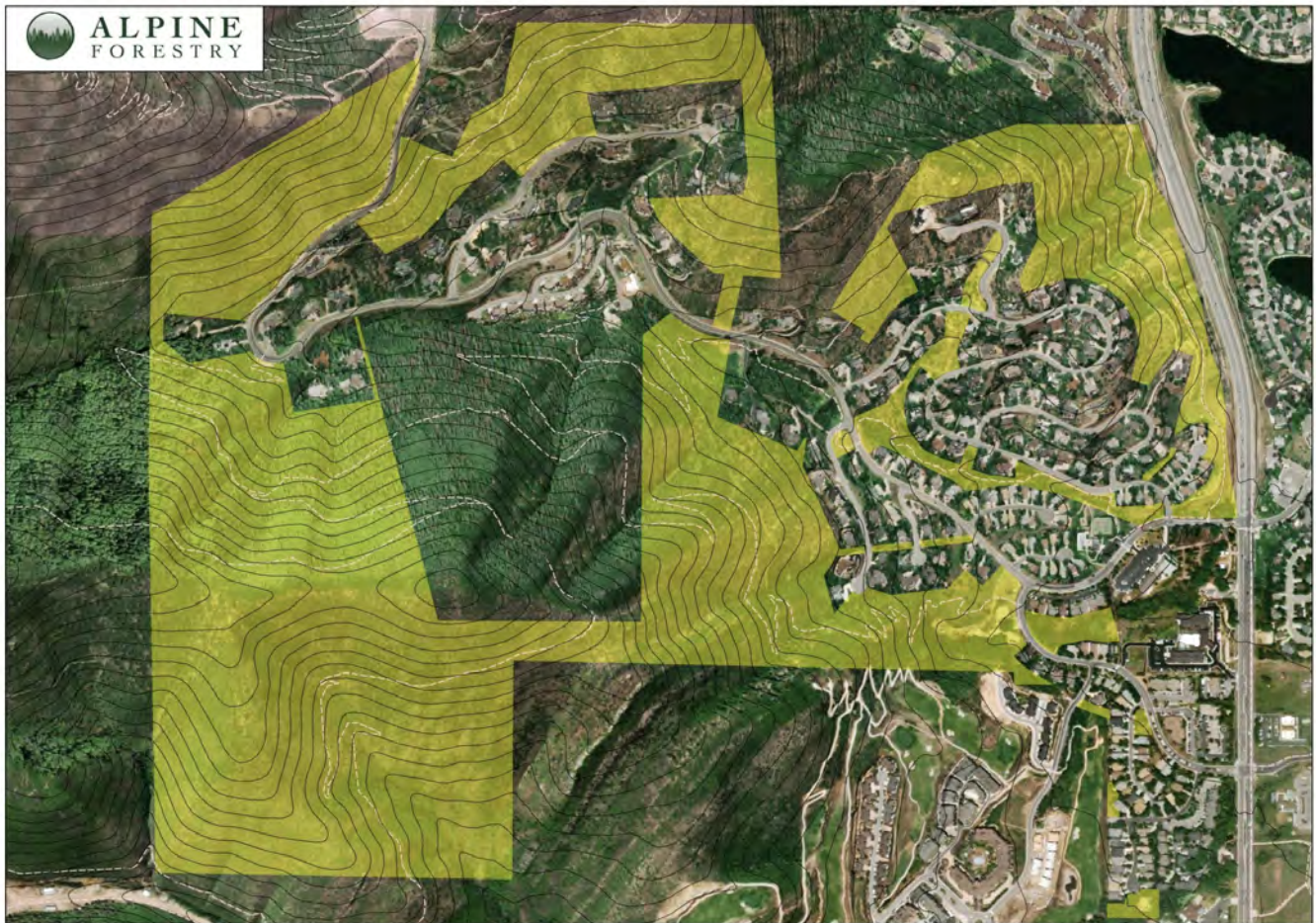




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Phase Two - Wildfire Risk and Hazardous Fuels Assessment for Sun Peak Homeowners Association



Prepared By:

Alpine Forestry LLC

Matt Castellon, David Telian, Robby Young

September 2021

OBJECTIVE

- Provide a comprehensive Wildfire Risk and Hazardous Fuels Assessment on 156 acres of Sun Peak HOA owned open space not evaluated in the initial 2021 assessment.
- Identify high risk areas for defensible space and fuel reduction implementation.

