

CONTOUR
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TAILWATERS

STAGECOACH  COLORADO



WILDFIRE HAZARDS & MITIGATION

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This document provides a summary of existing wildfire fuels and hazards within, and surrounding, the future Tailwaters Community located directly south of Stagecoach Reservoir in Routt County, Colorado. In addition, a variety of guidelines, procedures and strategies are recommended to minimize wildfire risk, improve structural resilience to a potential wildfire event and protect human life and safety. This document is not intended to serve as a Community Wildfire Protection Plan (CWPP) for the future Tailwaters Community.

EXISTING CONDITONS

Planning Area & Community Description

Tailwaters is located directly south of the Stagecoach Reservoir east of the CR16 and CR18A intersection. The parcel is approximately 89 acres in size and planned to be a mixed-use residential development with a small town center and approximately 200 residential units. Approximately 40% of the parcel will remain undisturbed and function as naturalized open space. Residential units will include a variety of single-family homes, duplexes, row homes and attached multifamily units ranging from 1,200 – 4,000 sq. feet and up to three stories in height. The town center is envisioned to include four to five primary buildings up to three stories in height with hardscape elements and landscape design typical of town centers and plazas found in similar mountain communities.

Tailwaters is situated within the Oak Creek Fire Protection District.

Vegetation and Fuels

The parcel is comprised primarily of sagebrush shrublands interspersed with smaller patches of grasslands. A riparian corridor dominated by alder and willow runs north to south along the eastern edge of the property along Little Morrison Creek. The site is primarily oriented with an eastern to north-eastern aspect on predominantly gently rolling and shallow slopes, with steeper slopes occurring adjacent to the Little Morrison Creek drainage, as well as directly west and above CR16. The terrain surrounding the project from the west to the northeast of the site exhibits similar characteristics. By contrast, the terrain to the southwest and ranging to the east rises in elevation, showing more rugged topography and steeper slopes with vegetation transitioning to aspen woodlands and mixed conifer forests.

The 2022 LANDFIRE Surface Fuels Data maps the parcel as containing primarily a mix of grass, grass-shrub and shrub fuel types as shown on Figure 2.1 and summarized in Table 1.1 below.

Table 1.1. Summary of 2022 LANDFIRE Surface Fuel Models mapped within Tailwaters.

Fuel Model	Description	Acres	Percent
GS02	Moderate load dry climate grass-shrub	65.3	75%
SH02	Moderate load dry climate shrub	3.4	4%
SH07 (147)	Very high load dry climate shrub	12.2	14%
SH07 (157)	OAK SHRUBLAND - Very high load dry climate shrub	0.4	< 1%
TL03	Moderate load conifer litter	1.7	2%
NB	Nonburnable	4.3	5%

Wildfire Hazards

The wildfire hazard assessment tiers to the Fire Intensity Scale (FIS) component of the State of Colorado's Wildfire Risk Assessment (CO-WRA, 2022). The FIS layer maps relative classes of predicted wildfire intensities based on the combination of fuel hazards and fire behavior. FIS comprises four (4) classes of wildfire intensity and includes:

- **Class 1, Lowest:** Very small, discontinuous flames, usually less than 1 foot in length; very low rate of spread; no spotting. Fires are typically easy to suppress by firefighters with basic training and non-specialized equipment.
- **Class 2, Low:** Small flames, usually less than two feet long; small amount of very short-range spotting possible. Fires are easy to suppress by trained firefighters with protective equipment and specialized tools.
- **Class 3, Moderate:** Flames up to 8 feet in length; short-range spotting is possible. Trained firefighters will find these fires difficult to suppress without support from aircraft or engines, but dozer and plows are generally effective. Increasing potential for harm or damage to life and property.
- **Class 4, High:** Large Flames, up to 30 feet in length; short-range spotting common; medium range spotting possible. Direct attack by trained firefighters, engines, and dozers is generally ineffective, indirect attack may be effective. Significant potential for harm or damage to life and property.

Figure 2.2 displays the mapped FIS relative to the Tailwaters parcel and surrounding area. Within Tailwaters, approximately 65 acres (73%) are mapped as Class 3 (Moderate), 20 acres (23%) are mapped as Class 4 (High) and approximately 4 acres (5%) are mapped as Class 2 (Low).

Emergency Evacuation

Emergency evacuation of the project is confined to County Road 16, providing emergency egress routes to the south towards Highway 134 or to the west to County Road 14. Evacuees traveling west can continue further west along County Road 14 to Highway 131 and the Town of Oak Creek or north to Steamboat Springs. The evacuation route is shown on Figure 2.3.

OBJECTIVES & STRATEGIES

As Tailwaters is developed, the fuelscape within the parcel boundary will change as native grasslands and shrublands are converted to hardscape features, structural elements and landscaped and lawn areas that are regularly maintained and irrigated. While conversion of these fuels will generally lower wildfire risk within the developed footprint, the risk to property and life safety will increase as the community is built out and residents move in. In addition, Tailwaters is positioned in a rural landscape surrounded by areas mapped as having moderate to high wildfire hazards. For these reasons, this plan offers the below strategies to achieve three primary objectives, which include 1) minimize wildfire risks and ignition threats, 2) promote structural resiliency to a potential wildfire event, and 3) protect human life and safety.

Strategies to achieve the defined objectives include:

- **Education:** Educate members of the Property Owner's Association and residents of Tailwaters of wildfire risks and actions that may minimize threats and improve structural resilience. Gain approval as a Firewise Site and designate a community Firewise Ambassador.
- **Communication:** Provide Tailwaters residents and guests with relevant and timely information concerning current and forecasted wildfire risks, and other fire related material and guidance.
- **Assessments & Mitigation:** Perform annual assessments of Tailwaters common and open spaces to identify and mitigate potential fuel hazards and ignition risks. Encourage residents to engage qualified wildfire experts to perform assessments and provide recommendations for improving and maintaining defensible space zones on private parcels.
- **Emergency Preparedness:** Encourage, and facilitate development of, individual emergency evacuation plans for all residents. Inform residents of emergency egress/ingress routes and designated Meeting and Safety Zones that may be utilized in a wildfire event.

REQUIRED ACTIONS, GUIDELINES & PROCEDURES

The following actions, guidelines and procedures will be required in the Tailwaters Project per rules to be adopted by a to be formed Home Owners Association (HOA) to achieve the objectives and fulfill the strategies identified above. These actions are in addition to all required Building Codes that have been adopted and amended by Routt County including but not limited to Sections 501.1, 503.2, 504.2, 504.2.1, 504.3, 504.4, 504.10. The HOA will be responsible for Design Guidelines within the Project and will adopt the following to minimize wildfire risks.

Design Guidelines

Structural

- Post signs at the end of the driveway with your house number that are noncombustible, reflective and easily visible to emergency responders.
- Screen attic, roof, eaves and foundation vents with 1/8-inch metal mesh.
- Screen or wall-in stilt foundations and decks with 1/8-inch metal mesh.
- Create 6 inches of vertical clearance between the ground and home siding.
- Replace combustible fencing or gates, at least within 5 feet of the home.
- Avoid anything combustible in the first five feet surrounding any structure and attached deck, including woody plants, mulch, woodpiles, combustible trellises, and stored items. This is an excellent location for walkways, or hardscaping with pavers, rock mulch, decomposed granite, or pea gravel.
- Screen chimney and stovepipe openings with an approved spark arrestor cap with a 1/2-inch screen.
- Recommend installing windows that are at least double-glazed. The type of window frame (e.g., wood, aluminum, or vinyl) is not as critical; however, vinyl frames can melt in extreme heat and should have metal reinforcements. Keep skylights free of leaves and other debris and remove overhanging branches. If using skylights in the WUI, they must be flat skylights constructed of double-pane glass and must be kept free of vegetation.
- All vent openings should be covered with 1/8-inch or smaller wire mesh. Another option is to install ember-resistant vents. Do not permanently cover vents, as they play a critical role in preventing wood rot.

