



UIUC

UMPQUA INDIAN
UTILITY COOPERATIVE

2022 WILDFIRE MITIGATION PLAN

**Umpqua Indian
Utility Cooperative**

DATE: JUNE, 2022

REVISION: DRAFT

THIS PAGE INTENTIONALLY LEFT BLANK

Table of Contents

Table of Contents.....	i
1 Introduction/Executive Summary	1
1.1 Purpose of the Plan	1
1.2 Objectives of the WMP.....	1
1.3 Utility Profile and History	1
1.4 The Service Area	2
2 Overview of Utility’s Fire Prevention Strategies.....	6
3 Utility Asset Overview	7
4 Risk Analysis and Risk Drivers	8
4.1 Fire Risk Drivers Related to Construction and Operations.....	8
4.2 Fire Risk Drivers Related to the Service Area	8
4.3 Key Risk Impacts.....	8
4.4 Wildfire History and Outlook	9
4.4.1 Wildland Urban Interface.....	10
4.5 Fire Threat Assessment Mapping	13
5 Wildfire Prevention Strategy and Programs	16
5.1 Transmission and Distribution System Operational Practices	16
5.1.1 De-energization – Public Safety Power Shutoff.....	16
5.1.2 Situational Awareness	17
5.2 Infrastructure Inspections and Maintenance	17
5.2.1 Definition of Inspection Levels.....	20
5.2.2 Routine Safety Patrol Inspections.....	20
5.2.3 Detailed Inspections of Underground Distribution Lines	20
5.2.4 Prioritization of Repairs	20

5.3	Vegetation Management (VM)	21
5.3.1	Vegetation Trimming Standards	21
5.3.2	Hazard Trees	21
5.4	Fire Mitigation Construction	22
6	Emergency Response	22
6.1	Preparedness and Response Planning	22
6.1.1	Emergency Management Communication and Coordination	22
6.1.2	Jurisdictional Structure	22
6.1.3	Public Agency and Customer Communications for Outages	25
6.2	Restoration of Service	25
6.2.1	Service Restoration Process	25
7	Performance Metrics and Monitoring	25
7.1	Plan Accountability	25
7.2	Monitoring and Auditing of the WMP	26
7.2.1	Identifying Deficiencies in the WMP	26
7.3	Performance Metrics	Error! Bookmark not defined.
7.4	Programmatic QA/QC processes	27
7.4.1	Transmission and Distribution System Inspection QC Process	27
7.5	Plan Approval Process	27
7.5.1	Board Presentation	27
	Appendix A: Plan and Mapping Disclaimers	28

Table of Tables

Table 1. Mitigation Strategies/Activities	6
Table 2. Asset Overview	7
Table 3. Inspection Program Summary	18
Table 4. Performance Metrics (Optional)	Error! Bookmark not defined.

Table of Figures

Figure 1. Service Area	4
Figure 2. Historic Wildfire Perimeters 2000-2020	Error! Bookmark not defined.
Figure 3. Wildland Urban Interface	11
Figure 4. Wildfire Hazard Potential	16
Figure 5. General Land Ownership	22

Template key

Red text=Instructional Information
Black text=Sample Language

THIS PAGE INTENTIONALLY LEFT BLANK

1 Introduction/Executive Summary

Oregon has experienced some of the most devastating and catastrophic wildfires in the country. These unusually large wildfires are on the rise in the PNW with an increase in fires in west-side conifer forests. In the western U.S. region encompassing the PNW, the annual probability of very large fires is projected to increase by a factor of 4 in 2041-2070 compared to 1971-2000¹.

As a result of this increased wildfire danger the Oregon legislature passed Senate Bill 762 which Gov. Kate Brown signed into law in 2021. SB 762 establishes new programs to fight and mitigate wildfires, bolster recovery, help communities adapt to smoke, and implement changes to the state's building code for structures within high-risk areas in the wildland-urban interface (WUI). It also requires consumer owned electric utilities develop risk-based wildfire mitigation plans and submit them to the Oregon Public Utility Commission (OPUC) by June 30, 2022.

For UIUC, which aims to protect public safety and preserve the reliable delivery of electricity, wildfire mitigation is without question a top priority. While an electric utility can never fully eliminate the risk of fire, UIUC is committed to taking all practical actions available to it to prevent the devastation that a wildfire could bring to the people and communities we serve. This wildfire mitigation plan lays out the steps we are taking to do so.

1.1 Purpose of the Plan

The Plan describes the UIUC's strategies, programs, and procedures to mitigate the threat of wildfires ignited by electrical equipment and addresses the unique features of its service territory. This includes the maintenance of its distribution assets.

The guidelines and procedures outlined in this plan are implemented and supported by UIUC personnel.

1.2 Objectives of the WMP

The Main objectives to this plan are to:

1. Mitigate the probability that UIUC electrical equipment may be the source of ignition of a wildfire, while continuing to provide reliable electrical service to our customers.
2. Implement a plan that prioritizes safety, awareness, and preventative methods.
3. Maintain a plan that aligns with prudent utility practices.

1.3 Utility Profile and History

¹ Northwest Climate Adaptation Science Center

Umpqua Indian Utility Cooperative (UIUC), a utility cooperative owned and operated by the Cow Creek Band of Umpqua Tribe of Indians. UIUC has been providing electric services to the Tribe since its formation in 2001. UIUC has since expanded its services to now include Sewer, Water, Irrigation, and Pumping services to the Tribe.

Umpqua's 2021 electric load was approximately 22,500 MWh, the majority of which is located in Canyonville. UIUC has an agreement with Bonneville Power Administration (BPA) to purchase wholesale power. BPA is a federal agency that delivers hydropower produced in the Columbia River Basin across the Northwest. However, BPA does not own transmission lines in the Tribal service area and has a contract with Pacific Power to delivery power to UIUC's designated points of delivery (POD). UIUC then uses its own distribution lines to serve the end customers. UIUC is 100% reliant on Pacific Power's PSPS plan if de-energizing was to happen.

UIUC is a small utility that services 180 meters on 600 acres on Tribal land in Douglas County. UIUC is governed by a five-person board; UIUC board members serve two year terms and are confirmed by the Cow Creek Band of Umpqua Tribe of Indians Tribal Board of Directors.