PROJECT OVERVIEW

156 additional acres were assessed for wildfire risk and hazardous fuels to complement the phase one assessment completed in July 2021. The same systematic approach was utilized for both assessments. Aerial imagery was gathered using an Unmanned Aerial System (drone), to serve as a baseline for mapping and monitoring of forest health and fuels reduction projects. Photo plots were taken at various locations throughout the property to show representative vegetation types and fuel loading. Wildfire threat and surface fuel model runs were conducted using the Utah Wildfire Risk Assessment Portal (UWRAP) and the Interagency Fuels Treatment Decision Support System (IFTDSS). Finally, an extensive on-the-ground assessment evaluated vegetation types, fuel loading, stand density, slope, aspect, elevation, and predominant weather patterns as they relate to wildfire threat, values at risk, and overall forest health throughout the property.

While the phase one assessment focused on open space areas lower down in the community near homes, roads, and infrastructure, the phase two assessment evaluated the higher reaches of Sun Peak open space furthest from development. Fire behavior and severity potential, values at risk, and emergency response were the main risk factors considered in both assessments. A detailed narrative of the process and description of risk factors were included in the initial report, and can be used as reference along with this assessment.

PARCEL ASSESSMENTS

One parcel remained to be evaluated to gain a full understanding of the risk and complexities facing the Sun Peak community.

- PP-73-3 (208.7 acres)

Parcel PP-73-3

This is the large 208.7 acre parcel south of Bear Hollow Dr which surrounds The Enclave HOA open space, Cedar Draw Estates, borders Utah Olympic Park lands to the north, Talisker Corporation land to the west and south, with Canyons Resort and Summit County land along the southern border. 156 acres were assessed on PP-73-3 to complement the 52.7 acres evaluated in the initial assessment. This parcel is broken up into three distinct areas from north to south characterized by their vegetation types and location. The main terrain feature is the predominant ridgeline that dominates Sun Peaks open space, running east / west and reaching an elevation of 7,702 feet.



The assessment began at the end of Bear Hollow Dr where the parcel adjoins the Utah Olympic Park. This 27.7 acre area, identified as (PP-73-3 north) and pictured below, is dominated by heavy fuel loading of Gambel Oak, Mahogany, and a small aspen clump, with sage and grass interspersed. With an average slope angle of 50% and a predominantly southeast aspect, a fire starting off of Bear Hollow Dr or a wind driven fire coming from neighboring lands could produce moderate to high rates of spread under extreme fire weather conditions. There are two homes on the west side of Bear Hollow Dr (Cedar Draw Estates lots 26 and 27) adjacent to Rob's trailhead, that are at an elevated risk from a wildfire due to their proximity to the open space and abundant fuel loading. However, due to their location, under normal fire conditions, they would be more likely to receive a flanking or backing fire with a more moderate rate of spread as it works its way laterally and down slope. A concentrated defensible space fuel reduction effort should be considered in this area to help mitigate the risk to these homes.



Due to its location adjacent to Bear Hollow Dr, emergency response to a fire in this area should be rapid, with fire apparatus being generally sufficient to prevent a fire from moving downslope and crossing over Bear Hollow Dr to threaten the homes there. In the event of a large-scale wildfire, soil destabilization and mudslides should be anticipated in this area from subsequent rains, which could impact Bear Hollow Dr and surrounding homes.

The PP-73-3 assessment continued south of Rob's trailhead on the 36 acre, north aspect, between the intersection of Rob's and Collin's trails and the ridgeline. This area (PP-73-3 Rob's) shown below, is dominated by aspen, isolated patches of conifer, and a swath of hardwood shrub bisecting the area from north to south.



The aspen stands present the full spectrum of age classes with varying degrees of health. Overall, the aspen are being encroached upon and choked out by conifer resulting in stand decline and an increased risk for moderate to high intensity wildfire. The widespread presence of conifer, dead and down aspen, and thick brush understory, can allow a wildfire to spread more easily through what was once a fire resistant aspen stand. While the only infrastructure in this zone are recreational hiking and biking trails, the current condition of the fuels would be conducive for a wind driven fire to rapidly advance towards Cedar Draw Estates and Bear Hollow Dr. Otherwise, a flanking or backing fire is anticipated with low to moderate rates of spread. In this scenario, torching and subsequent spot fires would be the main concern for fire spread towards the community.