Landscaping

- Only use plant species listed in the Low-Flammability Landscape Plants tables for landscaping and plantings (Tables provided in Appendix A).
- Space shrubs apart at least two-and-a-half times their mature height, as measured from the edge of the shrubs.
- Maintain at least 10 feet between tree crown.
- Ornamental and wildland vegetation should be carefully spaced, low growing, well-watered, and free of resins, oils and waxes that burn easily.
- Create a “fire-free” area within five feet of the home, using non-combustible landscaping materials and/or high-moisture-content annuals and perennials.
- Water vegetation and mulch regularly.
- Leave 30 feet between clusters of two to three trees, or 20 feet between individual trees.
- Create breaks in vegetation, such as driveways, gravel walkways, and lawns.

Home, Lawn and Defensible Space Maintenance

- Remove any shrubs that are within 10 feet of the outer edge of tree crowns.
- Remove any remaining ladder fuels beneath trees after thinning.
- Mow grass and weeds to a height of 4 inches or less within 30 feet of the home or deck.
- Rake and remove all pine needles and other flammable debris from a 5-foot radius around the foundation of your home and deck.
- Treat or mow shrubs that re-sprout aggressively (such as Gambel oak) every 3-5 years or more depending on growth rates.
- Remove branches that hang over the roof and chimney.
- Keep firewood stacked uphill from (or at the same elevation as) any structures and keep the woodpile at least 30 feet away from the home.
- Do not stack firewood between remaining trees, underneath the deck, or on the deck.
- Remove flammable vegetation within 10 feet of woodpiles.
- Remove all leaves, needles and other debris from all decks, roofs and gutters.
- Mow regularly and prune trees up six to ten feet from the ground.
- Prune trees up six to ten feet from the ground.
- Regardless of the type of roof, keep it free of bird’s nests, fallen leaves, needles and branches.
- Always keep rain gutters free of bird’s nests, leaves, needles, and other debris. Roof gutters shall be provided with a means to prevent accumulation of leaves, needles, and debris. Check and clean them several times during the year.
- Routinely remove combustible debris (e.g., pine needles, leaves, twigs, weeds) from the gaps between deck boards and under the deck. Enclosing the sides of the deck may reduce this type of maintenance. Do not store combustible material under the deck.
- Keep firewood, bales of hay or straw, and other combustible/flammable materials at least 30 feet away from a structure.

FUELS MITIGATION

This section describes the fuel treatment methods that Tailwaters at Stagecoach will use to manage vegetation on the property to protect assets and infrastructure. Fuel treatments will be conducted primarily using hand thinning and mechanical methods. Vegetation removed from the implementation of fuel treatments will be piled and burned on site within areas cleared of all surface fuels. Implementation of these fuel treatments will have the effect of reducing flame lengths, fire intensity and rate of spread, should a wildfire event occur.

Fuel treatments will be implemented in a phased approach according to the plan of development. For each phase of development, Tailwaters will treat all surface fuels within an approximate 150-foot-wide setback zone surrounding the disturbed perimeter.

Phase 1 Fuel Treatments

The fuel treatments planned for Phase 1 development are shown on Figure 3.1. The Phase 1 methods employed for fuels treatments include mowing, hand thinning and scraping. More detailed descriptions of these methods are provided below. All vegetation cut or pulled during implementation will be piled and burned in defined zones within the disturbed footprint shown on the figure. Burn piles will not exceed 10 feet in diameter or 6 feet in height.

Fuel treatments are planned in early spring prior as weather conditions allow.

Mowing

Surface fuels will be mowed within a 150-foot-wide zone surrounding the Phase 1 disturbed perimeter as shown on Figure 3.1. All herbaceous and woody vegetation will be cut with a rotary mower to a height of 4 to 6 inches and left on the soil surface. Areas within the setback zone having slopes too steep for safe operation of the mower will be treated using hand thinning methods.

Hand Thinning

Hand thinning will occur in the identified zones on Figure 3.1, primarily on slopes exceeding approximately 25% directly west of the riparian corridor and the slope west of County Road 16. Woody vegetation on the affected slopes will be cut using powered and non-powered hand tools, including brush cutters, chainsaws, hand saws, loppers, pulaskis or brush axes. All cut woody vegetation will be dragged to staging areas and loaded onto heavy equipment (e.g. excavator, skid steer, backhoe) to be transported to defined locations within the Phase 1 disturbed perimeter for pile burning. Herbaceous vegetation on the affected slopes will only be cleared on slopes within the 150-foot-wide setback zone. Herbaceous fuels in these areas will be cut with powered string trimmers and left on the soil surface.

Fuel Break

A fuel break will be established within the proposed right-of-way corridor to be constructed in Phase 5 of the development plan. All herbaceous and woody vegetation will be cut with a rotary mower to a height of 4 to 6 inches and left on the soil surface.