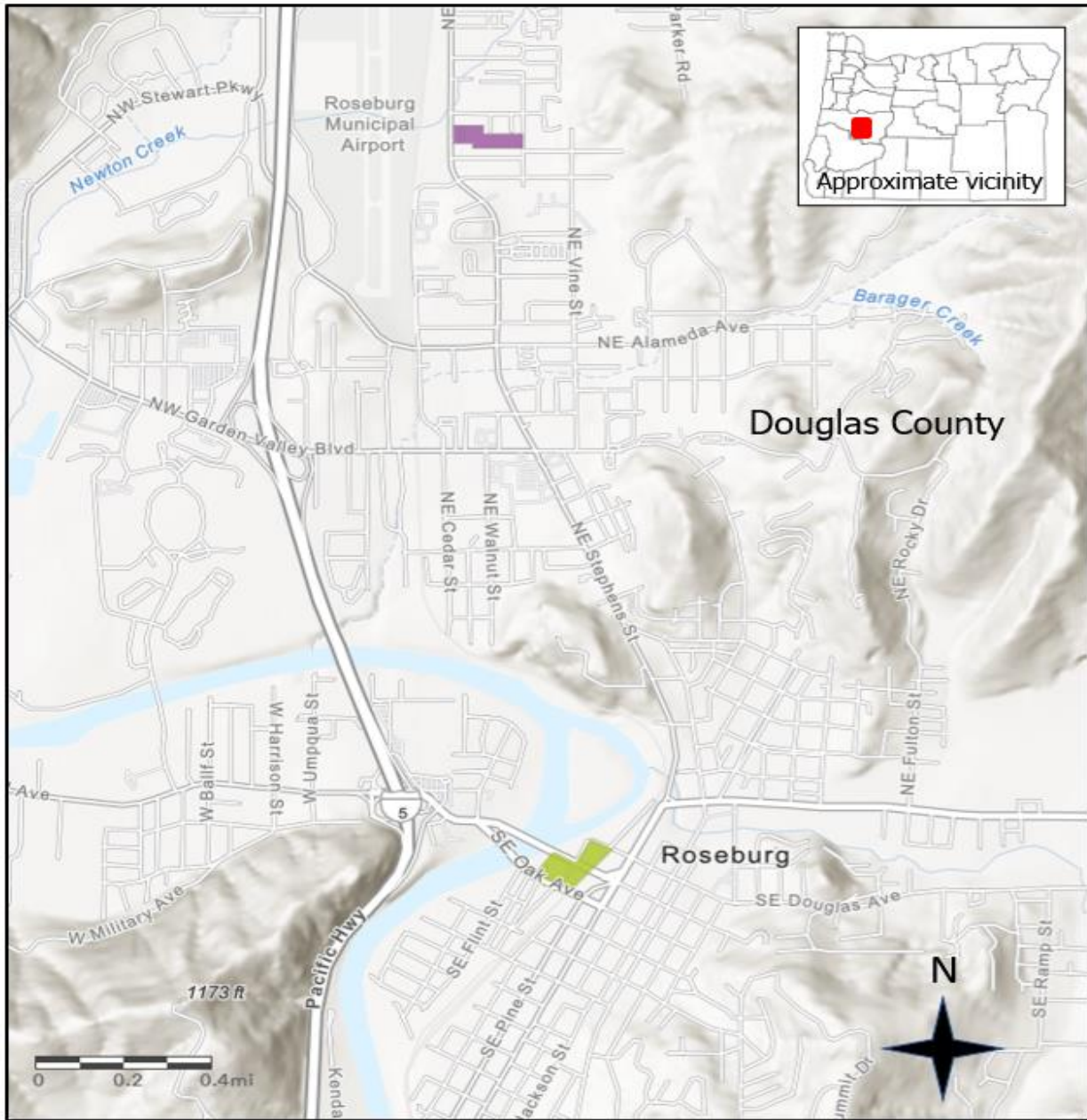
1.4 The Service Area

At 600 acres UIUC's service area is uniquely small- located in central and southern Douglas County in the heart of the Umpqua Valley. A majority of our service territory is in commercial and or residential developments, with a small portion residing in mountain forests. UIUC's office is located in Canyonville, Oregon.



- UIUC purchases power from the Bonneville Power Administration (BPA) and transmits through Pacific Power lines
- 5 Points of Delivery (POD) on Tribal Land. 2 in Canyonville, OR, 1 in Tri city, OR and 2 in Roseburg, OR
- BPA (via Pacific Power) delivers at distribution levels to all 5 POD's; we have no substation.
- UIUC is 100% an underground utility, therefore we have no overhead lines.
- UIUC has a small service area; all of the underground distribution is encompassed within 600 acres.
- The service area of all five PODs is within two miles east or west of Interstate five
 - All utility assets can be directly accessed by paved or gravel road.
- UIUC's service territory falls under Koppen Climate type "warm-summer Mediterranean". This climate is characterized as hot summers and cool wet winters.
 - Temperatures can vary in our service area. UIUC personnel can encounter temperatures over 100 degrees Fahrenheit in the summer and below freezing in the winter.
 - Rainfall averages 38 inches per year, and 2 inches of snow per year
 - On average we will get 182 days of sunshine.

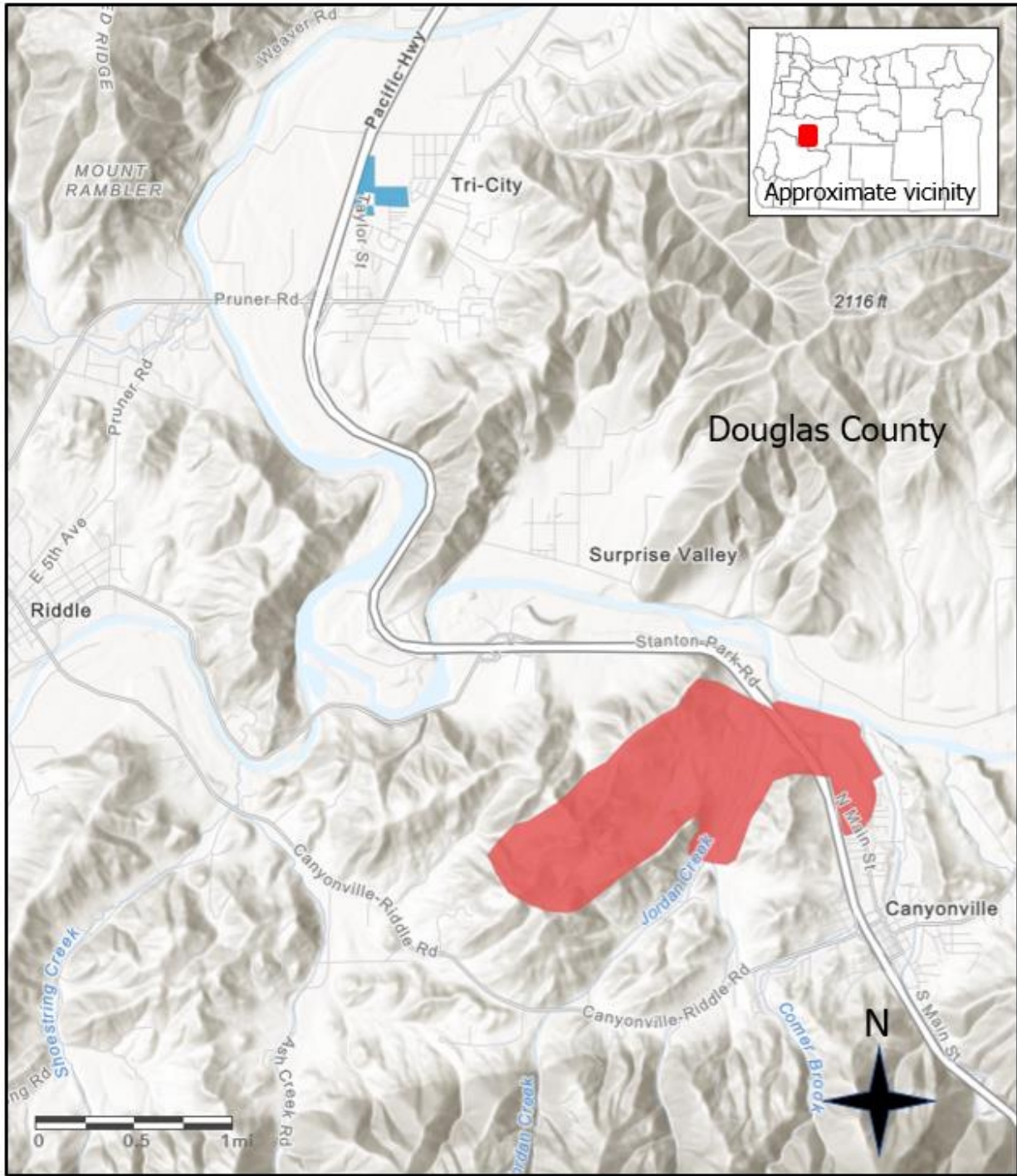
- **Create a service area boundary map (Figure 1), showing the following information:**
 - Service area boundary
 - County lines and labels
 - Major transportation routes
 - Major cities
 - Vicinity thumbnail

Figure 1. Service Area



UIUC Service Areas – North

-  Area 3, The Lot
-  Area 4, Government Office



UIUC Service Areas – South

- Area 1, Casino
- Area 2, Tribal Housing

2 Overview of Utility’s Fire Prevention Strategies

This WMP integrates and interfaces with UIUC’s existing operations plans, asset management, and engineering principles, which are themselves subject to change. Future iterations of the WMP will reflect any changes to these strategies and will incorporate new best management practices as they are developed and adopted.

Table 1 summarizes UIUC’s five mitigation components with associated programs and activities that support UIUC’s ongoing commitment to wildfire prevention and mitigation.

