6.4. VISUAL

The proposed treatment areas are characterized by a mixture of residential and commercial development, the Bear Creek Greenway and riparian corridor, and sparse to dense vegetation, as described in Section 4.4.1, *Vegetation*. In less developed areas, such as Prescott Park, the rugged terrain of the Rogue Valley is generally considered to be visually appealing and aesthetic.

The proposed establishment of defensible space and hazardous fuels reduction activities would alter the vegetation within the proposed treatment areas. As such, these proposed treatment activities have the potential to affect the visual character of the area. The assessment of impacts to visual character is a qualitative analysis that considers the visual context of the proposed treatment areas, potential for changes in character or contrast, assessment of whether the proposed treatment areas include any scenic places or features designated for protection, the number of people who can view the affected areas and their activities, and the extent to which those activities are related to the aesthetic qualities of the area.

<u>No Action Alternative</u>

Under the No Action Alternative, limited fuels reduction activities, if implemented, would not be likely to result in perceptible changes in the appearance and visual quality of the treatment areas overall. Small portions of Prescott Park and public properties along Bear Creek that are treated by the City, as well as private properties along Bear Creek that are treated with fuels reduction measures by at-risk property owners on their own initiatives, would undergo a visual change, which could be similar to that described for the Proposed Action, resulting in *short-term negligible adverse impacts* on visual quality. However, given the lack of coordinated fuels reduction activities, the changes would occur slowly and would be limited in geographic scope.

Additionally, under the No Action Alternative a major wildfire would be more likely to spread throughout the Bear Creek and Prescott Park areas, which could have *long-term, minor to major adverse impacts* on the visual quality of the treatment areas. Depending on the location and extent of the fire damage, there could be significant burn scars and loss of vegetation on a landscape scale, which was evident following the 2020 wildfires. The visual character of the Bear Creek area could also be significantly altered if a wildfire resulted in structure losses. This damage could be visible from a distance, thereby diminishing the aesthetic qualities of the Bear Creek and Prescott Park areas.

Proposed Action

Implementation of the Proposed Action would result in the temporary presence of various vegetation management equipment, as well as vehicles used to transport crews, in proposed treatment areas at Bear Creek and Prescott Park. However, activities would occur over a period of several years; at any given time, the quantities of equipment and vehicles present in the project areas would be limited. Therefore, there would be *short-term, negligible adverse impacts* on the visual quality of the region during initial treatment activities and periodic maintenance.

Under the Proposed Action, individual properties (whether residential or commercial) along Bear Creek would undergo a visual change from relatively dense coverage to defensible space areas almost entirely cleared of vegetation or to less dense areas where hazardous fuels reduction is implemented. The proposed treatment area near Bear Creek is located on public or privately-owned properties within developed residential areas. The proposed establishment of defensible space and hazardous fuels reduction would occur in strategic locations within individual parcels, adjacent to structures and along driveways, and would not be readily visible from heavily trafficked public roadways. Additionally, any vegetation treatments occurring near Bear Creek itself would comply with various setbacks and would retain certain amounts of canopy coverage to provide continuous shade to the riparian corridor. Therefore, the Proposed Action and the resulting removal or thinning of vegetation would not significantly alter the existing visual character of the Bear Creek area.

The treatment area in Prescott Park would also undergo a visual change, from denser and potentially overgrown understory vegetation to a more open understory, which could be perceived as a visually cleaner landscape by recreationists. Additionally, treatment activities within Prescott Park would occur on only 650 of the park's 1,740 acres, so the majority of the park would remain unchanged in terms of visual character.

Over the long-term, the risk of ignition and spread of wildfire in the project areas would be reduced, which would have *long-term*, *minor beneficial impacts on visual quality and aesthetics* by reducing the change that structures or vegetation are damaged by an intense wildfire.

4.6.5. RECREATION

The Bear Creek project area runs for roughly 7 miles along Bear Creek within the City of Medford. The Bear Creek Greenway, a paved trail open to the public, lies adjacent to the Creek and is separated from it by a corridor of publicly owned land. The Greenway is a popular spot for transportation and recreation among cyclists, skaters, and pedestrians. Seven community parks line the greenway and offer restrooms, drinking water, playgrounds, and picnicking opportunities (BCGF 2024).

Prescott Park, the second proposed treatment area, is a 1,740-acre park open to the public. The park contains a variety of paved and unpaved hiking and mountain biking trails and offers views of the Rogue Valley, including trails to Roxy Ann Peak, a landmark protruding 3,571 feet asl (TravelMedford 2022).

No Action Alternative

Under the No Action Alternative, limited vegetation management activities would continue to occur throughout the project areas, implemented either by the City or by private property owners on their individual properties. These activities would be severely limited in scope and would have *short-term negligible adverse impacts* on recreation in the area, particularly as a result of occasional vehicles and equipment in the Prescott Park area. The existing treatment activities would not significantly reduce the risk of wildfire ignition and spread in the region. Therefore, an intense wildfire in or near any of the project areas could damage structures and vegetation; result in road closures; and result in the closure of/damage to public areas, such as the Bear Creek Greenway or Prescott Park, which have high recreational value and are visited often by local and regional recreationists. Therefore, the No Action Alternative would have long-term *minor to moderate adverse impacts* on recreation, depending on the scale and intensity of a wildfire.

Proposed Action

Implementation of the Proposed Action would involve the operation of vehicles and construction equipment along the Bear Creek Greenway and throughout Prescott Park, two recreational areas in the city. This could result in the temporary closure of small portions of these recreation areas during treatment activities. However, any closures would be small in scale due to the short work windows and multiple years over which project activities span; at any point in time, only small portions of Prescott Park and the Bear Creek Greenway would be affected by project activities. Therefore, the Proposed Action would have *short-term*, *negligible adverse impacts* on recreation during initial treatment activities and periodic maintenance.

In the event of a wildfire, structural development along the Bear Creek Greenway could be damaged or destroyed, which could lead to the temporary closure of portions of the Greenway. Additionally, the

spread of a wildfire through Prescott Park would damage a valuable regional recreational area. Completion of the various vegetation management activities would decrease the density of vegetation and would consequently reduce the risk of ignition and spread of a wildfire in and near these areas. Therefore, implementation of the Proposed Action would have *long-term*, *minor beneficial impacts* on recreation in the region.

4.6.6. HAZARDOUS MATERIALS

Hazardous materials are those substances defined by the Comprehensive Environmental Response, Compensation, and Liability Act, as amended by the Superfund Amendments and Reauthorization Act, and the Toxic Substances Control Act. The Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, which was further amended by the Hazardous and Solid Waste amendments, defines hazardous wastes. In general, both hazardous materials and waste include substances that, because of their quantity, concentration, physical, chemical, or infectious characteristics, may present substantial danger to public health or to the environment when released or otherwise improperly managed.

Hazardous materials may be encountered in the course of the project, or they may be generated by the project activities. To determine whether any hazardous waste facilities exist in the vicinity or upgradient of the proposed treatment areas or whether there is a known and documented environmental issue or concern that could affect the proposed treatment areas, a search for Superfund sites, Brownfield sites, air pollution sites, toxic release inventory sites, industrial water dischargers, and hazardous facilities or sites was conducted using USEPA's NEPAssist website (USEPA 2023). Superfund sites are part of the federal government's program to clean up the nation's uncontrolled hazardous waste sites, and are established based on the National Priorities List, which sorts sites among the known or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories. A brownfield is a property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant (USEPA 2024a). Air pollution sites are stationary sources of air pollution regulated by the USEPA, state, or local air pollution agencies. Toxic release inventory sites are part of the Toxics Release Inventory, which is a publicly available USEPA database that contains information on toxic chemical releases and waste management activities reported annually by certain industries as well as federal facilities. Industrial water discharge sites are part of the National Pollutant Discharge Elimination System (NPDES), which controls water pollution by regulating sources as authorized by the Clean Water Act. Lastly, hazardous sites or facilities are sites where hazardous waste is created or discharged. Hazardous waste is waste that is dangerous or potentially harmful to health or the environment; hazardous wastes can be liquids, solids, gases, or sludges. They can be discarded commercial products, like cleaning fluids or pesticides, or the by-products of manufacturing processes (USEPA 2023).

According to the database, numerous air pollution, brownfield, hazardous waste, toxic release, and water discharge sites are present within 1 mile of the two proposed treatment areas. Table 9 below provides a quantitative summary of the site types present within 1 mile for both project areas (See Appendix C for a full list).

Table 9: Hazardous Waste Sites within 1 Mile of the Proposed Treatment Areas

Site Type	Bear Creek Area	Prescott Park Area
Air Pollution	7	1
Brownfields	38	0
Hazardous Waste	191	2
Toxic Release	11	0
Water Discharge	79	6
Total	**326**	**9**

Source: NEPAssist (USEPA 2023)

No Action Alternative

Under the No Action Alternative, existing conditions would not substantially change. Fuels reduction activities would continue to occur on a small scale, conducted by private property owners and the City. These activities could pose a *short-term, negligible* threat of release of hazardous materials from equipment and potentially localized site contamination from minor leaks or spills. The risk of wildfire would not be significantly reduced under this alternative. In the event of a major wildfire, fire-retardant materials could be applied to the forest. Fire retardants are generally considered to be nontoxic, but there may be risks to small mammals and other wildlife from concentrated exposures (Modovsky 2007). However, exposures would likely be short-term as the application "footprint" of the chemicals is limited in terms of foraging areas and species habitat for any individual animal, and the ingredients generally biodegrade in the environment (Modovsky 2007). Therefore, the potential for adverse impacts from fire retardant is likely to be negligible. Wildfire damage in residential areas also directly releases hazardous materials into the air, soil, and water as plastics burn and materials that are otherwise safely stored are damaged and released (CalRecycle 2020). Because of the high residential and commercial density in the Bear Creek project area, the potential for burning structures to produce hazardous materials would be significant. Additionally, in the event of a wildfire, hazardous materials and other sensitive sites, as identified in **Table 9**, would be at an increased risk of combustion and potential explosion, depending on specific materials at a site. Therefore, under the No Action Alternative, there would be potential for *long-term, moderate to major adverse impacts* related to hazardous materials, depending on the scale, intensity, and location of a wildfire.

Proposed Action

A large number of hazardous materials sites are present in the vicinity of the proposed treatment areas; however, none of these sites fall within treatment areas themselves. Therefore, the potential for impacts on hazardous sites is low. The Proposed Action would include the use of mechanical equipment such as chainsaws, masticators, and tractors, which would pose the threat of leaks and spills. However, all gas-powered equipment would be maintained in good repair and fueling would

take place at the City Service Center. Also, portable combustible machinery like chainsaws would be fueled a minimum of 50 feet from Bear Creek or other waterbodies. Additionally, the short-term use of equipment at any individual treatment area would limit the potential for leaks and spills. Any inadvertent spills would be small and would be immediately contained and cleaned. Therefore, there would be *short-term, negligible impacts* to hazardous sites and hazardous materials from manual and mechanical vegetation management methods during initial treatment activities and periodic maintenance.

The Proposed Action would also include the use of herbicides at the Bear Creek project area. The herbicides proposed, aquatic glyphosate and aquatic imazapyr, are practically non-toxic to birds and mammals, and range from practically non-toxic to moderately toxic for fish and aquatic insects (WSDOT 2017a; 2017b). In addition, the application of herbicides would follow strict guidelines in accordance with the FESP, as described in **Section 3.2.1**, *Proposed Fuels Reduction Treatments*. Regardless, the use of herbicides in any environment creates the potential for contamination. Therefore, the use of herbicides as a result of the Proposed Action would result in *short-term, minor adverse impacts* related to hazardous sites and hazardous materials during initial treatment activities and periodic maintenance. However, the Proposed Action would reduce the risk of wildfire ignition and spread and, as a result, reduce the risk of combustion and potential explosion of hazardous materials and other sensitive sites, as identified in **Table 9.** Therefore, the Proposed Action would have *long-term, moderate beneficial impacts* related to hazardous sites and hazardous materials.

4.7. Cumulative Impacts

Cumulative effects are the impact on the environment that results from the incremental impact of an action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions (40 CFR §1508.7). Cumulative effects can result from individually minor but collectively significant actions taking place over time.

The cumulative effect analysis is bounded by the study area shown in **Figure 1**, encompassing the proposed project's study area for the Bear Creek Greenway and Prescott Park (defined in **Section 4.1,** *Methodology*) and the adjacent area around Medford and Prescott Park given the park is outside the city limits. The study period for this analysis looks 10 years into the past and 10 years into the future as greater periods would be more speculative. Specific projects summarized were proposed within the last 5 years or a proposed for implementation within the next 5 years.

There are numerous past and ongoing public and private projects within the study area, including similarly scaled fuel reduction treatments, wildfire mitigation activities, and forestry management projects that would complement the proposed fuel reduction treatment activities. There have also been other similar fuel treatment and wildfire mitigation projects approved or implemented in the region in recent years, such as the City of Ashland Wildfire Mitigation Project and the Anderson Creek Hazardous Fuels Mitigation Lomakatski Restoration Project proposed within the Anderson Creek community southwest of the City of Talent, however both of these projects occurred outside the

study area in other cities in the Rogue Valley. Additionally, there have been amendments to local regulatory codes that aim to mitigate potential wildfire hazards in areas of the State mapped as high hazard zones and that are in the WUI. For example, in June 2024, the City of Medford amended Section 9.101 of their Municipal Code to adopt the 2023 Oregon Residential Specialty Code, which requires new dwellings and accessory units to adhere to fire-hardening building code standards.

There are larger-scale silviculture, timber treatment, reforestation, and young stand forestry management projects on surrounding Bureau of Land Management (BLM) public lands near Prescott Park. These vegetation and forestry management and wildfire reduction projects would involve fuel breaks, tree and shrub pruning, forest and brush management, and forest stand improvements. Additionally, the 2020 Almeda Fire has led to efforts to further reduce wildfire hazards, and this led to transportation and utility infrastructure improvements, new construction projects, and a substantial number of reconstruction projects in the City as a result of the significant damage caused by the fire.

These projects are commensurate with any urban area and primarily result in short-term construction related impacts (e.g., noise and water quality). Notable past projects in the City include the Foothill Road Corridor Improvement Project. Ongoing and routine projects also consist of water, sewer, storm, and utility infrastructure upgrades. These projects incorporate construction best management practices, minimize sediment run-off, incorporate traffic management, and comply with applicable City requirements. Jackson County has also been coordinating a number of planning projects (bridges, transportation planning, rural development, regulatory environment, and wildfire protection) that occur within the City, the most notable of which is the Bear Creek Greenway project. However, the impacts of these plans, if implemented, are not reasonably foreseeable. Some of them, like the Bear Creek Greenway, would also complement the proposed fuel reduction treatments.

Together, these past and reasonably foreseeable future projects, when coupled with ongoing development, and resource management projects (e.g., forestry management and fuel reduction activities) will result in minor cumulative impacts on affected resources (physical, biological, cultural, and quality of life). The minor adverse cumulative impact on quality-of-life resources (public health and safety, economics, visual, and social) may be further exacerbated by future major wildfire events. However, it is unlikely that there would be a significant cumulative impact associated with the combination of these projects because, in most cases, there would be temporal and spatial separation between activities. For example, the wildfire fuel treatments would take place in two geographically separate and distinct areas: Bear Creek would occur in a predominantly urban setting and Prescott Park would occur in a semi-rural setting on the urban fringe. Similar to the Proposed Action, these cumulative projects would also be required to implement avoidance and minimization measures to prevent potential impacts to biological and cultural resources, surface waters and water quality, wetland habitat, and sensitive species.

Table 10 summarizes the proposed project's impacts by resource. The proposed project, when combined with past, present, and reasonably foreseeable projects, would result in long-term cumulative beneficial impacts on affected resources and would complement the proposed action by

reducing wildfire risk and spread in the treatment areas and the communities within the City of Medford.

Overall, the trajectory of long-term cumulative adverse impacts on physical and biological resources is not expected to change, either with or without the Proposed Action. The project will, however, result in a long-term cumulative benefit for the quality of life of the residents in that it reduces the risk of wildfire ignition and spread and associated impacts.

4.8. Summary of Potential Impacts

Table 10 summarizes the impacts discussed in Sections 4.2 to 4.6. None of the impacts would be significant.

Table 10: Summary of Potential Impacts

Section	Resource	No Action	Proposed Action
4.2.1	Geology and Soils	Short-term, negligible adverse impacts Long-term, major adverse impacts	Short-term, minor adverse impacts Long-term, minor beneficial impacts
4.2.2	Air Quality	Short-term, negligible adverse impacts Long-term, moderate to major adverse impacts	Short-term, negligible adverse impacts Long-term, minor beneficial impacts
4.3.1	Surface Water and Water Quality	Short-term, negligible adverse impacts Long-term, moderate to major adverse impacts	Short-term, minor adverse impacts Long-term, minor beneficial impacts
4.3.2	Wetlands	Short-term, minor adverse impacts Long-term, moderate to major adverse impacts	Short-term, minor adverse impacts Long-term, minor beneficial impacts
4.3.3	Floodplains	Short-term, negligible adverse impacts Long-term, minor to moderate adverse impacts	Short-term, minor adverse impacts Long-term, minor beneficial impacts

Section	Resource	No Action	Proposed Action
4.4.1	Vegetation	No short- or long-term impacts to ESA-listed plant species and their DCH Short-term, negligible to minor adverse impacts to all vegetation Long-term, moderate to major adverse impacts to all other vegetation	No short- or long-term impacts on ESA-listed plant species and their DCH Short-term, minor adverse impacts on all vegetation Long-term, moderate beneficial impacts on all vegetation
4.4.2	Birds	No short- or long-term impacts on ESA-listed NSO or their DCH Short-term, negligible adverse impacts on all birds (including migratory birds and bald and golden eagles) Long-term, minor to moderate adverse impacts on all birds (including migratory birds and bald and golden eagles)	No short- or long-term impacts on ESA-listed NSO or their DCH Short-term, minor adverse impacts on migratory birds Short-term, negligible adverse impacts to bald and golden eagles Long-term, minor beneficial impacts on migratory birds and bald and golden emails
4.4.3	Fish and Crustaceans	No impact on ESA-listed vernal pool fairy shrimp. Short-term, negligible adverse impacts on ESA-listed Coho Salmon other fish and aquatic species, and to general aquatic habitat (including DCH and Salmon EFH). Long-term, minor to moderate indirect adverse impacts on residential fish species, including ESA-listed Coho Salmon, other fish and aquatic species, and to general aquatic habitat (including DCH and Salmon EFH).	No impact on ESA-listed vernal pool fairy shrimp. Short-term, minor adverse impacts on residential fish species, including ESA-listed Coho Salmon, other fish and aquatic species, and general aquatic habitat (including DCH and Salmon EFH). Long-term, minor beneficial impacts on residential fish species, including ESA-listed Coho Salmon, and other fish and aquatic species, and general aquatic habitat (including DCH and Salmon EFH).

Section	Resource	No Action	Proposed Action
4.4.4	Insects	Short-term, negligible adverse impacts to ESA-listed FRBB and other insects, and general nesting, overwintering, and foraging habitat. Long-term, moderate to major adverse impacts to ESA-listed FRBB and other insects and general nesting, overwintering, and foraging habitat.	No impact to SFR in the Bear Creek project area. Short-term, negligible direct adverse impacts to FRBB or their SFR (Prescott Park), nesting and overwintering habitat, or any other present insects Long-term, negligible beneficial impacts to FRBB and other present insects
4.4.5	Wildlife	Short-term, negligible adverse impacts to ESA-listed or regional terrestrial wildlife. Long-term, moderate to major adverse impacts to ESA-listed or regional terrestrial wildlife.	No short- or long-term impacts to ESA-listed gray wolves or Pacific martens Short-term, minor adverse impacts to general terrestrial wildlife Long-term, minor beneficial impacts to general terrestrial wildlife
4.5	Cultural Resources and Historic Properties	Short-term, negligible adverse impacts Long-term, minor to moderate adverse impacts	No Adverse Effects to Historic Properties
4.6.1	Traffic	Short-term, negligible adverse impacts Long-term, minor to moderate adverse impacts	Short-term, negligible adverse impacts Long-term, minor beneficial impacts
4.6.2	Noise	Short-term, negligible adverse impacts No long-term impacts	Short-term, minor adverse impacts No long-term impacts
4.6.3	Public Health and Safety	No short-term impacts Long-term, minor to major adverse impacts	Short-term, negligible adverse impacts Long-term, moderate beneficial impacts
4.6.4	Visual	Short-term, negligible adverse impact Long-term, minor to major adverse impacts	Short-term, negligible adverse impacts Long-term, minor beneficial impacts

Section	Resource	No Action	Proposed Action
4.6.5	Recreation	Short-term negligible adverse impacts Long-term, minor to moderate adverse impacts	Short-term, negligible adverse impacts Long-term, minor beneficial impacts
4.6.6	Hazardous Materials	Short-term, negligible adverse impacts to hazardous sites and hazardous materials (and herbicides) Long-term, moderate to major adverse impacts	Short-term, negligible adverse impacts from manual and mechanical vegetation management methods. Short-term, minor adverse impacts from the use of herbicides. Long-term, moderate beneficial impacts

5. Agency and Tribal Coordination, and Public Involvement

As part of the preparation of this EA, correspondence regarding the proposed project was sent to federal, state, tribal, and local agencies beginning in August 2024. The list of agencies contacted is presented below, while Appendix A contains copies of substantive correspondence.

5.1. Tribal and Agency Coordination

FEMA consulted or coordinated with the following Tribes and Agencies.

FEMA notified NMFS on February 13, 2024, of the Proposed Action. FEMA initiated consultation with the USFWS on January 10, 2024, which concurred on February 5, 2024, that the Proposed Action *may affect but is not likely to adversely affect* ESA-listed species or DCH (Appendix B). Similarly, FEMA initiated consultation with the Oregon SHPO as well as the Cow Creek Band of Umpqua Tribe of Indians, Confederated Tribes of the Grande Ronde, Confederated Tribes of the Siletz Indians of Oregon, and the Tolowa Dee-ni' Nation on August 12, 2024, and November 7, 2024, for Prescott Park. Based on the results of the historic resources assessment, FEMA determined that the Undertaking would result in *No Adverse Effect* to Historic Properties. The Oregon SHPO concurred on December 6, 2024 (Appendix A). FEMA initiated consultation with the Oregon SHPO as well as the Cow Creek Band of Umpqua Tribe of Indians, Confederated Tribes of the Grande Ronde, Confederated Tribes of the Siletz Indians of Oregon, and the Tolowa Dee-ni' Nation on August 29, 2024, for Bear Creek (Appendix A). Based on the results of the historic resources assessment, FEMA determined that the Undertaking would result in *No Adverse Effect* to Historic Properties. No response was received from the Oregon SHPO or the Tribes after 30 days.

5.2. Public Participation

This EA reflects the evaluation and assessment of the federal government, the decision-maker for the federal action. FEMA released a draft EA to the public, Tribes, and federal, state, and local

agencies for a 45-day public review and comment period beginning on April 29, 2025, and ending on June 13, 2025. The City published a Public Notice of Availability for the draft EA in the *Grants Pass Daily Courier* on May 04, 2025; May 11, 2025; May 18, 2025; and May 25, 2025 (Appendix F). The above noted Tribes were also provided the notice on May 16, 2025. The draft EA was made available on FEMA's website at the following address: https://www.fema.gov/emergency-managers/practitioners/environmental-historic/nepa/environmental-assessment-medford. Hardcopies of the draft EA were also made available at the Medford Fire Department, 200 South Ivy Street #180, Medford, Oregon 97501; and the Jackson County Library Services – Medford located at 205 South Central Avenue, Medford, Oregon 97501. During the public review period, FEMA received no comment letters from the public, Native American tribes, or federal, state, and local agencies.

6. Permitting, Project Conditions, and Mitigation Measures

This section provides a summary of the permits mitigation efforts that are required to authorize the project and to offset the proposed projects' adverse impacts as described in **Section 4**, Affected Environment, Potential Impacts, and Mitigation of this Environmental Assessment.

6.1. Permits

The City will be responsible for obtaining any necessary local, state permits needed to conduct the proposed work. As described in **Table 11** below, the City will require or has secured the following federal permits or authorizations:

Table 11: Permits, Authorizations, and Consultations

Agency	Permit
ODF	Burn Permit

6.2. Project Conditions and Mitigation Measures

Mitigation measures and project conditions of the FESP, take statements, permits, or authorizations shown above in **Table 11** are incorporated by reference. The following conditions apply to the project and the City's failure to comply with these conditions before, during, and after project implementation may jeopardize the receipt of FEMA funding:

Air Quality

- All construction activities will have to comply with OAR 340-208, which contains requirements related to visible emissions (e.g., diesel-related opaque emissions), and fugitive emissions (e.g., dust from road grading, excavation, and transport of soil to and from the project site).

- Construction contractors and subcontractors shall be required to use reasonable precautions to minimize fugitive dust emissions and comply with OAR 340-208-0210 such as water application, spraying water in work areas, washing truck wheels, using gravel driveways at construction and staging access points, covering piles, minimizing traffic and traffic speeds on bare soils, covering of open bodied trucks, daily clean-up, and minimizing the idling of diesel-powered equipment.

Water Quality

- Riparian protection zones (setbacks) will be maintained at a distance of 40 feet for perennial and intermittent streams (including a 50-foot no work zone from either bank of Bear Creek).

- The use of herbicides will be site-specific and will only be used by certified, licensed applicators that follow USEPA guidelines, the FESP, and the ODA Pesticide and Fertilizer Program buffers and state mandates.

- Herbicide use will be restricted to specific work windows from October 1 to April 14 at the treatment area within the Bear Creek Greenway. Application rates and methods will be limited and specified as either hand selective spraying or spot spraying. Broad spraying of herbicides will be prohibited. No herbicides will be permitted at Prescott Park.

- Notice of herbicide use will be announced through public noticing, signage, and other outreach efforts at least 24 hours in advance of herbicide application; these notifications will also remain posted for at least 24 hours after applications.

- Spill cleanup kits will be present whenever and wherever herbicides are used, transported, or stored.

- Compliance with the FESP and other guidelines (e.g., TFT) will involve specific invasive and non-native plant controls proposed near waterways, wetlands, and within the riparian zone to limit the number of applicators using chemical treatments, ensure herbicides are not used in sensitive areas, and reduce the potential for accidental surface water contamination. These controls include weather-related use restrictions and setbacks where necessary in accordance with the FESP and TFT Guidelines. The current plan is to use these TFT buffers, which are more restrictive than what is allowed under the FESP; however, the City may elect to use the allowed buffers as established by the FESP.

- Spot spraying and hand selective herbicide applications using aquatic glyphosate will be restricted to a minimum of 5 feet from the Bear Creek waterline (i.e., OHWM). Spot spraying using aquatic imazapyr will be restricted to a minimum of 75 feet from the Bear Creek waterline, and hand selective herbicide applications using aquatic imazapyr will be restricted to a minimum of 5 feet from the Bear Creek waterline (see **Table 3**). No herbicide use will be permitted in areas within 5 feet from the Bear Creek waterline.

- Spill prevention measures and fuel containment systems designed to completely contain a potential spill, as well as other pollution control devices and measures (such as diapering, parking on absorbent material, etc.) adequate to provide containment of hazardous materials, will be implemented.

Wetlands

- Refer to the avoidance and minimization measures described for Surface Waters and Water Quality.

Floodplains

- Refer to the avoidance and minimization measures described for Surface Waters and Water Quality.

Vegetation

- Burn piles will be no larger than 6-by-6-by-4 feet; will be burned during the wet season; will not occur within 10 feet of trees or on steep slopes; and will be given 8 to 12 months to dry out in order to reduce risk of ignition and damage to residual trees and vegetation.

- No more than 10 larger trees will be removed along Bear Creek.

- During project activities, the City shall focus tree removal on non-native trees and shall replant with native tree species. Tree removal will also only occur after a tree survey that verifies the species and size of trees proposed for removal and confirmation by the ODFW.

- The City shall maintain all trees adjacent to or overhanging a structure free of dead or dying wood and cut the trees back and remove dead or dying wood.

- The City shall retain four snags that measure greater than 80 cm (31.5 inches) (best for nesting) for every 5 acres and retain 30 snags that measure between 25 and 70 cm (9.8 to 27.6 inches) dbh (for general foraging) for every 5 acres. Retained snags will support wildlife habitat and nesting provided a certified arborist or forester determines the snag does not present a hazard to the public or property owner.

- In order to protect valuable mature trees, the City shall retain “safe snags” (i.e., top removed, trunk retained standing) in locations where a limb fall will not pose a hazard to life or property, and where access is sufficient for a boom truck to reach the tree.

- In areas with limited access, any disturbance to understory vegetation will be restored with loose straw mulch and native grass seeding.

Fish and Wildlife

- Treatments occurring within the breeding season will be subject to the prohibitions of the MBTA which is managed by the USFWS. To avoid project actions resulting in "take" of migratory birds, the City shall implement one or more of the following measures:
    - Clear vegetation outside the nesting season for those species that may be utilizing existing habitat conditions within the Project area.
    - Review and determine which migratory birds are likely to nest within the Project area to refine the active nesting season. Contact local experts (e.g., ODFW) as needed to confirm.
    - Inspect vegetation for active nests prior to clearing. If an active nest is encountered, avoid disturbing it.
    - If no seasonal avoidance or pre-work inspection and avoidance for active nests are feasible, the City shall further coordinate with the USFWS MTBA program office for incidental take permit.

Archaeological and Historic Resources

- In the event that any archeological resources are discovered during project implementation, work will immediately cease, the area will be secured, and the City shall notify FEMA and the Oregon SHPO for further evaluation.
- An Inadvertent Discovery Plan will be prepared for the Proposed Action. Should cultural/tribal resources or human remains be discovered during project-related activities, the protocols described therein will be immediately followed.
- To avoid potential adverse effects in the Bear Creek APE, a 30-meter buffer will be placed around the two (2) archaeological sites that remain unevaluated. Project activities related to wildfire fuels mitigation work can occur within these buffers under the conditions that 1) all activity will be done with handheld tools, 2) vegetation waste will be carried out and not dragged for disposal outside of these buffers, 3) no burning or chipping will occur within these buffers, and 4) there will be no mechanized vehicle activity allowed in these areas. However, mowing, which is an activity that has historically occurred within these site boundaries and is not likely to cause ground disturbance, is recommended to continue within the boundaries of the sites. Additionally, work will be done during dry conditions to minimize ground disturbance.
- To avoid potential adverse effects in the Prescott Park APE, a 20-meter buffer will be placed around the six (6) archaeological sites that remain unevaluated. Project activities related to wildfire fuels mitigation work can occur within these buffers under the conditions that 1) all activity will be done with handheld tools, 2) vegetation waste will be carried out and not dragged for disposal outside of these buffers, 3) no burning or chipping will occur within these

buffers, and 4) there will be no mechanized vehicle activity allowed in these areas. Additionally, work will be done during dry conditions to minimize ground disturbance.

Traffic and Transportation

- None

Noise

- No noise-producing equipment like chainsaws and gasoline-based equipment will be operated during nighttime hours from 10 p.m. to 7 a.m.

7. List of Preparers

The following is a list of preparers who contributed to the development of this EA.

Federal Emergency Management Agency, Region 10.
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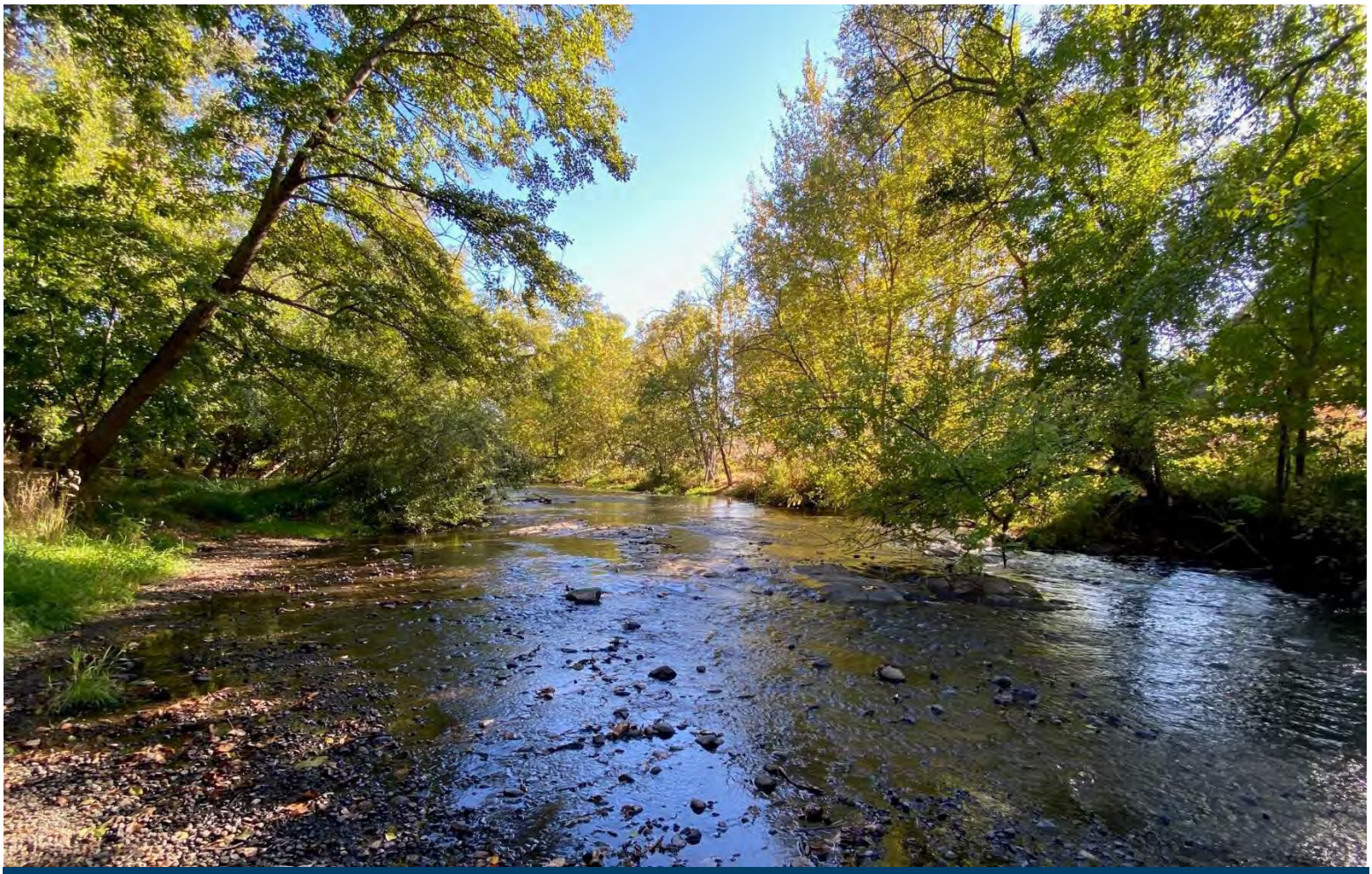


City of Medford, Oregon

Medford Hazardous Fuels Reduction Project

Final Environmental Assessment Appendices

July 2025

Hazard Mitigation Grant Program Subgrant No. 4562-0024
Subapplicant: City of Medford, Oregon

FEMA

LIST OF APPENDICES

The Federal Emergency Management Agency (FEMA) has worked to ensure that this Environmental Assessment (EA) is accessible to persons with disabilities, in compliance with Section 508 of the Rehabilitation Act of 1973. Regarding the appendices, this EA has reported what was done and how those results affect the decision that will be made based on the totality of the findings provided in the EA. In case any of these appendices poses a challenge to be read electronically by persons with disabilities, each appendix is briefly described and summarized below, rather than being simply listed.

Appendix A. Agency and Tribal Coordination and Consultation. This appendix includes a 1-page letter dated December 6, 2024 from the Oregon State Historic Preservation Office (SHPO) regarding the no effect determinations made by FEMA for historic built resources and buried archaeological resources at Prescott Park. The Oregon SHPO concurred that there will be no historic properties affected for the undertaking at Prescott Park provided that a 20 meter buffer be placed around all unevaluated resources and certain conditions are met related to the use of handheld tools, vegetation waste management, and prohibiting burning, chipping, and mechanical activity. Further, this appendix includes a 2-page letter dated February 6, 2024, which was sent to the Cow Creek Band of Umpqua Tribe of Indians. This letter notified the Tribe of the undertaking and FEMA's determination that the undertaking will result in no adverse effects to historic properties at Prescott Park. A similar letter was sent to the Confederated Tribes of the Grande Ronde, the Confederated Tribes of the Siletz Indians of Oregon, and Tolowa Dee-ni' Nation. No further comments were received.

The appendix also includes a letter dated August 29, 2024, which was sent to the Oregon SHPO regarding the historic built resources and buried archaeological resources along the Bear Creek Greenway. This letter included the determination that the undertaking along the Bear Creek Greenway will result in no adverse effects to historic properties and buried archaeological resources provided FEMA protects unexpected discoveries of historic or archeological resources during treatment work. Further, this appendix includes a 2-page letter dated August 29, 2024, which was sent to the Cow Creek Band of Umpqua Tribe of Indians. This letter notified the Tribe of the undertaking and FEMA's determination that the undertaking will result in no adverse effects to historic properties along the Bear Creek Greenway. A similar letter was sent to the Confederated Tribes of the Grande Ronde, the Confederated Tribes of the Siletz Indians of Oregon, and Tolowa Dee-ni' Nation. No further comments were received.

Appendix B. Biological Assessment. This appendix includes the Final Biological Assessment for the Project, which determined the Project was determined to may affect, not likely to adversely affect Franklin's bumble bee (FRBB) in the short- and long-term. It determined the Project would have no effect on the other Endangered Species Act (ESA) listed species. This appendix also includes a letter dated February 5, 2024 from the United States Department of the Interior Fish and Wildlife Service regarding the may affect, but is not likely to adversely affect FRBB and a no effect determination for the vernal pool fairy shrimp, Cook's lomatium, Gentner's fritillary, large-flowered woolly meadowfoam, northern spotted owl, gray wolf, and the Pacific marten coastal distinct population segment. Further, this appendix includes the National Marine Fisheries Services Action Implementation Worksheet Action Notification.

Appendix C. List of Hazardous Materials Sites. This appendix includes a list of hazardous material sites present within one mile of the two proposed treatment areas that make up the Project.

Appendix D. FEMA FIRM Floodplains Panels. This appendix includes five FEMA Flood Insurance Rate Maps (FIRM) Panels that show the Special Flood Hazard Areas and Other Areas of Flood Hazard within the vicinity of the Project area.

Appendix E. Floodplains and Wetlands Eight-Step Process. This appendix includes the Executive Order 11988 Floodplain Management Checklist (44 CFR Part 9) for the Medford Hazardous Fuels Reduction Project.

Appendix F. Affidavit of Publication for Draft EA Public Notice of Availability. This appendix is the signed Affidavit of Publication from the newspaper *Grants Pass Daily Courier* stating the Public Notice of Availability for the draft EA was published in the newspaper on May 04, 2025; May 11, 2025; May 18, 2025; and May 25, 2025.

Appendix A: Agency Correspondence/Consultation

Oregon
Tina Kotek, Governor

Parks and Recreation Department
Oregon Heritage/
State Historic Preservation Office
725 Summer St. NE, Suite C
Salem, OR 97301-1266
(503) 986-0690
Fax (503) 986-0793
oregonheritage.org

December 6, 2024

Collin Markstrom
FEMA
Region X
130 228th Street SW
Bothell, WA 98021-9796

RE: SHPO Case No. 24-1370

FEMA, FEMA Hazard Mitigation Grant Program 4562-24, City of Medford Prescott Park Hazardous Fuels Reduction

Hazardous fuels reduction in Prescott Park.

-122.7871 LONG, 42.3652 LAT, Jackson County

Dear Collin Markstrom:

Thank you for submitting information for the undertaking referenced above. Oregon SHPO concurs that Prescott Park, Prescott Park Restroom, and North Roxy Overlook Shelter are not eligible for listing in the National Register of Historic Places (NRHP) based on the registration requirements of the Oregon New Deal MPD. Our office also concurs that archaeological resources 15891.01-03 through 15981.06, and 15891.10i are not eligible for listing in the NRHP. We concur that archaeological resources 35JA 00146, 15891.01-01, 15891.01-.02, 15891.01.-0.7, 15891.01-08i, and 15891.09i are unevaluated for listing in the NRHP.

Finally, we concur that there will be **no adverse effect** to historic properties for this undertaking provided that a 20 meter buffer be placed around all unevaluated resources and the following conditions from FEMA are met:

(1) All project activities conducted within the buffers are done with handheld tools.
(2) Vegetation waste is carried outside of buffer areas, not dragged.
(3) No burning or chipping occurs within the buffers.
(4) No mechanized activity takes place within the buffer areas.

This concludes consultation with our office under Section 106 of the National Historic Preservation Act (per 36 CFR Part 800) and Oregon Revised Statutes (ORS) 358.905-961, ORS 358.653, and ORS 97.740-760 for archaeological resources. Based on the information provided, our office assumes that meaningful consultation has been conducted between the lead federal agency and all appropriate Native American tribes.

If the undertaking design or effect changes or if additional historic properties are identified, further consultation with our office will be necessary before proceeding with the proposed undertaking. Additional consultation regarding this case must be sent through Go Digital. In order to help us track the undertaking accurately, reference the SHPO case number above in all correspondence.

Our office has assigned the report SHPO biblio number 35036. Details will be available in the bibliographic database.

Please contact our office if you have any questions, comments or need additional assistance.

Sincerely,

Aspen Kemmerlin
Special Projects Archaeologist

Aspen.Kemmerlin@oprd.oregon.gov

U.S. Department of Homeland Security
FEMA Region 10
130 228th Street, SW
Bothell, WA 98021-8627

FEMA

August 12, 2024

Ben Steward
Tribal Historic Preservation Officer
Cow Creek Band of Umpqua Tribe of Indians
2371 NE Stephens Street
Roseburg, Oregon 97470
Sent via email

RE: FEMA Hazard Mitigation Grant Program 4562-24, City of Medford Prescott Park Hazardous Fuels Reduction, Jackson County

Dear Mr. Steward:

Please consider this a follow up to our letter dated February 6, 2024. The U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) proposes to fund the City of Medford (Applicant), through the Oregon Department of Emergency Management (OEM), for hazardous fuels reduction in Prescott Park (Undertaking). This funding is available from FEMA's Hazard Mitigation Grant Program (HMGP). The proposed Undertaking is being reviewed pursuant to Section 106 of the National Historic Preservation Act, as amended. The City of Medford contracted Dudek to complete a cultural resources assessment for the Undertaking. The cultural resources assessment report for this Undertaking, prepared by Dudek, is enclosed.