LEGEND


 Tailwaters Parcel

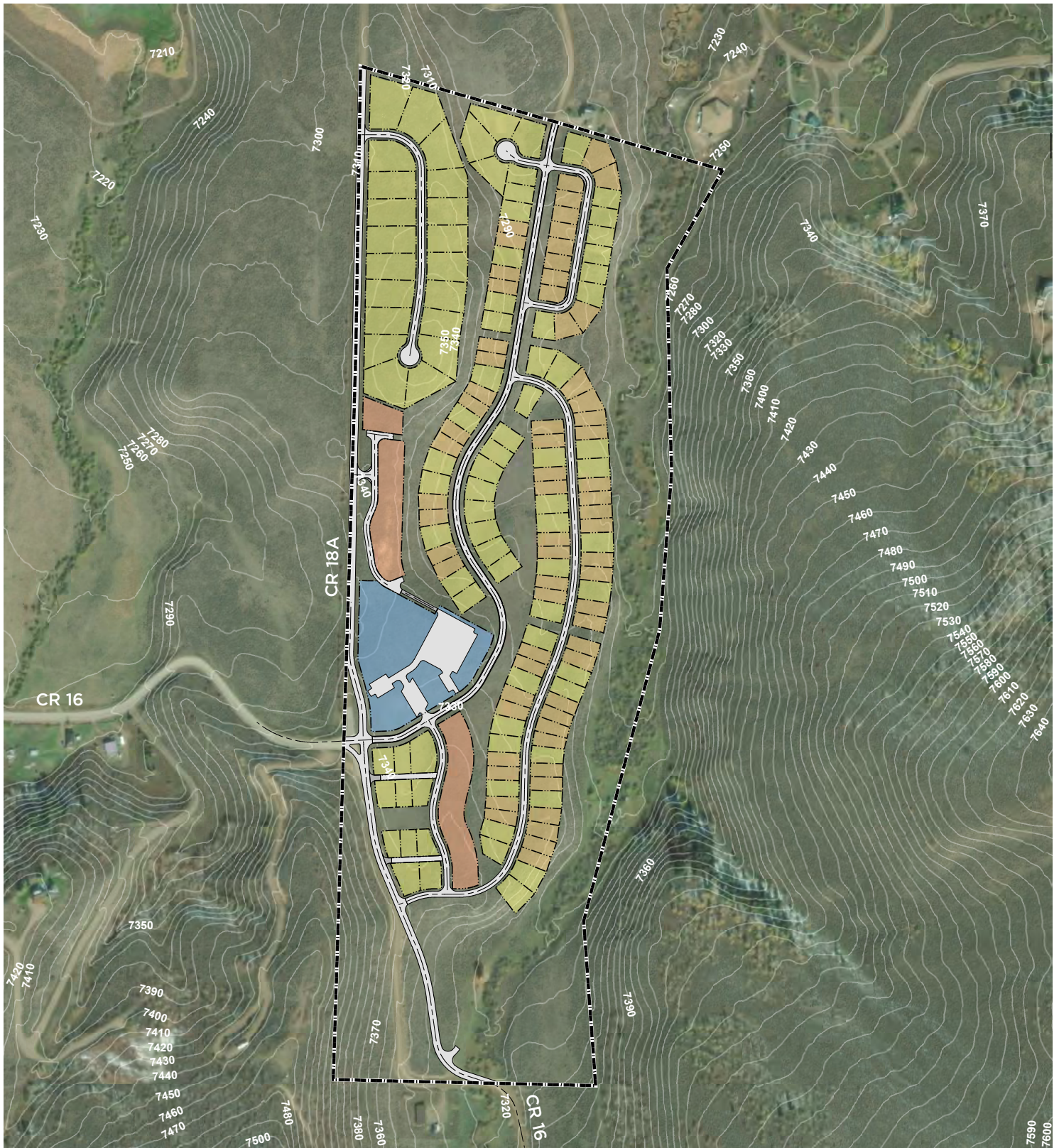
FIGURE 1.1

TITLE
PROJECT LOCATION

PROJECT
Tailwaters Community Development

LOCATION
Routt County, CO

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LEGEND

-  Tailwaters Boundary
-  Single Family Lot
-  Duplex Lot
-  Multi-Family Parcel
-  Commercial Parcel

FIGURE 1.2

CONCEPT PLAN

TITLE

PROJECT
Tailwaters Community Development

LOCATION
Routt County, CO

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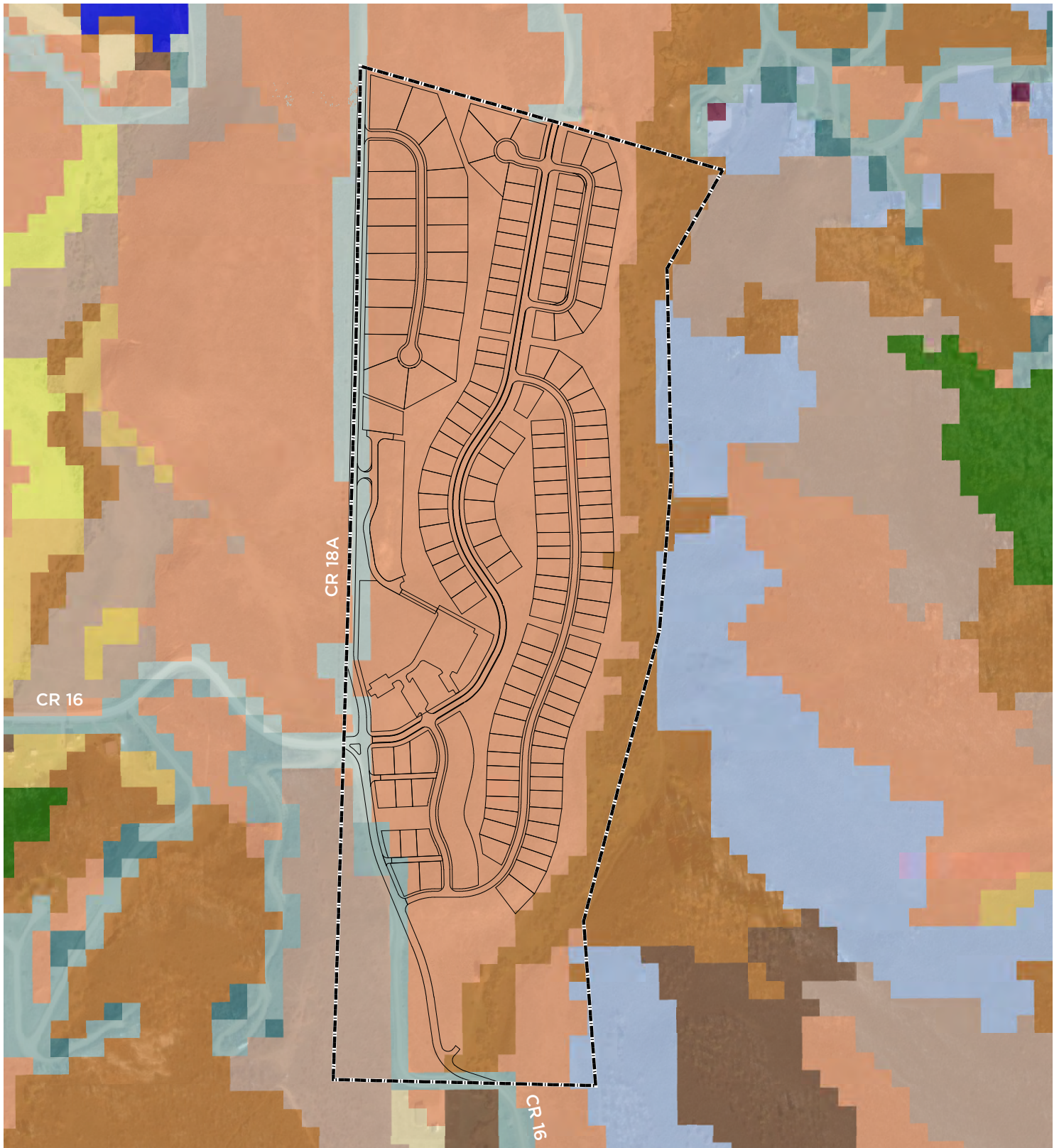