Table 1. Mitigation Strategies/Activities

DESIGN AND CONSTRUCTION
Strategic undergrounding of distribution lines
Avian protection construction standards
INSPECTION AND MAINTENANCE
Infrared inspections of distribution equipment
T&D system vegetation management program
Distribution system detailed inspections
Increased removal rate of undesirable trees
Enhanced vegetation management prior to fire season
OPERATIONAL PRACTICES
Work procedures and Fire Hazard training for persons working in locations with elevated fire risk conditions
Contractor/staff safety training and orientation for vegetation management work
Fire suppression equipment on worksite during fire season
Provide liaison to county offices of emergency services (OES) during fire event
SITUATIONAL AWARENESS
Weather Monitoring in the service area

Utility-owned weather stations

Monitoring active fires in the Southwest

RESPONSE AND RECOVERY

Coordination with local Department of Emergency Management

3 Utility Asset Overview

UIUC has a small service area and relatively small asset inventory. In order to provide prompt service to our customers, UIUC maintains a facility in Canyonville for our crews to operate out of. All operational assets are within 30 miles of Canyonville allowing crews to respond to any event in a timely matter. Our facility has a storage yard stocked with the parts and equipment needed for any service or repair work.

Most of the power UIUC distributes is generated by the Bonneville Power Administration (BPA) hydroelectric dams on the Columbia River. BPA does not own transmission lines in the Tribal service area and has a contract with Pacific Power to deliver power to UIUC's designated points of delivery (POD). UIUC then uses its own underground distribution lines to serve the end customers.

UIUC's underground distribution network is made up 20,000 LF of distribution line.

Table 2 on Page 7 provides a high-level description of UIUC's assets

Table 2 provides a high-level description of UIUC's T&D assets.

Table 2. Asset Overview

ASSET CLASSIFICATION	ASSET DESCRIPTION
Distribution Line Assets	Approximately 20,000 LF of underground (UG) conductor, cabling, transformers, voltage regulators, capacitors, switches, lined operating at or below 21,000kV.

4 Risk Analysis and Risk Drivers

4.1 Fire Risk Drivers Related to Construction and Operations

UIUC staff evaluated other utility's fire causes and applied its own field experience to determine the critical potential risk drivers. The categories listed below were identified as having the potential for causing powerline sparks and ignitions:

- Equipment/facility failure
- Foreign contact
- Vehicle impact
- Standard expulsion fuses
- Tree falling on Pad mounted equipment
- Age of assets
- Vandalism

4.2 Fire Risk Drivers Related to the Service Area

As part of the risk analysis process, we examined asset locations to identify risk drivers unique to our service area. These types of RDs included:

- Topography
- Accessibility
- Climate
- Vegetation Types / fuels
- Fire history
- Tree mortality / tree failure
- Lightning
- Fire Weather

4.3 Key Risk Impacts

Ignitions caused by the aforementioned risk drivers have many possible outcomes. The list below outlines some of the worst-case scenarios and consequences:

- Personal injuries or fatalities to the public, employees, and contractors
- Damage to public and/or private property
- Damage and loss of UIUC owned infrastructures and assets
- Impacts to reliability and operations
- Damage claims and litigation costs, as well as fines from governing bodies
- Damage to UIUC's reputation and loss of public confidence

4.4 Wildfire History and Outlook

Today, fire behavior on tribal lands is variable and dependent largely upon location, access, fuel types, and the composition of various WUI areas. Fire behavior during drought conditions can become extreme due to high wind conditions. Large fires in the vicinity spread rapidly in extremely dry, over mature, disease infected timber stands. Fires occurring on adjacent forest land happen frequently, and their hazard potential to Cow Creek Tribal Lands is immense. An aggressive fire and fuels management approach to forest management is necessary to ensure the sustainability of Tribal resources into the future.

Today, the southwest Oregon region including Douglas County and the Tribal Reservation is one of the highest risk areas for wildfires in Oregon. The principal type of fire affecting Oregon communities is interface fire, which occurs at the Wildland Urban Interface (WUI), where wildland and developed areas intermingle with both vegetation and structures combining to provide fuel. As Oregon's population continues to grow, so too does the number of structures being built within the WUI. Fuel loads throughout most of Douglas County today are quite high. The ecosystem is no longer well-adapted to fire as it was in the past, especially considering a century of forest management emphasizing fire exclusion.

Normal fire season starts in mid to late May and continues thru October. The Milepost 97 Fire began late in the evening of July 24, 2019 from human causes. The fire origin was within an Oregon Department of Transportation right-of-way on Interstate 5, South of Canyonville, Oregon. Significant fire growth occurred on July 27th and 28th due to strong wind and low humidity, and by July 29 winds had dropped and fire activity subsided. The Milepost 97 fire covered 13,098 acres of forested lands in the Canyon Creek watershed and was contained August 17, 2019

The Tribe has a Local Operating Plan which governs fire suppression activities. This plan provides direction and coordination for protecting Tribal lands in the event of a wildfire in addition to outlining guidance for prescribed burning on tribal lands. This plan also sets forth communication, coordination, and billing protocols for fire management activities.

This plan is tiered to the Tribe's approved Forest Resource Management Plan (FRMP) - A Continuous Forest Management Approach (December 4, 2019), and the Fire Management Plan. Direction set forth in this FRMP and the Fire Management Plan establish a policy of aggressive and rapid suppression and control of all unplanned fires on the reservation. This policy is not likely to change soon due to the composition of the forest resource as well as the proximity of such resources within the Wildland-Urban Interface. The most effective strategy for containing

fire suppression costs is enhancement of initial attack resources, thereby preventing the fire from becoming large.

Fire suppression activities will be conducted in accordance with NIFC Geographic and National Mobilization Guides and local Operating Plans with the Douglas and Coos Forest Protective Associations (DFPA and CFPA). Fire suppression activities will be coordinated through the BIA and the Regional FMO as dictated by Geographic and National Preparedness Levels. As Preparedness Levels fluctuate with the fire season, so too should the focus of management objectives. Regional availability of resources is instrumental to the performance of preventative fire management activities during periods of low Preparedness Levels.

4.4.1 Wildland Urban Interface

The United States Forest Service (USFS) defines the wildland urban interface (WUI) as a place where humans and their development meet or intermix with wildland fuel. Communities that are within 0.5 miles of the zone are included. According to the USDA Forest Service, the area considered WUI has expanded 39% in Oregon from 1990 to 2010, with the number of homes increasing by 53.6%². There are now over 615,000 homes in Oregon located in the WUI³.

The WUI is composed of both interface and intermix communities. The distinction between these is based on the characteristics and distribution of houses and wildland vegetation across the landscape. Intermix WUI refers to areas where housing and wildland vegetation intermingle, while interface WUI refers to areas where housing is in the vicinity of a large area of dense wildland vegetation. Figure 3 illustrates the distribution of WUI areas in UIUC's service area.

