City of Auburn

Assessment of Wildfire Risk

and Fuels Management

October 9, 2021

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The City of Auburn, California includes broad areas of Wildland-Urban Interface (WUI) and intermix, posing a significant risk to structural development from wildland fire. This is a complex condition, and the city has pursued robust steps to increase and promote wildfire safety and structural defense. The intent of this report is to define conditions identified during a contracted study in the summer of 2021, and to identify steps to enhance and promote related fire safety programs.

Community Setting

The City of Auburn was formed in 1849 and includes many historic structures and features of the California Gold Rush era. It has grown to become a hub community in the Sacramento region Sierra Nevada foothills of Placer County. The community enjoys a strong tourist economy given its historic, outdoor recreation, and bucolic appeal. Much of its population commutes daily along Interstate 80 into jobs in the Sacramento Metropolitan area. The city's population is 13,776 (2020 census), living in more than 6,139 dwelling units. The City of Auburn occupies 7.14 square miles with a population density of 1867 per square mile.

Rohde & Associates LLC of Orange County, California was contracted by the City of Auburn in the summer of 2021 to develop WUI fire analysis and planning, and to assess its fuel modification programs. Rohde & Associates have brought fire behavior, fire planning, emergency management, and GIS expertise to this effort and this report completes their assessment of city fire risk and fuel modification programs.

Wildfire Hazard Severity Zones

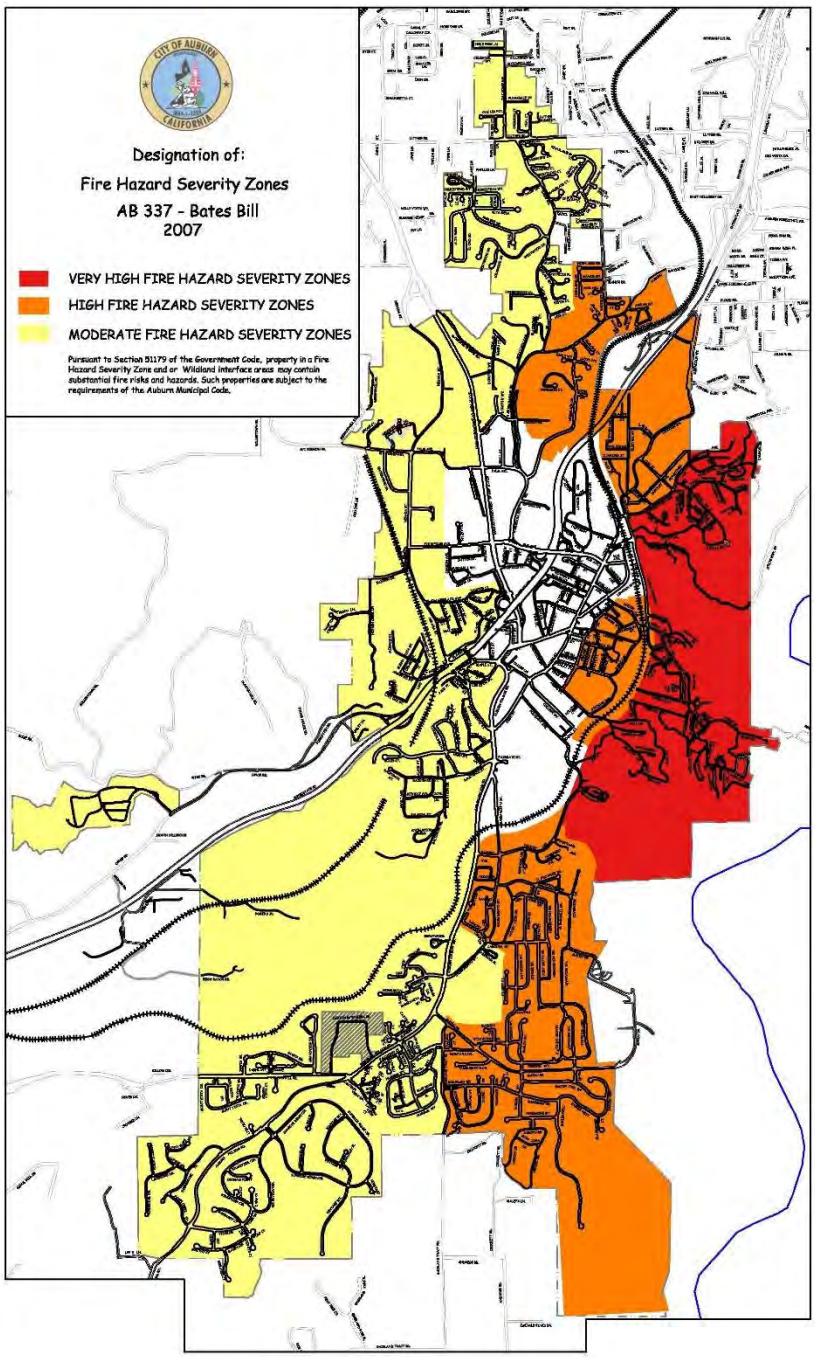
Classification of lands within the State of California was required by legislative action in 2007 in accordance with AB337 (Bates) for all State and local government responsibility lands. The City of Auburn has conducted this classification and adopted designations into its Building Code (2019). The designation requires that fire safe construction methods be utilized within specific zones and highlights lands which are susceptible to wildfire impacts and loss.

Roughly one third of the City of Auburn has been designated as within the High or Very High Fire Hazard Severity Zone, predominantly located on the city's east side. Another third of the city is within the moderate zone classification, primarily on the city's west side. Core areas of the down town are the only City of Auburn area exempted from a wildfire hazard classification (see map, p.4). Additionally, the city is bounded on the north-east by Placer County unincorporated area which is predominately categorized as High and Very High Fire Hazard Severity Zone. Other Federal lands bounding the city's east are unclassified as they are not included in the scope of the regulation. This area however was evaluated by the consultant team and found to be similar

in character to lands classified by both the City of Auburn and Placer County as of Very High Fire Hazard Severity.

In inspection of City of Auburn, the consultant team compared and contrasted city lands with other lands known to their expertise in the State of California. The consultant team agreed with the current designated boundaries for High and Very High severity, but believed additional area in the south-western quadrant of the city in the area of Baltimore Ravine may be under-rated as moderate hazard and better deserved recognition in the High Fire Hazard category due to its moderate to heavy, predominantly mixed shrub and timber fuel loading and lack of fire defense infrastructure.

Map of City of Auburn identified fire hazard severity zones



Areas of Significant WUI Risk

The significant wildfire risk feature of the City of Auburn is open and undeveloped space on the east and south-west city borders. These areas include concentrations of heavy mixed shrub and timber fuel loading within the North Fork of the American River drainage and in the Baltimore Ravin area. Fire origins in these locations have an opportunity for alignment with winds and topography to direct wildfire into surrounding community development. This risk is particularly acute for the American River area, which is maintained by the U.S. Bureau of Reclamation (BOR)

as public recreation lands and operated under agreements with California State Parks as the Auburn State Recreation Area. Land ownership by the BOR is a remnant of earlier efforts to construct a major dam and water reservoir east of the city, dating back decades. Dam construction was never approved, stranding these legacy lands under control of the BOR, despite the agency's lack of mission or focus for operation of such lands for values other than water reclamation. Through the BOR's agreement with California State Parks, public river recreation access is provided and visitation and use are high. Topography in this area is steep with slopes exceeding 50%. Several roads enter the American River east of Auburn. With public access comes potential for human-caused wildfire ignition both from recreation activity and road travel related risks. Since heavily fueled BOR/Park lands exist on slopes leading to developed portions of the city, fuel modification on the border of these areas is critical to structural protection and life safety in the City of Auburn.