FIGURE 2.1
FUELS

LEGEND

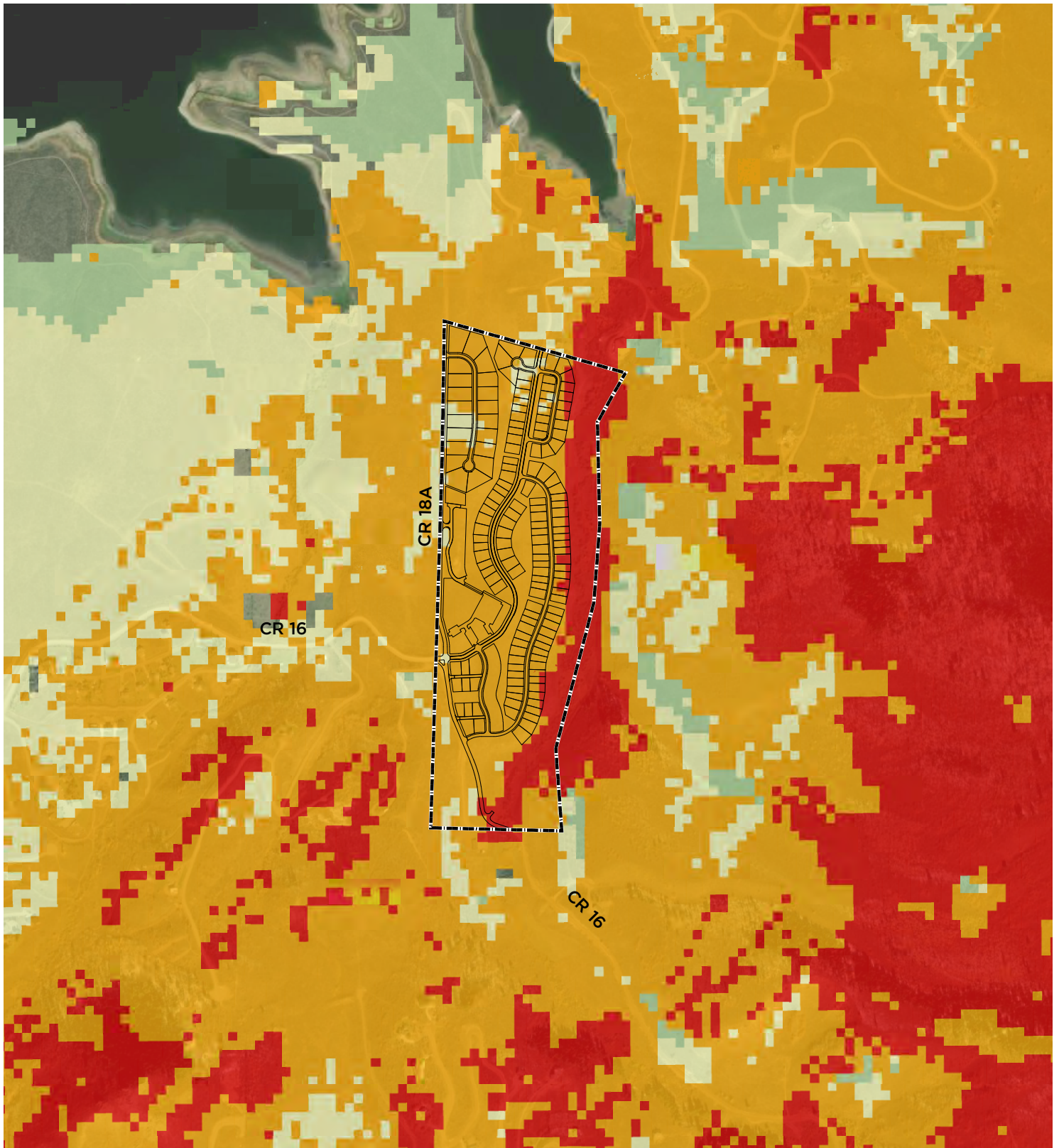
-  Tailwaters Boundary
-  SH07, Oak shrubland without changes
-  GS02, Moderate load dry climate grass-shrub
-  TL03, Moderate load conifer litter
-  SH02, Moderate load dry climate shrub
-  941, Nonburnable
-  SH07, Very high load dry climate shrub
-  942, Nonburnable

