



**CITY OF RICHMOND
RESOLUTION 192-95**

**FIRE HAZARD REDUCTION VEGETATION
MANAGEMENT STANDARDS**

EXHIBIT B

Fire Hazard Reduction Vegetation Management Standards

I. INTRODUCTION

A. Purpose of Vegetation Management Standards

Along with California's growth of population and expanding development, urban housing has intermixed with wildland areas. California communities have experienced devastating fire loss because of the severity of fires which occur in this intermix area. The risk of conflagration in the intermix is increased further by homeowners who create uncontrolled landscaping of native and non-native plants on their properties. Thousands of homes are threatened by fire every year in California largely because of this heavy vegetation fuel load very near structures.

The City of Richmond contains wildland intermix areas which increase the community's risk of loss from devastating fire. A number of areas have been identified by the California Department of Forestry (CDF) and the Richmond Fire Department as Very High Fire Hazard Severity (VHFHS) zones. As specified by State law (AB 337), property owners within these zones must take special precautions within their property, including vegetation management, to reduce the risk of fire.

The buildup of unmanaged vegetation, whether native or non-native, steep hillsides with canyons and draws, and periods of extremely hot, dry weather all combine to create the potential for catastrophic fire behavior such as occurred in the Oakland/Berkeley Hills Fire of October 1991. Catastrophic fires can destroy large numbers of homes, threaten public safety and severely damage the natural areas which contribute to our quality of living.

A key goal of local community fire protection planning is to reduce the level of fire hazards in Richmond's wildland intermix areas, designated as VHFHS zones. While it is not possible to eliminate all threats of catastrophic wildfire, fire hazards can be reduced to acceptable levels and still allow a "green"

Richmond.

Vegetation management planning in the VHFHS zone focuses on areas where fire poses the greatest risk to life and property. There are three specific goals of the program:

1. Keep all fires small. Small fires generally are cooler than large fires and are more easily extinguished.

2. Limit the speed with which any fire will grow. fires need fuel to burn; if fuel is available, fires will continue to grow rapidly. Fuel must be limited or made unavailable to spreading fire.

3. Make it more difficult for fires to ignite and spread. Small fires can ignite progressively larger fuels. Small fuels are like kindling and are easily ignited. Reducing kindling fuels, and separating kindling fuels from larger fuels reduces sources for ignition and the potential for fire spread.

Fires will continue to be a part of California urban living. By implementing vegetation management standards, Richmond residents can significantly reduce the potential that a small fire will grow into a catastrophic event involving one or more structures. The primary method of stopping fire spread is by increasing separation distances between combustible fuels. An important component of reducing the community's fire risk requires vegetation management to be practiced by property owners.

B. Fire Safe Vegetation Management Concepts

There are three basic methods employed to manage vegetation fuels: firebreaks, fuel breaks and ornamental landscaping. Appropriate ornamental landscaping is acceptable in this area. A fuel break reduces the fuel mass of flammable vegetation and combustible growth, thereby limiting the intensity of fire and slowing its rate of spread. Ornamental landscaping provides a yard or garden with decorative fire resistive plants that are irrigated, maintained and arranged to be aesthetically pleasing, functionally useful and enhance fire safety. (Refer to

the definitions listed for these terms.)

A fuel break should be created from 30 feet to 100 feet from structures located within the VHFHS zones. The heightened risk of wildfire within the VHFHS zones makes it necessary to provide an added safety margin of defensible space for all structures and a fuel break will provide this extra protection. Fuel breaks are meant to reduce fire hazardous vegetation and maintain it to specified heights and arrangements, limiting fire intensity and impeding fire spread. The purpose of the fuel break is to deny any hot fire entering it sufficient fuel to sustain fire intensity and speed. By the time it reaches the firebreak area containing ornamental landscaping nearer the structure, the now low-intensity fire should be stopped easily by the firebreak surrounding the structure.

