



WILDFIRE HAZARD ASSESSMENT REPORT - REVISED

TO: Nathan Elliott, OJB
FROM: Sean S Donohue, PE - Peregrine Fire
Robert Harvey - Rubicon Wildfire Solutions
SUBJECT: High Note Regional Park - Phase 1
DATE: February 18, 2026

I. INTRODUCTION

Peregrine Fire has been retained to provide a wildfire risk assessment report for the High Note Regional Park, currently in design. Sean Donohue is a registered fire protection engineer with 30 years' experience in the application of building and fire codes in Colorado. Peregrine Fire retained the services of Rubicon Wildfire Solutions to complement the need to evaluate the wildfire risks and produce this report. Robert Harvey is a retired fire chief with 50 years' experience and a Certified Wildfire Mitigation Specialist (#1190244-CWMS).

This report addresses the requirements of Ordinance of the City of Line Tree No. 23-06 which amends Municipal Code Section 16-27-80 (20) and requires a Wildfire Risk Assessment and a Wildfire Mitigation Plan for new developments.

This report has been revised from an initial draft issued May 22, 2025 to reflect all non-combustible structures and to focus the Phase 1 submittal incorporating the structures listed below. All buildings are single story, non-sprinkler protected, Type V-B Construction, with non-combustible construction on all exterior surfaces and no building larger than 5,000 SF.

Phase 1 Buildings

- ┌ North Restroom
- ┌ Bark Bar
- ┌ Community Swings
- ┌ Water Pump Enclosure
- ┌ Trash Enclosure

For the first 4 buildings above, we recommend following the guidance provided in Section VII of this report. For the Trash enclosure, maintain clearance as directed within the first 5 ft, but plant as desired thereafter. The Trash Enclosure is open to air, easily accessed and non-occupied.

II. PROJECT DESCRIPTION

The High Note Regional Park is an 80-acre park site located at the intersection of RidgeGate Parkway and South Peoria Street in Lone Tree, CO. The proposed park is located on the former Schweiger Ranch property and is being developed for the City as a multi-use regional park facility that includes athletic fields, event venue in the form of an open-air amphitheater, restrooms, food service facilities and a property maintenance structure.

On May 12, 2025, a survey of the site was conducted to develop a wildfire fuels inventory of existing conditions and to ascertain if there were fuel profile dynamics that would develop a significant fire threat that would be difficult for fire suppression operations. This project is unique in that there has been significant grading, excavating and storage of soil in different areas within the project that has significantly changed the natural vegetation within the development area. This is a positive impact of development as some problematic species of vegetation have already been removed, allowing the design of the park to move forward and plant less invasive fire species.

The observations expressed herein may change as the development of the park will require significant movements of soils that are considered in storage, and which will be moved to facilitate building the Amphitheater and the Challenge Hill incline.

III. FUELS

Existing observed fuels on the site were primarily grasses three to eight inches tall, sparse in density with low continuity to carry fire. Overall, the grasses would not have the connectivity to achieve a National Fire Danger Rating (NFDR) Fuel Model A in fire development and carry over a significant amount of surface. Along the creek on the west side of the development Cottonwood trees exist that have been unmanaged to create a significant amount of ground litter that would create a slow-moving fire with little flame. Along the same creek exists a band of Gambel Oak (*Quercus gambelii*) of approximately 20 yards in depth that averages 2' to 4' in height indicating that the grazing of cattle in this area on young stalks reduced the growth and proliferation of this brush class species.

IV. TOPOGRAPHY

The existing topography of the area indicates an overall 2% slope, rising from South to North, an insignificant wildfire input where wildfires are typically impacted in spread by slopes of 10% or greater. The Aspect of the area is generally indicated to be the North Aspect of the primary drainage, but with the lack of canopy cover (tree crowns) to create shading of ground fuels any fire that would ignite would more closely represent a fire on the South Aspect, if significant fuel continuity existed, which it does not. No chimneys, saddles or narrow canyons are within the project that would influence wildfire behavior by concentrating upslope/up canyon wind flows that would intensify a wildfire in the development site.

V. WEATHER

Winds are the primary factor of concern with their impacts on wildfire, the primary local winds in this area are typically from the North to Northwest and would create a concern if the natural fuels had a greater connectivity/continuity than what is currently present (keeping in mind that the planning for the park indicates planting of lawns that will be irrigated which significantly reduces fire carry through any fire input factors. Within approximately 0.75 miles exists a significant fuel bed of Gambel Oak which is an ember producing fuel, yet this poses little risk with the local and Fohen winds (Chinooks) that do have an impact on this region.