Proposed Undertaking
The proposed Undertaking is located in the City of Medford, Jackson County, Oregon. The project will consist of the hazardous fuels reduction of 650-acres located in Prescott Park on the east side of Medford (around Latitude 42.3652, Longitude -122.7871), as illustrated in Figures 1 and 2 of the enclosed report. The Almeda and Table Road Rock fires of 2020 burned over 3,000-acres in this area, prompting the need to reduce natural wildfire hazards. The fuels reduction treatments at Prescott Park would include thinning understory vegetation, removing ladder fuels, reducing flammable vegetation fuels, and replacing flammable vegetation with fire-resistant vegetation to protect life, property, and at-risk buildings and structures. These activities would provide a break in the forest canopy, which would force a fire to the ground where wildland firefighters can more safely and easily manage suppression. The Undertaking would reduce wildfire risk through three management prescriptions: fuels reduction around critical facilities and structures, fuels reduction within the forest and woodland habitat, and targeted removal and control of invasive species. The management prescriptions at Prescott Park will include handheld tools such as chainsaws. Vegetative material will then be piled and burned or taken to a chipper and spread.

Area of Potential Effects
FEMA has determined that the Area of Potential Effects (APE) for the Undertaking, as shown on Figures 1 and 2 of the enclosed report, includes the 650-acres located in Prescott Park on the east side of Medford, which was broken into seven survey units (Survey Units 1-7). Access and staging to the project treatment areas would be provided by existing improved surfaces such as roads and pathways.

Historic Property Identification and Evaluation

The City of Medford contracted Dudek to complete a cultural resources assessment for the Undertaking, which included a pedestrian archaeological surface survey and a reconnaissance-level survey for built-environment resources. A review of available cultural resources information from the Oregon Archaeological Records Remote Access (OARRA) indicated that the APE for the Prescott Park project area included previously documented site 35JA00146 (precontact lithic scatter), as well as three previously recorded built-environment resources: 41601 (Prescott Park Spring House), 41602 (Prescott Park Restroom), and 41603 (Prescott Park Picnic Shelter). Survey methods consisted of pedestrian transects spaced no greater than 20 meters apart, depending on the landform and previous disturbances. In total, 610 acres of the 650-acre APE were surveyed, resulting in 40 acres remaining unsurveyed due to being located on very steep slopes. Surface visibility was poor to moderate and varying from approximately 0 to 30 percent due to dense grasses and oak and pine duff obscuring the ground surface. Some portions of the APE in the vicinity of roads, established hiking trails, and high-density rodent back dirt piles allowed for upwards of 70 to 100 percent surface visibility.

The field survey revisited several previously identified built-environment resources and identified Prescott Park as a historic designed landscape, the Prescott Park Historic Designed Landscape (BE-15891-PP). The Prescott Park Prescott Park Restroom (41602/ BE-15891-02) was previously recorded, and Dudek completed an updated evaluation as part of this undertaking. The Prescott Park Picnic Shelter (41603) was previously recorded but found to be no longer extant, with only the foundation remaining, and the Prescott Park Spring House (41601/BE-15891-01) was found to be in ruins. They were recorded within archeological site 15891.01-02. The North Roxy Overlook Shelter (BE-15891-3) was newly recorded as part of this undertaking.

Dudek assessed Prescott Park as a potential historic designed landscape because of the park's history as a recreational park designed by the Civilian Conservation Corps (CCC). While Prescott Park as a historic designed landscape has components of historic age and was constructed during a finite period of development in the 1930s during the New Deal era and CCC park construction, the park does not retain the necessary integrity to be eligible for the NRHP.

The Prescott Park Restroom, constructed in 1936, is located in the Roxy Ann Picnic Area along Loop Road within Prescott Park. The Prescott Park Restroom was previously inventoried in 1979 and again in 1991. No formal determination was made for the NRHP eligibility, but it is considered eligible/contributing on the OHSD online portal. However, The Prescott Park Restroom no longer retains sufficient integrity to convey its significant association.

The North Roxy Overlook area is a rocky cliff-lined lookout area with two constructed benches and a timber overhang structure and was newly recorded as part of this undertaking. The structure, likely constructed in 1936, is evaluated within the historic context of the CCC construction of Prescott Park. The Prescott Park North Roxy Overlook Shelter has retained the integrity of design and workmanship as it is documented and exemplifies known CCC construction plans and building types. The cedar benches and stone step construction appear original; however, the Prescott Park North Roxy Overlook Shelter has diminished integrity of materials as the roof was replaced with standing seam metal. Overall, the Prescott Park North Roxy Overlook Shelter is recommended not eligible for listing in the NRHP due to a failure to convey significance under any of the criteria.

Eleven (11) archaeological resources were identified during the pedestrian survey: one previously recorded archaeological site (35JA146), seven newly identified archaeological sites (15891.01-01,

15891.01-02, 15891.01-03, 15891.01-04, 15891.01-05, 15891.01-06, and 15891.01-07), and three newly identified archaeological isolates (15891.01-08i, 15891.01-09i, and 15891.01-10i).

Previously recorded precontact site 35JA146 consists of a sparse lithic material scatter. The site was relocated by Dudek using previous survey maps, but no artifacts were observed during this survey. However, a digital boundary was created by Dudek using previous survey maps. The lack of artifacts identified in the current survey may be due to the destruction of the site by recreational use, or due to poor conditions for soil visualization. Site 35JA146 should be considered unevaluated for listing in the NRHP until resurveying can be completed with better soil surface visibility to delineate horizontal boundaries and subsurface testing to delineate vertical boundaries.

Historic-period archaeological site 15891.01-01 comprises the Madrone Ledge Picnic Area, a large and rustic picnic area constructed by the Civilian Conservation Corps (CCC) between 1936 and 1939. Sixteen remnant CCC-era features were identified and include three stone fireplaces (Features 1, 11, and 16), six circular galvanized metal-lined holes in the ground (Features 2, 4, 7, 9, 12, and 13), three mortared-stone stoves (Features 3, 6, and 8), one building foundation (Feature 5), two rock alignments (Features 10 and 14), and the original Madrone Ledge Picnic Area sign (Feature 15). The site is significant under Criterion A based on its association with The New Deal and the CCC; however, the Prescott Park Historic Designed Landscape (BE-15891-PP), of which Site 15891.01-01 is a part, is recommended not eligible because it does not retain the necessary integrity to convey its significance under Criterion A.

Historic-period site 15891.01-02 comprises the rustic, CCC-constructed day-use/picnicking facilities on the northwest slope of Roxy Ann peak, built between 1936 and 1939. Four remnant CCC-era features were identified and include a mortared-stone stove (Feature 1), the original Roxy Ann Picnic Area Sign (Feature 2), the foundation of the Picnic Shelter (Feature 3), and the Prescott Park Spring House (Feature 4). Site 15891.01-02 also contains a built-environment resource, the Prescott Park Restroom (BE-15891-02). The site is significant under Criterion A based on its association with The New Deal and the CCC Company; however, the Prescott Park Historic Designed Landscape (BE-15891-PP), of which Site 15891.01-02 is a part, is recommended not eligible because it does not retain enough integrity to convey its significance under Criterion A.

Historic-period site 15891.01-03 comprises a historic refuse scatter of five “Olympia Beer” cans with crimped ends, interlocking side seams, and pull-tab openings, which were in use between 1965 and 1975. Given the site’s close proximity to the CCC Trail, it is possible the site represents one or more expedient dumping events from passing hikers during the mid-1960s to the mid-1970s. Site 15891.01-03 is recommended not eligible for listing in the NRHP due to a failure to convey significance under any of the criteria.

Historic-period site 15891.01-04 consists of a concrete foundation measuring 13.5 feet long by 10.5 feet wide. A metal anchor with an attached wire fragment was observed protruding from the southwest portion of the foundation. Site 15891.01-04 is possibly the remnants of one of the first concrete block structures and associated microwave relay towers constructed on Roxy Ann Peak in the late 1950s. The site is recommended to be not eligible for the NRHP due to its failure to convey significance under any of the four criteria.

Historic-period Site 15891.01-05 comprises two small concrete foundations situated approximately 60 feet north of a modern telecommunications facility and 10-15 feet west of a transmission line pole. Three iron bar or rebar fragments were observed protruding from the surface of the northeastern-most foundation. This foundation also bears indeterminate symbols incised across its surface. Site 15891.01-04

is also possibly the remnants of one of the first concrete block structures and associated microwave relay towers constructed on Roxy Ann Peak in the late 1950s. The site is recommended to be not eligible for the NRHP due to its failure to convey significance under any of the four criteria.

Historic-period Site 15891.01-06 comprises a debris scatter of fifteen (15) amber glass beer bottles, five (5) glass food jars, two (2) condiment bottles, and more than three-hundred (300) cans. The site's average artifact density is 1-2 per square meter while the maximum artifact density is 8-10 per square meter. The variety of can types suggests that it had been in use as a roadside dump for a considerable period, from the 1930s to 1960s. Site 15891.01-06 is recommended not eligible for listing in the NRHP due to a failure to convey significance under any of the criteria.

Precontact lithic material site 15891.01-07 comprises a lithic scatter of greater than 120 CCS flakes identified within and alongside an equestrian trail that measures 3 meters wide and between 5 and 40 centimeters below the surrounding and unaltered ground surface. An intermittent drainage was observed flowing generally northwest/southeast through the Equestrian Trail and some flakes were identified within the drainage and in shallow pools of standing water. The artifact assemblage consisted of approximately 65%-70% biface thinning flakes and 30%-35% core reduction flakes. The artifacts are generally concentrated in the central portion of the site with the scatter becoming more diffuse towards the northwest and southeast edges. No formed tools or ground stone were identified on the surface within the site. Site 15891.01-07 possibly provides evidence of a toolmaking site. It is likely that more material and/or cultural features could be found with subsurface testing. As no subsurface testing has been conducted, the horizontal and vertical boundaries of the site have not been established. This site should be considered unevaluated for listing in the NRHP.

Precontact Isolate 15891.01-08i comprises one yellow CCS flake measuring 3.5 cm long, 2.8 cm wide, and 0.7 cm thick. As no subsurface testing has been conducted in the vicinity of the isolate, the horizontal and vertical boundaries of the isolate have not been established. This isolate should be considered unevaluated for listing in the NRHP.

Precontact Isolate 15891.01-09i comprises one tan and grayish blue CCS flake measuring 4.5 cm long, 3.5 cm wide, and 0.8 cm thick. As no subsurface testing has been conducted in the vicinity of the isolate, the horizontal and vertical boundaries of the isolate have not been established. This isolate should be considered unevaluated for listing in the NRHP.

Historic-period Isolate 15891.01-10i comprises one partially crushed oil can. The can bears intact lithography that reads "New Premium STP" on the front and "distributed by chemical compounds division of Studebaker Corporation St. Joseph Missouri copyright 1962" on the back. The observed lithography and STP's history suggest the can was produced in or after 1962.The isolate is recommended to be not eligible for the NRHP due to its failure to convey significance under any of the four criteria.

As a result of this survey, eleven total archaeological sites were identified by Dudek. Five archaeological resources (15891.01-03, 15891.01-04, 15891.01-05, 15891.01-06, and 15891.01-10i) are recommended not eligible for the NRHP and do not need to be avoided by the project. FEMA concurs that these sites are not eligible for listing in the NRHP. Six archaeological resources (35JA146, 15891.01-07, 15891.01-01, 15891.01-02, 15891.01-08i and 15891.01-09i) are recommended unevaluated for listing in the NRHP and should be avoided by the project. FEMA concurs that these sites are unevaluated and thus potentially eligible for listing in the NRHP. Additionally, it is recommended that all built environment resources within the APE, including the Prescott Park Historic Designed Landscape (BE-15891-PP), the Prescott Park Restroom (41602/BE-15891-2), and the North Roxy Overlook Shelter (BE-15891-4), are not eligible

for listing in the NRHP. FEMA concurs that these resources are not eligible for listing in the NRHP. To avoid potential adverse effects, a 20-meter buffer will be placed around the six (6) archaeological sites that remain unevaluated (35JA146, 15891.01-07, 15891.01-01, 15891.01-02, 15891.01-08i and 15891.01-09i). Project activities related to wildfire fuels mitigation work can occur within these buffers under the conditions that 1) all activity will be done with handheld tools, 2) vegetation waste will be carried out and not dragged for disposal outside of these buffers, 3) no burning or chipping will occur within these buffers, and 4) there will be no mechanized vehicle activity allowed in these areas. Additionally, work will be done during dry conditions to minimize ground disturbance.

Determination of Effects
Barring additional information from the Tribe and based on the assessment results, FEMA has determined that the Undertaking will result in No Adverse Effects to Historic Properties. Additionally, FEMA will condition its approval of the Undertaking to protect any unexpected discoveries of historic or archaeological resources during treatment work. We respectfully request your review of the enclosed report and, if appropriate, your concurrence with FEMA's findings or additional comment. Should you have any questions, please contact Collin Markstrom at (202) 615-8521 or collin.markstrom@fema.dhs.gov. Thank you in advance.

Sincerely,

COLLIN J MARKSTROM
Digitally signed by COLLIN J MARKSTROM
Date: 2024.08.12 08:10:48 -07'00'

For

Science Kilner
Regional Environmental Officer

Enclosures:
Dudek Cultural Resources Assessment Report

Cc:
Jennifer Bryant, Culture Education Program Manager

U.S. Department of Homeland Security
FEMA Region 10
130 228th Street, SW
Bothell, WA 98021-8627

FEMA

August 29, 2024

Ms. Christine Curran
Deputy Oregon State Historic Preservation Officer
Oregon Parks and Recreation Department
725 Summer Street NE, Suite C
Salem, Oregon 97301-1266
Sent via email

RE: FEMA Hazard Mitigation Grant Program 4562-24, City of Medford Bear Creek Greenway Hazardous Fuels Reduction, Jackson County

Dear Ms. Curran:

The U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) proposes to fund the City of Medford (Applicant), through the Oregon Department of Emergency Management (OEM), for hazardous fuels reduction in the Bear Creek Greenway (Undertaking). This funding is available from FEMA's Hazard Mitigation Grant Program (HMGP). The proposed Undertaking is being reviewed pursuant to Section 106 of the National Historic Preservation Act, as amended and the Programmatic Agreement (Agreement) in effect with your office and OEM. The City of Medford contracted Dudek to complete a cultural resources assessment for the Undertaking and the report is enclosed. Note FEMA is in the process of preparing an Environmental Assessment per the National Environmental Policy Act for this project.

Proposed Undertaking
The proposed Undertaking is located in the City of Medford, Jackson County, Oregon and will consist of hazardous fuels reduction of 350-acres in the Bear Creek Greenway (around Latitude 42.3206, Longitude -122.8592) as illustrated on Figures 1 and 2 of the enclosed report. The Almeda and Table Road Rock fires of 2020 burned over 3,000-acres in this area, prompting the need to reduce natural wildfire hazards. The fuels reduction treatments at the Bear Creek Greenway would include thinning understory vegetation, removing ladder fuels, reducing flammable vegetation fuels, and replacing flammable vegetation with fire-resistant vegetation to protect life, property, and at-risk buildings and structures on public and private property. The Undertaking would provide a break in the forest canopy, which would force a fire to the ground where wildland firefighters can more safely and easily manage suppression. The project area encompasses a combination of public City-owned property as well as the edges of privately owned residential and commercial parcels which are adjacent to the Bear Creek Greenway.

Bear Creek Greenway fuels reduction treatments would occur on a 350-acre area that runs adjacent to the 7-mile riparian corridor within the city. Fuels reduction methods include three management prescriptions: fuels reduction around structures and select properties along the riparian corridor of Bear Creek, fuels reduction within the forest and woodland habitats along the riparian corridor, and targeted removal and control of invasive species. Fuels reduction methods would vary at public and private property along the riparian corridor and upland areas within the Bear Creek Greenway

depending on ground conditions. The management prescriptions at Bear Creek include the following fuel treatment types: manual methods (thinning, pruning, brush piling and chipping); mechanical methods (mowing and chipping), and chemical methods (herbicide application).

Area of Potential Effects
FEMA has determined that the Area of Potential Effects (APE) for the Undertaking, as shown on Figures 1 and 2 of the enclosed report, includes the 350-acre area located in the Bear Creek Greenway. Access and staging to the project treatment areas would be provided by existing improved surfaces such as roads and pathways.

Historic Property Identification and Evaluation
The City of Medford contracted Dudek to complete a cultural resources assessment for the Undertaking, which included a pedestrian survey and archaeological subsurface testing. Dudek's archaeological subsurface testing for this project was conducted under SHPO Permit No. AP-3864. A review of available cultural resources information from the Oregon Archaeological Records Remote Access (OARRA) indicated that ten (10) previously recorded resources are within the APE, six (6) of which are precontact (35JA500 (Heitkamp 1), 35JA660, 35JA1087 (DeBunce Site), SOULA 2022.08-P2(IF), SOULA 2022.08-P3(IF), SOULA 2022.08-P4(IF)) and four (4) of which are historic (SH-BC-01, SH-BC-02, SH-BC-03, 35JA1086). Site 35JA1087 (DeBunce Site), located near the southern end of the APE, is unevaluated for the National Register of Historic Places (NRHP). The remaining nine (9) resources are not eligible for listing in the NRHP. Given the nature of the project and its location in a natural area along Bear Creek, the APE did not contain any built environment resources.

Dudek conducted a pedestrian survey across the entire 350-acre APE in 20-meter transect intervals except in areas of heavily vegetated riparian forests along the Bear Creek channel. Dudek identified three (3) new archaeological resources on the surface during the pedestrian survey, one (1) of which is prehistoric (Site 15891.02-01), and two (2) of which are historic (Site 15891.02-02 and Isolate 15891.02-07i). In addition, Dudek updated three (3) of the ten (10) previously recorded archaeological resources (prehistoric site 35JA1087 and Isolate SOULA 2022.08-P2(IF) (combined with Site 15891.02-01, and historic site SH-BC-01).

The hydrology and geomorphology of the Bear Creek floodplain indicate a low probability of intact subsurface archaeological deposits in the immediate vicinity of the creek channel. However, the APE encompasses some higher-elevation terraces that are located above the current floodplain. Therefore, Dudek archaeologists identified twenty-three (23) high-probability areas (HPAs) where the background research and field reconnaissance suggested there may be intact sediments and where project-related ground-disturbing activities are planned. In total, Dudek archaeologists conducted subsurface testing through the excavation of one hundred and seventy-nine (179) shovel probes (SPs) in these identified HPAs. SPs were also excavated to delineate newly recorded isolate and site boundaries. All SPs measured at least 30 cm in diameter and were excavated in 10 cm stratigraphic levels to a depth of at least 50 cm below the surface. All soils were screened through a 0.25- or 0.125-inch mesh screen. In total, twelve (12) SPs (SPs 21, 88, 89, 95, 102, 107, 110, 111, 117, 119, 121, and 144) produced precontact and historic cultural materials.

Of the twenty-three (23) identified HPAs, three (3) were located on private property within the APE buffer (HPA R-07, HPA R-08, and HPA R-11) where the City instructed Dudek to avoid subsurface

testing with SPs. Therefore, only a surface survey was conducted throughout these three areas with no cultural resources identified on the surface. No project-related ground disturbing activities are planned within these HPAs which include a portion of a manicured golf course, the cleared and graded edge of a sporting complex, and an area previously cleared for the development of Highland Drive.

Previously recorded site 35JA1087 (DeBunce Site), a precontact habitation site, is located within the southern third of the APE on an upper terrace of Bear Creek. Dudek relocated 35JA1087 using the spatial data available on OARRA. Dudek archaeologists identified one surface artifact, a cryptocrystalline silicate (CCS) core approximately 20 meters east of the existing site boundary, and the site boundary was expanded to include it. A total of 18 shovel probes (SPs 01-13, 18, and 34-37) were excavated east of the site boundary within HPA-Z-01 with no additional cultural resources identified. Site 35JA1087 should be considered unevaluated for listing in the NRHP until a formal analysis of artifacts is completed and testing is conducted within the boundaries of the site to assess integrity. The only proposed project-related activity within the site is to continue to mow the long grasses. No ground disturbances are proposed.

Precontact lithic material site 15891.02-01 is in the southern portion of the APE on a terrace 0.05 miles west of Bear Creek. Previously recorded precontact isolate SOULA 2022-08-P2 (IF) (two CCS flakes and three mammal bone fragments) has been combined and incorporated into Site 15891.02-01 due to its proximity to newly identified cultural material. Following the pedestrian survey, Dudek excavated nine shovel probes to delineate the horizontal boundaries of the site. One of these radial shovel probes (SP 21), was positive for cultural materials consisting of a CCS core fragment collected from a depth of 30-40 cm. No additional cultural materials were identified during subsurface testing. Site 15891.02-01 is a low-density precontact lithic scatter comprising 15 artifacts (10 CCS flakes, 1 CCS biface midsection, 1 CCS core fragment, and 3 mammal bone fragments). Site 15891.02-01 should be considered unevaluated for listing in the NRHP until its vertical boundary is delineated and the distribution and association of cultural materials within the site can be assessed. The only proposed project-related activity within the site is to continue to mow the long grasses. No ground disturbances are proposed.

Historic-period site 15891.02-02 was identified in the northern portion of the APE on the east and west banks of Bear Creek between I-5 and Biddle Road. The site includes two pieces of a steel bridge support structure (railroad bridge girder) and hundreds of pieces (large slabs and boulder-sized chunks) of concrete rubble lining on both sides of the creek as rip rap. Site 15891.02-02 is a historic object (pre-WWII railroad bridge girder) that appears to have been repurposed in the late-1970s as the span for an access road bridge used by ODOT to construct I-5. The site is not yet 50 years old, but the railroad bridge girder was manufactured prior to World War II. These types of railroad bridge girders were common during the mid-twentieth century and many are still in use or have been repurposed as expedient or temporary horizontal support structures for other types of bridges. Site 15891.02-02 is recommended not eligible for listing in the NRHP due to a failure to convey significance under any of the applicable criteria. Therefore, further archaeological work for this resource and avoidance by the project is not necessary.

Site 15891.02-03 is a sparse, historic debris scatter located in the central third of the APE on the edge of a lower terrace approximately 150 feet east of Bear Creek. The site contains a total of thirty (30) fragmented and mostly structural or industrial historic-period artifacts, none of which retain enough

diagnostic features to assign a specific temporal range, nor do they appear to be functionally related to one another. In addition, soils identified in the vicinity of the site consisted of fill and flood deposits. It is likely that the area represents secondarily deposited materials from the nearby urban development associated with commerce and transportation. Based on the surface finds, it is not possible to place the site into a historic context and assign a historic theme, and the fragmentary nature of the debris and lack of features indicate that the site is missing key aspects of integrity, such as materials, design, workmanship, association, setting, and feeling. Dudek recommends Site 15891.02-03 to be not eligible for the NRHP. Therefore, further archaeological work for this resource and avoidance by the project is not necessary.

Site 15891.02-04 is a historic debris scatter with 45 pieces of historic-period refuse and one obsidian flake located in the central third of the APE on the edge of a lower terrace approximately 150 feet east of Bear Creek and 100 feet north of where Lazy Creek flows into Bear Creek. The historic-period component includes fragmented metal (possible disintegrating bottle cap with cork lining, a metal spring clip, five pieces of metal wire, one round wire nail, one piece of metal foil, one large bolt with a washer, one square washer fragment, one latch or hook fragment, and one cap fragment possibly part of a gas cap), glass (fragments of colorless glass, fragments of colorless vessel body, an amber glass fragment, and a fragment of green vessel body), concrete slab fragments, a red brick fragment, faunal bone, and plastic items. The precontact component of the site is one early-stage biface reduction flake with cortex covering its dorsal surface. No additional precontact artifacts were identified within the site. None of the artifacts in the assemblage retain enough diagnostic features to assign a specific temporal range, nor do they appear to be functionally related to one another. Fill and flood deposit soils in the vicinity of the site likely represent secondarily deposited materials from the nearby urban development. Dudek recommends Site 15891.02-04 to be not eligible for the NRHP and that further archaeological work for this resource and avoidance by the project is not necessary.

Precontact Isolate 15891.02-05i was identified during subsurface testing in the central portion of the APE along a broad terrace approximately 42 meters south of Bear Creek. The isolate consists of one piece of red CCS debitage identified during subsurface testing at a depth of 30-40 cm within SP 102. A total of four shovel probes were excavated at cardinal directions around the isolate to delineate its boundaries, and other sampling shovel probes were excavated along the same landform as the isolate, outside of these radials but no additional cultural materials were identified. Isolate 15891.02-05i is recommended not eligible for listing in the NRHP due to a failure to convey significance under any of the criteria. Therefore, further archaeological work for this resource and avoidance by the project is not necessary.

Historic-period Isolate 15891.01-06i was identified during subsurface testing in the northern third of the APE in HPA-Z-05 situated on a broad lower terrace west of I-5 and bounded between Bear Creek Greenway and Bear Creek. The isolate is an intact, colorless bottle identified at a depth of 0-20 cm in SP 144. The bottle base carries the Owens-Illinois makers mark used from 1954 to the present, with a date code corresponding to 1955. A total of four radial shovel probes were excavated at cardinal directions 5 meters from the isolate to delineate its boundaries, and several other sampling shovel probes were excavated outside of these radials in HPA-Z-05 north of the isolate, but no additional cultural materials were identified. Isolate 15891.02-06i is recommended not eligible for listing in the NRHP due to a failure to convey significance under any of the criteria. Therefore, further archaeological work for this resource and avoidance by the project is not necessary.

Historic-period archaeological isolate 15891.02-07i consists of one artifact, the car body of a 1953 Dodge Coronet, found with a heap of recent modern trash and transient camp debris located approximately 15 meters southwest of the left bank of Bear Creek, south of the Medford Sports Park baseball fields in an active floodplain. No subsurface testing was conducted in the vicinity of the isolate. Isolate 15891.02-07i is recommended not eligible for listing in the NRHP due to a failure to convey significance under any of the criteria. Therefore, further archaeological work for this resource and avoidance by the project is not necessary.

FEMA concurs with Dudek that historic-period sites 15891.02-02 and 15891.02-03, multicomponent site 15891.02-04, precontact isolate 15891.02-05i, and historic-period isolates 15891.02-06i and 15891.02-07i are not eligible for the NRHP, should not be considered historic properties, and do not need to be avoided by the project. Additionally, FEMA concurs with Dudek that precontact sites 35JA1087 and 15891.02-01 should remain unevaluated for NRHP listing. To avoid potential adverse effects, a 30-meter buffer will be placed around the two (2) archaeological sites that remain unevaluated (sites 35JA1087 and 15891.02-01). Project activities related to wildfire fuels mitigation work can occur within these buffers under the conditions that 1) all activity will be done with handheld tools, 2) vegetation waste will be carried out and not dragged for disposal outside of these buffers, 3) no burning or chipping will occur within these buffers, and 4) there will be no mechanized vehicle activity allowed in these areas. Additionally, work will be done during dry conditions to minimize ground disturbance.

FEMA has also conducted consultation with the Cow Creek Band of Umpqua Tribe of Indians, the Confederated Tribes of the Grand Ronde, the Confederated Tribes of Siletz Indians of Oregon, and the Tolowa Dee-ni' Nation. We have also provided a copy of Dudek's report to the Tribes for review.

Determination of Effects
Barring additional information from your office or the Tribes and based on the assessment results, FEMA has determined that the Undertaking will result in No Adverse Effects to Historic Properties. Additionally, FEMA will condition its approval of the Undertaking to protect any unexpected discoveries of historic or archaeological resources during treatment work. We respectfully request your review of the enclosed report and, if appropriate, your concurrence with FEMA's findings or additional comment. Should you have any questions, please contact Collin Markstrom at (202) 615-8521 or collin.markstrom@fema.dhs.gov. Thank you in advance.

Sincerely,
SCIENCE A KILNER
Digitally signed by SCIENCE A KILNER
Date: 2024.08.29 07:33:58 -07'00'
Science Kilner
Regional Environmental Officer

Enclosures:
Dudek Cultural Resources Assessment Report
Oregon SHPO Submittal Form
APE Shapefile

U.S. Department of Homeland Security
FEMA Region 10
130 228th Street, SW
Bothell, WA 98021-8627

FEMA

August 29, 2024

Mr. Ben Steward
Tribal Historic Preservation Officer
Cow Creek Band of Umpqua Tribe of Indians
2371 NE Stephens Street
Suite 100
Roseburg, Oregon 97470-1399
Sent via email

RE: FEMA Hazard Mitigation Grant Program 4562-24, City of Medford Bear Creek Greenway Hazardous Fuels Reduction, Jackson County

Dear Mr. Steward:

Please consider this a follow up to our letter dated February 6, 2024. The U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) proposes to fund the City of Medford (Applicant), through the Oregon Department of Emergency Management (OEM), for hazardous fuels reduction in the Bear Creek Greenway (Undertaking). This funding is available from FEMA's Hazard Mitigation Grant Program (HMGP). The proposed Undertaking is being reviewed pursuant to Section 106 of the National Historic Preservation Act, as amended. The City of Medford contracted Dudek to complete a cultural resources assessment for the Undertaking and the report is enclosed. Note FEMA is in the process of preparing an Environmental Assessment per the National Environmental Policy Act for this project.

Proposed Undertaking
The proposed Undertaking is located in the City of Medford, Jackson County, Oregon and will consist of hazardous fuels reduction of 350-acres in the Bear Creek Greenway (around Latitude 42.3206, Longitude -122.8592) as illustrated on Figures 1 and 2 of the enclosed report. The Almeda and Table Road Rock fires of 2020 burned over 3,000-acres in this area, prompting the need to reduce natural wildfire hazards. The fuels reduction treatments at the Bear Creek Greenway would include thinning understory vegetation, removing ladder fuels, reducing flammable vegetation fuels, and replacing flammable vegetation with fire-resistant vegetation to protect life, property, and at-risk buildings and structures on public and private property. The Undertaking would provide a break in the forest canopy, which would force a fire to the ground where wildland firefighters can more safely and easily manage suppression. The project area encompasses a combination of public City-owned property as well as the edges of privately owned residential and commercial parcels which are adjacent to the Bear Creek Greenway.

Bear Creek Greenway fuels reduction treatments would occur on a 350-acre area that runs adjacent to the 7-mile riparian corridor within the city. Fuels reduction methods include three management prescriptions: fuels reduction around structures and select properties along the riparian corridor of Bear Creek, fuels reduction within the forest and woodland habitats along the riparian corridor, and targeted removal and control of invasive species. Fuels reduction methods would vary at public and

private property along the riparian corridor and upland areas within the Bear Creek Greenway depending on ground conditions. The management prescriptions at Bear Creek include the following fuel treatment types: manual methods (thinning, pruning, brush piling and chipping); mechanical methods (mowing and chipping), and chemical methods (herbicide application).

Area of Potential Effects
FEMA has determined that the Area of Potential Effects (APE) for the Undertaking, as shown on Figures 1 and 2 of the enclosed report, includes the 350-acre area located in the Bear Creek Greenway. Access and staging to the project treatment areas would be provided by existing improved surfaces such as roads and pathways.

Historic Property Identification and Evaluation
The City of Medford contracted Dudek to complete a cultural resources assessment for the Undertaking, which included a pedestrian survey and archaeological subsurface testing. Dudek's archaeological subsurface testing for this project was conducted under SHPO Permit No. AP-3864. A review of available cultural resources information from the Oregon Archaeological Records Remote Access (OARRA) indicated that ten (10) previously recorded resources are within the APE, six (6) of which are precontact (35JA500 (Heitkamp 1), 35JA660, 35JA1087 (DeBunce Site), SOULA 2022.08-P2(IF), SOULA 2022.08-P3(IF), SOULA 2022.08-P4(IF)) and four (4) of which are historic (SH-BC-01, SH-BC-02, SH-BC-03, 35JA1086). Site 35JA1087 (DeBunce Site), located near the southern end of the APE, is unevaluated for the National Register of Historic Places (NRHP). The remaining nine (9) resources are not eligible for listing in the NRHP. Given the nature of the project and its location in a natural area along Bear Creek, the APE did not contain any built environment resources.

Dudek conducted a pedestrian survey across the entire 350-acre APE in 20-meter transect intervals except in areas of heavily vegetated riparian forests along the Bear Creek channel. Dudek identified three (3) new archaeological resources on the surface during the pedestrian survey, one (1) of which is prehistoric (Site 15891.02-01), and two (2) of which are historic (Site 15891.02-02 and Isolate 15891.02-07i). In addition, Dudek updated three (3) of the ten (10) previously recorded archaeological resources (prehistoric site 35JA1087 and Isolate SOULA 2022.08-P2(IF) (combined with Site 15891.02-01, and historic site SH-BC-01).

The hydrology and geomorphology of the Bear Creek floodplain indicate a low probability of intact subsurface archaeological deposits in the immediate vicinity of the creek channel. However, the APE encompasses some higher-elevation terraces that are located above the current floodplain. Therefore, Dudek archaeologists identified twenty-three (23) high-probability areas (HPAs) where the background research and field reconnaissance suggested there may be intact sediments and where project-related ground-disturbing activities are planned. In total, Dudek archaeologists conducted subsurface testing through the excavation of one hundred and seventy-nine (179) shovel probes (SPs) in these identified HPAs. SPs were also excavated to delineate newly recorded isolate and site boundaries. All SPs measured at least 30 cm in diameter and were excavated in 10 cm stratigraphic levels to a depth of at least 50 cm below the surface. All soils were screened through a 0.25- or 0.125-inch mesh screen. In total, twelve (12) SPs (SPs 21, 88, 89, 95, 102, 107, 110, 111, 117, 119, 121, and 144) produced precontact and historic cultural materials.

Of the twenty-three (23) identified HPAs, three (3) were located on private property within the APE buffer (HPA R-07, HPA R-08, and HPA R-11) where the City instructed Dudek to avoid subsurface testing with SPs. Therefore, only a surface survey was conducted throughout these three areas with no cultural resources identified on the surface. No project-related ground disturbing activities are planned within these HPAs which include a portion of a manicured golf course, the cleared and graded edge of a sporting complex, and an area previously cleared for the development of Highland Drive.

Previously recorded site 35JA1087 (DeBunce Site), a precontact habitation site, is located within the southern third of the APE on an upper terrace of Bear Creek. Dudek relocated 35JA1087 using the spatial data available on OARRA. Dudek archaeologists identified one surface artifact, a cryptocrystalline silicate (CCS) core approximately 20 meters east of the existing site boundary, and the site boundary was expanded to include it. A total of 18 shovel probes (SPs 01-13, 18, and 34-37) were excavated east of the site boundary within HPA-Z-01 with no additional cultural resources identified. Site 35JA1087 should be considered unevaluated for listing in the NRHP until a formal analysis of artifacts is completed and testing is conducted within the boundaries of the site to assess integrity. The only proposed project-related activity within the site is to continue to mow the long grasses. No ground disturbances are proposed.

Precontact lithic material site 15891.02-01 is in the southern portion of the APE on a terrace 0.05 miles west of Bear Creek. Previously recorded precontact isolate SOULA 2022-08-P2 (IF) (two CCS flakes and three mammal bone fragments) has been combined and incorporated into Site 15891.02-01 due to its proximity to newly identified cultural material. Following the pedestrian survey, Dudek excavated nine shovel probes to delineate the horizontal boundaries of the site. One of these radial shovel probes (SP 21), was positive for cultural materials consisting of a CCS core fragment collected from a depth of 30-40 cm. No additional cultural materials were identified during subsurface testing. Site 15891.02-01 is a low-density precontact lithic scatter comprising 15 artifacts (10 CCS flakes, 1 CCS biface midsection, 1 CCS core fragment, and 3 mammal bone fragments). Site 15891.02-01 should be considered unevaluated for listing in the NRHP until its vertical boundary is delineated and the distribution and association of cultural materials within the site can be assessed. The only proposed project-related activity within the site is to continue to mow the long grasses. No ground disturbances are proposed.

Historic-period site 15891.02-02 was identified in the northern portion of the APE on the east and west banks of Bear Creek between I-5 and Biddle Road. The site includes two pieces of a steel bridge support structure (railroad bridge girder) and hundreds of pieces (large slabs and boulder-sized chunks) of concrete rubble lining on both sides of the creek as rip rap. Site 15891.02-02 is a historic object (pre-WWII railroad bridge girder) that appears to have been repurposed in the late-1970s as the span for an access road bridge used by ODOT to construct I-5. The site is not yet 50 years old, but the railroad bridge girder was manufactured prior to World War II. These types of railroad bridge girders were common during the mid-twentieth century and many are still in use or have been repurposed as expedient or temporary horizontal support structures for other types of bridges. Site 15891.02-02 is recommended not eligible for listing in the NRHP due to a failure to convey significance under any of the applicable criteria. Therefore, further archaeological work for this resource and avoidance by the project is not necessary.

Site 15891.02-03 is a sparse, historic debris scatter located in the central third of the APE on the edge of a lower terrace approximately 150 feet east of Bear Creek. The site contains a total of thirty (30) fragmented and mostly structural or industrial historic-period artifacts, none of which retain enough diagnostic features to assign a specific temporal range, nor do they appear to be functionally related to one another. In addition, soils identified in the vicinity of the site consisted of fill and flood deposits. It is likely that the area represents secondarily deposited materials from the nearby urban development associated with commerce and transportation. Based on the surface finds, it is not possible to place the site into a historic context and assign a historic theme, and the fragmentary nature of the debris and lack of features indicate that the site is missing key aspects of integrity, such as materials, design, workmanship, association, setting, and feeling. Dudek recommends Site 15891.02-03 to be not eligible for the NRHP. Therefore, further archaeological work for this resource and avoidance by the project is not necessary.

Site 15891.02-04 is a historic debris scatter with 45 pieces of historic-period refuse and one obsidian flake located in the central third of the APE on the edge of a lower terrace approximately 150 feet east of Bear Creek and 100 feet north of where Lazy Creek flows into Bear Creek. The historic-period component includes fragmented metal (possible disintegrating bottle cap with cork lining, a metal spring clip, five pieces of metal wire, one round wire nail, one piece of metal foil, one large bolt with a washer, one square washer fragment, one latch or hook fragment, and one cap fragment possibly part of a gas cap), glass (fragments of colorless glass, fragments of colorless vessel body, an amber glass fragment, and a fragment of green vessel body), concrete slab fragments, a red brick fragment, faunal bone, and plastic items. The precontact component of the site is one early-stage biface reduction flake with cortex covering its dorsal surface. No additional precontact artifacts were identified within the site. None of the artifacts in the assemblage retain enough diagnostic features to assign a specific temporal range, nor do they appear to be functionally related to one another. Fill and flood deposit soils in the vicinity of the site likely represent secondarily deposited materials from the nearby urban development. Dudek recommends Site 15891.02-04 to be not eligible for the NRHP and that further archaeological work for this resource and avoidance by the project is not necessary.

Precontact Isolate 15891.02-05i was identified during subsurface testing in the central portion of the APE along a broad terrace approximately 42 meters south of Bear Creek. The isolate consists of one piece of red CCS debitage identified during subsurface testing at a depth of 30-40 cm within SP 102. A total of four shovel probes were excavated at cardinal directions around the isolate to delineate its boundaries, and other sampling shovel probes were excavated along the same landform as the isolate, outside of these radials but no additional cultural materials were identified. Isolate 15891.02-05i is recommended not eligible for listing in the NRHP due to a failure to convey significance under any of the criteria. Therefore, further archaeological work for this resource and avoidance by the project is not necessary.

Historic-period Isolate 15891.01-06i was identified during subsurface testing in the northern third of the APE in HPA-Z-05 situated on a broad lower terrace west of I-5 and bounded between Bear Creek Greenway and Bear Creek. The isolate is an intact, colorless bottle identified at a depth of 0-20 cm in SP 144. The bottle base carries the Owens-Illinois makers mark used from 1954 to the present, with a date code corresponding to 1955. A total of four radial shovel probes were excavated at cardinal directions 5 meters from the isolate to delineate its boundaries, and several other sampling shovel probes were excavated outside of these radials in HPA-Z-05 north of the isolate, but no additional cultural materials were identified. Isolate 15891.02-06i is recommended not eligible for listing in the

NRHP due to a failure to convey significance under any of the criteria. Therefore, further archaeological work for this resource and avoidance by the project is not necessary.

Historic-period archaeological isolate 15891.02-07i consists of one artifact, the car body of a 1953 Dodge Coronet, found with a heap of recent modern trash and transient camp debris located approximately 15 meters southwest of the left bank of Bear Creek, south of the Medford Sports Park baseball fields in an active floodplain. No subsurface testing was conducted in the vicinity of the isolate. Isolate 15891.02-07i is recommended not eligible for listing in the NRHP due to a failure to convey significance under any of the criteria. Therefore, further archaeological work for this resource and avoidance by the project is not necessary.

FEMA concurs with Dudek that historic-period sites 15891.02-02 and 15891.02-03, multicomponent site 15891.02-04, precontact isolate 15891.02-05i, and historic-period isolates 15891.02-06i and 15891.02-07i are not eligible for the NRHP, should not be considered historic properties, and do not need to be avoided by the project. Additionally, FEMA concurs with Dudek that precontact sites 35JA1087 and 15891.02-01 should remain unevaluated for NRHP listing. To avoid potential adverse effects, a 30-meter buffer will be placed around the two (2) archaeological sites that remain unevaluated (sites 35JA1087 and 15891.02-01). Project activities related to wildfire fuels mitigation work can occur within these buffers under the conditions that 1) all activity will be done with handheld tools, 2) vegetation waste will be carried out and not dragged for disposal outside of these buffers, 3) no burning or chipping will occur within these buffers, and 4) there will be no mechanized vehicle activity allowed in these areas. Additionally, work will be done during dry conditions to minimize ground disturbance.

