
Rogue River – Siskiyou National Forest Prescribed Fire Plan Template September 2022 Version

This template meets the requirements established in the *Interagency Prescribed Fire Planning and Implementation Procedures Guide* (PMS 484, July 2017 edition). With edits made from the *USDA Forest Service National Prescribed Fire Program Review* published September 2022.

General direction from the Procedures Guide is provided within the template. For detailed direction on each element, refer to the Reference Guide.

Within the template, grey boxes identify areas requiring input into the Prescribed Fire Plan. Wording in **red** are instructions or reminders to the preparer for each element. Upon completion of the plan the preparer should delete all items that appear in **red** and **should not be included in the final document**. Items that appear in **green** are suggested text and should be used to assist in the development of the specifics for the prescribed fire plan, then converted to black if utilized in the final burn plan. Text in **black** is to remain as part of the plan.

Previous versions of this template are obsolete and are not to be used for new burn plans.

Prescribed Fire Name:	AFR	Ignition Unit Name:	Units 36, 37 and 79a	District:	Siskiyou Mountains
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PRESCRIBED FIRE PLAN

RANGER DISTRICT

Siskiyou Mountains Ranger District



**PRESCRIBED FIRE NAME /
PRESCRIBED FIRE UNIT**

AFR
Units 36, 37 and 79a

PREPARED BY: *

Name (print)		Qualification / Currency	RXB2 current
Signature		Date	

ADDITIONAL PREPARER:

Name (print)		Qualification / Currency	
Signature		Date	

TECHNICAL REVIEW BY: *

Name (print)		Qualification / Currency	RXB2 Current
Signature		Date	

FIRE MANAGEMENT OFFICER:

Name (print)		Qualification / Currency	RXB2 current
Signature		Date	

DISTRICT / SO SPECIALIST:

Name (print)		Title	
Signature		Date	

COMPLEXITY RATING	Moderate
MINIMUM BURN BOSS QUALIFICATION	RXB2

APPROVED BY (AGENCY ADMINISTRATOR): *

Name (print) & Qualification		Title	
Signature		Date	

* Denotes required signatures

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AGENCY ADMINISTRATOR IGNITION AUTHORIZATION (Prescribed Fire Plan, Element 2A)

Instructions: The Agency Administrator Ignition Authorization must be completed before a prescribed fire can be implemented. If ignition of the prescribed fire is not initiated prior to expiration date determined by the agency administrator, a new authorization will be required.

Prior to signature the agency administrator should discuss the following key items with the fire management officer (FMO), duty officer responsible for coordinating contingency and wildfire response, and the burn boss. Attach any additional instructions or discussion documentation (optional) to this document.

DROUGHT AWARENESS: Current drought conditions according to _____ is _____ and the trend over the last several months is *select one*: Worsening Improving Stable

Key Discussion Items

<p>A. Has anything changed since the Prescribed Fire Plan was approved or revalidated?</p> <p><i>Such as drought or other climate indicators of increased risk, insect activity, new subdivisions/structures, smoke requirements, Complexity Analysis Rating.</i></p>
<p>B. Have compliance requirements and pre-burn considerations been completed?</p> <p><i>Such as preparation work, NEPA mitigation requirements, cultural, threatened and endangered species, smoke permits, state burn permits/authorizations.</i></p>
<p>C. Can all of the elements and conditions specified in Prescribed Fire Plan be met?</p> <p><i>Such as weather, scheduling, smoke management conditions, suitable prescription window, correct season, staffing and organization, safety considerations, etc.</i></p>
<p>D. Are processes in place to ensure all internal and external notifications and media releases will be completed?</p>
<p>E. Have key agency staffs been fully briefed about the implementation of this prescribed fire?</p>
<p>F. Are there circumstances that could affect the successful implementation of the plan?</p> <p><i>Such as preparedness level restrictions, resource availability, other prescribed fire or wildfire activity</i></p>
<p>G. Have you communicated your expectations to the Burn Boss and FMO regarding if and when you are to be notified that contingency actions are being taken?</p>
<p>H. Have you communicated your expectations to the Burn Boss and FMO regarding decisions to declare the prescribed fire a wildfire?</p>

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Implementation Recommended by:
 FMO or Prescribed Fire Burn Boss: Signature: _____ Date: _____

Implementation Recommended by:
 FMO or Unit Duty Officer: Signature: _____ Date: _____

I am authorizing initial or continued ignition of this prescribed fire for the Operational Period (24 hours) starting _____, and a new 2A Authorization will be required for any subsequent or continued ignitions. It is my expectation that the project will be implemented within this time frame and as discussed and documented and attached to this plan. If the conditions we discussed change during this time frame, it is my expectation you will brief me on the circumstances and an updated authorization will be negotiated if necessary.

Additional Instructions or Discussion Documentation attached (Optional): Yes No

Ignition Authorized by:
 Agency Administrator Signature and Title: _____ Date: _____

Local Unit Line Officer Concurrence (if not the qualified approver above):
 Line Officer Signature and Title: _____ Date: _____

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PRESCRIBED FIRE GO/NO-GO CHECKLIST (Prescribed Fire Plan, Element 2B)

Preliminary Questions	Circle YES or NO
A. Have conditions in or adjacent to the ignition unit changed, (for example: drought conditions or fuel loadings), which were not considered in the prescription development? If NO proceed with the Go/NO-GO Checklist below, if YES go to item B.	YES NO
B. Has the prescribed fire plan been reviewed and an amendment been approved; or has it been determined that no amendment is necessary? If YES , go to item C. If NO , STOP: Implementation is not allowed. An amendment is needed.	YES NO
C. Has the experience, qualifications, internal/external pressures, and fatigue levels of the implementation team has been evaluated, and identified concerns have been satisfactorily mitigated? (Note: use USFS Risk Calculator Mobile Application, IRPG Risk Management Process, Tailgate Safety Sheet, or similar tool for assessment.) If YES , proceed with checklist below If NO , STOP: Confer with AA and do not proceed with implementation until concerns are addressed.	YES NO
GO/NO-GO Checklist	Circle YES or NO
Have ALL permits and clearances been obtained?	YES NO
Have ALL the required notifications been made?	YES NO
Have ALL the pre-burn considerations and preparation work identified in the prescribed fire plan been completed or addressed and checked?	YES NO
Have ALL required current and projected fire weather forecast been obtained and are they favorable through ignition, holding and mop-up/control phases of the project?	YES NO
Are ALL prescription parameters met?	YES NO
Are ALL smoke management specifications met?	YES NO
Are ALL planned operations personnel and equipment on-site, available and operational?	YES NO
Has the availability of contingency resources applicable to today's implementation been checked and are they available? If Moderate or High complexity, are those contingency resources required to respond within 30 minutes available and in position to meet that timeframe?	YES NO
Have ALL personnel been briefed on the project objectives, their assignment, safety hazards, escape routes, and safety zones?	YES NO
If all the questions were answered "YES" proceed with a test fire. Document the current conditions, location, and results. If any questions were answered "NO", DO NOT proceed with the test fire: Implementation is not allowed.	
After evaluating the test fire, in your judgement can the prescribed fire be carried out according to the prescribed fire plan and will it mee the planned objectives? Circle: YES or NO	

Burn Boss Signature: _____ Date: _____

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Element 3 – Complexity Analysis Summary

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Element 4: Description of Prescribed Fire Area

A. Physical Description

1. Location:

This is a Stewardship project with the U.S. Forest Service, City of Ashland, Lomakatsi Restoration and The Nature Conservancy. Project is located within the boundaries of the Siskiyou Mountains Ranger District of the Rogue-Siskiyou National Forest and borders City of Ashland and private property. Project area is just over 7600 acres, located within the Ashland Watershed of Jackson County, Oregon.

Unit	Legal Description	Latitude/Longitude (Degrees Decimal Minutes)	Distance & Direction to DA
36	T39S, R1E, Sec. 29 and 30	Lat N 42 8.718" Long W -122 44.137"	2.4 mile Northeast
37	T39S, R1E, Sec. 30	Lat N 42 8.613" Long W -122 44.617"	2.8 mile Northeast
79a	T39S, R1E, Sec. 19	Lat N 42 10.055" Long W -122 44.380"	1.5 mile Northeast

The project area includes the areas within the Ashland Watershed, including the headwaters of Ashland Creek and the Ashland Research Natural Area. The project area is dissected into 3 major ridge lines running mostly North-South by the East and West Forks of Ashland Creek. Topography is steep and rugged, however has a decent road/trail system throughout. The primary unit, where active ignition will occur, includes the headwaters of Reeder Gulch. Units are located on a modestly gentle ridge running from the Horn Gap area towards Panther Peak. Units have good road access and will require minimal fire-line construction. Units have been commercial thinned, hand-piled and burned, however still have a moderate-heavy fuel loading. Unit 79a shares a common border with private land to its north. Units have numerous legacy trees scattered throughout their boundaries. Active trail systems run through each of the units.

An amendment to the burn plan is not required for minor changes in ignition-unit boundaries to facilitate ignition and/or holding, as long as the area in question has been approved in a NEPA decision, require no change in holding or ignition resources, is within the project boundaries, and does not require additional agreements. Changes to project area boundaries resulting in either an increase or decrease in area requires an amendment to the burn plan.

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2. Size:

Project area is just over 7600 acres. Unit 36 is adjacent to Unit 37 and is part of the same stand with similar structure. Total acreage covered by this plan for Unit 36 (79 acres), Unit 37 (52 acres) and Unit 79a (40 acres) is 171 acres.

Unit	Acres	Date: Acres Accomplished
36	79	
37	52	
79a	40	

3. Topography:

Unit is primarily ridgetop to an easterly facing aspect with gentle terrain, steepness increases towards the southern edge of the unit.

Unit	Aspect	Percent Slope (Avg.)	Highest Elevation (feet)	Lowest Elevation (feet)
36	Northeast	35	4600	4100
37	South	40	4700	4100
79a	East	35	4500	4100

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4. Project area:

The watershed fire history from the early 1900's to present is well documented with several large wildfires that covered most of the project area. Prior, reconstruction of the historic fire history shows a pattern of frequent, low intensity fire on the average of every 7-12 years with a fire every year somewhere in the Ashland Watershed through anthropogenic and lightning sources. The influence of frequent fire has been lost over the past 150 years leading to dense infill, proliferation of shade and fire tolerant species, and homogenization of the landscape pattern of closed and open forests in the Ashland Watershed.

The current project (AFR) has evolved from multiple hazard fuel projects from the 1980's, 1990's and most recently the Ashland Watershed Protection Project (AWPP) between 2003 and 2007. Today current NEPA and Record of Decision (ROD) are signed as the Ashland Forest Resiliency Project.

Recent treatments were primarily density management of merchantable size classes (starting in 2012-13) and some non-commercial surface and ladder fuel reduction implemented at the time of piling of helicopter thinning of activity fuels. Piles were burned starting in November 2016.

5. Ignition Units:

The stands are very similar primarily largely even-aged, mostly initiated after the 1901 fire event. Douglas-fir in the 8-20" dbh size class dominates most of the area, with trees of this description comprising about 60% of the total stand basal area. Ponderosa pine in the same relative size and age class, although often somewhat older, are also intermixed, but occurring predominately on lateral ridgelines and on more southerly to westerly aspects. These stands have numerous legacy pines scattered throughout the unit with a size class of 24-36" dbh not being uncommon. Hardwood stocking, primarily Pacific madrone, is relatively light, occurring mostly as small understory seedlings, saplings, and small trees up to 8-12" dbh. It also increases in abundance in openings and on drier less productive sites. Previous thinning and prescribed hand-pile burning in the area have resulted in a generally reduced ladder fuel component in these stands. Primary shrub layer is sparse, mainly madrone sprouting and Oregon grape. Wet draws that had no treatments done tend to be thicker and will act to slow or impede fire spread. Currently, post treatment canopy cover averages 66-70% but has some variability.

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B. Vegetation/Fuels Description

1. On-Site Fuels Data:			2. Adjacent Fuels Data:		
FBPS Fuel Model(s)	TL3		FBPS Fuel Model(s)	TL3	
Fuel Loading	1 hour tlf	1	General Description of Adjacent Fuels		
	10 hour tlf	3	<p>Primarily adjacent fuels are best represented as TL 3 (moderate load conifer litter) based on previous treatments and reduced fuel loading. Fuels surrounding the units are similar and have been recently thinned and treated with prescriptions much like this unit. Each has small to moderate madrone pockets, some brush component dominated by a needle understory. The majority of these units have had surface/ladder fuel treatments with pile burns. Above the road from Horn Gap north (upper boundaries of Units 36 and 37) was underburned in 2017.</p> <p>Fire behavior is expected to be comparable or slightly reduced in adjacent fuels to the burn unit based on time of year to complete the prescribed burn and similarity.</p> <p>Small pockets of torching may be expected due to fuel clusters, small pockets of ladder fuels and topography.</p>		
	100 hour tlf	5			
	1000 hour tlf	20			
	Litter depth	.3			
	Duff depth	2			
	Live woody	n/a			
	Live herbaceous	n/a			
Total fuel loading	29				
3. Percentage of vegetation type and fuels model(s) and comments:					
<p>The stands are mixed conifer, ponderosa pine, Douglas fir, and Pacific Madrone with scattered brush understory. Although some variability exists TL3 represents all the covered burn units within this plan, fire behavior will be primarily affected by slope, aspect/sun exposure and dispersal/size of madrone pockets slowing fire growth. Fuel loading was estimated using photo series pnw-52, page 48.</p>					

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C. Description of Unique Features, Natural Resources, Values:

There is a large amount of recreation use, primarily hikers/runners and bicycles. Many user created trails pass through the project area that serve as holding points and personnel access points.

There may be “Fisher Blocks” located within the units, areas where fuel reduction activities did not occur. The objective within these blocks is to retain the canopy, fire may creep into them but should not be applied directly. **Additionally, the Forest/District Wildlife Biologist must be consulted yearly to ensure nesting sites of Fisher or owls are not impacted**, this could include a buffer or delay to burning in critical areas.

Avoid actively igniting fire within riparian areas and Landslide Hazard Zones (LHZ).

The northern most portion of Unit 79a shares a common boundary with private property, extra scrutiny should be provided in firing and securing that portion of the unit to avoid fire on private grounds. Actions should take care to not damage fence line along the boundary.

D. Maps – Attach in Appendix A

1. Vicinity (Required)
2. Project / Ignition Unit(s) (Required)
3. Values (Required)
4. Significant or Sensitive Features (Optional): Included Not Included

Specific locations of sensitive values such as historical or cultural sites (or both) should not be displayed on project maps. The pre-burn briefing should address location and avoidance techniques.

5. Fuels or Fuel Model(s) (Optional): Included Not Included
6. Smoke Impact Areas (Optional): Included Not Included

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Element 5: Objectives

A. Resource Objectives:

1. Restore forest stands to conditions that promote functional processes that more closely resemble the historical occurrence of more frequent but lower to moderate severity disturbance
2. Protect core public and private values at risk from wildland fire, particularly those associated with:
 - a. safeguarding human life,
 - b. protecting property,
 - c. protecting socio-economic and municipal watershed values,
 - d. conservation of late-successional biological and structural diversity
 - e. enhancing wildlife habitat
3. Reduce hazardous fuels and obtain conditions that are more resilient to wildland fires
4. Minimize mortality of legacy trees (*large, old trees with complex form, large branches, open structure, wide bark plates, and providing important habitat features and aesthetic value*)

B. Prescribed Fire Objectives:

Objectives should be measured using first order fire effects, as soon as possible after burn is declared out.

1. Reduce litter and light surface fuels (1 to 100-hr) by 30 - 80%
2. Retain >30% of shrubs and understory trees (< 5" DBH)
3. Limit mortality of intermediate trees (5-12" DBH) to < 40%
4. Retain > 90% dominant/codominant trees (> 12" DBH)
5. Retain >97% of conifers >30" DBH and hardwoods >20" DBH
6. Retain overall effective ground cover for the unit based on soil erosion hazard class:
 - moderate (< 35% gradient), > 60% year-1, > 70% year-2;
 - severe or higher (> 35% gradient), > 70% year-1, > 85% year-2
7. Retain approximately 90% large down logs or snags (>20" diameter)
8. Minimize fire intensity in leave areas, with crown scorch of canopy trees <20%
9. Retain an unburned strip of duff 25' -50' wide and coarse woody material within 50' of perennial streams.

