Draft LACC Fire Safe Rules for Hazardous Fuels Treatment

The Covenants, Conditions, and Restrictions (CC&Rs) of Lake Almanor Country Club Homeowners Association (LACC HOA or HOA) require that all property owners maintain their lots and that no owner or resident shall permit any condition to exist on his or her lot which creates a fire hazard or is in violation of local, state or federal fire regulations. LACC HOA owned property and owners of undeveloped lots are also required to adhere to these rules.

The following minimum standards and rules have been added to incorporate elements of California Law (Public Resource Code 4291), Firewise USA best management practices, and Fire Adapted Community concepts into the LACC HOA's Member Handbook such that all lots can achieve the objectives of reducing the intensity and rapid spread of a potential wildfire within our community and enhancing the resiliency of our forests to damage from wildfire.

These standards and rules have also been created to address a number of the 12 Priorities listed in the March 2016 Community Wildfire Protection Plan as adopted by the Board. Overall priority community goals for wildfire safety are: 1) public and firefighter safety, 2) protection of developed resources such as homes and infrastructure, and 3) protection of our natural environment, such as the forest trees and plants, habitats and organisms, watersheds, and the Lake.

Actions to achieve wildfire safety goals need to be balanced. In following the fire safe standards and rules within this Member Handbook, members are cautioned not to over compensate towards any extreme. As can be seen within the community, trees that are too densely spaced can reduce light and weaken/kill branches and promote disease to trees. This will increase crown fire susceptibility. Similarly, too much distance between trees increases light, heat and drying on the ground promoting the growth of undesirable surface plants (like Manzanita). This will increase ground fire susceptibility. Hazardous fuel removal/reduction on the ground surface also needs to be balanced to avoid surface erosion during medium to heavy rain falls. This is a concern on moderate to steep sloping lots. Positioning existing and/or new brush in isolated groupings/rows perpendicular to the slope direction, leaving the roots of removed plants/trees in the ground, and not excessively clearing the ground surface of leaves and needles all aid in erosion protection.

A. MAINTAINING DEFENSIBLE SPACE AROUND HOMES ON LACC MEMBER LOTS.

Creating defensible space areas are essential to improve a structure's chance of surviving a wildfire in the LACC community. The areas represent the buffer an owner creates between a home on their property and the grass, trees, shrubs, or any wildland area that surround it. These areas are needed to slow or stop the spread of wildfire and they protect a home from catching fire—either from direct flame contact or radiant heat. Defensible space areas are also important for the protection of the firefighters defending your home.

Defensible Space Areas

Four Areas make up the required defensible space around homes within LACC: the Noncombustible Area (0-5 feet) around the home; the Lean, Clean, and Green Area (5-30 feet), the Outer Defensible Space (30 to at least 100 feet, and up to 200 feet on slopes steeper than 20% with thicker vegetation); and the Wildland Fuel Reduction Area (to the property line). In

addition to homes, it is encouraged that these zones be created around all occupiable structures on member properties.

Figure 1

1. Noncombustible Area (refer to Figure 1)

The home and the area 0-5 feet from the farthest attached exterior points of the home is defined as a Non-Combustible Area. Science tells us this is the most important Area to take immediate action on as it is the most vulnerable to embers. This area needs to have a very low potential for ignition from flying embers. Use sufficiently watered, herbaceous plants such as lawn, ground cover, and flowers. In this area:

- Clean roofs, roof valleys and gutters of dead leaves, debris and pine needles that could catch embers
- Replace or repair any loose or missing shingles or roof tiles to prevent ember penetration
- Reduce embers that could pass through vents in the eaves by installing 1/8 inch metal mesh screening.
- Clean debris from exterior attic vents and install 1/8 inch metal mesh screening to reduce embers.
- Repair or replace damaged or loose window screens and any broken windows. Screen or box-in areas below patios and decks with wire mesh to prevent debris and combustible materials from accumulating.
- Move any flammable material away from wall exteriors – mulch, flammable trees and plants, leaves and needles, firewood piles – anything that can burn. Remove anything stored underneath decks, stairs or porches during the fire season.

2. Lean, Clean, and Green Area extends 5-30 feet out from buildings, structures, decks, etc. (refer to Figure 1)

Lean means that fire-prone, flammable vegetation is discouraged within 30 feet of the home, and all vegetation is maintained at low density. Clean means there is no accumulated dead vegetation or flammable debris within the area. Green denotes that plants located in this area are kept healthy, green and sufficiently watered during fire season. In this area:

- Remove all <u>dead</u> plants, grass and weeds (dead vegetation).
- Remove dead or dry leaves and pine needles from your yard.
- Trim trees regularly to keep branches a minimum of 10 feet from other trees.
- Remove branches that hang over your roof and keep branches 10 feet away from your chimney. All owners are encouraged to maintain a minimum distance of 10 feet between lot structures and tree canopy drip lines.
- Relocate wood piles into the Outer Defensible Space
- Create a separation between trees, shrubs and items that could catch fire, such as patio furniture, combustible sheds, swing sets, etc.

