

The Reserve at Deer Valley

Pierce Park Road

Boise, Idaho

Wildland-Urban Interface (Zone A) Fire Safety Plan

Introduction

The following Wildland-Urban Interface Fire Safety Plan has been specifically developed for land within the city limits of Boise, Idaho as required by the Boise City Wildland/Urban Interface (WUI) Code. The intent of this Deer Valley Wildland-Urban Interface Fire Safety Plan is to satisfactorily comply with the intent of current codes by meeting or exceeding the level of quality, strength, effectiveness, fire resistance, durability, and safety prescribed by these codes.

This plan describes Wildland-Urban Interface fire conditions and requirements for the Deer Valley development as outlined below:

1. Residential Development Characteristics
 - a. Access
 - b. Water Supply
 - c. Fire Protection & Equipment

2. Wildfire Behavior Characteristics
 - a. Fuel
 - b. Topography
 - c. Weather

3. Wildland-Urban Fire Construction Requirements
 - a. Roof and Roof Elements
 - b. Eaves
 - c. Exterior Walls
 - d. Structural Appendages and Projections
 - e. Exterior Doors
 - f. Vents
 - g. Detached Accessory Structures

4. Firewise Landscaping Requirements
 - a. Home Ignition Zones

5. Wildland Vegetation Management
 - a. Homeowner Association/Trust Requirements

Deer Valley Projection Description – The Deer Valley foothills subdivision is a residential development within the city limits of Boise in north central Ada County. The project area would contain 96 buildable lots on approximately 85.6 acres of land. The site is located on Pierce Park in Boise, ID. Lots range in size from approximately 6,000 square feet to 28,000 square feet. A significant portion of the property (61%) will be preserved as open space (see attached Master Site Plan). To the north there are single family homes and foothills, south single family homes, east single family homes and foothills, west single family homes and foothills.

Wildland Urban Interface Plan – The Deer Valley residential development lies within Wildland-Urban Interface Zone A as designated by the City of Boise and contains fire prone wildland fuels and slopes in excess of 15%. This Wildland-Urban Interface Fire Safety Plan is submitted to meet the requirements of Boise Fire Prevention Code 7-01-69, Chapter 49. The plan is based on a site-specific wildfire risk assessment that includes considerations of project size, location, topography, aspect, flammable vegetation, climatic conditions and fire history. The plan addresses water supply, access, building ignition and fire-resistive factors, fire projection systems and equipment, Firewise landscaping and wildland vegetative fuels.

1. Residential Development Characteristics

a. Access

- i. Offsite Access – Access to the Deer Valley Subdivision is by State Street north on Pierce Park. Within the existing 56 to 64 foot Right-of-Way, Pierce Park will be improved as per the requirements of the Ada County Highway District to a minimum width of 30 ft. of paved roadway where practical with 3-foot wide gravel shoulders.
- ii. Onsite Access – Primary Access to Deer Valley residences by will be via private streets; a 39 foot Right-of-Way including pavement 29 feet wide, plus curbs, gutters and sidewalks on one side of the roadway and two sides of the road way in the future phase that terminates in a 48 foot cul-de-sac turnaround which provides access to 20 residences. There are four additional private streets that terminate in hammerhead turnarounds built to fire department specifications. All other private roads have two accesses. Parking will be restricted to one side of all 29-foot roadways and no parking will be allowed on roadways less than 29-feet in width. Signage will be installed in accordance with the BCC and Fire Code.

- b. Water Supply – hydrants, capable of providing a minimum of 750 gallons per minute (GPM), will be spaced as per fire department requirements along the length of the private streets.

Fire Protection & Equipment – All Deer Valley residential structures will contain interior sprinkler systems to compensate for the reduction in fire flow to 750GPM and reduced width roadways.

2. Wildfire Behavior Characteristics

- a. Fuel – The common/undeveloped areas, surrounding Deer Valley structures, that comprise the area's wildland fire fuel component consist primarily of sagebrush steppe species typical of the Snake River Plains, including sagebrush, bitterbrush, native annual and perennial grasses, invasive grasses, noxious weeds, scrub locust, cottonwoods, and a few pine trees. Areas disturbed for grading will be re-vegetated and additional plantings will mitigate any mature trees that may be removed during construction.
- b. Topography – The Deer Valley development lies in the Boise foothills with primarily a southern exposure. The development is nestled in the valley surrounded by slopes that can exceed 15%.
- c. Fire Behavior – The small diameter vegetative fuels, i.e. brush and grasses, in the area will readily ignite and carry fire rapidly upslope or across and down slope in windy conditions. During significant fire conditions, these fuels create rapid moving fronts of moderate sized flames and produce small windblown embers that can ignite fuels at a distance. Because of their small diameter these fuels are consumed rapidly. Without continuous adjacent fuels to continue the process of combustion in this area and absent the ignition of structures, the wildfire behavior in this area will be short lived. Properly designed and maintained structures are effective in resisting ignition from these short duration flames and small embers.