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Element 6: Funding

A. Cost	Stewardship Burn: Burning is funded through the Ashland Forest Resiliency Stewardship Agreement. Under this agreement, Partners will provide all qualified crewmember personnel and equipment needed to conduct ignition operations. Forest Service funding needs are for the Burn Boss, and overhead to manage the operations. Forest Service engines may also be used for training and support.
B. Funding Source	WFHF10 (Federal Employees)
C. Tracking Costs	Burn Boss will be responsible to track resources used and work with partners to document costs. Contract and partner costs will be tracked by Lomakatsi and shared with Burn Boss. Burn Boss will be responsible to track Federal cost and any additional costs not tracked by partners.

Element 7: Prescription

A. Prescription Narrative:

1. Describe how fire behavior will meet objectives:

The fire prescription describes fuel and weather condition parameters used to model fire behavior that will meet resource objectives. The data above is used as input to produce models in Behave Plus 5.0.5 modeling program. Smoke emission output is modeled with FOFEM.

Once Go-no-Go is approved and test fire is conducted; the Burn Boss may implement the burn if prescription parameters and objectives will be met during ignitions. If prescription parameters and/or objectives are not being met action will be taken to either stop the spread of fire or adjust lighting pattern to moderate fire intensity. Rationale and line officer approval must be documented for continuing ignitions if prescription parameters are exceeded.

Desired fire activity characteristics would have a slow or backing rate of spread, with a flame length of 1-2 feet. It could be expected that pockets of fuel would modify intensity but that should be short in duration. This should provide a clean-up of forest fuels without creating an abundance of scorch and tree mortality.

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B. Prescription Parameters:

1. Environmental Prescription	Acceptable Prescription Range			Outside area at critical holding point minimum acceptable moisture
	Low Fire Intensity	Desired Fire Intensity	High Fire Intensity	
Temperature (°F)	45-55	56-75	76-86	
Relative humidity (%)	45-35	34-25	24-20	
Mid-flame wind speed	0-3	4-7	8-12	
Wind direction (azimuth°)	Any	Any	Any	
1-hr fuel moisture (%)	15-13	12-9	8-7	7
10-hr fuel moisture (%)	17-15	14-12	11-9	9
100-hr fuel moisture (%)	19-17	16-14	13-11	11
1000-hr fuel moisture (%)	>20	19-17	16-14	14
Live fuel moisture (%)	N/A	N/A	N/A	N/A
Duff moisture (%)	N/A	N/A	N/A	N/A
Soil moisture (%)	N/A	N/A	N/A	N/A

Additional Information
<p>The fire prescription describes fuel and weather condition parameters used to model fire behavior that will meet resource objectives. The data above is used as input to produce models in BehavePlus 5.0.5 modeling program. Smoke emission output is modeled with FOFEM.</p> <p>Once Go-no-Go is approved and test fire is conducted the burn boss may implement the burn to meet objectives. If burn parameters are reached during ignitions the burn boss may continue to light as discretion to complete burn for safety and objectives. If determined not to continue lighting, then personnel will manage the burn as needed to completion.</p> <p>Understory human ignited burning can occur at any time of the year when conditions are acceptable. Often these conditions occur from early fall to late spring and early summer.</p> <p>Brush fields in drainages have been modified with mechanical treatment to reduce fuel loading. There are existing piles in these areas that can be burned during ignition.</p> <p>Weather data will be collected on-site and from local weather stations (RAWS) to assist managers in knowing when weather and fuel conditions are within prescription.</p> <p>Outside area critical holding points are based off a Fuel Model TL 3. Inputs are predicted for worst case/minimum acceptable range that would be detected in spring under-burn conditions. Exceeding these parameters are management action points that may allow for activation of contingency resources outlined in the plan under Element 17.</p>

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1. Fire Behavior Parameters	Acceptable Fire Behavior Range			Outside area at critical holding points
	Low Fire Intensity	Desired Fire Intensity	High Fire Intensity	
Fuel Model(s): TL3				
Rate of Spread (chains/hour)	<1.5	1.6-2.5	2.6-3	3
Flame Length (in feet)	<1	1-2	2-3	3
Scorch Height (in feet)	<1	2-10	11-15	
Probability of Ignition (%)	<15	16-30	31-60	60
Spotting Distance (in miles)	<.1	.2	.2	.2

Prescription is defined as the measurable criteria that define a range of conditions during which a prescribed fire may be ignited and held as a prescribed fire. Parameters are quantitative variables expressed as a range that result in acceptable fire behavior and smoke management.

Fire Behavior Narrative

Fuel Model TL 3: The primary carrier of fire is dead and down woody fuel. Live fuel, if present, has very little effect on fire behavior. In fuel model TL 3 the primary carrier of fire is a moderate load conifer litter, light load of coarse fuels. Spread rate is low, flame length is low. Scattered pockets of Madrone located within the units are not expected to adversely affect fire behavior due to lack of surface fuels and arrangement. Expect fire rate of spread through the surface fuels comparable to a fuel model 8 with similar flame height. Expect some fire behavior change with aspect, elevation and slope change. Calculations above were derived from the BehavePlus 5.0.5 program. Outputs for fuel model TL 3 (inside and outside units) were calculated using a strip head fire for modeling purposes. Producing a head fire with up-slope wind may increase flame lengths to 3 - 5 feet based on weather parameters. Actual hand ignitions will alter this behavior and produce more of a low intensity, low flame length backing fire to meet objectives. Expect fire rate of spread through the surface fuels comparable to a fuel model 8 and have similar flame height. Expect some fire behavior change with aspect, elevation and slope change. An average slope of 45% was used to calculate fire behavior, expect an increase in fire spread when slope exceeds this threshold. Critical Holding point behave runs reflect conditions that could challenge meeting objectives, increase ROS, and may trigger the need to activate contingency resources. Runs completed with Behave show a contain status with resources on-site using flanking or rear attack. Additional resources would be on the unit to manage the prescribed burn and a possible emerging incident.

In many cases, burning under the extremes of all prescriptive parameters would not meet or may possibly exceed the desired prescribed fire behavior characteristics and therefore may be out of prescription.

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Even though BEHAVE modeling indicates a spotting distance of up to .2 of a mile with the given parameters, any spotting would be expected to be short range adjacent to the burn due to controlled lighting patterns. Spotting from torching trees should be used as an indicator of increasing fire behavior. The Burn Boss must determine if objectives are still being met, and that holding resources are adequate to continue ignitions.

2. Fire Modeling or empirical documentation:

Attached in Appendix E.

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Element 8: Scheduling

A. Implementation Schedule	
1. Ignition Time Frames/Season(s):	Day or Night/ Spring or Fall like conditions (anticipated to occur between October – May)
B. Projected Duration:	1-2 days ignitions, 3 days for mop-up, 10 days patrol per each individual subunit.
C. Constraints:	
<p>Smoke clearance due to stagnant air and/or unfavorable winds (constraints from wind are all with a southerly component).</p> <p>Fuel conditions not favorable (too dry/too wet)</p> <p>Pre-planned events for the City of Ashland that may impact and/or preclude burning on a given day and create a negative effect towards prescribed fire. Contact District Recreation for dates. Some examples include but are not limited to:</p> <ul style="list-style-type: none"> • Siskiyou Challenge (April) • Spring Thaw (May) • Ashland Mountain Challenge (October) <p>Fireline intensities designed to maintain adequate effective ground cover may minimize accomplishment of other objectives, particularly fuel hazard reduction. Existing duff levels are low and post-burn surface erosion can be easily increased, particularly on steeper slopes.</p> <p>Old snags may complicate prescribed under-burning and constitute a safety hazard requiring mitigation measures.</p> <p>Protection of older legacy trees, both conifer and hardwood, will require special lighting techniques to minimize bole and crown scorch. If possible quick mop up around legacy trees can be employed to help survival rate.</p> <p>The northern portion of unit 79a borders a private land boundary. Extra care should be given to these common boundaries to eliminate fire spread to adjoining land ownerships.</p> <p>Fisher/owl restrictions: These constraints and considerations are specific to burn scheduling (i.e. cannot burn from 1 May to 31 July due to nesting birds, local event occurs on the first weekend of a specific month and burning not allowable, a spring burn is preferred to a fall burn to reduce the impact to the residual vegetation).</p>	

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Element 9: Pre-burn Considerations and Weather

A. Considerations:

<p>1. On Site</p> <ul style="list-style-type: none"> - Monitoring of on-site fuel and weather data 2-3 days before burn at a minimum, portable fire RAWs makes it possible to monitor long term trends locally throughout burn duration. - If applicable, post prescribed fire signs and ensure public is clear of unit at least one day prior to, during and post ignition. - Work with law enforcement if necessary on-site to establish a safe area free of public. - Issue temporary closure for trails within and adjacent to burn units. - Consider temporary area closure during the ignition and mop up phase.
<p>2. Off Site</p> <p>Notifications to media outlets and public by the burn boss and the City of Ashland (Chris Chambers, Sarah Jones) prior to ignitions.</p> <p>Smoke signs will need to be in place on major road systems adjacent to burn unit prior to ignition and be visible to the public. Signs should remain in place until the burn boss determines them no longer needed.</p> <p>Notify adjacent landowners (City of Ashland responsibility). See Notification list attached.</p> <p>City of Ashland Fire & Rescue will be contacted and is responsible for City of Ashland public notifications.</p>

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B. Method and Frequency for Obtaining Weather and Smoke Management Forecast(s):

Servicing NWS Office:	Medford			
NWS Office Phone:	541-773-1067			
Proximity to nearest RAWs	13.5 Miles SE Buckhorn Springs (permanent RAWs)			
Need for on-site RAWs		Yes	X	No
Additional Information				
<p>Siskiyou Mountains Portable RAWs has been placed within the Ashland Watershed and collecting data since Fall of 2015. This RAWs is located on Windburn Ridge, providing the best data for both forecasters and prescribed fire managers. Occasional down time can be expected as RAWs are shipped back for maintenance.</p> <p>Prior to ignitions approval to burn will be obtained from Oregon Dept. of Forestry, Smoke Management in Salem, OR (503-945-7401). Planned unit will be entered into Fastrax (or equivalent) by fire mangers.</p> <p>Current weather information and spot weather forecast will be obtained from the National Weather Service in Medford. Weather forecasters are available at: 541-776-4303.</p> <p>A daily incident action plan (IAP) may be prepared to brief personnel, this will include current and expected weather. On-site weather will be taken and included in the documentation starting at a minimum prior to the test fire.</p> <p>Spot Weather or local area forecasts are required prior to ignition, on all ignition days. The burn boss is required to obtain a spot forecast or local area forecast on any days the fire is actively spreading to determine holding, mop up or patrol staffing needs. A copy of the forecast will be included in the project file.</p> <p>Projected weather beyond the ignition operation and need for additional spot weather forecasts should be considered in order to minimize the risk of a later escape. Local weather phenomena and considerations include (entered local weather information).</p> <p>Note: A project-specific spot weather forecast must be obtained prior to ignition; for each day that ignition continues; on any day that fire is actively spreading; or when conditions adversely affecting the prescribed fire are predicted in the general forecast. Exemption criteria and procedures for the spot weather forecast requirement may be found in FSM 5142.3.</p>				

C. Notifications:

Notifications will be made to the AFR Partners to include Lomakatsi, City of Ashland, and The Nature Conservancy. Weekly calls should occur during burning season to help facilitate communication between the partners. The City of Ashland will have the responsibility to provide local public notification and distribute the information via social media/websites. Additional Burn Boss notifications are listed below.

Prescribed Fire Name:	AFR	Ignition Unit Name:	Units 36, 37 and 79a	District:	Siskiyou Mountains
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Who	When ¹	Phone Number and/or e-mail	Responsibility	Date	Contact Type ²
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Rogue Valley Interagency Communications Center	Before & Day of	(541) 618-2510	Burn Boss		EM
Dan Quinones RSF Fire Staff	Day of	(541) 618-2100	Burn Boss		EM
District Ranger – Jen Sanborn	Before & Day of	(541) 899-3800	Burn Boss		PC/EM
ODF Smoke Mgt. Forecaster	Before & Day of	(503) 945-7401	Burn Boss		PC
Virginia Gibbons- Forest PIO	Before & Day of	(541) 618-2200	Burn Boss		EM
Star Office Front Desk	Before & Day of	(541) 899-3800	Burn Boss		EM
Brett Brown RSF Deputy Fire Staff- Fuels	Day of	(541) 618-2101	Burn Boss		EM
Ashland City Fire (Chris Chambers)	Before & Day of	(541) 890-8816	Burn Boss		PC/EM/DC
Siskiyou Mountain RD employees	Before & Day of	pdl r6 rrs siskiyoumountains@fs.fed.us	Burn Boss		EM
Dave Clayton-Forest Wildlife Biologist	Before & Day of	(541) 941-9130	Burn Boss		EM
FS Supervisors Office Front Desk	Before & Day of	(541) 858-2200	Burn Boss		PC
Forest Supervisor- Merve George	Before	mgeorge@usda.gov	Burn Boss		EM
Dep Forest Sup	Before	(541) 618-2032	Burn Boss		EM
Jackson County Commissioners	Before	Boc_cao_admin@jacksoncounty.org	Burn Boss		EM

¹ When to Notify	Before (B): The day prior to burn day. Day of (D): Prior to ignition on burn day. After (A): After burn is completed.	² Contact Type	Phone Contact (PC) Phone Message (PM) Direct Contact (DC) E-mail (EM)
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Prescribed Fire Name:	AFR	Ignition Unit Name:	Units 36, 37 and 79a	District:	Siskiyou Mountains
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Element 10: Briefing

A. Briefing Checklist, including, but not limited to: (additional items may be added)

- Burn Organization and Assignments
- Prescribed Fire Objectives and Prescription
- Description of Prescribed Fire Project Area
 - Special considerations and sensitive features
- Provide Maps
- Expected Weather and Fire Behavior
 - Review SPOT weather forecast
- Weather Data Collection Procedures
 - Make Weather Observer Assignment and Set Collection Schedule
- Review Burn Prescription and Critical Weather that Will Terminate Burn
- Ignition Plan and Possible Problems
- Holding Plan and Possible Problems
- Contingency Plan & Assignments
 - Identify High Value and Areas of Special Concern
 - Identify Mitigation Measures, Procedures, Project Boundary, Etc.
- Wildfire Declaration
- Safety and Medical Plan
 - Identify On-Site Personnel with Medical and Helitack Qualifications
- Job Hazard Analysis (JHA)
- Review LCES and Identify Lookout Assignments
- Communication Plan
- Aerial Ignition Briefing - Project Aviation & Safety Plan (PASP) (if applicable)

Crew Briefing (Responsibility - Ignition Specialist and Holding Specialist Functions)

- Make Crew Assignments, Record Names, and Review Chain of Command
- Make Equipment Assignments and Physically Test Equipment Prior to Ignition
- Assign Radio Frequencies and Physically Test All Radios Prior to Ignition
- Review Contingency Plan, Wildfire Declaration, Procedures, and Mitigation
- Review Everyone's Personal Protective Equipment
- Discuss Probable Starting and Ending Times
- Assure Everyone Knows Position, Responsibility, and Procedures
- Double check that all personnel have reviewed & signed the JHA
- Review Incident within an Incident Procedures

SIGNED

DATE

Prescribed Fire Burn Boss

Prescribed Fire Name:	AFR	Ignition Unit Name:	Units 36, 37 and 79a	District:	Siskiyou Mountains
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Element 11: Organization and Equipment

