



TOWN OF PORTOLA VALLEY
Ad Hoc Wildfire Preparedness Committee
Tuesday, October 13, 2020 6:00 P.M.
Virtual Meeting via Zoom

CoVID-19 DISEASE Advisory Notice

The San Mateo County Health Officer, in conjunction with colleagues from five other Bay Area Counties, has issued legal orders to help stop the spread of the coronavirus. These legal orders include directing all residents to shelter in place, with exceptions for visits to essential service providers such as grocery stores, gas stations, and pharmacies.

This meeting will be conducted in compliance with the Governor's Executive Order N-25-20 issued on March 12, 2020, and N-29-20 issued on March 18, 2020, allowing for deviation of teleconference rules required by the Brown Act. On Thursday, March 19, Governor Gavin Newsom issued a statewide stay-at-home order to protect the health and well-being of all Californians. In an effort to reduce the risk of spreading Coronavirus (COVID-19), members of the Committee and staff will all participate via teleconference. The purpose of this is to provide the safest environment for officials, staff, and the public while allowing for public participation.

We encourage anyone who has the ability to join the meeting online to do so. You will have access to any presentations that will be shown on your screen and can easily ask questions in the Q&A.

<p><u>Join Zoom Meeting Online:</u></p> <p>Join Zoom Meeting https://zoom.us/j/4308779879</p> <p>Meeting ID: 430 877 9879 One tap mobile +16699006833,,4308779879# US (San Jose)</p>	<p><u>Remote Public Comments:</u></p> <p>Meeting participants are encouraged to submit public comments in writing in advance of the meeting. Please send an email to jdennis@portolavalley.net by 5:00 PM on the day of the meeting. All received questions and comments will be read by the Chair and addressed and will be included in the public record.</p> <p>The Committee will take questions by using the Q&A button. If you can only call in and you did not send in questions and comments ahead of time, you can press *9 on your phone to "raise your hand" The town council will call on people to speak by the phone number that is calling in.</p>
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Meeting Agenda

1. Call to Order
2. Open Communications
3. Approval of Minutes: Regular Meeting, July 21, 2020

4. Post-CZU Wildfire Recommendations from Vegetation Management/Defensible Space Subcommittee
5. Status Update, Wildfire Committee Recommendations
6. Status Update from Subcommittees
7. Staff Updates
8. Committee Membership 2021
9. Adjournment



TOWN OF PORTOLA VALLEY
Ad Hoc Wildfire Preparation Committee
Tuesday, July 21, 2020 4:30 P.M.
Historic Schoolhouse
765 Portola Road, Portola Valley, CA 94028

COMMITTEE MEETING ACTION MINUTES

Call to Order: The meeting was called to order at 4:30 pm

Oral Communications: None

New Business:

1. Zonehaven presentation – Members were presented with a presentation on the Zonehaven evacuation planning tool, and complimented its features and capabilities. No action
2. Stanford Presentation – Students from Stanford University presented a Woodside Fire Prevention District-sponsored investigation of the efficacy of a Los Trancos Woods wildfire preparedness program. No action.
3. Updates from Committees – minor updates on subcommittee activity. No action
4. Updates from staff on state legislation, PSPS updates, the quarterly report, and other items.

Adjournment: 6:46 pm

2020 Ad Hoc Wildfire Committee Recommendations



CZU Fire

1,487 structures
destroyed

925 residences

Worst Case

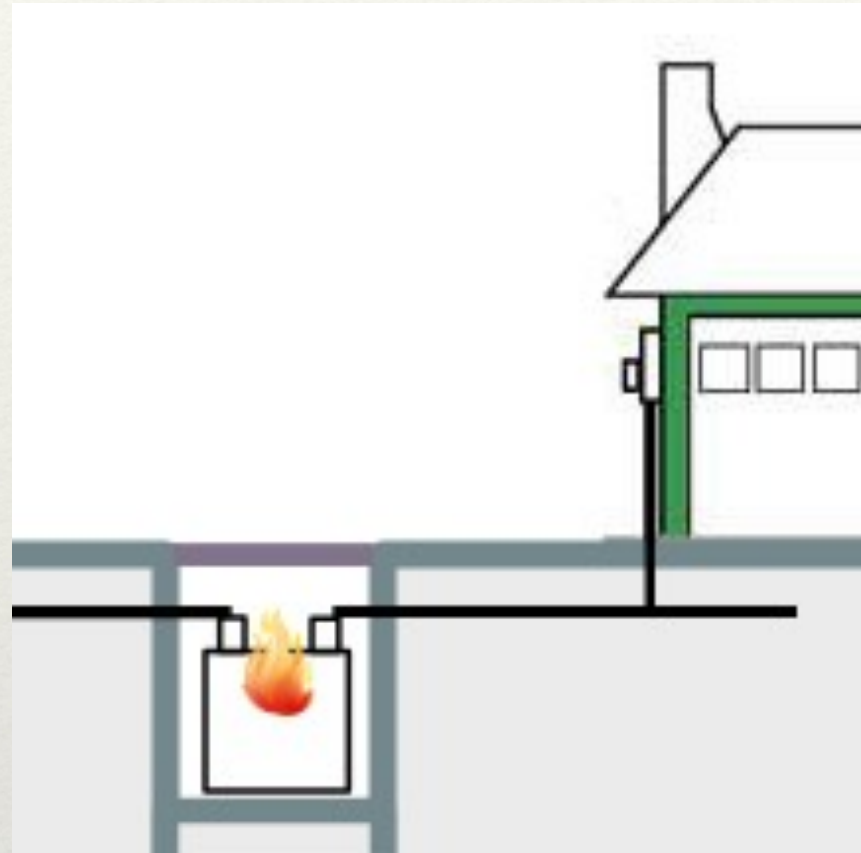


(Before): Mike Evans, co-owner of Tree of Life native plant nursery in Southern California, built this cabin over the course of three years. The cabin was carefully designed for fire safety, there was 100' clearance to mineral soil in all directions, and the forest understory was cleared for hundreds of yards all around. Both photographs by M. Evans.



(After): The Cedar Fire of 2003 burned so hot that the structure fire started on the inside: a piece of furniture, a pillow, a towel, the tablecloth (who knows?) ignited, perhaps spontaneously.