TITLE

PROJECT
Tailwaters Community Development

LOCATION
Routt County, CO

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LEGEND






-  Tailwaters Boundary
-  Very Low
-  Low
-  Moderate
-  High

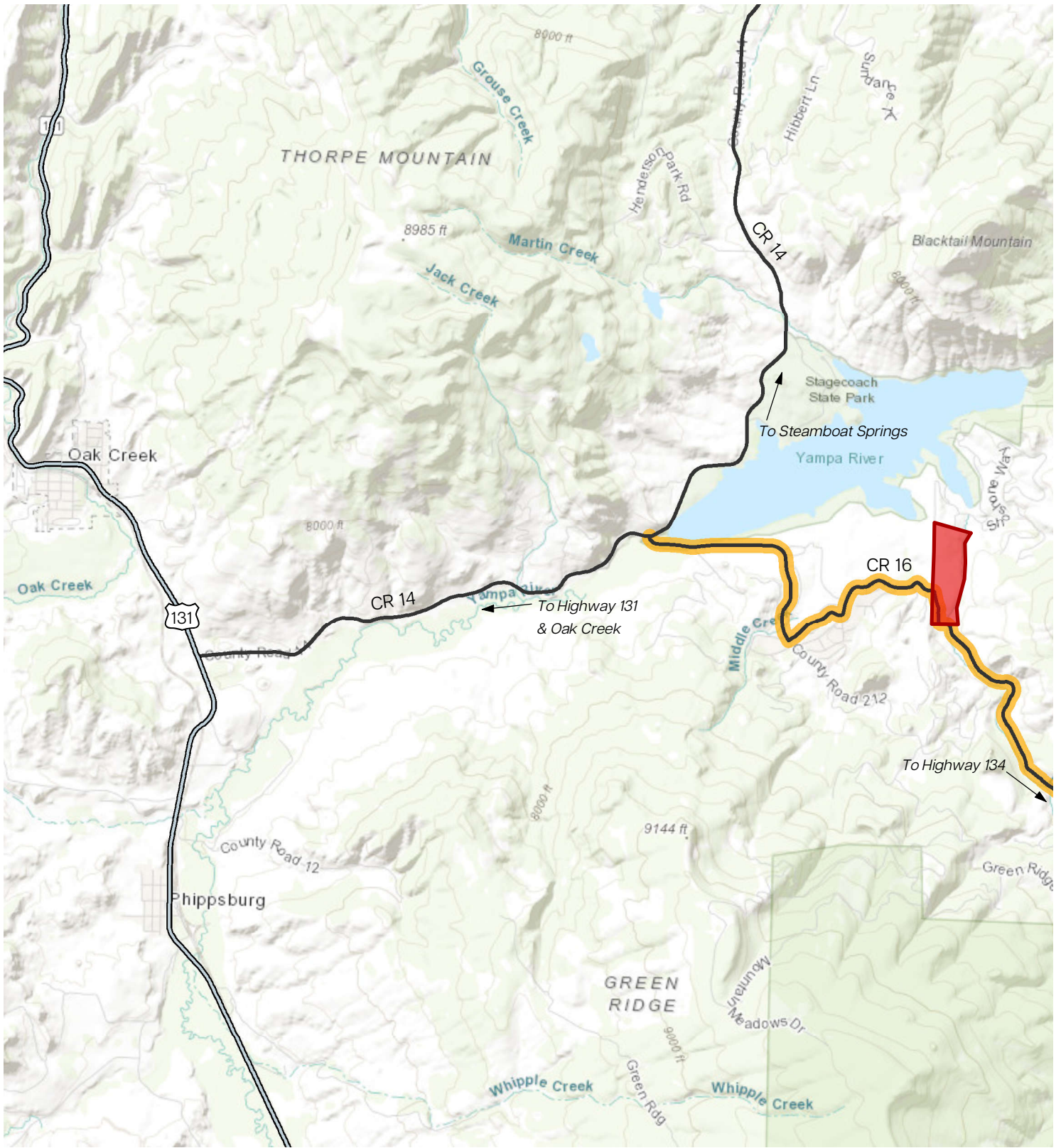
FIGURE 2.2

TITLE
FIRELINE INTENSITY

PROJECT
Tailwaters Community Development

LOCATION
Routt County, CO

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LEGEND

- Tailwaters Parcel
- Evacuation Route

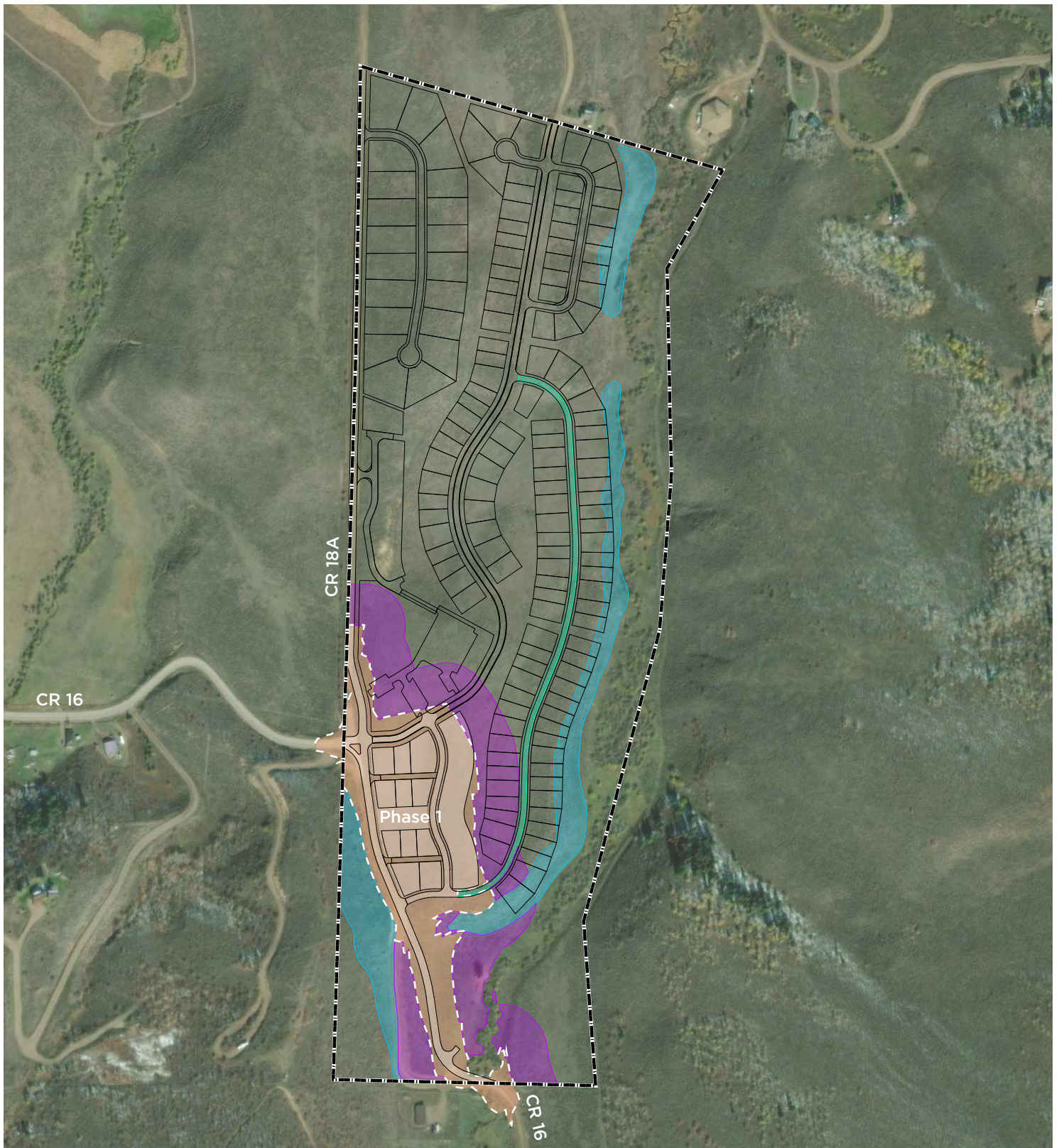
FIGURE 2.3

TITLE
EVACUATION ROUTES

PROJECT
Tailwaters Community Development

LOCATION
Routt County, CO

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LEGEND






-  Tailwaters Boundary
-  Mow grasses & shrubs to height of 4 - 6 in.
-  Phase 1 Disturbance
-  Hand thinning of shrubs and surface fuels.
-  Fuel break (mowing).

FIGURE 3.1

TITLE
FUELS MITIGATION

PROJECT
Tailwaters Community Development

LOCATION
Routt County, CO

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APPENDIX A: Low-Flammability Landscape Plants



Low-Flammability Landscape Plants

Fact Sheet 6.305 | Wildfire Mitigation Series, Landscaping and Planting

By S. Carter, N. Goeckner, C. Julian (CSFS), L. Langelo, I. Shonle and C. Dennis (Emeritus CSFS) (4/23)

Introduction

In Colorado, in the wildland-urban interface (WUI), it isn't a matter of if a wildfire will impact residences and properties, but when. The WUI includes any areas where structures and other human developments meet or intermingle with wildland vegetative fuels, including grasses, shrubs and trees. Wildfires are a natural part of Colorado's varied ecosystems. Planning ahead and taking action to reduce the risk of wildfires can increase the likelihood a home survives when wildfires do occur. Firefighters do their best to protect residents, but ultimately, it's your responsibility to protect your property and investments from wildfire.

This fact sheet is a part of a series of three publications created to help homeowners focus on actions that are effective in reducing wildfire hazards on properties. These efforts should always begin with the home or structure itself and progress outward. Defensible space is the area around a home or other structures that has been modified to reduce fire hazards by creating space between potential fuel sources.

In the defensible space, natural and man-made fuels are treated, removed or reduced to slow the spread of wildfire and alter fire behavior. Plants that are low flammability are selected for planting, especially closer to the home.

Creating an effective defensible space involves establishing a series of management zones. Develop these zones around each building, including detached garages, storage buildings, barns and other structures. Recognize that fuel continuity and density play a critical role in wildfire behavior. Zones are defined from the structure edge in feet:

- **Zone 1: 0-5 feet**
- **Zone 2: 5-30 feet**
- **Zone 3: 30-100 feet**

This fact sheet covers plants in zones 1 and 2; a different publication; the Fire-Resistant Landscaping fact sheet, discusses plants in zone 3. For a defensible space plan for properties, contact the nearest Colorado State Forest Service field office or local CSU-Extension office for guidance. Consult with a forester, fire department staff or community organization appropriately trained in wildfire mitigation practices.

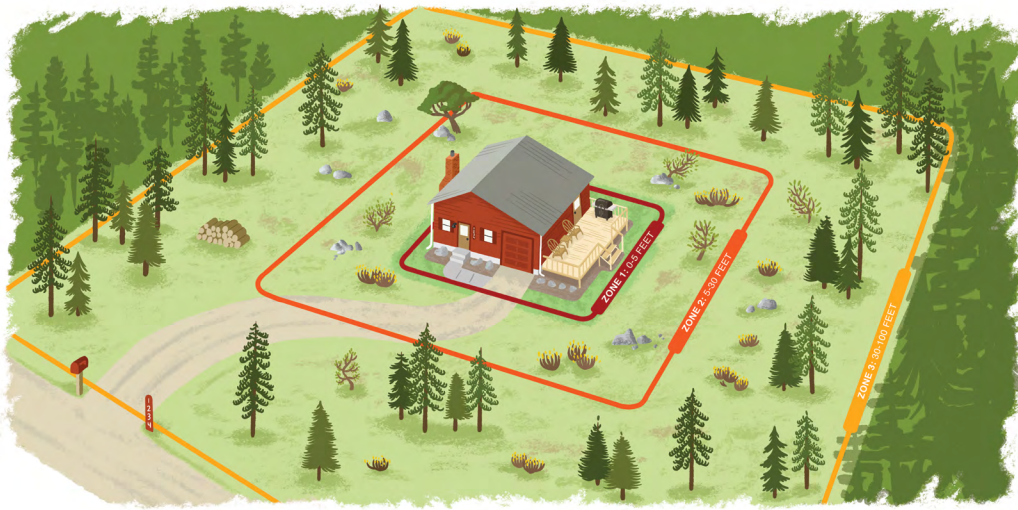


Illustration: Bonnie Palmatory, Colorado State University



Quick Facts

- The right plants around structures are important for wildfire safety.
- Management of defensible space and plant types is essential.
- This fact sheet is one of a series of three.
- Plants rated 10 have the least flammability.
- This fact sheet recommends low-flammability plants for zones 1 and 2.
- Refer to the Colorado State Forest Service's Home Ignition Zone guide for further details on home ignition zones.