Minimum Workforce & Equipment Needed to Conduct Burn LOW PRESCRIPTION RANGE					
A. Positions					
Position	ICS Code or Unit of Measure	Total Amount Needed	Line Building Rate (Ch/Hr)	Amount Supplied By:	
				Agency	Contractor/ Purchaser
Prescribed Fire Burn Boss	RXB2	1		X	
Ignition Specialist Function	FIRB	1		X	X
Holding Specialist Function	Single Resource	1		X	X
Fire Effects Monitor	FEMO				
Lookout					
Engine Boss, Operator, and Crew	ENGB/ENOP	1			X
Ignition Crew	FFT2	3	3		X
Holding Crew	FFT2	10	10		X
B. Equipment					
Engine (Type)	Type VI	1	12	X	X
Engine (Type)					
Dozer (Type)					
Helicopter					
Helitorch					
C. Supplies					
Drip Troches		6			
Chain Saws		2			
Hand Tools		17			
Fuel		50 gals.			
Portable Water Tanks					
Total Line Production Rate			25		
<p>Remarks <u>The above plan is based on line production/fire suppression ability to contain a fire within 1-hour. The types of resources on-site will meet the minimum total line production rate, based on fire modeling outputs as determined in Behave program. Any combination of resources can be used as long as line production rates are met with out an amendment to the plan.</u></p> <p>Behave runs indicate having a line production rate of 2 ch. /hr. at the low prescription range in order to contain a spot outside of the unit. Production rates in a fuel model 10 were used. Additional personnel were added beyond modeled outputs for line production due to proximity to homes and private property. The minimum organization requires a low number of resources based on a low predicted rate spread, the line production capability of resources in that fuel type, and ignitions possibly occurring over multiple days. If the burn boss decides to complete ignitions in one burn period additional resources will be required to provide adequate holding and ignition resources. The number of resources needed will ultimately be determined by the burn boss, the number of days ignitions will occur, and the current conditions.</p>					

Prescribed Fire Name:	AFR	Ignition Unit Name:	Units 36, 37 and 79a	District:	Siskiyou Mountains
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**Minimum Workforce & Equipment Needed to Conduct Burn
DESIRED PRESCRIPTION RANGE**

A. Positions					
Position	ICS Code or Unit of Measure	Total Amount Needed	Line Building Rate (Ch/Hr)	Amount Supplied By:	
				Agency	Contractor/Purchaser
Prescribed Fire Burn Boss	RXBX	1		X	
Ignition Specialist Function	FIRB	1		X	X
Holding Specialist Function	Single Resource	1		X	X
Fire Effects Monitor	FEMO				
Lookout					
Engine Boss, Operator, and Crew	ENGB/ENOP	1			X
Ignition Crew	FFT2	4	4	X	X
Holding Crew	FFT2	15	15	X	X

B. Equipment					
Engine (Type)	Eng Type VI	2	24	X	X
Engine (Type)					
Dozer (Type)					
Helicopter					
Helitorch					

C. Supplies					
Drip Troches		8			
Chain Saws		2			
Hand Tools		20			
Fuel		50			
Portable Water Tanks		1			

Total Line Production Rate	43				
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Remarks: The above plan is based on line production/fire suppression ability to contain a fire within 1-hour. The types of resources on-site will meet the minimum total line production rate, based on fire modeling outputs as determined in Behave program. Any combination of resources can be used as long as line production rates are met with out an amendment to the plan.

Behave runs indicate having a line production rate of 2.5 ch. /hr. at the low prescription range in order to contain a spot outside of the unit. Production rates in a fuel model 10 were used. Additional personnel were added beyond modeled outputs for line production due to proximity to homes and private property.

The minimum organization requires a low number of resources based on a low predicted rate spread, the line production capability of resources in that fuel type, and ignitions possibly occurring over multiple days. If the burn boss decides to complete ignitions in one burn period additional resources will be required to provide adequate holding and ignition resources. The number of resources needed will ultimately be determined by the burn boss, the number of days ignitions will occur, and the current conditions.

Prescribed Fire Name:	AFR	Ignition Unit Name:	Units 36, 37 and 79a	District:	Siskiyou Mountains
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Minimum Workforce & Equipment Needed to Conduct Burn HIGH PRESCRIPTION RANGE					
A. Positions					
Position	ICS Code or Unit of Measure	Total Amount Needed	Line Building Rate (Ch/Hr)	Amount Supplied By:	
				Agency	Contractor/Purchaser
Prescribed Fire Burn Boss	RXBX	1		X	
Ignition Specialist Function	FIRB	1		X	X
Holding Specialist Function	Single Resource	1		X	X
Fire Effects Monitor	FEMO	1		X	X
Lookout					
Engine Boss, Operator, and Crew	ENGB/ENOP	1		X	X
Ignition Crew	FFT2	4	4	X	X
Holding Crew	FFT2	20	20	X	X
B. Equipment					
Engine (Type)	ENG Type VI	3	36	X	X
Engine (Type)					
Dozer (Type)					
Helicopter					
Helitorch					
C. Supplies					
Drip Troches		8			
Chain Saws		3			
Hand Tools		25			
Fuel		50 gals.			
Portable Water Tanks		2			
Total Line Production Rate			60		
<p>Remarks: <u>The above plan is based on line production/fire suppression ability to contain a fire within 1-hour. The types of resources on-site will meet the minimum total line production rate, based on fire modeling outputs as determined in Behave program. Any combination of resources can be used as long as line production rates are met with out an amendment to the plan.</u></p> <p>Behave runs indicate having a line production rate of 3 ch. /hr. at the low prescription range in order to contain a spot outside of the unit. Production rates in a fuel model 10 were used. Additional personnel were added beyond modeled outputs for line production due to proximity to homes and private property.</p> <p>The minimum organization requires a low number of resources based on a low predicted rate spread, the line production capability of resources in that fuel type, and ignitions possibly occurring over multiple days. If the burn boss decides to complete ignitions in one burn period additional resources will be required to provide adequate holding and ignition resources. The number of resources needed will ultimately be determined by the burn boss, the number of days ignitions will occur, and the current conditions.</p>					

Prescribed Fire Name:	AFR	Ignition Unit Name:	Units 36, 37 and 79a	District:	Siskiyou Mountains
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Element 12: Communication

A. Radio Frequencies:

Channel	Function	Frequency	Tone	Assignment	Remarks
1. COMMAND frequency(ies):					
3	Mt. Ashland RPTR	TX: 164.9375 RX: 169.9750	79.7 67.0		
4	South Direct	TX: 169.9750 RX: 169.9750	103.5 103.5		
2. TACTICAL frequency(ies):					
	FS Project 1	TX: 170.5000 RX: 170.5000	103.5	Primary	
	FS Tac 2	TX: 168.2000 RX: 168.2000		Secondary	
3. AIR OPERATIONS frequency(ies)					
	A/G 51	TX: 168.3125 RX: 168.3125		Primary	
	A/G 62	TX: 169.3625 RX: 169.3625		Secondary	
OTHER					
		TX: RX:			
		TX: RX:			
REMARKS					
<p>At a minimum, the burn boss will relay the following information either directly or through dispatch to inform unit fire management and agency administrators on project status:</p> <ol style="list-style-type: none"> 1. Element 2B Go/No-Go is complete and intent to proceed with test fire or take other actions 2. Results of the test fire and intent to proceed with ignitions or take other course of action 3. Any time Contingency Resources are mobilized or engaged in contingency actions 4. Any time Element 18: Wildfire Declaration procedures are proposed or being taken as described in the plan 5. Ignition operations completed for the project or shift 6. Release or extension of assigned resources, project status at the end of shift (Uncontained, Contained, Controlled, Out), and outlook for next operational period 7. Update on mop-up or patrol activities including project status (Contained, Controlled, Out) and name of the assigned burn boss, incident commander, or duty officer responsible for the day's actions 					

Prescribed Fire Name:	AFR	Ignition Unit Name:	Units 36, 37 and 79a	District:	Siskiyou Mountains
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B. Telephone Numbers:

Contact Name	Title/Agency	Work Phone	Cell Phone
Jen Sanborn	District Ranger	541-899-3810	541-324-1318
Robert Marshall	FMO	541-899-3865	541-580-5915
Todd Zumhofe	AFMO	541-899-3884	541-291-2910
Kit Colbenson	AFMO(Fuels)	541-899-3876	541-218-3175
Chris Chambers	Ashland F &R	541-552-2066	541-890-8816
Marko Bey	Lomakatsi		541-941-6874
John Cymore	Lomakatsi	541-488-0208	541-622-5940
Bryan Wheelock	Grayback		406-531-9967
Grayback Forestry		541-830-3100	
Dan Quinones	Fire Staff	541-618-2100	541-816-0453
Bret Brown	Asst. Fire Staff	541-618-2102	541-601-1613
Brad Hardesty	Captain E-312	541-899-3814	541-373-0087
Lloyd Cruz	Captain E-311	541-899-3821	530-410-1644

Prescribed Fire Name:	AFR	Ignition Unit Name:	Units 36, 37 and 79a	District:	Siskiyou Mountains
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C. Key Communication Points:

At a minimum, the burn boss will relay the following information either directly or through dispatch to inform unit fire management and agency administrators on project status:

1. Element 2B Go/No-Go is complete and intent to proceed with test fire or take other actions.
2. Results of the test fire and intent to proceed with ignitions or take other course of action.
3. **Any time Contingency Resources are mobilized or engaged in contingency actions.**
4. **Any time Element 18: Wildfire Declaration procedures are proposed or being taken as described in the plan.**
5. Ignition operations completed for the project or shift.
6. Release or extension of assigned resources, project status at the end of shift (Uncontained, Contained, Controlled, Out), and outlook for next operational period.
7. Update on mop-up or patrol activities including project status (Contained, Controlled, Out) and name of the assigned burn boss, IC, or duty officer responsible for the day's actions.

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Element 13: Public and Personnel Safety, Medical

A. Safety Hazards:

<p>Firefighter</p> <p>LCES will be identified prior to ignition and discussed during the briefing.</p> <p>Known hazards include: snags, steep terrain, bee/yellow jackets, rolling material and smoke.</p> <p>All personnel who are within the active burn area are required to wear personal protective equipment (PPE).</p> <p>Refer to the Job Hazard Analysis (JHA) located in Appendix D for specific hazards and mitigation measures.</p>
<p>Public</p> <p>The unit and roads to the unit will be cleared of public before ignition starts. Major road systems (2060) may be impacted by smoke and will have signs placed to inform the public. Gravel roads with or without gates on them maybe locked or blocked off for public safety. Smoke may cause minor eye and respiratory irritation to individuals that are in direct contact with smoke. Residual smoke maybe a problem for a period of time. Recommend temporary closure of all internal and adjacent trails for public safety.</p>

B. Mitigation Measures Taken to Reduce the Hazards:

<p>Public notifications will be made prior to ignitions through multiple media outlets. Public scoping, forums and events have been held to discuss smoke in Ashland and its effects. Signs to inform the public will be posted. Personnel will patrol the area prior to ignitions, during ignitions and during the mop-up phase of the burn to keep the public safe. Hazardous snags will be identified and mitigated along trails, high use areas and critical control points. Fire personnel will brief thoroughly utilizing the briefing checklist and Job Hazard Analysis.</p>

C. Emergency Medical Procedures:

<p>In the event of serious accidents or injuries, the burn boss shall be notified immediately. Individuals with medical (i.e. First Responder, EMT, Paramedic) and helitack qualifications should be identified at the pre-burn briefing. The burn boss will initiate on-site response (if not already in progress) and coordinate additional response needs.</p>
<p>For this burn, see AFR established medical plan (Appendix G). AFR medical plan is current and used by all personnel operating within the AFR project partnership. AFR Medical plan will be issued in a daily Incident Action Plan and is current for federal and contract employees.</p> <p>EMS will be activated through contacting dispatch (or from on-site personnel through 911).</p>

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D. Emergency Evacuation Methods:

For minor injuries, individuals who are ambulatory will be transported by vehicle to the nearest medical facility. For more serious injuries, transportation will be by ground or air ambulance. The medical facility will be contacted as soon as practical and advised of injuries and eta for transport of injured individual.

For this burn, see AFR established medical plan (Appendix G). AFR medical plan is current and used by all personnel operating within the AFR project partnership.

The landing at Skyline Mine, located at the end of the 2060-400 road would be the best helispot to work from near these units. The lat/long is 42 9.243, -122 44.768. Additional may be identified at time of burn.

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E. Emergency Facilities:

MEDICAL PLAN FOR GOVERNMENT EMPLOYEES									
MEDICAL AID STATIONS / PERSONNEL									
NAME	LOCATION					PARAMEDICS?			
						YES	NO		
EMERGENCY TRANSPORTATION									
NAME	TELEPHONE	LOCATION				PARAMEDICS ?			
						YES	NO		
HELISPOT CLOSEST TO PROJECT		LAT.		LONG.					
HOSPITALS									
NAME	ADDRESS	TRAVEL TIME (MIN)		PHONE	HELIPAD?		BURN CENTER		
		AIR	GROUND		YES	NO	YES	NO	
Remarks:									
<p>For this burn, see AFR established medical plan (Appendix G). AFR medical plan is current and used by all personnel operating within the AFR project partnership.</p>									

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Element 14: Test Fire

A. Planned Location:

Provisions for a test fire are required. The test fire should be ignited in a representative location and results must be documented. Burn boss will decide location on unit that best meets condition of test fire. The purpose of the test fire is to verify that the prescribed fire behavior characteristics will meet management objectives and to verify predicted smoke dispersion. In many applications, analysis of the initial ignitions may provide adequate test fire results. Each individual unit will need an appropriate test fire with documentation. Ideally, the test fire would be ignited adjacent to top control lines where it can easily be controlled if not meeting objectives and ideally would become part of the anchor. Following a successful test fire, ignition can continue along upper control lines. Once a sufficient blackline is established as an anchor, fire can be taken down the flanks of the unit. This would then be followed with igniting off the flanks. As the flanks become secure, fire should be backed down the interior of the unit.