3. Outer Defensible Space extends from 30 to at least 100 feet, and up to 200 feet on slopes steeper than 20% with thick vegetation, out from the home. (Refer to Figure 1).

This area usually lies beyond the residential landscape and often consists of naturally occurring vegetation, such as conifers and shrubs. In this area:

- Cut or mow annual grass down to a maximum height of 3 inches.
- Create horizontal spacing between shrubs and trees. (Refer to Figure 3)
- Create vertical spacing between grass, shrubs and trees. (Refer to Figure 2)
- Remove fallen leaves, needles, twigs, bark, cones, and small branches. However, retain up to 3 inches of depth to maintain moisture and prevent erosion.

4. Wildland Fuel Reduction Area extends to the property line (refer to Figure 1)

Some properties extend beyond the property's outer defensible space. Fuels reduction is required here too, but doesn't need to be as intensive as inside the inner Areas. The overall goal is to break up fuel and vegetation continuity (create spaces between trees and plants so that fire has less chance to sustain itself).

- Thin out dense patches of trees and shrubs to create separation between them.
- Reduce heavy accumulations of woody material (dead branches and twigs, slash, etc.)
- Leave some brush patches, downed logs, and dead trees for habitat, erosion protection, and soil benefits in this Area.
- On lots with slopes of greater than 20%, trim plants and shrubs to grow perpendicular to the ground's slope to minimize erosion in moderate to heavy rain falls.

Plant and Tree Spacing Within the Defensible Space Areas 1, 2 and 3

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

Vertical Spacing: Remove all tree branches at least 6 feet from the ground. Allow extra vertical space between shrubs and trees. Lack of vertical space can allow a fire to move from the ground to the brush to the tree tops **like a ladder**. To determine the proper vertical spacing between shrubs and the lowest branches of trees, use the formula in Figure 2. This will help to preclude the potential for fire climbing along adjacent laddered fuels.

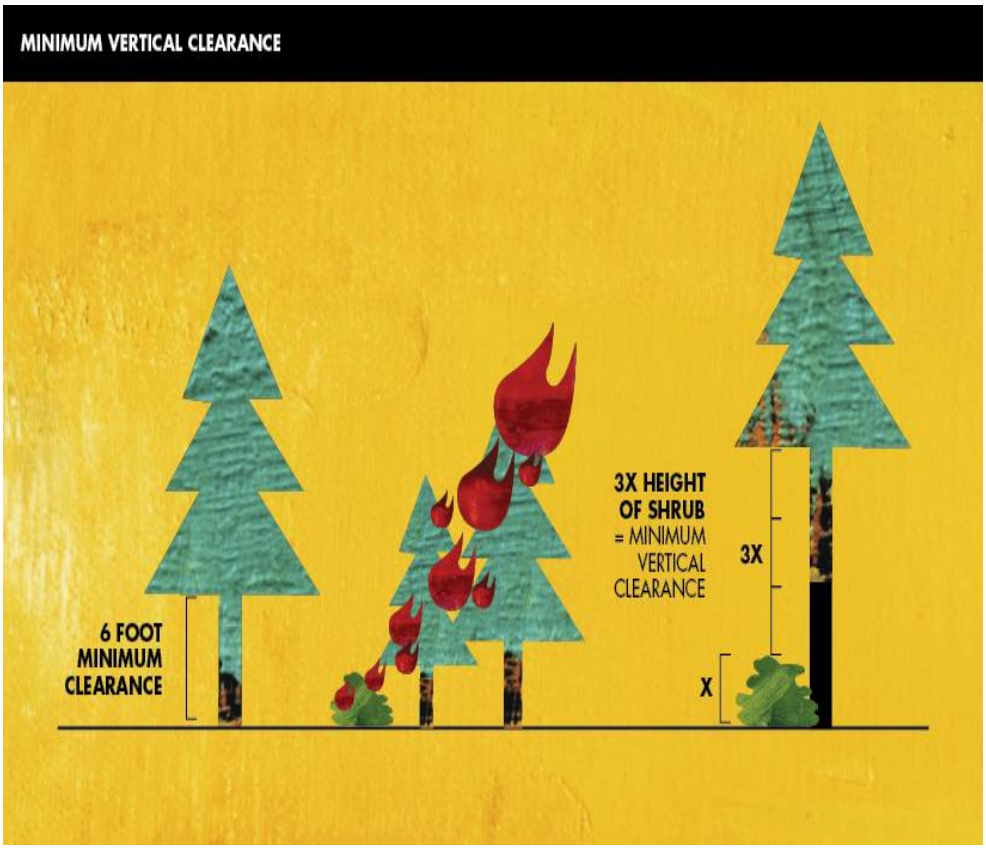

Figure 2

Example: A five foot shrub is growing near a tree. 3×5 = 15 feet of clearance is needed between the top of the shrub and the lowest tree branch. Also consider the future growth potential of the shrub when selecting the clearance distance.