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Low-Flammability Plant Characteristics

Recommendations on this list are based on a methodology developed by Idaho Firewise in Boise, Idaho. The methodology rates the flammability of plants based on specific characteristics ranked on a scale of 0-10 with 0 the most flammable and 10 the least flammable. To create the highest degree of protection for structures, the recommendation is to plant only plants with scores of 8, 9 and 10 for zones 1 and 2 within the first 30 feet from the home. These species are the least flammable plants to plant near structures, but keep in mind that there are no truly “fireproof” plant species. Existing vegetation with scores below an 8 (indicating more flammability) is addressed in the Fire-Resistant Landscaping fact sheet (6.303). Plants that have lower flammability and are more resistant to wildfire and plants that have a higher flammability and are less resistant to wildfire have these specific characteristics:

Attributes that decrease flammability

- **Low oil or resin content**
- **High moisture content**
- **Soap, latex or pectin content**
- **Compact growth form**
- **Green stems**
- **Drought tolerant**

Attributes that increase flammability

- **High oil or resin content**
- **Low moisture content**
- **Tall growth**
- **Open form**
- **Fine wood (twiggy) stems**
- **High water need**

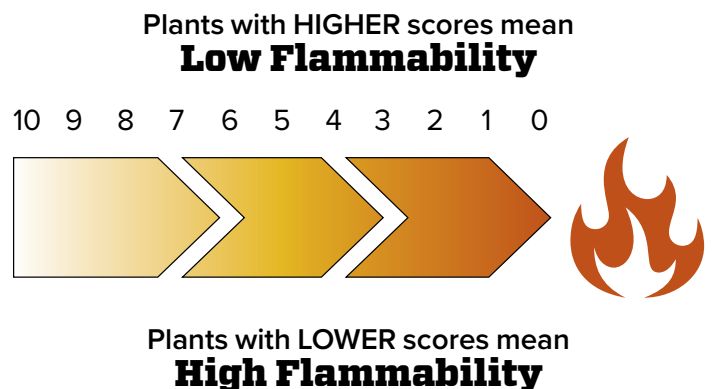
Many plants are highly flammable during different seasons of the year. At such times, left unmanaged, they can accelerate the spread of a wildfire that can harm communities. All vegetation, naturally occurring and otherwise, is potential fuel for fire. Its type, amount and arrangement have a dramatic effect on fire behavior.

There are no “fireproof” plant species. Plant choice, spacing and maintenance are critical to reduce the risk adjacent to the structure.

There are many concepts to consider when choosing low-flammability plants. A plant’s moisture content is the single most important factor governing its volatility. However, resin content and other factors in some species render them flammable even when the plant is well watered. Conifers tend to be flammable due to their oil and pitch content, regardless of their water content. Deciduous plants tend to be more fire resistant because their leaves have higher moisture content and their basic chemistry is less flammable. Also, when deciduous trees are dormant, there is less fuel to carry fire through their canopies.

In some cases, there is a strong correlation between drought tolerance and fire resistance. These plants offer less fuel or have a higher moisture content, both of which help reduce fire hazard. There also appears to be a correlation between a plant’s salt tolerance and natural fire resistance. Plants adapted to salty conditions, and actually growing in salty situations, may better resist burning.

Most of Colorado’s native vegetation is adapted to fire and is flammable. Common flammable plants have flammability scores less than 8. Common flammable trees are junipers, pines, firs and spruces. Common flammable shrubs are Gambel oak, three-leaf sumac and mountain mahogany. Planting of these species is discouraged adjacent to the home in defensible space zones 1 and 2. If they’re already present, consider replacing them with some of the recommended species included in this fact sheet. If you decide to keep a flammable plant in your landscape, keep it pruned and thinned, remove dead material regularly, and keep it at least 30 feet from any structure or other plants. See the Fire-Resistant Landscaping fact sheet (6.303) for more information on these mitigation measures.



Don't Forget Maintenance

A landscape is a dynamic, constantly changing system. Plants considered “fire resistant” and that have low amounts of flammable vegetation can lose these characteristics over time. Your landscape, and the plants in it, must be maintained to retain their low-flammability properties. Maintenance is addressed in further detail in the Fire-Resistant Landscaping fact sheet (6.303).

Supporting Publications from CSU Extension, the Colorado State Forest Service and Idaho Firewise

The following publications are available and are referenced. The CSFS Home Ignition Zone (HIZ) guide describes the concepts of structural ignitability and defensible space. Low-Flammability Landscape Plants (6.305) recommends fire-resistant plants for zones 1 and 2 identified in the defensible space section of the CSFS HIZ guide. Fire-Resistant Landscaping (6.303) recommends design features for zones 1, 2 and 3 and recommends plants with mitigation measure for plants and existing vegetation in zone 3.

The CSFS HIZ guide, Low-Flammability Landscape Plants and Fire-Resistant Landscaping are considered a package that can help with developing actions to reduce wildfire risk and impacts. The Idaho materials provided the basis for the addition of the flammability scoring and approach for this update.

1. CSFS Home Ignition Zone Guide, 2021 (Replaces 6.302, Creating Wildfire-Defensible Zones) <https://bit.ly/COHomeIgnitionZone>
2. 6.303, Fire-Resistant Landscaping (Updated 2023) <https://bit.ly/FireResistantLandscaping>
3. Idaho Firewise, Fire-Resistant Landscapes – Plant Materials <https://idahofirewise.org/firewise-landscapes/firewise-plant-materials/>

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Opuntia (Photo by I. Shonle)



Rocky Mountain Penstemon (Photo by I. Shonle)



Purple Ice Plant (Photo by S. Carter)

KEY

Water Needs	VL = very low	L = low	M = medium	H = high
Sun/Shade	S = sun	PS = part sun	Sh = shade	Prt Sh = part shade

Native, low-water plants**Native, low-water flowers and ground covers**

Scientific Name	Common Name	Approx. Water Needs	Sun/Shade Preference	Approx. Mature Height	Flower Color	Elevation in 1,000' Increments	Approx. Bloom Time	Low Flammability Rating
<i>Achillea lanulosa</i> , <i>now A. millefolium</i>	common yarrow	L-H	S/PS	1.5-2'	white	5-10 K	Jul	9.5
<i>Allium cernuum</i>	nodding onion	L-H	S/PS	1'	pink/purple	5-10 K	Jun	10
<i>Allium geyeri</i>	Geyer's onion	L-H	S/PS	1'	pink	5-10 K	Jun	10
<i>Antennaria parvifolia</i>	small-leaf pussytoes	M	S/PS	<.5'	creamy white	5-10 K	Jun	8
<i>Antennaria rosea</i>	rosy pussytoes	M	S/PS	<.5'	rose	5-10 K	Jun	8
<i>Aquilegia chrysantha</i>	golden columbine	M-H	S/PS	1-2'	yellow	5-10 K	Jun-Aug	8
<i>Asclepias tuberosa</i>	common butterfly weed	L	S	1-2'	orange	5-6 K	Summer	8
<i>Symphyotrichum (f. Aster) laeve</i>	smooth aster	L-H	S/PS	1-3'	blue/ lavender	5-10 K	Aug-Sep	8
<i>Symphyotrichum (f. Aster) porteri</i>	porter aster	L-M	S	1'	white	5-10 K	Aug-Sep	8
<i>Astragalus utahensis</i>	Utah milkvetch	L	S	.5'	pink/purple	5-6 K	Spring	8
<i>Callirhoe involucrata</i>	poppy mallow	L	S	5"	pink/white	5-8 K	Summer	8
<i>Calochortus gunnisonii</i>	Gunnison's mariposa lily	M-H	S	.5-2'	white	5-10 K	Jul-Aug	8
<i>Campanula rotundifolia</i>	harebell; bluebells of Scotland	M-H	S	.5-1'	blue	5-10 K	May-Oct	9.5
<i>Claytonia lanceolata</i>	western spring beauty	M	Sh	.5-1.5'	white	5-10 K	Mar-Apr	9.5
<i>Coreopsis tinctoria</i>	plains coreopsis	L-M	S	2.5-3'	yellow	5-9 K	Summer	8
<i>Erysimum capitatum</i>	western wallflower	M	S/PS	1'+	yellow	5-10 K	Jun-Jul	9
<i>Gaillardia aristata</i>	blanketflower	L-M	S	1-1.5'	yellow-reddish	5-10 K	Jul-Sep	8
<i>Galium boreale</i>	northern bedstraw	M-H	Sh	<1'	white	5-10 K	May-Jun	8
<i>Geranium caespitosum</i>	Rocky Mountain geranium	M	Sh/PS	2'	pink/purple/ white	5-10 K	May-Oct	8
<i>Geum triflorum</i>	prairie smoke	M-H	S/PS	1.5'	reddish pink	5-10 K	Jun	8
<i>Leucocrinum montanum</i>	sand lily	L-M	S	<1'	white	5-8 K	May	10
<i>Linum lewisii</i>	Lewis or blue flax	L	S	2.5'	blue	5-8 K	Late Spring- Early Summer	8
<i>Lupinus argenteus</i>	silvery lupine	M	Sh/PS	1-3'	blue	5-10 K	Jun-Jul	8
<i>Mertensia lanceolata</i>	prairie bluebell	M	Sh/PS	1-2'	blue	5-10 K	May-Jun	10