Post CZU Wildfire Recommendations



Underground Transformer Regulation



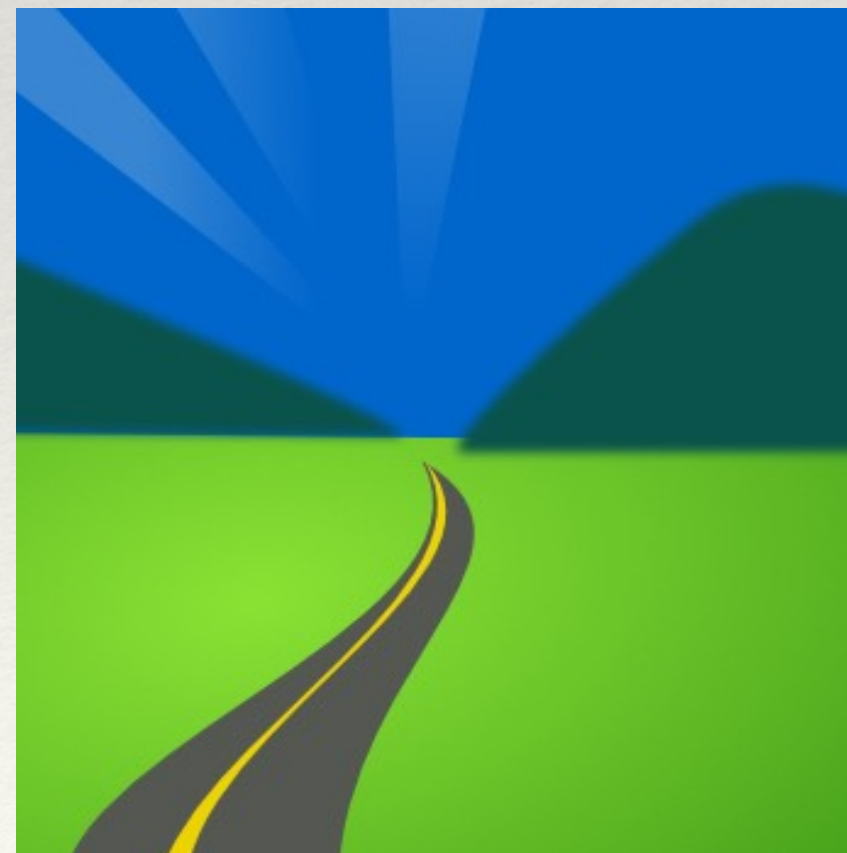
Ban the Flammable Five



Steep Slope Regulations



Undeveloped Land Regulations

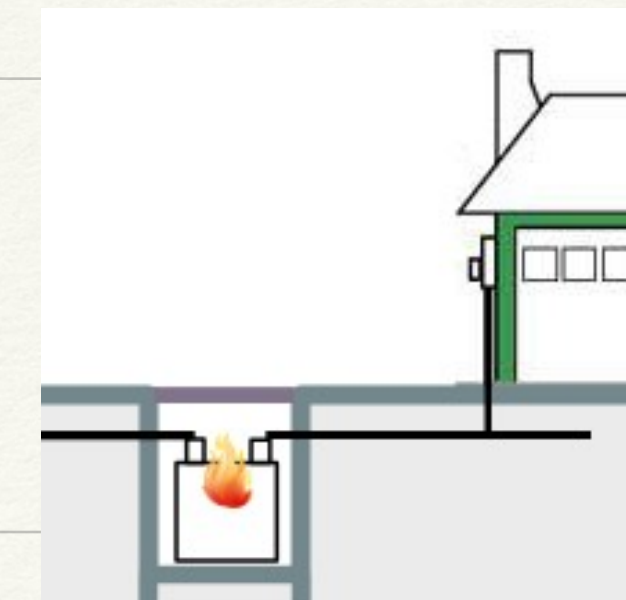


Town Owned Roadway & Property Cleanup

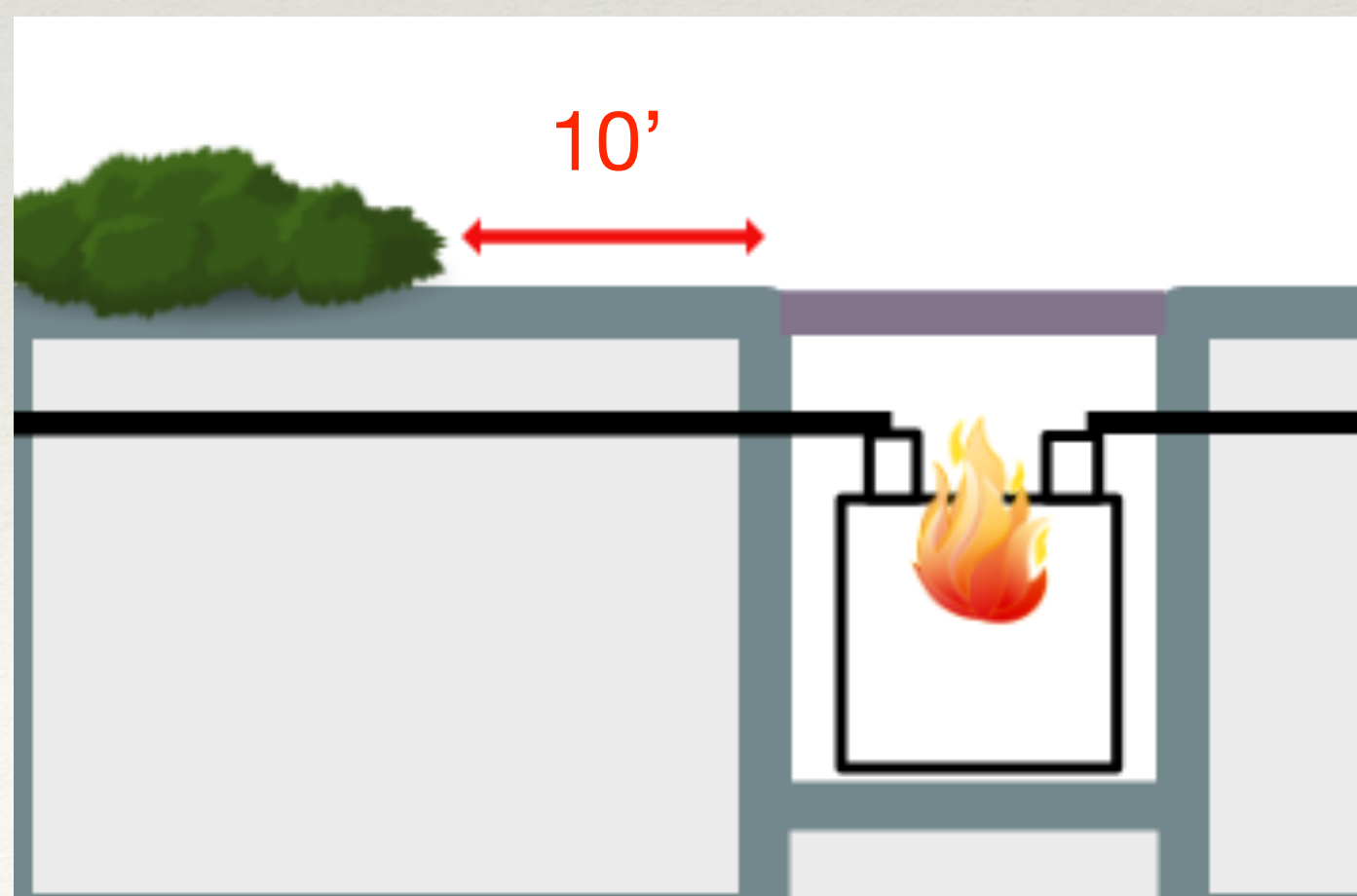


Financing Town Cleanup

Underground Transformer Regulation



- ❖ On September 8th, an underground transformer blew up in the Ranch
- ❖ The cover flew off and open flames were visible
- ❖ WFPD regulation prohibiting planting within 10' of transformer cover



Ban Planting the Flammable Five



juniper



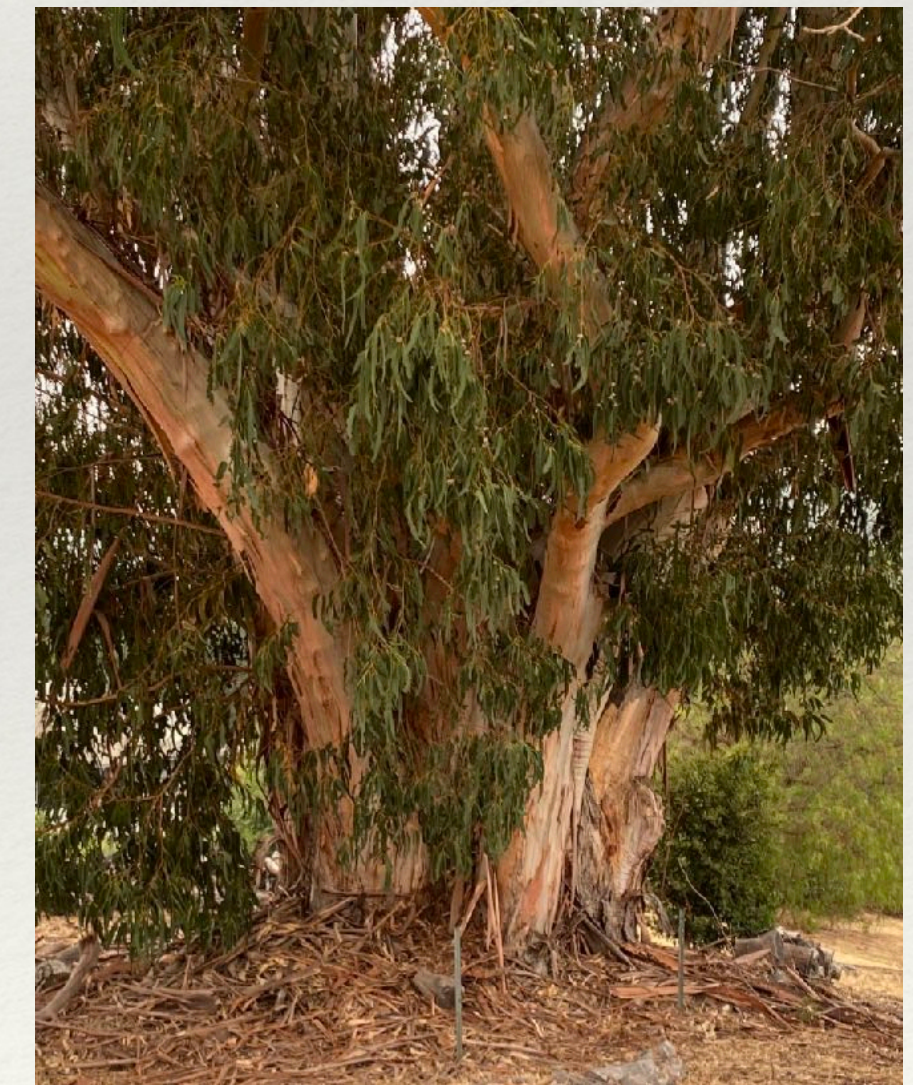
acacia



cypress



pine



eucalyptus
varieties with peeling bark

❖ WFPD flammable five ordinance

Grass Roots Ecology "The following are some key invasive species to target: Remove invasive flammable trees including eucalyptus, acacia, cypress and many exotic conifers.... Junipers, which are *highly flammable*"

almost all “Eucalyptus”



Extremely Flammable
Eucalyptus

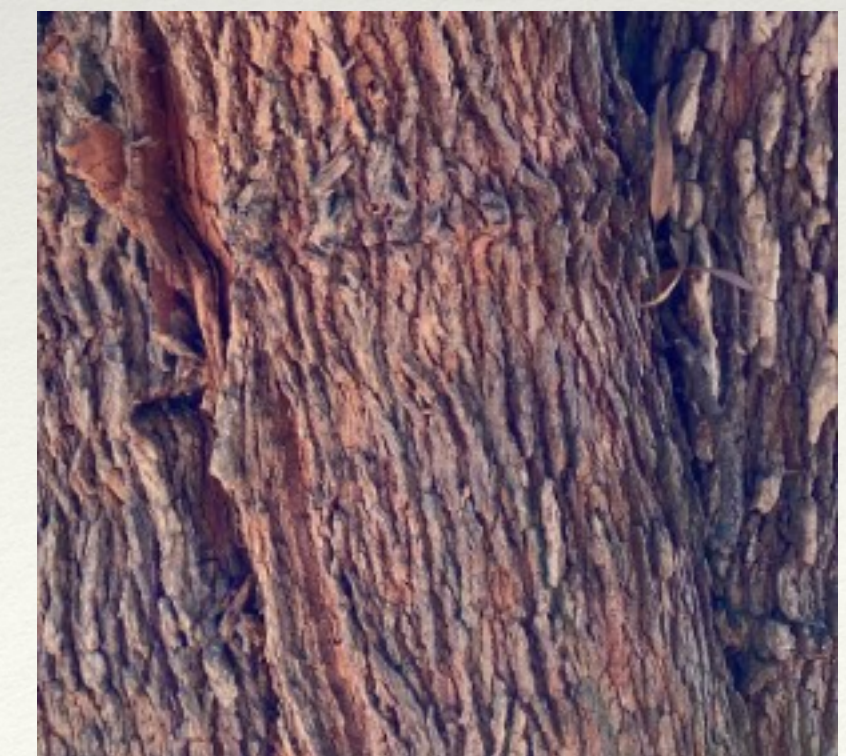
Eucalyptus Globulus
most common variety
outside of Australia

Fire Resistant Eucalyptus ¹

Corymbia maculata
“Spotted Gum”



Corymbia Gumifera
“Red Bloodwood”



How Will a Ban be Effective?



- ❖ Homeowners replace plants over time
- ❖ With a ban, the town can let licensed gardeners know they are not permitted
- ❖ A marketing program using the Flammable Five will encourage the removal of existing trees
- ❖ ASCC can condition approval based upon removal of the flammable five



Ban the
Flammable Five

+Two to Remove

- ❖ Tag line is two plants to remove from your property
- ❖ Both are invasive
- ❖ Highly unusual to intentionally plant