Baltimore Ravin and its surrounding area is an undeveloped canyon and plateau in the south-west quadrant of the City of Auburn. This area of the city is composed of private lands and has little direct access. Surrounding roadways include Interstate 80, and rail, water, and powerline corridors cross the area directly. All of these access points offer potential sources of ignition to wildland fuels. CAL TRANS conducts limited fuel modification along I-80, and Burlington Northern Santa Fe Rail Company and Pacific Gas and Electric conduct fuels modification along rights-of-way to reduce ignition risks. Baltimore Ravine is surrounded on the north-east through south-east by home sub-divisions and by rural homes on the north-west through south-west. Fires originating in the Baltimore Ravine area may threaten structures on almost any trajectory.

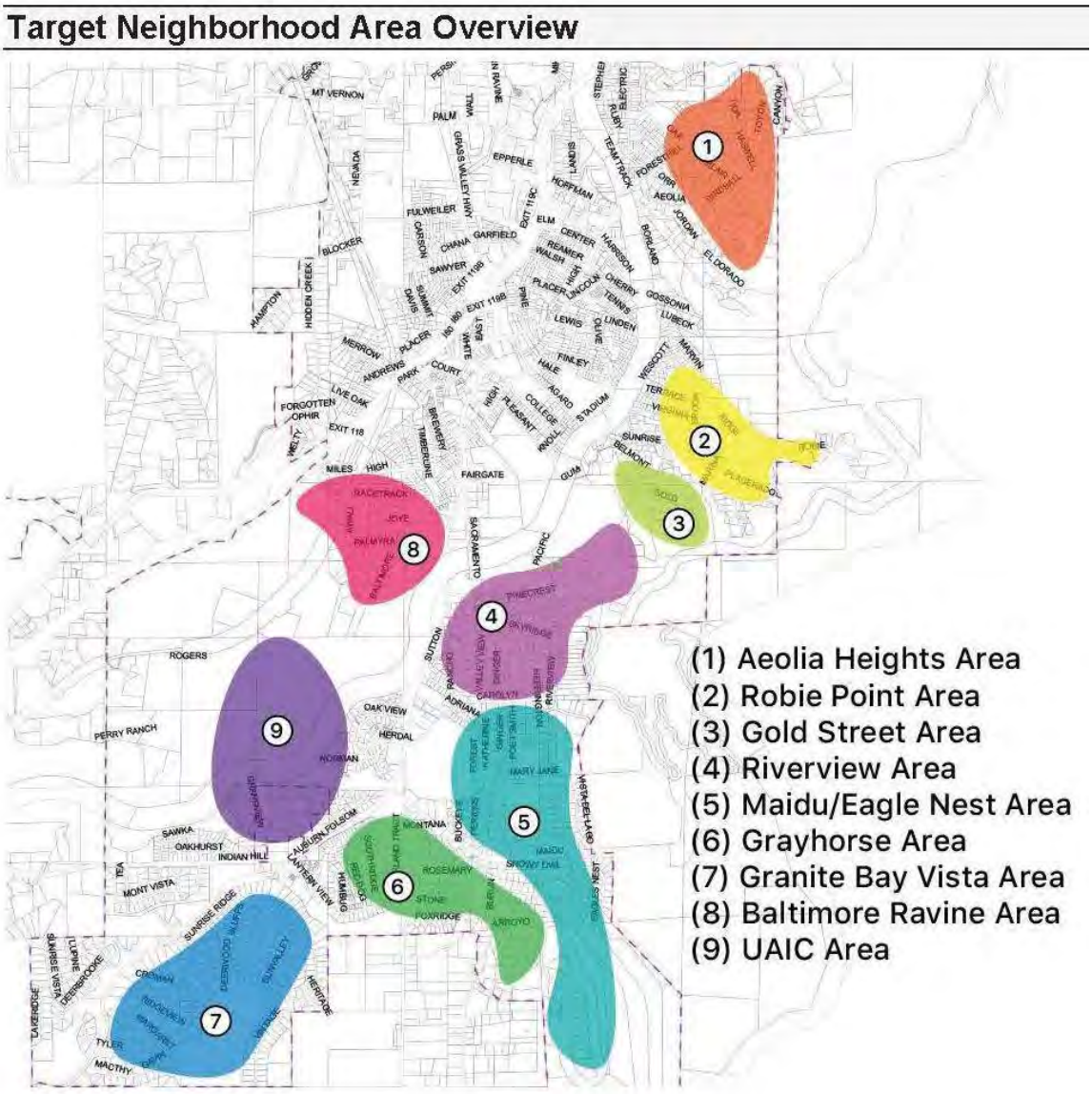
The City of Auburn previously commissioned a fire department study in 2019 to develop a Wildland-Urban Interface Strategic Plan. This plan identified past fire history, fire ignition and prevention issues, pre-fire planning and code enforcement concerns and programs, public education, and emergency response related to wildfire. This comprehensive study continues to be relevant, and offers a strong roadmap to strategic development of wildfire defense in the city. The study concluded that 9 neighborhoods are poised at greatest risk in the city. Many of these neighborhoods are atop steep slopes rising above the North Fork, American River. The consultant team concurs with the findings of this study and identification of neighborhoods at risk. The nine target neighborhoods at highest risk for Wildland-Urban Interface fire exposure as identified in the Strategic Plan include:

1. Aeolia Heights area
2. Robie Point area
3. Gold Street area
4. Riverview area
5. Maidu/Eagle Nest area
6. Greyhorse area
7. Granite Bay Vista area
8. Baltimore Ravine area

9. United Auburn Indian Community (UAIC) area

It should be noted that lands owned by the UAIC were observed to be under intensive management to reduce fuel concentrations and wildfire intensity.

Map of City of Auburn Strategic Plan identified target neighborhoods



Wildfire Behavior and Forecasted Movement

In order to determine fuels treatment prescription(s), it is important to understand expected fire behavior and trajectory for potential wildfires affecting the city. The consultant team has studied fire behavior factors and modeled potential fire behavior to develop these outcomes. Fifty years of local fire weather and fire history have been utilized as inputs to this process, along with slope and fuels data for the City and surrounding area. It is important to note that the last major fires

occurring within 10 miles of the City of Auburn occurred in 1961 and 1964. This lack of fire history has contributed to a heavy buildup of fuels in the region.

Fuels surrounding the City of Auburn were assessed by field inspection of the consultant team. Fuels located on the west slopes of the North Fork, American River drainage and in the south-west portion of the city near Baltimore Ravine were predominantly very high load, dry climate shrub (Scott, Burgan SH7, 2005), also described as Fuel Model 4 (Anderson, 1982), and very high load, dry climate timber-shrub mix (Scott, Burgan TU5, 2005), also described as Fuel Model 10 (Anderson, 1982). Timber types here included both conifer and oak species, and fuel loading was noted of approximately 13-15 tons per acre in mixed chaparral and 7-10 tons-per-acre in mixed timber and chaparral. These are areas generally classified by the City of Auburn as either High or Very High Fire Hazard Severity Zone (exception: Baltimore Ravine). Other areas of the city are predominantly grass with a shrub and agriculture intermix, or moderate load, dry climate grass (Scott, Burgan GR4, 2005), also described as Fuel Model 2 (Anderson, 1982). Fuel loading here is approximately 2.5 tons-per-acre. These are areas classified by the City of Auburn as Moderate Fire Hazard Severity Zone.