Determination of Effects
Barring additional information from the Tribe and based on the assessment results, FEMA has determined that the Undertaking will result in No Adverse Effects to Historic Properties. Additionally, FEMA will condition its approval of the Undertaking to protect any unexpected discoveries of historic or archaeological resources during treatment work. We respectfully request your review of the enclosed report and, if appropriate, your concurrence with FEMA's findings or additional comment. Should you have any questions, please contact Collin Markstrom at (202) 615-8521 or collin.markstrom@fema.dhs.gov. Thank you in advance.

Sincerely,

COLLIN J MARKSTROM
Digitally signed by COLLIN J MARKSTROM
Date: 2024.08.29 09:36:57 -07'00'

For

Science Kilner
Regional Environmental Officer

Enclosures:
Dudek Cultural Resources Assessment Report

Cc:
Jennifer Bryant, Culture Education Program Manager

Appendix B: Biological Assessment

Medford Hazardous Fuels Reduction Project

Biological Assessment

Medford, Oregon

January 2024

FEMA

Table of Contents

Tables

Figures

Acronyms and Abbreviations

BA	Biological Assessment
CFR	Code of Federal Regulations
CWPP	Community Wildlife Protection Plan
DCH	Designated Critical Habitat
DPS	Distinct Population Segment
EFH	Essential Fish Habitat
ESA	Endangered Species Act of 1973
ESU	Evolutionary Significant Unit
FEMA	Federal Emergency Management Agency
ft	Foot/Feet
HMGP	Hazard Mitigation Grant Program
LSR	Late-successional Reserve
NEPA	National Environmental Policy Act
NFPA	National Fire Protection Service
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NSO	Northern Spotted Owl
ODFW	Oregon Department of Fish and Wildlife
OEM	Oregon Department of Emergency Management
OHWM	Ordinary High-Water Mark
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
WUI	Wildland Urban Interface

Glossary

- Brush: A collective term that refers to stands of vegetation dominated by shrubby, woody plants, or low growing trees.
- Buffer: Untreated areas, also referred to as setbacks, along a waterway or around a wetland or drainage feature where surface runoff enters streams within which certain treatment methods are prohibited (e.g., herbicides are not permitted in these areas). Buffers also refer to the distance perpendicular to the bankfull elevation for streams, the upland boundary for wetlands, or the upper bank for roadside ditches that would be flagged as no-application zones for herbicide application.
- Canopy: The cover provided by the crowns of trees. A closed canopy occurs when the crowns of adjacent trees touch to form a continuous cover over the forest floor. An open canopy occurs when trees are more widely spaced so that their crowns do not touch or where there are gaps in the canopy.
- Conifer Trees: Conifer trees are types of common softwood trees that are identified by pine-like needle leaves and seed-producing cones.
- Diameter at Breast Height: DBH is the standard for measuring trees. DBH refers to the tree diameter measured at approximately 4.5 feet above the ground.
- Disaster: An occurrence of a hazard that causes a negative outcome.
- Ground Fuel: All combustible materials below the surface litter, including duff, tree or shrub roots, punchy wood, peat, and sawdust, that normally support a glowing combustion without flame.
- Hardwood Trees: Trees with broad, flat leaves as opposed to conifer or needled trees.
- Hazard: Something that is potentially dangerous or harmful, and is often the root cause of an unwanted outcome.
- Hazardous Fuels Reduction: Includes thinning vegetation, removing ladder fuels, reducing flammable vegetative materials, and replacing flammable vegetation with fire-resistent vegetation for the protection of life and property. Targeted vegetation may include excess fuels or otherwise flammable species.
- Ladder Fuels: Includes shrubs, small trees, down wood or brush, and low limbs that may provide a route for a fire to climb from ground fuels up into the forest canopy.
- Setback: Untreated areas, also referred to as buffers, along a waterway or around a wetland or drainage feature where surface runoff enters streams. Herbicides are not permitted in these areas.

- Slash: Debris left after logging, pruning, thinning, or brush cutting; includes logs, chips, bark, branches, stumps, and broken understory trees or brush.
- Thinning: Removal of some trees, branches, or shrubs from a forest stand.
- Wildfire: Any uncontrolled fire that spreads through vegetative fuels such as forests, shrubs, or grasslands, exposing and possibly consuming structures.
- Wildland Urban Interface: The geographical area where buildings and structures and other human development meet or intermingle with wildland or vegetative fuels.

Executive Summary

The City of Medford (City) has applied for funding from the U.S. Department of Homeland Security's Federal Emergency Management Agency Hazard Mitigation Grant Program (HMGP) for financial assistance for the Hazardous Fuels Reduction Project (Project) in Jackson County. The HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 93-288, as amended, 42 U.S.C. §§ 5121-5207), and is administered by the Oregon Department of Emergency Management. These HMGP funds are available from Presidential major disaster DR-4562-OR Wildfires and Straight-Line Winds declared in 2020. The purpose of the HMGP is to help communities implement hazard mitigation measures following a Presidential major disaster declaration.

A biological assessment (BA) of the potential effects of the Project on Endangered Species Act (ESA)-listed species and critical habitats is required by Section 7 of the ESA (16 U.S.C. § 1536). The ESA-listed species (including proposed and candidate species) that could occur in the region were obtained from the U.S. Fish and Wildlife Service's Information for Planning and Consultation (IPaC) website on Sep, 30, 2023.

There are eight ESA-listed species (and 1 candidate) that occur in the region, but only Franklin's bumble bee (FRBB) is expected to occur within the action area and be affected by project actions. Critical habitat has not been designed for the FRBB. However, the project area does occur within a FRBB High Priority Zone. The potential impacts of the Project on these ESA-listed species or their habitats within the action area were evaluated as part of this BA. The evaluation was based on the existing habitat conditions and suitability for the life history requirements of the identified ESA-listed species.

A summary of potential effects from the Project on all regional ESA-listed species and designated critical habitats is provided in Table ES-1. The Project was determined to may affect, not likely to adversely affect FRBB in the short- and long-term. The Project would have no effect on the other ESA-listed species.

Table ES-1. Executive Summary of Determination for ESA-Listed species in the Region

Species Name	*Status*	*Potential Short-term Effects on Species*	*Potential Long-term Effects on Species*	*Potential Effects on DCH*
Insects				
Franklin's Bumble Bee (*Bombus franklini*)	E	May affect, not likely to adversely affect	May affect, not likely to adversely affect	No DCH
Monarch Butterfly (*Danaus plexippus*)	C	No Effect	No Effect	No DCH
Crustaceans				
Vernal Pool Fairy Shrimp (*Branchinecta lynchi*)	T	No Effect	No Effect	No Effect
Plants				
Cook's Lomatium (*Lomatium cookii*)	E	No Effect	No Effect	No Effect
Gentner's Fritillary (*Fritillaria gentneri*)	E	No Effect	No Effect	No DCH
Large-flowered Woolly Meadowfoam (*Limnanthes pumila grandiflora*)	E	No Effect	No Effect	No Effect
Birds				
Northern Spotted Owl *(Strix occidentalis caurina)*	T	No Effect	No Effect	No Effect
Mammals				
Gray Wolf (*Canis lupus*)	E	No Effect	No Effect	No Effect
Pacific Marten *(Martes caurina)*	T	No Effect	No Effect	No Effect

Note: Green highlighted species and/or DCH are expected to occur in the action area.

1. Introduction

The City of Medford (City) through the Oregon Department of Emergency Management (OEM) has applied for funding from the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) to conduct hazardous fuels reduction within public and private property within the City (Project). The City is proposing to treat up to 700 acres out of 1,219 acres along the Bear Creek Greenway [southern project extent approximately 42.2878699, -122.8237365; northern extent approximately 42.3654284, -122.8875444] and up to 650 acres out of 1,740 acres at Prescott Park in Jackson County, Oregon [southern extent approximately 42.3452401, -122.7905525; northern extent approximately 42.3745756, -122.7846616]. The proposed fuels reduction and vegetation management treatments would reduce the volume of hazardous trees and fuels, control invasive species, and decrease the overall risk for wildfire ignition and spread.

FEMA has prepared this Biological Assessment (BA) in order to evaluate potential effects of the Project under the Endangered Species Act (ESA) of 1973 (16 U.S.C. § 1531–1544) on species that are listed as endangered or threatened, or are proposed for listing, and their designated critical habitat (DCH). The ESA is regulated by the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS). Potential effects on ESA-listed species and DCH within Jackson County are evaluated in accordance with Section 7 of the ESA. Essential fish habitat (EFH), as designated under the Magnuson-Stevens Act of 1996, is under the jurisdiction of NMFS.

This BA will acknowledge the presence of all USFWS managed ESA listed species that may occur in the immediate region (see Section 3). All NMFS managed ESA-listed species, their DCH, or EFH will be consulted upon separately through the existing FEMA Endangered Species Programmatic (NMFS 2018) and will not be discussed further in this BA. Those species which are not expected to be within the action area or otherwise not affected by Project actions will include a short discussion as to why they will be excluded from further analysis. Only the species that are expected to be present in the action area will be included in the Species Effects Analysis (see Section 4).

1.1. Project Proponent and Federal Nexus

The City has applied for federal financial funding assistance under the FEMA Hazard Mitigation Grant Program (HMGP). The HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 93-288, as amended, 42 United States Code (U.S.C.) §§ 5121-5207). HMGP grants are awarded by FEMA to the Oregon Department of Emergency Management (OEM) and are then administered to the sub-recipient (City). Under the HMGP, federal funds pay 75 percent of the project cost, and the remaining 25 percent comes from non-federal funding sources. The HMGP funds were made available from the Presidential major disaster DR-4562-OR Wildfires and Straight-Line Winds for the Almeda Fire in 2020, targeted for projects that reduce the increased risk of future wildfires. The Project is specifically numbered as 4562-24-OR.

1.2. Project Purpose

FEMA's HMGP provides funds to eligible state and local governments, federally recognized tribal governments, and nonprofit organizations to help implement long-term hazard mitigation measures after a presidential major disaster declaration. The purpose of the HMGP is to reduce the loss of life and property due to natural disasters and to enable risk mitigation measures to be implemented during the recovery from a declared disaster. Specifically, the purpose of the proposed HMGP project is to reduce wildfire hazards in the location.

Specifically, the purpose of the proposed fire safety and resiliency measures associated with the proposed action is to reduce vegetative fuels and decrease the likelihood of a wildfire within the Wildland-Urban Interface (WUI) in the City. The need for these measures is driven by the increase in wildfire hazards and recorded fire history in the region that has resulted from the combination of long-term changes in environmental conditions, dry fire seasons, rugged terrain, and an uptick in urban development in or near wildlands, which increases the risk of fires in the WUI (Josephine and Jackson Counties 2019). Prescriptive landscape hazardous fuels reduction within the two treatment areas within Prescott Park and along Bear Creek Greenway may contribute to containment by reducing the intensity and extent of wildfires within Medford, which would ultimately reduce the risks to people living in the wider vicinity of the treatment areas.

According to the 2018 Jackson County Multi-Jurisdictional Natural Hazard Mitigation Plan (MJNHMP), the probability of Jackson County experiencing a wildfire is “high,” meaning a significant incident is likely to occur within the next 10 to 35 years. The 2019 Rogue Valley Integrated Community Wildfire Protection Plan (CWPP) identifies a large portion of both Josephine and Jackson counties, including the Rogue Valley and the entirety of Medford, as a community at risk as well as a WUI area adjacent to forested federal lands (Josephine and Jackson Counties 2019). Additionally, the City has a considerable number of low-income communities that are financially unable to implement substantial fire mitigation activities in the absence of funding assistance.

The influence and effects of wildfire have changed as attempts have been made to suppress it. Past fire exclusion policies, as well as other historic and existing land management practices, have resulted in the loss of historic burn mosaics, reductions in forest diversity, and the accumulation of more continuous, dense wildland fuels. Uninterrupted (continuous) fuels have led to larger, more intense wildfires, which are increasingly difficult and expensive to suppress, especially during periods of very dry and/or windy weather, or episodes of widespread lightning activity. These conditions can quickly overwhelm local, state, and federal firefighting resources (Josephine and Jackson Counties 2019).

The City is still highly vulnerable to increased wildfire risks, both socially and economically, that would result from a large devastating wildfire. After the impacts of the 2020 Almeda and Table Rock Road Fires, it was evident that treated and restored areas (where riparian restoration and fuels reduction treatments were in-place prior to the fires) significantly changed the progression of the fire by slowing the spread and reducing the severity (BCRI 2023). It is therefore important that the City continue to address wildfire risk through fuels reduction and vegetation management.

1.3. Consultation History

There is no known prior consultation history associated with the Project location. FEMA submitted a draft version of this BA to the USFWS for review on December 6, 2023; USFWS responded with comments on Jan 03, 2024. This final BA, submitted Jan 10, 2024, was informed by the USFWS' review.

1.4. Study Method

This BA relies on available information on species presence and distribution based on review of the following sources:

- USFWS Information for Planning and Consultation (IPaC) Official Species List.
- ESA listings and DCH extents.
- Oregon Biodiversity Information Center (ORBIC) distribution data.
- U.S. Forest Service 2016 Northwest Forest Plan northern spotted owl distribution data.

On October 27, 2022, representatives from FEMA met with City staff for a site visit to confirm scope of work, project area extents, and confirm existing site conditions.

2. Proposed Action

2.1. Project, Action, and Evaluation Area

2.1.1. PROJECT AREA

The Project is located in the geographic area known as the Rogue Valley, a rain shadow between the Cascade Range and Siskiyou Mountains within the Middle Rogue and Upper Rogue sub-basins and within the Lower Antelope Creek (HUC 171003070811), Larson Creek-Bear Creek (HUC 171003080110), and Whetstone Creek-Rogue River (HUC 171003080202) sub-watersheds which are part of the Southern Oregon Coastal basin. Much of the area remains sparsely settled with the only major urban areas in the Rogue Valley consisting of Ashland, Medford, and Grants Pass. The two fuel reduction treatment areas are in portions of the Bear Creek Greenway and Prescott Park within the City of Medford in Jackson County, Oregon.

The Bear Creek Greenway is a continuous greenbelt with a 20-mile paved multi-use trail that runs parallel to Bear Creek for approximately 7 miles through the City of Medford. This greenway links the regional cities of Ashland, Talent, Phoenix, and Central Point to the Dean Creek Frontage Road near Seven Oaks Interchange on Interstate 5 (I-5), north of the City of Central Point. Prescott Park is a 1,740-acre park located on the east side of Medford, approximately 7 miles from the nearest Bear Creek Greenway fuels reduction treatment area (Hillcrest Road and off Roxy Ann Road near the Eagle Trace Subdivision). Prescott Park sits at an elevation of 3,571 feet and is more than 2,000 feet above the valley floor near the Bear Creek Greenway.

The City is proposing to treat up to 700 acres (project area) out of 1,219 acres along the Bear Creek Greenway and up to 650 acres (project area) within a total area of 1,740 acres at Prescott Park in Jackson County, Oregon. Figure 1 identifies the project areas in relation to the City as a whole. Both proposed project treatment areas are within highly vulnerable Wildland-Urban Interface (WUI) areas, adjacent or proximate to natural areas, waterways, and open spaces that contain large areas of highly flammable, non-native vegetation, stands of dead trees, and vertical ladder fuels. Proposed treatment activities are intended to assist the City in meeting its public health and safety goals as outlined in the Environmental Element of the City's Comprehensive Plan and the City Natural Hazards Mitigation Plan (NHMP) regarding WUI fires and preparation for and prevention of wildfires by implementing mitigation strategies to reduce wildfire risk at Prescott Park and along the Bear Creek Greenway, while maintaining appropriate vegetation management to promote fish and wildlife habitat.

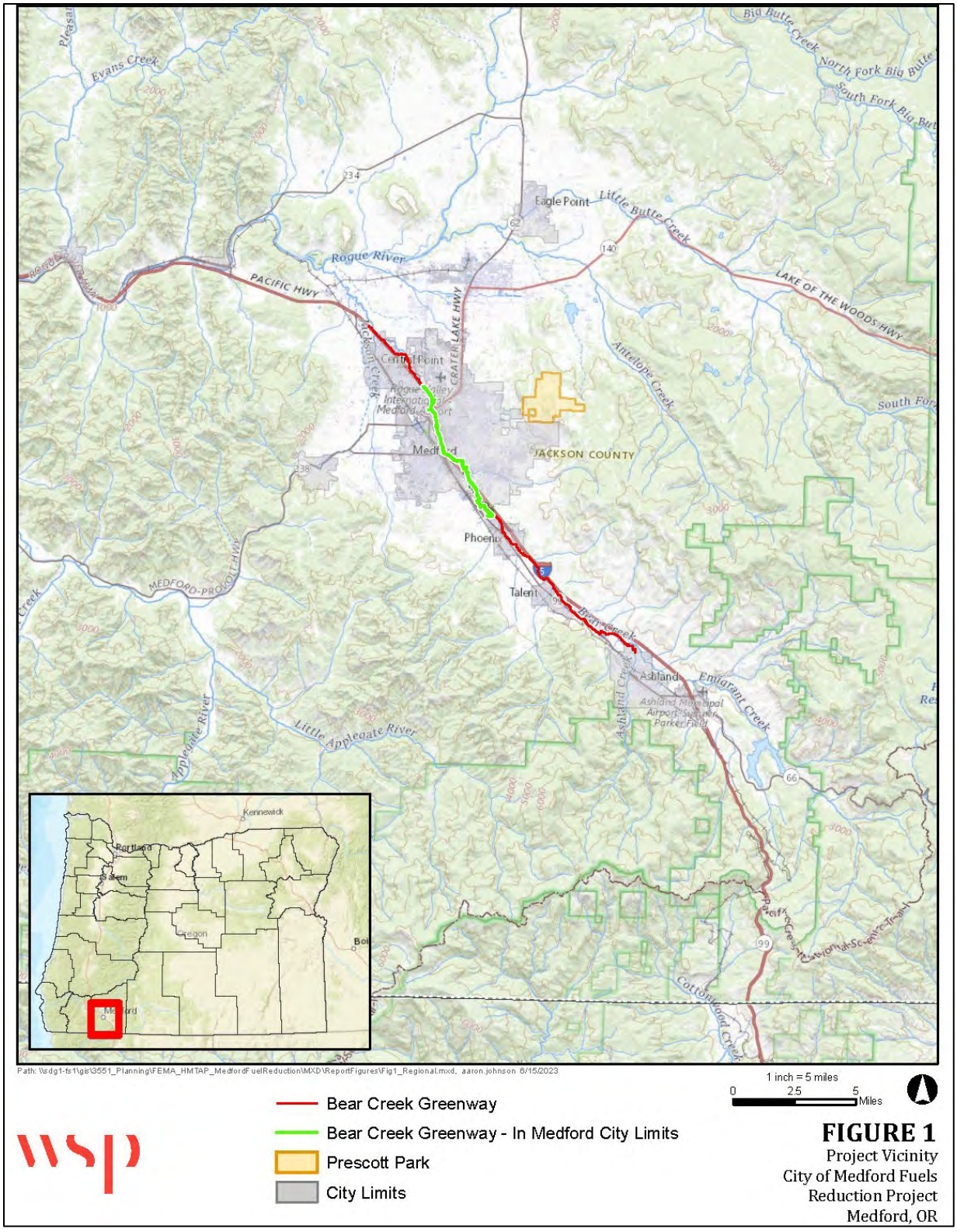


Figure 1: Location and Vicinity Map

2.1.2. ACTION AREA

The action area is defined as “all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action” (50 CFR §402.02). In delineating the action area, we evaluated the farthest reaching physical, chemical, and biotic effects of the action on the environment.

The largest extent of expected Project impact outside of the project area will be short term noise primarily generated from equipment such as hand-held chainsaws, chippers, rubber tracker machines, a rubber tracked skid steer, and a brush hog. To account for potential noise impacts, the action area consists of a 0.25-mile buffer zone, extended from the Project area. Other anticipated impacts such as direct vegetation removal and wind drift from herbicide application would occur within the 0.25-mile project area buffer. The resultant action area is depicted in Figure 2. This action area was used as input information into IPaC to inform the development of the species list that may be affected by the proposed Project.

2.1.3. EVALUATION AREA

Evaluation area is specific to those species that may occur in the action area and may be affected by project actions. Due to the variety of species mobility and variety of impacts, evaluation areas can often differ from the action area and need to be tailored to the species.

Franklin's Bumble Bee

USFWS 2023 (p10) states that assumed dispersal distance of FRBB is 3km (1.86 mi), which means that is possible for individual bees from outside the action area to enter and be exposed to project actions. However, the majority of this evaluation area had been modified for urban and agricultural usages and the Project already acknowledges the potential presence of FRBB within the action area. The Project has implemented mitigation measures (avoid herbicide use during flight season, after flower season) to avoid direct impacts, and minimize indirect impacts.

There is also the potential for application drift. Dexter (1993) found that fine spray droplets can drift travel 44 feet, when falling 10 feet in elevation in a 3-mph wind. Even though spot spraying will occur at 1 to 2 feet above the ground and have a substantially lesser potential drift extent, going with the larger extent will accommodate any unaccounted variables. Therefore, the potential drift zone was set at a 50 feet buffer around the Project Area to fully account for herbicide application drift.

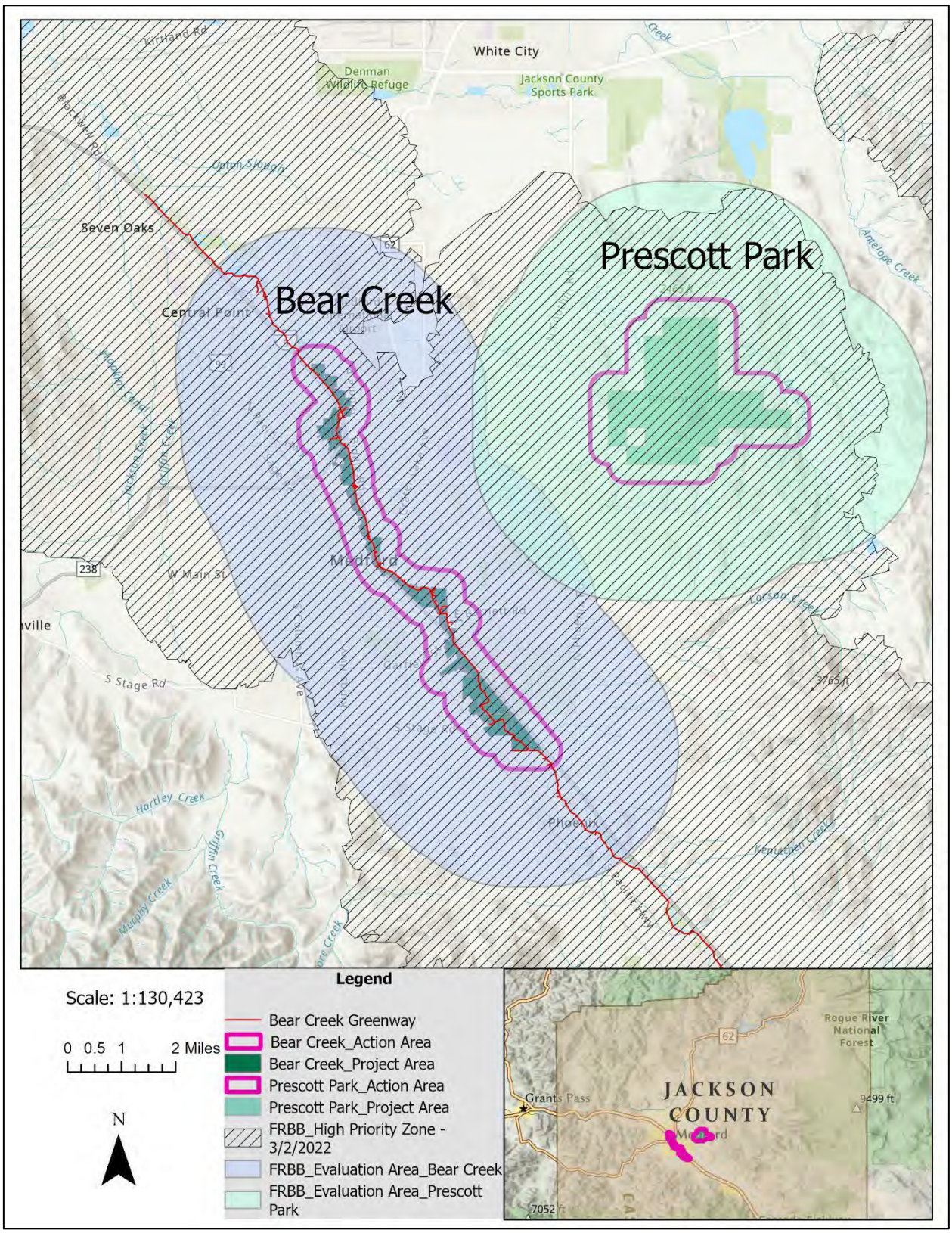


Figure 2. Project Area, Action Area, FRBB Evaluation Areas, and FRBB HPZ.

2.1.4. ENVIRONMENTAL TRENDS

Southern Oregon can be classified as warm and temperate with winter seasons experiencing significantly higher levels of precipitation than during summer months (Climate Data 2023). As in the case across western Oregon, most precipitation falls during the winter months of November through March. Furthermore, total precipitation is influenced by elevation, with precipitation levels increasing steadily at higher elevations. The driest areas are generally the lowest valley locations, including Medford (Taylor 1993).

Increasing global and regional temperatures are expected to result in drier summers and earlier snowmelt. A decrease of mountain snowpack would cause higher winter and lower summer stream flows (USEPA 2016). The combination of drier summers, higher temperatures, and earlier snowmelt is projected to increase the frequency and severity of wildfires across the State of Oregon (Kunkel 2022).

Reasonably foreseeable environmental trends include an increase in severity and frequency of wildfires, decreased snowpack with earlier snowmelt, increased severity in droughts and flooding, higher elevation transition from snow to rain, increasing stream temperatures, and biogeographic shifts in species' ranges (Myer 2013). As aridity increases, the likelihood of extreme fire weather is increasing, as wildfires are now spreading into higher elevations that were historically cool and moist enough to deter fire expansion. Increasing nighttime temperatures have also contributed to more severe and frequent wildfires. The Sixth Oregon Climate Assessment published by the Oregon Climate Change Research Institute (OCCRI) states that the annual area burned in Oregon has increased during the last 35 years. Numerous projections of future wildfire or fire weather and ignitions have been made over the last several years, all of which forecast an increase in the area burned by human- and lightning-caused fires in central Oregon in addition to the increase in risk from weather and climate change (OCCRI 2023).

At the end of the 2020 wildfire season – one of the most severe in Oregon's history – more than 1.1 million acres had burned in Oregon, affecting more than 4,300 homes. By mid-August in the 2021 wildfire season, Oregon wildfires had burned over a million more acres than they had by that time the prior year (NWCC 2020). According to the Oregon Department of Forestry (ODF), there were a total of 2,027 fires in the state during the 2020 fire season (including the devastating Almeda and Table Rock Road Fires), a significant increase over the prior 10-year average of 783 fires annually (ODF 2020). Fires in the Medford area are also common; between 1992 and 2019, 18 percent of all fires were caused by lightning and 82 percent were caused by human activity.

2.2. Description of the Proposed Action

The fuels reduction treatments at both the Bear Creek Greenway and Prescott Park project areas would include thinning understory vegetation, removing ladder fuels, reducing flammable vegetation fuels, and replanting fire-resistant vegetation to protect life, property, and at-risk buildings and structures. These activities would provide a break in the forest canopy, which would force a fire to the ground where wildland firefighters can more safely and easily manage suppression.

While untreated forest would remain within and adjacent to each of the treatment areas, the hazardous fuels reduction within the treatment areas would contribute to containment by reducing the intensity and extent of wildfires, which would ultimately reduce the risks to people living in the wider vicinity of the treatment area around the City. Together these treatments would change the composition (i.e., species mix) and density (i.e., trees per acre) and increase the structural diversity of the conifer and woodland forests along Bear Creek and at Prescott Park. The proposed fuels reduction treatment methods would favor healthier and larger trees as well as more unique and rare species. Each of these factors would contribute to reduced wildfire danger in the City and the Rogue Valley. The following sections detail the proposed action components.

2.2.1. PROPOSED FUELS REDUCTION TREATMENTS

The proposed action includes fuels reduction around structures and select properties, fuels reduction within the forest and woodland habitats, and targeted removal and control of invasive species. This proposed action will be completed with four treatment types: manual methods (thinning, pruning, brush piling and chipping); mechanical methods (mowing and chipping); chemical methods (herbicide application); and pile burning. The proposed treatment types, equipment types, timing, and location are summarized in Table 1 below.

Table 1: Proposed Fuels Reduction Treatments

Treatment Type	Treatment Activity	Equipment Types	Timing
Manual (at both sites)	Strategic vegetation trimming, thinning, pruning, and brush piling by hand	Chainsaws, Hand Saws, Brush Cutters	October 1 – April 14
Mechanical (only at Bear Creek Greenway)	Skidding, mastication, and routine mowing using power-operated equipment.	Tractors/Skidders, Mowers, Masticators, Biomass Chipper	October 1 – April 14
Chemical (only at Bear Creek Greenway)	Direct herbicide application treatments that target and limit the growth of invasive plant species	Aquatic glyphosate for hand selective or spot spraying use 5 feet from waterline, or Aquatic Imazapyr for spot spray treatment use 15 feet from waterline and for hand selective use 5 feet from waterline	October 1 – April 14
Pile Burning (only at Prescott Park)	Burning hand-piles of woody vegetative debris (slash) remaining after hand-piling and thinning or cutting of trees and vegetation	Fire Blowers, Industrial Fans	October 1 – April 14

2.2.2. DEFENSIBLE SPACE MAINTENANCE

Bear Creek

The City would maintain 30 feet of defensible space around all structures (up to 589 properties) within the Bear Creek Greenway. This would involve cutting grass to 10 inches or less while avoiding exposing soil, limbing tree branches up to 10 feet from the ground, maintaining shrubs and climbing vines by clearing dead or dying materials and clearing trees from structures. The City would maintain 10-foot minimum clearances around roads and the Greenway. The City would remove all portions of trees within 10 feet of chimney or stovepipe outlets; they would also maintain all trees adjacent to or overhanging a structure free of dead or dying wood and cut the trees back and remove dead or dying wood.

Prescott Park

Within Prescott Park, there are no structures requiring maintenance of defensible space.

2.2.3. VEGETATION THINNING AND TREE REMOVAL

Bear Creek and Prescott Park

Within both project areas, tree removal is proposed if the trees are less than 10 inches diameter at breast height (dbh). In the Bear Creek project area, only trees less than 10 inches dbh and at least 40 feet away from Bear Creek are proposed to be removed. The City would focus tree removal on non-native trees and would replant with native tree species. Tree removal would also only occur after a tree survey that verifies the species and size of trees proposed for removal and confirmation. The City would then follow-up with a post-removal survey to confirm all flagged trees were removed. The City has identified a handful (<10) of hazard trees larger than 10 inch DBH that pose a risk to trails or general use of either location; these hazard trees would be targeted for removal.

When work crews are addressing the hazard trees, the City will attempt to achieve the general guidance of retaining four nest snags that measure greater than 31 inches (best for cavity nesting) per every 5 acres and 30 snags that measure between 10 and 28 inches dbh (for general foraging) per every 5 acres. Retained snags would support wildlife habitat and nesting provided a certified arborist or forester determines the snag does not present a hazard to the general public or the property owner. Partial snags would also be left if the City can retain at least 20 feet of the tree (high topping) without an increased danger due to instability or falling. The City also proposes to retain these “safe snags” (i.e., top removed, trunk retained standing) in locations where a limb fall would not pose a hazard to life or property, and where access is sufficient for a boom truck to reach the tree. At Bear Creek, where access is not sufficient, the City would request to fell, buck up limbs, and retain full logs on the floodplain for habitat in coordination with the ODFW.

Further, the City would remove all tree limbs and branches within 10 feet of the ground or at a minimum one-third the total height of the tree. Dead and dying vegetation and any combustible material would also be removed from both City-owned and private property parcels included in the

treatment area. This includes removal of ladder fuels to the fullest extent possible (i.e., up to 10 feet or one-third the height of the existing trees) to reduce the potential for crown fires. Vegetation would then be chipped and appropriately disposed to prevent further spread of invasive species. These reductions in stand density and accompanying treatments would be implemented to protect critical infrastructure, mitigate fire risk, protect valuable mature trees, and improve stand and tree-level vigor.

2.2.4. PILE BURNING

Bear Creek

Pile burning is not proposed within the Bear Creek Greenway project area.

Prescott Park

Piles would not be assembled or burned within 10 feet of trees or on steep slopes. Piles are generally burned during the wet season to reduce damage to residual trees and to confine the fire to the footprint of the pile. Approximately 8 to 12 months would be allowed for the vegetative material to dry out in order to produce less overall smoke by burning hot and clean. Piles would be assembled throughout Prescott Park as hand crews thin, prune, and mow vegetation, and would be no larger than 6 feet by 6 feet by 4 feet. The exact number of piles would be dependent on the amount of vegetation removed, but approximately 10 to 15 piles per acre would be constructed and eventually burned. With the Project proposing vegetation management activities on up to 650 acres within Prescott Park, this would equate to an approximate range of 6,500 to 9,750 piles over the entire life of the Project (a span of three years; see Section 2.3).

An ODF burn permit would be obtained and the City would register the treatment units in the ODF Medford – Smoke Management program. The Smoke Management Program for industrial slash burning on forestlands, authorizes burning under acceptable atmospheric conditions and manages the smoke produced from the pile burns so as not to negatively impact smoke sensitive receptor areas. A Notification of Operation or Permit to Use Fire or Power-Driven Machinery (PDM) is required to be enrolled in the Smoke Management Program.

2.2.5. INVASIVE SPECIES REMOVAL AND HERBICIDE APPLICATIONS

Bear Creek

Along Bear Creek Greenway, herbicide applications would be limited to direct treatments targeting non-native plant species, such as Himalayan blackberry (*Rubus armeniacus)* and other noxious weeds. Herbicide use would be conducted in a manner consistent with the product lists, buffers, and application methods and rates set forth in the FEMA Endangered Species Programmatic (NMFS 2018) guidelines and Oregon Department of Agriculture (ODA) Pesticide Program, as well as The Freshwater Trust (TFT) Herbicide Use and Restriction Guidelines (TFT 2017). Spot spraying and hand selective herbicide applications using aquatic glyphosate would be restricted to a minimum of 5 feet

from the Bear Creek waterline (i.e., OHWM). Spot spraying using aquatic imazapyr would be restricted to a minimum of 75 feet from the Bear Creek waterline, and hand selective herbicide applications using aquatic imazapyr would be restricted to a minimum of 5 feet from the Bear Creek waterline. No herbicide use would be permitted in areas within 5 feet from the Bear Creek waterline. The waterline will be marked accordingly with avoidance flagging. Limited use would be permitted beyond the 5-foot buffer. The current plan is to use the TFT buffers which are more restrictive than what is allowed by the FEMA Endangered Species Programmatic (FESP) Biological Opinion (NMFS 2018); however they may elect to use the allowed buffers as established by the FESP. Table 2 shows the expected applied buffer distances.

Table 2: Proposed Herbicide Buffer Distances by Formula, Stream Type, and Application Method

Herbicide	No-Application Buffer Width	
	Spot Spraying	**Hand Selective**
Aquatic Glyphosate	5 feet from waterline/1	5 feet from waterline
Aquatic Imazapyr	75 feet from waterline	5 feet from waterline

/1 – Waterline is defined as the Ordinary High-Water Mark (OHWM).

Prescott Park

Invasive species would be removed and managed through manual brush removal, piling, and pile burning. Herbicide application is not proposed at Prescott Park.

2.2.6. ACCESS AND STAGING AREAS

Access to both project treatment areas would be provided via existing roads and pathways. Neither work location would require a staging area, as crews and equipment would be removed daily.

Bear Creek

Within the Bear Creek Greenway project area, crews of 6 to 10 people would utilize the paved path that runs along the entire Greenway to transport crew members, vehicles, and biomass chippers. These vehicles would have rubber tires and would use current access pathways and trails along the Greenway. Where vegetation is unable to be chipped, it would be hauled offsite. Existing access pathways and trails would also be used to facilitate work and future access for invasive species control and emergency response. For areas with limited accessibility, any disturbance to understory vegetation and soils would be restored with the application of loose straw mulch (approximately 50 percent coverage) and native grass seeding. The City would also implement preventative erosion control measures with vegetation removal activities on any slope that exceeds 20 percent or greater grade. Select erosion control measures would also comply with local guidance and specific agency input.

Prescott Park

Within the Prescott Park project area, service roads would be utilized to transport hand crews. Vehicular access to Prescott Park would be provided via Hillcrest Road and Roxy Ann Road and the approximate 18- to 20-foot-wide dirt and gravel loop road that travels through the park. The City would also use existing service roads, such as a single-lane spur road to the summit located on the east slope of Roxy Ann Peak to transport hand crews. Hand crews would also walk to specific work sites, as needed. None of the illegal off-road vehicle trails that have been established around Prescott Park would be used for fuels reduction activities.

2.3. Revegetation

The City intends to plant disturbed areas with native fire resistant shrubs and trees via seedling plugs, and 1- and 5-gallon potted stock. The Project does not currently include reseeding with native flowering perennial flowers, but this action has been recommended to the City for incorporation into the Project.

2.4. Timing and Duration of Proposed Action

The proposed fuels reduction treatment activities would span three years and would involve five different work activities, including: 1) vegetation management and hazard tree identification, 2) manual and mechanical fuels reduction of non-native vegetation, 3) herbicide applications (only on the Bear Creek Greenway), 4) pile burning (only at Prescott Park), and 5) ongoing public participation and outreach efforts. While some of these activities would be conducted simultaneously, other activities would occur dependent on the time of year given that these activities cannot be completed during the fire season, wildlife migration periods (e.g., Franklin's bumble bee flight window), or nesting bird seasons. These time-dependent activities include fuel treatments involving invasive species controls and herbicide applications and would occur between October 1 and April 14. Initial outreach efforts would focus on proposed fuels reduction treatments at public and privately owned parcels along Bear Creek Greenway.

During the first year, the City would conduct outreach with property owners near the Bear Creek Greenway located south of Barnett Road in the southern portion of Medford, followed by staging and site preparation work on City-owned parcels along the Bear Creek Greenway in southern Medford. The City would also initiate fuels treatment at Prescott Park, which is expected to take 10-12 months to complete.

During the second year, the City would treat vegetative fuels on City-owned and privately owned property further along Bear Creek, primarily between Barnett Road and Crater Lake Highway (State Route 62). The work activities during the second year are anticipated to take approximately six months (October 1 to April 14) to complete.

During the third year, the City would continue to conduct fuels reduction activities on private and public property between Barnett Road and Crater Lake Highway (see Figures 2, 3 and 4). The work

activities during the third year are anticipated to take approximately six months (October 1 to April 14) to complete.

2.5. Avoidance and Minimization Measures

Activities in the treatment areas would be carried out according to the methodology described in Section 2.2, Proposed Action. The following avoidance and minimization measures would be incorporated into the proposed action:

1. All Fuel Reduction Treatments:
    a. Bear Creek Greenway and Prescott Park:
        i. All proposed fuel reduction treatments will occur from October 1 to April 14, outside of general migratory nesting bird season (April 15 – July 31) and the Franklin's bumble bee (*Bombus franklini*) active flight season (May 15 – September 30).
2. Herbicide Use:
    a. Bear Creek Greenway Only:
        i. The use of herbicides would be conducted in a manner consistent with the guidelines outlined in the FEMA Endangered Species Programmatic and the Oregon Department of Agriculture (ODA) Pesticide and Fertilizer Program.
        ii. The use of herbicides would be site-specific, targeting non-native or invasive plant species and limited to hand spraying or spot spraying without the use of broad spraying.
        iii. Herbicide would only be applied by certified, licensed applicators. Applicators would remain-up to-date on current laws and regulations and would be provided field training, as needed.
        iv. Use of field maps, Geographic Positioning Systems (GPS), Geographic Information Systems (GIS), and other spatial field tools would ensure avoidance of areas that are flagged as no-application buffer zones or setbacks.
        v. Herbicide carriers would be limited to water or specifically labeled vegetable oil, and a non-hazardous indicator dye would be used when applying herbicides within 100 feet of waterways.
        vi. Spot spraying and hand selective herbicide applications using aquatic glyphosate would be restricted to a minimum of 5 feet from the Bear Creek waterline (i.e., OHWM). Spot spraying using aquatic imazapyr would be restricted to a minimum of 15 feet from the Bear Creek waterline, and hand selective herbicide applications using aquatic imazapyr would be restricted to a minimum of 5 feet from the Bear Creek waterline.

3. Tree removal:
    a. Both Bear Creek Greenway and Prescott Park:
        i. Tree removal is proposed if the trees are less than 10 inches diameter at breast height (dbh).
        ii. Select hazard trees larger than 10 inches diameter at breast height may need to removed during the Project (<10 total).
            1. Any standing hazard tree will be retained if a certified arborist or forester determines that the snag/limbs does not present a hazard to the public or property.
            2. The City would retain “safe snags” in locations where a limb fall would not pose a threat and where accessible by equipment.
            3. Attempt to retain at least four or more nest snags greater than 30 inches diameter at breast height (dbh) per every five acres for habitat.
            4. Attempt to retain 30 foraging snags between 10 to 28 inches dbh per every 5 acres for habitat.
            5. Attempt high topping at approximately 20 feet height if full retention not possible.
        iii. Remove all limbs within 10 feet of the ground or at a minimum one-third the total height of the tree.
        iv. Within 20 feet of the waterline, limitations would be placed on ladder limb removal for native trees to allow for canopy creek cover.
    b. Bear Creek Greenway Only:
        i. Small tree removal (<10 inch dbh) would occur as described above and at least 40 feet away from Bear Creek.
        ii. Tree removal would only occur after a tree survey that verifies the species and size of trees proposed for removal.
        iii. The City would focus on removal of non-native trees and would replant with native species.
        iv. The City would follow-up with a post-removal survey to confirm all flagged trees were removed.