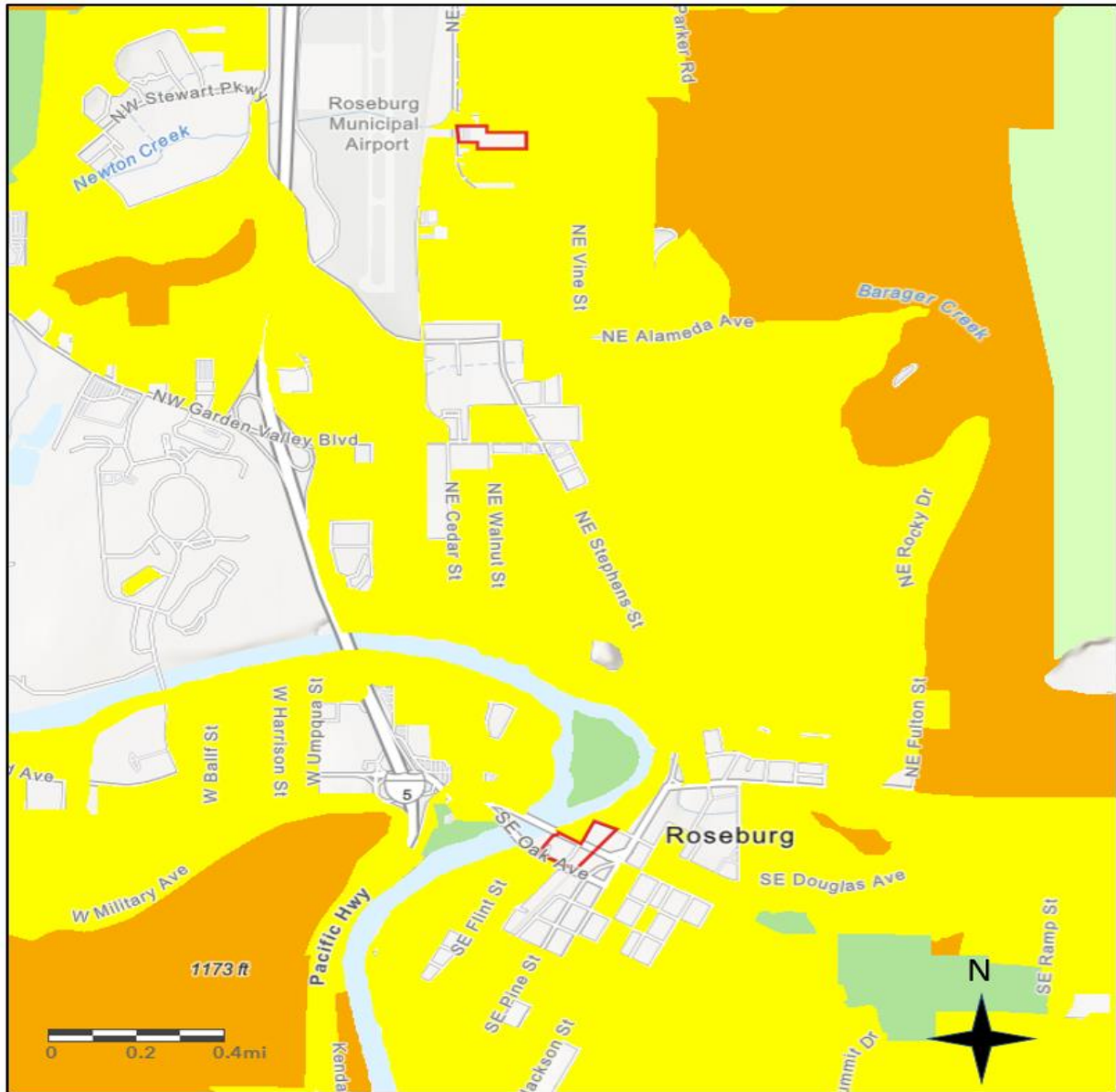
The USFS has established five classes of WUI in its assessment:

- **WUI Intermix:** Areas with ≥ 16 houses per square mile and ≥ 50 percent cover of wildland vegetation
- **WUI Interface:** Areas with ≥ 16 houses per square mile and < 50 percent cover of vegetation located < 1.5 miles from an area ≥ 2 square miles in size that is ≥ 75 percent vegetated
- **Non- WUI Vegetated (no housing):** Areas with ≥ 50 percent cover of wildland vegetation and no houses (e.g., protected areas, steep slopes, mountain tops)
- **Non-WUI (very low housing density):** Areas with ≥ 50 percent cover of wildland vegetation and < 16 houses per square mile (e.g., dispersed rural housing outside neighborhoods)

² https://www.nrs.fs.fed.us/data/wui/state_summary/

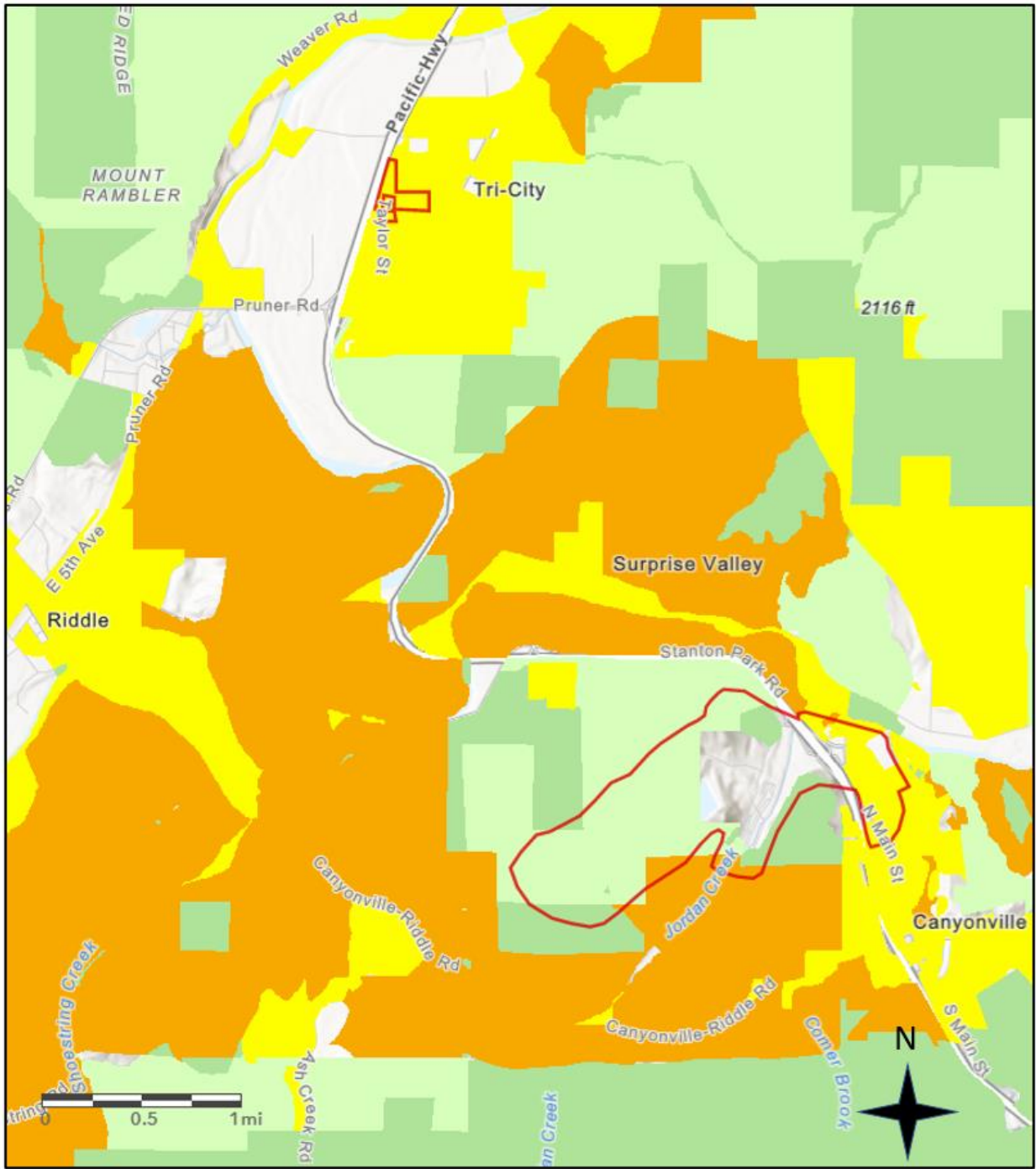
- **Non-Vegetated or Agriculture (low and very low housing density):** Areas with <50 percent cover of wildland vegetation and <128 houses per square mile (e.g., agricultural lands and pasturelands)

Figure 2. Wildland Urban Interface



Wildland Urban Interface - North

- | | | |
|--------------|-----------|--------------------------------------|
| Service Area | Interface | Non-WUI Vegetated - very low housing |
| County Lines | Intermix | Non-WUI Vegetated - no housing |



Wildland Urban Interface - South

- | | | |
|--|---|--|
|  Service Area |  Interface |  Non-WUI Vegetated - very low housing |
|  County Lines |  Intermix |  Non-WUI Vegetated - no housing |