Typical fuels and slope on the east side of Auburn, North Fork, American River Canyon

Two fire scenarios capable of driving significant fires in the Auburn area have been developed by the consultant team and both are in the mixed timber-shrub and shrub fuel types. The first and more likely being a summer-fall period onshore/upslope wind driven wildfire, occurring during periods of warm to high temperature with low relative humidity. The wind vector for this scenario would be from the South-west or “up-canyon”. This scenario statistically may exist within the city

up to 3.5 to 4 months per year. A significant fire modeled under this behavior may burn from 500-1,000 acres in the first 6 hours of origin, when located in favorable terrain and fuels.

The second scenario is more severe and is driven by offshore, northerly winds. This condition drives critical fire behavior and spread. Such a fire will likely occur with very low relative humidity and moderate to strong winds and is typically a fall centric event. This scenario statistically may exist within the City up to 4 weeks per year. A significant fire modeled under this behavior may achieve up to 2,000 to 7,000 acres in the first 6 hours, when located in favorable terrain and fuels.

Climate change and long-term drought has significant impacted fuels throughout the State of California. These impacts have included critical drying of fuels, loss of soil moisture, secondary pest infestation and tree disease leading to fuel dieback, and related impacts. These conditions have contributed to extreme burning and rapid spread of recent wildfires, exceeding current modeling capability and historic conditions. The conditions experienced during the 2021 Caldor Fire in El Dorado County has been representative of such extreme fire behavior, where dramatic spread has occurred, even in higher humidity and lower winds. This fire posed a significant threat to developed areas of Lake Tahoe of a period of several weeks. This condition suggests that fire behavior may frequently exceed modeled conditions during the extended drought.

Representative fire conditions determined for these two scenarios include the following:

South-westerly wind driven fires/mid-summer conditions:

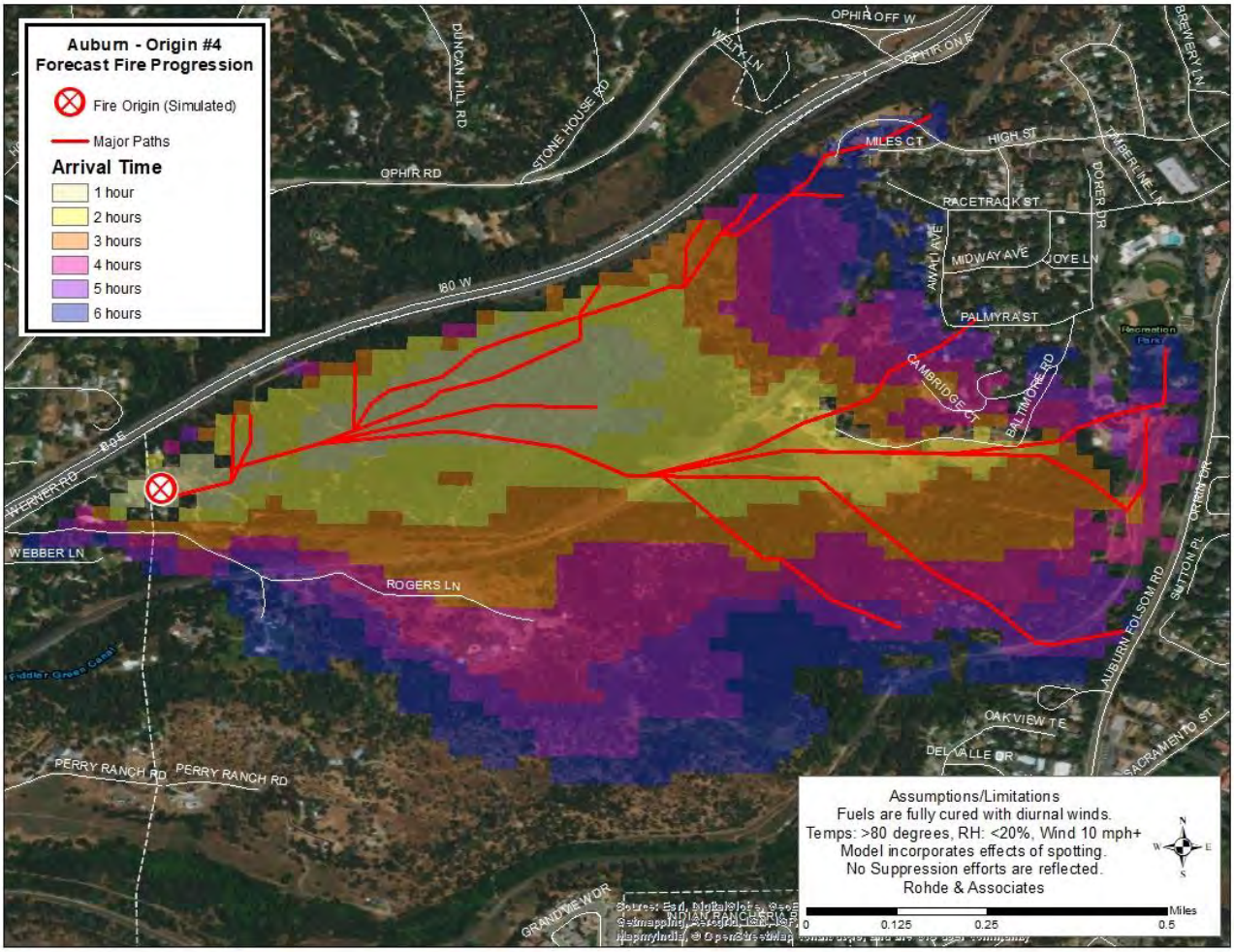
Avg. temp.	*Wind speed*	*Relative Humidity*	*Flame lengths*	*Rate of Spread*	*Spotting Distance*	*Fire size- 6 hours*
>80F.	4-13 MPH	<20%	Avg. 8-11 ft. Peak: 25-35 ft.	3300 ft./hour	1/4 mile	500-1000 ac, (in favorable terrain & fuels)

Northerly wind conditions- fall period:

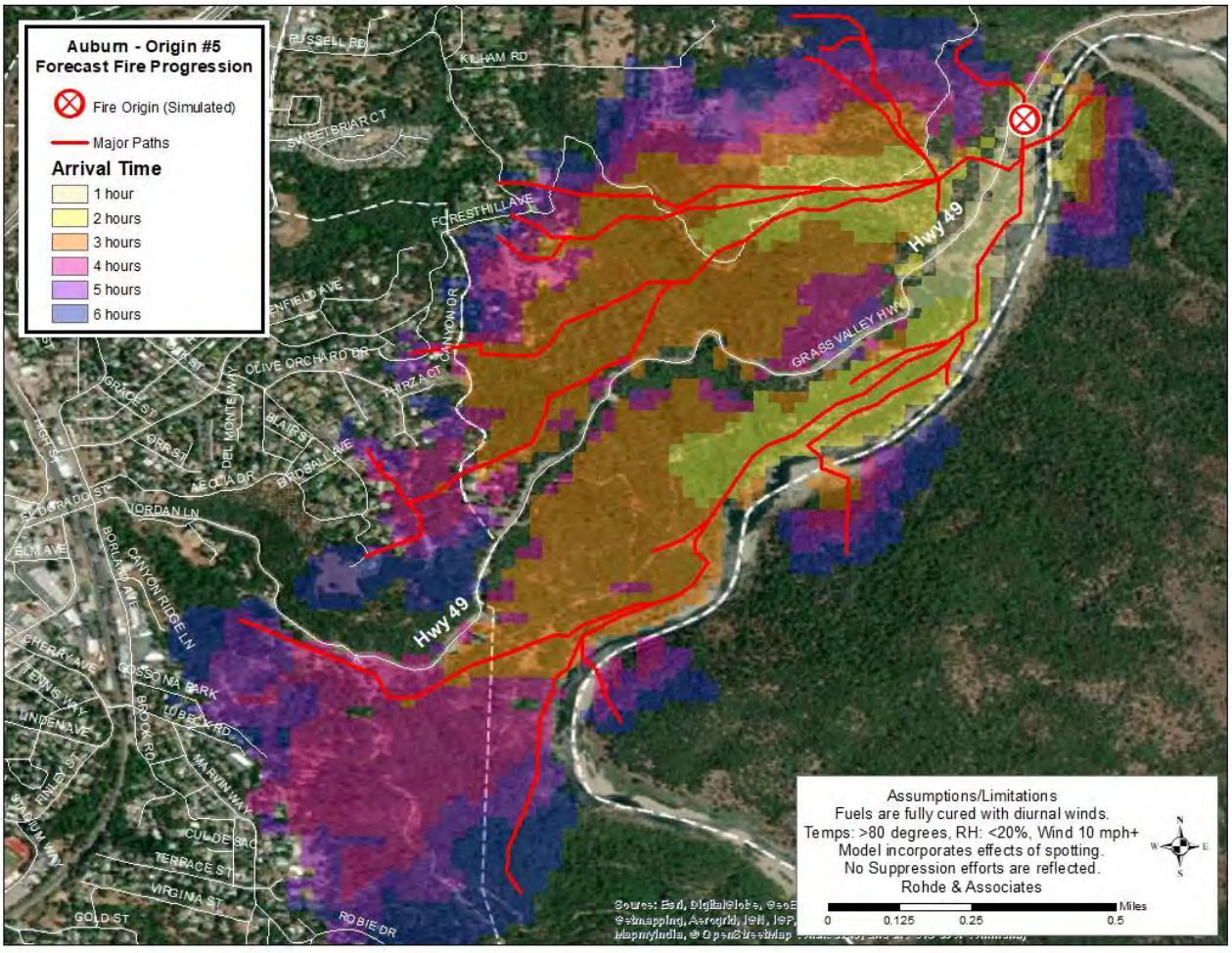
Avg. temp.	*Wind speed*	*Relative Humidity*	*Flame lengths*	*Rate of Spread*	*Spotting Distance*	*Fire size- 6 hours*
>90F.	18-25 MPH	<10%	Avg. 11-20 ft. Peak: 35-40 ft.	6600 ft./hour	3/4 mile	2000-5000 ac. (in favorable terrain & fuels)

Fire spread conditions were also modeled for both fire scenarios to provide a representative map of possible spread. Results of fire behavior analysis were plotted with LandFire, FlamMap, and Behave+ models to achieve a fire trajectory forecast. Maps of these results yielded a six-horn fire run from two selected origins using wind vectors most common to the City of Auburn. These maps demonstrated the following results:

South-westerly wind driven fires/mid-summer conditions:



Northerly wind conditions- fall period:



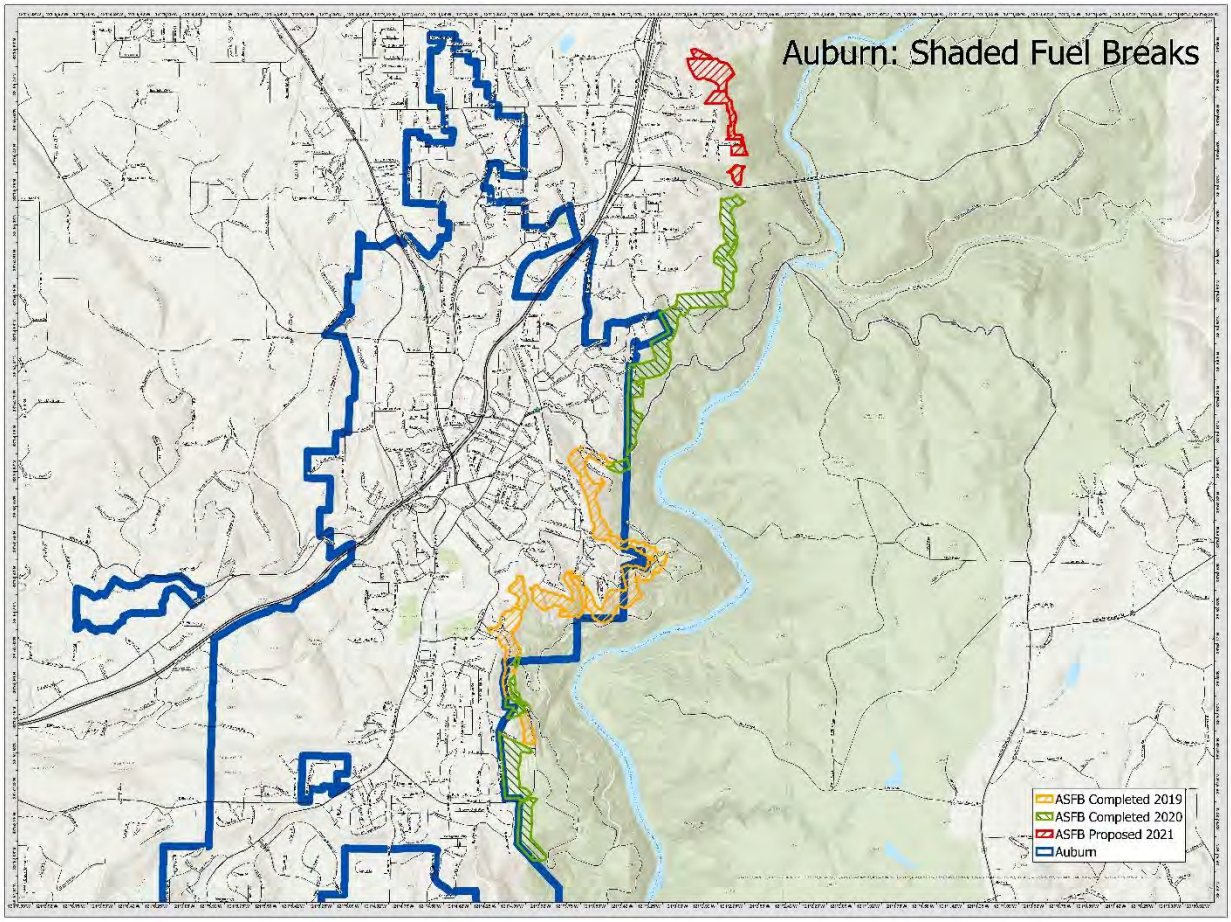
City Conducted Fuels Modification

The City of Auburn has undertaken a robust program of fire prevention fuels modification, focusing on critical border areas of the eastern side of the city. This program has accomplished and maintained significant fuels reduction and offers a critical buffer, reducing potential fireline intensity adjacent to structures in the Wildland-Urban Interface, offering defensible space for firefighting efforts, and promoting life safety through enhanced structural survivability and providing time for escape. Fire breaks maintained by the city are typically a minimum of 100 feet but range in width more frequently to at least 200 feet.