3. Environmental Setting

3.1. Environmental Baseline

This section describes the general habitat conditions in the action area with respect to the listed species with potential to occur and the primary constituent elements (PCEs) or physical and biological features (PBFs) of DCH for listed species. The baseline discussion summarizes the actions that have occurred and continue to occur in the action area and describes how these actions have

influenced environmental conditions and the status of the species in the action area. Baseline conditions are described in terms of terrestrial and aquatic habitat generally across the action area.

3.1.1. ROGUE RIVER VALLEY

The Project is in the geographic area known as the Rogue Valley, a rain shadow between the Cascade Range and Siskiyou Mountains within the Middle Rogue and Upper Rogue sub-basins which are part of the Southern Oregon Coastal basin. Much of the area remains sparsely settled with the only major urban areas in the Rogue valley consisting of Ashland, Medford, and Grants Pass. The two fuel reduction treatment areas are in portions of the Bear Creek Greenway and Prescott Park within the City of Medford in Jackson County, Oregon.

3.1.2. PROJECT AREA HABITAT

The Bear Creek Project Area includes various categories of land cover but primarily consists of tree canopy (approximately 186 acres) and grassland (approximately 71 acres). Prescott Park consists of predominantly shrub/scrub with evergreen forest in the center of the park at higher elevations.

A portion of Prescott Park (approximately 650 acres) and portions of the Bear Creek Corridor (south of the project area) burned during the 2020 wildfires. The fire burned at high severity through most of its path killing most of the trees and shrubs. In the second year after the fire, vegetation growth was robust as is typical in post-fire ecosystems given the nutrient enriched soils and abundant sunlight. The Bear Creek Corridor Post-Almeda Fire Vegetation Assessment was conducted in 2022 and describes the post-fire vegetation as occasional remnant trees that survived the fire, resprouting native trees and shrubs, abundant invasive species, barley planted for erosion control, and a mix of planted and naturally seeded forbs (RVCOG 2022). The vegetation assessment surveyed a 279-acre area at a ratio of one plot per half acre and captured remnant canopy cover of trees post-fire, cover of native tree and shrub species, a list of the three most abundant herbaceous species, invasive species cover, and cover of barley. While the survey area overlaps the action area, the vegetation assessment includes the entirety of the Bear Creek Greenway and not only the action area. It is important to note, only 11 percent of the survey area had plots with greater than or equal to 25 percent remnant native tree canopy cover. That percentage will likely decline further as severely burned trees die over time.

Bear Creek

Vegetation within the Bear Creek Greenway includes several invasive species including Himalayan blackberry (*Rubus armeniacus*) (HBB) and English ivy (*Hedera helix*), as well as several native hardwood and conifer species including black cottonwood (*Populus trichocarpa*), bigleaf maple (*Acer macrophyllum*), Douglas fir (*Pseudotsuga menziesii)*, incense cedar (*Calocedrus decurrens*), Oregon ash (*Fraxinus latifolia*), Oregon white oak (*Quercus alba*), ponderosa pine (*Pinus ponderosa*), and white alder (Alnus rhombifolia). Vegetation proposed to be removed within the City-owned and privately owned parcels includes these native conifer and hardwood species. Non-native and invasive species proposed for removal include Himalayan blackberry, English ivy, puncture vine (*Tribulus terrestris*) (also called goat head), tamarisk (*Tamarix* species), purple loosestrife (*Lythrum*

salicaris), and reed canary grass (*Phalaris arundinacea*). Figure 3 is an example of the greenway with dense HBB in the riparian openings.

Figure 3. Bear Creek Greenway Dominated by Invasive Species, October 2022

Prescott Park

Vegetation within the Prescott Park project area is characterized by a mixture of grasslands, shrub canopy, oak savannah, oak chaparral, oak woodland, pine woodland, and mixed conifer/hardwood forest. Vegetation proposed to be removed consists of mixed conifer and hardwood trees, such as ponderosa pine (*Pinus ponderosa)*, Douglas fir (*Pseudotsuga menziesii)*, California black oak (*Quercus velutina)*, Oregon white oak (*Quercus alba)*, and Pacific madrone (*Arbutus menziesii)*. Understory shrubs, such as buck brush (*Ceanothus cuneatus*) and whiteleaf manzanita (*Arctostaphylos viscida*) would be thinned and removed, as would herbaceous grasses in the understory. Figure 4 shows the relative open and uncomplex understory of Prescott Park in 2024.

Figure 4. Prescott Park Understory, October 2022

3.2. ESA listed Species and Designated Critical Habitat

A list of USFWS managed ESA-listed species that may occur in the general region was obtained from the USFWS Information for Planning and Consultation (IPaC) website on Sep 30, 2023. Most of these species are unlikely to be present within the action area. Table 3 summarizes this information, federal status, and the presence of the species or their DCH within the action area.

Table 3. Federally Listed Species within the Region

Agency	*Species Name*	*Federal Status*	*Presence within Action Area*	
			Species	*DCH*
USFWS	Insects			
	Franklin's Bumble Bee (*Bombus franklini*)	Endangered (9/23/2021)	Potential	N/A
	Monarch Butterfly (*Danaus plexippus*)	Candidate	Potential	N/A
	Crustaceans			
	Vernal Pool Fairy Shrimp (*Branchinecta lynchi*)	Threatened (9/19/1994)	No	No
	Plants			
	Cook's Lomatium (*Lomatium cookii*)	Endangered (11/7/2002)	No	No
	Gentner's Fritillary (*Fritillaria gentneri*)	Endangered (12/10/1999)	No	N/A
	Large-flowered Woolly Meadowfoam (*Limnanthes pumila grandiflora*)	Endangered (11/07/2002)	No	No
	Birds			
	Northern Spotted Owl (*Strix occidentalis caurina)*	Threatened (6/26/1990)	No	No
	Mammals			
	Gray Wolf (*Canis lupus*)	Endangered (3/9/1978)	No	No
	Pacific Marten - Coastal DPS (*Martes caurina*)	Threatened (11/09/2020)	No	No

Source: USFWS Official Species List Dated October 30, 2023, OSU 2023

Note: Green highlighted species and/or DCH are expected to occur in the action area and be affected by project actions.

3.2.1. FRANKLIN'S BUMBLE BEE

Franklin's bumble bee (FRBB) was first identified in 1921 and currently is believed to have the most limited distribution of any North American bumble bee. It is found in the Siskiyou Mountains between Oregon and California, an area roughly 190 miles long and 70 miles wide. Two important needs have been identified including sufficient floral resources for nectaring throughout the colony cycle and relatively protected areas for breeding and shelter, however there is no established DCH for FRBB.

Flight season is mid-May to the end of September, though some historical encounters include sightings in October. In the spring solitary queens emerge from hibernation and seek suitable nest sites. The queens' eggs are then fertilized from mating the previous fall. The queen is responsible for food collection and care of the eggs and larvae at the early stages of colony development. As the colony grows, workers assume those duties while the queen remains within the nest and produces eggs. Colonies may contain 50 to 400 workers, along with the founding queen. Near the end of the colony cycle, newly produced queens (gynes) usually mate with one male and build up fat before entering hibernation. At the end of the colony cycle, all the workers and males die along with the founding queen and only the inseminated hibernating gynes carry on to the following year (USFWS 2018a). Table 4 shows the ecological requirements at 4 adult life stages.

Table 4. The ecological requisites for survival and reproductive success of FRBB life stages

Life Stage	*Winter*	*Spring*	*Summer*	*Autumn*
Queen	-	Diverse floral resources. Suitable nest habitat	Diverse floral resources. Suitable nest habitat	Diverse floral resources; suitable nest habitat
Worker Females	-	Diverse floral resources in close proximity to nest	Diverse floral resources in close proximity to nest	Diverse floral resources in close proximity to nest
Males	-	-	Diverse floral resources. Suitable mating habitat	Diverse floral resources; suitable dispersal/mating Habitat
Gynes (new foundress queens)	Suitable diapause sites	-	Diverse floral resources	Diverse floral resources; suitable dispersal/mating habitat

Source: USFWS 2018a

FRBB habitat is characterized by the resources on which the species directly relies as shown in Table 5 below. Substantial Floral Resources (SFRs) should contain a diverse and abundant group of insecticide-free native flowering plants that provide both pollen and nectar throughout the colony's active flight period. FRBB is a generalist forager, looking for flowering plants to collect pollen and nectar. FRBB needs a constant and diverse supply of flower blooms that are present for the duration of the lifecycle, which would be found in open damp meadows. While this species may utilize other plants as well, Franklin's bumble bee has been directly observed collecting pollen from lupine (*Lupinus spp.*) and California poppy (*Eschscholzia californica*) and collecting nectar from horsemint or nettle-leaf giant hyssop (*Agastache urticifolia*), mountain monardella (*Monardella odoratissima*), and vetch (*Vicia ssp.*) (USFWS 2018a).

Table 5. Resources upon which Franklin's bumble bee relies.

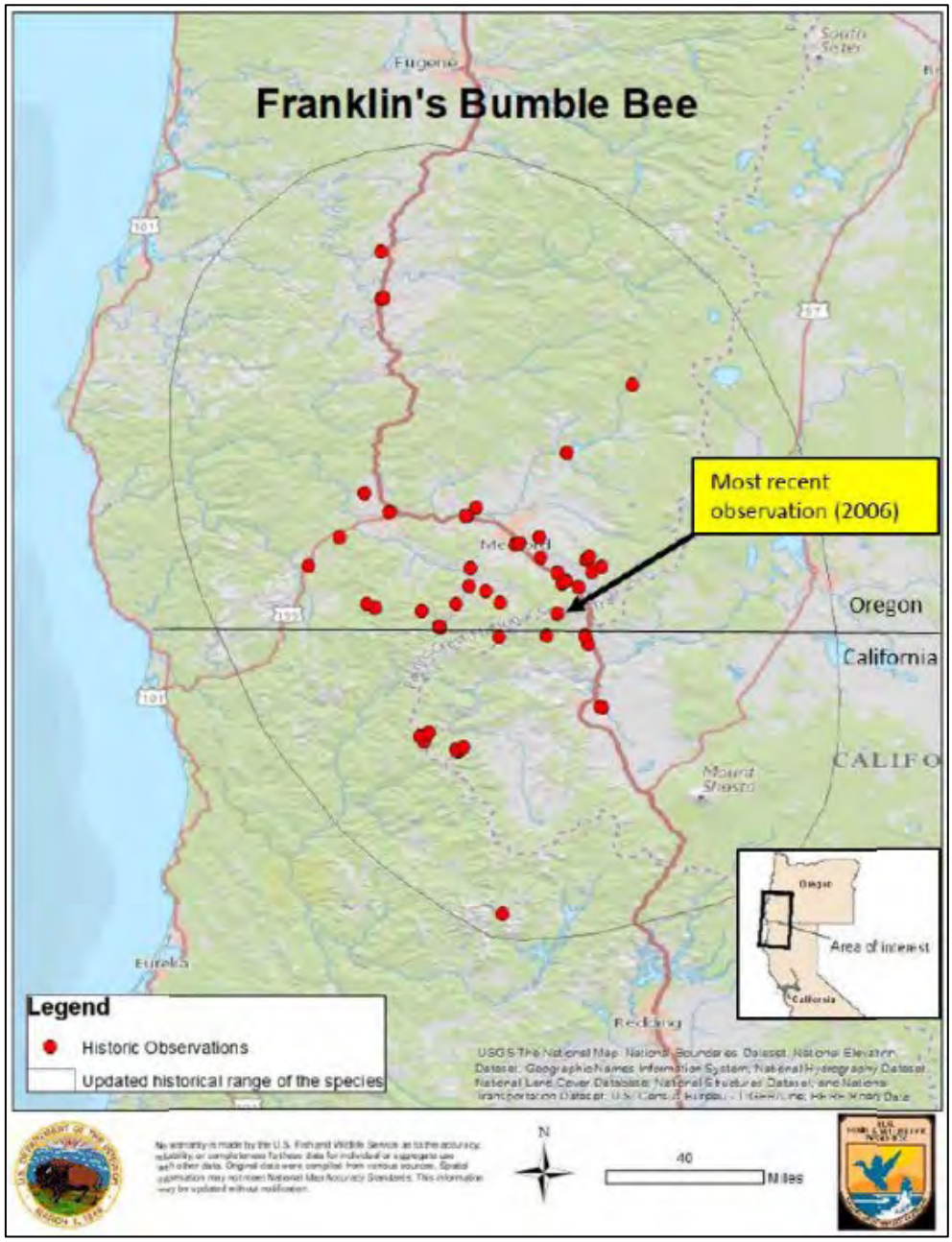
Resource	*Description*
Substantial Floral Resources (SFRs; SFR habitat)	High-quality forage habitat capable of supporting a colony throughout all life stages; defined by the presence of a diverse and abundant group of insecticide-free native flowering plants that provide both pollen and nectar throughout a colony's active flight period (May 15 – September 30). A varied assortment of plant species with staggered floral senescence must be present in abundance (i.e., no monocultures), as floral forage must be available throughout the active flight season. Exemplified by existing meadow systems.
Nesting habitat	Abandoned rodent burrows, bunch grasses, rock piles; nests may occur within SFR habitat or within 100 meters of SFRs. Nesting is not reasonably certain to occur in locations containing these features beyond 100 m from SFRs.
Overwintering habitat	Chambers 2-15 centimeters below the ground's surface, within loose organic material; typically, in shaded areas under trees, lacking dense vegetation and with loose, well-drained soil; likely within 100 m of SFRs. Overwintering is less reasonably certain to occur in locations beyond 100 m from SFRs.

Source: USFWS 2023

Nesting habitat includes abandoned rodent burrows, bunch grasses, and rock piles likely occurring within 328 feet (100 meters) of SFRs. This provides rest and shelter, food storage, and colony growth opportunities. Since FRBB requires constant and diverse blooming flowers from spring to autumn, preferred sites would be in open (non-forested) meadows near seeps and wet meadow environments.

Overwintering habitat generally consists of protected sites for the queens to hibernate, such as within loose organic material (rotting logs), or chambers up to 6 inches underground dug by queens in loose well-drained soil, in shaded areas near trees and lacking dense vegetation likely within 328 feet (100 meters) of SFRs (USFWS 2018a, 2023).

As of 1992, there were 38 recorded occurrences of FRBB. However, 25 of these documented sighting locations were of 5 or less bees, and only a single encounter in 1968 counted more than 12 individuals at a single site. Additionally, the methods of this documentation are not clearly described, so may not be fully inclusive of all FRBB that were present at the time. Contemporary annual surveys started in 1998 with limited observations of FRBB. The last documented sighting was a lone worker in 2006 on Mt. Ashland, several miles away from the project area (USFWS 2018a) (Figure 5). The project area and action area are within a delineated FRBB High Priority Zone (HPZ), which encompasses all of Medford, Oregon, and ORBIC data indicates historic occurrences for the species occurred across both project areas.



Source: USFWS 2018a

Figure 5. All known occurrences of *Bombus franklini* (1923-2017).

While the Bear Creek Greenway and Prescott Park have not previously been surveyed for FRBB, existing pollinator data do not indicate presence of other sensitive pollinators that co-occur with FRBB. The Xerces Society Bumble Bee Watch is a collaborative effort to track North American bumble bees of all species gathered by volunteers who observe and document sightings in the online database. Based on review of the Bumble Bee Watch data as shown in Figure 6 below, there are no observations of bumble bees within the Bear Creek Greenway or Prescott Park action areas. There are eight documented occurrences of bumble bees within the Bear Creek and Prescott Park evaluation areas but outside of the action area. The closest occurrence was approximately 0.8 miles

south of the Prescott Park action area of a 2014 sighting of the yellow-faced bumble bee (*Bombus vosnesenskii*). The closest occurrence from the Bear Creek action area is approximately 1.3 miles west of a 2014 sighting of another yellow-faced bumble bee. These occurrences overlap residential areas within the City where bumble bees are likely foraging in open vegetated areas such as parks or gardens.

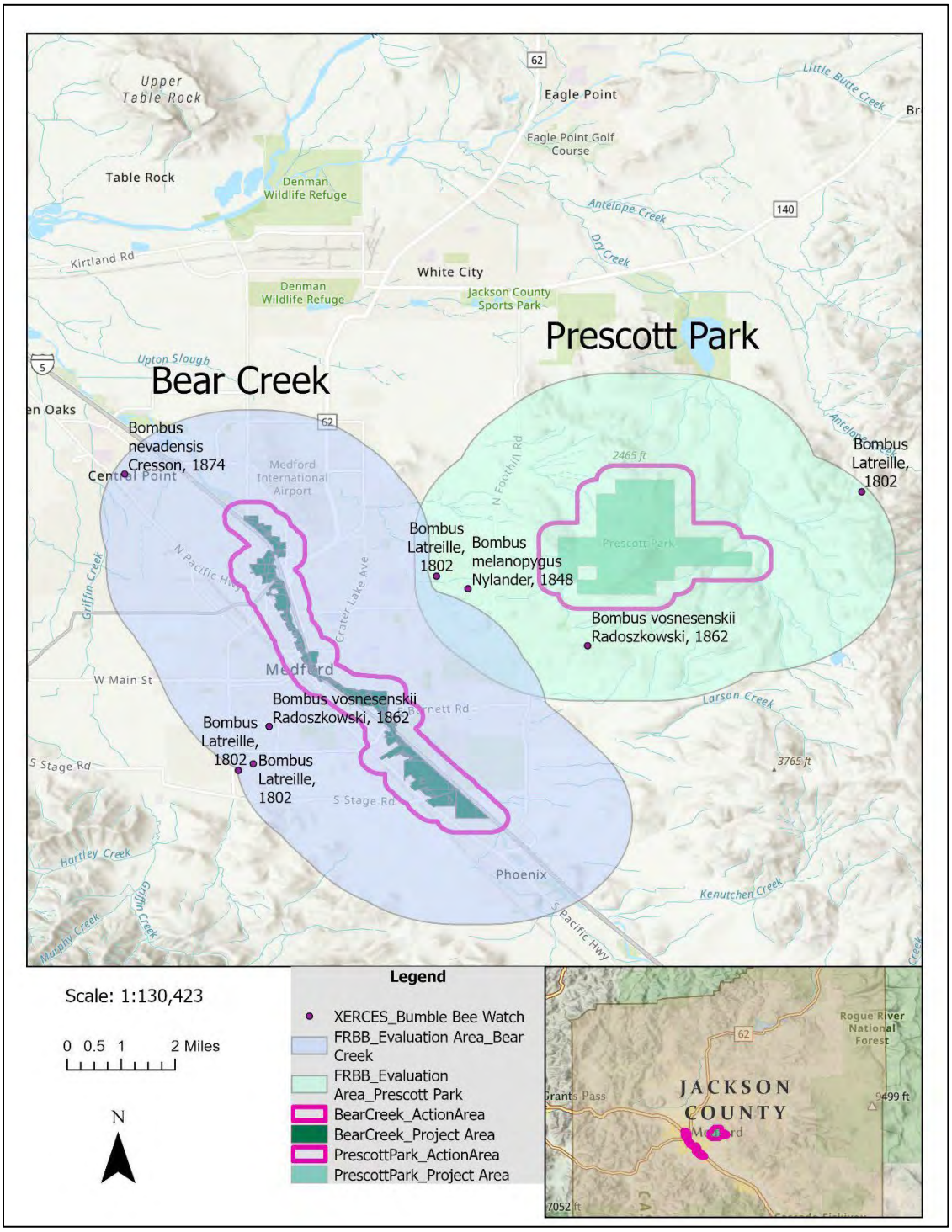


Figure 6: Xerces Bumble Bee Watch Data, November 30, 2023

3.2.2. MONARCH BUTTERFLY

Western North American monarch butterflies (*Danaus plexippus*) spend their summers in the northern United States and Canada and complete their migration to California during the winter. Monarchs will fly between 2,000 to 3,000 miles to an overwintering site. Total migration takes about three to four generations of butterflies before they arrive back at the starting point (Nature Works 2021). The monarch's summer habitat includes open fields and meadows that contain milkweeds, where adults lay their eggs.

The monarch butterfly has four distinct life stages: egg, larva, pupa, and adult. The total time from egg to adult is between 22 to 37 days under the right temperatures (USFS 2023). Most butterflies will live 2 to 6 weeks. Butterflies will mate in summer habitat where females lay their eggs on milkweed plants. The eggs hatch in about 3 to 15 days. Larvae will attach themselves to a twig at the end of about 2 weeks and change into a chrysalis (Nature Works 2021). After spending two weeks in the chrysalis, a full-grown monarch emerges.

Due to a loss of habitat, the monarch population has declined significantly. Genetically modified crops, overuse of herbicides and insecticides, and destruction of natural areas due to overdevelopment are some of the leading causes of this species' decline (Xerces 2021).

Since the monarch butterfly is currently listed as a candidate species, no effects determination or consultation is needed, and therefore this species is not discussed further in this BA. However, the expectation is that the project will not impact monarch butterfly since they are not expected to be present during proposed work windows and work will not be affecting milkweed plants.

3.2.3. VERNAL POOL FAIRY SHRIMP

The vernal pool fairy shrimp (*Branchinecta lynchi*) was identified in 1990 and is currently found in 28 counties in California and in Jackson County, Oregon. The Agate Desert in Jackson County represents the northern extent of this species' known range. This species is found on alluvial fan terraces associated with Agate-Winlo soils and in the Table Rocks area on Randcore-Shoat soils underlain by lava bedrock (USFWS 2005).

Vernal pool fairy shrimp are found only in vernal pools and are not associated with riverine, marine, or other permanent bodies of water. Vernal pools form when water fills up small depressions for a variable period of time, usually occurring seasonally, forming in winter and spring and drying up in summer and fall. Water collects where there is underlying bedrock or impervious soils. Vernal pools are sometimes connected to each other by small drainages known as vernal swales, forming complexes (EPA 2023). Although the vernal pool fairy shrimp is more widely distributed than most other fairy shrimp species, it is generally uncommon throughout its range, and rarely abundant where it does occur (USFWS 2005).

The vernal pool fairy shrimp closely resembles the Colorado fairy shrimp but can be distinguished by the presence and size of several mounds on the male's second antennae, and by the female's short, pyriform brood pouch (USFWS 2005). The vernal pool fairy shrimp ranges in length from 0.4 to 1.0 inch.

According to Oregon State University (2023) ORBIC GIS data, the nearest known location of vernal pool fairy shrimp occurs north of Medford, approximately 4.5 miles north of the Bear Creek Greenway action area and 3.5 miles north of the Prescott Park action area. This documented location is the same as the mapped DCH for the fairy shrimp. There are no known occurrences of fairy shrimp within the project area and no known locations of vernal pools. There is potential that small rain fed vernal pools could form during winter and spring months when work is occurring. However, hazardous fuel treatment is not anticipated to occur in vernal pools and will not alter hydrology in the area. Herbicide treatment will avoid wetlands with a 3-foot minimum buffer around all wetland boundaries that will be flagged or marked prior to application.

Therefore, due to not being present in the project area and no DCH adjacent to the project areas; there is no effect to vernal pool fairy shrimp or its DCH, which will be removed from further consideration in this BA.

3.2.4. COOK'S LOMATIUM

Cook's lomatium (*Lomatium cookii*) is a perennial forb of the carrot family that grows between 6 to 20 inches, with smooth basal leaves and yellow flowers. This plant is endemic to southern Oregon and can be found in the Rogue River Valley of Jackson and Josephine Counties in southwest Oregon and the Illinois River Valley of Josephine County, Oregon. This species can be found in vernal pools, seasonally wet meadows within oak and pine forests, and locations with adequate soil moisture. The Recovery Plan for Rogue and Illinois Valley Vernal Pool and Wet Meadow Ecosystems describes that this plant is typically associated with Agate-Winlo silty clay loam series soils, characteristic of deep, poorly drained soils present in depressions in alluvial stream terraces. Additionally, this plant occurs on seasonally wet serpentine-derived grassland meadows, sloped mixed-conifer forest openings, and along roadside edges in shrub dominated plant communities on soil formations characterized by Brockman clay loam, Abegg clay loam, Eightlar extremely stony clay, Josephine gravelly loam, Pollard loam, Takilma cobbly loam, and Newberg loam in the Illinois Valley (USFWS 2012).

Soil data for the action area shows that approximately 75 acres (5 percent) of the Bear Creek action area includes Agate-Winlo soils. However, the Bear Creek Greenway is considered developed ranging from low intensity to high intensity along with woody wetlands and emergent herbaceous wetlands according to the Multi-Resolution Land Characteristics Consortium (MRLC) National Land Cover Database (NLCD). The Prescott Park action area includes shrub and evergreen forest with minimal development. The project area is not expected to contain habitat suitable for the Cook's lomatium. Any small sections of wetlands and surrounding meadows are not anticipated to be impacted and hazardous fuel treatment is not anticipated to alter hydrology in the project area. Herbicide treatment within the Bear Creek Greenway will target invasive and non-native plants with spot

spraying and will avoid impacts to wetlands and surrounding vegetation with a 3-foot minimum buffer around all wetland boundaries that will be flagged or marked prior to application.

According to Oregon State University (2023) ORBIC GIS data, the nearest known location of Cook's lomatium occurs east of the Medford International Airport which also contains a portion of DCH for Cook's lomatium, approximately 1.6 miles away from the northeastern edge of the Bear Creek corridor and 4 miles away from the Prescott Park boundary.

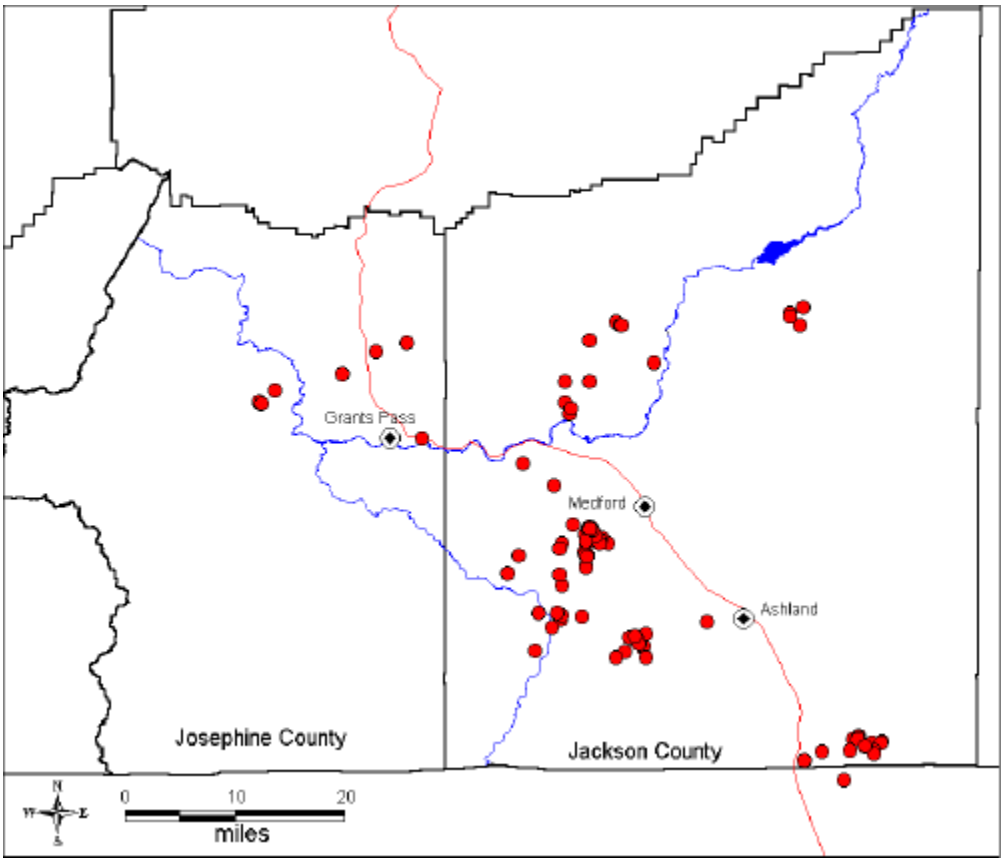
Therefore, due to not being present in the project area and no DCH adjacent to the project areas; there is no effect to Cook's lomatium, which will be removed from further consideration in this BA.

3.2.5. GENTNER'S FRITILLARY

Gentner's fritillary (*Fritillaria gentneri*) is a perennial herb of the Liliaceae (lily) family with deep red to maroon bell-shaped flowers produced on a single stalk ranging from 40 to 70 centimeters tall. Gentner's fritillary resembles two more common and geographically widespread *Fritillaria* species: *Fritillaria recurva* (scarlet fritillary) and *Fritillaria affinis* (chocolate lily). However, Gentner's fritillary can be distinguished by deep red to maroon flowers and flowers that flare at the tips rather than recurve as seen in the *Fritillaria recurva (*ODA, 2023*).*

This plant occurs in the rural foothills of the Rogue and Illinois River valleys in Jackson and Josephine Counties, Oregon and occurs in a variety of habitats from shaded riparian areas to open grasslands, but is typically associated with areas between meadow and oak woodland habitats. From previous surveys, it is estimated that this species occurs at elevations ranging from approximately 1,004 to 5,064 feet above sea level. The species is often found in grassland and chaparral habitats within, or on the edge of, dry, open woodlands. Gentner's fritillary is often associated with shrubs where it is somewhat protected from the effects of wind and sun. The blooming season generally extends from April through June. This species is highly localized within about a 30-mile radius of the Jacksonville Cemetery in Jacksonville, Oregon. The majority of known individuals (about 73 percent) occur within an 11-kilometer (7-mile) radius of the Jacksonville Cemetery (USFWS 2003). Figure 7 shows the known geographic distribution of Gentner's fritillary in Jackson and Josephine Counties as of 2001.

According to 2023 ORBIC GIS dataset, the nearest known location of Gentner's fritillary occurs approximately 5.5 miles west of the Bear Creek Greenway and approximately 10.5 miles west of Prescott Park. Additionally, the project actions will be focused on removing potential fuels from the area (treating invasive plants, larger shrubs, and ladder fuels) which would not target perennial herbs. Therefore, due to no known populations within the project area and no DCH adjacent to the project areas, there is no effect to Gentner's fritillary, which will be removed from further consideration in this BA.



Source: USFWS 2003

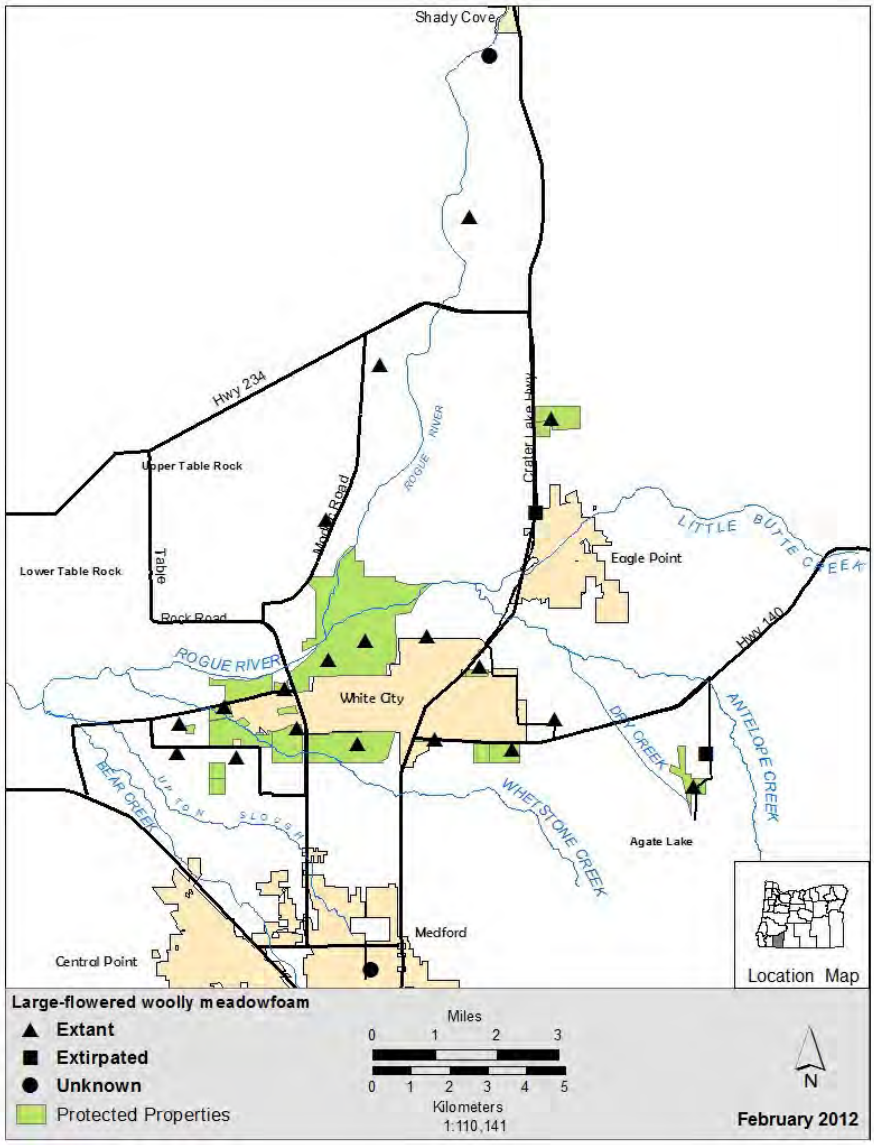
Figure 7. Geographic distribution of known extant *Fritillaria gentneri* occurrences (indicated by dots).

3.2.6. LARGE-FLOWERED WOOLLY MEADOWFOAM

Large-flowered woolly meadowfoam (*Limnanthes pumila grandiflora*) is an annual herbaceous forb in the meadowfoam family (*Limnanthaceae*) and grows 2 to 6 inches tall with stems and leaves that are sparsely covered with short, fuzzy hairs. The flowers consist of five yellowish to white petals densely covered with woolly hairs. This plant flowers in the early spring, from March to mid-April and fruits from mid-May or when the soil becomes dry (USFWS 2012). This species is endemic to the Rogue Valley within Jackson County at elevations between 1,200 to 1,310 feet within the Agate Desert. There have never been documented occurrences of this species outside of that range (USFWS 2012).

A genetic study conducted at Oregon State University focused on inbreeding systematics and gene flow within previously named *Limnanthes floccosa* subspecies (Meyers 2010). This research used hybridization trials and molecular data to evaluate genetic relationships of the various *Limnanthes* subspecies in the Rogue Valley. Researchers determined that ssp. *grandiflora* is reproductively isolated from *L. floccosa* ssp. *floccosa* and is more closely aligned with ssp. *pumila*, and therefore proposed transferring ssp. *grandiflora* from *L. floccosa* to *L. pumila* under the more accurate scientific name *Limnanthes pumila* ssp. *grandiflora*.

There is DCH (Critical Habitat Unit Number RV7) for the meadowfoam approximately 3 miles north of the Prescott Park action area (USFWS 2010). The primary constituent elements found within DCH include vernal pool habitat, dominant native plant association of this habitat, and hydrology and soils that provide adequate soil moisture. The closest documented occurrence is 0.9 miles from the Bear Creek action area, east of Highway 62. Figure 8 shows known occurrences of large-flowered woolly meadowfoam in Jackson County, Oregon.



Source: USFWS 2013

Figure 8. Occurrences of large-flowered woolly meadowfoam in Jackson County, Oregon.

As mentioned above, the Bear Creek Greenway is considered developed ranging from low intensity to high intensity along with woody wetlands and emergent herbaceous wetlands according to the NLCD. The Prescott Park action area includes shrub and evergreen forest with minimal development. The project area is not expected to contain habitat suitable for the woolly meadowfoam. Any small

sections of wetlands and surrounding meadows are not anticipated to be impacted and hazardous fuel treatment is not anticipated to alter hydrology in the project area. Herbicide treatment within the Bear Creek Greenway will target invasive and non-native plants with spot spraying and will avoid impacts to wetlands and surrounding vegetation with a 3-foot minimum buffer around all wetland boundaries that will be flagged or marked prior to application.

Therefore, due to not being present in the project area and not having DCH; there is no effect to large-flowered woolly meadowfoam, which will be removed from further consideration in this BA.

3.2.7. NORTHERN SPOTTED OWL

The northern spotted owl (NSO) (*Strix occidentalis caurina*) is a medium sized owl found in the Cascades and surrounding forested foothills. The species inhabits forests with dense, closed canopies of mature and old-growth trees, abundant logs, standing snags, and live trees with broken tops. Northern spotted owls prefer older forest stands with a variety of tree ages, sizes, and structures, but will use areas with a variety of habitat types. This species often uses the open space among lower tree branches to allow flight under the forest canopy. Forests with a range of old growth, closed canopies, standing and fallen trees, and lower open areas for flight may not exhibit these combined characteristics until they are at least 150 to 200 years old (WDFW 2015, USFWS 2017a).

The NSO feeds nocturnally on small mammals within arboreal habitat. This species typically nests within tree cavities and broken treetops in both living and dead trees. Breeding, nesting, and young rearing takes place from February through June. Incubation of the egg takes about 30 days, and young are able to leave the nest within 3 to 6 weeks. Parents may continue to feed the young for several months following fledging (WDFW 2015, USFWS 2017a).

Typically, NSO nesting, roosting, foraging (NRF) habitat is contiguous forest (>5 acres) with moderate to high canopy closure (60 to 90 percent), several tree species of varying sizes and age (multi-layer canopy), >20 inches dbh for nesting trees, large overstory trees, and sufficient open spaces amongst lower branches to fly under the canopy (Buchanan et al 1993, WDFW 2005, USFWS 2019). Contiguous forest is a forested area dominated by conifer that is separated from other forest by at least 328 feet (100 meters) or is otherwise surrounded by non-habitat. The Conservation Strategy for Northern Spotted Owl Appendix P - Assuring Successful Dispersal states “Standards and guidelines in this conservation strategy also specify that at least 50 percent of the forest matrix outside HCAs be maintained in stands of timber with a mean dbh of 11 inches or greater, with at least 40% canopy closure” (Thomas et al. 1990).

The project occurs along Bear Creek (urban riparian zone) within the city limits of Medford and in Prescott Park which is just east of Medford. The nearest documented NSO site is 3 miles east of Prescott Park (OSU 2023), and the nearest NSO DCH (per November 2011 update) is 6 miles to the southeast. Additionally, the habitat conditions along Bear Creek are highly modified, and likely occupied by various corvid species or the occasional Barred Owl, which would make utilization by NSO unlikely.

Prescott Park is outside city limits but still within the urban growth boundary. NSO habitat conditions at Prescott Park and surrounding terrain is largely unsuitable for NSO, however there are two separated stands (each about 2 acres) in Prescott Park that is modeled as Highly Suitable, and a 7 acre stand of Marginal habitat to the south. There are 2 miles of unsuitable habitat between Prescott Park and the next nearest stand of suitable habitat, which would be just outside the established NSO site to the east. During further investigation of owl use of Prescott Park, a travel/hiking blog (Derwoodynck 2022) was discovered to have photographed a Great Horned Owl chick and presumably one of the parents on Oak Trail, May 30, 2022 (Figure 9). This recent documentation of Great Horned Owls at Prescot Park makes it highly unlikely that NSO, much less any other owl, are nearby.

Source: Derwoodynck 2022

Figure 9: GHOW chick and partially obscured adult on Oak Trail, Prescott Park

Therefore, due to no expectation of NSO being present within the action area and no DCH within the project area, FEMA has concluded there is no effect to NSO.

3.2.8. GRAY WOLF

The gray wolf (*Canis lupus*) is a large (40 to 175lbs) wide ranging member of Canidae family, which are found worldwide and are present in Oregon. Recent ODFW data indicates the known extent of gray wolf packs within Oregon, with the Rogue pack nearest to the project area. While gray wolves are known to occur in Jackson County (Figure 10), the known extent is a substantial distance away from Medford and the project area (Figure 11). Even with undocumented adults ranging outside of the currently known extents, it is highly unlikely that adults would enter the urban area and be present at the worksite during project work.

Figure 10: ODFW gray wolf areas of known wolf activity – December 2022

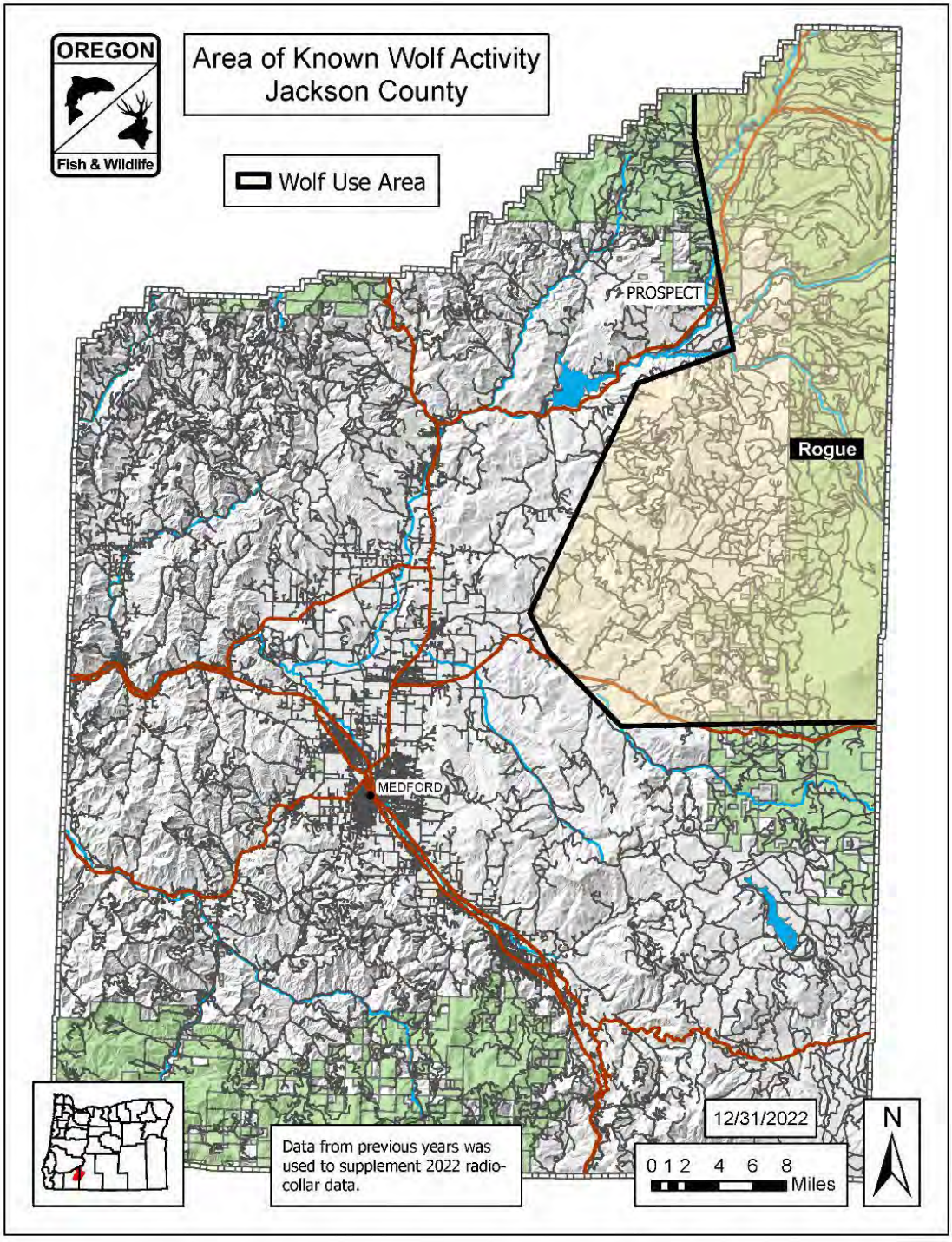


Figure 11: ODFW gray wolf areas of known wolf activity, Jackson County, December 2022

Therefore, due to no expectation of gray wolves being present within the action area and no gray wolf DCH in Jackson County, Oregon, FEMA has concluded there is no effect to the gray wolf which will be removed from further consideration in this BA.