Ban the
Flammable Five

Flammable Five

+ Two to Remove

Coyote Brush



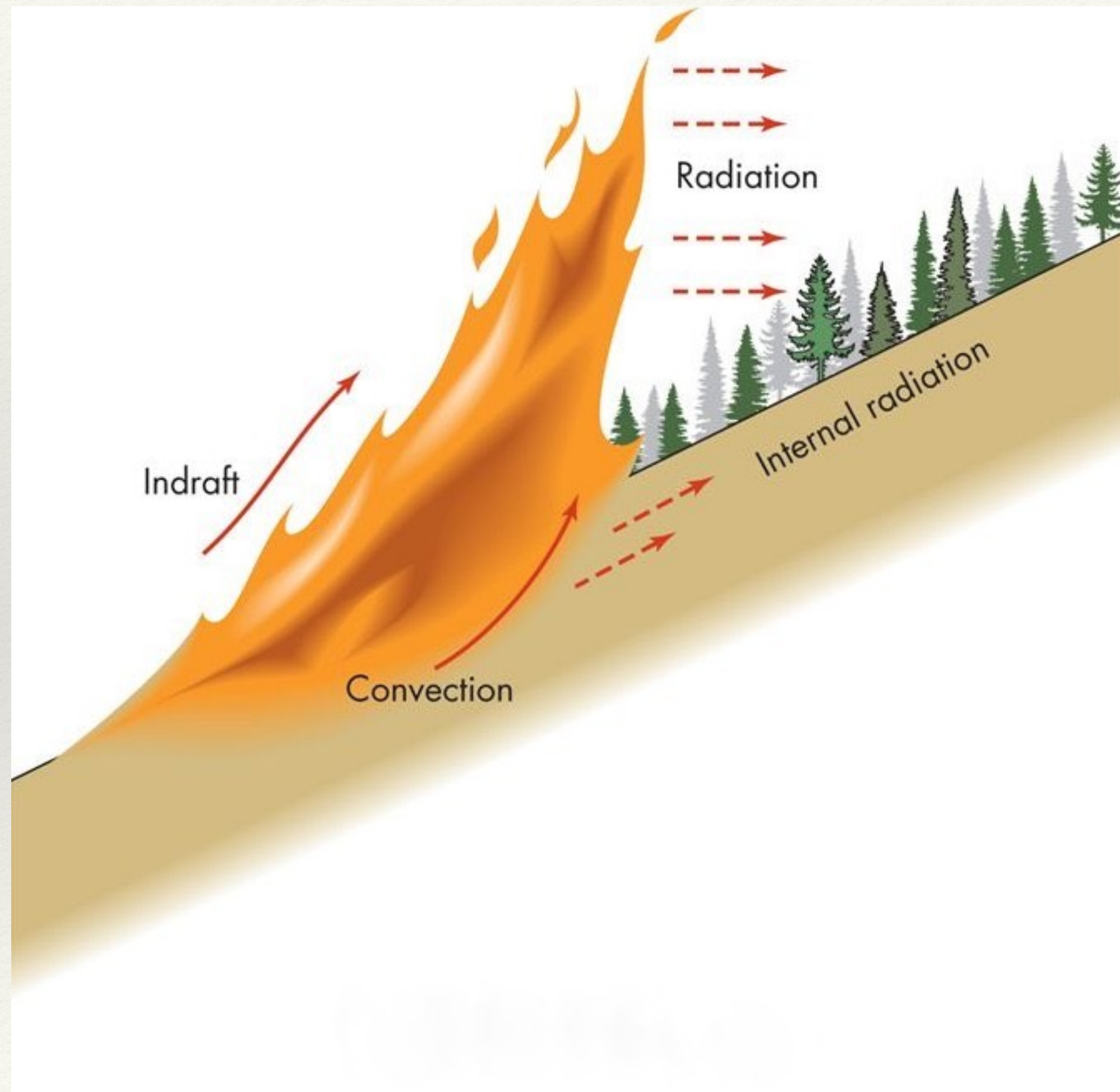
Broom
French Broom &
Scotch Broom

*There are no "fire-proof" plants!
All plants must be maintained in good health,
properly irrigated, and free of dead material,
dry twigs, or fallen leaves and needles.*

Slopes



Steep Slope
Regulations



Convection is the transfer of heat by the movement of a gas or liquid. Because hot air rises, heat transfer through convection tends to move upward. During wildfires, burning materials on the forest floor create convection currents that preheat the leaves and branches of trees above the fire. The vertical air currents can also lift burning materials.

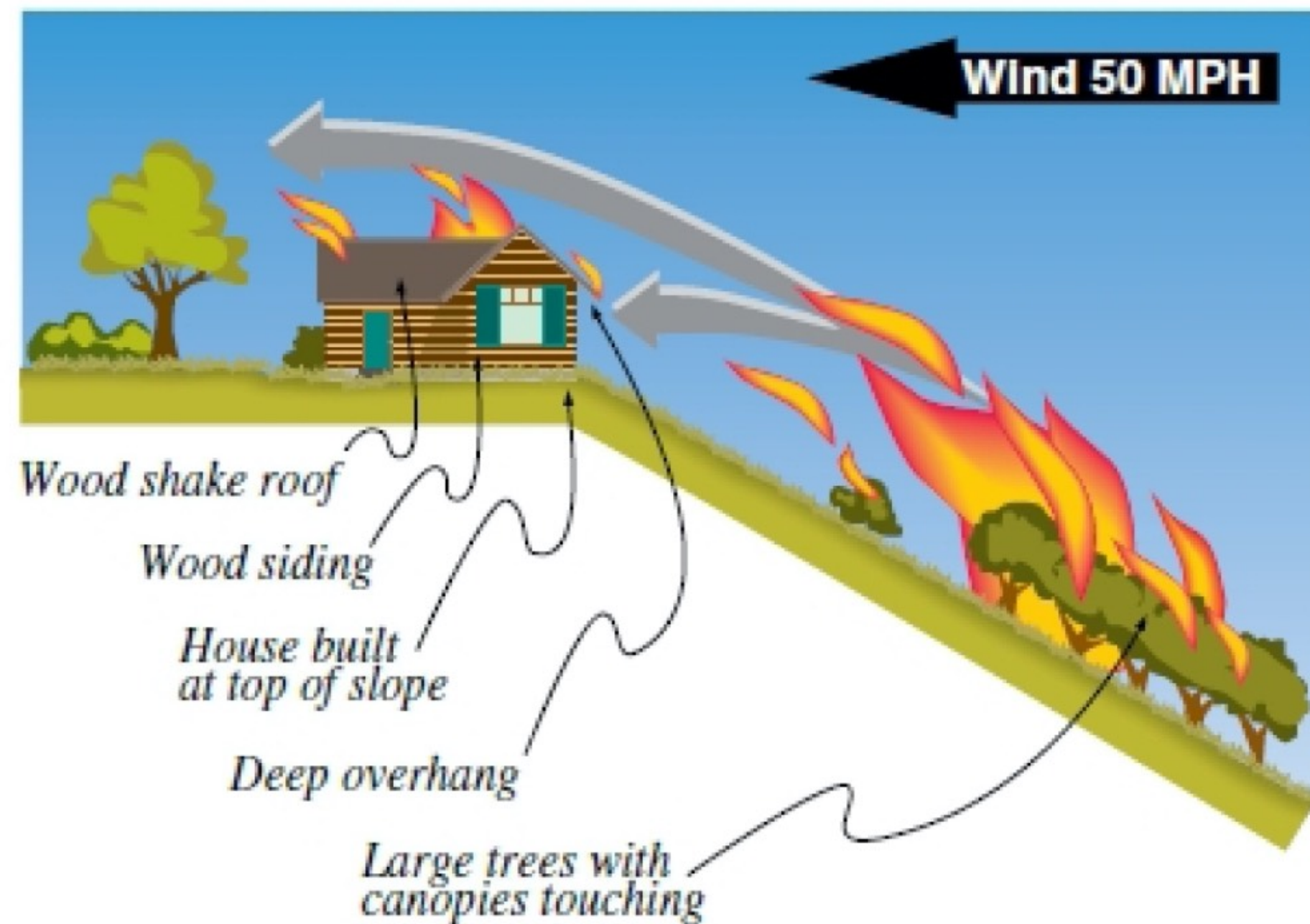
Radiation is the mechanism by which burning objects release energy in the form of heat. In general, the size of the burning object determines the amount of radiant heat released, with larger fuels burning hotter. In most cases, radiant heat from a wildfire will not ignite materials at distances greater than approximately 10 metres.

Local winds are those created by conditions specific to a particular area, such as terrain and topography.

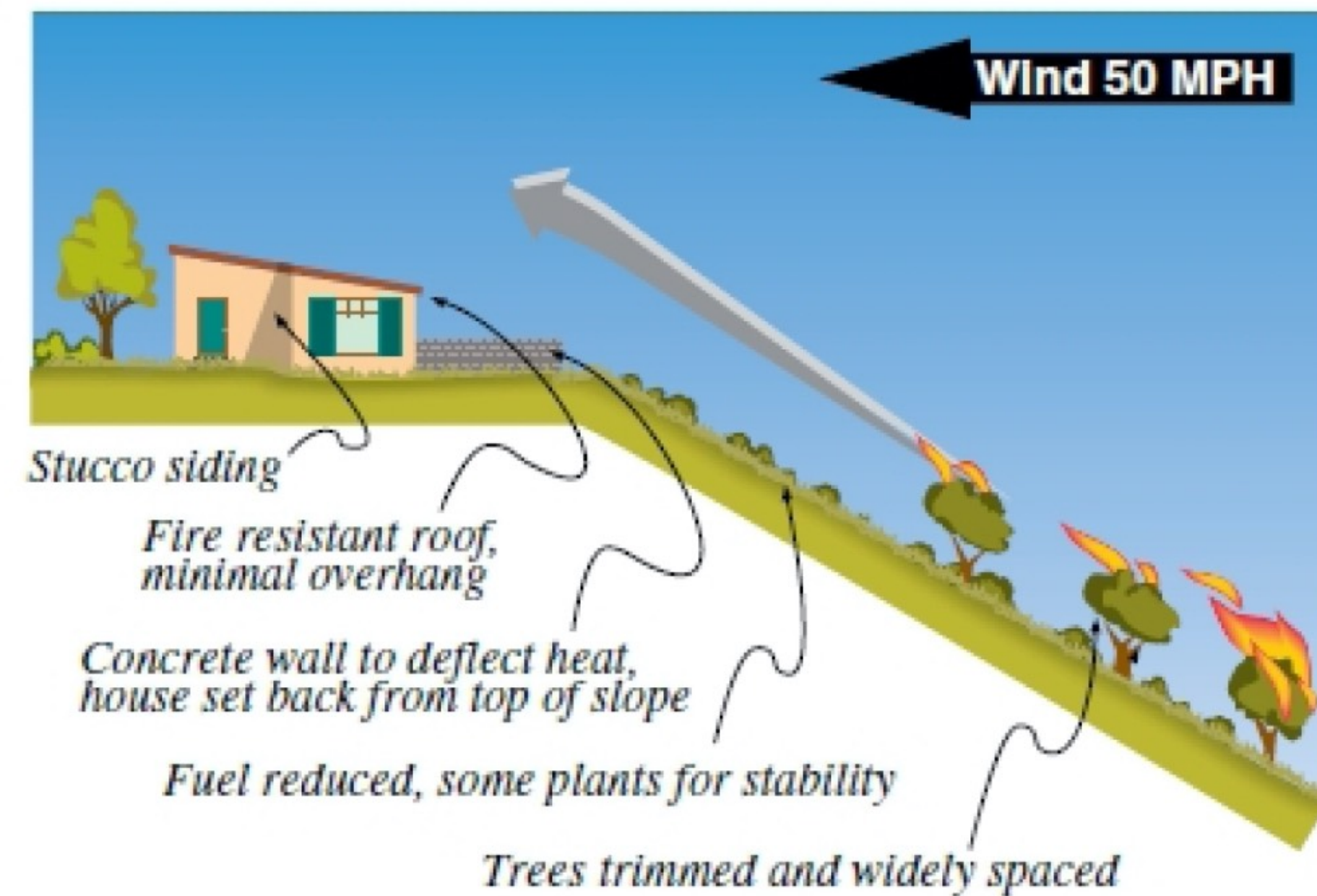
Source: Pearson Prentice Hall Inc.