B. Test Fire Documentation:

Location:

Date and Time:

1. Weather/Fuels Conditions On Site	
Cloud Cover %	
Temperature	
Relative Humidity	
Fine Dead Fuel Moisture	
Wind Speed	
Fuels	

2. Test Fire Results					
Flame Length					
Rate of Spread					
Smoke Dispersion					
Other					
The test fire meets the prescription parameters	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; text-align: center;">Yes</td> <td style="width: 25%;"></td> <td style="width: 25%; text-align: center;">No</td> <td style="width: 25%;"></td> </tr> </table>	Yes		No	
Yes		No			

SIGNED
DATE
 Prescribed Fire Burn Boss

Prescribed Fire Name:	AFR	Ignition Unit Name:	Units 36, 37 and 79a	District:	Siskiyou Mountains
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Element 15: Ignition Plan

<p>A. Firing Methods:</p> <p>Ignition will start at the top of the unit/subunit with a hand ignition head-strip or dot firing pattern with drip torches. Black line will be established along perimeter as progression continues down slope. Width of strips will be adjusted throughout unit to achieve desired results (flame length and scorch height). Strips may be widened in areas of under-story growth to allow thinning by fire. Adjustments will be made based on fire behavior observations. Fire behavior outputs will be influenced by the type of ignition pattern and the rate used. Erratic fire behavior may be experienced at the high end of the prescription. Ignition technique will compensate for fuel moisture conditions. A backing fire may have to be used if burned under the high prescription. Avoid actively igniting fire within riparian and Landslide Hazard Zones.</p>
<p>1. Ignition Techniques, Sequences and Patterns</p> <p>Overall, strip head firing or dot firing will be utilized to bring fire down through the unit. This may need to be in a general backing fashion to minimize impacts to the residual stand. Flame length and intensity will dictate ignition technique and strip width. Protection of older legacy trees (conifer and hardwood) will require special lighting techniques to minimize bole and crown scorch. Likewise, reserve piles should not be intentionally lit, efforts should be taken to leave intact if possible. Ignition pattern can be modified on site should need arise to meet objectives; this should be discussed and agreed to by both the firing boss and burn boss, and relayed to all personnel on the unit.</p> <p>The Ignition Specialist and Holding Specialist functions are expected to work closely together to ensure that the ignition pattern and sequence do not present concern for control of the burn. The (wind or slope and aspect) should be the dominant influence for fire behavior and the primary factor in establishing the ignition pattern and sequence for the unit. The ignition pattern and sequence are suggested and can be modified to better suit the current conditions experienced on the day of the burn.</p>
<p>B. Firing Devices:</p> <p>In most cases standard drip torches will be the preferred method of lighting. A diesel/gasoline mix will be used as the accelerant, mix will be adjusted as needed for fuel and weather conditions. Slash fuel will be transported in an approved tank with spill containment available in fueling areas. Slash fuel may be moved around the unit in 5 gallon fuel containers, these should be appropriately marked to avoid confusion on container contents.</p> <p>In some cases alternative lightning sources may be used, examples include but are not limited to fusee or quick fire devices.</p>
<p>C. Minimum Ignition Staffing:</p> <p>Refer to Element 11 to view the organization to be utilized. Specific instructions and briefings will occur prior to ignition to cover ignition and holding concerns.</p> <p>The minimum organization requires a low number of resources based on a low predicted rate spread, the line production capability of resources in that fuel type, and ignitions possibly occurring over multiple days. If the burn boss decides to complete ignitions in one burn period additional resources will be required to provide adequate holding and ignition resources. The number of resources needed will ultimately be determined by the burn boss, the number of days ignitions will occur, and the current and expected conditions.</p>

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Element 16: Holding Plan

<p>A. General Procedures for Holding:</p> <p>Holding crews will be stationed along control lines to monitor for potential spotting. All slop-over and spot fires will be lined as soon as practical. These fires will be mopped up 100% and marked on a map as soon as practical. The Burn Boss will be immediately notified of any fire that occurs outside of the units. When possible take effort to protect reserve piles that provide critical habitat for multiple species of wildlife. Due to seasonal (fall/winter/spring) conditions (shortness of day, elevated moisture levels, persistent shadows) holding problems are expected to be minimal. In most cases holding and contingency resources will be provided by contractors (i.e. Greyback), exceptions may occur for forest provided resources and special events like TREX</p>
<p>B. Critical Holding Points and Actions:</p> <ul style="list-style-type: none"> ▪ The northern portion of Unit 79a is adjacent to private property and the Forest Boundary. Additional holding resources may be utilized in this area to ensure slope overs and spot fire do not occur on private property. Aggressive mop-up will follow ignitions in this area to ensure an escape does not occur. ▪ Avoid actively igniting fire within riparian and Landslide Hazard Zones.
<p>C. Minimum Organization or Capabilities Needed:</p> <p>Minimum capabilities needed for holding are identified under Element 11 - Organization and Equipment. The Holding Specialist function will be held at the Single Resource (ICS position) level based on complexity of burn and holding operation. Different organizations may be identified for different phases of implementation (i.e. holding vs. mop-up and patrol, different ignition operations, different ignition patterns, different prescriptions). The minimum organization requires a low number of resources based on a low predicted rate spread, the line production capability of resources in that fuel type, and ignitions possibly occurring over multiple days. If the burn boss decides to complete ignitions in one burn period additional resources will be required to provide adequate holding and ignition resources. The number of resources needed will ultimately be determined by the burn boss, the number of days ignitions will occur, and the current conditions.</p>
<p>D. Mop-up and Patrol:</p> <p>Mop-up will be completed to the extent necessary to secure the burn as directed by the Burn Boss. During and after ignition, frequent and thorough patrols will be implemented at the discretion of the Burn Boss. Once burn is determined secure by the Burn Boss responsibility of burn may be transferred to District FMO or Duty Officer. Transfer will be recorded in burn notes as well as communicated to Resources on burn and Dispatch. Frequent patrols will continue post burn until the burn area is declared out by the responsible party. If several days (2+) of undesirable weather is expected (high temps, high winds (10+mph), storm fronts, etc.) aggressive mop-up will be considered throughout the entire unit with the perimeter and problem areas being priority.</p>
<p>E. Conditions for Leaving Burn Unattended:</p> <p>Weather conditions and/or mop-up that reduce probability of escape fire spread and safety concerns to the public must be met prior to leaving a burn unattended.</p> <ul style="list-style-type: none"> - Mop-up will be completed to the extent necessary to secure the burn as directed by the Burn Boss. - A burn will not be declared out until smoke is no longer visible within the unit

Prescribed Fire Name:	AFR	Ignition Unit Name:	Units 36, 37 and 79a	District:	Siskiyou Mountains
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Element 17: Contingency Plan

A. Management Action Points or Limits: (Optional MAP Table Format)

Management Action Point – Documentation Element	Management Action Point Narrative:
Designator and Description:	
Condition:	
Management Intent:	
Recommended Action(s) to Consider:	
Recommended Resources:	
Time Frame:	
Describe the Consequences of not taking the recommended action(s) (Optional):	
Responsibility:	
Date Each Action is Initiated (Optional):	

B. Actions Needed

Management action points are established to be used as aids in assisting managers in determining if the contingency plan needs to be activated due to unexpected events or undesirable results. Management points include:

- fire outside of project boundaries (AFR project boundary, or fire outside of specific Unit boundary)
- smoke management concerns to City of Ashland
- required personnel not available
- other prescribed fire plan elements not being met.

Management Action Points in the contingency plan do not dictate declaring the prescribed burn to a wildfire or mean the fire has escaped.

If the contingency actions are successful at bringing the project back within the scope of the Prescribed Fire Plan, the project may continue. If contingency actions are not successful by the end of the next burning period, then the prescribed fire will be converted to a wildfire.

In the event management action points are met that put in jeopardy the objectives of the burn, actions may be taken by the burn boss to change or mitigate burning operations. The Burn Boss may use strategies to suppress or maintain the burn based on conditions and results. Fire compromising unit boundaries may trigger suppression actions to stop the spread.

Burn Boss will coordinate directly with Contingency resources if needed at the burn unit. Depending on funding source, communication with the City of Ashland of number and type of additional resources on the unit may be needed.

C. Minimum Contingency Resources and Maximum Response Time(s):

Resource	Agency & Location	Maximum Response Time	Confirmation of Availability*	
			Yes/No	Date
Type VI Engine	TBD	30		
10 person Crew	TBD	30		

* To be completed within one day of the burn and adjusted during course of extended burning conditions

Prescribed Fire Name:	AFR	Ignition Unit Name:	Units 36, 37 and 79a	District:	Siskiyou Mountains
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Element 18: Wildfire Declaration

<p>A. Wildfire Declared By:</p> <p>The Prescribed Fire Burn Boss, in conjunction with District/Forest FMO/Agency Administrator, will make the decision when to declare the prescribed fire a wildfire. A prescribed fire, or a portion or segment of a prescribed fire, must be declared a wildfire when either or both of the following criteria are met:</p> <ul style="list-style-type: none"> • Prescription parameters are exceeded and holding and contingency actions cannot secure the fire by the end of the next burning period, or, • The fire has spread outside the project area or is likely to do so, and the associated contingency actions have failed or are likely to fail and cannot be contained by the end of the next burning period. <p>A prescribed fire can be declared a wildfire for reasons other than those identified above, if events cannot be mitigated as determined by the burn boss and agency administrator.</p> <p>A wildfire will be declared by the Burn Boss without delay if there is an immediate threat to human life or the potential for significant damage to resources, private property, or infrastructure in the near future (structures immediately threatened or on fire, crown fire running toward private property, airtankers are needed to contain the fire, etc.). The intent is to not delay declaring a wildfire if time is of the essence.</p> <p>However, if there is time, the Burn Boss is to confer with the Agency Administrator, FMO and Forest Duty Officer/Fire Staff before declaring a wildfire. This is to allow an opportunity to exhaust all possible funding and containment options before a wildfire declaration is made. The intent is to take a reasonable amount of time to make an informed decision based on the predicted weather, values at risk, chances of containing the fire, availability of additional resources, funding available, and other factors before declaring a wildfire. If a wildfire is declared all resource orders will be placed through RVICC instead of Lomakatsi at that time.</p> <p>After wildfire declaration, a project cannot be returned to a prescribed fire.</p>
<p>B. IC Assignment:</p> <p>Should a wildfire be declared, the Burn Boss will become the Incident Commander until relieved or replaced. The IC will organize all on-site resources for a safe and aggressive response. Personnel within the prescribed fire organization will transition into ICS wildfire positions they are qualified to carry out. The IC will order additional suppression resources identified in the Contingency Plan as well as any other required resources necessary to support the suppression effort. Additional resources will be ordered through RVICC once contingency resources are exhausted.</p> <p>Upon a wildfire declaration occurring, all overhead personnel will begin to document actions taken on a Unit Log, notebook, or similar format. After the incident is contained, the Prescribed Fire Burn Boss will submit a post fire report documenting weather, resources on site, ignition operations, holding actions, and other pertinent data.</p>

Prescribed Fire Name:	AFR	Ignition Unit Name:	Units 36, 37 and 79a	District:	Siskiyou Mountains
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C. Notifications:

The Prescribed Fire Burn Boss/IC will notify the Rogue Valley Interagency Communications Center (RVICC) and the Siskiyou Mountains Fire Management Officer (FMO) of the escape and identify the IC. The FMO will then notify the District Ranger and Forest Fire Staff. RVICC will notify contacts listed on the notification plan of the escape and the current situation.

D. Extended Attack Actions and Opportunities to Aid in Fire Suppression (Optional):

The appropriate management response will be used in order to flank the fire with engines or hand crews until the forward rate of spread is stopped. The containment strategy will be to utilize safe anchor points and create direct fire line where feasible and indirect fire line, including burning out, depending upon location of natural barriers and roads. The FMO and/or IC, Resource Advisor, and Agency Administrator may develop a WFDSS which will determine the appropriate management response to the escaped fire. The Wildland Fire Decision Support System (WFDSS) process is required when a wildfire escapes initial attack.

Containment opportunities exist using roads and trails within the Ashland Watershed. Areas of additional fuels treatment can be tied into to slow fire growth.

Prescribed Fire Name:	AFR	Ignition Unit Name:	Units 36, 37 and 79a	District:	Siskiyou Mountains
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Element 19: Smoke Management and Air Quality

A. Compliance:					
Burn units will be registered in the FASTRAX database prior to burn day. Approval to burn will be obtained from the Oregon Department of Forestry's Smoke Management Office. The contact number for ODF Smoke Management is 503-945-7401. After obtaining clearance to burn, the unit will be planned the day before the burn using the FASTRAX database.					
B. Permits to be Obtained:					
Smoke Management Number:			Assigned from FASTRAX (Or similar system)		
C. Smoke Sensitive Receptors:					
Identify any non-attainment or Class I airsheds within 15 miles:			Closest class 1 airsheds are the Kalmiopsis and Mountain Lakes wildernesses over 30 miles away.		
Designated Area (DA)	Distance & Direction to DA		Designated Area (DA)	Distance & Direction to DA	
	Distance	Azimuth		Distance	Azimuth
Rogue Valley SSRA	2.25 mi	N-NE			
D. Potential Impacted Areas:					
Local roads could be impacted by residual smoke if a strong inversion occurs in the evening hours. Ashland watershed may have pooling of smoke that impacts recreation activities. Residences and businesses in the area may experience pooling of smoke due to smoldering after ignitions.					
E. Mitigation Strategies and Techniques to Reduce Smoke Impacts:					
Ignitions should occur early in the day and cease in early afternoon to mitigate residual/pooling smoke issues. Burning less acres each operational shift is another option to mitigate the amount of smoke. Impacts to the local area should be minimal and of short duration by burning with favorable winds and mixing heights. Most desired winds to mitigate smoke impacts will have a northerly component. Residual smoke from large burning material can be suppressed to mitigate smoke issues.					

Prescribed Fire Name:	AFR	Ignition Unit Name:	Units 36, 37 and 79a	District:	Siskiyou Mountains
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Element 20: Monitoring

A. Fuels Information Required and Procedures:
Fuels and stand data have been extensively collected. That data will be collected post treatment to evaluate for treatment effectiveness by cooperators and/or the FS. Observed fire behavior and weather parameters will be documented during the ignition phase and included in the project file.
B. Weather Monitoring (Forecasted and Observed) Required and Procedures:
Weather observations should be measured and recorded on a hourly basis on the Weather / Fuels / Fire Behavior / Smoke Observations form found in Appendix I of this plan or form OF-251, Mobile Fire Weather's Observer's Record found in the belt weather kit.
A SPOT weather forecast from the National Weather Service will be obtained before ignition begins.
Portable RAWs located at Winburn Ridge will be used to monitor weather prior and during burn activities.
C. Fire Behavior Monitoring Required and Procedures:
Fire behavior observations should be measured and recorded on an hourly basis on the Weather / Fuels / Fire Behavior / Smoke Observations form found in Appendix I.
D. Monitoring Required to Ensure Prescribed Fire Plan Objectives are Met:
AFR Stewardship personnel will continue to monitor fuels and stand exams to measure treatment effectiveness and to measure how well objectives were met.
E. Smoke Dispersal Monitoring Required and Procedures:
Managers will monitor weather prior to ignitions within the unit. ODF smoke forecasters will be contacted for approval and permits. Personnel will be assigned to document smoke produced by burning and monitor dispersal and mixing height.

Element 21: Post-burn Activities

A. Post-Burn Activities that Must be Completed:
Post burn activities include mop-up to meet standards as set by the Burn Boss. Unit will be monitored and mopped as described in Element 16.
Monitoring for public safety is important as post burn unit may have extreme hazards to recreationalists. Documenting weather conditions post-ignitions and long term forecasts to aid in predicting weather concerns that may affect the unit.
<ul style="list-style-type: none"> - Rescind trail or area closures. - Remove any RX signage that was placed on or near the unit.
Complete necessary line and trail rehab, ensure that any trail hazards are identified and mitigated.