VI. FIRE BEHAVIOR

With all factors considered, fire suppression in the wildland fuels indicates a high rating of success for rapid suppression utilizing the mobility of Type VI Engines in a mobile attack strategy. Flame lengths in the low-density fuel should not exceed 4" with very low carry potential, direct attack on the fire perimeter is indicated and fire originating on this site would not indicate structure protection resources for the adjoining structures (but is a good visual for the residents). Even at 2 ft to 4 ft high, a fire that originates in the Gamble Oak will produce momentary torching flame lengths which may cause concern for spectators but will be easily suppressed and the small amount of brush will not carry to the crowns or canopy of the Cottonwood trees. The ground litter fuels along the creek relative to the Cottonwood trees represents a more significant on-scene commitment to response forces for mop up operations than any other factor of fire on this site.

VII. RECOMMENDATIONS

The following discussion may be considered a precursor to a forthcoming Wildfire Mitigation Plan, which will be formalized once the development has been approved. The following recommendations address proximity of vegetation to proposed structures, exterior construction options and automatic fire suppression. The following resources have been consulted in the development of these recommendations:

- }] 2021 International Building Code (IBC)
- }] 2021 International Fire Code (IFC)
- }] 2021 International Wildland-Urban Interface Code (IWUIC)
- }] South Metro Fire Rescue Authority - Wildland Urban Interface: Community Wildfire Protection Plan, 2009.
- }] The Home Ignition Zone Guide, Colorado State Forest Service

Vegetation

Certain species that exist in the region may not be necessarily native and create a significant fire risk such as Sage Brush. The plantings of the following trees and shrubs should be avoided to mitigate any fire-resistant landscaping efforts:

1. Juniper trees and shrubs in any configuration.
2. Pfitzers - Contain a high percentage of decadent material creating fire receptors.
3. Pinon Pine - High fire volatility due to oils and resins.
4. Mugho Pines - Highly susceptible to careless discard of cigarettes and fireworks.
5. Gamble Oak - Readily ignited, thin membrane leaf that carries fire easily.

The zero to 5 ft zone around all structures is critical to limiting extension of grassfires into and around buildings. Beyond this, denser and taller vegetation may be permitted depending on the hardening of structures and resistance to airborne embers. The current proposed construction documents indicate entirely non-combustible exterior construction. We therefore offer the following constraints to planting near structures:

1. Within a 5 ft perimeter of either the exterior face or roof line of each building, whichever is greater, maintain walkways and non-combustible surfaces with zero vegetation.
2. From 5 ft to 10 ft from each building, maintain vegetation no higher than 16 inches with shrubs or plants other than those listed above.

3. Beyond 10 ft from each building, shrubs and trees of species other than those listed above may be planted as follows:
 - Plant deciduous plants such that a mature trunk will be fully beyond the 10 ft boundary.
 - When planting trees such as Vanderwolf's Pyramid Limber Pine, Bosnian Pine, or Ponderosa Pine within 20 ft of structures, plant with a minimum trunk separation of 12 ft and maintain bottom branches (as the tree matures) to no closer than 30 inches to ground. It is anticipated that these under canopy spaces will be irrigated and maintained such that overgrowth will be mitigated as vegetation matures.
 - Beyond 20 ft of structures, plant as desired.

Automatic Fire Suppression

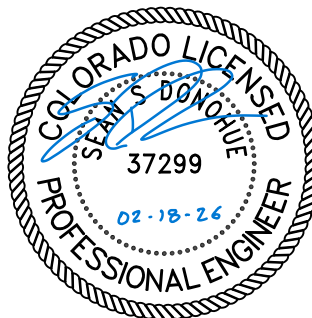
Based on a review of the hazards, no buildings will require automatic sprinkler protection based solely on wildfire conditions. Any sprinkler requirements will be IBC driven. At current design, the stage is the only structure which may require sprinkler protection.

VIII. CONCLUSIONS

This Wildfire Hazard Assessment Report has been prepared to address the fuels, topography, weather, and fire behavior of the proposed park development. Recommendations have been prepared to address proposed construction of park buildings.

A Wildfire Mitigation Plan will be submitted subsequent to the completion of building approval.

- END OF REPORT -



HIGH NOTE REGIONAL PARK

CITY OF LONETREE, CO

WILDFIRE MITIGATION PLAN

PREPARED BY

Robert Harvey

NFPA CWMS #1190244-CWMS

April 3, 2026

The development of High Note Regional Park provides great opportunities for not only community recreation but also an educational opportunity about the interaction of the high plains grass and shrub lands that dominated this region before settlement and eventual population growth. In essence the landscape planning team and the Architecture team expressed desires to bring attention to the natural landscape of the park and to utilize more native species of plantings that have disappeared due to grazing and development. The Fire Protection Engineer and the CWMS (R. Harvey) worked in unison in a team effort with the client group to develop a representative Colorado High Plains experience while keeping the wildfire threat to the facility and surrounding property to a minimum and manageable level.