Slopes

Dangerous materials and conditions for sloped sites



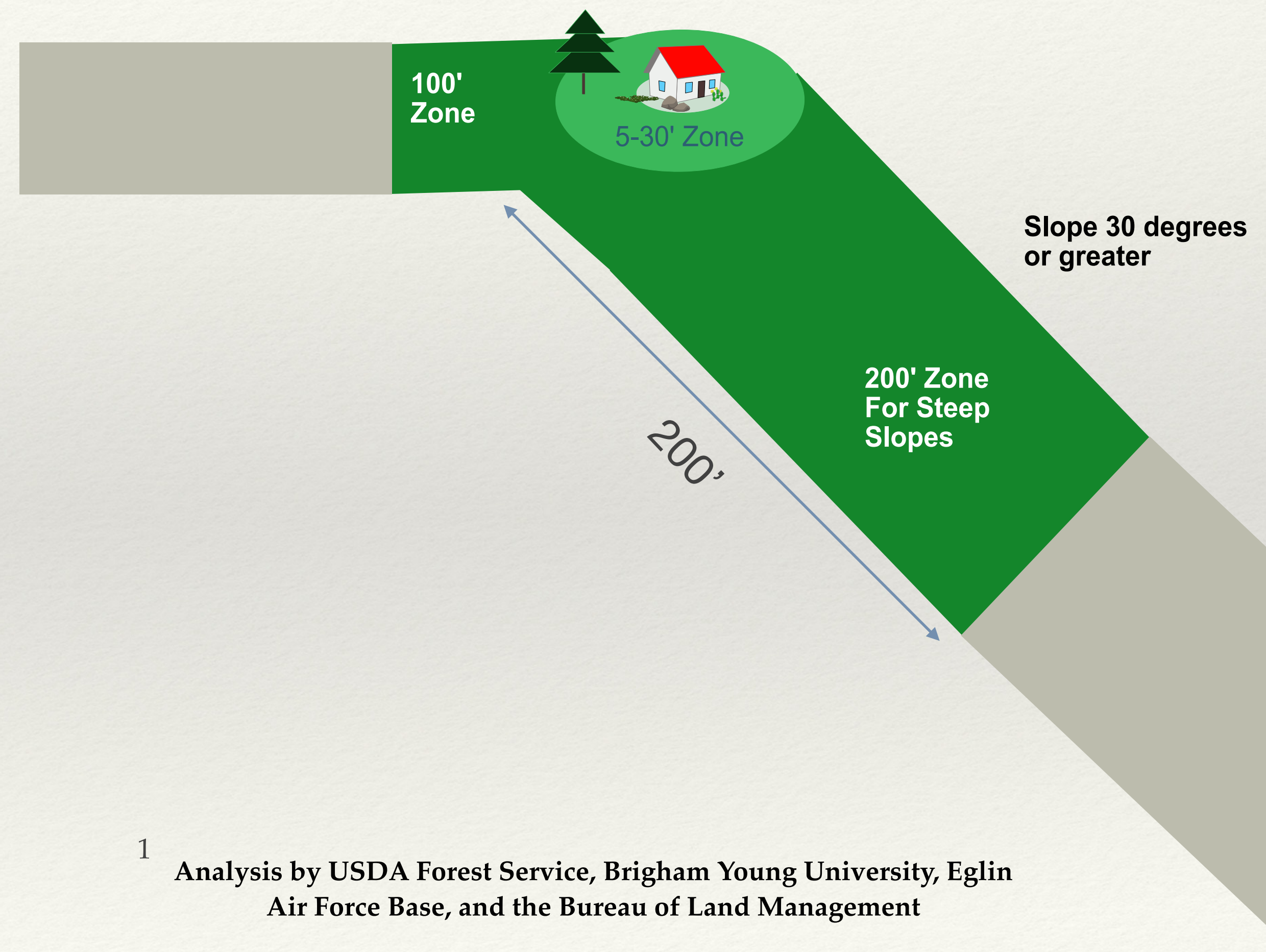
Landscaping and structures designed for fire safety



Source: East Bay Municipal Utility District – Firescape: Landscaping to Reduce Fire Hazard

WFPD Slope Regulation

- ❖ Certain areas of town with long steep slopes are subject to fire risk and need to be maintained more aggressively
- ❖ Slopes greater than 30% with any wind are significantly more dangerous ¹
- ❖ WFPD defensible zone distance goes up to 200' for slopes 30° or greater



¹ Analysis by USDA Forest Service, Brigham Young University, Eglin Air Force Base, and the Bureau of Land Management

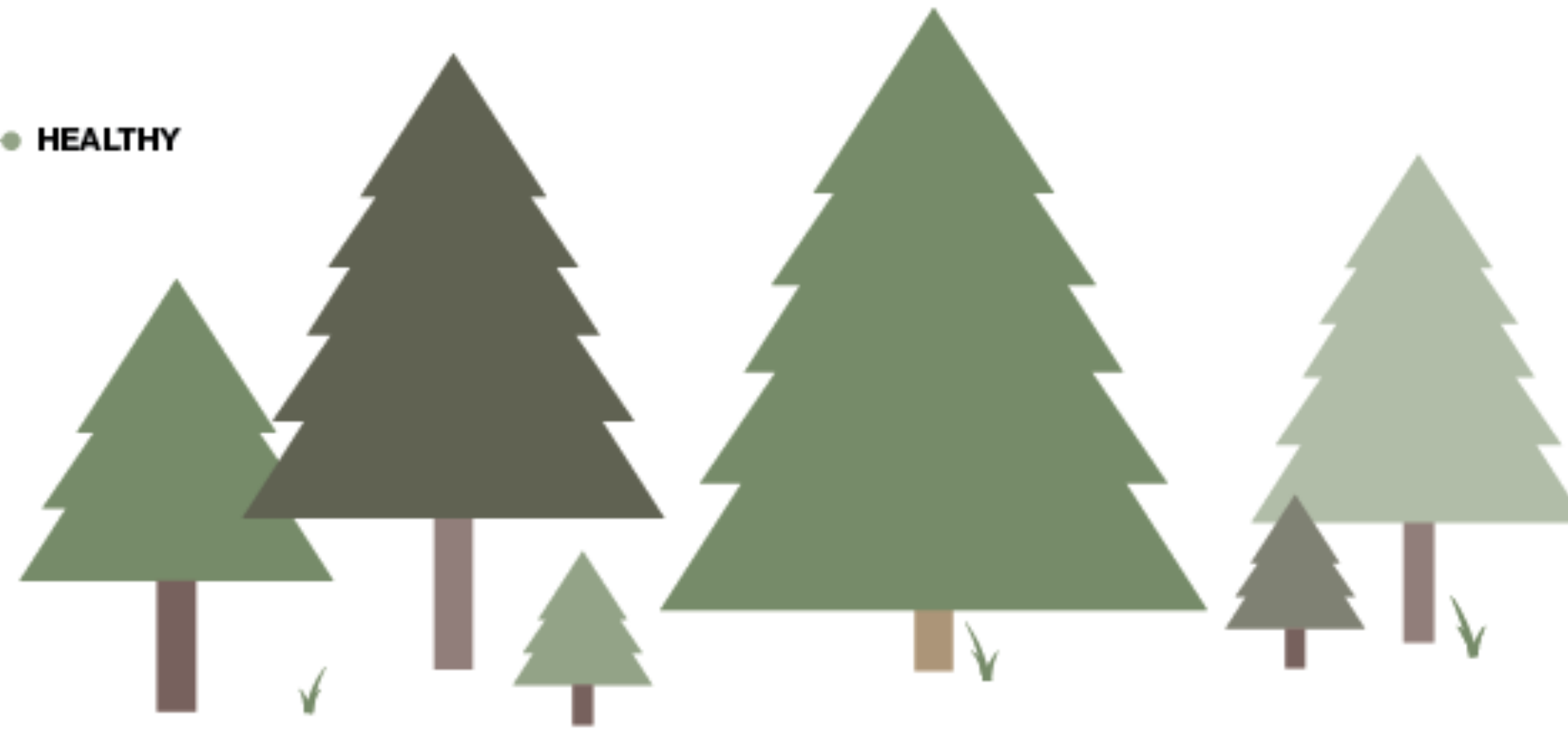


Undeveloped Land Regulations

Figure 10

Comparing the Potential Impacts of Healthy and Unhealthy Forests

HEALTHY



Sporadic small trees and brush, comparatively more large and older trees, 40-60 trees per acre

- Smaller and less intense wildfires.
- Increased forest resilience to pests, drought, and disease.
- Greater mitigation against climate change.
- Protected and potentially increased water supply.

UNHEALTHY



Prevalent small trees and brush, comparatively fewer large and older trees, 100-200 trees per acre

- Increased risk of severe forest fires.
- Less resilient forests, large numbers of dead trees.
- Loss of carbon sequestration benefits, potential increase in emissions.
- Threats to water supply and quality, and to hydropower generation.

Source:
California Legislative
Analysis Office

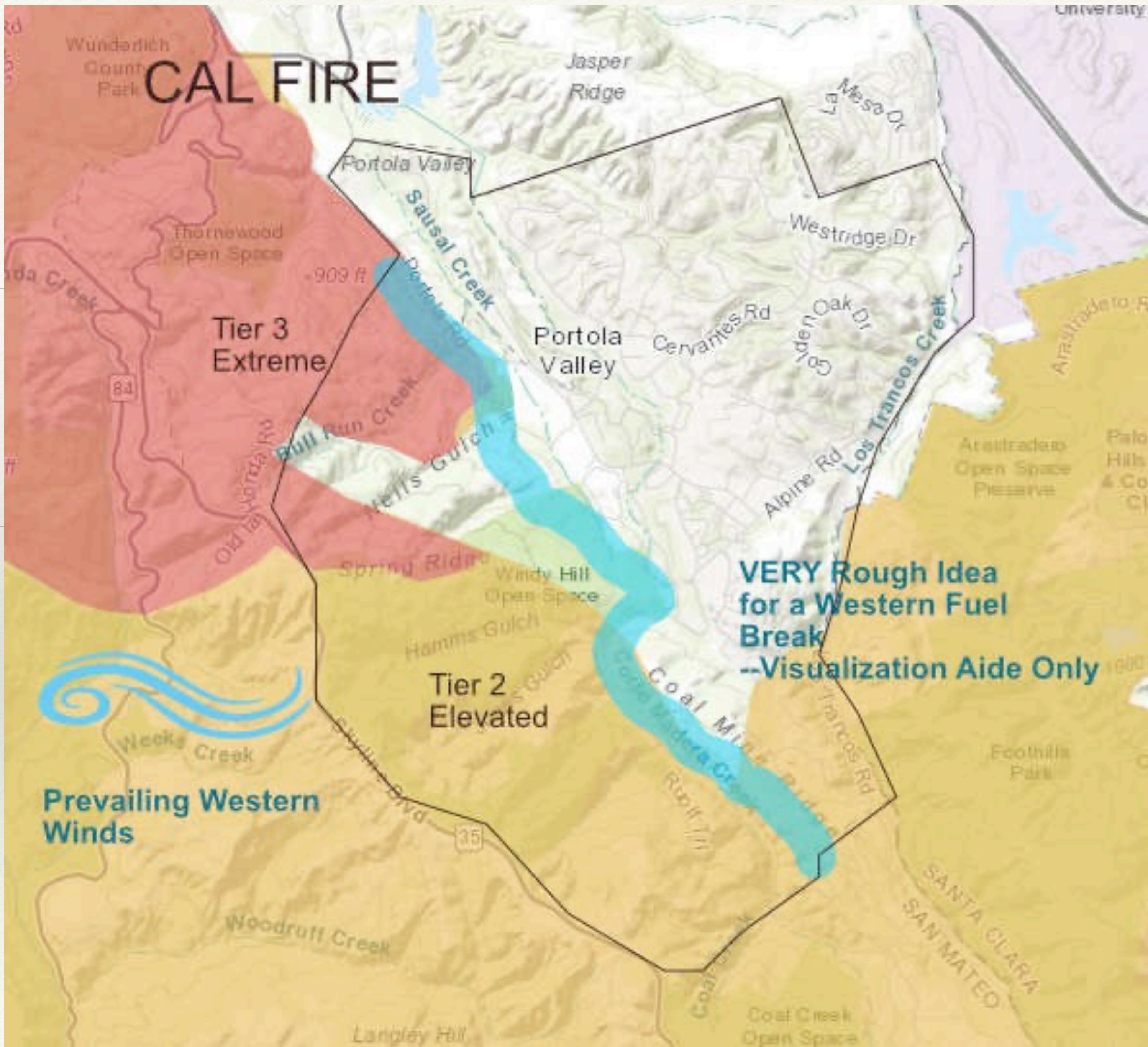
Unhealthy
Forests
Contribute
to Climate
Change!