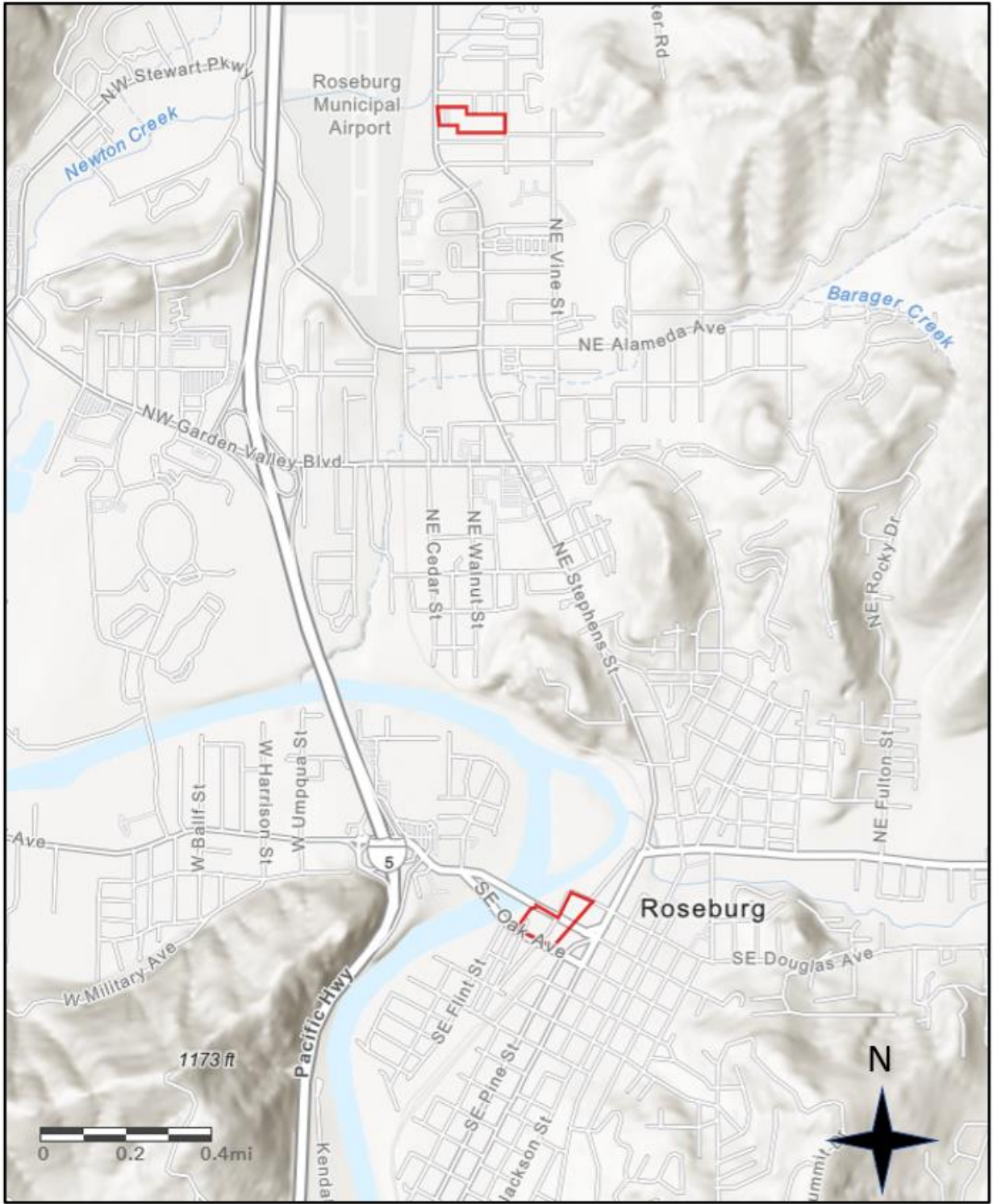
4.5 Fire Threat Assessment Mapping

The Wildfire Hazard Potential (WHP) risk map is derived from a 270-meter resolution raster geospatial product created by the USDA/USFS, Fire Modeling Institute. The specific dataset used is the Wildfire Hazard Potential⁴ Version 2020, which is the third edition of the WHP product and depicts landscape conditions of the conterminous United States as of the end of 2014.

WHP was built upon spatial datasets of wildfire likelihood and fire intensity using the Large Fire Simulator (FSim), as well as spatial fuels and vegetation data from Landfire 2014, and point locations of historic fire occurrence (ca. 1992-2015). The objective of the map was to depict relative potential for wildfire that would be difficult for suppression resources to contain and for long-term strategic fuels management planning. On its own, WHP is not an explicit map of wildfire threat or risk, but when paired with spatial data depicting highly valued resources and assets such as structures or powerlines, it can approximate relative wildfire risk to those specific resources and assets.

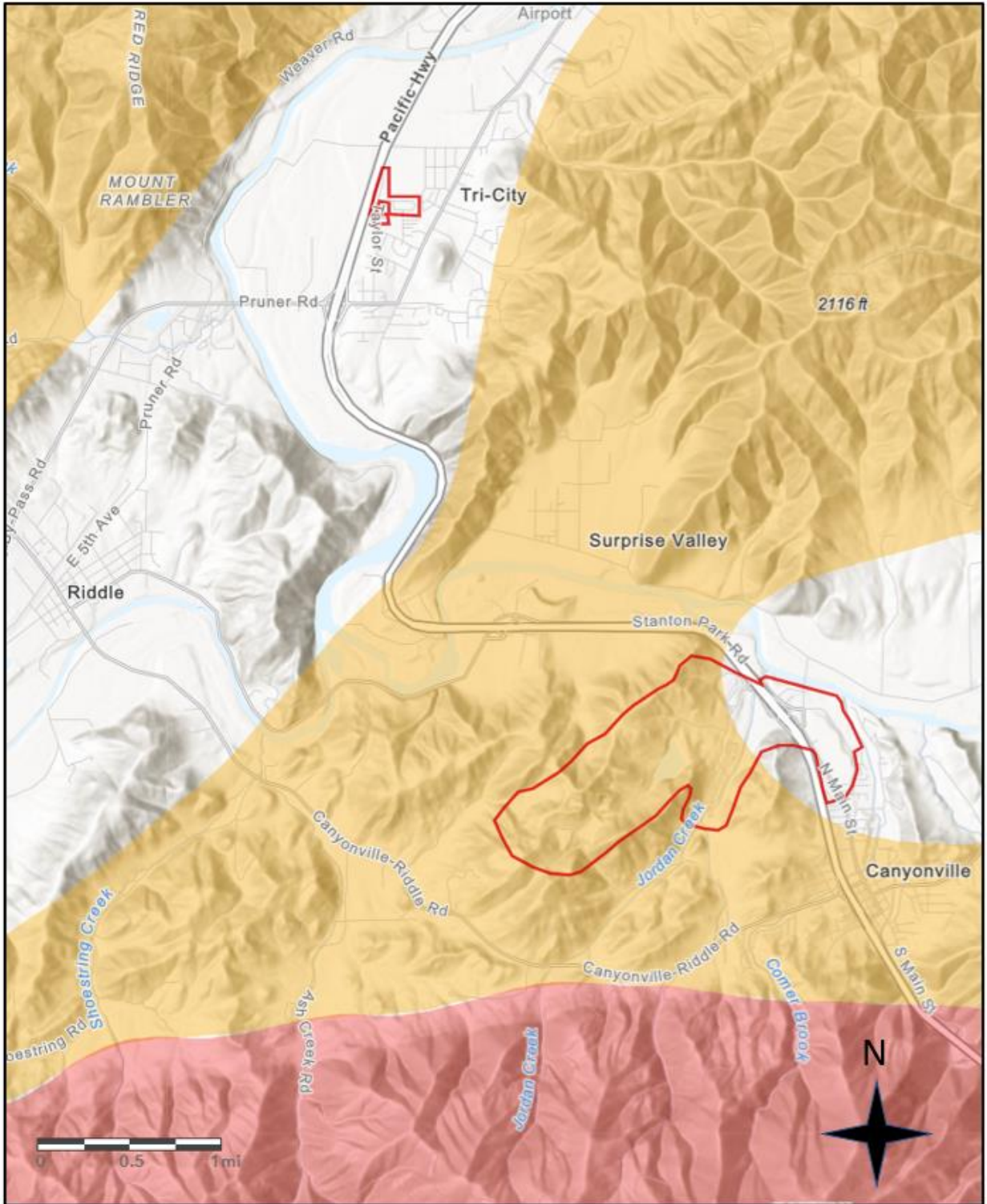
The data described here are derived from wildfire simulation modeling, and their exact accuracy cannot be measured. They are intended to be relative measures of wildfire risk for planning purposes.

⁴ Product citation: *Dillon, Gregory K. 2015. Wildfire Hazard Potential (WHP) for the conterminous United States (270-m GRID), version 2020 classified. 3rd Edition. Fort Collins, CO: Forest Service Research Data Archive. <https://doi.org/10.2737/RDS-2015-0047-3>*



Wildfire Hazard Potential – North





Wildfire Hazard Potential – South

- Service Area
- Low
- Moderate
- High

Figure 3. Wildfire Hazard Potential

5 Wildfire Prevention Strategy and Programs

5.1 Transmission and Distribution System Operational Practices

5.1.1 De-energization – Public Safety Power Shutoff

A Public Safety Power Shutoff (PSPS) preemptively de-energizes power lines during high wind events combined with hot and dry weather conditions. When considering de-energization, UIUC examines the impacts on fire response, water supply, public safety, and emergency communications.