Prescribed Fire Name:	AFR	Ignition Unit Name:	Units 36, 37 and 79a	District:	Siskiyou Mountains
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Prescribed Fire Plan Appendices

Appendix A: Maps: Vicinity, Project or Ignition Units (or both), Values
Optional: Significant or Sensitive Features, Fuels or Fuels Model, Smoke Impact Areas

Appendix B: Technical Reviewer Checklist

Appendix C: Complexity Analysis

Appendix D: Job Hazard Analysis (JHA)

Appendix E: Fire Behavior Modeling Documentation or Empirical Documentation

Appendix F: Smoke Management Plan and Smoke Modeling Documentation (Optional)

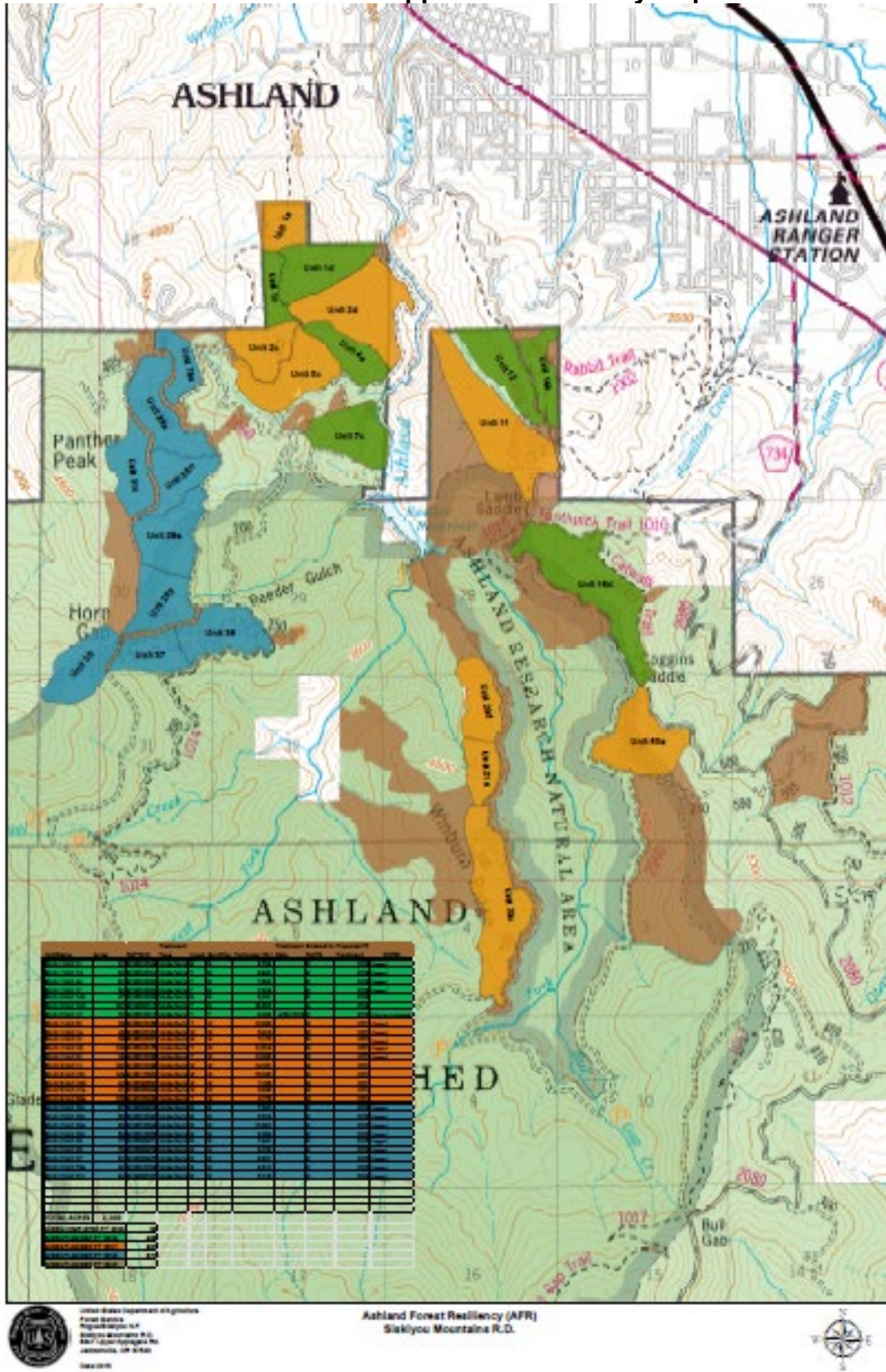
Appendix G: Project Aviation & Safety Plan (PASP) (if applicable)

Appendix H: Prescribed Fire Post Burn Evaluation

Appendix I: Weather / Fuels / Fire Behavior / Smoke Observations

Prescribed Fire Name:	AFR	Ignition Unit Name:	Units 36, 37 and 79a	District:	Siskiyou Mountains
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Appendix A: Vicinity Map



Prescribed Fire Name:	AFR	Ignition Unit Name:	Units 36, 37 and 79a	District:	Siskiyou Mountains
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Appendix A: Project (Ignition Units) Maps

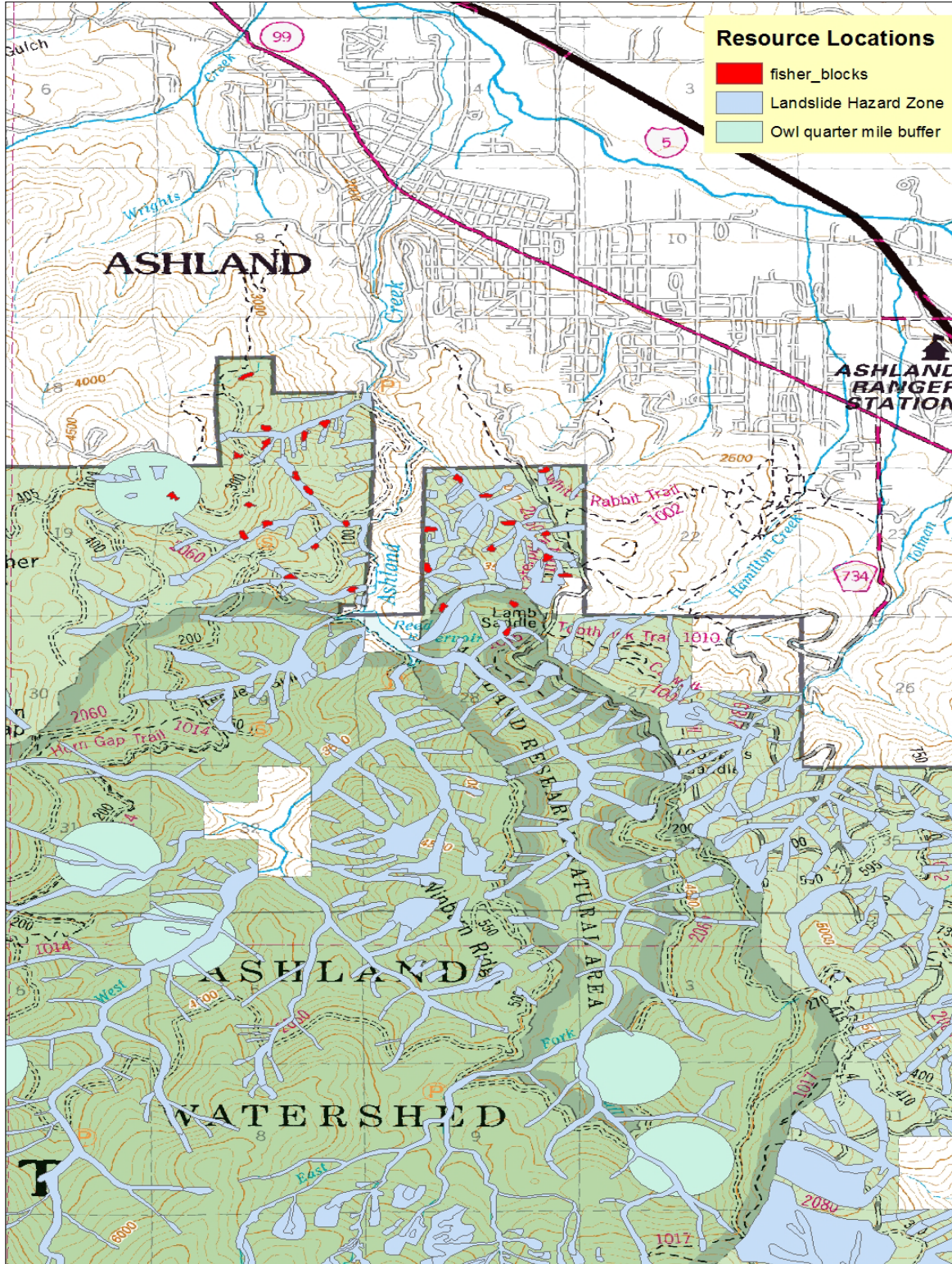
Insert your project (ignition unit) map(s) here. Refer to Element 4D in the *Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484, to fill out this appendix.

The project map(s) identify features in sufficient detail to guide and assist in operational implementation of the prescribed fire. Topographic, vegetative, or aerial photo maps should be used as the base map. ICS map display symbols, identified in the *Fireline Handbook*, PMS 410-1 will be used as appropriate.

Examples of features that should be included are: project boundary, individual unit boundaries, ownership, fireline locations, natural barriers, fuel model locations, proposed ignition patterns and sequence, critical holding points, hazards, safety zones, escape routes, helispots, water sources, etc.

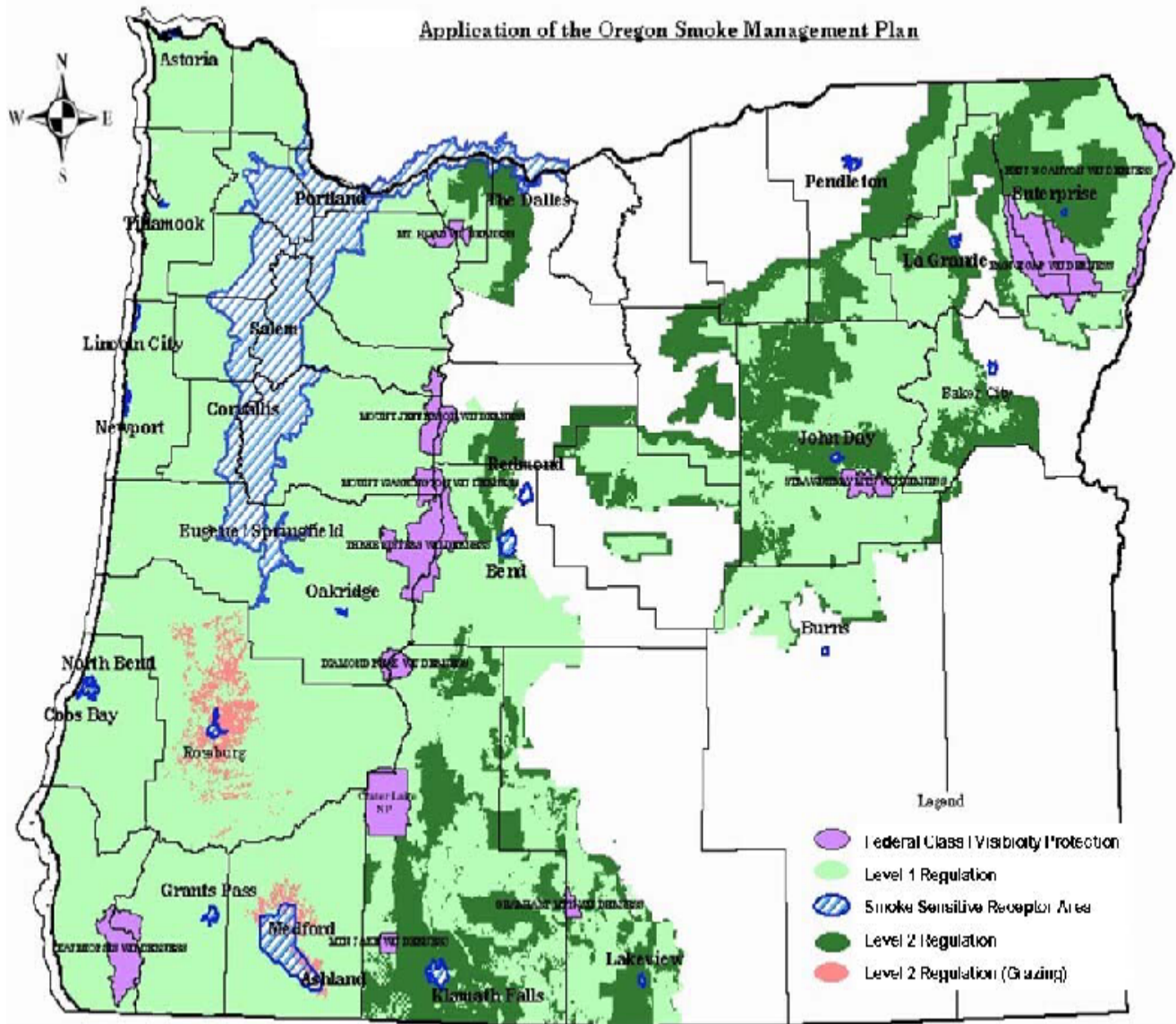
Prescribed Fire Name:	AFR	Ignition Unit Name:	Units 36, 37 and 79a	District:	Siskiyou Mountains
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Appendix A: Values, Significant or Sensitive Features: (Optional) Maps

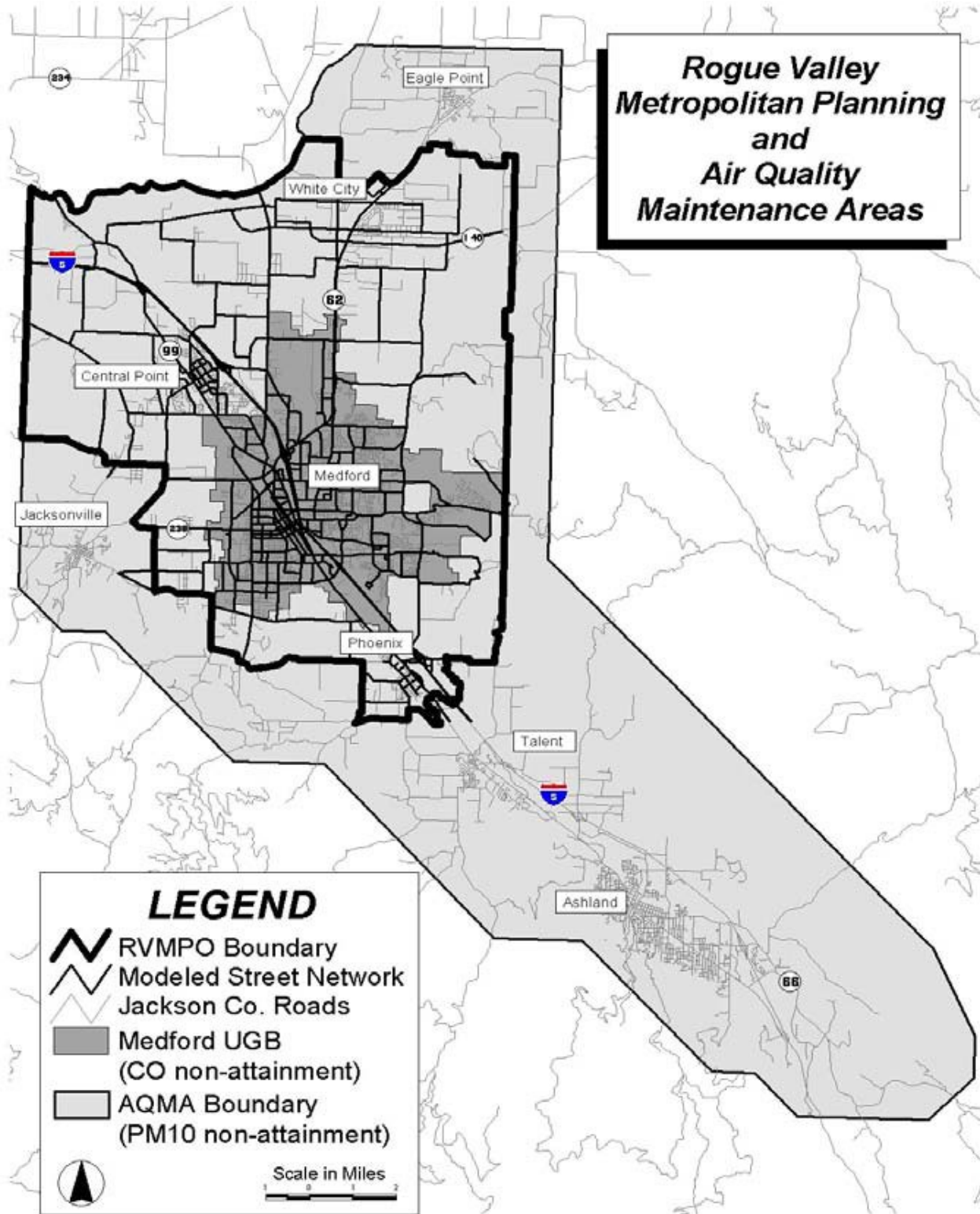


Prescribed Fire Name:	AFR	Ignition Unit Name:	Units 36, 37 and 79a	District:	Siskiyou Mountains
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Appendix A: Smoke Impact Areas: (Optional) Maps



Prescribed Fire Name:	AFR	Ignition Unit Name:	Units 36, 37 and 79a	District:	Siskiyou Mountains
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Prescribed Fire Name:	AFR	Ignition Unit Name:	Units 36, 37 and 79a	District:	Siskiyou Mountains
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Appendix B: Technical Reviewer Checklist

Fill out this checklist based on the guidance provided in the Technical Review section in the *Interagency Prescribed Fire Planning and Implementation Procedures Guide*, PMS 484.