Fire Compartmentalization

The concept that a wildfire, should it become engaged with this size and classification of property, compartmentalization is critical in limiting fire spread resulting in higher levels of damage to the property. If areas can be divided by bare surfaces such as parking lots and walkways as well as transitional wildland fuels that are mowed to specific heights and are regularly irrigated this creates a smaller burning area should fire intrude on the land rather than an open field of native grasses, shrubs and trees.

Plans Review: After reviewing the engineering plans in combination with the planting schedule, the High Note Regional Park property is well compartmentalized in the use of walkways, parking lots, irrigated athletic fields and hardened surface patron use areas. This is a very positive concept in as far as fire suppression and wildfire spread is significantly reduced, even during high wind events where fire is more rapidly spread in this ground fuel classification.

Vegetation Management/Fuels Arrangement

The decisions made during the final plantings of those scheduled and selected plantings in the proper arrangement to prevent fire spread at elevated levels and to reduce proximity spread of fire to neighboring plants must be carried out with clear focus to consider plant impacts at a mature growth point and how plant maturity impacts any fire that may occur within the property and the immediate structures as well as other plantings. A well planned and developed property in any classification can be compromised to fire conditions if due consideration for plant/tree separation is not considered through the life of the facility.

Planting Schedule Review: A review of the desired planting schedule or plan was conducted in conjunction with the FPE, CWMS and the Landscape Design Team. With an understanding of the desires of the environment that was desired by the client's team, the following specific fire mitigation concepts were developed for this property:

1. The use of Junipers or Cedars should not be used on the property due to their high level of decadent material and ease of ignition.
2. All mulched areas should be irrigated to avoid creating dry ground fuels.
3. Pine tree canopies should be separated by a minimum distance of 12', measured from center to center of trunk, to provide crown separation and enhanced growth of the pine species.
4. Permissible species of pine trees including Vanderwolf's Pyramid Limber, Bosnian, and Ponderosa with a trunk located closer than 20' to buildings should have bottom branches trimmed to no closer than 30" to the ground as the trees mature. The canopy spaces under each tree should be maintained to mitigate overgrowth and be irrigated.
5. Any turf grasses should be maintained to a height not exceeding 4" and be irrigated.
6. Individual clumps of grasses that will grow to a height of 16" to 24" should not be planted under any pine trees or pine shrubs that can exceed the height of the grass.
7. Deciduous tree trunks should not be planted closer than 10' to any structure and limbs growing toward the structures should be maintained no closer than 4' to the structure eaves and roof. Limbs should be maintained to not project over the roof.
8. No plantings including potted shrubs should be within the Immediate Zone (0' to 5') of any structure, this is critical to prevent any flame involvement of any structure component or structure contents.

9. Gamble Oak along the creek on the north perimeter of the park should be thinned to create islands of shrubs no taller than 4' and approximately 15' diameter islands. Gamble Oak was not native to this region prior to western expansion and the introduction of cattle into the region. As a former cattle ranch, the High Note Regional Park area Gamble Oak was controlled in density and height by cattle grazing. A plan for the eventual eradication of the Gamble Oak is suggested, utilization of brush consuming Goats which have proven very effective in mitigating this shrub on the Front Range is highly effective and cost efficient.

Structure Hardening and Resilience

Review of the structure plans with the FPE indicate a utilization of non-combustible exposed components and surfaces. Very little needs to be considered as long as this trend is continued. The highest probability of fire occurrence in this style of structure is not wildfire, rather it traditionally occurs amidst contents that are combustible within and against the structure such as waste receptacles and accumulations of combustible waste and materials, tumbleweeds traveling long distances are a particular problem for ignition if allowed to accumulate.

One structure component that should have particular focus is venting, the use of the standard 1/4" screen or mesh is not adequate to [prevent any ember intrusion, the use of 1/8" mesh will keep embers from any sources from entering any space including equipment, storage and maintenance compartments that require ventilation. In the use of appropriate size mesh the urban fuels (fences, benches, decks) that may become involved in a nearby structure fire are not deemed a threat to the structure or contents.

Structure to structure fire caused by proximity as the fire transitions from wildfire to Wildland Urban Interface fire is not a consideration as the Safe Structure Distance of 30' is exceeded by the position of minimal amounts of structures within this project.

Please contact me with any further questions or concerns.

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