Most of the firebreaks are maintained in a “shaded fuel break” condition which allows for mature trees (greater than 6” DBH) to be maintained within the fuels reduction through removal of lower limbs and reduction of canopy density, with removal of at least 50% if not all shrub fuels below tree canopies, and the reduction of grass fuels to a height less than 4 inches. Certain sensitive plant species are designated for avoidance during fuel modification. The

consultant team conducted fire behavior calculations for these fuel breaks and on average they may reduce expected wildfire intensity by 75% and spotting potential by 90%+ from approaching wildfire, offering containment and control opportunities.

Map of Existing and Planned Shaded Fuel Breaks, City of Auburn, 2021



Fuel breaks are currently located along all city urban boundary facing the North Fork of the American River. No fuel breaks are currently located in the area of Baltimore Ravine; however, they are desired. (See map above).

Fuel breaks are only effective if maintained and lose approximately 20% to 25% of their effectiveness against wildfire for each year after treatment to the prescribed end-state. Most fuel breaks have received maintenance in the last 3 years by either a variety of goat grazing, mechanical treatment such as mowing, mastication, or tilling, or hand clearance methods. Treatments are “site prescribed” due to limitations of methods or cost on various sites.

Fuel breaks are currently being maintained at a cost under $5,500/acre by the city which is an average cost for treatment of similar fuels in the region. 283 acres are currently under fuels treatment by the city, and the annual cost of this program currently approaches $1.55 Million. All treatment methods utilized by the City of Auburn have been recognized by the State of

California in its Vegetation Treatment Program and are conducted under the California Environmental Quality Act under Categorical Exemptions. This is an appropriate approach for the treatments and conditions encountered in this fuels program and for the outcomes observed by the consultant team. Program expansion is both desired and needed for the Baltimore Ravine area but is currently inactive due to lack of funding.

Current program funding for fuels modification is driven by grants, municipal, State, and Federal funding, and landowner actions and funding. Funding sources are not consistent and the Battalion Chief/program manager is constantly searching for program revenues. Efforts have been made to obtain rail and utility funds with limited success. Fortunately, significant grant funds are currently abundant and the City of Auburn has the opportunity to apply for CAL FIRE/California Climate Initiative- Fire Prevention grants and Hazard Mitigation Grants offered by the California Office of Emergency Services. Longer term solutions may include consideration of development of city special assessment districts or private community facilities districts to secure maintenance funding, if elected. Joint partnerships with landowners in projects should be continued, as available. Additional funding through Fire Safe Councils may also be sought, and has been successful in the past for smaller projects.

The Federal Bureau of Reclamation announced in late 2019 its intention to focus a fuels modification program on its lands bordering the city, including those lands managed under lease by California State Parks as the Auburn State Recreation Area. This plan calls for funding of both construction and maintenance of fuel breaks and fire prevention activities targeting human ignition sources for a five-year term. The BOR plan targets funding for a 552-acre American River project area, of which the city is part. Targeted fuel break widths are 150 to 600 feet are stated in the BOR plan, which may extend some current fuel breaks. This plan may substantially benefit the City of Auburn, and the Fire Department has already been involved in the plan's development and partnership.

With the advent of the BOR project, there may be an opportunity to transfer some maintenance funding to a new project in the Baltimore Ravine area. This is needed to protect homes near Palmyra Way, Awali Ave., Racetrack St., Miles Ct., High Ave. Knollwood Dr., Baltimore Rd. and Rogers Lane (County area). Currently, only property owner clearance and some weed abatement is practiced in this area and the homes are exposed to significant wildfire risks.

2021 Wildfire, City of Auburn, Folsom Road

Limitations to Fuel Modification

Fuel modification provides significant benefit to property protection and life safety by reduction of fireline intensity and extreme fire behavior. It also promotes opportunity for firefighter defense of what may otherwise be undefendable conditions. There are however limitations to protections offered, and they need to be understood so additional mitigations may be considered.

A chief method for the potential over-whelming of fuel modification treatments is spotting of wildfires over and beyond the limits of the fuel break, and establishment of spot fires adjacent to or in interior homes that lack structural hardening or defensible space clearance.

In review of the City of Auburn, the consultant team identified a number of corridors where continuity of ignitable structures and poor defensible space among homes provide opportunity for wildfire to move west of North Fork, American River fuel breaks well into the community, as far as near High Street close to downtown, and as far as Interstate 80 in limited areas on the north and south ends of the City of Auburn.

Spotting distances were studied in fire behavior analysis by the consultant team. Spotting distances of ¼ to ¾ mile were determined possible from wildland fuels, well over the protective distance of fuel breaks. This lends to a determination that any significant wildland fire occurring in the North Fork drainage may include spotting fire behavior well into the community interior, even if the majority of fire is held to the community perimeter fuel break.

A chief danger in interior spotting may be the ignition of multiple homes, where a fire may develop "urban conflagration" conditions as opposed to simply wildfire conditions. The heat output of mass structural involvement may increase fire behavior and effects as much as 3-5x, which means that fire intensity and spotting from interior structural involvement may cause its own spotting and fire suppression challenges. This finding suggests that the City of Auburn needs to improve structural defensibility well interior from the existing Wildland-Urban Interface boundary. Recent California wildfires in the Cities of Redding (Carr fire, 2018) and Paradise (Camp Fire, 2018) offer significant lessons from similar spot fire caused ignitions, with both fires experiencing structural involvement due to long-range spotting into community interiors with conflagration outcomes.

Defensible Space Requirements

In the response to catastrophic wildfire in California, the legislature has sponsored significant response through new laws and regulation affecting wildfire safety. Some of the most significant changes affect defensible space for structures within high fire hazard zones. Since significant area within the City of Auburn are categorized as High and Very High Fire Hazard Severity Zone these legislative actions will significantly impact the city.

Chief among this new legislation is AB38 (Wood, 2019) which requires that after July 1, 2021, a seller of real property in high/very high fire hazard zones must disclose that the property meets

wildfire protection measures as established by local vegetation management ordinance. The bill also directs the State Fire Marshal to adopt statewide defensible space standards and structural hardening/retrofit recommendations for possible local adoption. The bill also requires development of strategies to assist in funding such improvement in certain cases for private property, but no clear funding mechanism is yet available.

The State has developed the AB38 required defensible space standards (see appendix A- CAL FIRE LE100 Defensible Space Inspection Guidance) for use in the determination of residential fire safety during property sale. The City of Auburn is required to either use the CAL FIRE standard, or alternatively adopt a similar local measure. Caution should be used when looking at the local alternative, while firm rules have not yet been adopted it is likely the State may require that local government meet or exceed its requirements as a condition of future grant participation.

Coupled with previous State law that requires adoption of local fire code defensible space requirements into the fire and building code (CBC Chapter 7A), these measures will require The City of Auburn to meet strict requirements for all new construction, and for property owners to meet strict requirements for sale of properties. This also implies that the city may be requested to provide such certification that properties are compliant with AB38.

Auburn home in the Wildland-Urban Interface

While the law isn't all inclusive regarding older or existing homes, in July of 2021 the California Insurance Commissioner agreed with insurance providers that those properties not meeting the State Fire Marshal's recommendations for defensible space may have their insurance cancelled. Prior to 2020, the insurance industry has accomplished widespread cancellation of California risk,

but the insurance commissioner took action to enforce a moratorium on further cancellations. That moratorium was modified by this July, 2021 action to allow the industry to move forward and manage risk using a single standard. This means that property owners of older, existing properties may be subject to loss of insurance for non-compliance.