UIUC considers the external risks and potential consequences of de-energization while striving to meet its main priority of protecting the communities and members we serve. They include:

- Potential loss of water supply to fight wildfires due to loss of production wells and pumping facilities.
- Negative impacts to emergency response and public safety due to disruptions to the internet and mobile phone service during periods of extended power outages.
- Loss of key community infrastructure and operational efficiency that occurs during power outages.
- Medical emergencies for members of the community requiring powered medical equipment or refrigerated medication. Additionally, the lack of air conditioning can negatively impact medically vulnerable populations.
- Negative impacts on medical facilities.
- Traffic congestion resulting from the public evacuation in de-energized areas can lengthen response times for emergency responders.
- Negative economic impacts from local businesses forced to close during an outage.
- The inability to open garage doors or motorized gates during a wildfire event can lead to injuries and fatalities.

The risks and potential consequences of initiating a PSPS are significant and extremely complex. Based on the above considerations, UIUC reserves the option of implementing a PSPS when conditions dictate. While UIUC believes the risks of implementing a PSPS far outweigh the chances of its electric overhead distribution system igniting a catastrophic wildfire, the PSPS provides a last resort tool and another mitigation option in a potential crisis.

On a case-by-case basis, UIUC has historically and will continue to consider de-energizing a portion of its system in response to a known public safety issue or response to a request from an outside emergency management/response agency. Any de-energizing of the lines is performed in coordination with key local partner agencies; however, the final determination is made by UIUC.

5.1.2 Situational Awareness

Situational assessment is the process by which current operating conditions are determined. Situational Awareness is the understanding of the working environment, which creates a foundation for successful decision making and the ability to predict how it might change due to various factors.

[POU's] System Operators rely on various resources to monitor evolving fire weather and climatological conditions that may lead to fire events. Sources for weather information include, but are not limited to the following:

- **USFS-Wildland Fire Assessment System (WFAS):** For immediate and short-term situational awareness, mapping tools from the USFS-WFAS help determine daily and short-term forecasted risk, with daily or weekly fire weather status maps produced as needed to assess PNW wildfire conditions. (<https://www.wfas.net/index.php/fire-danger-rating-fire-potential--danger-32/fire-danger-subsets-fire-potential--danger-55>)
- **The National Weather Service (NWS):** The NWS provide on-line predictive fire weather forecasting tools in the form of a current fire-weather outlook, 2-day, and a 3-8 day outlook. (https://www.spc.noaa.gov/products/fire_wx/)
- **NOAA Weather and Hazards Data Viewer:** This on-line map provides historic or real-time surface observations including wind speed and direction, wind gust, dew point, relative humidity, and sea level pressure collected from remote automated weather stations (RAWS). Extreme-weather alerts such as fire weather watch, high wind watch, and red flag warning are provided from this resource. (<https://www.wrh.noaa.gov/map/?wfo=psr>)

5.2 Infrastructure Inspections and Maintenance

Recognizing the hazards of equipment that operate high voltage lines, UIUC maintains a formal inspection and maintenance program for distribution, transmission, and substation equipment which play an essential role in wildfire prevention. UIUC currently patrols its system regularly and is increasing the frequency of inspections in high-risk areas. Table 3 summarizes the inspection schedule for all assets, while the following sections outline inspection practices for the utility.

Oregon Administrative Rules Chapter 860-024-0011 provides inspection schedule requirements for electric distribution and transmission facilities. These standards require that an operator of electric supply facilities to:

- Construct, operate, and maintain its facilities in compliance with the Commission Safety Rules.
- Conduct detailed inspections on a prescribed schedule of its overhead facilities to identify violations of the Commission Safety Rules.

Table 3 summarizes the inspection schedule for all assets, while the following sections outline inspection practices for the utility.

Table 3. Inspection Program Summary

ASSET CLASSIFICATION	INSPECTION TYPE	FREQUENCY
Transmission	Routine Safety Patrol Inspection	N/A
	Detailed Inspection	N/A
	Wood Pole Testing	N/A
Overhead Distribution	Routine Safety Patrol Inspection	N/A
	Detailed Inspection	N/A
	Wood Pole Testing	N/A
Underground Distribution	Detailed Inspection	10 year
Substation	Routine Inspection	N/A
	Detailed Inspection	N/A

5.2.1 Definition of Inspection Levels

1. **Routine Safety Patrol Inspection:** A simple visual inspection of applicable utility equipment and structures designed to identify obvious structural problems and hazards. Patrol inspections may be carried out in the course of other company business.
2. **Detailed Inspection:** Individual pieces of equipment and structures are carefully examined visually, or through use of routine diagnostic testing.

5.2.2 Routine Safety Patrol Inspections

UIUC will perform regular routine safety inspections to reduce the risk of electrical equipment failure. In meeting the recommended schedule, 50% of the system is inspected per year by in house personnel. Results of the inspection will be documented and stored digitally. Defects will be document and fixed. Corrections in high-risk areas will be prioritized.

- Objects too close to Pad mounted enclosures
- Encroachments
- Physical damage to facilities
- Deterioration of facilities

5.2.3 Detailed Inspections of Underground Distribution Lines

UIUC will perform detailed safety inspections to reduce the risk of electrical equipment failure. In meeting the recommended schedule, 10% of the system is inspected per year by in house personnel. Results of the inspection will be documented and stored digitally and reported. Defects will be document and fixed. Corrections in high-risk area will be prioritized.

5.2.4 Prioritization of Repairs

UIUC considers and prioritizes maintenance work by assessing the most urgent needs. The inspector will document the underground systems' condition, recording defects, deterioration, violations, safety concerns, or any other factors requiring attention on the inspection records. The inspection should focus on any hazards that could affect the system's integrity or the safety of line workers and the public.

Inspection data (underground) will be prioritized and issued as follows per OAR 860-024-0012⁵ safety standards:

- **Priority # 1** – Immediate hazard: A violation of the Commission Safety Rules posing imminent danger to life or property must be repaired, disconnected, or isolated by the operator immediately after its discovery.

⁵ Stat. Auth.: ORS 183, 756, 757 & 759 Stat. Implemented: ORS 757.035

- **Priority # 2** – Non-emergency repair condition: Except as otherwise provided by this rule, the operator must correct violations of Commission Safety Rules no later than two years after discovery.
- **Priority # 3** – Non-emergency repair condition: An operator may elect to defer correction of violations of the Commission Safety Rules that pose little or no foreseeable risk of danger to life or property until the next major work activity.

5.3 Vegetation Management (VM)

UIUC has no overhead lines and no assets in ROW's. UIUC does maintain VM standards for encroachment on Pad mounted equipment.

5.3.1 Vegetation Trimming Standards

UIUC's contractors follow American National Standards Institute (ANSI) A300 concepts and utility directional pruning, which supports proper pruning/tree health while achieving and maximizing the pruning cycle. The VM program was developed with RUS, ANSI A300, ANSI C2, National Electrical Safety Code (NESC)⁶, and OAR 860-024-0017 requirements.

Work performed to the above guidelines provides reasonable service continuity, public safety, and guards against wildfire damage caused by supply conductors. Consideration is given to the impact of pruning on power line reliability, individual tree condition, and tree aesthetics. All work is conducted in a safe manner in accordance with the work rules set forth in OR-OSHA 1910.269 and UIUC's Technical Guidelines.

5.3.2 Hazard Trees

A subset of Danger Trees⁷, A Hazard Tree is defined as any tree or portion of a tree that is dead, rotten, decayed, or diseased and which may fall into or onto the overhead lines or trees leaning toward transmission and distribution facilities. These trees are sometimes located beyond the easement or ROW. Any tree that is located outside of the ROW and is deemed a hazard tree will be removed or topped to make safe for conductors.