Forest Density

- ❖ Native Americans managed the land in California with regular burning and allowing lightning fires to burn
- ❖ In the last 100 years, California has allowed parks and open space to grow unfettered
- ❖ During the 20th century, we struggled to suppress all fires
- ❖ We now have forests with 50% decline in large trees¹
- ❖ They are primed and ready to burn
- ❖ Climate change just exacerbates this problem

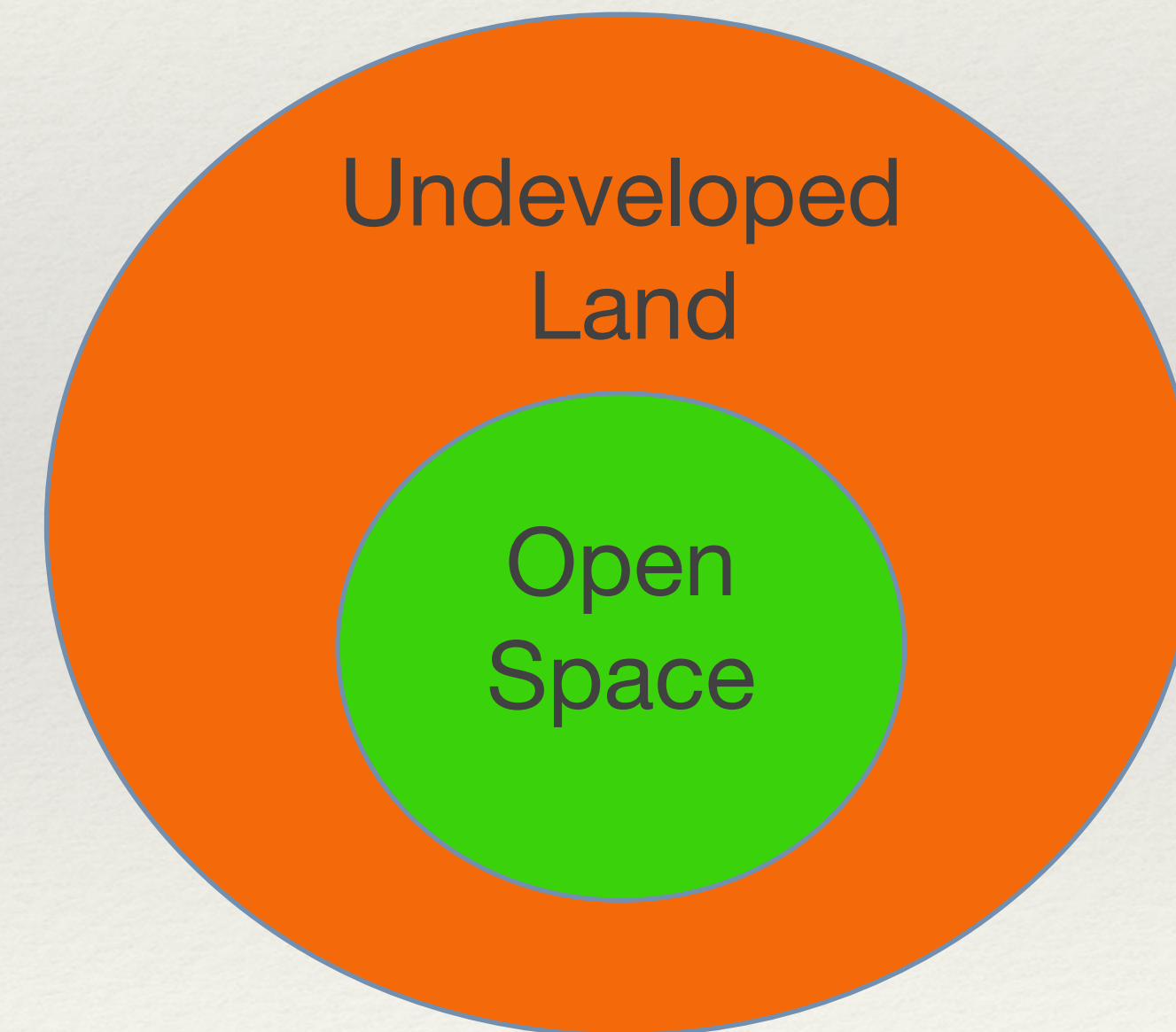
1. Patrick J. McIntyre, James H. Thorne, Christopher R. Dolanc, Alan L. Flint, Lorraine E. Flint, Maggi Kelly, and David D. Ackerly
PNAS February 3, 2015 112

Local Topography



Undeveloped Land Regulations

- ❖ Any undeveloped property in town larger than 50 acres is required to develop a vegetation management plan
- ❖ WFPD will approve the plan
- ❖ WFPD will do annual inspections

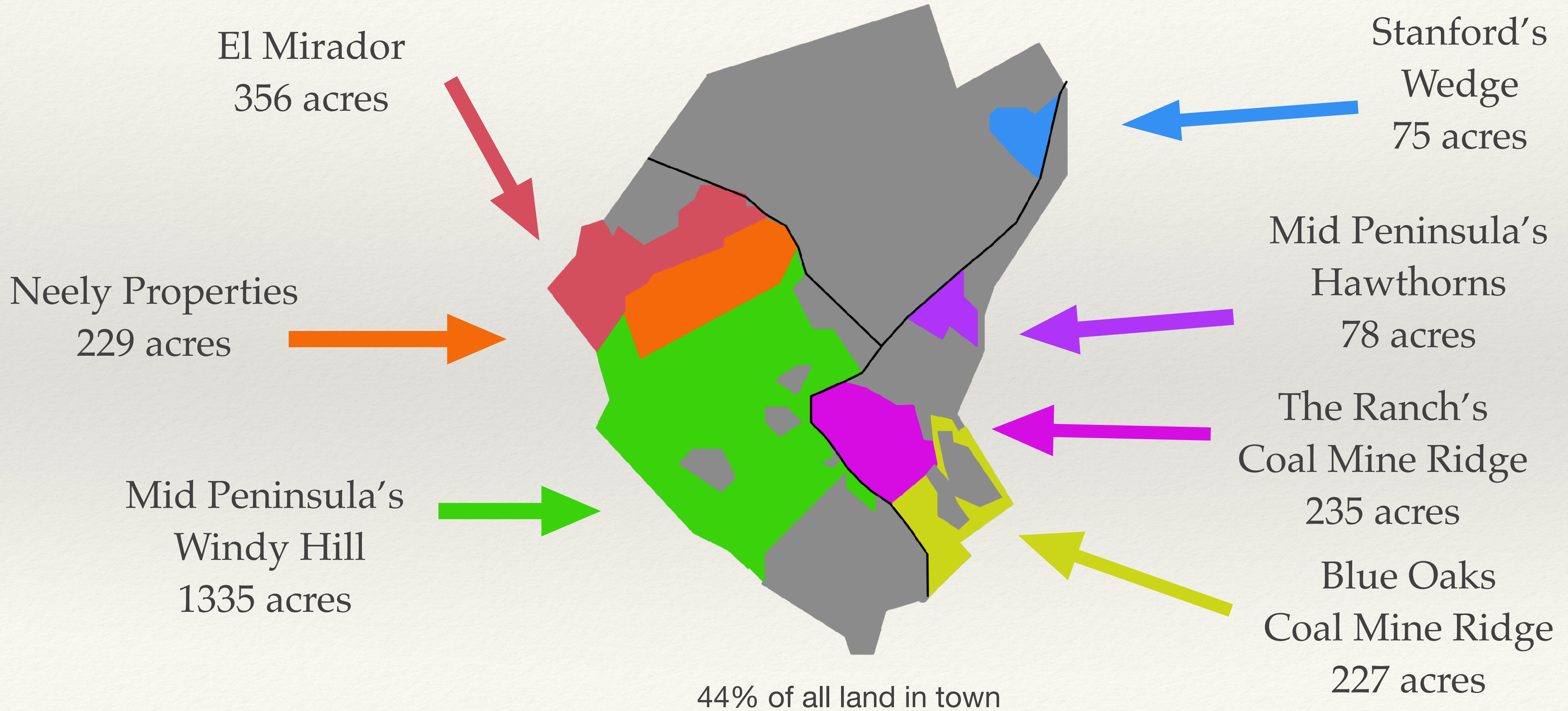


Mostly Undeveloped Land Definition

- ❖ Land with zero or few structures per acre
approximately less than 1 structure per 10 acres
- ❖ Public or private land
- ❖ Open or closed to the public
- ❖ Parks and open space preserves
- ❖ Wildland, vacant land, previously used land
- ❖ Some agricultural lands: farms, wineries, quarries, rangelands etc..
- ❖ Rural sporting facilities: shooting ranges, group camps, equestrian centers etc..



Undeveloped Land > 50 Acres



Vegetation Management Plan

- ❖ Map components
 - ❖ Locations of different kinds of vegetation from the almost completed San Mateo County vegetation map and free LANDFIRE database
 - ❖ Roads and firebreaks
- ❖ Initial and annual treatments of vegetation
- ❖ Removal of all Eucalyptus
- ❖ Fuelbreaks of 200-300' near homes



Shaded Fuelbreak

Why are Fuel Breaks so Important?