3.2.9. PACIFIC MARTEN– COASTAL DPS

The coastal distinct population segment of Pacific marten (*Martes caurina*; coastal marten) is a medium sized carnivore that historically occurred throughout the coastal forests of northwestern California and Oregon. There are two coastal Oregon populations separated by their geographic locations, the Central Coastal Oregon population and the Southern Coastal Oregon population.

Coastal martens can be in found in older forests that have a mixture of old and large trees, multiple canopy layers, snags and other decay elements, dense understory development, and biologically complex structure and composition (USFWS 2018b). Large-diameter trees with large horizontal limbs, standing snags with cavities or chambers, and downed hollow logs provide resting habitat. These structures are used for rest between foraging activities and provide protection from predators. Martens select stands of forest with adequate prey populations and that provide foraging and resting micro-habitats. Denning occurs within large diameter live and dead trees with cavities. Martens may pick den sites where suitable foraging habitat is within proximity. Stands that martens occupy typically have dense shrub cover, a dominant overstory, and provide habitat structures (USFWS 2018b).

While Coastal marten may be present in Jackson County as shown in Figure 12 below, there is no documented occurrence of coastal marten within the action area. According to the 2023 ORBIC GIS dataset, the nearest known location of the Pacific marten is over 30 miles east of Medford, Oregon. The project area does not overlap the currently proposed coastal marten Critical Habitat, nor does it particularly contain large extents of dense understory or otherwise complex habitat features.

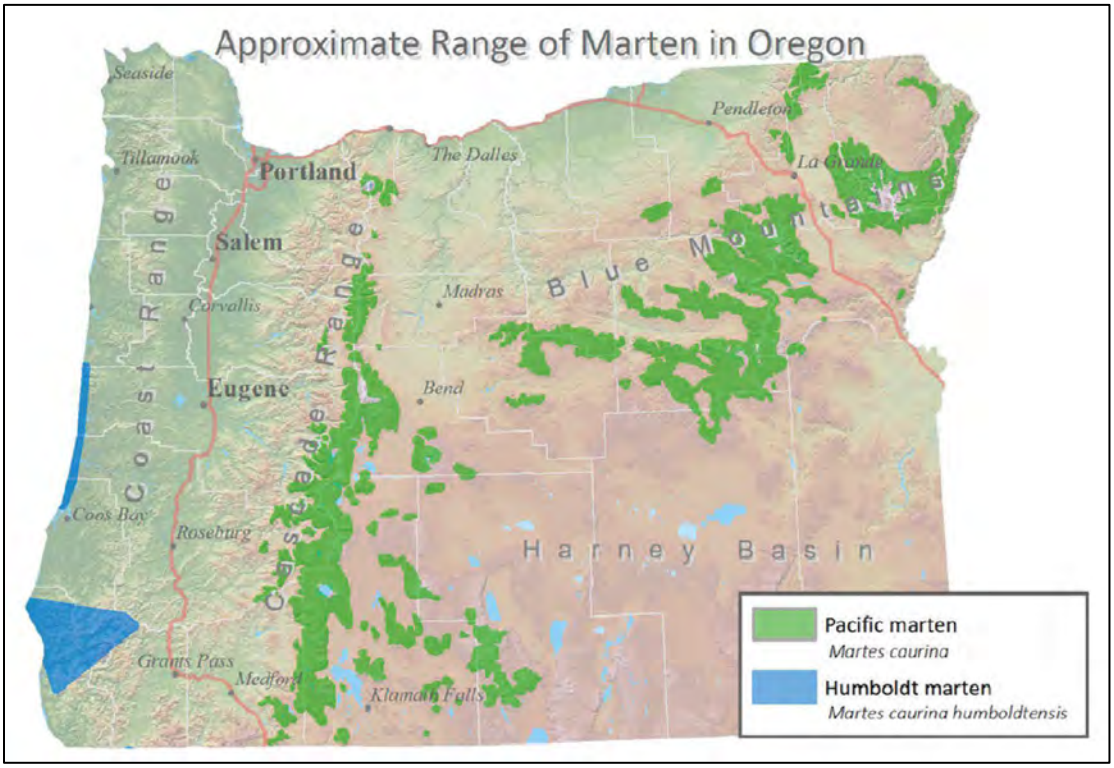


Figure 12: Approximate Range of Marten in Oregon, U.S. Forest Service, April 2019

Therefore, due to not being present in the project area and no proposed Critical Habitat adjacent to the project areas; there is no effect to coastal marten, which will be removed from further consideration in this BA.

4. Species Effects Analysis

FRBB may occur within the action area and has potential to be affected by the project actions. This section will analyze both the direct and indirect impacts of the project on this species and its habitat.

4.1. Methodology

This effects analysis considers the existing condition (environmental baseline) of the action area and how the proposed action would change (or not change) the existing condition with regard to effects on threatened and endangered species. The approach considers both short-term, direct effects (i.e., during implementation), longer term effects, indirect effects, and possible cumulative effects. Direct effects are those that occur at, or very close to, the time of the action itself. Indirect effects are those that occur later in time but are still reasonably certain to occur as a result of the proposed action. Indirect effects may occur outside of the area directly affected by the proposed action.

The effects analysis will consider the potential effects to each species and habitat from the proposed action, the nature and extent of the species' response(s) within the context of the environmental baseline conditions and will describe the rationale for the resulting effects determinations.

4.2. Franklin's Bumble Bee

The project action area fall entirely within a delineated FRBB High Priority Zone (USFWS 2022). Proposed fuels treatments within the project areas (Bear Creek and Prescott Park) may have potential to affect individuals and suitable nest habitat.

4.2.1. DIRECT EFFECTS TO THE SPECIES

FRBB are presumed to be extremely rare and there are no known populations of FRBB across any level of ecological conditions or spatial extent (USFWS 2023). The last known observation of FRBB at any location in the region occurred in 2006 (USFWS 2018a). Therefore the presence of FRBB occurring within the action area (nesting or distributing from outside the action area) is highly unlikely but due to the difficulty with observation and documentation of bumble bees along with their long distribution range, FRBB presence in the action area is not impossible. Additionally, the action area falls entirely within a FRBB HPZ, where FRBB may be most likely to occur based on proximity to historical detection locations and modeled habitat. The HPZs are used to prioritize pollinator and habitat surveys, consultation, and conservation in these areas. Mechanical treatment actions will not generally result in direct effects to FRBB, however bumble bees are known to be severely impacted by herbicide treatments when application overlaps with bumble bee presence/activity.

While herbicides primarily function to reduce protein synthesis required for plant growth, studies have shown herbicides such as glyphosate may result in negative acute impacts to invertebrates including bees (Henderson et al., 2010). Direct impacts to individuals normally occur through oral ingestion of herbicides or through contact exposure of herbicide residue on plants. Oral ingestion and contact exposure of glyphosate have been shown to reduce longevity of non-apis bees at 50 percent and 100 percent of recommendation field dose (Belsky and Joshi 2020). Healthy core microbiota in bees can make them more resistant to parasites, changes in metabolism, and decreases overall mortality, however Helander et al. (2023) showed that roughly a third of bumble bee microbiota was sensitive to glyphosate exposure. The Xerces Society states "*causing subtle yet concerning effects on reproduction, navigation and memory and high-profile incidents when pesticides kill bees*." (Xerces 2023c). FRBB are most vulnerable to adverse effects during the active flight season from May 15 to September 30 because individuals need to traverse between nest sites and floral resources (USFWS 2023).

To mitigate any potential direct impacts to any incidental FRBB presence, all work actions will occur outside of the active flight season thus avoiding the possibility direct impacts to individuals or active nests. With use of the timing restriction, direct impacts to individuals will be avoided as all the workers and males will not be present and the hibernating gynes will already be established within overwintering habitat.

4.2.2. DIRECT EFFECTS TO HABITAT

As discussed in Section 3.2.1, there are three major habitat requirements to sustain FRBB throughout its life cycle: SFRs, nesting habitat, and overwintering habitat.

Substantial Floral Resources

FRBB is a generalist pollinator, looking for flowering plants to collect pollen and nectar. FRBB needs a constant and diverse supply of flower blooms that are present for the duration of the active flight season, which can be found in open meadows in proximity to seeps and other wet meadow environments. The lack of sightings within the Bear Creek or Prescott Park action areas may indicate lack of suitable SFRs based on the land cover and type of habitat expected (overrun with invasives) or may be indicative of selection for areas less frequented/modified by human activity.

Per the National Land Cover Database, the Bear Creek Greenway project and action areas are considered developed; ranging from low to high intensity development. The Bear Creek project area includes various categories of land cover but primarily consists of tree canopy (approximately 186 acres) and grassland (approximately 71 acres), which is likely modified and maintained. There is riparian canopy cover (<25 percent) that includes trees typical of the region and the understory is overrun with invasives such as HBB, English ivy, puncture vine, tamarisk, and purple loosestrife. SFRs are not anticipated to be present in the Bear Creek Greenway project area, due to the predominance of these invasive plants in the understory. These invasive plants may provide limited marginal floral resources, but they crowd out native plants that are more physiologically adapted for pollinators of the region and which provide staggered floral availability throughout the active flight

season, compared to invasive monocultures with a limited blooming window. Any intact habitat if it were present, is segmented by moderate development and unlikely utilized by FRBB which typically stays within 3 kilometers of high quality SFRs (USFWS 2023).

The Prescott Park action area includes shrub and evergreen forest with minimal development. Vegetation within the Prescott Park action area is characterized by a mixture of grasslands, shrub canopy, oak savannah, oak chaparral, oak woodland, pine woodland, and mixed conifer/hardwood forest and may contain interspersed habitat types suitable for FRBB foraging and nesting. The 2020 fire season resulted in ecological disturbance causing clearing in ground cover and sections of tree mortality. The City provided a GIS layer showing that approximately 650 acres within Prescott Park burned with low to high severity. It is expected that large scale and high temperature wildfires would cause loss of individual bees and result in negative effects to a colony, if not outright loss of the colony entirely (USFWS 2018a). However, fire is a primary factor in the maintenance of grassland and meadow habitat that supports *Bombus* species (USFWS 2018a). In the years following a wildfire, it is expected that secondary succession plants have begun to colonize the previously disturbed area resulting in an increase in floral resources following the fire that attract foraging bees from the surrounding area. It is unclear how long it takes for bees to return following a severe disturbance but may depend on proximity of nearby colonies and severity of the disturbance.

Herbicide applications within the Bear Creek Greenway would be limited to direct treatment uses that target and control flammable non-native plant species and noxious weeds. Herbicide will only be applied to HBB and other invasives plants in late fall, when local plants are done flowering and would no longer be potentially used as a floral forage resource. This will avoid any potential impact to floral forage resources pollinators may be using, as well as allowing limited regrowth of Himalayan blackberry (HBB) so that foliar application of herbicide (spot spray, dabbing) can occur in October (after the FRBB flight season) before HBB retracts nutrients and absorbed herbicide from the above ground vegetation into the root system for winter dormancy.

There is potential that SFRs may exist in small sections within the Prescott Park evaluation area. Project impacts to potential SFRs may include temporary loss of floral resources that leads to nutritional stress, avoidance of an area, deterioration in body condition, and reduced reproductive output due to need to find appropriate nesting habitat elsewhere. With use of a timing restriction for work to occur outside of the active flight season, direct impacts to SFRs when they would be utilized by FRBB would be avoided. Effects would be altogether discountable. Any potential loss of SFRs would be temporary and hazardous fuels management would result in a long-term beneficial effect to SFRs with increases in open forest habitat (allowing increased light to foster growth of floral resources), removal of invasive species, increase of native plant diversity, and increasing fire resiliency on the landscape resulting in less severe fire impacts when fire does occur.

Nesting Habitat

Nesting occurs during the active flight season in abandoned rodent burrows, bunch grasses, or rock piles. Nests may occur within SFR habitat or within 100 meters of SFRs. Nesting is not reasonably certain to occur in locations containing these features beyond 100 meters from SFRs.

With use of a timing restriction for work to occur outside of the active flight season, direct impacts to active FRBB nest sites would be avoided in both project areas. Additionally, project impacts to potential nest sites that can be utilized during the active flight season are minimal. High quality SFRs likely do not appear present within the Bear Creek project area due to the high density of invasive vegetation dominating the understory; as such, FRBB nesting is not anticipated to occur in the Bear Creek project area. Further, crushing of any potential nest sites from heavy equipment from mechanical fuel treatment within Bear Creek Greenway is not likely as equipment will utilize existing compacted pathways and trails. Within Prescott Park habitat types, there is potential that SFRs may exist in small sections throughout the project area. Hand crews will conduct manual fuels treatment and will likely not cause any compaction of potential nesting sites that could be used during a future active flight season, as heavy equipment that could cause soil compaction will be avoided. The USFWS does not consider nest sites to be a limiting resource (USFWS 2023, p. 30). Project impacts to FRBB would be discountable as project impacts would likely not result in a loss of nesting habitat and work would occur outside of the active flight season, when nests would potentially be occupied.

Overwintering Habitat

Overwintering habitat is essential for gynes to hibernate through winter to emerge in spring to form colonies the following year. Overwintering habitat is defined as chambers 2-15 centimeters below the ground's surface, within loose organic material; typically, in shaded areas under trees, lacking dense vegetation and with loose, well-drained soil. Overwintering habitat is likely within 100 meters of SFRs and is less reasonably certain to occur in locations beyond 100 meters from SFRs.

It is unlikely FRBB overwintering occurs within the action area due to the low number of historic observations of FRBB individuals or nest sites, no observed individuals within the action area, and lack of recent sightings for the species anywhere within its range since 2006. Therefore, the expectation of FRBB overwintering sites at either project area is altogether unlikely and is not reasonably certain. Compression or crushing of overwintering sites will be avoided when mechanical equipment within Bear Creek Greenway utilizes existing compacted pathways and trails; further, overwintering is not anticipated to occur within the Bear Creek Greenway project area due to a lack of SFRs.

Within Prescott Park, there is potential that pockets of SFRs may exist in small sections throughout the project area. However, Prescott Park is characterized as shrub/evergreen forest dominated by grasslands, oak savannah, and chaparral, and does not contain meadow ecosystems in close proximity to seeps or other wet meadow environments; as such, presence of SFRs is unlikely. Even if limited pockets of SFRs exist, areas targeted for fuels treatment within Prescott Park are not likely to be used for FRBB overwintering. This is because hand crews will conduct manual fuels treatments targeting areas of dense vegetation; overwintering is anticipated in shaded areas *lacking* dense vegetation, with enough canopy to provide thermal cover (this canopy cover is less likely to be available in areas that have burned at moderate to high severity, as with portions of the Prescott Park project area). Additionally, suitable duff layers (i.e., loose organic material) necessary to support overwintering may be lacking in previously burned areas (even at low severity), due to such materials being consumed in the burn. For these reasons, hand crews will likely not cause any compaction of

potential overwintering sites. Therefore, crushing any overwintering habitat causing immediate death or harm of individuals (queens) present in potential overwintering sites is not likely or reasonably certain to occur as a consequence of the proposed action.

Designated Critical Habitat

No critical habitat has been designated for the Franklin's bumble bee.

4.2.3. INDIRECT EFFECTS

There is potential for indirect effects from use of herbicides within Bear Creek Greenway due to amount of time chemicals are expected to remain in the ecosystem. The project involves use of two herbicides, aquatic glyphosate and aquatic imazapyr. The median half-life of glyphosate in soil has been reported ranging from 2 to 197 days with a typical half-life of 47 days and the median half-life of imazapyr is approximately 10 days in soil. The half-life of Glyphosate in leaf litter is 8 to 9 days (Henderson et al., 2010). Glyphosate is immobile in soil and is broken down by soil microbial decomposition rather than chemical and photo decomposition. Conversely, imazapyr is mobile in soil and broken down by microbes and sunlight (WSDOT 2017). Therefore, the half-life depends heavily on soil and climate conditions with faster rates of decomposition occurring in productive soils.

Herbicide application would target invasive plant species such as HBB through spot spraying and selective application without the need for broadcast spraying. Herbicides are expected to target invasive plant root systems and not expected to occur within proximity to SFRs. Once applied, herbicides will not be highly mobile within the soil, and it is unlikely they will reach overwintering or underground nests if any were present; however, within Bear Creek Greenway, nesting and overwintering is not anticipated to occur given the lack of SFRs and domination of the understory by a monoculture of invasive HBB. Long-term residual chemicals from herbicide application are expected to decompose in place within the soil not expected to remain in the ecosystem until the next FRBB flight season.

There is also the potential for application drift which was noted and defined in Section 2.1.3. With a potential drift zone set at a 50 feet buffer around the Project Areas to fully account for herbicide application drift, this yields a maximum potential drift zone of up to 400 acres around the project area. This area would be a mix of urban residential structures, manicured grass yards, and roads which is not ideal for SFRs, which leaves residential ornamentals as potential draw for pollinators in the spring/summer.

However, the majority of the herbicide treatments will most likely occur across the project area, not solely at the project area edges, which would mean most of the potential drift zone identified above would remain within the project area and already be potentially treated. This plus the reality of actual herbicide drift when applied at 1 to 2 feet height, severely limits the extent and potential of incidental drift exposure. This minimal risk, coupled with the mitigation measure to avoid the FRBB flight season, reduces indirect impacts to negligible levels.

Additional long term indirect effects to FRBB and its habitat are expected to be mostly beneficial. The proposed action for fuels reduction will reduce the severity of the next wildfire that passes through the area. Additionally, fuels reduction will benefit overall habitat quality. Reducing tree density will reduce competition and stressors which will encourage tree growth. Targeting of invasive species will allow native species to establish and provide perennial floral resources.

4.2.4. EFFECTS SUMMARY

The proposed action is to reduce hazardous fuels within the Bear Creek Greenway and within Prescott Park. Fuels treatment includes removal of small understory trees, removal of ladder fuels, and targeted removal of invasive plants through chemical applications. The avoidance and minimization measure conditions (Section 2.4) establish that work will occur outside of the flight season for the Franklin's bumble bee thus avoiding direct impacts to worker or male individuals or queens within nests.

Due to low number of historical observations of FRBB individuals or nest sites, no observed individuals within the action area, and lack of recent sightings anywhere within the species' range since 2006, FRBB is altogether unlikely to occur within the action area. Because the last confirmed sighting of FRBB occurred well outside of the action area, and because the project area only contains individual or patchy SFRs and not extensive meadows systems needed to support a colony of FRBB, it is considered very unlikely that FRBB would be present in the project area; if the species were to occur in the project area, numbers would be extremely minimal. Further, project actions will be conducted in a manner to avoid and/or minimize adverse impacts to FRBB (if present); therefore, this project may affect, but is not likely to adversely affect FRBB.

5. Effects Determination

Determination of effects for all the species included in this report and their respective assessment areas are listed in Table 6. The basis for these determinations is summarized below.

Table 6. Determination of Effects

Species	*Effect on Species*	*Effect on DCH*
Franklin's Bumble Bee	May affect, not likely to adversely affect	N/A

5.1. Franklin's Bumble Bee

The proposed project is determined to may affect, not likely to adversely affect FRBB because:

- The potential for direct impacts to individuals will be avoided.
  - Work will occur from October 1 to April 14, outside of the FRBB flight season.
  - Work occurring between October 1 to April 14 is not anticipated to occur within suitable overwintering habitat.

- The potential for direct impacts to suitable habitat will be minimized.
  - Physical fuels treatment would occur after floral resources are done flowering for the season.
  - Herbicide application will be hand applied or spot treatments directly to HBB and other invasive non-native plants outside of flowering season.
- Project actions will result in long term benefits to FRBB habitat.
  - Reducing risks for stand devastating crown fires.
  - Project will plant native fire-resistant trees and shrubs in disturbed areas.
  - Removal of invasive monocultures will remove competition to the expansion diverse native perennial floral resources.

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File Number: 2024-I-0012
File Name: FEMA Medford Hazardous Fuels Reduction Project LOC.pdf
TS Number: 24-123
ECOSphere: 2024-0043479
Doc Type: Informal Consultation

February 5, 2024

Science Kilner, Regional Environmental Officer
Federal Emergency Management Agency
Region 10
Department of Homeland Security
130 228th Street SW
Bothell, WA 98021

Subject: Informal Consultation on the FEMA Hazard Mitigation Grant Program 4562-24-OR Medford Hazardous Fuels Reduction Project, City of Medford, Jackson County, OR.

Dear Ms. Kilner:

This document transmits the U.S. Fish and Wildlife Service's (Service) Letter of Concurrence (Concurrence) addressing the City of Medford (City) Hazardous Fuels Reduction Project (Project or proposed action), as proposed by the Federal Emergency Management Agency (FEMA). At issue are the effects of the proposed action on the endangered Franklin's bumble bee (*Bombus franklini*). This Concurrence was prepared in accordance with the requirements of section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.).

This Concurrence is based on information provided in FEMA's Biological Assessment (FEMA 2024, entire; Assessment) dated and received by our office January 10, 2024, incorporated by reference herein. A complete decision record for this consultation is on file with the Service's Roseburg Field Office.

FEMA has documented a *No Effect* determination for the vernal pool fairy shrimp (*Branchinecta lynchi*), Cook's lomatium (*Lomatium cookii*), Gentner's fritillary (*Fritillaria gentneri*), large-flowered woolly meadowfoam (*Limnanthes pumila grandiflora*), northern spotted owl (*Strix occidentalis caurina*), gray wolf (*Canis lupus*), and the Pacific marten coastal distinct population segment (*Martes caurina*; coastal marten); these species will not be addressed further in this document.

Consultation History

FEMA submitted an initial draft Assessment for this proposed action to the Service on December 6, 2023; the Service responded with comments on January 3, 2024. FEMA submitted a final Assessment with a request for informal consultation to the Service on January 10, 2024.

Overview

The multipart Action Area for the Project totals 7,587 acres and includes two geographically separate project areas located within the city limits of Medford, OR, each buffered by a 0.25-mile. The first portion of the Action Area (4,744 acres) encompasses a project area along the urban Bear Creek Greenway, parallel to Interstate 5, while the second portion of the Action Area (2,843 acres) encompasses a project area within Prescott Park, located on the east side of Medford.

The Assessment describes a proposal whereby hazardous fuels reduction efforts will be conducted across both project areas: the City is proposing to treat up to 700 acres in the Bear Creek Greenway project area, and up to 650 acres in the Prescott Park project area. The FEMA proposal would contribute to wildfire risk reduction in the wildland urban interface by reducing hazardous fuels on a total of 1,350 acres in the Action Area (across both project areas) within City limits to protect nearby residential neighborhoods, restore plant communities to their natural range of variation, and increase ecological resistance and resilience.

Description of the Proposed Action

Proposed treatment activities will span three years, with all hazardous fuels reduction occurring between October 1 and April 14 each year. Fuels reduction treatments will consist of thinning understory vegetation, removing ladder fuels, reducing flammable invasive weeds, and replanting native fire-resistant vegetation to protect life and property. Four treatment methods will be employed: manual methods (thinning, pruning, brush piling); mechanical methods (mowing and chipping); chemical methods (herbicide application); and pile burning. Access to all fuels reduction sites will utilize existing roads and trails within the project areas.

Defensible Space Maintenance

The proposed action includes maintenance of 30 feet of defensible space around all structures (up to 589 properties) within the Bear Creek Greenway project area. This will include cutting grass to 10 inches or less (avoiding exposing the soil), clearing dead/dying vegetative material, limbing trees up to 10 feet from the ground, and removing all portions of trees within 10 feet of chimney or stovepipe outlets. A minimum of 10 feet of clearance around roads and the Greenway trail will be maintained. There are no structures requiring defensible space maintenance within the Prescott Park project area.

Vegetation Thinning and Tree Removal

Manual vegetation management using chainsaws, handsaws, and brush cutters will occur within both project areas. This will include removal of trees less than 10 inches diameter at breast height (DBH), in addition to a select few (< 10) hazard trees larger than 10 inches DBH posing a risk to the general public. Select ladder fuels will be removed via thinning, pruning, limbing, sawing, or brush cutting. All tree limbs and branches within 10 feet of the ground (or a minimum of one-third of the total tree height) will be removed. Chainsaws will be used to process wooded debris. Select snags and nursery logs will be left on-site, to provide wildlife habitat. Mechanical methods will be employed within the Bear Creek Greenway project area only, and will include skidding, mastication, chipping, and mowing using power-operated equipment.

Pile Burning

In the Prescott Park project area, slash piles of woody debris will be assembled from thinned and pruned vegetation. Piles will be no larger than 6 x 6 x 4 feet, and approximately 10 to 15 piles per acre are anticipated. Piles will be allowed to dry for approximately 8 to 12 months, and then will be burned in accordance with Oregon Department of Forestry burn permits. Burning will be conducted during the wet season. Pile burning is not proposed within the Bear Creek Greenway project area.

Invasive Species Removal and Herbicide Application

In the Prescott Park project area, invasive species will be removed manually through brush removal, piling, and pile burning; herbicide application is not proposed within this project area. Chemical methods will be used within the Bear Creek Greenway project area only. This will include spot spraying and hand selective herbicide application treatments targeting invasive weeds such as the highly flammable Himalayan blackberry (*Rubus armeniacus*), which can function as a flash wildfire fuels source when left unchecked. Other invasive species proposed for removal include English ivy (*Hedera helix*), puncture vine (*Tribulus terrestris*), tamarisk (*Tamarix* spp.), purple loosestrife (*Lythrum salicaris*), and reed canary grass (*Phalaris arundinacea*).

Once hazardous fuels reduction treatments are completed across both project areas, disturbed areas will be re-forested and re-seeded with fire-resistant, native vegetation, consisting of a diverse assortment of trees and shrubs.

Effects to Species and Critical Habitat

Critical habitat is not designated for Franklin's bumble bee; therefore, no analysis of critical habitat is warranted for this species.

There are currently no known populations of Franklin's bumble bee on the landscape. Contemporary surveys specifically focused on this species began in 1998 and continue annually, but Franklin's bumble bee has not been observed since 2006. The last known observation was documented on Mt. Ashland, over 10 miles to the south of either portion of the Action Area. Surveys for Franklin's bumble bee have not occurred within the Action Area, but Oregon Biodiversity Information Center data indicate historic observations for the species occurred within both project areas (Assessment, p. 21). Existing contemporary pollinator data from the Xerces Society Bumble Bee Watch do not show any documented bumble bee observations within either the Bear Creek Greenway or the Prescott Park portions of the Action Area, although bumble bee (*Bombus* spp. other than *B. franklini*) observations have been documented within 3 km of the proposed treatment units. These occurrences overlap residential areas within the City where bumble bees are likely foraging in open vegetated areas such as parks or gardens (Assessment, p. 23).

The Service considers a defining habitat characteristic for Franklin's bumble bee to be the presence of Substantial Floral Resources (SFRs) – defined as a diverse and abundant group of insecticide-free native flowering plants that provide both pollen and nectar throughout a Franklin's bumble bee colony's active flight period (May 15 – September 30). A varied assortment of plant species with staggered floral senescence must be present in abundance (i.e., no monocultures), as floral forage must be available throughout the active flight season. This is typically exemplified by existing meadow systems, especially in proximity to seeps or other wet meadow environments.

To delineate where Franklin's bumble bee may be most likely to occur, High Priority Zones (HPZs) have been identified by the Service and contain all known historic observation locations of Franklin's bumble bee, supplemented by additional modeling of SFRs and other habitat characteristics most likely to support the species within its historic range. HPZs also include a 1.86-mile (3 km) buffer around each historic Franklin's bumble bee observation, thus encompassing a buffer area the species is considered most likely to utilize for foraging, nesting, dispersal, and overwintering (USDI FWS 2023, p. 11).

The Action Area entirely overlaps a delineated HPZ; the proposed project footprints would treat 1,350 acres within this HPZ across both project areas. While HPZs are informed by the species' historic observation locations, it should be noted that potential habitat within HPZs has been initially identified via aerial photo review and supplemental modeling of SFRs and other habitat characteristics likely to support the species; many portions of HPZs have yet to be field-verified, and in several cases, also contain parcels within that do not function as Franklin's bumble bee habitat (i.e., areas with dense forest canopy, lacking openings or meadows that may contain SFRs).

The Bear Creek Greenway project area consists of a mixture of grassland and urban riparian greenway consisting of dense vegetative cover; the tree canopy is comprised of several hardwood and conifer species, with an understory dominated by an invasive monoculture of Himalayan blackberry interspersed with other invasive vegetation. While some floral resources may be present, offering marginal foraging opportunities, plant diversity is limited and is not expected to sustain a colony of bees throughout its life cycle. Further, any reduction in these marginal foraging resources would occur outside the active flight season for Franklin's bumble bee, and post-floral senescence when such resources no longer provide foraging opportunities. This timing of treatments would also avoid exposure of individual bees to targeted herbicide application. Given the predominance of dense invasive vegetation in the understory, SFRs are not anticipated to be present in this project area. Due to a lack of SFRs, nesting and overwintering is not expected to occur (USDI FWS 2023, Table 1, p. 9). As such, impacts to nests or overwintering individuals from ground disturbing activities are not expected in the Bear Creek Greenway project area.

The Prescott Park project area is characterized by a mixture of grasslands, shrub canopy, oak savannah, oak chaparral, oak and pine woodlands, and mixed conifer/hardwood forest. While SFRs have not been documented in Prescott Park, field-verification/habitat evaluation surveys throughout the project area have not been conducted. Accordingly, it is possible some sections of the project area may contain pockets of SFRs; the understory is more open compared to the dense invasive vegetation-dominated understory of the Bear Creek Greenway project area. However, the Prescott Park project area does not contain meadow ecosystems near seeps or other wet meadow environments (Assessment, p. 37) – as such, presence of SFRs is unlikely. Any potential impact to SFRs would be temporary, short in duration, and seasonally timed to avoid potential effects to individuals and colonies. Hazardous fuels reduction is expected to reduce invasive species, increase native plant diversity, and open the forest canopy, allowing increased light penetration to foster the growth of native floral resources in the long-term while also increasing fire resiliency of the landscape. Because treatments will not occur during the active flight season for Franklin's bumble bee, fuels reduction activities would not reduce any floral resources that may be used by foraging bees.

Additionally, any pile burning or thinning treatments would not impact active nests, if present, as nesting occurs during the active flight season. Because no heavy mechanical equipment will be used in the Prescott Park project area, crushing of potential nest sites outside the flight season (thereby reducing their availability for use in subsequent seasons) will be avoided. Further, areas targeted for fuels reduction within Prescott Park are not likely to be used for overwintering, as fuels treatments will be

conducted in areas with dense vegetation and ladder fuels (Assessment, p. 37); overwintering is anticipated in shaded areas *lacking* dense vegetation, and in close proximity to SFRs (USDI FWS 2023, Table 1, p. 9). Therefore, impacts to individuals in potential overwintering sites are not likely or reasonably certain to occur as a consequence of the proposed action.

Summary and Conclusion

The Service believes the proposed action will result in discountable effects for the following reasons:

- All hazardous fuels reduction treatments will occur between October 1 and April 14, avoiding the active flight season for Franklin's bumble bee.
- Treatments will not occur within meadow ecosystems near seeps or other wet meadow environments, where high-quality Franklin's bumble bee foraging habitat is expected to occur.
- All equipment will utilize existing compacted pathways, trails, and roads, avoiding impact to any potential nesting or overwintering sites.
- Herbicide application will target individual invasive plants in late fall (outside the Franklin's bumble bee active flight season) when plants are done flowering and would no longer function as a potential forage resource. Therefore, any potential floral resources that could be utilized are not expected to be reduced during the foraging period by the proposed action, and individual bees are not expected to be exposed to herbicide application.

In summary, the Service concurs with FEMA's determination that the proposed action *may affect, but is not likely to adversely affect* Franklin's bumble bee. The treatment prescription conservation measures and project design features outlined above minimize potential impacts to individuals of the species, and support future development of important habitats while managing for fire resiliency. For these reasons, the effects of the action are discountable to Franklin's bumble bee. This concludes informal consultation pursuant to section 7 of the ESA.

Reinitiation Notice

This Concurrence remains valid for the term of the proposed action as discussed and analyzed herein. In accordance with the implementing regulations for section 7 at 50 CFR § 402.16(a), reinitiation of consultation on the proposed action is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of exempted incidental take is exceeded (no incidental take is exempted in this case, thus reinitiation would be required if incidental take were to occur); (2) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not considered in this Concurrence; (3) the action is subsequently modified in a manner that causes an effect to listed species or critical habitat that was not considered in this Concurrence; or (4) a new species is listed or critical habitat designated that may be affected by the action. When consultation is reinitiated, the provisions of section 7(d) of the ESA apply.

If you have any questions about this consultation, please contact Trinity Harvey of the Service's Roseburg Field Office at (541) 957-3472.

Sincerely,

JAMES THRAILKILL

Digitally signed by JAMES THRAILKILL
Date: 2024.02.05 13:51:06 -08'00'

Jim Thrailkill
Field Supervisor

cc: Office Files, FWS-RFO, Roseburg, Oregon
Michael Asch, USFWS, Roseburg, Oregon (e)

Literature Cited

FEMA. 2024. Biological Assessment, 4562-24 Medford Hazardous Fuels Reduction Project

USDI FWS (U.S. Fish and Wildlife Service). 2023. Franklin's Bumble Bee (*Bombus franklini*) Endangered Species Act Section 7(a)(2) Voluntary Implementation Guidance. Version 1.0 for Oregon, Portland, OR.

Action Implementation Worksheet
Action Notification

DATE OF REQUEST:	2/13/2024	**NMFS TRACKING #: WCR-2016-6048**	
TYPE OF REQUEST:	☒ ACTION NOTIFICATION (NO VERIFICATION) ☐ ACTION NOTIFICATION (VERIFICATION REQUIRED)		
Statutory Authority:	☐ESA Only ☐EFH Only ☒ ESA & EFH Combined		
Lead Action Agency:	**Federal Emergency Management Agency**	FEMA Action ID #: 4562-24	Corps Action ID# (if any): N/A
Action Agency Contact:	Erin Legge, Environmental Protection Specialist (202) 412-4585 / Erin.Legge@fema.dhs.gov		
Project Name:	HMGP 4562-24-OR: City of Medford Hazardous Fuels Reduction Project		
6th Field HUC & Name:	171003080110 - Bear Creek/Larson Creek Sub Watershed (Bear Creek)		
Proposed Construction Period (*over 3-year timeframe*):	**Start Date**: October 1	**End Date**: April 14	
Proposed Length of Channel and/or Riparian Modification in linear feet:	Treatment of up to 700 acres (project area) of vegetation out of 1,219 acres along 6.67 miles (35217.6 lineal feet) of the Bear Creek Greenway.		
Proposed Area of Herbicide Application in riparian area in linear feet:	Up to Treatment of up to 700 acres (project area) of vegetation along 6.67 miles (35,217 lineal feet) of the Bear Creek Greenway.		

Project Description

Introduction

The City of Medford (City) has proposed to conduct invasive plant and hazardous fuels reduction at two locations within public and private property. The City is in central Jackson County, Oregon. This geographic area is known as the Rogue Valley, a rain shadow between the Cascade Range and Siskiyou Mountains within the Middle Rogue and Upper Rogue sub-basin and in the Larson Creek-Bear Creek (HUC 171003080110) sub watershed, part of the Southern Oregon Coastal basin. Bear Creek flows northwesterly through Medford and joins the Rogue River near Table Rocks.

Every year, thousands of acres burn within and around the Rogue Valley. Some of the most devastating include the: Biscuit Fire of 2002 which burned 500,000 acres; Deer Ridge Fire of 2009 which burned 633 acres at the base of Roxy Ann Peak (the area is surrounded by Prescott Park and several densely populated subdivisions); Alameda Fire of 2020 which pushed into the southern portion of Medford and devastated the communities of Talent and Phoenix (the fire utilized the fuel source within the Bear Creek Greenway). These fires underscore the importance of this project request and the need for wildfire hazard mitigation.

Both project locations lie within the Wildland-Urban Interface (WUI) area, adjacent or proximate to natural areas that contain large areas of highly flammable, non-native invasive vegetation. The project is intended for the City to meet its public health and safety goals regarding WUI fire preparation prevention to reduce wildfire risk while maintaining native vegetation to promote fish and wildlife habitat.

The first location is in Prescott Park, a forested city park located approximately 7 miles from Bear Creek. No perennial water resources are present within this site. There is exposed grassy hillside and a large band of urban residential development between Prescott Park and Bear Creek & tributaries. Selective vegetative thinning at Prescott Park will not have an effect of the fisheries resources of Bear Creek or tributaries, whereas a devastating crown fire would pose risk of land slides into the tributaries. Informal consultation with the U.S. Fish and Wildlife Service for Franklin's Bumble Bee (T) has already been completed for the project.

The second project location is the Bear Creek Greenway, which runs along both sides of Bear Creek [southern project extent approximately 42.2878699, -122.8237365; northern extent approximately 42.3654284, -122.8875444] and includes treatment within the riparian zone and floodplain of Bear Creek.
Even though the City has implemented stronger ordnances addressing both vegetation management and prohibited camping along the Greenway there has been an increased number of human caused fires occurring within Bear Creek Greenway. Additionally, there is secondary fire risk is from discarded cigarettes and overheated vehicles on Interstate-5 which runs parallel to the Greenway.

The City is proposing to treat up to 700 acres for hazardous fuels (out of the total 1,219 acres of the Greenway). Hazardous fuels reduction includes the select removal of flammable shrubs, ladder fuels, and small trees (<10inch dbh), up to an established "partial no-cut buffer", which extends 40ft from OHWM. There is exemption of this no-cut buffer for the mechanical and chemical removal of invasive plants as per PDC 34 guidelines. Bear Creek includes Southern Oregon/Northern California Coast (SONC) Coho Salmon (*Oncorhynchus kisutch)* and EFH for Chinook Salmon and Coho Salmon. The project has incorporated Project Design Criteria (PDC's) outlined in the FESP and other best management practices and design consideration to avoid and minimize adverse modification of fishery resources.

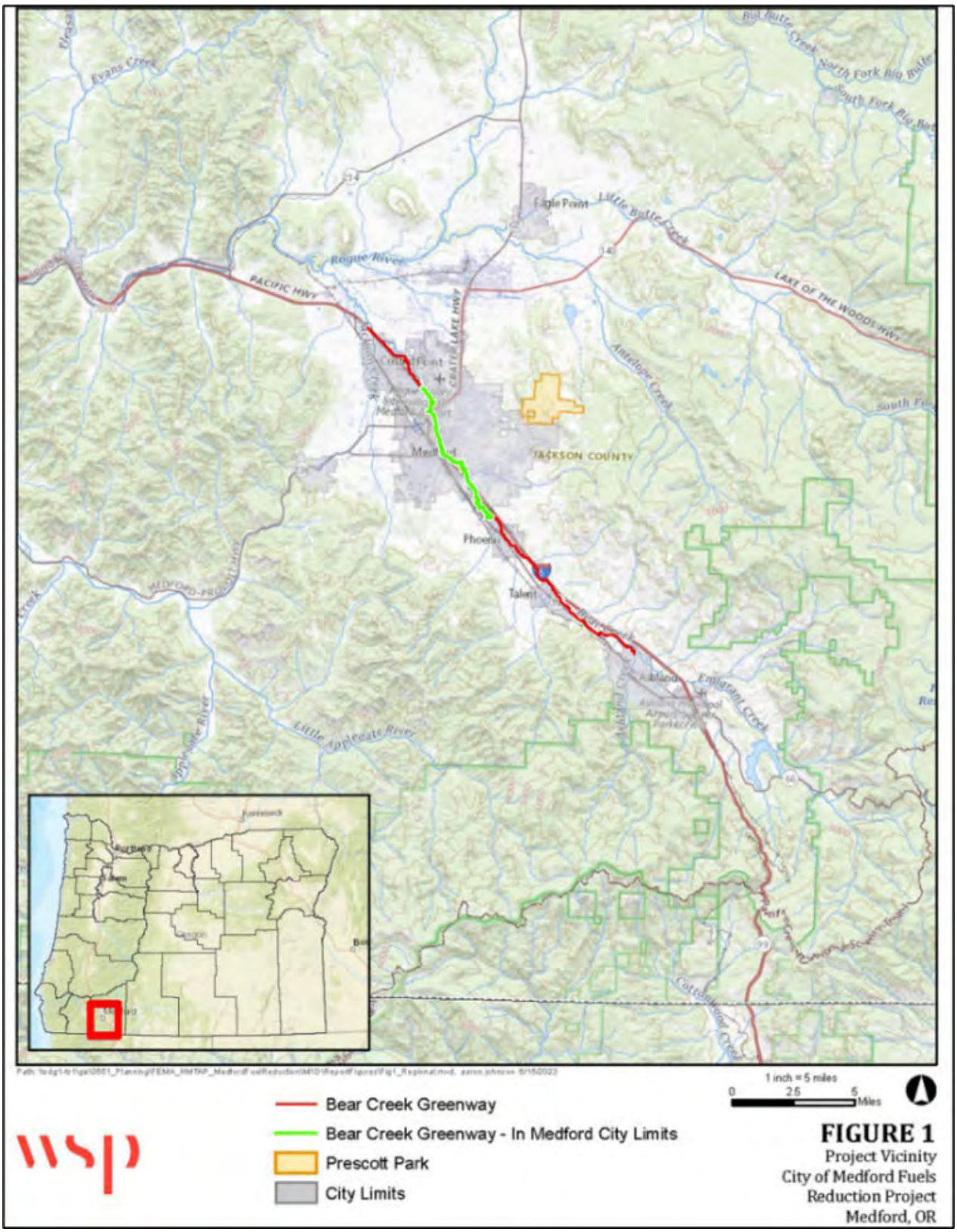

Figure 1: Location and Vicinity Map.