A hazard tree will have one or more of the following characteristics:

- Dead or dying - all dead or dying trees along, or outside the UIUC right-of-way may be removed depending on the height of tree and the direction of the lean.
- Leaning trees - trees that have such a lean toward the right-of-way that they cannot be trimmed without removing the tops and slanting the tree back. Removal depends on height and species of the tree and direction of the lean.

⁶ Rules 012,013 and 218

⁷ As defined by ANSI 300 Part 7 standards

5.4 Fire Mitigation Construction

When considering construction of new facilities in an elevated risk area, UIUC uses underground construction to reduce the risk and likelihood of an ignition.

6 Emergency Response

6.1 Preparedness and Response Planning

To best respond to an event that largely affects the utility, UIUC and the Tribe has developed an Emergency Response Plan. In conjunction with the ERP, an Incident Command System (ICS) has been developed within the Tribe. A Tribal Incident Command will be established for major events that affect the Tribe. Tabletop exercises are used to allow for ICS officers to practice the decision making and the ICS structure prior to an actual emergency.

6.1.1 Emergency Management Communication and Coordination

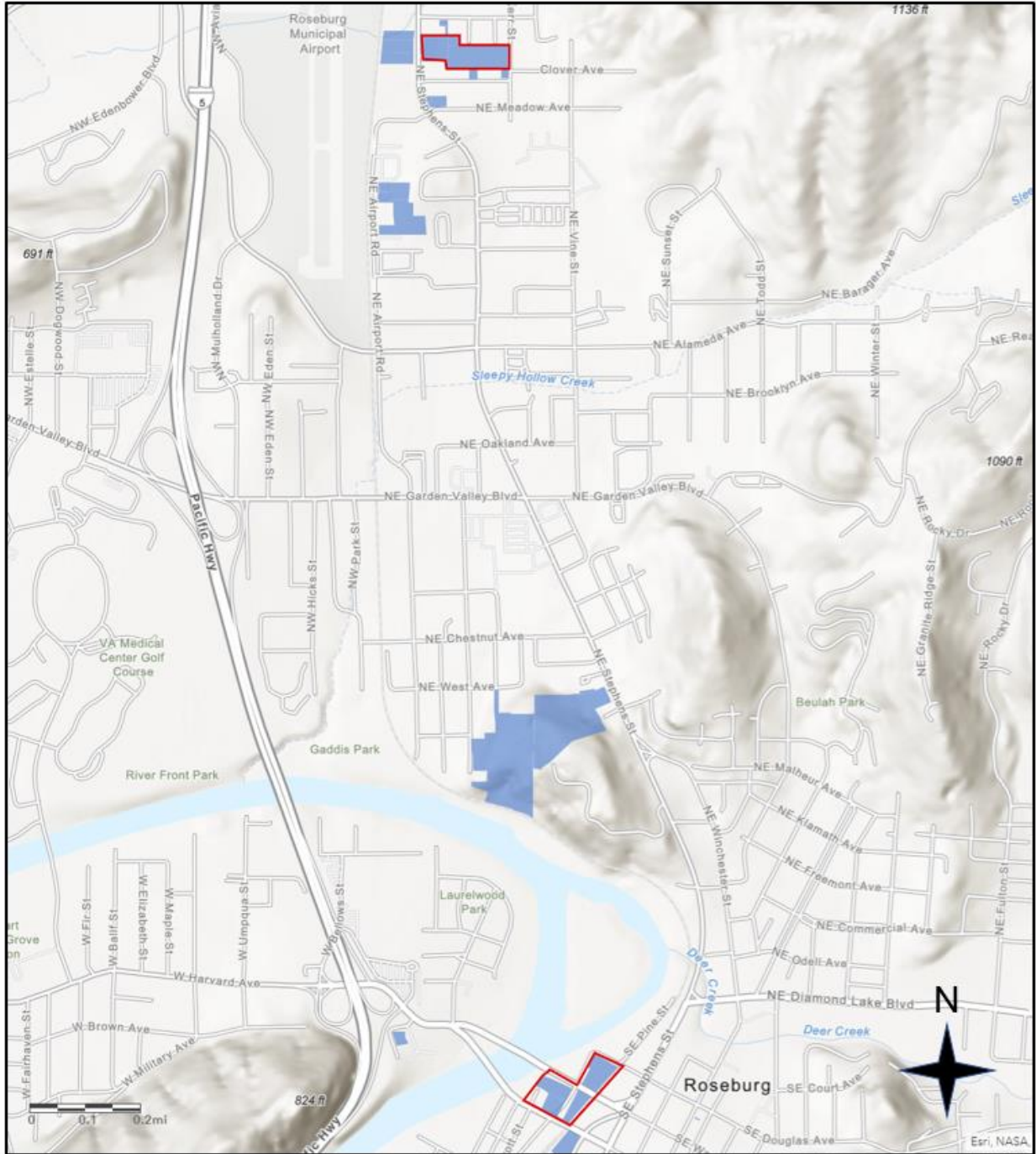
In response to active emergencies UIUC and the Tribe's Emergency Management Program will work to collaborate with local Department of Emergency Management. This program exists to prepare and strengthen the Tribe's members, Government Services, and Enterprises against any event or occurrence that may threaten the health, safety, property, or other interest of the Tribe. It follows the principles of Emergency Management adopted by the Federal Emergency Management Agency (FEMA), as well as those of the Department of Homeland Security and Homeland Security Presidential Directives

UIUC's primary coordination point is Doug Ladd; Cow Creek Tribes Public Safety Administrator. UIUC's General Manager is the contact point to the local DEM and establishes themselves as the duty officer for coordination.

6.1.2 Jurisdictional Structure

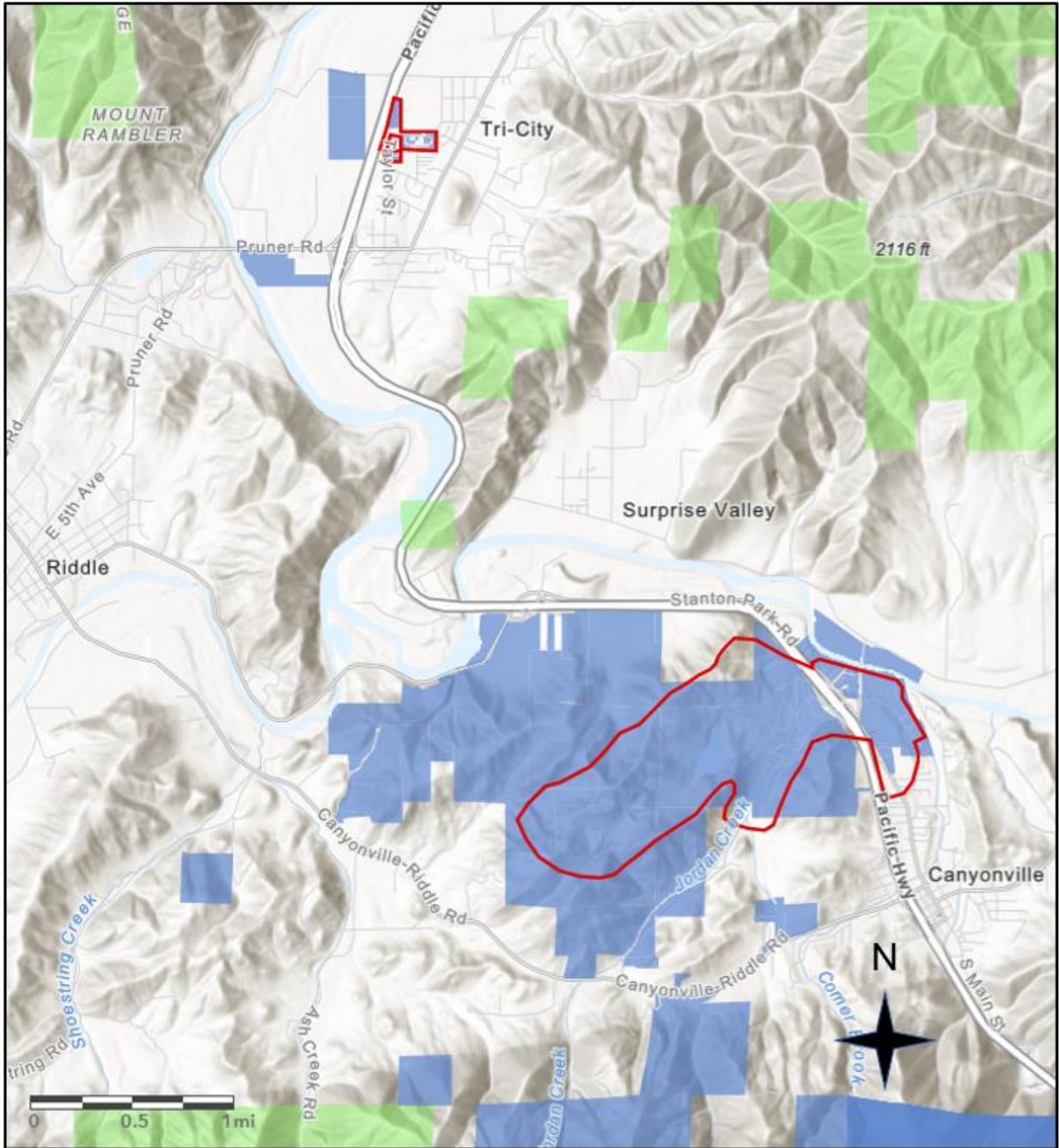
All UIUC service territory is located on Tribally owned land. An example of the map showing the land ownership in the service area is shown in Figure 5