Horizontal Spacing: Horizontal spacing depends on the slope of the land and the height of the shrubs or trees. Refer to Figure 3 below to determine spacing distance.

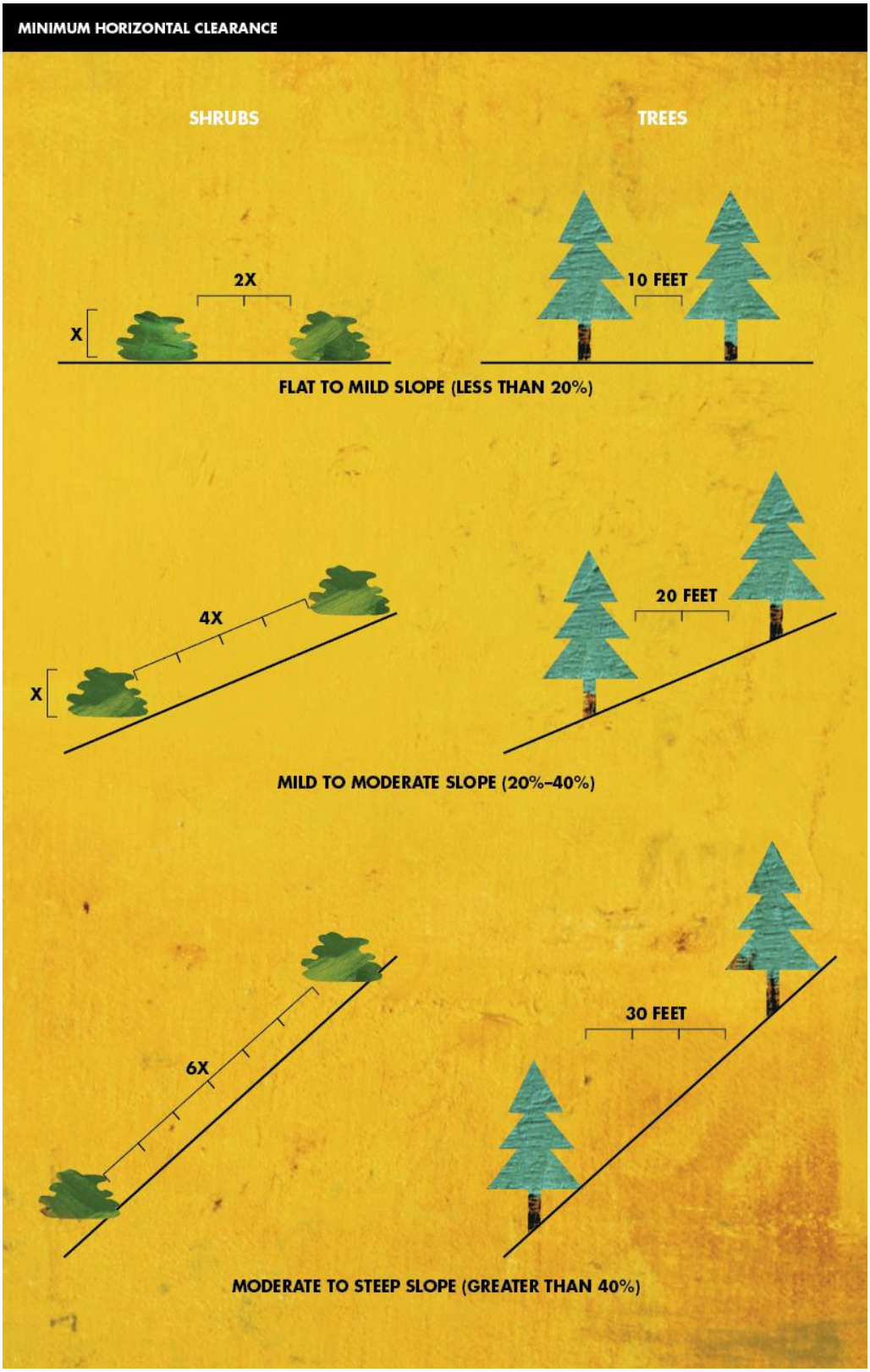

Figure 3

The concept of "slope effect" is similar to holding a lighted match horizontally; without wind it typically burns at the end and slowly moves horizontally. But hold the match at an angle with flame at bottom, then the flame heats and dries the stick in an upward direction and the fire moves quicker towards your finger as the angle of the match stick is held more steeply.

Fire Safe Landscaping and Plants to Avoid

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 one's home.