“Increased firefighter access and production rates – Both aerial and ground-based firefighters have improved fireline construction rates in the lighter fuels associated with fuel breaks. Hand crew fireline construction rates can increase up to six times when working in grass dominated fuels rather than in chaparral. Dozers have similar increases in production rates and air tankers can reduce coverage levels in lighter fuels; allowing their retardant to be effectively spread over a greater distance during a single drop”

— Strategic Fuel Break Assessment on the Los Padres National Forest, US Forest Service



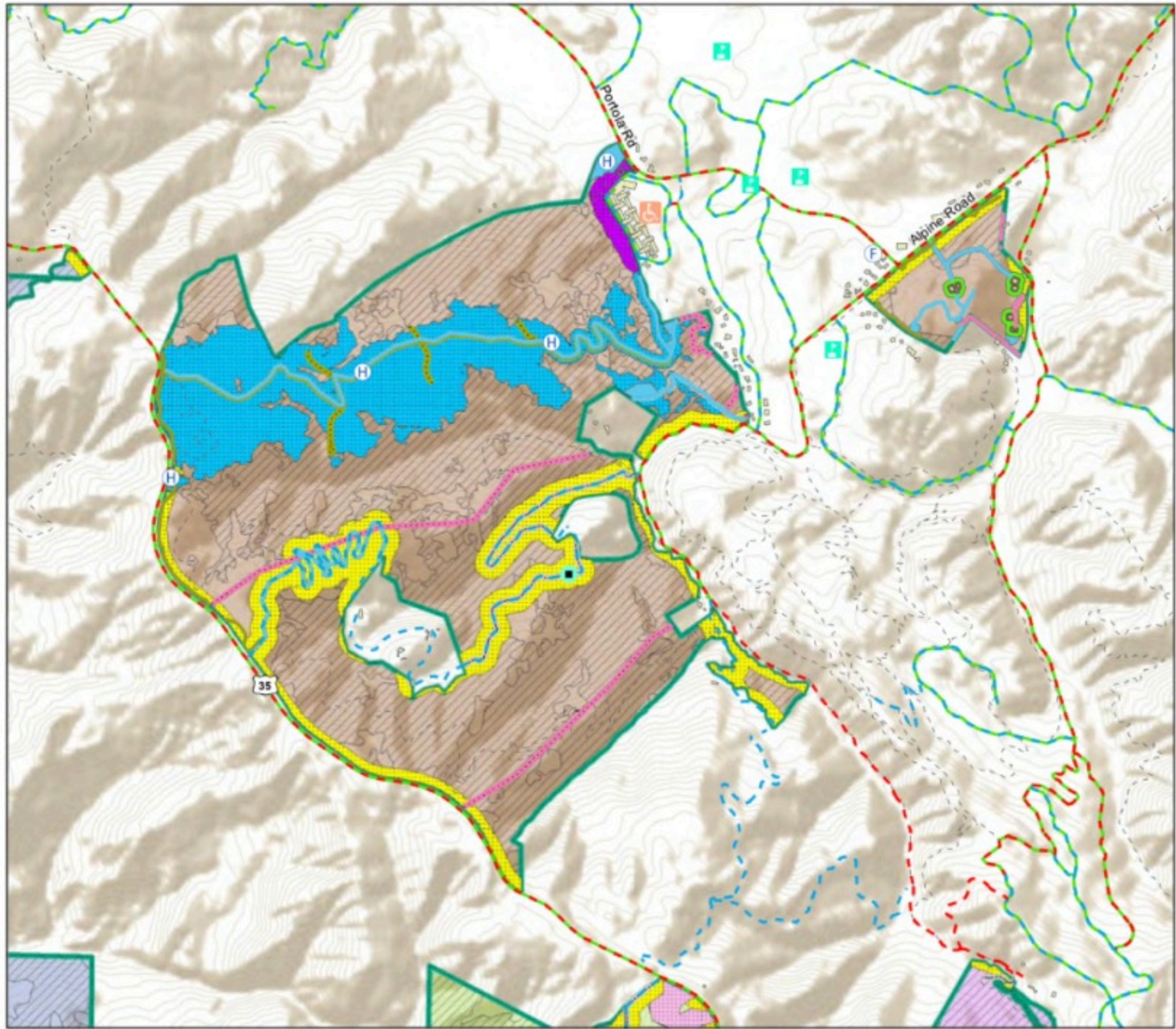
Fire is contained much faster

Existing and Potential Treatments Windy Hill

- | | | |
|---|----------------------------------|-------------------------------------|
| Existing Treatments | Critical Infrastructure | OSP & Managed Properties |
| Defensible Space 30-foot | Primary Evacuation Route | Boundary |
| Defensible Space 100-foot | Secondary Evacuation Route | Coal Creek |
| Fuelbreak 200-foot | Structure Type 1 (Tender) | La Honda Creek |
| Non-Shaded Fuelbreak | Road or Trail | Russian Ridge |
| Shaded Fuelbreak | Fire Station | Windy Hill |
| Discline | Water Tank | |
| Potential Fuels Treatments | Target Hazards | |
| Fuelbreak 200-foot | Assisted Living Facility | |
| Fuelbreak 300-foot | School/Day Care | |
| Non-Shaded Fuelbreak | Fire Management Logistics | |
| Shaded Fuelbreak | Helispot | |
| Potential FRAs for Ecosystem Resilience | | |
| Discline | | |
| Wildland Type 3 Ingress/Egress | | |

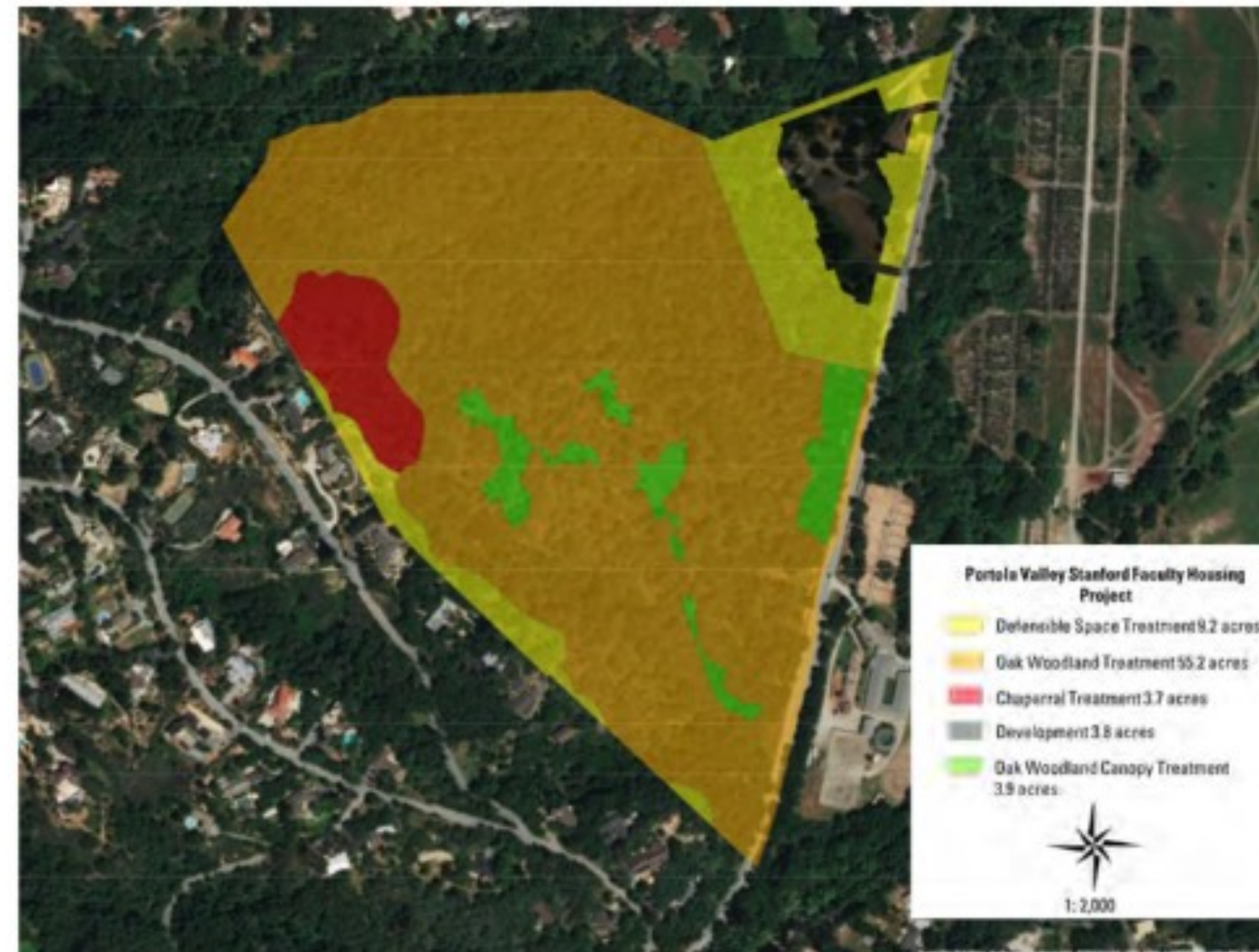
DRAFT

* See Table of Contents page for additional symbology.
 ** Fuel break widths are maximums. Fuelbreaks may be constructed at any width up to the maximum width.