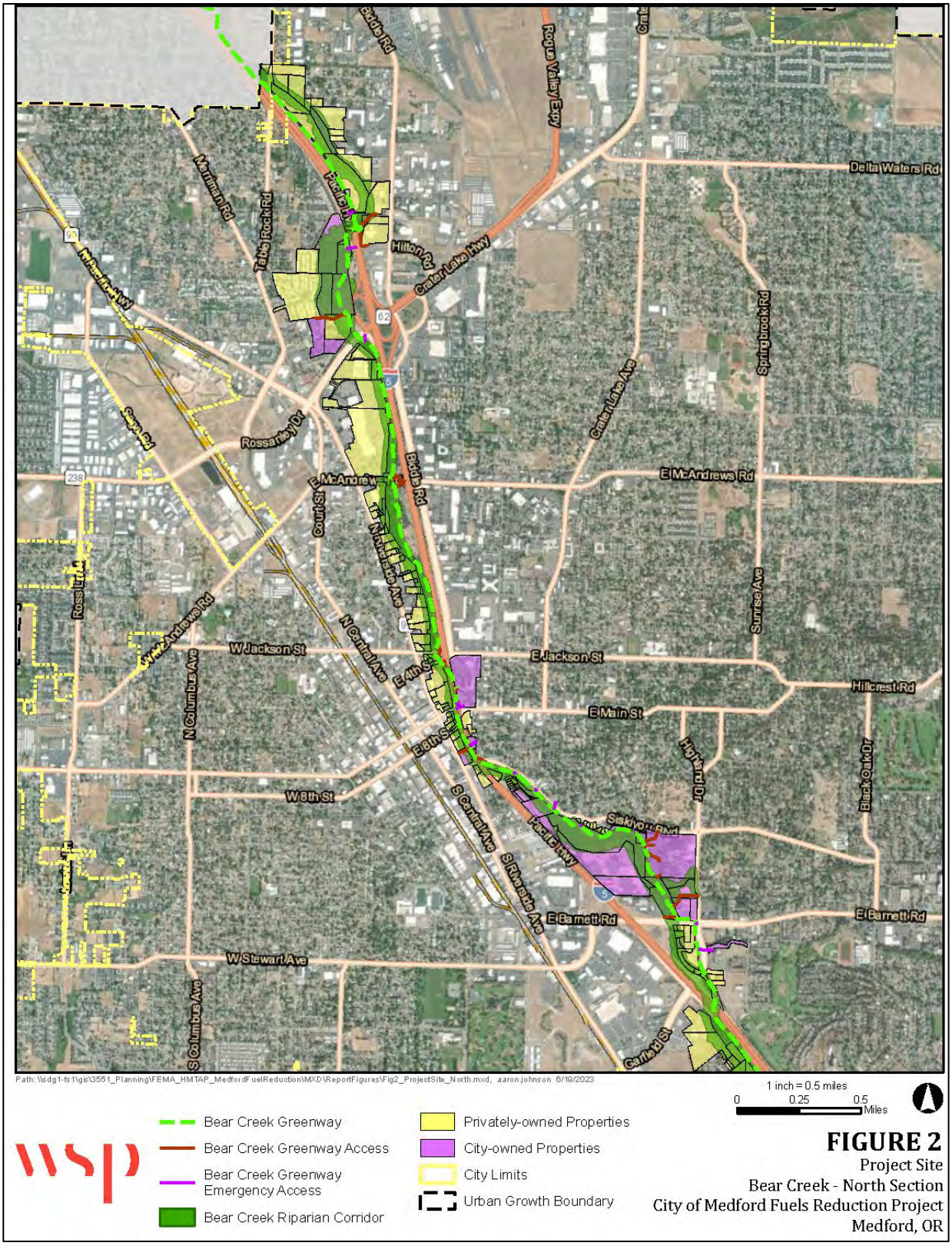

Figure 2: Bear Creek Greenway Location and Vicinity Map (North Section).

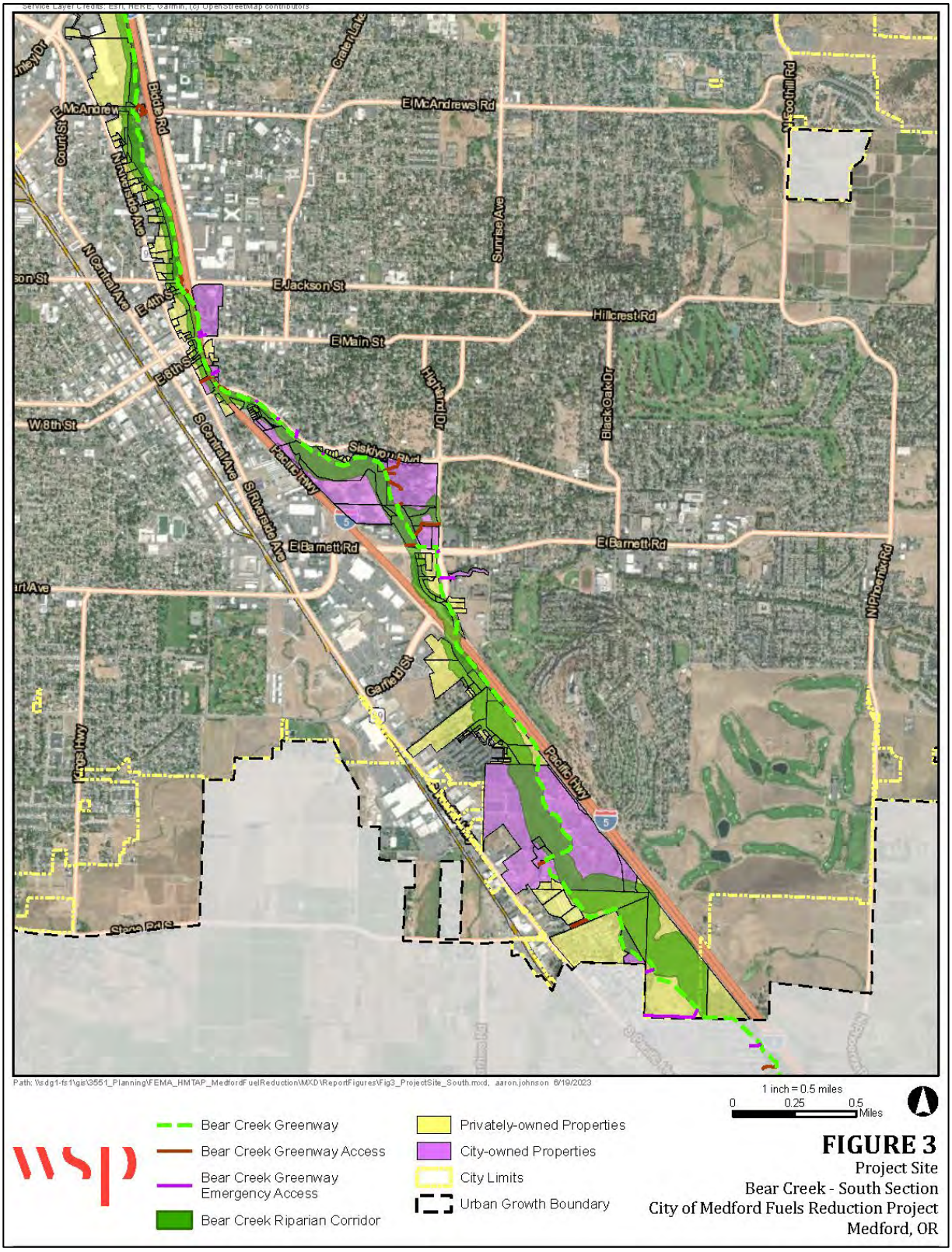

Figure 3: Bear Creek Greenway Location and Vicinity Map (South Section).

Project Actions

Construction Staging and Access

Access to the treatment areas in the Bear Creek Greenway would be provided via existing roads and pathways; no staging area is required as crews and equipment would be removed daily. Crews of 6 to 10 people would utilize the paved path that runs along the creek to transport crew members, vehicles, and biomass chippers. These vehicles have rubber tires and would use existing pathways. Invasive vegetation and other undesirable vegetation would be hauled offsite. Existing pathways would also be used to facilitate work and future access for invasive species control.

Treatment Actions

The fuels reduction treatments include the control of highly flammable invasive plants, and the thinning understory vegetation outside of the no cut buffer (ladder fuels, reducing flammable vegetation) and replanting with fire-resistant native vegetation. Ladder fuels are those that allow a groundfire to climb into the tree canopy layer. The proposed treatment would favor healthier and larger trees as well as native and rare species. The proposed action includes fuels reduction around structures and select properties, within woodland habitats, and targeted removal and control of invasive plants. As stated before, the Project will also include a 40ft no cut (interior) buffer (exception for non-native removal) to maintain stream shading. The proposed project actions would also maintain canopy coverage for the rest of the project area, removing ladder fuels (small understory trees, lower branches).

Work will be completed with three treatment types: manual methods (thinning, pruning, brush piling and chipping); mechanical methods (mowing and chipping); and chemical methods (herbicide application). The Bear Creek Greenway area includes Bear Creek; the riparian canopy cover (<25 percent) includes trees typical of the region and an understory overrun with invasive species such as Himalayan Blackberry, English ivy, Puncture Vine, Tamarisk, and Purple Loosestrife. There are various categories of land cover present, but the area primarily consists of tree canopy (approximately 186 acres) and maintained grassland (approximately 71 acres). The proposed treatment types, equipment, general timing, and location are summarized in **Table 1** below.

Table 1. Proposed Fuels Reduction Treatments/Timing.

Treatment Type	Treatment Activity	Equipment Types	Timing
Manual	Strategic vegetation trimming, thinning, pruning, and brush piling by hand	Chainsaws, Hand Saws, Brush Cutters	October 1 – April 14
Mechanical	Skidding, mastication, and routine mowing using power-operated equipment	Tractors/Skidders, Mowers, Masticators, Biomass Chipper	October 1 – April 14
Chemical	Direct herbicide application treatments that target and limit the growth of invasive plant species	Aquatic glyphosate for hand selective or spot spraying use 5 feet from waterline/1, or Aquatic Imazapyr for spot spray treatment use 15 feet from waterline and for hand selective use 5 feet from waterline	October 1 – April 14

/1 Waterline is defined as the Ordinary High-Water Mark (OHWM)

Defensible Space Maintenance:

The City would maintain 30 feet of defensible space around all structures (up to 589 properties) within the Bear Creek Greenway. This would involve cutting grass up to 10 inches or less while avoiding exposing soil, limbing tree branches up to 10 feet from the ground, maintaining shrubs and climbing vines by clearing dead or dying materials and clearing trees from structures. The City would maintain 10-foot minimum clearances around roads and the Greenway. The City would remove all portions of trees within 10 feet of chimney or stovepipe outlets; they would also maintain all trees adjacent to or overhanging a structure free of dead or dying wood and cut the trees back and remove dead or dying wood.

Vegetation Thinning and Tree Removal:

Only trees less than 10 inches in diameter at breast height (dbh) and more than 40 feet away from Bear Creek OHWM are proposed to be removed. The City would focus tree removal on non-native trees and would replant with native tree species. Tree removal would only occur after a tree survey verifying species and size of trees proposed for removal. The City would then follow-up with a post-removal survey to confirm flagged trees were removed. The City with assistance of a qualified arborist has identified a handful (<10) of hazard trees larger than 10 inch DBH that pose a risk to trails or general use. Hazard trees, if not retained as high-topped snags, would be left on site as full logs on the floodplain or banks.

Further, the City would remove all tree limbs and branches within 10 feet of the ground or at a minimum one-third the total height of the tree when more than 40 feet away from Bear Creek. Dead and dying vegetation and any combustible material would also be removed from both City-owned and private property parcels included in the treatment area. Vegetation would then be chipped and appropriately disposed to prevent further spread of invasive species and serve as additional ground cover and erosion control (**PDC 19**)

Invasive Species Removal and Herbicide Applications:

Herbicide applications would be limited to direct treatments targeting non-native plant species and noxious weeds. Herbicide use would be conducted in a manner consistent with the product instructions, buffer distances, and application methods and rates set forth in the Oregon Department of Agriculture (ODA) Pesticide Program and The Freshwater Trust (TFT) Herbicide Use and Restriction Guidelines (TFT 2017) which meet or exceed FESP **PDC 34** guidelines.

Spot spraying and hand selective herbicide applications using Aquatic Glyphosate would be restricted to a minimum of 5 feet from the Bear Creek waterline (i.e., OHWM). Spot spraying using Aquatic Imazapyr would be restricted to a minimum of 75 feet from the Bear Creek waterline, and hand selective herbicide applications using Aquatic Imazapyr would be restricted to a minimum of 5 feet from the Bear Creek waterline. No herbicide use would be permitted within 5 feet of the Bear Creek waterline. The waterline will be marked accordingly with avoidance flagging (**PDC 11**) before spraying. Limited use would be permitted beyond the 5-foot buffer. The current plan is to use the TFT buffers which are more restrictive than what is allowed by the FESP Biological Opinion (NMFS 2018); however, they may elect to use the allowed buffers as established by the FESP. **Table 2** shows the expected applied buffer distances.

Table 1: Proposed Herbicide Buffer Distances by Formula, Stream Type, and Application Method.

Herbicide	**No-Application Buffer Widths**	
	Spot Spraying	Hand Selective
Aquatic Glyphosate	5 feet from waterline	5 feet from waterline
Aquatic Imazapyr	75 feet from waterline	5 feet from waterline

Herbicide application would target invasive plant species through spot spraying and selective application without the need for broadcast spraying. Glyphosate works by inhibiting the action of a plant enzyme that plays a role in the synthesis of three amino acids named phenylalanine, tyrosine, and tryptophan. Glyphosate is absorbed into plants primarily through its leaves, and only tiny amounts of it are absorbed into the roots. Once applied, these herbicides will not be highly mobile within the soil. Long-term residual chemicals from herbicide application are expected to decompose in place within the soil.

Erosion Control and Site Disturbance

The City would also implement preventative erosion control measures (**PDC 19**) with vegetation removal activities on any slope that exceeds 20 percent or greater grade. This is in conjunction with the plan to chip removed vegetation and spread as ground cover. Select erosion control measures would comply with local guidance, required permits and agency input. For areas with limited accessibility, any disturbance to understory vegetation and soils would be restored with the application of loose straw mulch (approximately 50 percent coverage) and native grass seeding.

Revegetation

The Project does not currently include reseeding with native flowering perennial flowers, but the City intends to plant disturbed areas (**PDC 37**) with native fire resistant shrubs and trees via seedling plugs, and 1- and 5-gallon potted stock. Any disturbed areas in the riparian area will be restored or improved with native plantings with a high probability of remaining vigorous, bare soil areas will be small and well-dispersed, and all project-related waste shall be removed upon each phase of project completion (**PDC 36**).

Project Timing

The proposed fuels reduction treatment activities would span three years and involve vegetation management and hazard tree identification, fuels reduction and ongoing public participation and outreach efforts. While some of these activities would be conducted simultaneously, other activities would occur dependent on the time of year given that these activities cannot be completed during the fire season, wildlife migration periods (e.g., Franklin's bumblebee flight window), or nesting bird seasons (see Table 1). These time-dependent activities include fuel treatments involving invasive species controls and herbicide applications and would occur between October 1 and April 14.

During the first year, the City would conduct outreach with property owners near the Bear Creek Greenway located south of Barnett Road in the southern portion of Medford, followed by staging and site preparation work on City-owned parcels along the Bear Creek Greenway in southern Medford. During the second year, the City would treat vegetative fuels on City-owned and privately owned property further along Bear Creek, primarily between Barnett Road and Crater Lake Highway (State Route 62).

During the third year, the City would continue to conduct fuels reduction activities on private and public property between Barnett Road and Crater Lake Highway

Type of Action:
Identify the type of action proposed.

Actions Requiring **No Verification** from NMFS:

- ☐ Routine Road Maintenance
- ☐ Utility Line Crossing (non-Directional Boring Operations
- ☐ Boulder Placement
- ☒ Streambank Restoration
- ☐ LW Placement that occupies <25% of the bankfull cross sectional area
- ☒ Debris Removal

Actions Requiring **Verification** from NMFS:

- ☐ Temporary Bypass Channels
- ☐ Alluvium placement in >50% channel bed or > 25% of the bankfull cross-sectional area.
- ☐ Blasting
- ☐ Compensatory Mitigation
- ☐ Engineered Log Jams
- ☐ Fish Screens for Diversions >3 cfs
- ☐ Grade Stabilization
- ☐ LW placement that occupies >25% of the bankfull cross section area
- ☐ New or upgraded stormwater outfalls
- ☐ Off-and side-channel habitat restoration
- ☐ Pile Installation
- ☐ Road-stream crossing replacement or retrofit
- ☐ Set-back of an existing berm, dike, or levee
- ☐ Stormwater facilities
- ☐ Water control structure removal
- ☐ In-water Over-water Structure
- ☐ Access maintenance
- ☐ Streambank and Channel Stabilization
- ☐ Minor project modification

ESA Species/Designated Critical Habitat Present in Action Area:
Identify the species found in the action area:

NMFS ESA Species (FESP)

- ☐ -PS Chinook
- ☐ -UWR spring-run Chinook
- ☐ -UWR steelhead
- ☐ -LCR Chinook
- ☐ -LCR steelhead
- ☐ -LCR coho
- ☐ -Eulachon
- ☐ -MCR steelhead
- ☐ -PS Steelhead
- ☐ -UCR spring-run Chinook
- ☐ -UCR steelhead
- ☐ -HC summer chum
- ☐ -Columbia River chum
- ☐ -SR sockeye
- ☐ -Lake Ozette sockeye
- ☐ -OC coho
- ☒ -SONCC coho
- ☐ -SR spring/summer Chinook
- ☐ -SR fall run Chinook

NMFS EFH Species

- ☒ - Salmon, Chinook
- ☒ - Salmon, coho
- ☐ - Salmon, pink
- ☐ - Pacific Coast ground fish

USFWS ESA Species (FESP-BT)

- ☐ -USFWS Bull Trout
- ☐ -USFWS NSO
- ☐ -USFWS MAMU

Project Design Elements & Best Management Practices:

Check the Project Design Elements and Best Management Practices from the biological opinion that will be for this proposed action. Please attach all appropriate plan(s) for this proposed action including, but not limited to design plans, any revegetation or compensatory mitigation plans, and any related stormwater treatment design plans. In general, a minimum of at least 30% completed design plan(s) plans are required for projects that do not involve any in-water work, and a minimum of at 50% completed design plan(s) is typically required for any projects that include in-water work. Some projects that involve complex designs or extensive disturbance may require near 100% design. When in doubt of what is required, it is recommended that applicants contact FEMA and/or NMFS staff for direction.

Pre-Construction Measures PDCs:

12. Project Design.

17. Site Layout and Flagging.

19. Pollution and Erosion Control.

20. Hazardous Material Safety.

Construction Measures PDCs:

24. Equipment, Vehicles and Power Tools.

Post-Construction Measures PDCs:

34. Invasive and Non-native Control

36. Site Restoration.

37. Revegetation.

Specific Action PDCs:

43. Streambank restoration.

PDC Checklist:

Administrative

- [x] Electronic notification
- [ ] Site assessment for contaminants
- [ ] Site access
- [ ] Salvage notice

General Construction Measures

- [ ] In-water work timing
- [ ] Fish capture and release
- [ ] Work area isolation
- [ ] Fish screens
- [x] Equipment, vehicles, power tools
- [x] Site layout and flagging
- [ ] Staging, storage, and stockpile areas
- [x] Pollution and erosion control
- [ ] Hazardous material safety
- [ ] Pile installation
- [ ] Pile removal
- [ ] Broken or intractable pile
- [ ] Fish passage
- [ ] Surface water withdrawal
- [ ] Dust abatement
- [ ] Construction discharge water
- [ ] Temporary access roads and paths
- [ ] Temporary stream crossings
- [ ] Drilling and boring
- [ ] Pesticide and preservative-treated wood
- [ ] Barge use
- [x] Invasive and non-native plant control
- [ ] Post-construction stormwater management
- [x] Site restoration
- [x] Revegetation
- [ ] Compensatory mitigation

1. Road Maintenance / Rehab/ Replacement

- [ ] Design criteria
- [ ] Road/culvert/bridge maintenance
- [ ] Grade stabilization
- [ ] Structure stabilization
- [ ] Permanent stream-road crossing replacement
- [ ] Vegetated riprap with LW
- [ ] Roughened toe
- [ ] Rock structures

2. Stormwater Management Plan

- [ ] Design criteria
- [ ] Low Impact Development
- [ ] Water quality BMPs
- [ ] Water quantity BMPs
- [ ] Maintenance plan
- [ ] Monitoring and reporting

3. Utility Stream Crossings

- [ ] Design criteria

4. Streambank/ Channel Stabilization

- [ ] Alluvium placement
- [ ] Large wood (LW) placement
- [ ] Vegetated riprap with LW
- [ ] Woody plantings
- [ ] Herbaceous cover
- [ ] Streambank shaping
- [ ] Coir logs
- [ ] Soil reinforcement
- [ ] Engineered log jams
- [ ] Floodplain flow spreaders
- [ ] Fertilizer
- [ ] Fencing
- [ ] Filling scour hole
- [ ] Slope stabilization with rock

5. Streambank Restoration

- [x] Non-herbicide methods
- [x] Power equipment
- [x] Herbicide applicator qualifications
- [ ] Transportation and safety plan

6. Boulder Placement for Habitat Restoration

- [ ] Site selection
- [ ] Installation

7. Large Wood Placement

- [ ] Large wood condition

8. Off- and Side-Channel Habitat

- [ ] *Needs NMFS Verification*

9. Set-back Berm, Dike, and Levee

- [ ] *Needs NMFS Verification*

10. Water Control Structure Removal

- [ ] *Needs NMFS Verification*

11. In-water Over-water structures

- [ ] Boat ramps
- [ ] Replacement floats
- [ ] Relocation of existing structures
- [ ] Repair/replacement of covered moorage/boat houses

12 & 13 Dredging

- [ ] Maintenance dredging
- [ ] Vessel access dredging

14. **Debris Removal**

- [ ] Design criteria

Invasive and Non-native Plant Control

- [x] Non-herbicide methods
- [x] Power equipment
- [x] Herbicide applicator qualifications
- [x] Herbicide transportation and safety plan
- [x] Approved herbicides
- [x] Approved herbicide adjuvants
- [x] Approved herbicide carriers
- [ ] Herbicide mixing
- [x] Approved herbicide application rates
- [x] Approved herbicide application methods
- [x] Minimize herbicide drift and leaching
- [x] Required herbicide buffer distances

Appendix C: List of Hazardous Material Sites

Name	Reg_ID	Address	City	State	Zip Code	Latitude	Longitude	Program Type
Rite Aid #6776	110069289763	404 N MAIN ST	Phoenix	OR	97535	42.27644	-122.81801	Hazardous Waste
Rite Aid No 6776	110070207995	636 N MAIN	Phoenix	OR	97535	42.27853	-122.82027	Hazardous Waste
Horizon Mobile Home Park	110071402440	4074 S. PACIFIC HWY 99	Phoenix	OR	97535	42.280371	-122.825327	Water Discharge
Coleman Creek Estates Reconstruction (FEMA)	110071094429	135 NORTH Phoenix ROAD	Phoenix	OR	97501	42.2806	-122.8212	Water Discharge
Dsu Peterbilt & Gmc Truck	110004799059	3727 N Phoenix RD	Medford	OR	97504	42.2808	-122.8169	Hazardous Waste
Royal Oaks Mobile Manor Rebuild	110071401881	4069 S PACIFIC HWY	Medford	OR	97501	42.281847	-122.823224	Water Discharge
The Home Depot Hd8557	110031287471	3345 N Phoenix RD	Phoenix	OR	97535	42.28188	-122.81445	Hazardous Waste
Pacific Village Mobile Home Community Fire Restoration	110071402528	3966 SOUTH PACIFIC HIGHWAY	Medford	OR	97526	42.282573	-122.830665	Water Discharge
Carefree Village	110071400060	3848 S. PACIFIC HIGHWAY	Medford	OR	97501	42.283525	-122.831883	Water Discharge
ODOT	110021016915	I-5 MP 28.19 THRU 29.08 VIADUC	Medford	OR	97501	42.28501	-122.81901	Hazardous Waste
Arrowhead Ranch/ODOT Fern Valley	110069582945	2909 N. Phoenix ROAD	Phoenix	OR	97504	42.28598	-122.81761	Water Discharge

Name	Reg_ID	Address	City	State	Zip Code	Latitude	Longitude	Program Type
Oregon Trail Campers	110004779687	3724 S PACIFIC HWY	Medford	OR	97501	42.286233	-122.831777	Hazardous Waste
Medford Estates Reconstruction	110071093287	3555 S PACIFIC HIGHWAY	Medford	OR	97551	42.2879	-122.8287	Water Discharge
UAP Northwest Medford	110010754086	17 S STAGE RD	Medford	OR	97501	42.29305	-122.84286	Biennial Reporting
Tyree Oil Inc.	110071335002	20 SOUTH STAGE ROAD	Medford	OR	97501	42.293242	-122.84383	Air Pollution
Modoc Orchard Co	110006538657	3050 S PACIFIC HWY	Medford	OR	97501	42.2935	-122.8402	Hazardous Waste
2hawk Winery Processing Facility	110069600097	4415 CAMPBELL RD	Medford	OR	97504	42.294767	-122.811122	Water Discharge
Tucker Sno-Cat	110004779366	2872 S PACIFIC HWY	Medford	OR	97501	42.2966	-122.8439	Hazardous Waste
Matt Loop RV Park	110071401542	MATT LOOP	Medford	OR	97501	42.29802	-122.844634	Water Discharge
Commercial Documentation Services	110001657895	2661 SOUTH PACIFIC HIGHWAY	Medford	OR	97501-8761	42.298365	-122.846249	Hazardous Waste
Northwest Printed Circuits	110004783137	2655 S PACIFIC HWY	Medford	OR	97501	42.298458	-122.846344	Hazardous Waste
Commercial Documentation Services	110004772336	2603 S PACIFIC HWY	Medford	OR	97501	42.299264	-122.847164	Hazardous Waste

Name	Reg_ID	Address	City	State	Zip Code	Latitude	Longitude	Program Type
Harry And David	110064866042	2518 S PACIFIC HWY	Medford	OR	97501-8724	42.3009	-122.849	Water Discharge
Jackson And Perkins Co	110020977031	2518 S PACIFIC HWY	Medford	OR	97501-8724	42.3009	-122.849	Hazardous Waste
Cedar Hotel	110071094679	2399 S PACIFIC HWY	Medford	OR	97501	42.3028	-122.8509	Water Discharge
Journey Church	110001657564	2399 OR-99	Medford	OR	97501	42.303283	-122.84962	Hazardous Waste
Browns Auto Body & Paint	110004781219	2201 S PACIFIC HWY	Medford	OR	97501	42.304271	-122.85218	Hazardous Waste
Skinner Buick Cadillac Inc	110004795428	2177 S PACIFIC HWY	Medford	OR	97501	42.3048	-122.8509	Hazardous Waste
Panera Site	110071093549	GARFIELD ST + ANTON DRIVE	Medford	OR	97501	42.306	-122.8561	Water Discharge
Kogap Manufacturing Site	110002149602	2080 OR-99	Medford	OR	97501	42.306162	-122.856114	Hazardous Waste
Rogue Valley Manor - Memory Care	110070230921	1200 MIRA MAR LAKE VILLAGE DR.	Medford	OR	97504	42.3066	-122.8333	Water Discharge
Rogue Valley Manor	110001655156	1200 MIRA MAR AVENUE	Medford	OR	97504-8546	42.30763	-122.83836	Hazardous Waste
Rough Grading Tax Lot 100	110069560344	INT. OF GARFIELD RD AND CENTER DRIVE	Medford	OR	97501	42.3086	-122.8513	Water Discharge
Ecolube Recovery LLC	110070912146	1890 S PACIFIC HWY	Medford	OR	97501	42.308757	-122.857479	Hazardous Waste

Name	Reg_ID	Address	City	State	Zip Code	Latitude	Longitude	Program Type
Hays Oil Company	110071334959	1890 S PACIFIC HIGHWAY	Medford	OR	97501	42.308757	-122.857479	Air Pollution
Kogap Electrical	110045418213	1501 MYERS LN	Medford	OR	97501-3682	42.30878	-122.86297	Hazardous Waste
Columbia Care - Juanipero	110070231793	JUANIPERO & GOLF VIEW DRIVE	Medford	OR	97501	42.30936	-122.82291	Water Discharge
Center Drive Hotel	110070227278	1375 CENTER DRIVE	Medford	OR	97501	42.309394	-122.853826	Water Discharge
Rogue Community Credit Union	110069562128	1370 CENTER DRIVE	Medford	OR	97504	42.30954	-122.85403	Water Discharge
Stewart Meadows Village-Hansen Creek Improvements	110069594031	MYERS LANE	Medford	OR	97501	42.3098	-122.8606	Water Discharge
Walmart Supercenter #2069	110046404066	1360 CENTER DRIVE	Medford	OR	97501	42.31055	-122.85451	Hazardous Waste
Oregon National Guard	110014227112	1701 SOUTH PACIFIC HIGHWAY	Medford	OR	97501-7914	42.3114	-122.8576	Hazardous Waste
ODEQ Cleanup Prog Weldon's Cleaning Ctr	110064256549	711A STEWART AVE	Medford	OR	97501	42.312793	-122.878247	Hazardous Waste
Fred Meyer South Medford	110004817093	1301 CENTER DR	Medford	OR	97501	42.31284	-122.85639	Hazardous Waste
Weldon's Cleaning Center	110004798755	711 STEWART AVE	Medford	OR	97501-4001	42.31287	-122.87833	Hazardous Waste
Qwest Corporation 760	110004788800	150 STEWART AVENUE	Medford	OR	97501-3662	42.31287	-122.86458	Hazardous Waste

Name	Reg_ID	Address	City	State	Zip Code	Latitude	Longitude	Program Type
Southern Oregon Sales, Inc.	110006661273	18 STEWART AVE.	Medford	OR	97501	42.31287	-122.86184	Water Discharge
Hilton Garden Inn	110069570431	1000 WELCOME WAY	Medford	OR	97504	42.3136	-122.848	Water Discharge
St. Mary's School Improvements	110070229953	816 BLACK OAK DRIVE	Medford	OR	97504	42.31418	-122.83565	Water Discharge
Larson Creek Trail Ii (M653)	110070528180	HILLDALE AVENUE 600 +/-SOUTH OF BARNETT	Medford	OR	JACKSON	42.3147	-122.8415	Water Discharge
Prescription Compounding Solutions	110045430262	940 ELLENDALE DR	Medford	OR	97504	42.31498	-122.84564	Hazardous Waste
Discount Tire	110071403178	1293 CENTER DR	Medford	OR	97501	42.31528	-122.857559	Water Discharge
Pacific Power & Light	110000817046	925 SOUTH GRAPE STREET	Medford	OR	97501-3630	42.31543	-122.86637	Hazardous Waste
Barnett Rd Commercial	110070048298	BARNETT RD (TAX LOT 3700)	Medford	OR	97501	42.3157	-122.86857	Water Discharge
Unocal Ss 5347	110004798292	309 BARNETT RD	Medford	OR	97501-7929	42.3157	-122.867791	Hazardous Waste
Penske Auto Center Medford	110004809814	251 E BARNETT RD	Medford	OR	97501-7927	42.31576	-122.86019	Hazardous Waste
McDonald’s Medford Relocation	110070626344	295 EAST BARNETT ROAD	Medford	OR	97501	42.31576	-122.859772	Water Discharge

Name	Reg_ID	Address	City	State	Zip Code	Latitude	Longitude	Program Type
Chevron Service Station 93753	110004802429	417 EAST BARNETT ROAD	Medford	OR	97501-7931	42.31576	-122.85867	Hazardous Waste
Omnicare Of Medford No 48328	110070207998	259 E BARNETT RD, NUMBER L	Medford	OR	97501	42.315762	-122.860072	Biennial Reporting
Si Casa Flores	110022435391	235 E BARNETT RD SUITE 104	Medford	OR	97501-7903	42.31577	-122.86173	Hazardous Waste
Black Oak Cleaners	110013969642	2620 K E BARNETT ROAD	Medford	OR	97504-8383	42.31629	-122.83509	Hazardous Waste
Rogue Valley Rx	110045419187	2900 E BARNETT RD	Medford	OR	97504-8380	42.31646	-122.82842	Hazardous Waste
Surgery Center Of Southern Oregon	110045430486	2798 E BARNETT RD	Medford	OR	97504-8343	42.31648	-122.83268	Hazardous Waste
Lube N Car Wash Developers Dba Quench & Drench Ii	110039076576	1024 S RIVERSIDE AVE	Medford	OR	97501	42.31683	-122.86354	Hazardous Waste
Msdec Middle School	110071094101	815 S OAKDALE	Medford	OR	97501	42.317	-122.873	Water Discharge
Rogue Valley Oil Co	110001655174	1000 SOUTH CENTRAL AVENUE	Medford	OR	97501-7824	42.31709	-122.86419	Biennial Reporting
Spiegelberg Stadium	110071400587	730 KENYAN ST.	Medford	OR	97501	42.317219	-122.869897	Water Discharge
Kadee Metal Products Co	110004802866	720 S GRAPE ST	Medford	OR	97501	42.31722	-122.86769	Hazardous Waste
General Equip Co Aka Hotsy Inc	110004806782	950 S CENTRAL	Medford	OR	97501	42.31733	-122.86452	Hazardous Waste

Name	Reg_ID	Address	City	State	Zip Code	Latitude	Longitude	Program Type
Medford School District 549c	110004786072	500 MONROE STREET	Medford	OR	97501-3522	42.31751	-122.87242	Hazardous Waste
Medford Plating Inc	110001659679	702 S GRAPE ST	Medford	OR	97501	42.317801	-122.867816	Hazardous Waste
Tree Top	110001655147	690 S GRAPE ST	Medford	OR	97501	42.31819	-122.86861	Hazardous Waste
Rogue Valley Medical Center	110014282187	2825 E. BARNETT ROAD/BLACK OAK DRIVE	Medford	OR	97504	42.3185	-122.8297	Hazardous Waste
Miller Paint Company Inc	110012256566	803 S CENTRAL	Medford	OR	97501-7819	42.31948	-122.86597	Hazardous Waste
Rrmc Parking Structure	110070265054	SISKIYOU BLVD. AND MURPHY ROAD	MEFORD	OR	97504	42.31968	-122.82884	Water Discharge
Northwest Chemical Corp Medford	110004777279	609 S FIR ST	Medford	OR	97501	42.320105	-122.869224	Hazardous Waste
Medford Fire Station 3	110070232341	530 HIGHLAND DRIVE	Medford	OR	97501	42.32027	-122.8499	Water Discharge
Fresh Express	110037796891	706 S CENTRAL AVE	Medford	OR	97501	42.32031	-122.86652	Hazardous Waste
Jackson County DA's Office	110069558302	815 10TH STREET	Medford	OR	97501	42.32124	-122.879834	Water Discharge
Helena Agri Enterprises LLC Dba Helena C	110004789220	511 S FIR	Medford	OR	97501	42.32141	-122.869836	Hazardous Waste

Name	Reg_ID	Address	City	State	Zip Code	Latitude	Longitude	Program Type
MPD Headquarters	110069598956	219 S. IVY ST.	Medford	OR	97501	42.322375	-122.875116	Water Discharge
Rogue River National Forest	110004776644	333 W 8TH ST	Medford	OR	97501	42.32363	-122.87548	Hazardous Waste
Dollar Gmc Oldsmobile	110004819867	325 S RIVERSIDE	Medford	OR	97501-7238	42.32364	-122.86796	Hazardous Waste
Saturn Of Southwest Oregon	110014189001	400 RIVERSIDE DRIVE	Medford	OR	97501-4603	42.323682	-122.86799	Hazardous Waste
Conger Morris Funeral Directors	110004795785	715 WEST MAIN STREET	Medford	OR	97501-2924	42.32373	-122.87956	Hazardous Waste
Archies Cleaners	110004797881	702 W MAIN ST	Medford	OR	97501	42.32373	-122.87951	Hazardous Waste
Grape Street	110071089086	101-113 SOUTH GRAPE STREET	Medford	OR	97501	42.324006	-122.873656	Brownfields
ODEQ Medford Drug Lab	110044948625	105 OAKDALE	Medford	OR	97501	42.324573	-122.878461	Hazardous Waste
Paul Phillips Pontiac	110004786526	225 S RIVERSIDE AVE	Medford	OR	97501	42.32471	-122.86871	Hazardous Waste
Southern Oregon Subaru Volvo Mitsubishi	110004788481	227 E 9TH ST	Medford	OR	97501	42.32518	-122.87011	Hazardous Waste
James A. Redden Courthouse	110004821104	310 WEST 6TH STREET	Medford	OR	97501-2766	42.32526	-122.87704	Hazardous Waste

Name	Reg_ID	Address	City	State	Zip Code	Latitude	Longitude	Program Type
Rogue Community College Riverside Campus	110045418632	202 S RIVERSIDE AVE	Medford	OR	97501-7237	42.32534	-122.86915	Hazardous Waste
Sherwin-Williams Co - Medford	110004777741	122 S CENTRAL	Medford	OR	97501	42.325544	-122.87127	Hazardous Waste
San Sierra Business Systems	110004786973	143 S RIVERSIDE AVE	Medford	OR	97501	42.32561	-122.86935	Hazardous Waste
Medford Mail Tribune Production Center	110004774012	33 NORTH FIR STREET	Medford	OR	97501-2714	42.32583	-122.87459	Hazardous Waste
Jackson County Tax Lot 371w30bb4300	110039060725	315 5TH STREET	Medford	OR	97501	42.326167	-122.87763	Brownfields
Union Pacific Railroad	110037821462	147 N FRONT ST	Medford	OR	97501	42.32722	-122.87413	Hazardous Waste
Budge-McHugh Property	110070556319	132 W. 4TH STREET, 125 W. 4TH STREET, 160 N. FIR STREET	Medford	OR	97501	42.327591	-122.876973	Brownfields
Medford Municipal Stormwater, Ms4	110058285136	MUNICIPAL STORMWATER AREA	JACKSON	OR	97504	42.3278	-122.8667	Water Discharge
Jackson County Tax Lot 371w30bb7800	110039060477	313 6TH STREET	Medford	OR	97501	42.32784	-122.87211	Brownfields
300 N Fir Street	110071089443	300 NORTH FIR STREET	Medford	OR	97501	42.32803	-122.87669	Brownfields
Jackson County Tax Lot 371w30bb7900	110039060618	323 E. 6TH STREET	Medford	OR	97501	42.32808	-122.87165	Brownfields

Name	Reg_ID	Address	City	State	Zip Code	Latitude	Longitude	Program Type
Pennzoil	110045418142	145 N CENTRAL AVE	Medford	OR	97501-5925	42.32811	-122.87371	Hazardous Waste
Jackson County Tax Lot 371w30bb7600	110039060716	128 N. BARTLETT STREET	Medford	OR	97501	42.32811	-122.87243	Brownfields
Spearco Graphics LLC.	110045418133	330 N FIR ST	Medford	OR	97501-2601	42.32836	-122.87701	Hazardous Waste
Jackson County Tax Lot 371w30bb8100	110039060663	129 N. RIVERSIDE AVE.	Medford	OR	97501	42.32878	-122.87156	Brownfields
Lithia Dodge Annex	110004790913	222 N BARTLETT	Medford	OR	97501	42.328806	-122.873103	Hazardous Waste
Jackson County Tax Lot 371w30bb5000	110039060609	212 N. BARTLETT STREET	Medford	OR	97501	42.32882	-122.87312	Brownfields
Jackson County Tax Lot 371w30bb4700	110039060501	236 N. BARTLETT STREET	Medford	OR	97501	42.328925	-122.873213	Brownfields
Jackson County Tax Lot 371w30bb4900	110039060422	220 N. BARTLETT STREET	Medford	OR	97501	42.32897	-122.87325	Brownfields
Lithia Corporate Office	110045421833	244 N BARTLETT ST	Medford	OR	97501-6017	42.328993	-122.873276	Hazardous Waste
Jackson County Tax Lot 371w30bb7500	110039060556	324 E. 5TH ST.	Medford	OR	97501	42.329	-122.87222	Brownfields
Jackson County Tax Lot 371w30bb7700	110039060431	324 E. 5TH ST.	Medford	OR	97501	42.329	-122.87222	Brownfields
Jackson County Tax Lot 371w30bb8200	110039060672	324 E. 5TH STREET	Medford	OR	97501	42.329	-122.87222	Brownfields