3. Structure Fuel – Residential

The Deer Valley construction methods and landscape designs incorporate Wildland-Urban Interface principles which include the structures, their surrounding landscapes and adjacent native/exotic plant areas. Although the Deer Valley area is rated less than Moderate Fire Hazard Severity (see APPENDIX A) prior to its development, Ignition-Resistant construction requirements were designed to provide Deer Valley continued resistance from vegetative sources as these residential fuel conditions increase over time.

Structures shall be built in compliance with the design and construction provisions of the Boise City Wildland Urban Interface Code as included in Title 7.

4. Firewise Landscaping Requirements

Homes ignite from wildfires because of the condition of the structure and the immediate surrounding area. The landscape design and materials are critical in reducing the potential for structural ignitions. The intent of Firewise landscaping is to create attractive, natural and healthy landscapes while reducing the amount and continuity of flammable vegetation that would lead fire to residential structures and improved properties. Fire exposure to Deer Valley residences will be minimized by designing and maintaining modified flammable fuel areas between structures and adjacent areas of native/exotic vegetation.

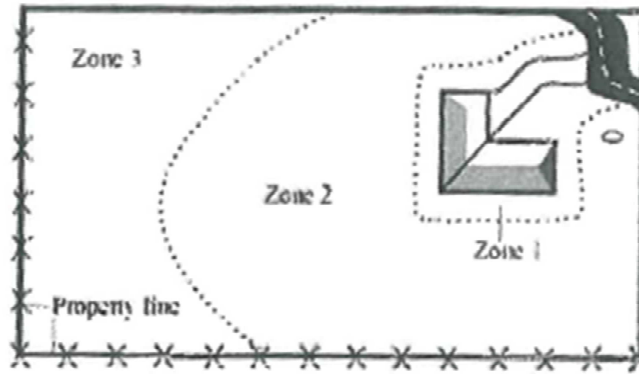
Home Ignition Zone Concept – This refers to the concept of first mitigating the structure from ignition and then working outward to provide ignition resistant landscape features and vegetation. Deer Valley Home Ignition Zones (HIZs) include the home, associated structures and the surrounding area.

Landscaping Design and Maintenance – Landscape features and plantings will be resistant to ignition from blowing embers and designed to stop advancing wildfires within 30 feet of structures.

All single family residential units in the Deer Valley development will permanently maintain vegetative clearance in accordance with the *Home Ignition Zone* plan identified in Figure 1. However, nothing herein will require any landowner to maintain property that they do not own and/or that falls outside the Deer Valley development. These requirements are intended to establish and maintain standards that when implemented and maintained can reduce the probability of wildfire loss.

Figure 1. Home Ignition Zones (residential structures, structural attachments, associated structures and wildland/landscape vegetation in the surrounding zones, as depicted and described below.)

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Zone 1 is the area of maximum fuel modification and treatment (Figures 1 & 2) and is designed to prevent surface flames from reaching the structure. It consists of a minimum area of 30-feet around the structure in which landscape features resist ignition and fire-prone vegetation (wildland and landscape) is modified or removed. This area will normally consist of irrigated lawns and other fire-resistive landscaping vegetation and features. This zone is measured outward from the base of the structure's foundation or any attachments, such as decks. This area will be developed and maintained by the homeowner in accordance with the requirements identified below. In the event that the homeowner's property is less than the required Zone 1 distance (30-feet), but still within the boundaries of the development, and property is adjacent to common/open space or other entity, the Deer Valley HOA will be responsible for the development and maintenance of the remaining portion of Zone 1. The Deer Valley HOA will also make a good faith effort to work in collaboration with adjacent land owners to address the amount and connectivity of wildland fuels directly adjacent to these lots.