Not
Approved
by
WFPD

Figure 4 Vegetation Treatment Areas by Cover Type



Oak Woodland - Cover

1. Reduce fuel volumes and maintain fuel volumes consistent with low severity fire
2. Reduce volume of flammable fuels and cultivate plants on the landscape that are generally native and fire-resistant
3. Establish and maintain fuel discontinuity
4. Reduce the possibility of fire traveling through tree crown; maintain that separation
5. Maintain healthy, dominant, natural, fire-resistant vegetation cover that is consistent with historical densities in an intact fire regime
6. Maintain active dusky-footed woodrat (*Neotoma fuscipes*) nest sites

Initial Treatment:
Manual cutting and removal with some mastication and steep slope mastication with manual support

On-Going Maintenance: Grazing with manual support

Oak Woodland - Canopy

1. Maintain fuel volumes consistent with low severity fire
2. Maintain fuel discontinuity
3. Reduce the possibility of fire traveling through tree crown; maintain that separation
4. Maintain healthy, dominant, natural, fire-resistant vegetation cover that is consistent with historical densities in an intact fire regime
5. Maintain active dusky-footed woodrat (*Neotoma fuscipes*) nest sites

Initial Treatment:
Manual cutting and removal with some mastication and steep slope mastication with manual support

On-Going Maintenance: Grazing with manual support

Chaparral Cover

1. Maintain fuel volumes consistent with low severity fire
2. Maintain fuel discontinuity
3. Reduce the possibility of fire traveling through tree crown; maintain that separation
4. Maintain healthy, dominant, natural, fire-resistant vegetation cover that is consistent with historical densities in an intact fire regime
5. Maintain active dusky-footed woodrat (*Neotoma fuscipes*) nest sites

Initial Treatment:
Manual cutting and removal

On-Going Maintenance: Grazing with manual cutting

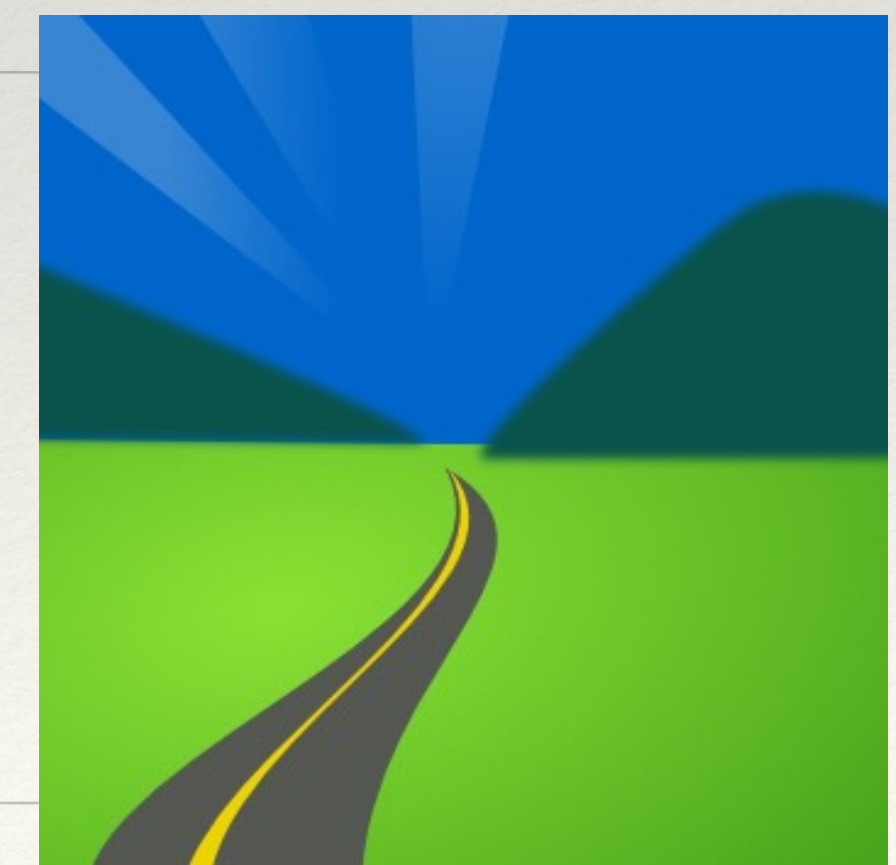
Overhanging Pine in Right of Way



Shaded Fuel Break on Upper Alpine



Right of Way Cleanup



Public Right of Way

- ❖ In most of the town, the public right away is 10' on either side of the paved street
- ❖ The town owns this land
- ❖ You cannot plant on this land without town permission
- ❖ The town is required to maintain the right of way
- ❖ Records can be obtained online from the San Mateo County property Maps
- ❖ <https://www.smcacre.org/assessor-maps-0>
- ❖ Contact the town for further detail



Right of Way Tree Inventory



- ❖ Limbs or trees that can fall on power lines
- ❖ Dead trees in right of way
- ❖ Pine, acacia or eucalyptus that could block an evacuation

Street	Address	Tree Type	Qty	Size	Priority		
Westridge							
Sample	851	Pine	2	Med	2		small - under 36"
Sample	823	Pine	2	Med	2		medium - 36- 75"
Sample	815	Pine	1	Med	2		large > 75"
Sample	445	Euc	3	Med	1		Priority
Woodside Highlands							
							1 - wrapped up in power lines, leaning toward power line, or dead or dying tree
PV Ranch							
							2 - pine, acacia and eucalyptus
Sequoias							
							close to roadway that if ignited would block roadway
Brookside							
							All Eucalyptus
Blue Oaks							
							3 - A tree that when grown will interfere with power lines
Alpine Hills							
			Total trees				8
			Priority 1 trees				3
			Priority 2 trees				5
			Priority 3 trees				0

Town Cleanup Cost

	Count	Cost Estimate	Total	
Underbrush	33 miles	5000	165000	cost per mile of road
Trees				
Small - 36" or less	22	1500	33000	\$1,000 - 2,000
Medium - 36" to 72"	31	3500	108500	\$3,000 - 4,000
Large - greater than 72"	18	7500	135000	\$5,000 - 10,000
Underbrush Cleanup in Town Open Space		17000	17000	
Total Initial Cost			458500	

Underbrush Cleanup in Town Open Space

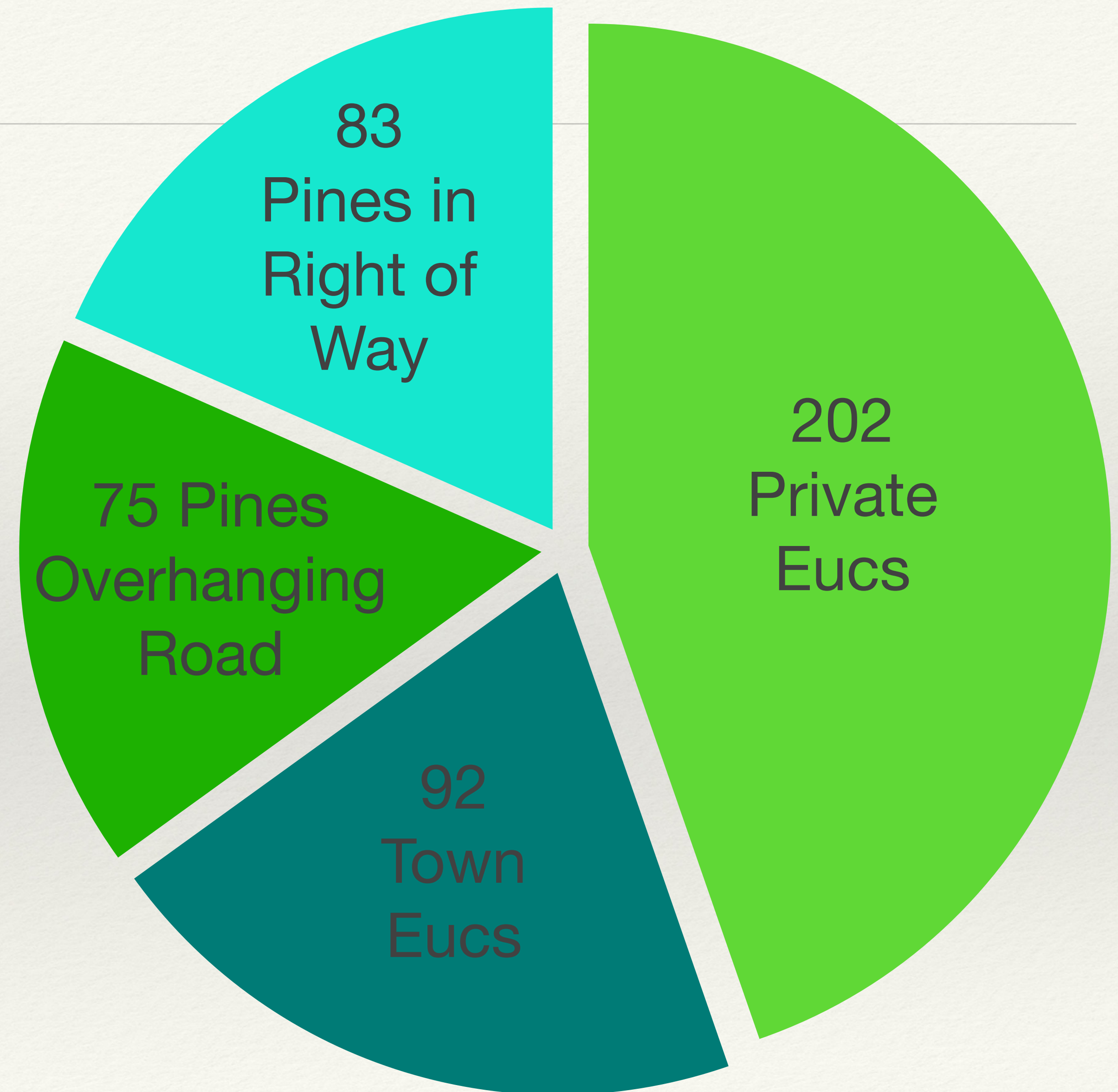
Town Attorney says we can use Open Space fund for Maintenance

Annual Right of Way Maintenance			?
Annual Open Space Maintenance			?

SAMPLE

Tree Survey Results

- ❖ Only 2 small dead trees, 1 dying tree and 1 leaning tree - none interfering with power lines
- ❖ Eucalyptus are distributed throughout town with 2/3 on private lands
- ❖ Pines (Monterey and Italian Stone) are very common along the roadways.
- ❖ < 10 large Juniper hedges on right of way
- ❖ No large amount of *Acacia melanoxylon* (Black Acacia) except in isolated areas
- ❖ Cypress (Italian) throughout town but typically used for privacy hedges



Financing Town Cleanup



- ❖ Clean up of town owned open space using Open Space fund
- ❖ Woodside Portola Valley Fire Protection Foundation non-profit
- ❖ We will set up a special “Portola Valley Cleanup” campaign
- ❖ 70% or more of all money raised will be used on town owned property
 - ❖ Prioritize Eucalyptus first, then overhanging pines, then pines in right of way
 - ❖ Removal of brush in right of way
- ❖ Up to 20% can be used for low income grants
- ❖ **10% matching for all eucalyptus removal**
- ❖ WFPD prioritizes how money is spent on case by case basis