Rate each element in the following table with an “S” for Satisfactory or “U” for Unsatisfactory. Use Comment field as needed to support the element rating.

PRESCRIBED FIRE PLAN ELEMENTS	RATING	COMMENTS
1. Signature page		
2. A. Agency Administrator Ignition Authorization, PMS 485		
2. B. Prescribed Fire GO/NO-GO Checklist, PMS 486		
3. Complexity Analysis Summary		
4. Description of Prescribed Fire Area		
5. Objectives		
6. Funding		
7. Prescription: Prescription Narrative and Prescription Parameters		
8. Scheduling		
9. Pre-Burn Considerations and Weather		
10. Briefing		
11. Organization and Equipment		
12. Communication		
13. Public and Personnel Safety, Medical		
14. Test Fire		
15. Ignition Plan		
16. Holding Plan		
17. Contingency Plan		
18. Wildfire Declaration		
19. Smoke Management and Air Quality		
20. Monitoring		
21. Post-Burn Activities		
Appendix A: Maps		
Appendix C: Complexity Analysis		
Appendix D: Agency-Specific Job Hazard Analysis or Risk Assessment		
Appendix E: Fire Behavior Modeling Documentation or Empirical Documentation		
Appendix F: Smoke Management Plan and Smoke Modeling Documentation (Optional)		
Appendix G: Project Aviation Safety Plan (if applicable)		

- Approval is recommended** subject to the completion of all requirements listed in the comments section, or on the Prescribed Fire Plan.
- Recommendation for approval is not granted.** Prescribed fire plan should be re-submitted for technical review subject to the completion of all requirements listed in the comments section, or on the Prescribed Fire Plan.

Technical Reviewer Signature: _____ Qualification and Currency: _____

Date Signed: _____

Prescribed Fire Name:	AFR	Ignition Unit Name:	Units 36, 37 and 79a	District:	Siskiyou Mountains
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Appendix C – Complexity Analysis

Values

10/19/2022

AFR 36, 37, and 79a		Quantity	Significance	Values Description: Describe the identified off-site, on-site and political values
Values	On-Site	Few	Mod	On site values revolve around habitat and environmental concerns. Risk to cohort 1 trees and effective ground cover. Small riparian feed the headwaters of the Ashland water supply. Adjacent to owl core and is habitat for Pacific fisher, creating the need to work with local Wildlife Biologist's. Several recreation trails run near/through the units. Northern boudary of unit 79a is private property with an established fenceline.
	Off-Site	Multiple	High	Off site values are very similar to the on-site reflecting the same concerns to wildlife, water and legacy trees. In addition there is Reeder Reservoir downhill and to the east of the units about 1 mile away. The City of Ashland lies downslope approxiametly 1.5-2 miles away from burn units. To the north of Unit 79a is the private lands with structures and power infrastructure. There is however multiple roads and trails to use as potential control points in the event of escaped fire.
	Public/Political Interest	Multiple	High	Area is heavily recreated and visible from the City of Ashland, activities in the Ashland watershed can be controversial. There would be significant public interest and negative social impacts from an escape fire or damaged infrastructure. Local Media attention could be significant.

Element	Preliminary Risk	Risk Rating Descriptors	Agency Administrator/Preparer Discussion Completed
Safety	Low	<ul style="list-style-type: none"> • Safety issues and hazards are easily identifiable, addressed in briefings, and managed. • Minimal organization produces little exposure of personnel to hazards. • Adverse impacts to public health and safety are unlikely. • Activities are high frequency/low risk. • Fatigue and exposure to hazards are limited. • Standard safety briefings and attention to Lookouts, Communications, Escape Routes, and Safety Zones (LCES) are sufficient. <p>Area is heavily recreated by the public, safety of public and driving is included in briefing materials.</p>	No
Fire Behavior	Low	<ul style="list-style-type: none"> • Terrain is mostly flat or the slope and aspect are uniform, leading to a relatively unvarying fire. • Winds, fuel moisture, microclimate, and other fire conditions are relatively uniform and are not conducive to active fire spread. • Fire behavior is highly predictable. • Fire spread beyond the immediate ignition area(s) is not likely to occur or contribute to any control problems. <p>AFR units can dry quickly due to granitic soils and chance of east winds setting up, therefore burning at the drier end of the prescription may push behavior more towards the Medium level. Burning under these conditions would be rare.</p>	No
Resistance to Containment	Mod	<ul style="list-style-type: none"> • Potential for multiple wildfire mechanisms such as spot fires or slopovers that can propagate at moderate rates of spread but can be held by prompt holding actions. • Some fuel concentrations or ladder fuels exist near critical holding points. • Expected fire intensities in the primary fuel type create little potential to challenge standard fire lines. • The probability of ignition in fuels outside of control lines is low to moderate. • Some dependency on natural fuel breaks to hold the prescribed fire. • Local drought and or fire indices are expected to be moderate to high. <p>Units can dry quickly and have potential for winds to effect fire, these conditions may alter fuel conditions several days after initial burn. Additional units are in the area, some of these have been treated with prescribed fire while others have slash and handpiles intermixed.</p>	No
Ignition Procedures and Methods	Mod	<ul style="list-style-type: none"> • Multiple firing sequences patterns and timing must be coordinated to meet project objectives and reduce the risk of an unexpected or adverse event. • Specific fire intensities or ROS are somewhat critical for meeting resource objectives but are readily attained by placing local skill sets in firing boss positions. <p>Partnerships require several agencies to come together for burning operations that may be unfamiliar with each other. Fire intensity will be important factor to prevent scorch and meet retention objectives.</p>	No
Prescribed Fire Duration	Mod	<ul style="list-style-type: none"> • Active ignition, fire spread, and patrol is expected to occur for several operational periods. • Some residual burning (heavy fuel smoldering, stump holes, etc.) is expected to occur for several days after the primary burn out of the unit. • Mop-up and patrol is typical with minimal resource and equipment needs. • Primary holding phase is expected to be completed within reasonably predictable local weather forecasts. • The prescribed fire depends on accurate forecasts through three days. 	No

Element	Preliminary Risk	Risk Rating Descriptors	Agency Administrator/Preparer Discussion Completed
		AFR units usually will require multiple days of mop up with numerous smoldering heavy fuels and stumps. Ignition will usually be completed in one day however could roll into a second day of lighting in some cases.	

Element	Preliminary Risk	Risk Rating Descriptors	Agency Administrator/Preparer Discussion Completed
Smoke Management	High	<ul style="list-style-type: none"> • Conspicuous smoke will be produced creating significant public concern. • The possibility of health and safety issues due to smoke exposure exists. • Strong, widespread social/political concern about smoke is common in the affected area. • High possibility for a NAAQS exceedance violation. • Smoke impacts affect several prescribed fire plan elements. <p>Close proximity to the SSRA makes windows for burning somewhat limited, these units are in a higher elevation and can be easier to obtain clearance for then lower AFR units.</p>	No
Number and Dependence of Activities	Mod	<ul style="list-style-type: none"> • Several activities depend on achievement of previous or concurrent actions. • Several activities are interactive. • Communication is routine for coordination of activities and project success. • The project involves another land management agency, ownership or jurisdiction but project completion is not dependent on coordinated implementation. • Adjacent ownership supports the implementation of the prescribed fire. <p>Activities are fairly independent of each other, however involves a partnership with multiple entities (USFS, TNC, City of Ashland, Lomakatsi, and Grayback Forestry). Each partner provides a piece of the burn organization requiring good communication and common purpose.</p>	No
Management Organization	Mod	<ul style="list-style-type: none"> • Two levels of supervision are needed (i.e. Burn Boss, Ignition Specialist, and/or Holding Specialist, plus lighters and holders). • Special skills or supervision required for one function (RXB2 is suggested). <p>Units require different levels of supervision, including different agencies. Required overhead is RXB2, FIRB, and a holding specialist, along with proper crew supervision.</p>	No
Treatment/Resource Objectives	Mod	<ul style="list-style-type: none"> • Issues are present that hamper or may prevent meeting treatment resource objectives. • Failure to meet objectives could have short-term adverse impacts. • Associated resources could be damaged if the prescribed fire did not meet resource objectives. • Few critical holding points. <p>Damage to critical habitat, legacy trees, water and ground cover all could occur if fire doesn't meet resource objectives.</p>	No
		<ul style="list-style-type: none"> • Constraints exist with some constraints imposing limits on implementing the prescribed fire or achieving objectives. 	

Element	Preliminary Risk	Risk Rating Descriptors	Agency Administrator/Preparer Discussion Completed
Constraints	Mod	Many constraints are mitigated by time of year for burning. Fuel and weather conditions minimize mop-up. Project may be in prescription but not meet smoke parameters. Settling of smoke in the valley may have an adverse impact on the public. There is a need to align burn days to not conflict with special events in the City.	No

Element	Preliminary Risk	Risk Rating Descriptors	Agency Administrator/Preparer Discussion Completed
Project Logistics	Low	<ul style="list-style-type: none"> • Minimal logistical support is needed to safely meet prescribed fire objectives. • No special equipment, support or communications needs are required. <hr/> All logistical needs are readily available locally.	No

Element	Preliminary Risk	Post-Plan Risk	Risk Rating Descriptors	Elements and Actions in the RX Fire Plan that Address Risk Mitigation
Safety	Low	Low	<ul style="list-style-type: none"> • Safety issues and hazards are easily identifiable, addressed in briefings, and managed. • Minimal organization produces little exposure of personnel to hazards. • Adverse impacts to public health and safety are unlikely. • Activities are high frequency/low risk. • Fatigue and exposure to hazards are limited. • Standard safety briefings and attention to Lookouts, Communications, Escape Routes, and Safety Zones (LCES) are sufficient. 	<p>The majority of safety issues will be mitigated by good briefings, IAP and LCES being in place. Public concerns will be addressed by signing and notification through social media/local networks. Driving and public presence will be addressed in briefing.</p>
Fire Behavior	Low	Low	<ul style="list-style-type: none"> • Terrain is mostly flat or the slope and aspect are uniform, leading to a relatively unvarying fire. • Winds, fuel moisture, microclimate, and other fire conditions are relatively uniform and are not conducive to active fire spread. • Fire behavior is highly predictable. • Fire spread beyond the immediate ignition area(s) is not likely to occur or contribute to any control problems. 	<p>Expectation is that fire behavior will be modest at best, observations of torching will be an indicator that prescriptions may be exceeded. Fire behavior is predictable with modeling, verifying that parameters are being met is key and may indicate a need to change lighting pattern or hold up ignition till conditions change. Under prescription parameters, standard fire suppression of direct attack should be sufficient to contain any spots that may establish.</p>
Resistance to Containment	Mod	Mod	<ul style="list-style-type: none"> • Potential for multiple wildfire mechanisms such as spot fires or slopovers that can propagate at moderate rates of spread but can be held by prompt holding actions. • Some fuel concentrations or ladder fuels exist near critical holding points. • Expected fire intensities in the primary fuel type create little potential to challenge standard fire lines. • The probability of ignition in fuels outside of control lines is low to moderate. • Some dependency on natural fuel breaks to hold the prescribed fire. • Local drought and or fire indices are expected to be moderate to high. 	<p>Under expected fire behavior parameters most spot fires should be easily contained with a direct attack strategy. There is several roads, trails and previous treatments within the area that would serve as potential containment features.</p>
Ignition Procedures and Methods	Mod	Mod	<ul style="list-style-type: none"> • Multiple firing sequences patterns and timing must be coordinated to meet project objectives and reduce the risk of an unexpected or adverse event. • Specific fire intensities or ROS are somewhat critical for meeting resource objectives but are readily attained by placing local skill sets in firing boss positions. 	<p>Firing patterns and organization is small and non-complex. Firing patterns and timing are important in meeting objectives. Project site has many vantage points to see across unit. Units will be lighted from top to bottom using hand fire methods with preference towards a backing fire, personnel will be briefed and familiar with the strategy.</p>

Element	Preliminary Risk	Post-Plan Risk	Risk Rating Descriptors	Elements and Actions in the RX Fire Plan that Address Risk Mitigation
Prescribed Fire Duration	Mod	Mod	<ul style="list-style-type: none"> Active ignition, fire spread, and patrol is expected to occur for several operational periods. Some residual burning (heavy fuel smoldering, stump holes, etc.) is expected to occur for several days after the primary burn out of the unit. Mop-up and patrol is typical with minimal resource and equipment needs. Primary holding phase is expected to be completed within reasonably predictable local weather forecasts. The prescribed fire depends on accurate forecasts through three days. 	Lighting duration is expected to be short, most likely only one day. Mop-up can extend longer given heavier fuels however intent would be to mop-up as soon as possible to avoid smoldering and potential smoke issues.
Smoke Management	High	High	<ul style="list-style-type: none"> Conspicuous smoke will be produced creating significant public concern. The possibility of health and safety issues due to smoke exposure exists. Strong, widespread social/political concern about smoke is common in the affected area. High possibility for a NAAQS exceedance violation. Smoke impacts affect several prescribed fire plan elements. 	Through mitigations of burning with unstable atmospheric conditions with a north wind component, risk can be reduced however experience has shown that downslope winds develop in evening increasing risk of smoke to the city. This suggests aggressive mop-up of heavy smoldering fuels. Several public forums and outreach has been done with the citizens of Ashland. Ignitions will be limited to wind conditions that carry the smoke away from the SSRA, working with ODF Smoke Managers these windows can be best identified.
Number and Dependence of Activities	Mod	Mod	<ul style="list-style-type: none"> Several activities depend on achievement of previous or concurrent actions. Several activities are interactive. Communication is routine for coordination of activities and project success. The project involves another land management agency, ownership or jurisdiction but project completion is not dependent on coordinated implementation. Adjacent ownership supports the implementation of the prescribed fire. 	Activities are independent, units will be ignited following the proper briefing and approved "Go/No Go". There is no dependency on aerial resources, organization is available and simple. These activities are part of a larger agreement involving multiple parties, all are communicating and involved at some level of the operation. Communication and coordination is the key to success.
Management Organization	Mod	Mod	<ul style="list-style-type: none"> Two levels of supervision are needed (i.e. Burn Boss, Ignition Specialist, and/or Holding Specialist, plus lighters and holders). Special skills or supervision required for one function (RXB2 is suggested). 	Organization is fairly simple but will be fully staffed with qualified Burn Boss, Firing Boss and Holding Boss. Keeping a smaller organization helps decrease chance of communication/operational issues that may result in increase chance that some objectives may not be met. The majority of the resources are from the local area and familiar with the ground.

Element	Preliminary Risk	Post-Plan Risk	Risk Rating Descriptors	Elements and Actions in the RX Fire Plan that Address Risk Mitigation
Treatment/Resource Objectives	Mod	Mod	<ul style="list-style-type: none"> • Issues are present that hamper or may prevent meeting treatment resource objectives. • Failure to meet objectives could have short-term adverse impacts. • Associated resources could be damaged if the prescribed fire did not meet resource objectives. • Few critical holding points. 	<p>Clear understanding of prescription parameters and fire behavior needed to meet resource objectives will make project successful. Fire behavior and fuel treatment effectiveness will need to be continually monitored and adjusted. Meeting objectives may require special techniques in lighting, managing smoke and mop-up. Adverse conditions may have a negative short-term effect on the local ecosystem.</p>
Constraints	Mod	Mod	<ul style="list-style-type: none"> • Constraints exist with some constraints imposing limits on implementing the prescribed fire or achieving objectives. <p>The biggest constraint is smoke management, the district has taken strides in working with ODF Smoke Managers to help open wider burn windows.</p>	<p>Many constraints are mitigated by the time of year burning is planned. Fuel and weather conditions help minimize mop-up. Smoke constraints are mitigated by working closely with ODF Smoke Management to ensure burning is occurring on days less likely to impact the SSRA. Avoiding ignitions during periods of low ventilation, certain winds that carry smoke to the</p>
Project Logistics	Low	Low	<ul style="list-style-type: none"> • Minimal logistical support is needed to safely meet prescribed fire objectives. • No special equipment, support or communications needs are required. <p>All logistical needs are available in local cache, no special equipment or resources are needed. Resources are all available local.</p>	<p>Support needs are all available in the local cache, no special equipment or supplies are needed. Resources are available local, any crew resource needs are basic.</p>

Element	Post-Plan Risk	Technical Difficulty
Safety	Low	Low
Fire Behavior	Low	Low
Resistance to Containment	Mod	Mod
Ignition Procedures and Methods	Mod	Low
Prescribed Fire Duration	Mod	Low

Element	Post-Plan Risk	Technical Difficulty
Smoke Management	High	High
Number and Dependence of Activities	Mod	Mod
Management Organization	Mod	Mod
Treatment/Resource Objectives	Mod	Mod
Constraints	Mod	Low

Element	Post-Plan Risk	Technical Difficulty
Project Logistics	Low	Low

Rating Descriptors

- No special actions are required to mitigate potential minor accidents or injuries identified in the risk assessment/Job Hazard Analysis (JHA).
- Safety concerns can be easily mitigated through LCES.
- No preparation work or special project design features are required.