Ornamental landscaping with fire resistant plants is encouraged as a long term approach to maintain yard and garden vegetation in a fire safe manner. Landscaping with healthy appropriately irrigated plants and ground cover provides a permanent reduction of the fire hazard adjacent to structures when maintained at regular intervals. Ornamental landscaping can enhance a firebreak by inhibiting the growth of weeds, grass, brush and similar fire hazardous vegetation. (Refer to the attached list of fire resistant and highly flammable plants.)

C. Process

No person shall be prosecuted criminally under the provisions of Section 8.16.080 of the Richmond Municipal Code until that person has received written notice of how that property violates these standards and until that person has had the reasonable opportunity to meet with City staff concerning the violation. Civil enforcement of these guidelines as provided for Section 8.16.060 will be through procedures for fire hazard abatement include providing the property owner with (1) written notice on how the property violates these guidelines, (2) reasonable opportunity to meet with City staff to discuss this matter and (3) opportunity to be heard before the City Council.

II. FIRE HAZARD REDUCTION GUIDELINES

Many factors combine to create a fire hazard on any specific property. It is difficult to single out a specific vegetation species or configuration to declare it either fire hazardous or completely fire safe in all situations. The Fire Department has developed guidelines conforming to State Law and national fire protection standards which address most situations found on private property within Richmond. Please read these guidelines along with the accompanying glossary. If you are still unsure of how to proceed, please call the Fire Department and we will work with you to develop a fire hazard reduction plan for your property.

A. Hazard Zones

Portions of the City of Richmond lie adjacent or near to large wildland areas containing steep slopes and naturally growing trees, brush and grasses. Every year under certain critical weather conditions, the neighborhoods near these wildland areas are at heightened risk of seasonal wildfire sweeping into the city and burning homes. These areas at heightened risk of wildfire have been designated as Very High Fire Hazard Severity (VHFHS) zones. The rest of the City faces a lesser risk of wildfire.

Fire hazard reduction measures common to the entire City are required on both vacant and developed lots:

1. Property owners must ensure that all vegetation, native or non-native, shall be maintained so as not to constitute a fire hazard.

2. Property owners must maintain their property either by ornamental landscaping or by establishing a fuel break along the property line and adjacent to structures. For properties within the VHFHS zones, there are additional requirements for firebreaks within 30 feet of structures and fuel breaks from 30 to 100 feet.

3. Property owners are responsible for clearance and maintenance of their own property only. Property owners will be required, however, to create fuel breaks on their property to protect neighboring structures. Dimensions of fuel breaks will depend on the proximity of neighboring structures and on whether the properties are within VHFHS zones.

4. All brush, weeds, grass, and fire hazardous vegetation within 10 feet of any usable road surface, public way or combustible fence shall be maintained in a non-hazardous condition with a fuel break.

5. Property owners must maintain their property free from all nuisances, including debris, garbage, rubbish and trash, hazardous materials, junk and noxious growth.

B. ornamental Landscaping

Ornamental landscaping is encouraged throughout the City of Richmond to enhance fire safety. Ornamental landscaping consists of decorative plants growing within a tended garden or yard which are well-watered, maintained and located to provide aesthetic decoration and functional utility, such as privacy screening, shade, weed suppression and erosion control.

Within VHFHS zones, ornamental landscaping in the 30 foot firebreak adjacent to structures must meet the following requirements:

1. Ornamental landscaping shall be maintained free of

dead wood and litter, and trimmed of small twigs and branches at least two (2) feet or 1/3 of their height from the ground, whichever is less.

2. Ornamental landscaping must be healthy, pruned, adequately irrigated and regularly maintained so that the area beneath them are free from dead or dying material.

3. Single specimen trees must be trimmed and maintained.

4. Ground cover may be used as part of ornamental landscaping provided it is kept green, free of dead wood and litter, and at a height so that they do not form a means of rapidly transmitting fire from native growth (located outside the firebreak) to any building structure.

C. Vegetation Management Standards

Vegetation management standards exist for the entire City, including areas designated as VHFHS zones. Refer to the glossary for a definition of terms used in these standards.