Portola Valley Cleanup Campaign

Goal - \$1,000,000 Fund Raising

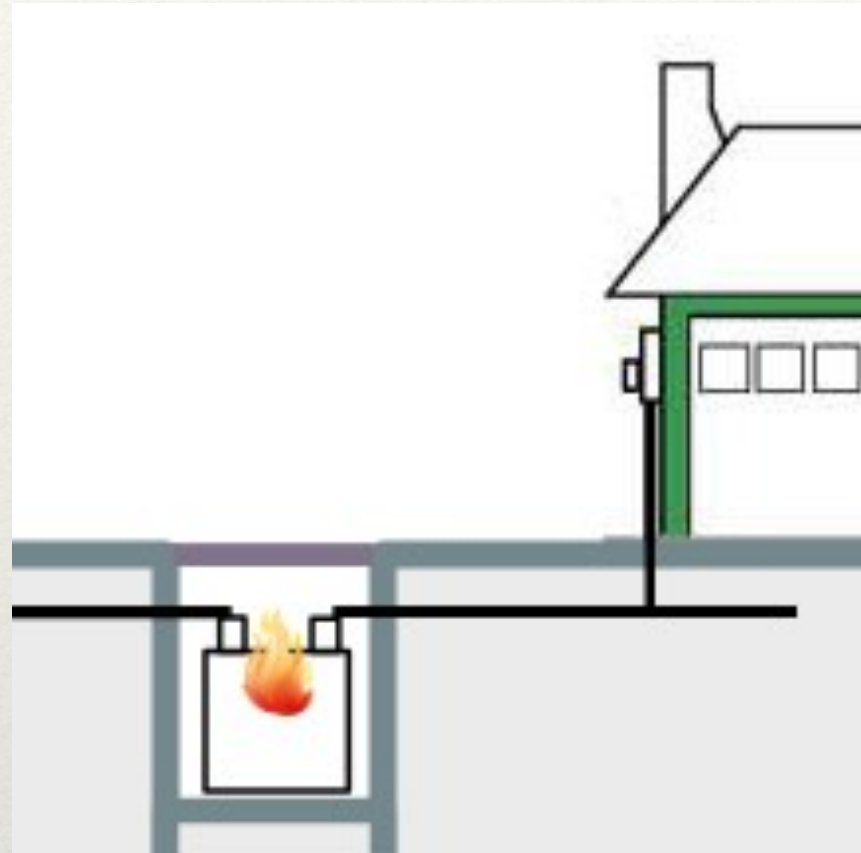
Each Phase \$250K	Phase 4	Right of Way Cleanup	Awaiting Howard estimate
	Phase 3	Grants and 10% Matching	\$710K FULL cost estimate private Eucalyptus
	Phase 2	Town Pines	\$233K cost estimate
	Phase 1	Town Eucs	\$220K cost estimate

Low Income Grant

- ❖ Low income grants will be made for qualifying residents who make less than \$50,000 per year
- ❖ Three years of prior tax returns will be required
- ❖ 10 year Portola Valley residency requirement
- ❖ Applicable ONLY for
 - ❖ Removal of Eucalyptus tree
 - ❖ Initial clearing of steep slope
 - ❖ Replacement of wood shake roof



Post CZU Wildfire Recommendations



WFPD
Underground
Transformer
Ordinance



WFPD Ban the
Flammable Five

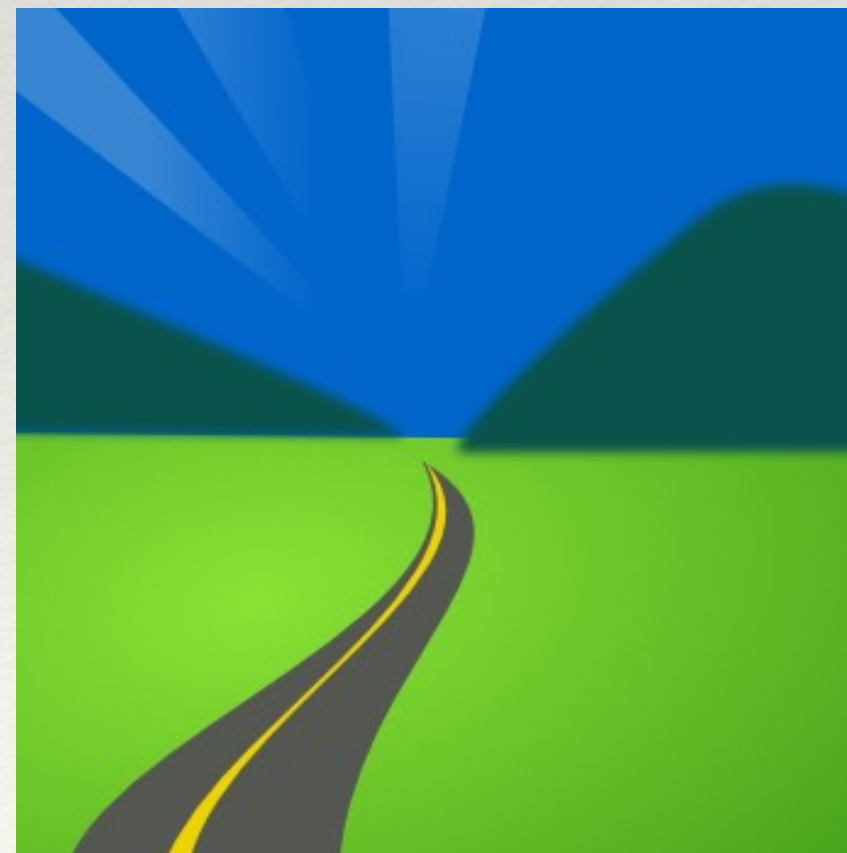
Market the
Flammable Five



WFPD
Slope
Ordinance



WFPD
Undeveloped
Land
Ordinance



Town Owned
Roadway &
Property Cleanup



WFPD
Foundation
Hazard
Cleanup



TOWN OF PORTOLA VALLEY

STAFF REPORT

TO: Wildfire Preparedness Committee

FROM: Jeremy Dennis, Town Manager

DATE: October 13, 2020

RE: Wildfire Preparedness Committee Recommendations – Quarterly Report

RECOMMENDATION

Staff recommends that the Town Council accept this quarterly report on the status of recommendations adopted by the Council from the Wildfire Preparedness Committee in December.

BACKGROUND

The Town of Portola Valley exists within a wildland urban interface (WUI), where land use patterns transition between essentially unoccupied lands to areas of more intense development. Areas in a WUI are prone to wildfires due to the presence of increased vegetation alongside development, including homes. Recognizing the dangers of wildfires, the Town has addressed these concerns historically in the following ways:

- Firewise Community certification
- Participation in the local Fire Safe Council
- Maintenance of a WUI code
- Adoption of a Hazard Mitigation Plan
- Strong relationship with the Woodside Fire Protection District

As climate change has affected weather patterns and the environment, the risk of wildfires has greatly increased in Northern California. Recent notable wildfire-related activities include:

- A 2108 San Mateo County Grand Jury Report on the risk of wildfires in parts of the County, including Portola Valley

- The inclusion of portions of the Town in the CPUC/CalFire-developed Very High Fire Severity Zone, which has led to an active enhanced vegetation management effort by PG&E around its power infrastructure
- Increased non-renewals and some steep price increases for fire insurance
- An increase in Red Flag Days

On April 10, 2019, the Town Council created the ad hoc Wildfire Preparedness Committee (the Committee) to address outstanding wildfire resiliency issues. Its charter, adopted in May 2019, states the following: *“Given the inherent risk of wildfire in Portola Valley and the changing character of wildfires due to climate change, the Ad Hoc Committee on Wildfire Preparedness shall advise the Town Council, on a limited duration basis, on ways to reduce wildfire danger, and increase resident resiliency in a wildfire emergency.”*

The Committee met three times, and delegated its work to three subcommittees:

- Communications, Evacuation and Outreach
- Home Hardening/Insurance/Infrastructure Back-up
- Vegetation Management/Defensible Space

The three subcommittee met multiple times, many times with outside partners and experts, and prepared a list of short-, medium- and long-term recommendations for the Council’s consideration.

At their October 21 meeting, the Committee finalized their recommendations to the Council. The Committee presented their recommendations at the November 13 Council meeting, and were adopted at the December 11 Council meeting.

DISCUSSION

Per the direction of the Town Council, a quarterly report will be issued to provide a status update on recommendation implementation. The Wildfire Preparedness Committee received their first quarterly report on July 21; this is the second. This second report will be provided to the Town Council at their October 28 meeting.

Completed

Underway

Underway, continuous

Has not begun

1. Short-term (implemented in calendar year 2020)
 - a. Identify Public Right-of-Way ignition sources by producing a list of target hazard trees and ladder fuel sites for future removal
 - b. Increase outreach and education to residents on vegetation management on their properties
 - c. Publish a list of highly flammable plants and fire-resistant plants in cooperation with the WFPD
 - d. Send letter to Mid-Peninsula Open Space District signed by PV Council

requesting fuel reduction on Windy Hill

- e. Prohibit construction, landscaping and gardening activities on Red Flag/PSPS events – Expected to be presented at a Town Council meeting later this calendar year
 - f. Insure Town Hall internet access during an emergency/PSPS (already underway)
 - g. Open Town EOC and Communications Room during PSPS events
 - h. Update evacuation plans with new exit routes, emergency gates, and updates from ongoing evacuation planning efforts led by regional fire chiefs, and approve such a plan when available for review
 - i. Work with Town institutions to understand their evacuation plans
 - j. Prioritize vegetation management on the Town's main evacuation routes to insure egress in an emergency
 - k. Work with wireless carriers to insure 36 hours of battery back-up on Town cell sites
 - l. Support Town AM radio as a secondary notification system for emergencies, with financial and staff support as necessary
 - m. Educate residents on the Town's emergency communications efforts, including the AM radio – staff preparing master documents on this topic
 - n. Promote wildfire resiliency efforts with regular "tips of the month"
 - o. Adopt a fire reach code that addresses the following for new construction:
 - i. Ban all combustible roofing materials
 - ii. Require ember-resistant vents
 - iii. For decks attached to homes, require their construction with non-combustible materials
 - iv. Require that all attached structures to homes, including fences and gates, be made of a non-combustible material
 - v. Require non-combustible siding
 - vi. Require enclosed eaves
 - vii. Install multi-pane tempered glass windows and skylights (which should have mesh screens)
 - p. Work with insurance companies when drafting new building codes
- **Expected to be presented at a Town Council meeting later this calendar year**

2. Medium-Term (implemented starting in calendar year 2020; some items are multi-year efforts)

- a. Increase the number of available "Chipper" days (to be determined on a need basis with WFPD)
- b. Support WFPD proposed ordinance for an ignition-free zone 0-5 feet from a dwelling, and made part of the town's Design Guidelines
- c. Produce and maintain shaded fuel breaks (shaded canopy) as defined by WFPD (100 feet at both sides of the road) along roadways with large adjacent parcels of land
- d. Working with Town emergency preparation partners, such as WPV-Ready, WPV-CERT and the WFPD via neighborhood watch programs to

- educate residents on self-reliance and emergency preparedness
- e. Work with our state and federal partners to support power back-up on cell sites for at least 36 hours
- f. Replace town emergency gates with breakaway mechanism and improve signage
- g. Encourage annual emergency evacuation drills for each WPV-Ready Division – to be discussed at next WPV-Ready Board meeting
- h. Update the Design Guidelines to consider fire resiliency, including:
 - i. House placement away from long and/or steep slopes
 - ii. Keep roof lines simple to avoid litter accumulation
 - iii. Incorporate the WFPD ordinance for an ignition-free 0-5 feet zone
 - iv. Consider appropriate plant distribution on site
- i. Encourage the retrofit of existing homes to accommodate fire resiliency, including:
 - i. Non-combustible roofing
 - ii. Ember-resistant vents
 - iii. Non-combustible or IPE decking and fencing
 - iv. Non-combustible or IPE wood siding
 - v. Fire-resistant windows and skylights with mesh screens

Underway as part of item 1 o