In the assessment of the consultant team, the City of Auburn has acted strongly to develop defensible space on the community perimeter, and with the exception of the Baltimore Ravine area (where planned fuel modification expansion should occur) has achieved significant results. Significant risk however, was observed from the lack of structural hardening and private property defensible space against wildfire, particularly in older neighborhoods. Newer neighborhoods developed since 2008 have been subject to enhanced fire and building code restrictions and have generally built fire-safe conditions through both vegetative clearance and structural building methods. Therefore, the consultant team determined that the greatest risk faced by the City of Auburn today is that of lack of structural resiliency and defensible space on private property, especially in older neighborhoods.

It is recommended that the City of Auburn develop a comprehensive Defensible Space program. Such an incipient program already exists and includes the availability of firefighters to conduct voluntary/requested consultations on structural hardening and defensible space, but needs to be expanded. It is recommended that the city adopt an ordinance that stipulates minimum defensible space requirements for all homes within the high-hazard zones and institute an inspection program to ensure compliance. City inspection standards should meet minimum standards suggested for adoption by the State Fire Marshal in 2021, and should be vetted for meeting the needs of local insurance providers. The city should also engage with the legislature to ensure funding mechanisms are developed to assist homeowners in structural hardening of homes within the Wildland-Urban Interface.

It should be noted that some California jurisdictions are entertaining the adoption of a permit fee program for the provision of defensible space inspections required for property sale, similar to permitting costs applied by some jurisdictions for construction permitting or other inspections. Such a fee program might assist Auburn with the recovery of costs for such a program.

It is clear that a public-private partnership is needed to be successful in the implementation of strong defensible space requirements and that the issue exceeds the resources of local government for complete resolution. Teaming with interest groups such as Fire Safe Councils and homeowner associations will likely be important to the success of such an endeavor. A focused community education program will likely be needed to improve community acceptance of such proposal.

Study Findings

The Rohde & Associates consultant team has identified the following conditions, risks and opportunities associated with fuel modification programs in the City of Auburn:

1. The City of Auburn has robustly engaged in fuel modification for areas adjacent to the North Fork, American River drainage and has accomplished strong results. 282 acres are currently under treatment for an annual cost of $1.55 Million, with development of a shaded fuel break of 100-200 feet+ in width for most of the eastern portions of the city. Less than 40 acres of potential treatment are needed in this area to have a complete project, and this 40-acre site is a shared jurisdictional area with Placer County.

2. No landscape-scale fuel modification is currently available on the South-west side of the city near Baltimore Ravine (and surrounding area). This area offers high wildfire exposure to a significant number of homes and fuel modification needs to be expanded to include this area.

3. The biggest challenge faced by the fuel modification program is recurrent funding. This is a constant challenge currently, and the program manager has been very successful in piecing together available funding sources. A long-term funding strategy is needed to ensure maintenance of this critical fire protection infrastructure in perpetuity. Several funding opportunities were identified for currently available grants in this report, including State agency program grants and U.S. Bureau of Reclamation funding.

4. Environmental review and compliance for existing fuel modification programs meets California and local requirements, achieving CEQA compliance and compliance with the California Vegetation Treatment Program standards (CAL FIRE/State Board of Forestry). The city's program utilizes a suite of effective treatments best suited to individual parcels in its program execution.

5. In consultant's opinion, the greatest risk from wildfire loss in the City of Auburn is currently lack of structural hardening and defensible space on private property. Many areas have received fuel treatments in the WUI perimeter, however spotting fire behavior from large fires was identified as a major risk for city interior areas.

6. Several issues in contemporary compliance with recent fire and building code changes and defensible space requirements may confound the City of Auburn to provide newly required services, and may demand adoption of new local ordinance. Lack of compliance in this regard may lead to State regulatory issues and loss of property insurance for constituents, or enforcement of CAL FIRE standards within the City. Several proposals for establishment of new defensible space and inspection programs have been made in this report. A proposal is also made for consideration of an inspection fee program for support of provision of these new services.

7. Consultants recommended an upgrade for the Baltimore Ravine area from High to Very High Fire Hazard Severity Zone status, given the hazards to homes in this area from abundant and heavy fuels, favorable terrain, and likely fire behavior.

8. Consultants have reviewed the City of Auburn's 2019 Wildland-Urban Interface Fire Strategic Plan and found it inclusive of the majority of needed strategic initiatives. In our opinion, the plan continues to be relevant to addressing key issues.

9. The U.S. Bureau of Reclamation has announced the initiation of a 5-year effort to improve fuel modification and fire prevention issues on lands under its jurisdiction immediately east of the city. This is an unusual and novel approach for the agency, which the city has recognized and is engaged. This engagement may generate substantial funding and support for fuel modification programs and should continue to receive the city's support.

State of California
Department of Forestry and Fire Protection
CAL FIRE
LE-100 (3/17)

APPENDIX A

Date: _____

NOTICE OF DEFENSIBLE SPACE INSPECTION

A fire department representative has inspected your property for fire hazards.
You are hereby notified to correct the violation(s) indicated below. Failure to correct these violations may result in a citation and fine.

Owner/Tenant:		Inspection Address:	
Inspection No. ☐ 1 ☐ 2 ☐ 3	Inspector Name:	Contact Number:	No Violations Observed ☐

CHECKED BOXES INDICATE VIOLATIONS

Zone 1 / Within 30 of all structures or to the property line (Refer to illustration below):

- ☐ **A.** Remove all branches within 10 feet of any chimney or stovepipe outlet, pursuant to PRC § 4291(a)(4) and 14 CCR § 1299.03(a)(2).
- ☐ **B.** Remove leaves, needles or other vegetation on roofs, gutters, decks, porches, stairways, etc. pursuant to PRC § 4291 (a)(6) and 14 CCR § 1299.03(a)(1).
- ☐ **C.** Remove all dead and dying trees, branches and shrubs or other plants adjacent to or overhanging buildings, pursuant to PRC § 4291 (a)(5) and 14 CCR § 1299.03(a)(2).
- ☐ **D.** Remove all dead and dying grass, plants, shrubs, trees, branches, leaves, weeds and needles, pursuant to 14 CCR § 1299.03(a)(1).
- ☐ **E.** Remove or separate live flammable ground cover and shrubs, pursuant to PRC § 4291(a)(1) and BOF General Guidelines item1.
- ☐ **F.** Remove flammable vegetation and items that could catch fire which are adjacent to or below combustible decks, balconies, and stairs, pursuant to 14 CCR § 1299.03(a)(4).
- ☐ **G.** Relocate exposed wood piles outside of Zone1 unless completely covered in a fire resistive material, pursuant to 14 CCR § 1299.03(a)(3).

Zone 2 / Within 30-100 feet of all structures or to the property line (Refer to illustration below):

- ☐ **H.** Cut annual grasses and forbs to a maximum of 4 inches in height, pursuant to 14 CCR § 1299.03(b)(2)(B).
- ☐ **I.** Remove fuels in accordance with the Fuel Separation or Continuous Tree Canopy guidelines (see back), pursuant to BOF General Guidelines item 4.
- ☐ **J.** All exposed woodpiles must have a minimum of ten feet (10 feet) clearance, down to bare mineral soil, in all directions, pursuant to 14 CCR § 1299.03(b)(2)(C).
- ☐ **K.** Dead and dying woody surface fuels and aerial fuels shall be removed. Loose surface litter, normally consisting of fallen leaves or needles, twigs, bark, cones, and small branches, shall be permitted to a maximum depth of three inches (3 in.), pursuant to 14 CCR § 1299.03(b)(2)(A).