Name	Reg_ID	Address	City	State	Zip Code	Latitude	Longitude	Program Type
Medford Dodge Dba Lithia Dodge	110004792840	324 E 5-B ST	Medford	OR	97501	42.329	-122.8706	Hazardous Waste
Jackson County Tax Lot 371w30bb4800	110039060654	224 N. BARTLETT STREET	Medford	OR	97501	42.32913	-122.87341	Brownfields
Lithia Corporate Office	110045421842	224 N BARTLETT ST	Medford	OR	97501-6017	42.32913	-122.87341	Hazardous Waste
Jackson County Tax Lot 371w30bb5300	110039060707	235 N. BARTLETT STREET	Medford	OR	97501	42.32929	-122.87355	Brownfields
A L Clay Dmd	110004820490	41 HAWTHORNE ST	Medford	OR	97504	42.32931	-122.86728	Hazardous Waste
Jackson County Tax Lot 371w30bb2200	110039060690	310 N. BARTLETT STREET	Medford	OR	97501	42.32959	-122.87383	Brownfields
Jackson County Tax Lot 371w30bb2100	110039060681	NEQ N. BARTLETT ST. & E. 4TH ST. LOT 2100	Medford	OR	97501	42.32978	-122.8762	Brownfields
Jackson County Tax Lot 371w30bb4600	110039060592	SWQ E. 4TH ST. & APPLE ST. LOT 4600	Medford	OR	97501	42.32978	-122.8762	Brownfields
Apple Street	110039060397	APPLE STREET BETWEEN E 3RD ST. AND E 4TH ST.	Medford	OR	97501	42.32978	-122.87256	Brownfields
Jackson County Tax Lot 371w30bb4200	110039060468	NEQ APPLE ST. & E. 5TH ST. LOT 4200	Medford	OR	97501	42.32978	-122.87135	Brownfields
Jackson County Tax Lot 371w30bb4400	110039060538	NWQ APPLE ST. & E. 5TH ST. LOT 4400	Medford	OR	97501	42.32978	-122.87135	Brownfields

Name	Reg_ID	Address	City	State	Zip Code	Latitude	Longitude	Program Type
Jackson County Tax Lot 371w30bb4500	110039060510	SWQ APPLE ST. & E. 4TH ST. LOT 4500	Medford	OR	97501	42.32978	-122.87135	Brownfields
Jackson County Tax Lot 371w30bb7200	110039060529	NWQ BARTLETT ST. & 6TH ST. LOT 7200	Medford	OR	97501	42.32978	-122.87135	Brownfields
Jackson County Tax Lot 371w30bb8000	110039060734	NWQ N. RIVERSIDE AVE. & E. 6TH ST. LOT 8000	Medford	OR	97501	42.32978	-122.87135	Brownfields
Jackson County Tax Lot 371w30bb3100	110039060583	401 E. 4TH STREET	Medford	OR	97501	42.32994	-122.87274	Brownfields
Jackson County Tax Lot 371w30bb2000	110039060440	326-344 N. BARTLETT STREET	Medford	OR	97501	42.32998	-122.87421	Brownfields
Jackson County Tax Lot 371w30bb3000	110039060636	334 APPLE STREET	Medford	OR	97501	42.33041	-122.87333	Brownfields
Jackson County Tax Lot 371w30bb3400	110039060645	309 N. RIVERSIDE AVE.	Medford	OR	97501	42.33043	-122.87231	Brownfields
Bp Service Station	110004814247	348 N RIVERSIDE AVE	Medford	OR	97501	42.33049	-122.87234	Hazardous Waste
U S West Communications	110014222858	502 N CENTRAL	Medford	OR	97501-5813	42.33059	-122.87607	Hazardous Waste
Jackson County Tax Lot 371w30bb2800	110039060486	345 APPLE STREET	Medford	OR	97501	42.33059	-122.8735	Brownfields
Jackson County Tax Lot 371w30bb3500	110039060547	315 N. RIVERSIDE AVE.	Medford	OR	97501	42.33062	-122.8724	Brownfields
Nayra Inc. Dba Shell #311	110071334958	525 N. CENTRAL AVE	Medford	OR	97501	42.330798	-122.876638	Air Pollution

Name	Reg_ID	Address	City	State	Zip Code	Latitude	Longitude	Program Type
Jackson County Tax Lot 371w30bb3700	110039060413	333 N. RIVERSIDE AVE.	Medford	OR	97501	42.33094	-122.87253	Brownfields
Lithia Americas Car & Truck Store	110045420834	360 E JACKSON ST	Medford	OR	97501-5825	42.33112	-122.87416	Hazardous Waste
Lithia Toyota Lincoln Mercury	110004783734	360 E JACKSON ST	Medford	OR	97501	42.33112	-122.87416	Hazardous Waste
Firestone Complete Auto Care 6651	110004808174	613 E JACKSON ST	Medford	OR	97504	42.33114	-122.86657	Hazardous Waste
Kayser Auto Refinishing	110006854724	600 N CENTRAL	Medford	OR	97501	42.33136	-122.87679	Hazardous Waste
Jackson County Tax Lot 371w30bb2300	110039060404	NWQ APPLE ST. & E. 4TH ST. LOT 2300.	Medford	OR	97501	42.33158	-122.87255	Brownfields
Santos Center	110004773656	701 NORTH COLUMBUS AVENUE	Medford	OR	97501-2343	42.33165	-122.89018	Hazardous Waste
Medford School District Purchasing Dept	110007741480	750 NORTH COLUMBUS AVENUE	Medford	OR	97501-2344	42.33167	-122.89018	Hazardous Waste
Sears Roebuck And Company Incorporated	110004820873	501 Medford CENTER	Medford	OR	97504-6788	42.33186	-122.8673	Hazardous Waste
Poly Clean Center	110004799166	608 Medford CENTER	Medford	OR	97504-6795	42.33186	-122.866598	Hazardous Waste
Southern Oregon Antifreeze Recyclers	110004813747	723 OAK ST	Medford	OR	97501	42.33191	-122.88442	Hazardous Waste
Lithia Honda	110004789186	700 N CENTRAL	Medford	OR	97501-5817	42.33255	-122.87792	Hazardous Waste

Name	Reg_ID	Address	City	State	Zip Code	Latitude	Longitude	Program Type
Options For Southern Oregon	110070229629	700 N CENTRAL AVE	Medford	OR	97501	42.33255	-122.87792	Water Discharge
Dahl House Crossing	110071400336	MAPLE PARK DRIVE	Medford	OR	97501	42.3331	-122.8934	Water Discharge
Jackson County Tax Lot 371w30bb2400	110039060565	SWQ APPLE ST. & E. 3RD ST. LOT 2400	Medford	OR	97501	42.33338	-122.87134	Brownfields
Jackson County Tax Lot 371w30bb2500	110039060627	SWQ APPLE ST. & E. 3RD. ST. LOT 2500	Medford	OR	97501	42.33338	-122.87134	Brownfields
Jackson County Tax Lot 371w30bb2600	110039060574	SWQ APPLE ST. & E. 3RD ST. LOT 2600	Medford	OR	97501	42.33338	-122.87134	Brownfields
Jackson County Tax Lot 371w30bb2700	110039060459	SWQ APPLE ST. & E. 3RD. ST. LOT 2700	Medford	OR	97501	42.33338	-122.87134	Brownfields
Anm, Inc	110070122565	130 W CLARK ST	Medford	OR	97501	42.33339	-122.88197	Hazardous Waste
Shell Chemical Lp Spill Site	110022530073	LAT 42.3335, LONG -122.8835	Medford	OR	97501	42.3335	-122.8835	Biennial Reporting
Willamette Graystone - Medford, Or Block Plant	110071433933	727 W MCANDREWS RD	Medford	OR	97501	42.333853	-122.888885	Toxic Release
Micheals	110004799004	997 Medford CENTER	Medford	OR	97504	42.333881	-122.86604	Hazardous Waste
Safeway Store No525	110062923591	1003 Medford CTR	Medford	OR	97504	42.333904	-122.86604	Hazardous Waste
Rite Aid 5384	110045987134	981 Medford CTR	Medford	OR	97504	42.33394	-122.86604	Hazardous Waste

Name	Reg_ID	Address	City	State	Zip Code	Latitude	Longitude	Program Type
Lithia Volkswagen Isuzu	110012256977	801 N RIVERSIDE	Medford	OR	97501-4610	42.33447	-122.87415	Hazardous Waste
Unocal Refining Market	110014274882	600 BIDDLE ROAD	Medford	OR	97504-6115	42.33474	-122.87057	Hazardous Waste
Auto Body Clinic	110004784797	844 W RIVERSIDE AVE	Medford	OR	97501	42.33497	-122.87439	Hazardous Waste
Kids Unlimited Of Oregon	110070048353	821 NORTH RIVERSIDE	Medford	OR	97501	42.33521	-122.8745	Water Discharge
Bedslide	110070559051	111 TAFT ST	Medford	OR	97501	42.335417	-122.883278	Hazardous Waste
Star Body Works	110004781200	1024 SUMMIT AVENUE	Medford	OR	97501-2364	42.33542	-122.88704	Hazardous Waste
Ramseys Cleaners	110004798700	1006 COURT ST	Medford	OR	97501	42.3357	-122.8805	Hazardous Waste
Ecs Regenesys	110032966324	407 BOARDMAN ST	Medford	OR	97501-5723	42.33608	-122.87947	Hazardous Waste
Jmb Hi Tech Plating	110012256717	1111 N CENTRAL AVE UNIT F	Medford	OR	97501	42.33618	-122.88137	Hazardous Waste
Rogue Valley Circuit Site	110002149611	1111 N CENTRAL AVE	Medford	OR	97501	42.33618	-122.88137	Hazardous Waste
Saddle Ridge Subdivision Phases 4 And 5	110071093210	SADDLE RIDGE DRIVE	Medford	OR	97504	42.3364	-122.7808	Water Discharge
Silver Eagle Company	110004782735	501 W MCANDREWS RD	Medford	OR	97501	42.337364	-122.884946	Hazardous Waste

Name	Reg_ID	Address	City	State	Zip Code	Latitude	Longitude	Program Type
Naumes Carpenter Shop	110045423939	1311 N CENTRAL AVE	Medford	OR	97501-5772	42.33742	-122.88256	Hazardous Waste
Gandee Printing Center Inc	110004806684	625 MARKET ST	Medford	OR	97504	42.33754	-122.87025	Hazardous Waste
Unocal Bulk Plant 0416	110004798167	103 WEST MCANDREWS ROAD	Medford	OR	97501	42.337584	-122.884687	Hazardous Waste
Corp - Medford Rail Yard	110070263724	2 EAST MCANDREWS ROAD	Medford	OR	97501	42.33776	-122.88447	Water Discharge
Scales Automotive	110045431109	1101 COURT ST	Medford	OR	97501-5729	42.33781	-122.88048	Hazardous Waste
Lighthouse Worldwide Solutions	110045432509	1221 DISK DR	Medford	OR	97501-6638	42.33819	-122.89479	Hazardous Waste
Berkeley Hills - College Hill Addition	110067191103	SPRING STREET & BERKELEY WAY	Medford	OR	97504	42.3382	-122.85053	Water Discharge
Sally Beauty Supply #2298	110071139925	950 BIDDLE RD	Medford	OR	97504	42.33858	-122.87184	Hazardous Waste
Thermal Supply	110070625536	553 PARSONS DRIVE	Medford	OR	97501	42.338634	-122.892654	Water Discharge
Medford Fabrication	110004802027	1109 COURT STREET	Medford	OR	97501-5729	42.33867	-122.88048	Hazardous Waste
Macs Radiator & Repair Incorporated	110004812622	705 BEATTY STREET SUITE B	Medford	OR	97501-5790	42.33901	-122.87866	Hazardous Waste
Valley Heating & Sheet Metal	110031470655	705 BEATTY STREET SUITE B	Medford	OR	97501-5790	42.33901	-122.87866	Air Pollution

Name	Reg_ID	Address	City	State	Zip Code	Latitude	Longitude	Program Type
Timber Products Co. Limited Partnership	110000488589	25 E. MCANDREWS	Medford	OR	97501-1640	42.339181	-122.887874	Air Pollution
Hewitts Auto Body & Paint	110004795115	1127 COURT STREET	Medford	OR	97501-5729	42.33932	-122.88049	Hazardous Waste
Providence Medford Medical Center	110004784975	1111 CRATER LAKE AVENUE	Medford	OR	97504-6241	42.33968	-122.86106	Biennial Reporting
Merry X-Ray Chemical Corporation	110024831486	826 BEATTY ST	Medford	OR	97501-5718	42.33982	-122.87866	Hazardous Waste
Western States Environmental Services Inc	110039592321	877 BEATTY ST	Medford	OR	97501	42.34004	-122.87865	Hazardous Waste
Lithia Toyota Of Medford	110012257823	1420 N RIVERSIDE	Medford	OR	97501-4623	42.340501	-122.877306	Hazardous Waste
Alba Village	110071162704	101 ROSSANLEY DRIVE	Medford	OR	97501	42.34056	-122.8827	Brownfields
Cooper-Davis LLC	110024436270	688 ROSSANLEY DR STE 3	Medford	OR	97501-6613	42.34068	-122.89768	Hazardous Waste
Gerald W. Burns	110045422333	1744 E. MCANDREWS ROAD	Medford	OR	97504	42.34112	-122.85958	Hazardous Waste
Ritchie Brothers Trucking	110071093600	N. CENTRAL AVENUE	Medford	OR	97501	42.3415	-122.887	Water Discharge
M And M Automotive Paint Supply	110070225280	1513 N RIVERSIDE AVE	Medford	OR	97501	42.34169	-122.87805	Hazardous Waste

Name	Reg_ID	Address	City	State	Zip Code	Latitude	Longitude	Program Type
Picture People The	110004801974	1600 NORTH RIVERSIDE SUITE 2035	Medford	OR	97501-4665	42.34198	-122.87825	Hazardous Waste
Cascade Electric Motor Service	110004801929	1225 COURT STREET	Medford	OR	97501-1603	42.34219	-122.88049	Hazardous Waste
Rogue Coach Conversions	110045427356	682 BRIAN WY	Medford	OR	97501	42.34227	-122.89822	Hazardous Waste
Northgate Apartments	110071404998	101 ROSSANLEY DRIVE	Medford	OR	97501	42.342392	-122.882207	Water Discharge
Northgate Office Park - Phase 2	110071399675	100 ROSSANLEY DR	Medford	OR	97501	42.343131	-122.884698	Water Discharge
Darigold Medford Site	110002149595	1300 COURT ST	Medford	OR	97501	42.343138	-122.879891	Toxic Release
Macy's #385 - Medford Rogue Valley	110056333908	1800 N RIVERSIDE DR	Medford	OR	97501	42.3432	-122.87909	Hazardous Waste
Aspen Dental	110070122542	1759 N RIVERSIDE AVE	Medford	OR	97501-4628	42.343213	-122.879096	Hazardous Waste
New Stage Collision	110004799503	1314 COURT ST	Medford	OR	97501	42.34343	-122.88051	Hazardous Waste
Colvin Oil 1 LLC/Gp Energy Dba Medford #2	110014071397	1325 COURT ST	Medford	OR	97501	42.34354	-122.88053	Air Pollution
Cosmoprof #8825	110071139761	1390 BIDDLE RD #102	Medford	OR	97504	42.34359	-122.87349	Hazardous Waste

Name	Reg_ID	Address	City	State	Zip Code	Latitude	Longitude	Program Type
Northgate Office Park	110070227684	1900 N PACIFIC HIGHWAY	Medford	OR	97501	42.3447	-122.8841	Water Discharge
Mountain Top Village Phase 1 At Vista Pointe Pud	110070625085	E SIDE OF THE 425 FEET OF BORDEAUX AVE.	Medford	OR	97504	42.3449	-122.8076	Water Discharge
Gordon Trucking, Inc.	110004789257	1923 SAGE RD	Medford	OR	97501	42.34503	-122.89623	Hazardous Waste
Eastman Kodak Company	110004814782	2065 LARS WAY	Medford	OR	97501	42.34532	-122.89928	Hazardous Waste
Linder Fabricating And Industrial Coatin	110045429719	2074 LARS WAY	Medford	OR	97501	42.34554	-122.89927	Hazardous Waste
Medford International Holdings	110002058709	1901 OR-99	Medford	OR	97501	42.34588	-122.88292	Hazardous Waste
Medford Radiator Service	110045422538	999 CREWS RD	Medford	OR	97501	42.34636	-122.88157	Hazardous Waste
Shell Service Station 120830	110004805845	1968 CRATER LAKE HWY	Medford	OR	97504-4161	42.34651	-122.88053	Biennial Reporting
Rogue Valley Exxon	110004801938	1901 CRATER LAKE HWY	Medford	OR	97501	42.34653	-122.8808	Hazardous Waste
Pat S Body & Paint Inc	110004795384	1927 ELM AVE	Medford	OR	97501	42.34683	-122.88573	Hazardous Waste
Target Store T0613	110022818272	2000 CRATER LAKE HWY	Medford	OR	97504	42.347602	-122.878266	Biennial Reporting
Ovs Oregon Vineyard Supply Co	110069459099	640A MASON WAY	Medford	OR	97501-1340	42.34819	-122.89641	Hazardous Waste

Name	Reg_ID	Address	City	State	Zip Code	Latitude	Longitude	Program Type
United Parcel Service, Inc.	110004791164	901 MASON WAY	Medford	OR	97501	42.3482	-122.90194	Hazardous Waste
First Student, Inc. #20237 - Medford	110069569773	813 MASON WAY UNIT 2	Medford	OR	97501	42.3482	-122.90168	Water Discharge
Poly Carb Inc	110044947047	813 MASON WAY	Medford	OR	97501	42.3482	-122.90168	Hazardous Waste
Mike Linder Motor Sports	110045429693	598 MASON WAY	Medford	OR	97501	42.3482	-122.89714	Hazardous Waste
Willamette Valley Company	110004815772	736 MASON WAY	Medford	OR	97501	42.348202	-122.899683	Hazardous Waste
Hi Tech Of Oregon Incorporated	110014075641	1701 PANORAMA DRIVE	Medford	OR	97504-5638	42.34835	-122.81391	Hazardous Waste
Roseburg Forest Products Medford	110000488561	2685 N PACIFIC HWY	Medford	OR	97501	42.34844	-122.89048	Air Pollution
Bartholomew Painting, Inc.	110045420576	1705 PANORAMA DR	Medford	OR	97504	42.3488	-122.81163	Hazardous Waste
Chevron U.S.A. Inc.	110014221449	2231 BIDDLE ROAD	Medford	OR	97504	42.34903	-122.874	Hazardous Waste
Larry Redler	110031386266	2250 CRATER LAKE HWY	Medford	OR	97504-4830	42.349142	-122.878051	Hazardous Waste
Safety-Kleen Systems, Inc	110037439698	2190 JOSEPH ST	Medford	OR	97501-1337	42.3496	-122.90201	Hazardous Waste
Panorama Heights	110069576211	CADET DRIVE	Medford	OR	97504	42.34975	-122.81783	Water Discharge

Name	Reg_ID	Address	City	State	Zip Code	Latitude	Longitude	Program Type
Mike Hurt Construction	110011004000	525 BERRYDALE AVE	Medford	OR	97501-1619	42.34982	-122.88758	Water Discharge
Weatherly Court	110070230391	2184 POPLAR DRIVE	Medford	OR	97504	42.349846	-122.869451	Water Discharge
United States Postal Service	110045430388	2195 SAGE RD	Medford	OR	97501-1357	42.34997	-122.89922	Hazardous Waste
Medford Fire Station #4	110069581679	2208 TABLE ROCK ROAD	Medford	OR	97501	42.349999	-122.884327	Water Discharge
Cds Publications, Inc.	110039076335	2205 JOSEPH ST	Medford	OR	97501-1344	42.35061	-122.90201	Hazardous Waste
Annapolis Drive Estates	110069584364	ANNAPOLIS DRIVE: NORMIL TERR	Medford	OR	97504	42.35066	-122.81783	Water Discharge
Penske Truck Leasing Co Lp	110004815718	2208 JOSEPH ST	Medford	OR	97501	42.35068	-122.90201	Hazardous Waste
Willig Freight Lines, Inc.	110004796178	100 WILLIG WAY	Medford	OR	97501	42.35229	-122.89717	Hazardous Waste
Rogue Regency South Lot	110070628017	ROGUE REGENCY SOUTH LOT	2276 BIDDLE ROAD (OLD BID	OR	97504	42.3525	-122.8745	Water Discharge
Withams Truck Stop	110004781228	2343 BIDDLE RD	Medford	OR	97504	42.352653	-122.87627	Hazardous Waste
G.I. Trucking Company	110037742618	2309 SAGE RD	Medford	OR	97501-1364	42.352682	-122.898363	Water Discharge

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Fred Meyer Inc Medford	110004821006	2424 CRATER LAKE HWY	Medford	OR	975044103	42.35301	-122.87189	Hazardous Waste
Estes West #243 Med/Medford	110071318877	2309 SAGE RD	Medford	OR	97501	42.353159	-122.897352	Hazardous Waste
Air Liquide America Corp	110004781175	3100 N PACIFIC HWY	Medford	OR	97501	42.353474	-122.898836	Hazardous Waste
Prescott Park	110069566035	ROXY ANN ROAD	Medford	OR	97504	42.3538	-122.7861	Water Discharge
Roberts Motor Inc Of Oregon	110004781193	3230 N PACIFIC HWY	Medford	OR	97501	42.3549	-122.8985	Hazardous Waste
Sherwin Williams #8157	110039076567	2560 CRATER LAKE HWY #A	Medford	OR	97504-4172	42.35532	-122.86815	Hazardous Waste
New Millennium Lighting Signs & Recyc	110006855260	2584 BULLOCK RD UNIT 14	Medford	OR	97504	42.35541	-122.87049	Hazardous Waste
Crater Lake Ford Lincoln-Mercury	110004791459	2611 BIDDLE RD	Medford	OR	97504	42.35554	-122.87553	Hazardous Waste
Lithia Body & Paint	110004813113	2665 BULLOCK RD	Medford	OR	97504	42.35563	-122.87041	Hazardous Waste
Fish The Paint Pro	110045427187	2686 CRATER LAKE HWY # 1	Medford	OR	97504-5008	42.35603	-122.86703	Hazardous Waste
Peterson Machinery Co‎	110004783636	2600 BIDDLE RD	Medford	OR	97504	42.35609	-122.87553	Hazardous Waste
K & B Autocomplex	110045561502	2690 CRATER LAKE HWY	Medford	OR	97504-4790	42.3564	-122.86641	Hazardous Waste

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Hyster Sales Co	110004784582	2720 BIDDLE RD	Medford	OR	97504	42.35668	-122.87553	Hazardous Waste
Mckenzie Village Subdivision	110070528300	MIDWAY ROAD	Medford	OR	97501	42.35672	-122.88234	Water Discharge
Nansen Industrial Building	110071096525	1800 KNUTSEN AVE	Medford	OR	97504	42.3571	-122.8713	Water Discharge
Ici Dulux Paint‎	110004772425	2720 CRATER LAKE HWY	Medford	OR	97504-4792	42.35715	-122.86518	Hazardous Waste
In Office Refinishing Of Oregon Inc	110004790566	1150 KNUTSEN	Medford	OR	97504	42.35746	-122.87274	Hazardous Waste
Medford Battery	110004781184	2770 CRATER LAKE HWY	Medford	OR	97504	42.35756	-122.8645	Hazardous Waste
Daves Import Svc Inc	110045419891	1903 SKY PARK DR #105	Medford	OR	97504-4735	42.35762	-122.86057	Hazardous Waste
Kdrv Tv	110004794731	1090 KNUTSON AVE	Medford	OR	97504	42.35775	-122.87384	Hazardous Waste
Empire Lockers Mini Storage	110070228771	2878 NANSEN DRIVE	Medford	OR	97504	42.35825	-122.87201	Water Discharge
Howard View Subdivision	110070627889	285 MACE ROAD	Medford	OR	97501	42.35828	-122.89084	Water Discharge
Creekside Village Apartments	110071094235	1791 SKYPARK DR	Medford	OR	97501	42.3585	-122.8569	Water Discharge
Medford School District 549c	110004795071	2801 MERRIMAN ROAD	Medford	OR	97501-1271	42.35877	-122.8901	Hazardous Waste

Name	Reg_ID	Address	City	State	Zip Code	Latitude	Longitude	Program Type
Bear Creek Landing Subdivision	110071404903	2825 CUMMINGS LANE	Medford	OR	97501	42.358851	-122.882778	Water Discharge
Oregon Tire	110012256744	2850 CRATER LAKE HWY	Medford	OR	97504	42.35895	-122.86217	Hazardous Waste
Discount Tire - Medford	110069570422	2865 CRATER LAKE HIGHWAY	Medford	OR	97504	42.359022	-122.862056	Water Discharge
Table Rock Gardens	110071405497	2928 TABLE ROCK	Medford	OR	97501	42.359371	-122.884966	Water Discharge
General Machine Works	110004800476	2990 BIDDLE RD	Medford	OR	97504	42.35994	-122.87552	Hazardous Waste
Triple A R.V. Center, Inc.	110045423074	938 CHEVY WAY	Medford	OR	97504-4100	42.36007	-122.87755	Hazardous Waste
Delta Waters Mini-Storage	110071096970	1884 DELTA WATERS ROAD	Medford	OR	97504	42.36027	-122.85784	Water Discharge
Pennzoil	110045429817	3012 CRATER LAKE HWY.	Medford	OR	97504	42.36065	-122.85937	Hazardous Waste
1 2 3 Sticker	110045422299	922 CHEVY WAY	Medford	OR	97504-4154	42.3607	-122.87881	Hazardous Waste
Iah Oregon LLC	110070559049	910 CHEVY WAY	Medford	OR	97504	42.36084	-122.87899	Hazardous Waste
Airport Chevrolet	110004790780	3001 BIDDLE ROAD	Medford	OR	97504-4118	42.36127	-122.87551	Hazardous Waste
Southern Oregon Subaru Expansion	110071095337	3101 BIDDLE RD	Medford	OR	97504	42.3615	-122.8769	Water Discharge

Name	Reg_ID	Address	City	State	Zip Code	Latitude	Longitude	Program Type
Crater Lake Motors Body Shop	110004819251	943 AUTOMATION WAY SUITE K	Medford	OR	97504-4039	42.36155	-122.87819	Hazardous Waste
Maaco Auto Painting & Bodyworks	110004819750	943 AUTOMATION WAY	Medford	OR	97504	42.36155	-122.87819	Hazardous Waste
Rogue Valley Microdevices Inc	110054858285	943 AUTOMATION WAY STE F	Medford	OR	97504-4192	42.36155	-122.87819	Hazardous Waste
Safeway Store No 1643	110062923083	3169 CRATER LAKE HWY	Medford	OR	97504	42.36155	-122.85791	Hazardous Waste
USDOI BLM Medford District Office	110004776396	3040 BIDDLE RD	Medford	OR	97504	42.36168	-122.87549	Hazardous Waste
Southern Oregon Mitsubishi	110004817191	3103 BIDDLE RD	Medford	OR	97504	42.36222	-122.87545	Hazardous Waste
Oregon Dept Of Environmental Quality	110006430861	3282 BURSELL ST	CENTRAL POINT	OR	97501	42.363828	-122.90287	Hazardous Waste
Sanitech Commercial Building Maintenance	110070231319	687 GILMAN ROAD	Medford	OR	97504	42.36461	-122.88129	Water Discharge
Federal Express Corporation	110004796720	3600 TERMINAL SPUR ROAD	Medford	OR	97504	42.364979	-122.872528	Hazardous Waste
FedEx	110069560086	3600 TERMINAL SPUR RD	Medford	OR	97504-3101	42.364979	-122.872528	Water Discharge
Rogue Valley International Airport	110070385394	3570 FIRE STATION SPUR	Medford	OR	97504	42.365514	-122.872593	Water Discharge
Horizon Air Industries-Medford	110069459071	3590 FIRE STATION SPUR STE 102	Medford	OR	97504	42.36592	-122.8728	Hazardous Waste

Name	Reg_ID	Address	City	State	Zip Code	Latitude	Longitude	Program Type
Navigator's Landing Office	110070267096	841 O'HARE PARKWAY	Medford	OR	97501	42.36599	-122.88006	Water Discharge
Springhill Suites	110071093587	3519 HEATHROW WAY	Medford	OR	97504	42.3666	-122.8793	Water Discharge
Snow Removal Equipment (Sre) Building	110069596360	TERMINAL LP PKWY, ROGUE VLY INT'L AIRPOR	Medford	OR	97504	42.36735	-122.87402	Water Discharge
View Crest Subdivision	110071096452	794 PITTVIEW AVENUE	CENTRAL POINT	OR	97502	42.3678	-122.9013	Water Discharge
Horizon Air Industries Maintenance	110043417193	3650 BIDDLE RD, BOX 9	Medford	OR	97501-4155	42.368518	-122.87788	Hazardous Waste
Jet Center Mfr	110045422912	3650 BIDDLE RD	Medford	OR	97504-4155	42.368518	-122.87788	Hazardous Waste
New Airport Tower Medford Airport	110006855108	3650 BIDDLE ROAD	Medford	OR	97504-4155	42.368518	-122.87788	Hazardous Waste
USDOT FAA Medford Ssc Office	110004776886	3650 BIDDLE ROAD	Medford	OR	97504-4155	42.368518	-122.87788	Hazardous Waste
My Place Hotel	110071096645	580 AIRPORT ROAD	Medford	OR	97504	42.3692	-122.8793	Water Discharge
Mercy Flights	110045420852	2020 MILLIGAN WAY	Medford	OR	97504	42.37066	-122.87765	Hazardous Waste
Million Air	110070379419	2040 MILLIGAN WAY	Medford	OR	97504	42.37083	-122.8783	Water Discharge
Erickson Incorporated	110070491000	2080 MILLIGAN WAY	Medford	OR	97504	42.37247	-122.88033	Hazardous Waste

Name	Reg_ID	Address	City	State	Zip Code	Latitude	Longitude	Program Type
Project Murphy	110071404505	601 FEDERAL WAY	CENTRAL POINT	OR	97502	42.372708	-122.888077	Water Discharge
Xpo, Inc. - Umo	110071424439	375 ICE CREAM DR	CENTRAL POINT	OR	97502	42.37423	-122.891487	Hazardous Waste
Knife River Materials Hamrick	110001654941	3959 HAMRICK RD	CENTRAL POINT	OR	97502	42.374423	-122.894644	Hazardous Waste
Costco Wholesale - Central Point	110070228721	3075 HAMRICK ROAD	CENTRAL POINT	OR	97502	42.37538	-122.88741	Water Discharge
Costco Wholesale No 1287	110070207997	3075 HAMRICK RD	CENTRAL POINT	OR	97502	42.37538	-122.88741	Hazardous Waste
Erickson, Inc.	110070122564	4002 CIRRUS DR	Medford	OR	97504	42.37619	-122.88156	Hazardous Waste
ODOT Hwy Division Central Point	110014275667	4141 HAMRICK ROAD	CENTRAL POINT	OR	97502-2812	42.37703	-122.89288	Hazardous Waste
Medford Air Tanker Base	110071139808	600 NEBULA WAY	Medford	OR	97504	42.37712	-122.87977	Biennial Reporting
Erickson Incorporated	110004812365	601 NEBULA WAY	Medford	OR	97504-4784	42.37722	-122.88154	Hazardous Waste
Premier Car Wash	110071096873	4245 TABLE ROCK RD.	CENTRAL POINT	OR	97502	42.3778	-122.887	Water Discharge
Tail Light	110071095068	4801 BIDDLE ROAD	CENTRAL POINT	OR	97504	42.3782	-122.8907	Water Discharge
Steve Green-Aircraft Painting - Jet Ctr.	110039076451	5000 CIRRUS DR	Medford	OR	97504	42.37917	-122.88038	Hazardous Waste

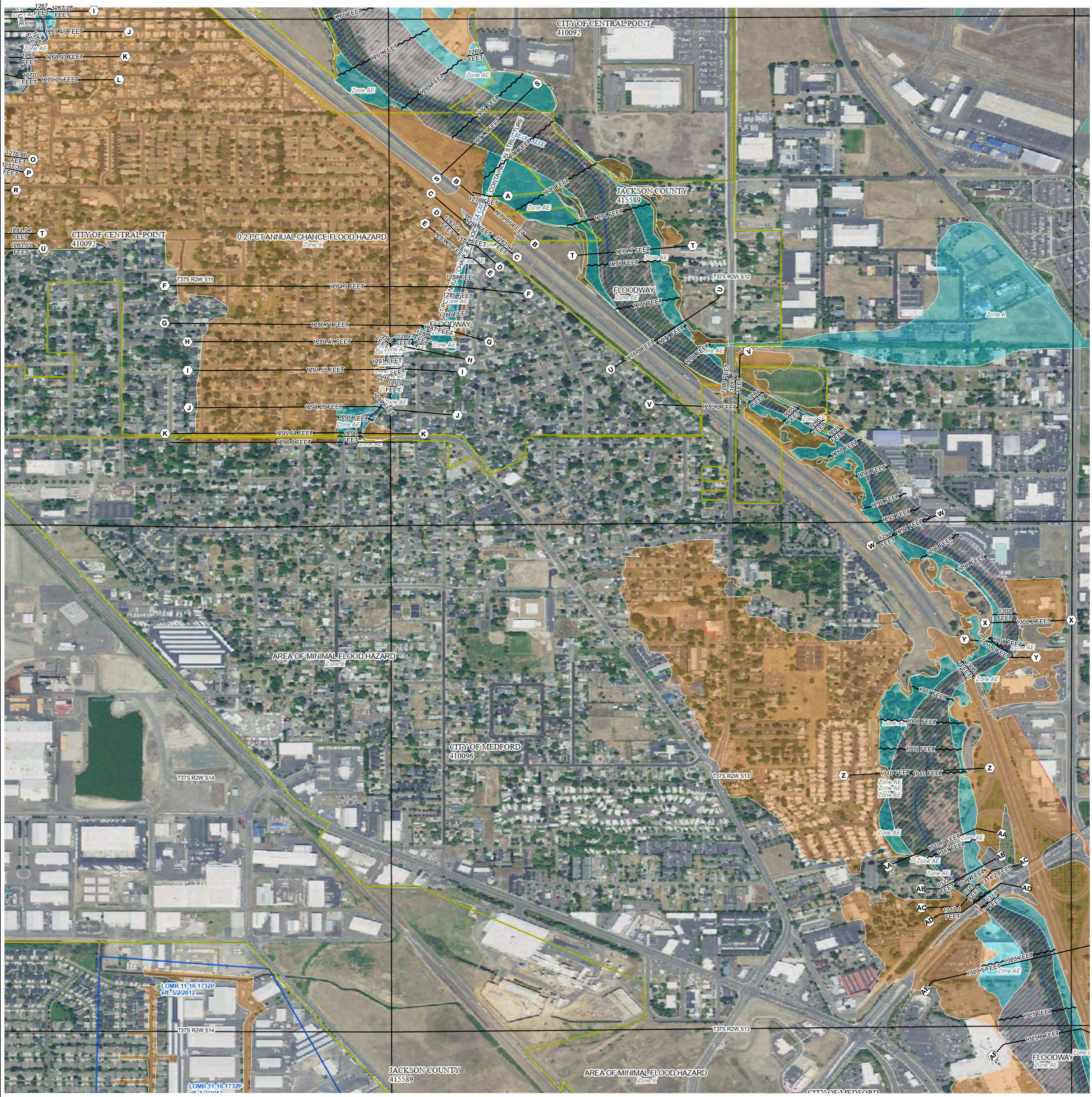
Name	Reg_ID	Address	City	State	Zip Code	Latitude	Longitude	Program Type
Dry Creek Landfill And Energy Project	110043786695	6260 DRY CREEK RD	EAGLE POINT	OR	97524	42.380897	-122.774588	Air Pollution
UAP Northwest Medford	110010754086	17 S STAGE RD	Medford	OR	97501	42.29305	-122.84286	Hazardous Waste
Omnicare Of Medford No 48328	110070207998	259 E BARNETT RD, NUMBER L	Medford	OR	97501	42.315762	-122.860072	Hazardous Waste
Rogue Valley Oil Co	110001655174	1000 SOUTH CENTRAL AVENUE	Medford	OR	97501-7824	42.31709	-122.86419	Hazardous Waste
Shell Chemical Lp Spill Site	110022530073	LAT 42.3335, LONG -122.8835	Medford	OR	97501	42.3335	-122.8835	Hazardous Waste
Timber Products Co. Limited Partnership	110000488589	25 E. MCANDREWS	Medford	OR	97501-1640	42.339181	-122.887874	Hazardous Waste
Providence Medford Medical Center	110004784975	1111 CRATER LAKE AVENUE	Medford	OR	97504-6241	42.33968	-122.86106	Hazardous Waste
Shell Service Station 120830	110004805845	1968 CRATER LAKE HWY	Medford	OR	97504-4161	42.34651	-122.88053	Hazardous Waste
Target Store T0613	110022818272	2000 CRATER LAKE HWY	Medford	OR	97504	42.347602	-122.878266	Hazardous Waste
Roseburg Forest Products Medford	110000488561	2685 N PACIFIC HWY	Medford	OR	97501	42.34844	-122.89048	Hazardous Waste
Medford Air Tanker Base	110071139808	600 NEBULA WAY	Medford	OR	97504	42.37712	-122.87977	Hazardous Waste
Journey Church	110001657564	2399 OR-99	Medford	OR	97501	42.303283	-122.84962	Toxic Release

Name	Reg_ID	Address	City	State	Zip Code	Latitude	Longitude	Program Type
Kogap Manufacturing Site	110002149602	2080 OR-99	Medford	OR	97501	42.306162	-122.856114	Toxic Release
Tree Top	110001655147	690 S GRAPE ST	Medford	OR	97501	42.31819	-122.86861	Toxic Release
Rogue Valley Circuit Site	110002149611	1111 N CENTRAL AVE	Medford	OR	97501	42.33618	-122.88137	Toxic Release
Medford International Holdings	110002058709	1901 OR-99	Medford	OR	97501	42.34588	-122.88292	Toxic Release
Knife River Materials Hamrick	110001654941	3959 HAMRICK RD	CENTRAL POINT	OR	97502	42.374423	-122.894644	Toxic Release
Timber Products Co. Limited Partnership	110000488589	25 E. MCANDREWS	Medford	OR	97501-1640	42.339181	-122.887874	Toxic Release
Roseburg Forest Products Medford	110000488561	2685 N PACIFIC HWY	Medford	OR	97501	42.34844	-122.89048	Toxic Release
Medford Air Tanker Base	110071139808	600 NEBULA WAY	Medford	OR	97504	42.37712	-122.87977	Toxic Release
Tucker Sno-Cat	110004779366	2872 S PACIFIC HWY	Medford	OR	97501	42.2966	-122.8439	Water Discharge
Tree Top	110001655147	690 S GRAPE ST	Medford	OR	97501	42.31819	-122.86861	Water Discharge
Medford Fabrication	110004802027	1109 COURT STREET	Medford	OR	97501-5729	42.33867	-122.88048	Water Discharge
Timber Products Co. Limited Partnership	110000488589	25 E. MCANDREWS	Medford	OR	97501-1640	42.339181	-122.887874	Water Discharge

Name	Reg_ID	Address	City	State	Zip Code	Latitude	Longitude	Program Type
Darigold Medford Site	110002149595	1300 COURT ST	Medford	OR	97501	42.343138	-122.879891	Water Discharge
Gordon Trucking, Inc.	110004789257	1923 SAGE RD	Medford	OR	97501	42.34503	-122.89623	Water Discharge
Roseburg Forest Products Medford	110000488561	2685 N PACIFIC HWY	Medford	OR	97501	42.34844	-122.89048	Water Discharge
Knife River Materials Hamrick	110001654941	3959 HAMRICK RD	CENTRAL POINT	OR	97502	42.374423	-122.894644	Water Discharge
Dry Creek Landfill And Energy Project	110043786695	6260 DRY CREEK RD	EAGLE POINT	OR	97524	42.380897	-122.774588	Water Discharge

Appendix D: FEMA FIRM Floodplain Panels

122°54'22.98"W 42°22'36.63"N



122°52'29.62"W 42°20'30.95"N

FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR DRAFT FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

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For community and countywide map dates, refer to the Flood Insurance Study Report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Basemap information shown on this FIRM was provided in digital format by USDA, Farm Service Agency (FSA). This information was derived from NAIP, dated April 11, 2018.