- Standard fire safety precautions are adequate to ensure personnel safety.
- No fire behavior variations are expected and numerous barriers to fire spread exist.
- The number, size or likelihood of spot fires and slopovers is minimal and do not require additional suppression resources.
- Fire behavior is such that holding forces can easily control possible spot fires and slopovers using direct attack tactics.
- No on-site operational fire behavior specialists are required.

- Several types of resources are involved in the holding operation.
- Some portions of the burn unit and project area are not easily accessible to the holding resources.
- Expected fire behavior outside the unit may require developing indirect attack options.
- Areas outside of the project area have specific suppression action constraints or are on other jurisdictional lands that may limit containment efforts.
- Some site prep is required.
- Expected fire behavior outside of the unit requires moderate contingency planning.

- There is no need for special firing equipment, techniques, or patterns.
- Firing procedures are simple and ignition team is small.
- Use of only one type of ignition device is planned.
- The ignition pattern requires minimal supervision of the lighters to achieve project objectives and manage safety concerns.
- Communications are easily maintained with a single tactical frequency.
- The entire project area is readily visible to the Firing/Burn Boss.

- Ignition and mop-up operations are usually completed in 1 to 2 operational periods.
- Mop-up and patrol is typical with minimal resource and equipment needs.
- Standard press release is sufficient for public notification.

Rating Descriptors

- Several considerations are needed in the prescribed fire plan in order to balance ERTs and SMTs against prescribed fire objectives.
- Must be implemented under multiple specific constraints (specific wind parameters, season, etc.) to prevent impacts to sensitive smoke receptors.
- Burn window/opportunities are limited by the required weather/dispersion conditions.
- Special coordination with air quality officials is required.
- Accelerated mop-up may be planned to reduce smoke impacts.
- Some mitigation measures or additional smoke modeling are required to address potential concerns with smoke impacts.
- Specific smoke monitoring is required to determine smoke plume heights and directions. .
- Forecasts of long term atmospheric stability are required due to duration of the prescribed fire burn.

- Holding and lighting require close coordination and are dependent on each other to prevent spots or slopovers.
- Continuous communication is necessary for successful project completion.
- Some pre-burn considerations are required before ignition.

- At least one primary team member may need to come from outside of the local unit and may not be familiar with local factors.
- The numbers of qualified personnel available on the local unit are limited.
- Special skills or supervision required for one function (RXB2 suggested).
- Some pre-burn preparation work may require special organizational planning and/or coordination.
- Protection of resource values requires extra considerations when developing certain elements of the prescribed fire plan.
- Few resources are required for mop-up and patrol.

- There are several resource objectives to meet.
- Measures to achieve the objectives are either 1) easy to complete but there are restrictions on the techniques or 2) moderately difficult to complete and there are few or no restrictions on techniques.
- Additional monitoring of fire behavior and weather is needed to determine if prescribed fire objectives are being met.
- Other opportunities to meet objectives are very limited in a given year.

- Constraints are easily accommodated and do not increase the difficulty of completing the project or achieving objectives.
- Required weather and fuel conditions are locally very common.

Rating Descriptors

- No specific logistic function is required and the local unit will handle their own support needs.
- Project is nearby and easily accessible.
- Local cache can supply the needs of the prescribed fire.

Appendix D: Job Hazard Analysis (JHA)

FS-6700-7 (08/12)

U.S. Department of Agriculture Forest Service	1. WORK PROJECT/ACTIVITY Prescribed Fire Activites Underburning	2. LOCATION Rogue River-Siskiyou National Forest			3. UNIT Siskiyou Mountains Ranger District		
JOB HAZARD ANALYSIS (JHA) References-FSH 6709.11 and -12 (Instructions on Reverse)	4. NAME OF ANALYST Jim Delatorre	5. JOB TITLE FEO			6. DATE PREPARED 04/20/2017 03-20-2018 Reviewed		
7. TASKS/PROCEDURES	8. HAZARDS	9. ABATEMENT ACTIONS Engineering Controls * Substitution * Administrative Controls * PPE			10. POST ABATEMENT ACTION RISK RATING (from the Severity/Probability Matrix)		
					Severity	Probability	Risk Code
Vehicle FSH 6709.11 (Ch 10, 12) Interagency Standards for Fire and Aviation Operations 2004 (NFES 2724 – Ch. 06)	Driving	1. Adjust speed to condition. 2. Watchout for changing conditions. 3. Advise others of hazards. 4. Anticipate dust, smoke, and wildlife.			1	D	2-H
	Road Conditions	1. Always use chock-blocks on slopes. 2. Park in lowest gear in direction of probable roll. 3. Park off roadway, wheels turned to minimize hazards. 4. Windows up, keys in ignition or gas cap. 5. DO NOT BLOCK ROADS. 6. Check surface before leaving traveled surface. 7. Park safe distance from burn area, point away from burn. 8. Use emergency lights and flashers in smoke, on narrow roads.			1	D	2-H
	Parking	1. Inspect area prior to backing. 2. Always utilize a spotter, when available, when visibility is restricted. 3. Use mirrors. 4. Tap horn to indicate backing motion. 5. Ensure restricted vision vehicles are equipped with warning devices. 6. Face the danger area when backing. 7. Never back on blind corners. 8. Walk around the vehicle and check for hazards and obstructions.			3	C	3-M

*	Backing	<ol style="list-style-type: none"> 1. Secure loads properly. 2. Do not overload vehicles. 3. Keep tools separated from personnel gear and fuel containers. 4. Guard sharp edges. 5. Utilize proper lifting techniques. 6. Load heavy items on bottom. 8. Utilize approved non-leaking fuel containers 	3	C	3-M
*	Cargo Transport	<ol style="list-style-type: none"> 1. Line Officers shall ensure that all personnel involved in the storage, use, transportation and disposal of hazardous materials shall be trained at a minimum in general awareness. 2. Read and understand the Material Safety Data Sheets (MSDS) 3. Provide and use funnels and spouts. 4. Wear gloves, pour slowly. 5. Provide absorbant materials. 6. Clean-up/neutralize/isolate spills. 7. Carry spill kit and or absorbant material. 8. Proper PPE for handling fuel consists of Nomex shirt and pants, leather gloves, leather non-skid boots. 9. Avoid inhalation of fumes, and direct contact with skin/clothes. 7. 	3	E	4-L
<p style="text-align: center;">Handling Flammable Liquids</p> <p>FSH 6709.11 (Ch 10, 60) Interagency Standards for Fire and Aviation Operations 2004 (NFES 2724 – Ch. 06)</p>	Fuel Splash	<ol style="list-style-type: none"> 1. Identify and isolate leaking containers. 2. If containers are found to be damaged or leaking, immediately dispose of the container. 3. Secure containers when transporting. 4. Provide gasquet materials, check cap/lid function. 5. Allow for vapor expansion in container, do not overfill. 6. Label every container with the identity of its contents. 7. Label information shall include: type of fuel (slash, pump,saw), proportion of mix (4:1, 24:1, etc.), date mixed, and name of person who did the mixing. 8. Limit the volume of volatile or flammable material the minimum needed for short operation periods. <p>Provided means of containing the material if equipment or containers should break or spill their contents.</p>	3	D	4-L
	Containers	<ol style="list-style-type: none"> 1. Isolate fuel storage and transfer area away from vehicles and fire area. 2. No smoking within 50 feet of fuel storage area. 3. Do not transfer fuel from containers that are in the bed of vehicles (especially plastic-lined pick-ups). 9. Provide fire extinguishers suitable for flammable liquids being transported. 	4	E	4-L
	Flames/Sparks	<ol style="list-style-type: none"> 1. Use only approved mixtures for burning: <u>4</u> or <u>3</u> parts diesel to <u>1</u> part 	4	D	4-L

		<p>gasoline.</p> <ol style="list-style-type: none"> 2. Provide appropriate labels for all fuel containers. 3. Label information shall include: type of fuel (slash, pump,saw), proportion of mix (4:1, 24:1, etc.), date mixed, and name of person who did the mixing. 4. Isolate differing mixtures from each other (saw, pump, slash). 5. Bulk mix when possible, rather than individual containers. 6. Un-marked containers shall be considered suspect and the contents will be isolated. 4. Use only safety- approved containers for petroleum products. Return unused fuel to proper container(s) and storage area. 			
<p>Handling Flammable Liquids FSH 6709.11 (Ch 10, 25) Interagency Standards for Fire and Aviation Operations 2004 (NFES 2724 – Ch. 15)</p>	Fuel Mixtures	<ol style="list-style-type: none"> 1. Use appropriate ignition device (drip torch, propane torch, terra-torch, ATV-mounted torch, fusee's). 2. Inspect device prior to use. 3. Remove defective devices from service (label). 4. Provide training to in-experienced operators. 5. Transport in boxes or containers that hold them upright and secure 7. Transport in a manner that will eliminate spillage (ie. Drip torch emptied, wick inside container, breather tube shut) 	3	E	4-L
<p>Ignition (of Vegetative materials) FSH 6709.11 (Ch 10, 25) Interagency Standards for Fire and Aviation Operations 2004 (NFES 2724 – Ch. 15)</p>	Ignition Devices	<ol style="list-style-type: none"> 1. Personnel shall be trained and certified to render First Aid and CPR. 2. Required PPE for ignition includes leather gloves, Nomex Pants and long-sleeved shirt, hardhat, leather lace-type boots with skid-resistant soles. 3. Direct ignition device away from self/others. 4. Select ignition site allowing for direction of flames to be away from people. 5. Avoid contact with flammable liquids, if clothing becomes saturated change immediately. 6. Maintain availability of adequate first aid materials for on-site intervention. 	3	D	4-L
	Burn	<ol style="list-style-type: none"> 1. Maintain proper spacing. 2. Wear eight inch top, lace up, non slip sole leather boots. 3. Carry tools on downhill side. 4. Use caution on steep and slushy areas. 5. Avoid walking on or over buck skin logs 6. Wear caulk boots to maintain secure footing in wet / slippery environments 7. While traversing work area, visually identify areas to avoid. 8. Identify vegetation and terrain conditions that pose a hazard. 6. Avoid running, sliding, jumping, elevated log traverse. 	2	D	3-M
	Footing	<ol style="list-style-type: none"> 1. Rotate arduous tasks among capable personnel. 2. Utilize ONLY those personnel that have passed an agency approved fitness test. 3. Ensure breaks are taken in smoke free shaded areas. 	3	D	3-M

		<ol style="list-style-type: none"> 4. Encourage intake of ample water, and nutritious snacks. 5. Limit shift length to 14-hours. 6. Pace work activities, maintain energy reserve. 9. Observe co-workers for fatigue symptoms. 			
	Fatigue	<ol style="list-style-type: none"> 1. All personnel will be trained and know the Ten (10) Standard Firefighting Orders. 2. All personnel will be trained and know the Eighteen Watch Out Situations. 3. All personnel will be trained and know the meaning of LCES. 4. All personnel will be issued and trained with the proper Personal Protective Equipment (PPE) necessary for a safe assignment. 5. PPE will consist of but not limited to: Hard hat w/chinstrap, leather non skid boots w/ at least an eight (8) inch top and lace up front, fire resistant shirt and pants (Nomex), leather gloves, eye protection, ear protection, fire shelter. 6. All personnel will receive a briefing prior to each burn assignment. 7. Briefings will include: tactics, safety, hazards, communications, escape routes, safety zones, weather, and fire behavior. 8. All personnel will be aware of the chain of command. 9. All personnel will meet the National Firefighter Qualification System training for their position. 10. All personnel will have passed the physical requirements for their position and have in their possession an IQCS card /"Red Card" indicating so. 11. All personnel will have received the appropriate training for their position. 7. 	3	D	4-L
<p>Ignition of Vegetative materials Ch. FSH 6709.11 (Ch 20,60) Interagency Standards for Fire and Aviation Operations 2004 (NFES 2724 – 06)</p>	Inexperienced Personnel	<ol style="list-style-type: none"> 1. Actively observe fire behavior - note changes in wind speed and direction, flame length, rate of spread. 2. Remove personnel from immediate area when fire behavior becomes unpredictable or potentially dangerous. 3. Ensure expected fire behavior is understood. 4. Identify unacceptable fire behavior characteristics. 5. Utilize trained and qualified (RXCM) personnel for ignition, holding, and mop-up operations. 6. Fire shelters are required for all personnel on underburn projects due to the potential of changing fire behavior conditions, and general application of fire on the landscape. 	3	C	3-M
<p>Environmental Hazards (FSH 6709.11 Ch. 20)</p>	Erratic Fire Behavior	<ol style="list-style-type: none"> 1. Identify and communicate the presence of falling/rolling materials potential on the operation. 2. Post lookouts and/or avoid areas of known hazard. 3. Maintain positive verbal and radio communication with personnel working in identified areas. 	2	D	3-M

Interagency Standards for Fire and Aviation Operations 2004 (NFES 2724 – 18)		4. Minimize exposure to unavoidable hazards.			
*	Snags/Debris	<ol style="list-style-type: none"> 1. Tools to be guarded prior to and after use. 2. Maintain proper spacing (10') when working. 3. Watchout for overhead obstacles. 4. Select proper tools. 5. Inspect tools before use. 6. Provide training and supervision. 7. Store tools in safe location when not in use (off fireline, away from resting people, edge protected, not leaning against tree or vehicle). 8. Watch footing. 9. No overhead chopping. 10. Separate tools from other gear when transporting. 	1	D	2-H
Environmental Hazards (cont.) (FSH 6709.11 Ch. 20) Interagency Standards for Fire and Aviation Operations 2004 (NFES 2724 – 18)	Handtool Use	<ol style="list-style-type: none"> 1. Avoid working in smoke concentrations. 2. Increase spacing due to limited visibility. 3. Be aware of fire activity, and location. 4. Advise supervisor of potential vehicle traffic problems; exercise caution on/near roadways. 5. Vehicles shall use flashers and headlights. 6. Park off-roadway, 7. Post signs to notify the public 8. Avoid smoke when possible. 9. Protect lungs and airway at all times. 10. If necessary to be in the smoke avoid long durations. 11. Monitor for sign of excessive carbon monoxide levels. 12. Rotate crew out of smokey areas if possible 13. Drink plenty of water. 14. Take Frequent breaks. 15. Moderate work and pace yourself. 	3	D	4-L

	<p>Smoke</p>	<ol style="list-style-type: none"> 1. Post signs on the road (PRESCRIBE BURN, SMOKE AHEAD) on both ends of the unit to inform public. 2. Notify all contacts as per burn plan (NOTIFICATION PLAN) section of prescribe burn before and when ignition has started. <p>If necessary as determined, by burn boss guards will be posted to restrict usage of roads and trails until danger has passed.</p>	<p>4</p>	<p>C</p>	<p>4-L</p>
<p>Burning</p>	<p>Danger to public and Public distraction to burn boss and crew</p>	<p>3. 13. DATE</p>	<p>3</p>	<p>D</p>	<p>4-L</p>
<p>11. LINE OFFICER SIGNATURE</p>		<p>12. TITLE</p> <p>District Ranger</p>			

JHA Instructions (References-FSH 6709.11 and .12)

The JHA shall identify the location of the work project or activity, the name of employee(s) involved in the process, the date(s) of acknowledgment, and the name of the appropriate line officer approving the JHA. The line officer acknowledges that employees have read and understand the contents, have received the required training, and are qualified to perform the work project or activity.