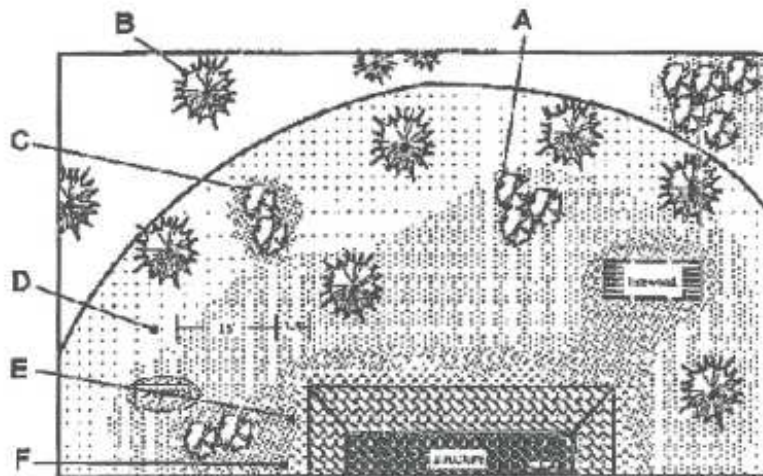
Fuel-Free Zone. A 4-foot buffer around structures will be restricted to low growing shrubs or other fire-resistive plants (Appendix B) to provide a non-flammable fuel break directly adjacent to structures. Fire-prone plants, combustible mulches, and other fuels will not be located in the 4-foot area. To reduce ignition potential from airborne embers, plants will be annually pruned and maintained by property owners.

During periods of wildfire conditions, storage of firewood or other combustible materials will be prohibited in Zone 1, unless in an enclosed noncombustible storage structure. This includes storage of materials under attached decks.

Adjoining surface and aerial fuels (flammable tree canopies) will be restricted so the placement of fire-prone trees and shrubs does not create contiguous fuel connections in Zone 1. Fire-prone trees and tree clumps within Zone 1 will be isolated from each other and lower branches pruned to approximately 6-feet above ground (or approximately 1/3 tree height) whichever is less. In addition, these trees and shrubs will be restricted from contacting exterior siding, the roof, and must be separated at least 10 feet from the structure. Fire-prone trees shall be placed away from the structure at least the distance of the trees full height at maturity (may be placed closer with the approval from the authorized Building Official or designee). The HOA will work with homeowners to identify site-appropriate species and planting locations, and educate residents on wildfire hazards on wildfire hazards and effective Firewise mitigation concepts.

Figure 2: Example of Landscaping and Vegetation in Zone 1.

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A. Space and maintain clumps of trees and shrubs to resist ignition from adjacent flames and windborne firebrands/embers.
B. Plant naturally occurring tree species on or near the site (See Appendix B) and eliminate ladder fuels.
C. Locate combustible mulches at least 4 feet away from structures.
D. Keep lawn and dry grass in Zone 1 mown to a maximum of 4 inches
E. Use only fire-resistive plants near structures but away from windows and vents.
F. Maintain a 4-foot noncombustible zone around structures by using fire-resistive plants and hardscape features, ex. rock mulches, pavers, concrete, etc.

Zone 2 is an area of modified fuels designed to reduce the intensity of a fire approaching the structure. Depending on the slope, this zone will extend from 50 to 100 feet from the structure. Within this zone, the continuity and arrangement of vegetation will be based on a modified natural community emphasizing native species that are not highly flammable. Diseased, dead, or dying trees and shrubs will be modified or removed to prevent their ability to provide continuous fuels reaching Zone 1. This area forms a fuel buffer and provides a transition between Zones 1 and 3. In the event that the homeowner property boundary extends beyond Zone 1, the homeowner will be responsible for developing and maintaining the area in Zone 2. This area can also be managed and maintained by the homeowner in coordination with Deer Valley HOA. In the event that the area associated with Zone 2 lay outside the development boundary, the HOA will make a good faith effort to work in collaboration with adjacent land owners to address the amount and connectivity of wildland fuels directly adjacent to these lots.

Zone 3 extends beyond Zone 2 as needed in severe fire hazard areas. Fuels and community composition will generally be managed by the HOA to the extent possible. In the event that the homeowner's property boundary includes Zone 3, the homeowner will work collaboratively with the HOA to develop and maintain the area based on the requirements to reduce large flames in this zone. In the event that the area associated with Zone 3 lay outside the development boundary, the HOA will make a good faith effort to work in collaboration with adjacent land owners to address the amount and connectivity of wildland fuels directly adjacent to these lots.

5. Wildland Vegetation Management

Managing vegetation in common areas and adjacent to residences:

- Fire behavior in wildland vegetation is mitigated by reducing the density and continuity of volatile brush, grasses, and forbs in the common areas directly adjacent to residential landscaping and structures. By limiting fuel connectivity between common areas and residences the probability of wildfire igniting structures can be significantly reduced.

Homeowners Association/Requirements – Deer Valley Homeowner's Association (HOA) or existing trust entity will be responsible for the control, management and maintenance of fire prone vegetation on the common property and directly adjacent to all walking paths/trails within the Deer Valley boundary. These areas are primary sites for flammable vegetation and invasive and noxious weed species that increase fire behavior and connect these wildland fuels to residential landscapes and structures.