On the other hand, firefighters often refer to highly flammable vegetation as "gasoline plants." These plants (e.g. Junipers, Scotch Broom, and Manzanita) are easily ignited and can burn very intensely. Make it a priority to remove gasoline plants from within your defensible space Areas.

B. FUELS REDUCTION AND MAINTENANCE OF UNDEVELOPED LOTS

For undeveloped lots, the property owner shall provide a fuels reduction by disrupting the vertical and/or horizontal continuity of flammable and combustible vegetation with the goal of reducing fire intensity, inhibiting fire in the crown of trees, reducing the rate of fire spread, and providing a safer environment for firefighters to suppress wildfire. This shall be accomplished by the following requirements:

- Conifer saplings, ranging from 6 inches to 3 feet in height shall be removed when their future growth size will not maintain separation in accordance with Cal Fire horizontal spacing requirements. (Refer to Figure 3)
- Small trees (less than 5 inches in diameter), limbs and other ladder fuels shall be removed or spaced.
- Remove all dead plants, grass and weeds (dead vegetation).
- Remove dead or dry leaves and pine needles.
- Remove lower branches of trees in accordance with Cal Fire vertical spacing requirement; (Refer to Figure 2).
- Establish horizontal tree and plant separation in accordance with Cal Fire horizontal spacing requirements. (Refer to Figure 3)

C. HARDENING THE HOME STRUCTURE

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

Roof: Your roof is the most vulnerable part of your home. Homes with wood or shingle roofs are at high risk of being destroyed during a wildfire.

- Build your roof or re-roof with materials such as composition, metal or tile.
- Block any spaces to prevent embers from entering and starting a fire.
- Remove dead leaves and needles from your roof, roof valleys and gutters
- Remove dead branches overhanging your roof and keep branches 10 feet from your chimney. All owners are encouraged to maintain a minimum distance of 10 feet between lot structures and tree canopy drip lines
- Cover your chimney outlet and stovepipe with a nonflammable screen of 1/2 inch or smaller mesh

Vents: Vents on homes create openings for flying embers.

- Cover attic and foundation vent openings with 1/8-inch to 1/4-inch metal mesh. Do not use fiberglass or plastic mesh because they can melt and burn.
- Protect vents in eaves or cornices with baffles to block embers. (Mesh is not enough.)

Eaves and Soffits: Upon remodeling, eaves and soffits shall be constructed of ignition-resistant or non-combustible materials.

Windows: Heat from a wildfire can cause windows to break even before the home ignites. This allows burning embers to enter and start fires inside. Single-paned and large windows are particularly at risk. Upon remodeling install dual-paned windows and consider one pane of tempered glass.

Decks: Horizontal deck surfaces within 10 feet of the building should be built with ignition-resistant, non-combustible, or other approved materials. Remove all combustible items from underneath your deck or stairs during the fire season.

Exterior Walls: Wood products such as boards, panels or shingles are common siding materials. However, they are combustible and not good choices for fire-prone areas.

- Build or remodel your exterior walls with ignition-resistant building materials, such as stucco, fiber or cement siding, fire-retardant-treated wood or other approved materials.
- Extend materials from the foundation to the roof.

Rain Gutters: Screen or enclose rain gutters to prevent accumulation of plant debris. Consider minimizing the amount of gutter and rely on gravel or rock under un-guttered areas to route rain water and minimize erosion.

Patio Covers: Use the same ignition-resistant materials for patio covers as a roof.

Fences: Use ignition-resistant or noncombustible fence materials to protect your home. Keep combustible fencing materials ten feet from the house and decks.

Yard: In addition to providing defensible space areas, maintain the following.

- During fire season, stack woodpiles at least 30 feet from all structures and remove vegetation within 10 feet of woodpiles
- Above ground Liquefied Petroleum Gas (LP-gas) containers (500 or less water gallons) shall be located a minimum of 10 feet with respect to buildings, public ways, and lot lines of adjoining property that can be built upon. - CFC 3804.3
- Remove all stacks of combustible construction materials, pine needles, leaves and other debris a minimum of 30 feet from structures.

Garage: It is encouraged to install weather stripping around and under the garage door to prevent embers from blowing in. Store all combustible and flammable liquids away from ignition sources.

Water Supply: During the fire season, have multiple garden hoses hooked up that are long enough to reach all areas of your home and other structures on your property.

REFERENCES

Cal Fire Defensible Space Form & Guidelines: CAL FIRE Defensible Space Inspection Materials

California Board of Forestry General Guidelines for Creating Defensible Space
Firewise--How to Prepare Your Home for Wildfires: Wildfire Reduction Steps
Firewise—Public Education: Preparing Homes for Wildfire
Fire Adapted Communities, the Next Step in Wildfire Protection-Lake Tahoe Basin, Guidebook
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Oregon State University, 2015, Keeping Your Home and Property Safe from Wildfire