Blocks 1, 2, 3, 4, 5, and 6: Self-explanatory.

Block 7: Identify all tasks and procedures associated with the work project or activity that have potential to cause injury or illness to personnel and damage to property or material. Include emergency evacuation procedures (EEP).

Block 8: Identify all known or suspect hazards associated with each respective task/procedure listed in block 7. For example:

- a. Research past accidents/incidents.
- b. Research the Health and Safety Code, FSH 6709.11 or other appropriate literature.
- c. Discuss the work project/activity with participants.
- d. Observe the work project/activity.
- e. A combination of the above.

Block 9: Identify appropriate actions to reduce or eliminate the hazards identified in block 8. Abatement measures listed below are in the order of the preferred abatement method:

- a. Engineering Controls (the most desirable method of abatement). For example, ergonomically designed tools, equipment, and furniture.
- b. Substitution. For example, switching to high flash point, non-toxic solvents.
- c. Administrative Controls. For example, limiting exposure by reducing the work schedule; establishing appropriate procedures and practices.
- d. PPE (least desirable method of abatement). For example, using hearing protection when working with or close to portable machines (chain saws, rock drills, and portable water pumps).
- e. A combination of the above.

Block 10: The values for Severity, Probability, and the overall Risk Assessment Code (RAC) will correspond to the Risk Management Matrix (attached).

Block 11: The JHA must be reviewed and approved by the appropriate manager / supervisor, as identified in the Risk Decision Authority Matrix.

Block 12 and 13: Self-explanatory.

Emergency Evacuation Instructions (Reference FSH 6709.11)

Work supervisors and crew members are responsible for developing and discussing field emergency evacuation procedures (EEP) and alternatives in the event a person(s) becomes seriously ill or injured at the worksite.

Be prepared to provide the following information:

- a. Nature of the accident or injury (avoid using victim's name).
- b. Type of assistance needed, if any (ground, air, or water evacuation).
- c. Location of accident or injury, best access route into the worksite (road name/number), identifiable ground/air landmarks.
- d. Radio frequencies.
- e. Contact person.
- f. Local hazards to ground vehicles or aviation.
- g. Weather conditions (wind speed & direction, visibility, temperature).
- h. Topography.
- i. Number of individuals to be transported.
- j. Estimated weight of individuals for air/water evacuation.

The items listed above serve only as guidelines for the development of emergency evacuation procedures.

JHA and Emergency Evacuation Procedures Acknowledgment

We, the undersigned work leader and crew members, acknowledge participation in the development of this JHA (as applicable) and accompanying emergency evacuation procedures. We have thoroughly discussed and understand the provisions of each of these documents:

SIGNATURE	DATE	SIGNATURE	DATE
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Safety Risk Assessment Codes						
HAZARD PROBABILITY						
		Frequent	Likely	Occasional	Seldom	Unlikely
		A	B	C	D	E
SEVERITY	Catastrophic	I	Extremely High (RAC 1)	High (RAC 2)		Medium (RAC 3)
	Critical	II	Extremely High (RAC 1)	High (RAC 2)	Medium (RAC 3)	Low (RAC 4)
	Marginal	III	High (RAC 2)	Medium (RAC 3)	Low (RAC 4)	
	Negligible	IV	Low (RAC 4)			

Severity	Effect
Catastrophic I	Death or permanent disability, system loss, major property damage
Critical II	Permanent partial disability, temporary total disability in excess of three months, major system damage, significant property damage
Marginal III	Minor injury, lost workday mishap, compensable injury/illness, minor system damage, minor property damage
Negligible IV	First aid or minor medical treatment, minor system impairment

Probability	
A. Frequent	The event occurs often, frequently, or with regularity in one's career or the life cycle of equipment items
B. Likely	The event occurs periodically with some regularity but not frequently enough to be predictable
C. Occasional	The event occurs sporadically but not with consistent regularity or predictability in ones career of the life cycle of equipment
D. Remote	Possible to occur but the chances of the event occurring are remote
E. Unlikely	In this case, it is unlikely the event will ever occur

Appendix E: Fire Behavior Modeling Documentation or Empirical Documentation

BehavePlus 5.0.5 (Build 307)

Tue, Mar 20, 2018 at 15:23:37

Input Worksheet

Inputs: SURFACE, CONTAIN, SPOT

Input Variables	Units	Input Value(s)
Fuel/Vegetation, Surface/Understory		
First Fuel Model		tl3
Second Fuel Model		sh2
First Fuel Model Coverage	%	90
Fuel/Vegetation, Overstory		
Downwind Canopy Height	ft	100
Torching Tree Height	ft	100
Spot Tree Species		PSEMEN
D.B.H.	in	18
Fuel Moisture		
1-h Moisture	%	6, 8, 10, 12, 14, 16
10-h Moisture	%	8
100-h Moisture	%	10
Live Herbaceous Moisture	%	
Live Woody Moisture	%	250
Weather		
20-ft Wind Speed (upslope)	mi/h	15
Wind Adjustment Factor		.3
Terrain		
Slope Steepness	%	45
Ridge-to-Valley Elevation Difference	ft	500
Ridge-to-Valley Horizontal Distance	mi	.5
Spotting Source Location		RT
Fire		
Number of Torching Trees		1
Elapsed Time	h	1

Fire Size at Report ac .1

Suppression

Suppression Tactic Rear
 Line Construction Offset ch 0
 Resource Line Production Rate ch/h 15
 Resource Arrival Time h 0
 Resource Duration h 20

Notes

Run Option Notes

Two fuel model weighting method: area-weighted [SURFACE].
 Maximum reliable effective wind speed limit IS imposed [SURFACE].
 Calculations are only for the direction of maximum spread [SURFACE].
 Fireline intensity, flame length, and spread distance are always for the direction of the spread calculations [SURFACE].
 Wind is blowing upslope [SURFACE].
 Suppression input is for a single resource [CONTAIN]; multiple values can be entered for any input variable.

Results

1-h Moisture	ROS (max)	Fireline Intensity	Flame Length	Spread Distance	Contain Status	Time from Report	Contain Area	Fireline Constructed	Torch Tree Spot Dist
%	ch/h	Btu/ft/s	ft	ch		h	ac	ch	mi
6	2.0	8	1.2	2.0	Contained	0.4	0.2	5.7	0.2
8	1.8	8	1.1	1.8	Contained	0.4	0.2	5.5	0.2
10	1.7	7	1.1	1.7	Contained	0.4	0.2	5.3	0.2
12	1.6	5	1.0	1.6	Contained	0.3	0.1	5.2	0.2
14	1.4	5	0.9	1.4	Contained	0.3	0.1	5.1	0.2
16	1.2	4	0.8	1.2	Contained	0.3	0.1	4.9	0.2

End

Appendix G: Project Safety Plan

MEDICAL PLAN (ICS 206 WF)

Controlled Unclassified Information//Basic

Medical Incident Report					
FOR A NON-EMERGENCY INCIDENT, WORK THROUGH CHAIN OF COMMAND TO REPORT AND TRANSPORT INJURED PERSONNEL AS NECESSARY.					
FOR A MEDICAL EMERGENCY: IDENTIFY ON-SCENE INCIDENT COMMANDER BY NAME AND POSITION AND ANNOUNCE "MEDICAL EMERGENCY" TO INITIATE RESPONSE FROM IMT COMMUNICATIONS/DISPATCH.					
Use the following items to communicate situation to communications/dispatch.					
1. CONTACT COMMUNICATIONS / DISPATCH (Verify correct frequency prior to starting report) <i>Ex: "Communications, Div. Alpha. Stand-by for Emergency Traffic."</i>					
2. INCIDENT STATUS: Provide incident summary (including number of patients) and command structure. <i>Ex: "Communications, I have a Red priority patient, unconscious, struck by a falling tree. Requesting air ambulance to Forest Road 1 at (Lat./Long.) This will be the Trout Meadow Medical, IC is TFLD Jones. EMT Smith is providing medical care."</i>					
Severity of Emergency / Transport Priority	<input type="checkbox"/> RED / PRIORITY 1 Life or limb threatening injury or illness. Evacuation need is IMMEDIATE <i>Ex: Unconscious, difficulty breathing, bleeding severely, 2^o – 3^o burns more than 4 palm sizes, heat stroke, disoriented.</i> <input type="checkbox"/> YELLOW / PRIORITY 2 Serious Injury or illness. Evacuation may be DELAYED if necessary. <i>Ex: Significant trauma, unable to walk, 2^o – 3^o burns not more than 1-3 palm sizes.</i> <input type="checkbox"/> GREEN / PRIORITY 3 Minor Injury or illness. Non-Emergency transport <i>Ex: Sprains, strains, minor heat-related illness.</i>				
Nature of Injury or Illness & Mechanism of Injury			Brief Summary of Injury or Illness <i>(Ex: Unconscious, Struck by Falling Tree)</i>		
Evacuation Request			Air Ambulance / Short Haul/Hoist Ground Ambulance / Other		
Patient Location			Descriptive Location & Lat. / Long. (WGS84)		
Incident Name			Geographic Name + Medical <i>(Ex: Trout Meadow Medical)</i>		
On-Scene Incident Commander			Name of on-scene IC of Incident within an Incident <i>(Ex: TFLD Jones)</i>		
Patient Care			Name of Care Provider <i>(Ex: EMT Smith)</i>		
3. INITIAL PATIENT ASSESSMENT: Complete this section for each patient as applicable (start with the most severe patient)					
Patient Assessment: See IRPG PAGE 106					
Treatment:					
4. EVACUATION PLAN:					
Evacuation Location (if different): (Descriptive Location (drop point, intersection, etc.) or Lat. / Long.) Patient's ETA to Evacuation Location:					
Helispot / Extraction Site Size and Hazards:					
5. ADDITIONAL RESOURCES / EQUIPMENT NEEDS:					
<i>Example: Paramedic/EMT, crews, immobilization devices, AED, oxygen, trauma bag, IV/fluid(s), splints, rope rescue, wheeled litter, HAZMAT, extrication</i>					
6. COMMUNICATIONS: Identify State Air/Ground EMS Frequencies and Hospital Contacts as applicable					
Function	Channel Name/Number	Receive (RX)	Tone/NAC *	Transmit (TX)	Tone/NAC *
COMMAND					
AIR-TO-GRND					
TACTICAL					
7. CONTINGENCY: Considerations: If primary options fail, what actions can be implemented in conjunction with primary evacuation method? Be thinking ahead..					
8. ADDITIONAL INFORMATION: Updates/Changes, etc.					
REMEMBER: Confirm ETAs of resources ordered. Act according to your level of training. Be Alert. Keep Calm. Think Clearly. Act Decisively.					

MEDICAL PLAN:

A. Procedures

In the event of serious injury or illness, the burn boss shall be notified immediately. The medical IC will initiate on-site response (if not already in progress) and coordinate emergency response. NEVER move an injured person until an assessment of injuries has been completed. **If injuries to the head, neck or back are suspected – do not move the person.**

CRITICAL INJURY OR ILLNESS

Ground Ambulance Transport: Call for Emergency Response and provide first aid. Do not move the patient until an assessment has been completed and incoming responders agree. Then transport the person(s) to meet an ambulance. Otherwise – provide first aid and wait for the responders to reach the patient and treat, then assist in transporting the person to the nearest appropriate location. Give clear concise directions to the meeting location.

Air Transport: Call for Emergency Response and provide first aid. Do not move the patient until an assessment has been completed and incoming responders agree. Then transport the person(s) to the nearest helispot. Otherwise provide first aid and wait for responders to treat, then assist in transporting person(s) to the the nearest helispot. Decision to use air transport over ground should be made in consultation with responding paramedic. Decision to extract versus pack the person should also be made by incoming responders. Information concerning the access, slope and conditions are critical in assisting responders in making evacuation decisions.

See attached map for the closest location. Describe the location relative to the project area and include a Lat/Long. Be prepared to help direct Emergency Responders to the project site whether using air or ground transport.

NON-URGENT RESPONSE

Private Ground Transport: Provide an assessment and first aid on scene – then transport the injured person(s) via on-site vehicle to Ashland Community Hospital. An injured or ill person should be accompanied by the First Responder on site – First Responder should not be the driver unless the injury is minor.

The hospital is near the north end of Ashland, on Maple Street. It is located between Scenic Drive and Coolidge and on the left side of the road when traveling north. See attached maps for more details.

B. HOSPITALS

NAME	ADDRESS	TRAVEL TIME (MIN)		PHONE	HELIPAD?		BURN CENTER
		AIR	GROUND		YES	NO	
Rogue Valley Medical Center	2825 East Barnett Rd. Medford Oregon	15 minutes	1 hour	(541) 608-4900	XX		
Providence Medical Center	1111 Crater Lake Avenue Medford Oregon	15 minutes	1 hour	(541) 732-5000	XX		
Ashland Community Hospital	280 Maple Ashland Oregon	5 minutes	30 minutes	(541) 482-2441		XX	
Legacy Emanuel Hospital	2801 Gantenbein Avenue Portland Oregon	90 minutes	6 hours	(541) 413-2200	XX		XX

C. EMERGENCY TRANSPORTATION

NAME	CONTACT	LOCATION
Ashland Fire Rescue (equipped w/ watershed keys & low angle rescue)	Rogue Valley	Ashland, Oregon
Mercy Flights - Ground	Rogue Valley	Medford, Oregon
Mercy Flights – Air	Rogue Valley	Medford, Oregon
Jackson County - Air Rescue (equipped with Short Haul)	Rogue Valley	Ashland, Oregon

Appendix H – Prescribed Fire Post Burn Evaluation				
Burn Unit	Date(s) Burned		Acres Burned	Ignition Start Time
Weather and Fuel Conditions				
	Time of Ignition		Low	High
Temperature				
Relative Humidity				
1-hr Fuel Moisture				
10-hr Fuel Moisture	100-hr Fuel Moisture	1000-hr Fuel Moisture	Days Since Significant Precipitation	
Wind Direction (Average)	Wind Speed (Average)		Percent of Fuel Consumed	Ignition Duration (min.)
Accomplishment of Fuels Treatment Objectives				
Overall Objectives Achieved:		Yes		No
Short Term Results (include changes in fuel profile and fire regime condition class)				
Cost Evaluation				
Burn Plan Preparation	Site Preparation	Burn Operation	Total Burn Costs	Cost/Acre
\$	\$	\$	\$	\$
Narrative – Prescribed Fire Burn Boss Comments				
i.e. operations, safety, fire behavior, personnel & equipment performance, logistics, smoke management				
Prescribed Fire Burn Boss			Date	

Appendix I – Weather / Fuels / Fire Behavior / Smoke Observations									
Weather and Fuels									
OBSERVATION TIME (24 HR)									
SLOPE (%)									
ASPECT									
ELEVATION (FEET)									
FUEL MODEL (1-13)									
SHADING (<50% or >50%)									
DRY BULB TEMPERATURE (°F)									
WET BULB TEMPERATURE (°F)									
RELATIVE HUMIDITY (%)									
EYE LEVEL WIND SPEED (MPH)									
WIND DIRECTION									
CLOUD COVER (%)									
1-HR FUEL MOISTURE (%)									
Fire Behavior									
FIRE (HEAD, FLANK, BACKING)									
AVERAGE FLAME LENGTH (FT)									
MAX. FLAME LENGTH (FT)									
RATE OF SPREAD (CH/HR)									
TORCHING/CROWNING (Y or N)									
FIRE WHIRLS (Y or N)									
SPOTTING (Y or N)									
SMOKE DIRECTION									
SMOKE RISE									
Notes									
OBSERVER NAME:						DATE			