This map was exported from FEMA's National Flood Hazard Layer (NFHL) on **12/20/2024 8:18 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time. For additional information, please see the Flood Hazard Mapping Updates Overview Fact Sheet at https://www.fema.gov/media-library/assets/documents/118418

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SCALE

Map Projection:
GCS, Geodetic Reference System 1980;
Vertical Datum: NAVD88
For information about the specific vertical datum for elevation features, datum conversions, or vertical monuments used to create this map, please see the Flood Insurance Study (FIS) Report for your community at https://msc.fema.gov

N

1 inch = 500 feet 1:6,000

0 250 500 1,000 1,500 2,000 Feet

0 50 100 200 300 400 Meters

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

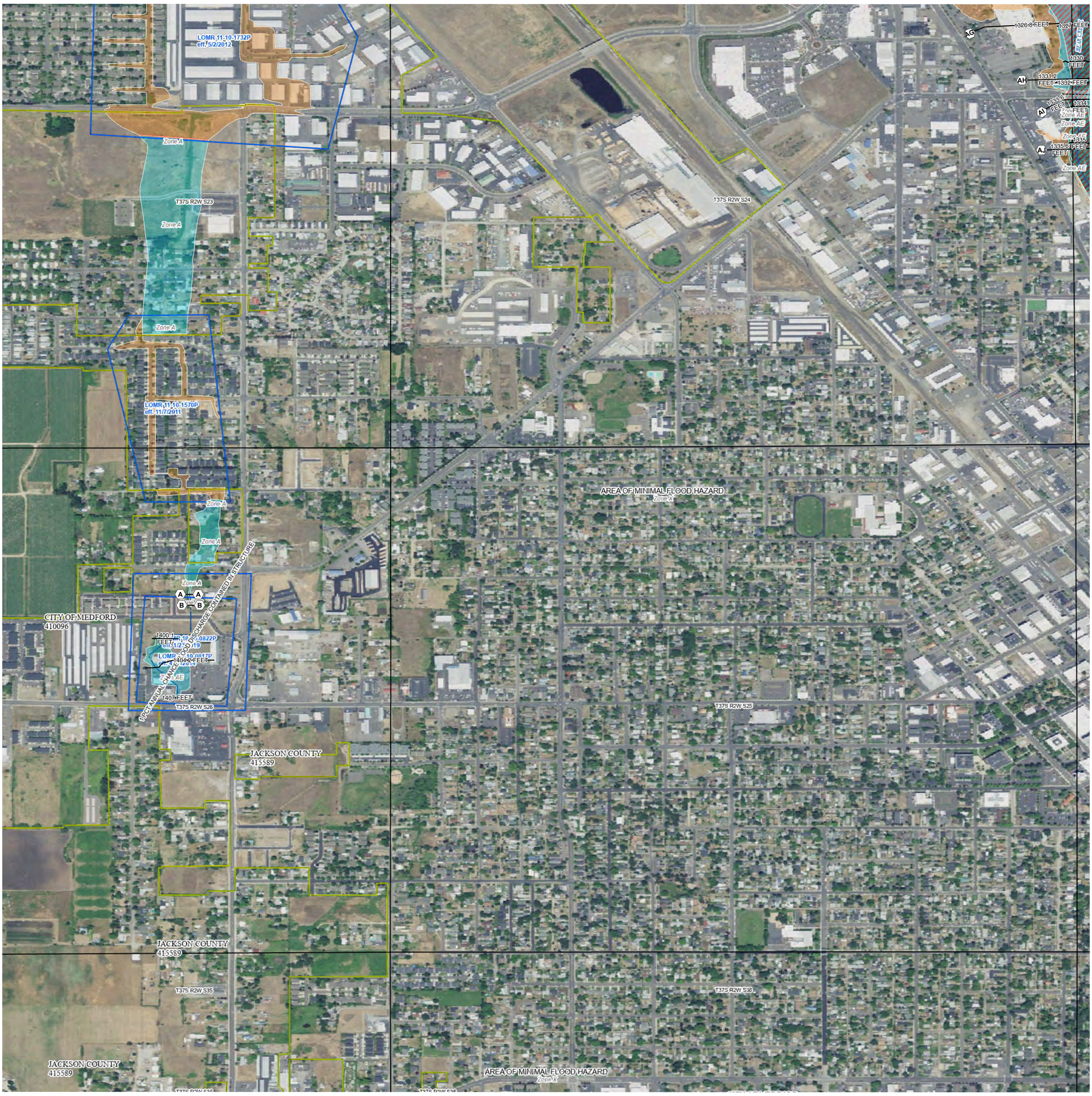
PANEL **1957** OF **2327**

Panel Contains:

COMMUNITY	NUMBER	PANEL
JACKSON COUNTY	415589	1957
CITY OF CENTRAL POINT	410092	1957
CITY OF MEDFORD	410096	1957

MAP NUMBER
41029C1957F
EFFECTIVE DATE
May 03, 2011

122°54'22.98"W 42°20'44.13"N



122°52'29.62"W 42°18'38.45"N

FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR DRAFT FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

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SCALE

Map Projection:
GCS, Geodetic Reference System 1980;
Vertical Datum: NAVD88

For information about the specific vertical datum for elevation features, datum conversions, or vertical monuments used to create this map, please see the Flood Insurance Study (FIS) Report for your community at https://msc.fema.gov

N

1 inch = 500 feet 1:6,000

0 250 500 1,000 1,500 2,000 Feet

0 50 100 200 300 400 Meters

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

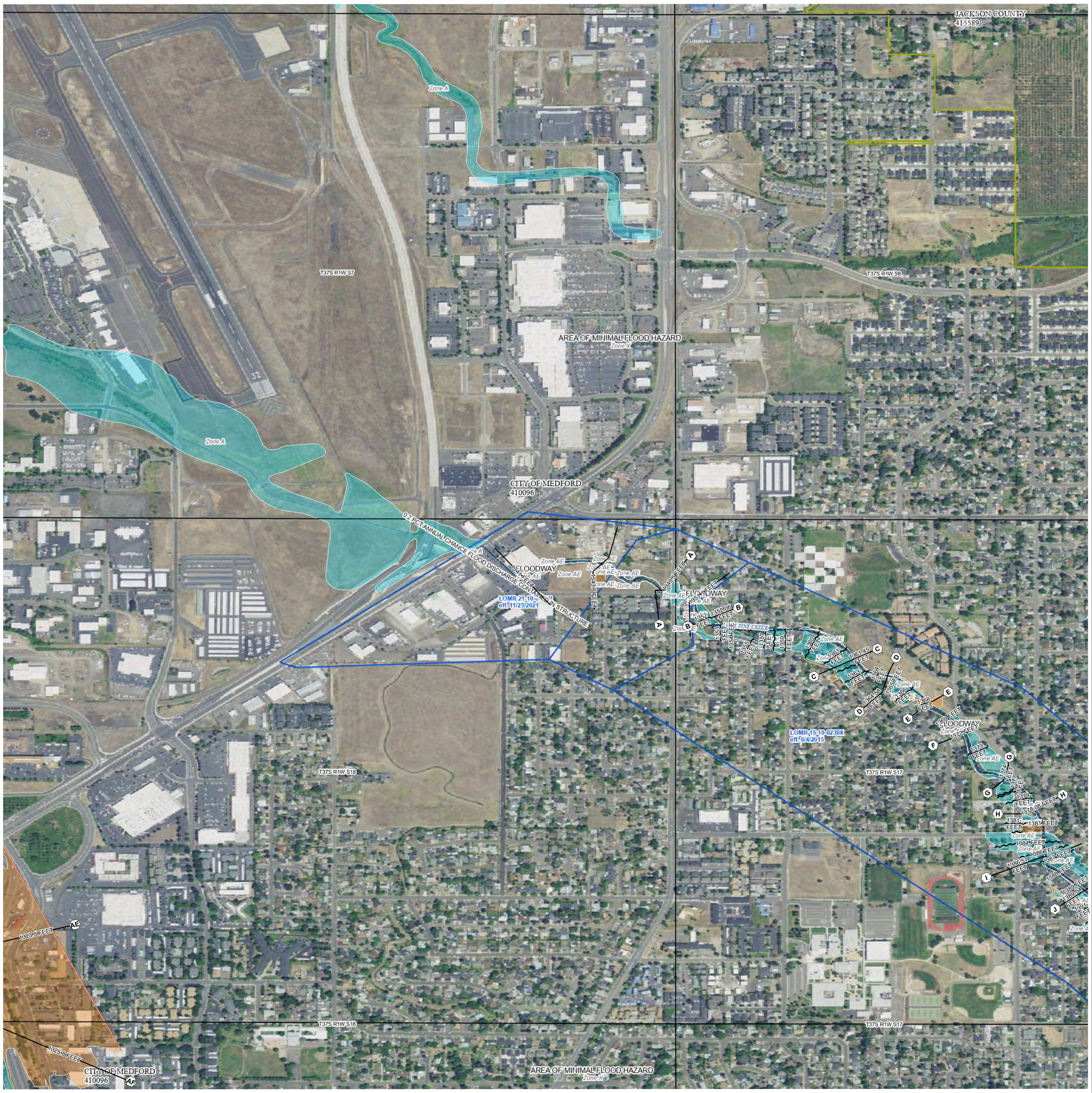
PANEL **1959** OF **2327**

Panel Contains:

COMMUNITY	NUMBER	PANEL
JACKSON COUNTY	415589	1959
CITY OF MEDFORD	410096	1959

MAP NUMBER
41029C1959F
EFFECTIVE DATE
May 03, 2011

122°52'30.48"W 42°22'36.63"N



122°50'37.12"W 42°20'30.95"N

FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR DRAFT FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS

- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES

- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

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For community and countywide map dates, refer to the Flood Insurance Study Report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Basemap information shown on this FIRM was provided in digital format by USDA, Farm Service Agency (FSA). This information was derived from NAIP, dated April 11, 2018.

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SCALE

Map Projection:
GCS, Geodetic Reference System 1980;
Vertical Datum: NAVD88
For information about the specific vertical datum for elevation features, datum conversions, or vertical monuments used to create this map, please see the Flood Insurance Study (FIS) Report for your community at https://msc.fema.gov

N

1 inch = 500 feet 1:6,000

0 250 500 1,000 1,500 2,000 Feet

0 50 100 200 300 400 Meters

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

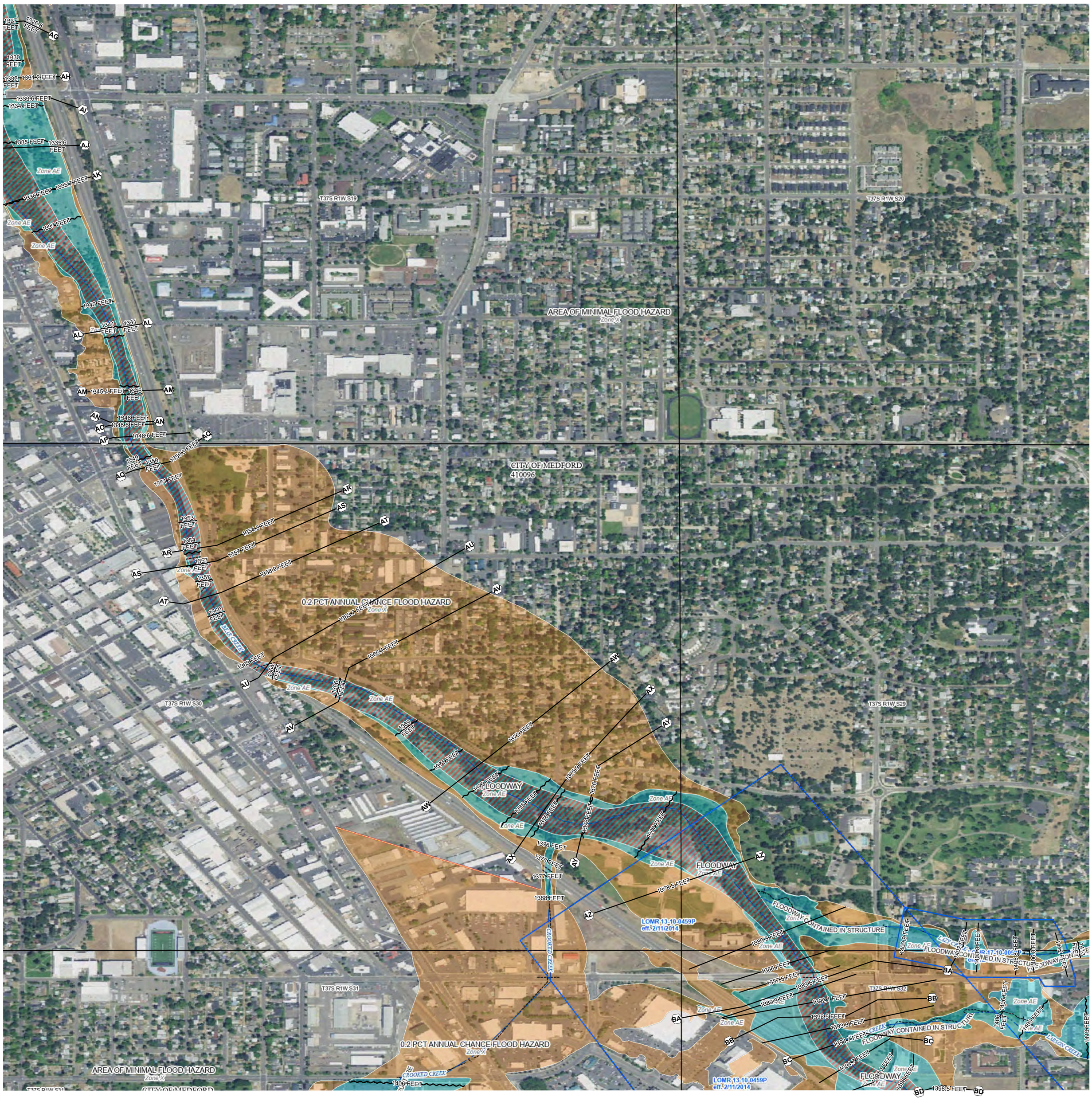
PANEL **1976** OF **2327**

Panel Contains:

COMMUNITY	NUMBER	PANEL
JACKSON COUNTY	415589	1976
CITY OF MEDFORD	410096	1976

MAP NUMBER
41029C1976F
EFFECTIVE DATE
May 03, 2011

122°52'30.48"W 42°20'44.13"N



122°50'37.12"W 42°18'38.45"N

FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR DRAFT FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS

- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES

- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

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For community and countywide map dates, refer to the Flood Insurance Study Report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Basemap information shown on this FIRM was provided in digital format by USDA, Farm Service Agency (FSA). This information was derived from NAIP, dated April 11, 2018.

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SCALE

Map Projection:
GCS, Geodetic Reference System 1980;
Vertical Datum: NAVD88

For information about the specific vertical datum for elevation features, datum conversions, or vertical monuments used to create this map, please see the Flood Insurance Study (FIS) Report for your community at https://msc.fema.gov

N

1 inch = 500 feet 1:6,000

0 250 500 1,000 1,500 2,000 Feet

0 50 100 200 300 400 Meters

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

PANEL **1978** OF **2327**

Panel Contains:

COMMUNITY	NUMBER	PANEL
CITY OF MEDFORD	410096	1978

MAP NUMBER
41029C1978F
EFFECTIVE DATE
May 03, 2011

122°48'45.48"W 42°22'36.66"N

122°46'52.12"W 42°20'30.98"N

FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR DRAFT FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- 8 Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

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SCALE

Map Projection:
GCS, Geodetic Reference System 1980;
Vertical Datum: No elevation features on this FIRM
For information about the specific vertical datum for elevation features, datum conversions, or vertical monuments used to create this map, please see the Flood Insurance Study (FIS) Report for your community at https://msc.fema.gov

N

1 inch = 500 feet 1:6,000

0 250 500 1,000 1,500 2,000 Feet

0 50 100 200 300 400 Meters

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

PANEL **1981** OF **2327**

Panel Contains:

COMMUNITY	NUMBER	PANEL
JACKSON COUNTY	415589	1981
CITY OF MEDFORD	410096	1981

MAP NUMBER
41029C1981F
EFFECTIVE DATE
May 03, 2011

122°52'30.48"W 42°18'51.63"N

122°50'37.12"W 42°16'45.95"N

FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR DRAFT FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS

- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES

- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at https://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates, refer to the Flood Insurance Study Report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Basemap information shown on this FIRM was provided in digital format by USDA, Farm Service Agency (FSA). This information was derived from NAIP, dated April 11, 2018.

This map was exported from FEMA's National Flood Hazard Layer (NFHL) on **12/20/2024 8:24 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time. For additional information, please see the Flood Hazard Mapping Updates Overview Fact Sheet at https://www.fema.gov/media-library/assets/documents/118418

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards. This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date.

SCALE

Map Projection:
GCS, Geodetic Reference System 1980;
Vertical Datum: NAVD88
For information about the specific vertical datum for elevation features, datum conversions, or vertical monuments used to create this map, please see the Flood Insurance Study (FIS) Report for your community at https://msc.fema.gov

N

1 inch = 500 feet 1:6,000

0 250 500 1,000 1,500 2,000 Feet

0 50 100 200 300 400 Meters

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE RATE MAP

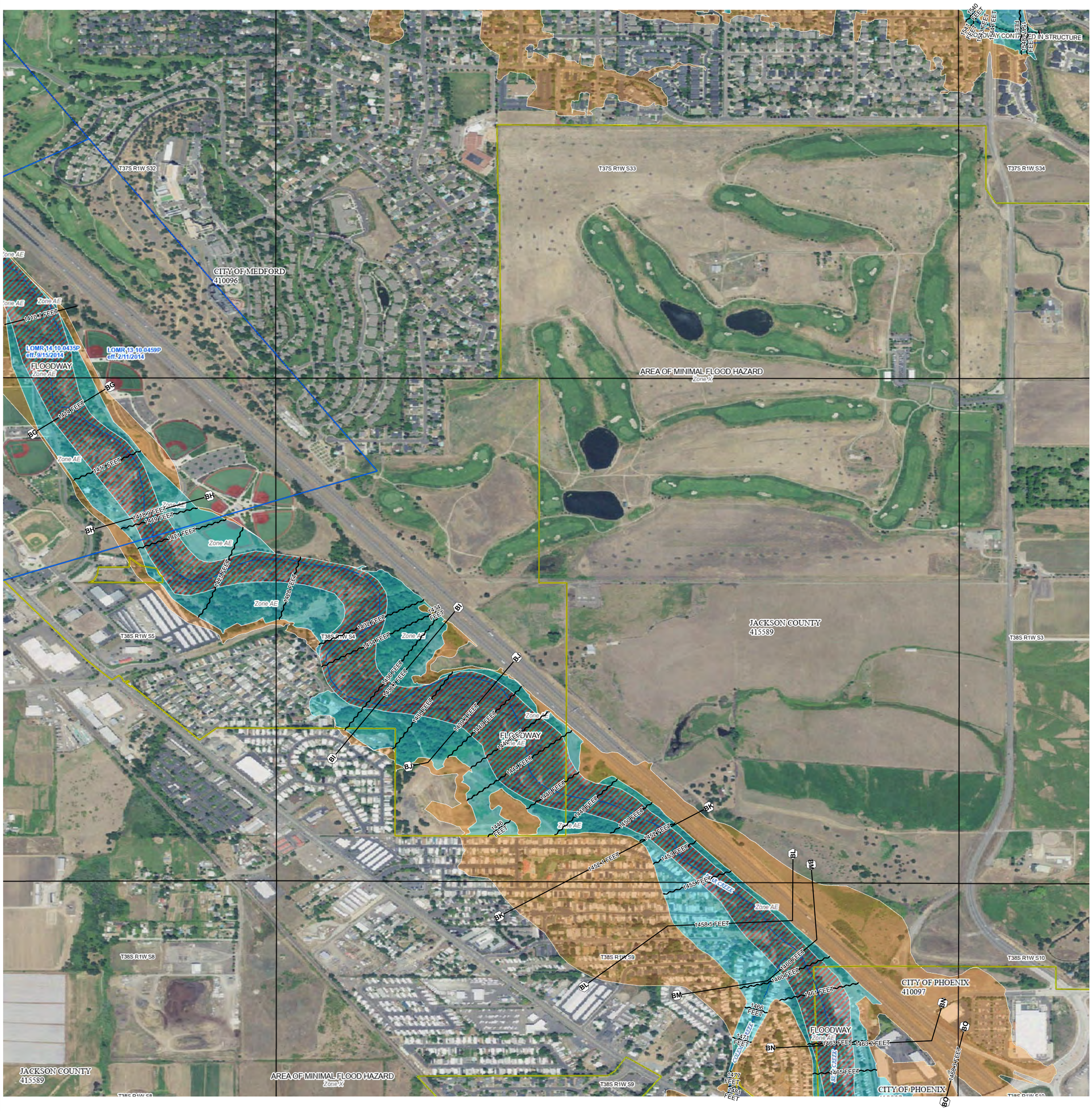
PANEL **1986** OF **2327**

Panel Contains:

COMMUNITY	NUMBER	PANEL
JACKSON COUNTY	415589	1986
CITY OF MEDFORD	410096	1986

MAP NUMBER
41029C1986F
EFFECTIVE DATE
May 03, 2011

122°50'37.98"W 42°18'51.66"N



122°48'44.62"W 42°16'45.98"N

FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR DRAFT FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee See Notes *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS

- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES

- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary

NOTES TO USERS

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This map was exported from FEMA's National Flood Hazard Layer (NFHL) on **12/20/2024 8:25 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time. For additional information, please see the Flood Hazard Mapping Updates Overview Fact Sheet at https://www.fema.gov/media-library/assets/documents/118418

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SCALE

Map Projection:
GCS, Geodetic Reference System 1980;
Vertical Datum: NAVD88
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N

1 inch = 500 feet 1:6,000

0 250 500 1,000 1,500 2,000 Feet

0 50 100 200 300 400 Meters

NATIONAL FLOOD INSURANCE PROGRAM

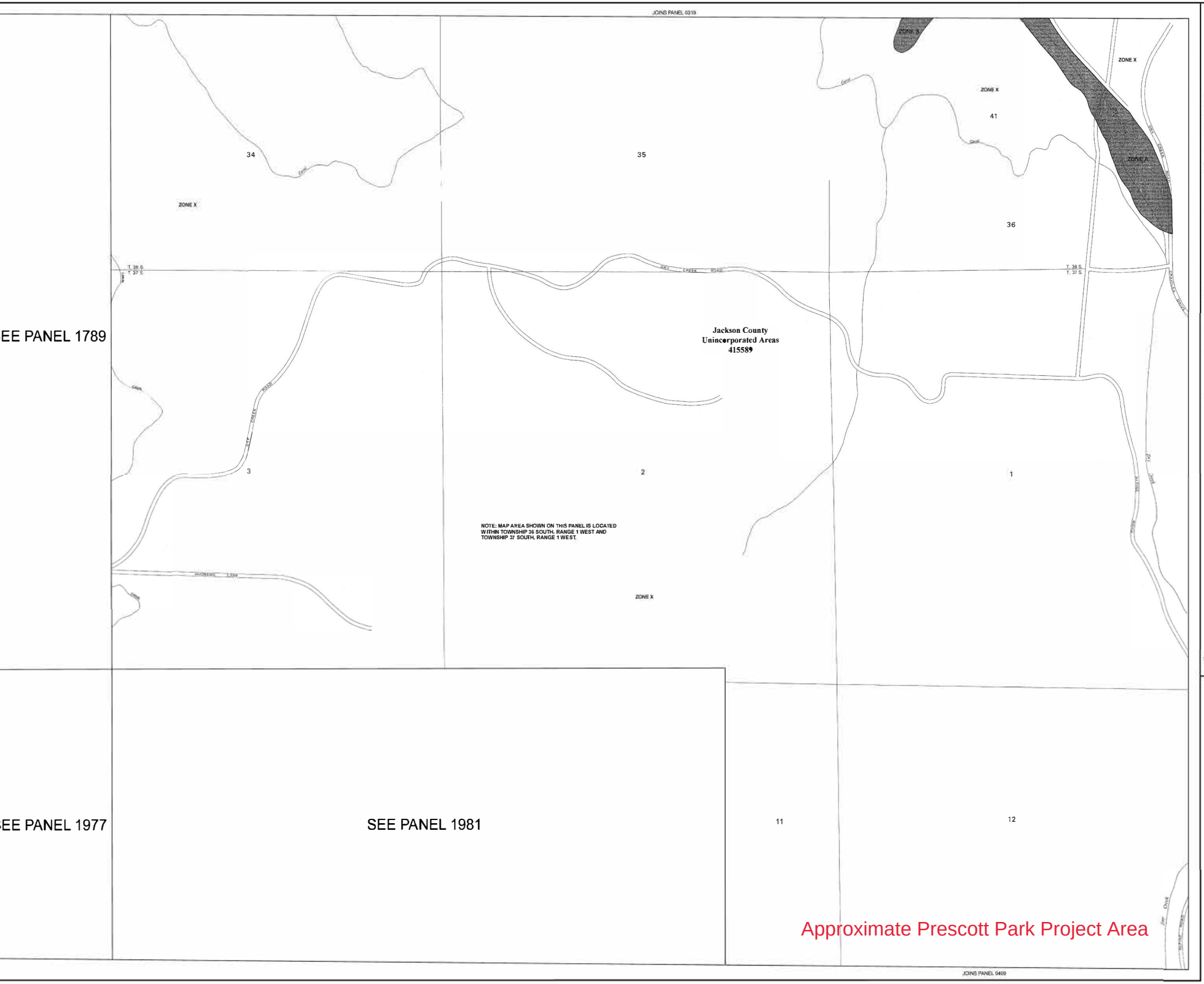
FLOOD INSURANCE RATE MAP

PANEL **1987** OF **2327**

Panel Contains:

COMMUNITY	NUMBER	PANEL
JACKSON COUNTY	415589	1987
CITY OF PHOENIX	410097	1987
CITY OF MEDFORD	410096	1987

MAP NUMBER
41029C1987F
EFFECTIVE DATE
May 03, 2011


JOINS PANEL 0319
ZONE X
ZONE A
ZONE X
41
34
35
36
ZONE X
T. 36 S.
T. 37 S.
DRY CREEK ROAD
T. 36 S.
T. 37 S.
Jackson County
Unincorporated Areas
415589
DRY CREEK ROAD
3
2
1
NOTE: MAP AREA SHOWN ON THIS PANEL IS LOCATED WITHIN TOWNSHIP 36 SOUTH, RANGE 1 WEST AND TOWNSHIP 37 SOUTH, RANGE 1 WEST.
ZONE X
ANTELOPE LANE
SEE PANEL 1789
SEE PANEL 1977
SEE PANEL 1981
11
12
JOINS PANEL 0409
Approximate Prescott Park Project Area
LEGEND
SPECIAL FLOOD HAZARD AREAS
SUBJECT TO INUNDATION BY TH
ANNUAL CHANCE FLOOD
ZONE A
ZONE AE
ZONE AH
ZONE AO
ZONE AR
ZONE A99
ZONE V
ZONE VE
FLOODWAY AREAS IN ZONE AE
OTHER FLOOD AREAS
ZONE X
OTHER AREAS
ZONE X
ZONE D
COASTAL BARRIER RESOURCES S
AREAS
OTHERWISE PROTECTED AREAS
Floodplain boundary
Floodway boundary
Zone D boundary
CBRS and OPA boundary
Boundary dividing Special Flood Ha
Base Flood Elevations, flood depths
Base flood elevation line and value;
(EL 987)
Base flood elevation value where u
elevation is feet*
*Referenced to the National Geodetic Vertical Datum of 1929
Cross section line
Transect line
Geographic coordinate referenced
Datum of 1983 (NAD 83), Western
Bench mark (see explanation in No
of this FIRM panel)
MAP REPOSITORY
INITIAL IDENTIFICATION:
April 11, 1978
FLOOD HAZARD BOUNDARY MAP RE
FLOOD INSURANCE RATE MAP EFFE
April 1, 1982
FLOOD INSURANCE RATE MAP REVI
May 2, 2011: to change special flood hazard area
MAP SCALE 1" = 500'
500 0
150 0 150
PANEL 040
FIRM
FLOOD INSURANCE
JACKSON CO
OREGON
AND INCORPORAT
PANEL 407 OF 23
CONTAINS:
COMMUNITY
JACKSON COUNTY
COMMUNITY
Federal Emergency Manag


JOINS PANEL 0407
10
11
12
ZONE C
15
14
13
Approximate Prescott Park Project Area
ZONE C
JOINS PANEL 0539
22
City of Medford
AREA NOT INCLUDED
23
24
ROXY ANN ROAD
60
ZONE C
NORTH PHOENIX ROAD
Lea Creek
ZONE A
ZONE C
LIMIT OF DETAILED STUDY
A3
1591
1586
ZONE B
HILLCREST ROAD
22
ZONE C
58
27
26
25
HILLCREST ROAD
JOINS PANEL 0417

Appendix E: Floodplains and Wetlands Eight-Step Analysis

Executive Order 11988 Floodplain Management Checklist (44 CFR Part 9)

Project Information

Project Title: **Medford Hazardous Fuels Reduction Project**
Location: **Parts of Bear Creek Greenway and Prescott Park in Jackson County, Oregon**
Description of Proposed Action: **City of Medford is proposing to reduce wildfire fuel and manage vegetation in up to 700 acres out of 1,219 acres along the Bear Creek Greenway and up to 650 acres within a total project area of 1,740 acres at Prescott Park in Jackson County, Oregon.**

Applicability

Actions which have the potential to affect floodplains or their occupants, or which are subject to potential harm by location in floodplains.

Will the proposed action potentially adversely affect the floodplain or support floodplain development? **Yes. Portions of the project areas where site work will occur are floodplain. The proposed fuels reduction and vegetation management treatments would reduce the volume of hazardous trees and fuels, control invasive species, and decrease the overall risk for wildfire ignition and spread.**

Will the proposed action potentially be adversely affected by the floodplain? **No. The proposed does not involve any new construction or existing structure modifications. Fuels reduction and vegetation management treatments would reduce the volume of hazardous trees and fuels, control invasive species, and decrease the overall risk for wildfire ignition and spread.**

Critical Action

Determine whether the proposed action is an action for which even a slight chance of flooding is too great. Critical actions must be reviewed against the 500-year floodplain.

Is the action a critical action? **No.**

Step 1: Determine Proposed Action Location

Determine whether the proposed action is located in the 100-year floodplain (500-year floodplain for critical actions); and whether it has the potential to affect or be affected by floodplain or wetland (44 CFR Section 9.7).

Floodplain Determination

Flood Hazard Data

Is the project located in a 100-year floodplain as mapped by FEMA FIRM? **Yes.**

The Bear Creek treatment area is shown on FEMA Flood Insurance Rate Map (FIRM) Panel Numbers 41029C1957F, 41029C1959F, 41029C1978F, 41029C1986F, and 41029C1987F, effective September 3, 2011. Bear Creek and the land immediately adjacent to it is all mapped as a Special Flood Hazard Area (SFHA), Regulatory Floodway (Zone AE). An additional 0- 1,000 feet of land (depending on topographic features) bordering sides of the creek are mapped as an SFHA with Base Flood Elevation (BFE) ranging from 1,283.7 to 1,463.2 feet. Outside of these zones in the Creek's close vicinity, land is either mapped as Zone X, Area of Minimal Flood Hazard, or Zone X, 0.2-percent Annual Chance Flood Hazard (500-year flood).

The Prescott Park treatment area fall within FIRM Panel Numbers 41029C1981F and 4155890407C, both dated May 3, 2011, and 4155890409B, effective April 1, 1982. Panels 41029C1981F and 4155890407C fall entirely within Zone X, Area of Minimal Flood Hazard; Panel 4155890409B falls entirely within Zone C, Area of Minimal Flood Hazard.

Is the project located in a 500-year floodplain as mapped by a FEMA FIRM? **Yes, portions of the project areas are located in a 500-year floodplain mapped by a FEMA FIRM.**

Floodway/Coastal High Hazard Area

Is the project located in a floodway or coastal high hazard area? **Yes, part of the Bear Creek project area contains a floodway, however no project activities are occurring in the floodway.**

Wetland Determination

Is the project in a wetland as mapped by the National Wetlands Inventory? **Yes. According to the USFWS National Wetland Inventory (NWI) maps, there are several potential wetlands that occur throughout the proposed project areas. Wetland classifications within the project areas include riverine, freshwater forested/shrub wetland, and freshwater pond. Within the project areas, there are eight wetlands designated by the City of Medford as locally significant or potentially significant. The Proposed Action would not involve in-water activities and would reduce the risk that a major wildfire would spread throughout the proposed treatment areas and damage nearby wetland vegetation; therefore, there would be long-term, minor beneficial impacts on wetlands.**

Scope

All 8 Steps required.

Step 2: Early Public Notice

Notify the public at the earliest possible time of the intent to carry out an action in a floodplain and involve the affected and interested public in the decision-making process. (44 CFR Section 9.8).

Was notice provided as part of a disaster cumulative notice? **No**

Was a project specific notice provided? **Project specific notice is part of the Public Notice of the publication of the draft Environmental Assessment.**

Step 3: Analysis of Practicable Alternatives

Identify and evaluate practicable alternatives to locating the proposed action in a floodplain (including alternate sites, actions, and the "no action" option). If a practicable alternative exists outside the floodplain, FEMA must locate the proposed action at the alternative site (44 CFR Section 9.9).

Portions of the project areas identified as in need of treatments and vegetation management are located in floodplains and since the purpose of the proposed action is to reduce wildfire spread and damage risks in those areas, there is no practicable alternative outside the floodplain.

Alternative Options

Is there a practicable alternative site location outside the 100-year floodplain (or 500-year floodplain for critical actions?) **No.**

Is there an alternative action which has less potential to affect or be affected by the floodplain? **No. Alternatives were considered but dismissed from further analysis because they did not meet the project's purpose and need.**

Is the "no action" alternative the most practicable alternative? **No.**
Under the No Action Alternative, FEMA's Hazard Mitigation Grant Program (HMGP) would not fund the proposed fuels reduction activities along Bear Creek Greenway or within Prescott Park. Under this alternative, the City would continue to pursue federal and state assistance for hazardous fuels reduction, various private property owners may conduct independent fuels reduction, and wildfire mitigation would continue as the City requires for new construction or development.

Step 4: Identify Impacts

Identify the potential direct and indirect impacts associated with the occupancy or modification of the floodplains and the potential direct and indirect support of floodplain development that could result from the proposed action (44 CFR Section 9.10).

Is the proposed action based on incomplete information? **No.**

Is the proposed action in compliance with the NFIP? **The City of Medford participates in FEMA's National Flood Insurance Program (NFIP) and will be responsible for the issuance of the permits required when working in the Special Flood Hazard Area (SFHA).**

Does the proposed action increase the risk of flood loss? **No. The Proposed Action would help reduce the risk of wildfire ignition and spread, as well as associated erosion, surface runoff, and flooding that could adversely impact floodplains. Therefore, there would be long-term, minor beneficial impacts on floodplains in and around the proposed treatment areas.**

Will the proposed action result in an increased base discharge or increase the flood hazard potential to other properties or structures? **No. Proposed Action would result in short-term, minor adverse impacts on floodplains related to the potential for erosion and sedimentation during initial treatment activities and longer-term maintenance activities.**

Does the proposed action minimize the impact of floods on human health, safety, or welfare? **Yes. The Proposed Action would help reduce the risk of wildfire ignition and spread, as well as associated erosion, surface runoff, and flooding that could adversely impact floodplains. Therefore, there would be long-term, minor beneficial impacts on floodplains in and around the proposed treatment areas.**

Will the proposed action induce future growth and development, which will potentially adversely affect the floodplain? **No. The Proposed Action would not directly or indirectly support development on the floodplain, given that the Bear Creek project area consists of developed parcels and designated recreation areas.**

Does the proposed action involve dredging and/or filling of a floodplain? **No.**

Will the proposed action result in the discharge of pollutants into the floodplain? **The Proposed Action would result in short-term, minor adverse impacts on floodplains related to the potential for erosion and sedimentation during initial treatment activities and longer-term maintenance activities. However, project conditions and mitigation measures such as riparian protection zones, restricted herbicides applications, spill prevention protocols; will protect water quality during the treatment periods.**

Does the proposed action avoid the long- and short-term impacts associated with the occupancy and modification of floodplains? **N/A. The project does not change occupancy or modification of the floodplain.**

Will the proposed action forego an opportunity to restore the natural and beneficial values served by floodplains? **No. The implementation of the Proposed Action would change the composition and density of the tree stands, and increase the structural diversity of the conifer and woodland forests along Bear Creek and at Prescott Park, favoring healthier and larger trees and unique or native species.**

Will the proposed action result in an increase to the useful life of a structure or facility? **N/A. The project does involve any facility work nor change occupancy or modification of the floodplain.**

Will the action encroach on the Floodway in a manner that causes any increase of flood levels within the community during the occurrence of the base flood discharge? **While there may be minimal treatment within the floodway-fringe, the Proposed Action would not encroach on the floodway. Therefore, the Proposed Action would not cause an increase in flood levels.**

Step 5: Minimize Impacts

Minimize the potential adverse impacts and support to or within floodplains as identified under Step 4; restore and preserve the natural and beneficial values served by floodplains (44 CFR Section 9.11).

Minimization Measures

Were flood hazard reduction techniques (see NFIP technical bulletins) applied to the proposed action to minimize flood impacts? Note: New construction or substantial improvement of a structure (i.e., walled, or roofed building) requires elevation or flood proofing (non-residential), except for listed Historic Structures. **N/A**

Identify any flood hazard reduction techniques required as a condition of the grant: **N/A**

Were avoidance and minimization measures applied to the proposed action to minimize the short-term and long-term impacts on the floodplain? **Yes as described above in Step 4 regarding Permitting, Project Conditions, and Mitigation Measures.**

Were measures implemented to restore and preserve the natural and beneficial values of the floodplain? **Yes. The Proposed Action would change the composition and density of the tree stands, and increase the structural diversity, of the conifer and woodland forests along Bear Creek and at Prescott Park, favoring healthier and larger trees and unique or native species. The Proposed Action would also help reduce the risk of wildfire ignition and spread, as well as associated erosion, surface runoff, and flooding that could adversely impact floodplains. Therefore, there would be *long-term, minor beneficial impacts* on floodplains in and around the proposed treatment areas.**

Step 6: Reevaluate Practicable Alternatives

Reevaluate the proposed action to first determine if it is still practicable in light of its exposure to flood hazards, the extent to which it will aggravate the hazards to others, and its potential to disrupt floodplain values. Second, evaluate if alternatives preliminarily rejected at Step 3 are practicable in light of the information gained in Steps 4 and 5. FEMA shall not act in a floodplain unless it is the only practicable location (44 CFR Section 9.9).

Is the action still practicable at the floodplain site in light of the exposure to flood risk and ensuing disruption of natural values? **Yes.**

Is the floodplain site the only practicable alternative? **Yes.**

Is there any potential to limit the scope or size of the action to increase the practicability of previously rejected non-floodplain sites or alternative actions? **Yes.**

Can minimization of harm to or within the floodplain be achieved using all practicable means? **Yes.**

Does the need for action in a floodplain clearly outweigh the requirements of Executive Order? **Yes.**

Step 7: Final Public Notice

Prepare and provide the public with a finding and public explanation of any final decision that the floodplain is the only practicable alternative (44 CFR Section 9.12).

Was notice provided as part of a disaster cumulative notice? **No**

Was a project specific notice provided? **This will be completed as part the release of the final National Environmental Policy Act documentation.**

If yes, select the type of notice:

Step 8: Implementation

Review the implementation and post-implementation phases of the proposed action to ensure that the requirements stated in 44 CFR Section 9.11 are fully implemented. Oversight responsibility shall be integrated into existing processes.

Was grant conditioned on review of implementation and post-implementation phases to ensure compliance of Executive Order 11988? **Yes, conditions will be incorporated as part of the grant's award.**

The following conditions are not reflected in the Scope of Work and are required: **N/A**

Appendix F: Affidavit of Publication for Draft EA Notice of Public Availability

Grants Pass
Daily Courier

P.O. Box 1468, 409 S.E. 7th Street · Grants Pass, Oregon 97528

Legal Publication Dept.
(541) 474-3829
Toll-free in Oregon 1-800-228-0457

May 25, 2025

MEDFORD, CITY OF - FINANCE DEPT. (LE)
411 WEST 8TH STREET ROOM 380
MEDFORD, OR 97501

INVOICE

Type of notice:	Public Notice of Availability
Purchase order:	Medford Fire Dept
Account number:	00052895
Legal Notice number:	515871
Insertion dates:	May 4, 2025; May 11, 2025; May 18, 2025; May 25, 2025

Amount Due: **$610.20**

Thank you for advertising in the Grants Pass Daily Courier.

Grants Pass
Daily Courier
P.O. Box 1468, 409 S.E. 7th Street · Grants Pass, Oregon 97528

AFFIDAVIT OF PUBLICATION

State of Oregon)
County of Josephine) ss.

I, Sarah Hannon, being first duly sworn, depose and say that I am a manager of Courier Publishing Co., printer of the Grants Pass Daily Courier, a newspaper of general circulation in Josephine and Jackson Counties in Oregon, as defined by ORS 193.010 and 193.020; printed and published at Grants Pass, in the aforesaid counties and state; that the LEGAL NOTICE, a printed copy of which is herein enclosed, was published in the entire issue of said paper, for four insertions, on the following dates:

May 4, 2025; May 11, 2025; May 18, 2025; May 25, 2025.

PUBLIC NOTICE OF AVAILABILITY

DRAFT ENVIRONMENTAL ASSESSMENT
City of Medford Hazardous Fuels Reduction Project

The U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) is proposing to fund the City of Medford Fire Department - through the Oregon Office of Emergency Management - for implementation of the proposed Medford Hazardous Fuels Reduction Project (Project). The Project would treat up to 700 acres of vegetation along the Bear Creek Greenway and up to 650 acres of vegetation at Prescott Park in Jackson County, Oregon. The proposed fuels reduction treatments would reduce the volume of hazardous trees and fuels, decrease the overall risk for wildfire ignition and spread, and manage invasive species in a Wildland Urban Interface.

FEMA has prepared a Draft Environment Assessment (EA) to evaluate the project pursuant to the National Environmental Policy Act of 1969 and FEMA's implementing instruction. Consistent with Council on Environmental Quality (CEQ) Guidelines for Implementing the Procedural Provisions of the National Environmental Policy Act, the Draft EA also evaluates the No Action Alternative, which describes future conditions if FEMA would not fund the proposed hazardous fuels reduction treatments. Hard copies of the Draft EA are available at the Medford Fire Department, 200 South Ivy Street #180, Medford, Oregon; and the Jackson County Library Services - Medford located at 205 South Central Avenue, Medford, Oregon.

FEMA will take into consideration any substantive comments received during the public review period to inform the final decision regarding grant approval and Project implementation. If no significant issues are identified during the comment period, FEMA will finalize the EA, issue a Finding No Significant Impact (FONSI), and fund the Project. The FONSI will be posted to FEMA's website. Unless substantive comments are received, FEMA will not publish another public notice for this project.

The deadline for submitting written comments on the Draft EA is **June 13, 2025.** Comments should be either mailed to Science Kilner, Regional Environmental Officer, Region X, 13- 228th Street SW, Bothell, WA 98021 or submitted via email to fema-r10-ehp-comments@fema.dhs.gov. Please include "Medford" in the subject line of any correspondence.

No. 00515871 - 05/04, 05/11, 05/18, 05/25, 2025

Subscribed and sworn to before me this twenty-seventh day of May, 2025.

Notary Public of Oregon

OFFICIAL STAMP
HANNAH ELAINE WOOLLEY
NOTARY PUBLIC - OREGON
COMMISSION NO. 1049999
MY COMMISSION EXPIRES JULY 18, 2028