The intent of controlling fuels and/or reestablishing natural vegetation adjacent to private property is important to reducing wildfire risk. These areas function as fire breaks in areas of open space and reduce the overall connectivity of highly flammable

fuels. This can limit the size and spread of wildfires in the area. In order to reduce the wildfire danger and improve the health and diversity of plant communities, the Deer Valley HOA will work in coordination with the residents, private land owners, the Boise Fire Department, the City of Boise, adjacent HOA and other agencies to facilitate fuels modification and maintenance, and native vegetation restoration projects on common areas within the development.

ENFORCEMENT

The items identified in this Fire Safety Plan, will be incorporated into the recorded CCRs of The Reserve at Deer Valley Subdivision. Enforcement of construction, landscape and maintenance requirements for individual lots and common lots within The Reserve at Deer Valley Subdivision will be handled by The Reserve at Deer Valley Homeowner's Association.

APPENDIX A

ICC International Wildland-Urban Interface Code
FIRE HAZARD SEVERITY FORM

DEER VALLEY SUBDIVISION, BOISE, ID

A. Subdivision Design Points

1. Ingress/Egress

Two or more primary roads 1 X

One road 3 _____

One-way road in, one-way road out 5 _____

2. Width of Primary Road

20 feet or more 1 X

Less than 20 feet 3 _____

3. Accessibility

Road grade 5% or less 1 _____

Road grade more than 5% 3 X

4. Secondary Road Terminus

Loop roads, cul-de-sacs with an outside turning 1 X

Radius of 45 feet or greater Cul-de-sac turnaround

Dead-end roads 200 feet or less in length with hammerhead turnaround 3 X

Dead-end roads greater than 200 feet in length with hammerhead turnaround 5 X

5. Street Signs

Present 1 X

Not present 3 _____

B. Vegetation (IWUIC Definitions)

1. Fuel Types

Light 1 _____

Medium 5 X

Heavy 10 _____

2. Defensible Space

70% or more of site 1 _____

30% or more, but less than 70% of site 10 X

Less than 70% of site 20 _____

C. Topography

8% or less- Majority 1 X

More than 8%, but less than 20% 4 X

20% or more, but less than 30% 7 _____

30% or more 10 _____

D. Roofing Material

Class A Fire Rated	1 <u> X </u>
Class B Fire Rated	5 <u> </u>
Class C Fire Rated	10 <u> </u>
Nonrated	20 <u> </u>

E. Fire Protection – Water Source

750 GPM hydrant within 1,000 feet	1 <u> X </u>
Hydrant farther than 1,000 feet or draft site	2 <u> </u>
Water source 20 min. or less, round trip	5 <u> </u>
Water source farther than 20 min., and 45 min. or less, round trip	7 <u> </u>
Water source farther than 45 min., round trip	10 <u> </u>

F. Existing Building Construction Materials

Noncombustible siding/deck	1 <u> X </u>
Noncombustible siding/combustible deck	5 <u> </u>
Combustible siding and deck	10 <u> </u>

G. Utilities (gas and/or electric)

All underground utilities	1 <u> X </u>
One underground, one aboveground	3 <u> </u>
All aboveground	5 <u> </u>

Total for Subdivision

39

ICC Wildland-Urban Interface Ratings

Moderate Hazard 40-59

High Hazard 60-74

Extreme Hazard 75+

Plants

Every landscape has plants and every plant, if dry enough, will burn. Fire-resistive plants are those that have characteristics that make them less-flammable than others. That being said, the selection of fire-resistive plant materials is usually far less important than how those plants and features are configured and how well the landscape is maintained.

With a few exceptions, plant condition is more important than plant species. Depending on factors such as growth form, access to water and nutrients, the same plant may be fire-resistive in one environment and combustible in another. Summer irrigation can make the difference between an extremely flammable plant and one that will not burn readily.

Characteristics of fire-prone plants, which should NOT be planted within 30 feet of structures:

- Accumulate fine, twiggy, dry, or dead material,
- Are not drought tolerant,
- Have leaves and/or wood containing volatile waxes, fats, terpenes, or oils,
- Are typically aromatic (crushed leaves have strong odors),
- Have gummy, resinous sap with a strong odor,
- Are usually blade-leaf or needle-leaf evergreens,
- May have loose or papery bark,
- Are plants that flame (not smolder) when preheated and ignited with a match.

Characteristics of fire-resistive plants that CAN be planted/maintained near structures:

- Have high moisture content in stem and leaves,
- Are drought tolerant,
- Have little or no seasonal accumulation of dead vegetation,
- Have a low volume of total vegetation,
- Have non-resinous woody material,
- Have an open, loose branching habit,
- Are slow growing.