1. Properties within VHFHS zones:

a. Firebreaks must be created and maintained in areas within 30 feet of any occupied dwelling.

b. Fuel Breaks must be created and maintained in areas extending from 30 to 100 feet surrounding any structure.

c. Fuel Breaks must be created and maintained on vacant lots 30 feet wide along the property line and 100 feet from neighboring structures.

2. Properties outside VHFHS zones:

a. Fuel Breaks must be created and maintained in areas within 30 feet of any structure.

b. Fuel Breaks must be created and maintained on vacant lots to be 10 feet wide along the property line.

3. Vegetation Management Standards for Firebreaks:

a. All flammable vegetation or combustible growth must be removed and cleared away, thereby eliminating fire hazardous vegetation fuels which can rapidly transmit fire.

b. Adequately irrigated and maintained ornamental landscaping is not flammable vegetation or combustible growth, and is encouraged within a firebreak.

c. Trees, shrubs, bushes or other vegetation adjacent to or overhanging any structure shall be maintained free of dead limbs and other combustible matter such as vines and loose papery bark. On mature trees, limbs should be removed up to 10 feet above the ground. Smaller trees should be limbed to 1/3 of their height up to 6 feet above the ground, but in no case less than 18 inches from the ground.

d. Trees shall be maintained so that no portion is closed than 10 feet from and chimney opening.

e. All roof surfaces shall be maintained free of substantial accumulations of needles, twigs, and any other combustible matter.

f. All cut vegetation and debris must be disposed of either by hauling and dumping in a lawful manner, or by chipping and dispersing over the property in a manner and to a height which will not constitute a fire hazard.

g. Chipped materials which are spread on the ground shall be of a size no greater than 1 inch by 1 inch by 3 inches.

4. Vegetation Management Standards for Fuel Breaks:

a. Maintain ornamental landscaping in yards.

b. All fire hazardous vegetation with the exception of weeds and grass shall be cleared and maintained to a height no greater than 18 inches above the ground.

c. All weeds and grass shall be cleared and maintained at a height no greater than 6 inches above the ground.

d. Remove from trees all vines, loose papery bark and dead branches.

e. All cut vegetation and debris must be disposed of either by hauling and dumping in a lawful manner, or by chipping and dispersing over the property in a manner and to a height which will not constitute a fire hazard.

f. Chipped materials which are spread on the ground shall be of a size no greater than 1 inch by 1 inch by 3 inches.

5. Additional Considerations for Vegetation Management:

a. The Fire Hazard Abatement Program is intended to promote community fire safety by reducing the combustible vegetation fuel mass on private properties. Clearing vegetation by heavy construction methods, such as grading, discing, trenching or dozing shall require special permits from the City. Disposal by burning is not permitted.

b. Any parcel where slope stability will be threatened by removal of plants may be exempt from treatment requirements or subject to alternate treatments. The property owner must submit a report documenting the probability of slope failure due to vegetation removal, prepared by a licensed civil, geotechnical, or soils engineer. The report shall propose alternative treatment methods to address fire hazards. The report will be reviewed by city staff. Review and acceptance by the City of alternative treatment will supersede other requirements.

c. Any parcel or lot which includes plant or animal species that are rare, endangered or of special concern may qualify for alternative plant treatment and spacing requirements. The property owner must submit a report from a qualified resource biologist or landscape architect describing the species, actions required to preserve its environmental value, and proposed alternative measures to address fire hazards. The report will be

reviewed by the City. Review and acceptance by the City of alternative treatment will supersede other requirements.

D. Planting Considerations

Any plant will burn if the conditions are right. Some plants are considered to be extremely flammable while other plants are considered to have some resistance to fire. Verifiable tests of fire exposure characteristics for all specific ornamental landscaping plants is not available.

The best available plant information is contained in a publication available from EBMUD entitled "Firescape: Landscaping to Reduce Fire Hazard". A list of plants with some fire-resistance and plants considered highly flammable is available from the fire department.