Scientific Name	Common Name	Approx. Water Needs	Sun/Shade Preference	Approx. Mature Height	Flower Color	Elevation in 1,000' Increments	Approx. Bloom Time	Low Flammability Rating
Native, low-water flowers and ground covers cont.								
<i>Oenothera speciosa</i>	evening primrose	L-M	S	1-1.5'	white-pink	4-7 K	May-Jul	8
<i>Penstemon caespitosus</i>	mat penstemon	L-M	S	<.5'	purple	5-10 K	Jun	8
<i>Penstemon secundiflorus</i>	sidebells penstemon	L-M	S	1-2'	blue/violet/pink	5-9 K	May-Jun	8
<i>Penstemon teucrioides</i>	germander beardtongue	L-M	S	.5'	purple/violet	5-10 K	Jun-Jul	8
<i>Penstemon spp.</i>	penstemon species, cultivars	L-M	S	1-2.5'	blue/purple/violet	5-9 K	Summer	8
<i>Penstemon strictus</i>	Rocky Mountain penstemon	L-M	S	2-2.5'	purple/violet	5-10 K	May-Jul	8
<i>Penstemon virens</i>	Front Range beardtongue	M	S/PS	.5'	blue	5-10 K	May-Jun	8
<i>Sedum lanceolatum</i>	yellow stonecrop	M	S/PS	.5'	yellow	5-10 K	Jul-Aug	10
<i>Thermopsis rhombifolia</i> var. <i>divaricarpa</i>	spreadfruit golden banner	M-H	S/PS	2'	yellow	5-10 K	May	8

Native, low-water shrubs, trees and cacti								
<i>Amelanchier alnifolia</i> v. <i>utahensis</i>	Utah serviceberry	VL-M	S	4-6'	white	5-7 K	May	7.5
<i>Cylindropuntia spp.</i>	Cholla	VL-M	S	3-5'	pink	5-6 K	Jun	8
<i>Opuntia spp.</i>	prickly pear	VL	S	.5-1'	yellow/pink	5-7.5 K	May	10
<i>Philadelphus lewisii</i>	Cheyenne mock orange	M	S	2-3'	white	5-9 K	Jun	8
<i>Populus tremuloides</i>	aspen	M	S	8-25'	catkins	5-10 K	n/a	9
<i>Rhus glabra</i>	smooth sumac	L	S	3-5'	yellow	5-8 K	Apr	8
<i>Rhus trilobata</i> 'Autumn Amber'	Autumn Amber sumac	L	S/PS	1'	yellow	5-7.5 K	Apr	8
<i>Symphoricarpos albus</i>	snowberry	M	S/PS	2-3'	white/pink	5-9 K	n/a	8
<i>Yucca baccata</i>	banana yucca	VL-L	S/PS	2-3'	white	5-6 K	Jun	8
<i>Yucca glauca</i>	soapweed, Great Plains yucca	VL-L	S/PS	2-3'	white	5-7 K	Jun	8

Non-native, low-water plants								
Non-native, low-water flowers and ground covers								
<i>Aegopodium podagraria</i> "Variegatum"	variegated bishop's weed, goutweed	M	S/PS	8"	white	5-8 K	not showy	8
<i>Ajuga reptans</i>	bugleweed	H	Sh	<.5'	blue	5-10 K	Jun-Jul	8
<i>Alchemilla mollis</i>	Lady's mantle	M-H	PS/Sh	1'	yellow	5-9 K	Jun-Jul	8
<i>Arabis spp.</i>	rockcress	L-H	S	<1'	white	5-10 K	May-Jun	8
<i>Armeria maritima</i>	sea thrift	L-H	S/PS	.5'	white	5-10 K	Apr-Jun	8
<i>Aubrieta spp.</i>	false rockcress	M	S	1'	pink/white/purple	5-9 K	Apr-May	8
<i>Aurinia saxatilis</i>	basket of gold	M	S/PS	1'	yellow	5-9 K	Apr-May	8

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Non-native, low-water flowers and ground covers cont.								
<i>Bergenia cordifolia</i>	heartleaf bergenia, pigsqueak	M	PS/Sh	1'	pink/purple	5-9 K	Spring	8
<i>Centranthus ruber</i>	Jupiter's beard	L-H	S/Sh	2-2.5'	red	5-9 K	May-Oct	10
<i>Cerastium alpinum v. lanthanum</i>	alpine mouse-ear	M	S/PS	1'	white	5-10 K	May-Jun	8
<i>Cerastium tomentosum</i>	snow-in-summer	L-M	S/PS	1'	white	5-9 K	May-Jun	8
<i>Ceratostigma plumbaginoides</i>	plumbago	L	S/Sh	.5'	blue	5-6 K	Fall	8
<i>Convallaria majalis</i>	Lily-of-the-valley	H	Sh	<1'	white	5-9 K	May-Jun	8
<i>Coreopsis spp.</i>	tickseed, coreopsis	M	S	1.5-2'	yellow	5-8 K	Summer	8
<i>Delosperma nubigenum</i>	hardy yellow ice plant	M-H	S	.5'	chartruese-yellow	5-8 K	Jun	10
<i>Delosperma spp.</i>	ice plant	L	S	1.5-2'	yellow	varies	Spring	10
<i>Dianthus spp.</i>	pink	L-H	S	<.5'-2'	pink	5-10 K	May-Aug	9
<i>Diascia integerrima 'Coral Canyon'</i>	Coral Canyon twinspace	M	S/Prt Sh	1-1.5'	rose-pink	4-7 K	Summer	9
<i>Doronicum spp.</i>	Leopard's bane	H	S/PS	2-3'	yellow	5-9 K	Jul-Aug	10
<i>Echeveria spp.</i>	hens-n-chicks	L	S/Prt Sh	1-2'	varies	5-9 K	Summer	8
<i>Ephedra regeliana</i>	Regel's jointfir	L	S	6-12"	yellow	5-12 K	Spring	8
<i>Erysimum linifolium</i>	wallflower	L	S	1-3'	varies	4.5-12 K	Spring-Summer	9
<i>Euonymus fortunei</i>	winter creeper	M	S/Prt Sh	3'	green-white	4.5-8 K	Spring	8
<i>Euphorbia polychroma</i>	cushion spurge	L	S	12-18'	yellow	5-8 K	Spring	10
<i>Euphorbia x martini 'Mini Martini'</i>	Martini's spurge	L-H	S	1.5-2'	chartruese	4-6 K	Late Spring	10
<i>Fragariaspp.</i>	wild strawberries	M	S/Prt Sh	.25-.75"	white	5-11 K	Summer	9
<i>Geranium spp.</i>	hardy geraniums	M	Sh/PS	2'	blue/pink/purple/white	5-10 K	May-Oct	8
<i>Helianthemum nummularium</i>	rockrose, sunrose	M-H	S	<1'	pink	5-8 K	May-Jun	8
<i>Hemerocallis sp.</i>	daylilies	L-M	S/PS	1-3'	yellow/red/orange	5-7.5 K	Summer	10
<i>Iberis sempervirens 'Little Gem'</i>	Little Gem evergreen	M	S	.5-1'	white	4.5-9 K	Spring	8
<i>Iris germanica</i>	bearded iris	L-M	S	1-3'	numerous colors	5-10 K	May-Jun	8
<i>Kniphofia uvaria</i>	red hot poker	L	S	3'	red/yellow	5-6 K	Summer	8
<i>Lamium spp.</i>	spotted deadnettle	M-H	Sh	<1'	white/purple/pink	5-10 K	May-Jun	8
<i>Lilium spp.</i>	lilies	M	S/Prt Sh	1-8'	varies	4-6.5 K	Summer	10
<i>Lupinus spp.</i>	lupine	L-M	S/PS	2-3'	lavender blue	5-10 K	Summer	8
<i>Marrubium rotundifolium</i>	silver-edged horehound	VL-L	S	1.5-2.5'	white	5-6 K	Early Summer	8