Defensible and Reduced Fuel Zone / Within 100 feet of all structures or to the property line (Refer to illustration below):

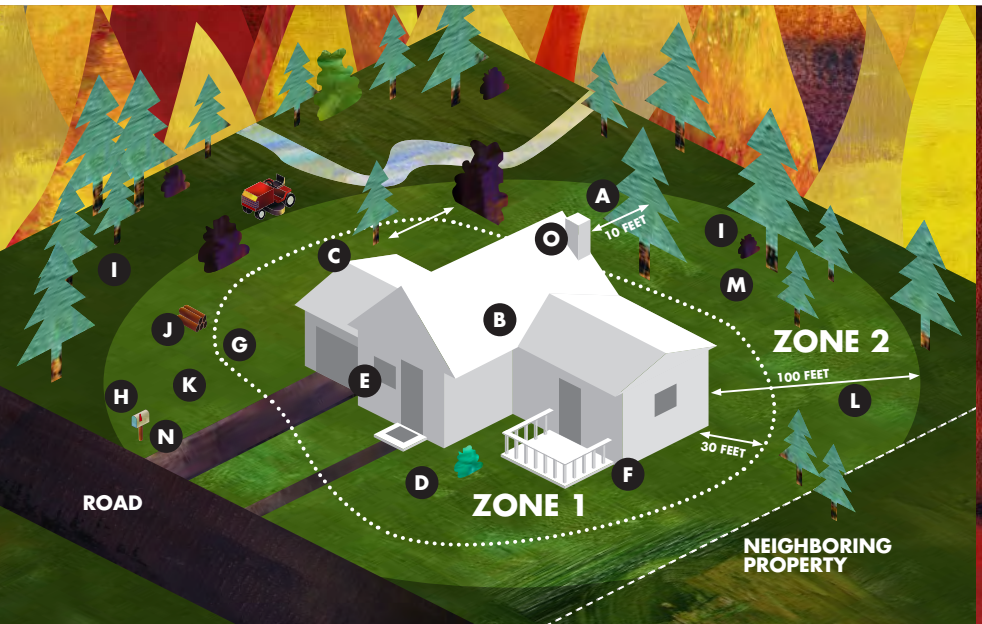
- ☐ **L.** Logs or stumps embedded in the soil must be removed or isolated from other vegetation, pursuant to BOF General Guidelines item 3.

Other Requirements:

- ☐ **M.** Outbuildings and Liquid Propane Gas (LPG) storage tanks shall have ten feet (10 ft.) of clearance to bare mineral soil and no flammable vegetation for an additional ten feet (10 ft.) around their exterior, pursuant to 14 CCR § 1299.03(c)(1).
- ☐ **N.** Address numbers shall be displayed in contrasting colors (4" min. size) and readable from the street or access road, pursuant to 2013 CFC § 505.1.
- ☐ **O.** Equip chimney or stovepipe openings with a metal screen having openings between 3/8 inch and 1/2 inch, pursuant to 2013 CBC § 2113.9.2.

COMMENTS:

IMPORTANT **All violations marked must be addressed by the owner/tenant within 30 days of the inspection date. A reinspection of the property will occur after the 30-day compliance timeframe.**



KNOW THE LAW BE FIRE SMART

100 FEET OF DEFENSIBLE SPACE IS REQUIRED UNDER THE PUBLIC RESOURCES CODE (PRC) 4291. CALIFORNIA BUILDING CODE CHAPTER 7A REQUIRES CERTAIN CONSTRUCTION MATERIALS AND METHODS FOR HOMES IN WILDLAND AREAS. BE SURE TO CONTACT YOUR LOCAL FIRE DEPARTMENT FOR ADDITIONAL REQUIREMENTS TO ENSURE YOUR HOME IS COMPLIANT WITH THE LAW.

READYFORWILDFIRE.ORG/THELAW

WILDFIRE IS COMING.
ARE YOU READY?

HARDENING YOUR HOME

Flying embers can destroy homes up to a mile ahead of a wildfire. Prepare (harden) your home now before a fire starts.

Priority list for building or remodeling with ingition-resistant* materials:

- Roof (Above all else your roofing is the most important hardening feature)
- Eaves and Soffits
- Walls
- Decks
- Patio Cover
- Fencing

Other priority activities:

- **Vents:** Cover and protect all openings.
- **Windows:** Protect against blow-outs and install dual-paned windows.
- **Rain Gutters:** Screen or enclose.
- **Chimney:** Cover outlets with non-combustable screens.
- **Garage:** Have an accessable fire extinguisher.
- **Driveways:** Ensure acess to your home complies with local fire codes.
- **Water Supply:** Get multiple garden hoses that are long enough to reach all areas of your home.

*Visit ReadyforWildfire.org/hardening-your-home for detailed information on ingition-resistant building materials and all home hardening activities.

VERTICAL SPACING

Eliminate opportunities for a vertical "fire ladder" by:

- Remove branches beneath large trees for a 6 foot minimum clearance.
- Create proper vertical spacing between shrubs and the lowest branches of trees by using the formula shown.

HORIZONTAL SPACING

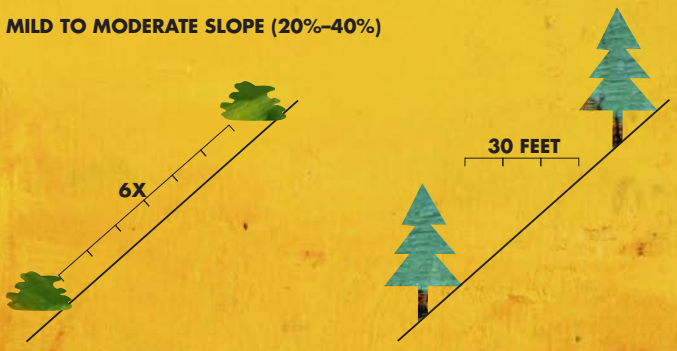
The spacing between grass, shrubs, and trees is crucial to reduce the spread of wildfire. The spacing needed is determined by the type and size of the shrubs and trees, as well as the slope of the land. For example, a property on a steep slope with larger plant life will require greater spacing between trees and shrubs than a level property that has small, sparse vegetation.

Fire-safe landscaping

Fire-safe landscaping isn't necessarily the same thing as a well-maintained yard. Fire-safe landscaping uses fire-resistant plants that are strategically planted to resist the spread of fire to your home.

FLAT TO MILD SLOPE (LESS THAN 20%)

MILD TO MODERATE SLOPE (20%–40%)



MODERATE TO STEEP SLOPE (GREATER THAN 40%)

DOWNLOAD THE READY FOR WILDFIRE APP

It's never been more important to keep on top of preparing your family, home and property for a wildfire. Fires are on the rise, and are burning hotter, faster and more unpredictably than ever before. Download the app to:

- Get custom wildfire alerts
- Track your progress
- Get detailed action steps

CAL FIRE SINCE 1885

ONE LESS SPARK
ONE LESS WILDFIRE

State of California
Department of Forestry and Fire Protection

NOTICE OF
FIRE HAZARD INSPECTION

A fire department representative has inspected your property for fire hazards. You are hereby notified to correct the violation(s) indicated below.

Failure to correct these violations may result in a citation and fine.