At the base of trees and shrubs, replace flammable vegetation with bark, mulch, rock, gravel or low-growing or more fire-resistant groundcovers. This cover reduces the fire danger and minimizes weeds. Avoid placing medium-sized shrubs beneath trees or taller shrubs. By breaking up the available fuel mass in ornamental landscaping, a fire will keep at lower intensity, flame lengths will be shorter and fire will be less likely to form a continuous line or front.

E. Structural Fire Safety

The City's roofing and vegetation management standards are designed to reduce the amount of airborne burning material, limiting fire spread. Once a fire starts, it is often accelerated by wind-borne burning material. Burning embers or brands are the main source of fire spread in mixed urban-wildland areas. The roof of a house is most vulnerable to this type of ignition. Spark arresters with a maximum of 1/2 inch openings in the mesh are required over the outlet of every chimney. Class A is the top rating for fire resistive roofing, followed by Classes B and C. The City of Richmond requires that all roofing be Class B or better in the VHFHS zones, and wood shake shingle roofing materials are prohibited in new construction or replacement of more than 50% of the roof.

III. GLOSSARY OF TERMS

The following terms are used to describe the vegetation management standards in California State Law and in the City of Richmond's Fire Hazard Reduction Program.

Very High Fire Hazard Severity (VHFHS) Zones: Any geographic area designated per Government Code section 51178 to contain the type and condition of vegetation, topography, weather and structure density to potentially increase the possibility of wildland conflagration fires. As a community adjacent to extensive wildland areas, the City of Richmond contains several VHFHS zones. A map of these zones is available from the Fire Department. Fire hazard reduction standards are more extensive for properties located within VHFHS zones.

Defensible space: A concept in landscape design for homes which provides a band of managed vegetation around a home that slows movement of fire by reducing or denying fuel and provides a space for fire fighters to take a stand to protect the house.

Fire resistant plants: a relative term used to describe plants that "more resistant" or "less resistant" than other plants to fire. Given enough heat, all vegetation will burn. Yet plants in fact differ in how fast they burn, how high a flame they produce and their ability to survive fire. Fire resistance is enhanced by higher amounts of moisture within twigs and foliage. Fire-resistant plants can lose this quality altogether if not properly maintained and irrigated. A partial list of fire resistant and highly flammable plants is available from EBMUD (232-5051) and the Richmond Fire Department.

Fire hazardous vegetation: Plants which can burn easily because they generate dry undergrowth, contain flammable oils or produce significant quantities of dead or dying material. Hazardous vegetation is fuel which must be removed or strictly maintained so as not to constitute a fire hazard by igniting easily and then contributing to rapid fire spread. Seasonally dry grass, weeds, brush, and unmaintained and unirrigated trees and ornamental vegetation are examples of fire hazardous vegetation. Properly chipped, mulched and disbursed material does not constitute fire

hazardous vegetation. Fire hazardous vegetation is also known as flammable vegetation and combustible growth.

Ornamental landscaping: Decorative plants growing within a tended garden or yard which are appropriately irrigated, maintained and located to provide aesthetic decoration and functional utility, such as privacy screening, shade, weed suppression and erosion control. The use of fire-resistant plants and the removal of fire hazardous vegetation will enhance fire safety.

Firebreak: An area in which all flammable vegetation or combustible growth is removed and cleared away, thereby eliminating fire hazardous vegetation fuels which can rapidly transmit fire. Ornamental landscaping is permissible within a firebreak as long as it is adequately irrigated, maintained and spaced so as not to provide a means of rapidly transmitting fire. (Compare to fuel break.)

Fuel break: An area in which all flammable vegetation or combustible growth is reduced and cleared away according to established standards, thereby limiting the mass and arrangement of fire hazardous vegetation fuels which can rapidly transmit fire. Appropriate ornamental landscaping is permissible within a fuel break. Fuel reduction standards for fuel breaks limit the height of certain vegetation (brush, native shrubs, weeds and grasses), remove from trees any fuels which can ladder into the canopies, and provide adequate spacing between remaining plants.