Figure 4. General Land Ownership



General Land Ownership Map - North

- | | | | |
|--|---|---|---|
| Cow Creek Property | Corp of Engineers | State Agency | Forest Service |
| Bureau of Land Management | Dept. of Defense | County | Private |
| Bonneville Power Administration | Dept. of Energy | National Park Svc. | Water |
| Bureau of Reclamation | Fish and Wildlife | Other Federal | Service Area |



General Land Ownership Map - South

Cow Creek Property	Corp of Engineers	State Agency	Forest Service
Bureau of Land Management	Dept. of Defense	County	Private
Bonneville Power Administration	Dept. of Energy	National Park Svc.	Water
Bureau of Reclamation	Fish and Wildlife	Other Federal	Service Area

6.1.3 Public Agency and Customer Communications for Outages

UIUC utilizes its website and the Tribes Facebook page to notify tenants of times of crisis. These scenarios include major outages, storms, and wildfires.

6.2 Restoration of Service

If an outside emergency management/emergency response agency requests a power shutdown, or if UIUC elects to de-energize segments of its system due to extreme weather, UIUC staff will patrol the affected portions of the system before the system can be re-energized. Suspect equipment or distribution lines that cannot immediately be patrolled will remain de-energized until UIUC staff can do so. Structures damaged in a wildfire must be assessed and rebuilt as needed prior to re-energization. Periodic customer and media updates of restoration status prior to full restoration will be made.

6.2.1 Service Restoration Process

After a wide-spread outage, UIUC work crews take the following steps before restoring electrical service after a de-energization event. These measures are intended to protect the worker, members, the public, and the system's reliability.

- **Patrol:** Crews patrol every de-energized line to ensure no hazards have affected the system during the outage. If an outage is due to wildfire or other natural disasters, as soon as it is deemed safe by the appropriate officials, crews inspect lines and equipment for damage and/or foreign contacts and estimate equipment needed for repair and restoration. Lines located in remote and rugged terrain with limited access may require additional time for inspection. UIUC personnel assist in clearing downed trees and limbs as needed.
- **Isolate:** Isolate the outage and restore power to areas not affected.
- **Repair:** After the initial assessment, UIUC staff meet to plan the needed work. Rebuilding commences as soon as the affected areas become safe. Repair plans prioritize substations and transmission facilities, then distribution circuits serving the most critical infrastructure needs. While the goal to reenergize all areas is 'as soon as possible', emergency services, medical facilities, and utilities receive first consideration when resources are limited. Additional crew and equipment are dispatched as necessary.
- **Restore:** Periodic customer and media updates of restoration status before full restoration are posted on social media platforms and UIUC's website. After repairs are made, power is restored to homes and businesses as quickly as possible.

7 Performance Metrics and Monitoring

7.1 Plan Accountability

Staff responsibility for plan implementation and general communications is described below:

- The Board of Directors makes policy decisions relative to the utility – they will be responsible for approving and adopting the Wildfire Mitigation Plan.

- The General Manager directs management staff responsible for operations, customer service and finance.
- The General Manager is responsible for the overall execution the WMP. Staff will be directed as to their roles and responsibilities in support of the plan.
- The Communications Director is responsible for communicating with public safety, media outlets, public agencies, first responders, local Office of Emergency Management, and health agencies during an emergency or planned maintenance outages.
- The Public Safety Administrator determines when and how to notify outside agencies in cases of wildfire emergency events.
- UIUC's General Manager will be responsible for monitoring and auditing the targets specified in the WMP to confirm that the objectives of the WMP are met, as well as the implementation of the plan in general.

7.2 Monitoring and Auditing of the WMP

The WMP will be reviewed annually for the purpose of updating the plan as needed to reflect knowledge gained in the preceding year and modified accordingly.

7.2.1 Identifying Deficiencies in the WMP

The General Manager will be responsible for ensuring that this WMP meets all public agency guidelines to mitigate the risk of its assets becoming the source or contributing factor of a wildfire. Staff responsible for assigned mitigation areas have the role of vetting current procedures and recommending changes or enhancements to build upon the strategies in the WMP. Either due to unforeseen circumstances, regulatory changes, emerging technologies or other rationales, deficiencies within the WMP will be sought out and reported to the Board of Directors in the form of an updated WMP on an as needed basis.

The General Manager or their designee will be responsible for spearheading discussions on addressing any plan deficiencies and collaborating on solutions when updating the WMP. At any point in time when deficiencies are identified, the Supervisors or their delegates are responsible for making the appropriate policy adjustments. UIUC staff and qualified stakeholders are encouraged to bring any potential deficiencies to the attention of the UIUC Board. The General Manager, along with the appropriate staff, will evaluate each reported deficiency, and if determined to be valid, shall record the deficiency for further action.

7.3 Programmatic QA/QC processes

7.3.1 Distribution System Inspection QC Process

UIUC will conduct quality assurance checks to ensure that inspections, record keeping, and repairs are being properly conducted. The following is checked by the Supervising Electrician annually.

- Inspections of new and repaired installation: annually check 10% of all such work performed.
- Detailed facility inspections: annually check 5% of all such work performed.

Records of inspections and corrections are kept digitally.

7.4 Plan Approval Process

7.4.1 Board Presentation

UIUC's Wildfire Mitigation Plan will be submitted to the UIUC Board for approval. Within 30 days of approval by the board, the WMP will be submitted to the Oregon Public Utilities Commission.

Appendix A: Plan and Mapping Disclaimers

WILDFIRE MITIGATION PLAN DISCLAIMER

The information provided in this report was developed by UIUC staff and is intended for UIUC's internal planning purposes only. UIUC does not warrant the accuracy, reliability, or timeliness of any information in this report, and assumes no liability for any errors, omissions, or inaccuracies in the information provided. UIUC shall not be held liable for losses caused by using this information. Portions of the data may not reflect current conditions. Any person or entity who relies on any information obtained from this report, does so at their own risk. This report is presented solely for internal use AS-IS by UIUC staff. UIUC make no representations or guarantees expressed or implied regarding the accuracy or completeness of the report.

WMP MAPPING DISCLAIMER

Maps in this report were created from multiple datasets from various, public, and private sector sources and may include utility Geographic Information System (GIS) data. The geographic information contained in the map(s) is not to be used as a "legal description" or for any purpose other than general planning and reference. Every effort has been made to ensure the accuracy of the map(s), but errors in source documents do occur and inherent mapping ambiguities are not shown.

Maps are for information purposes only and may not represent actual current conditions. End users assume all liabilities incurred by them, or third parties, as a result of their reliance on the information contained in the map(s). UIUC, including, without limitation, its employees, agents, representatives, officers, and directors, may not be held responsible or liable in any way for any information and/or data, or lack thereof, provided in the map(s). Information and/or data included in the map(s) is used solely at the discretion of the recipient.

UIUC) make no claims, representations, or warranties, expressed or implied, concerning the validity or accuracy of this data. UIUC assumes no liability for any errors, omissions, or inaccuracies in the information provided regardless of their cause. UIUC produced maps are not to be copied or distributed without permission.