Scientific Name	Common Name	Approx. Water Needs	Sun/Shade Preference	Approx. Mature Height	Flower Color	Elevation in 1,000' Increments	Approx. Bloom Time	Low Flammability Rating
Non-native, low-water flowers and ground covers cont.								
<i>Muscari armeniacum</i>	grape hyacinth	M	S/PS	6-9"	blue	4.5-10 K	Spring	10
<i>Nierembergia gracilis</i> 'Starry Eyes'	Starry Eyes' cupflower	M	S	10"	purple (lt. lav.)	4.5-5.5 K	Summer/ Late Summer	8
<i>Nierembergia repens</i>	creeping white cup	M-H	S/PS	2-4"	white	4.5-5.5 K	July-Sep	8
<i>Oenothera berlandieri</i>	Berlander's sundrop	L-M	S	1'	yellow	4.5-6.5 K	Early Summer-Fall	8
<i>Pachysandra terminalis</i> 'Green Sheen'	Green Sheen pachysandra	M-H	Sh	6-8"	white	4-8 K	April-May	8
<i>Papaver orientale</i>	Oriental poppy	H	S/Sh	2-3'	orange/ pink/red	5-10 K	May-Jun	9
<i>Polemonium spp.</i>	Jacobs ladder	H	S/PS	1-2'	blue/white	5-10 K	May-Aug	8
<i>Polygonatum commutatum</i>	great Solomon's seal	M-H	PS/Sh	2'	white	4-10 K	May-Jun	8
<i>Salvia officinalis</i>	common or garden sage	L-M	S/PS	2'	blue- lavender/ pink/ lavender	5-8 K	Jun	7.5
<i>Saxifraga hirsuta</i>	saxifrage	H	S/PS	.5'+	white	5-10 K	May-Jun	8
<i>Scutellaria alpina</i> 'Moonbeam'	alpine skullcap	M	S/PS	.5-1'	white/ purple	4-8 K	May	8
<i>Sedum spp.</i>	stonecrop	M	S/PS	1-1.5'	yellow	5-10 K	Jul-Aug	10
<i>Sempervivum spp.</i>	hens and chicks, houseleeks	L-M	S/PS	.5'	pink	5-10 K	n/a	10
<i>Solidago sphacelata</i> 'Golden Fleece'	Golden Fleece goldenrod	VL-M	S	1-1.5'	yellow	4-8 K	Aug-Sep	8
<i>Thymus serpyllum</i> 'Minus'	Elfin thyme	L	S	1-3"	pink	4-10 K	Early-Late Summer	8
<i>Trifolium spp.</i>	clover	M	S/PS	1-2'	white/ purple/pink	varies/spp.	varies: May-Oct	8
<i>Veronica pectinata</i>	woolly creeping speedwall	L-M	S	<.5'	blue	5-9 K	Apr-Jul	8
<i>Vinca minor</i>	common periwinkle	H	Sh	<1'	white	5-10 K	Apr-Jun	8
<i>Waldsteinia spp.</i>	Barren strawberry	M-H	Sh/PS	<1'	yellow	5-9 K	May-Jun	8

Non-native, low-water trees and shrubs								
<i>Berberis thunbergii</i> 'Atropurpurea Nana'	crimson pygmy Japanese barberry	M	S	2-3'	yellow	5-7.5 K	Spring	8
<i>Ceanothus americanus</i>	New Jersey tea' ceanothus	M	S/PS	2-3'	white	5-7.5 K	Summer	8
<i>Lonicera tatarica</i>	Tatarian honeysuckle	M	S/PS	4-6'	white/pink	5-10 K	May-Jun	8
<i>Malus spp.</i>	crabapple	M	S	10-15'	pink/white	5-9 K	Apr-May	8
<i>Yucca filamentosa</i>	Adam's needle	M	S/PS	2-3'	white	5-8 K	Jun	8

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Turf grasses								
<i>Bouteloua dactyloides</i>	buffalograss	L	S	mow to 2"	n/a	5-6.5 K	n/a	9
<i>Bouteloua gracilis</i>	blue grama	L	S	mow to 2"	n/a	4.5-7.5 K	n/a	9
<i>Festuca ovina</i>	sheep fescue	M	S	mow to 2"	n/a	5-9 K	n/a	9
<i>Lolium perenne</i>	perennial ryegrass	M	S	mow to 2"	n/a	5-8 K	n/a	10
<i>Poa compressa</i>	Canada bluegrass	M	S	mow to 2"	n/a	5-8 K	n/a	9
<i>Poa pratensis</i>	Kentucky bluegrass	M	S	mow to 2"	n/a	5-9 K	n/a	10

Low-flammability plants with higher water needs								
<i>Aconitum columbianum</i>	Columbian monkshood	M-H	S	2'	blue/purple	5-10 K	Jun-Jul	7.5
<i>Aconitum spp.</i>	monkshood	M-H	S	2'	blue/purple	5-10 K	Jun-Jul	7.5
<i>Aquilegia caerulea</i>	Colorado blue columbine	M-H	S/PS	1-2'	blue-lav./white	5-10 K	Jun-Jul	8
<i>Aquilegia spp.</i>	columbine	M-H	S/PS	1-2'	varies	5-10 K	Jun-Jul	8
<i>Corylus cornuta</i>	beaked hazelnut	H	S/Sh	5-6'	yellow-brown	5-7.5 K	inconspicuous	8
<i>Hosta spp.</i>	hosta	M-H	PS	2-3'	varies	varies	Summer-Fall	8
<i>Iris missouriensis</i>	Missouri or native iris	M-H	S	1-2'	violet blue	5-10 K	May	9.5



Blue Grama Grass © Larry Allain. USGS NWRC @ USDA-NRCS PLANTS Database



Geranium and Rocky Mountain Columbine (Photo by I. Shonle)



Wallflowers and Blue Mist Penstemons (Photo by I. Shonle)



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