Occupant:	Physical Address:	Phone #:

Occupant Not Home: 1st Attempt: ___/___/___	Occupant Not Home: 2nd Attempt: ___/___/___	Refused Inspection: ___/___/___	For Questions, Contact Inspector at: (_____)_____-_____

Roof Construction	Exterior Siding	Window Panes	Eaves	Decks or Porches	Location of Structure
Combustible/Non-Combustible	Combustible/Non-Combustible	Single Pane/Multi-Pane	Enclosed/Unenclosed	Masonry/Composite/Wood	Flat Ground/Slope/Ridge Top

Checked boxes indicate violations.

	Corrected	
	2	3	**Defensible Space Zone (within 30 feet of all structures or to property line):**
☐	2	3	A. Remove all branches within 10 feet of any stovepipe or chimney outlet. PRC §4291(a)(4)
☐	2	3	B. Remove leaves, needles or other vegetation on roofs, gutters, decks, porches and stairways etc. PRC §4291(a)(6)
☐	2	3	C. Remove all dead or dying trees, branches, shrubs or other plants adjacent to or overhanging buildings. PRC §4291(a)(5)
☐	2	3	D. Prune lower branches of trees to a height of 6 to 15 feet (or 1/3 tree height for trees under 18 feet). PRC §4291(a)(1)
☐	2	3	E. Remove all dead or dying grass, leaves, needles or other vegetation. PRC §4291(a)(1)
☐	2	3	F. Remove or separate live flammable ground cover and shrubs. PRC §4291(a)(1)
			Reduced Fuel Zone (within 30 - 100 feet of all structures or to property line):
☐	2	3	G. Mow dead or dying grass to a maximum of 4 inches in height. Trimmings may remain on the ground. PRC §4291(a)(1)
☐	2	3	H. Live flammable ground cover less than 18 inches in height may remain, but overhanging and adjacent trees must be pruned to a height of 6 to 15 feet. PRC §4291(a)(1)
☐	2	3	I. Reduce fuels in accordance with the Continuous Tree Canopy Standard (see back). PRC §4291(a)(1)
☐	2	3	J. Reduce fuels in accordance with the Horizontal Spacing Standard (see back). PRC §4291(a)(1)
			Defensible and Reduced Fuel Zone (within 100 feet of all structures or to property line):
☐	2	3	K. Logs or stumps embedded in the soil must be removed or isolated from structures and other vegetation. PRC §4291(a)(1)
☐	2	3	L. Remove all dead or dying brush and trees, and all dead or dying tree branches within 15 feet of the ground. PRC §4291(a)(1)
			Other Requirements:
☐	2	3	M. Clear all flammable vegetation, trash and other combustible materials 10 feet around and above propane tanks. CFC §3807.3
☐	2	3	N. Address numbers shall be displayed in contrasting colors (4" Min. Size) and readable from the street or access road. CFC §505.1
☐	2	3	O. Equip chimney or stovepipe openings with a metal screen having openings between 3/8 inch and 1/2 inch. CBC §2113.9.1

Recommendations:

☐ Clear 10 feet around and 15 feet above fuels (e.g. Woodpiles, lumber, scrap etc.). Move woodpiles as far as possible from structures.

☐ Remove flammable materials stored under decks and similar overhangs of structures.

☐ Clear vegetation 10 feet from sides and 15 feet above all driveways and turnaround areas.

☐ **No violations observed.**

Comments:_____

_____

_____

_____

_____

_____

_____

Additional Information on Back

1. Inspector:_____ Date:____/____/____ A re-inspection will occur on/after: ____/____/____

2. Inspector:_____ Date:____/____/____ A re-inspection will occur on/after: ____/____/____

3. Inspector:_____ Date:____/____/____

(White-Inspector, Canary-1st to Occupant, Pink-2nd to Occupant, Gold-3rd to Occupant)

Continuous Tree Canopy Standard

To achieve defensible space while keeping a larger stand of trees with a continuous tree canopy, adhere to the guidelines below:

- Prune lower branches of trees to a height of 6 to 15 feet from the top of the vegetation below or 1/3 to 1/2 the tree height for trees under 30 feet, whichever is less.
- Remove all ground fuels greater than four inches in height. Single trees or other vegetation may be kept if they are well spaced, well pruned, well maintained, free of all dead material, and will not spread fire to other vegetation or structures.

Horizontal Spacing Standard

- Beyond 30 feet from structures grass should not exceed four inches in height. In situations where these fuels are isolated from other fuels or where necessary to stabilize soil, grasses may reach a height of 18 inches.
- Clearance between shrubs should be 4 to 40 feet depending on the slope of the land and size and type of vegetation. Check the chart below for an estimation of clearance distance. Any questions regarding requirements for a specific property should be addressed to your local fire official.

Minimum Horizontal Spacing Guidelines		
Slope	Shrubs, Ground Covers & Other Ornamental Plants Space required between clumps of ground cover, plants, bushes, shrubs, seedlings or sapling trees, etc.	Trees Space required between tree canopies or groups of trees
Flat or gentle slope (0% to 20%)	2 times the height of the plant	10 feet
Moderate slope (20% to 40%)	4 times the height of the plant	20 feet
Steep slope (greater than 40%)	6 times the height of the plant	30 feet

PRC §4291. (a) A person who owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining a mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land that is covered with flammable material, shall at all times do all of the following:

(1) Maintain defensible space of 100 feet from each side and from the front and rear of the structure, but not beyond the property line except as provided in paragraph (2). The amount of fuel modification necessary shall take into account the flammability of the structure as affected by building material, building standards, location, and type of vegetation. Fuels shall be maintained in a condition so that a wildfire burning under average weather conditions would be unlikely to ignite the structure. This paragraph does not apply to single specimens of trees or other vegetation that are well-pruned and maintained so as to effectively manage fuels and not form a means of rapidly transmitting fire from other nearby vegetation to a structure or from a structure to other nearby vegetation. The intensity of fuels management may vary within the 100-foot perimeter of the structure, the most intense being within the first 30 feet around the structure. Consistent with fuels management objectives, steps should be taken to minimize erosion. For the purposes of this paragraph, “fuel” means any combustible material, including petroleum-based products and wildland fuels.

(2) A greater distance than that required under paragraph (1) may be required by state law, local ordinance, rule, or regulation. Clearance beyond the property line may only be required if the state law, local ordinance, rule, or regulation includes findings that the clearing is necessary to significantly reduce the risk of transmission of flame or heat sufficient to ignite the structure, and there is no other feasible mitigation measure possible to reduce the risk of ignition or spread of wildfire to the structure. Clearance on adjacent property shall only be conducted following written consent by the adjacent landowner.

(3) An insurance company that insures an occupied dwelling or occupied structure may require a greater distance than that required under paragraph (1) if a fire expert, designated by the director, provides findings that the clearing is necessary to significantly reduce the risk of transmission of flame or heat sufficient to ignite the structure, and there is no other feasible mitigation measure possible to reduce the risk of ignition or spread of wildfire to the structure. The greater distance may not be beyond the property line unless allowed by state law, local ordinance, rule, or regulation.

(4) Remove that portion of a tree that extends within 10 feet of the outlet of a chimney or stovepipe.

(5) Maintain a tree, shrub, or other plant adjacent to or overhanging a building free of dead or dying wood.

(6) Maintain the roof of a structure free of leaves, needles, or other vegetative materials.

PRC §4119. The department, or its duly authorized agent, shall enforce the state forest and fire laws. The department may inspect all properties, except the interior of dwellings, subject to the state forest and fire laws, for the purpose of ascertaining compliance with such laws.

For additional information on how to comply with defensible space clearance requirements, please visit:
WWW.FIRE.CA.GOV

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