Wildfire response access is limited with Rob's trail switching back through the area and off trail hiking proving very challenging, with the immense amount of dead and down material and accumulation of ground fuels. This area represents important wildlife habitat, viewshed, and watershed concerns if a large-scale wildfire moved through. A selective thinning effort between the ridgeline and Rob's trailhead would significantly improve stand health and reduce the risk of a catastrophic fire in this area.



The third portion assessed, identified as (PP-73-3 south), constitutes the roughly 92 acre, arid, generally south aspect terrain that runs from the ridgeline south, down to Willow Draw and the Canyons golf course and ski resort.



The fuels here are characterized by thick Gambel Oak and mature Mahogany overstory intermixed with sagebrush and grass. Very isolated pockets of douglas fir, white fir, and aspen are found in the small drainage running northwest to southeast through the zone.



Likely wildfire ignition sources were identified in Willow Draw from heavy construction traffic and the numerous infrastructure and utility sites associated with the Park City Mountain Resort and golf course, in addition to recreation activities. A fire start at the bottom of the slope could rapidly spread uphill towards the ridgeline, where it would have the opportunity to cross over and become established on the north aspect, further threatening Sun Peak homes and infrastructure. A shaded fuel break along the ridgeline would provide a significant opportunity to reduce fire intensity and help prevent its spread into the main Sun Peak open space. Emergency response access is limited to the Rosebud trail from Willow Draw or Rob's trailheads and cross country hiking through rough terrain.

TREATMENT RECOMMENDATIONS

1. Ridgeline Fuel Break (15.8 acres)

Objective

Establish a “community protection” shaded fuel break along the Sun Peak ridgeline to reduce the risk of a fire spreading from the south and getting established on the north side of the ridgeline where it could threaten Sun Peak homes and infrastructure.

Scope

Implement a 150’ shaded fuel break along the ridgeline. Selectively thin conifers and aspens, thin and clump gambel oak and maple, reduce brush by 50%, remove ladder fuels, and reduce accumulated dead and down material. Implementation strategies could include cut / pile, and pile burning. Connect the Canyons Golf Course property (tee box hole #10) to the east and Tallisker property line on the west side.

Approximately 7.2 acres of the proposed 15.8 acre treatment lie on Sun Peak open space. As such, the fuel break would require coordination with neighboring landowners including; Talisker Corporation (4.5 acres), The Enclave HOA (3.3 acres), Canyons Golf Course (.3 acres).

2. Western Fuel Break (.75 acres)

Objective

Construct a “defensible space” shaded fuel break to create a buffer between HOA open space and private property.

Scope

Implement a 100’ shaded fuel break between private structures and Sun Peak open space. Thin and clump gambel oak and mahogany, reduce brush by 50%, remove ladder fuels, selectively thin aspens, and reduce accumulated dead and down material. Begin on Bear Hollow Dr along the property line with Cedar Draw Estates lot 26 and work west and south around the structure. Implementation strategies could include lop / scatter, cut / chip, cut / pile, and pile burning.

3. Aspen Restoration

Objective

Restore the health and overall fire resiliency of the aspen stands between Rob's trailhead and the ridgeline.

Scope

Selectively thin conifer regeneration, remove dead standing, reduce brush and accumulated dead and downed material, remove ladder fuels. Implementation strategies could include lop / scatter, cut / pile, and pile burning.

PARTNERSHIPS AND COLLABORATION

Establishing and developing open communication and working relationships with landowners adjacent to Sun Peak is critical to the overall success of a wildfire mitigation campaign. Since wildfires don't recognize property boundaries, collaboration is necessary to help ensure the most effective and viable use of resources to achieve the desired end state. Preliminary discussions have occurred with Utah Olympic Park and The Enclave at Sun Canyon HOA representatives, and should continue with others as plans are further developed and projects implemented. The list below provides information about neighboring parcels and contact information for each.

UTAH OLYMPIC PARK - UTAH ATHLETIC FOUNDATION

Parcel numbers: PP-63-A (254.4 acres), PP-65-A (124.94 acres)
3419 Olympic Parkway, Park City, UT 84098
Jamie Kimball - General Manager (435) 658-4226, jkimball@uolf.org

TCFC HOLDINGS

Parcel numbers: PP-73 (56.16 acres), PP-65 (360 acres), PP-72 (640 acres), PP-73-A (75.94 acres), PP-75-H-6 (2.5 acres)
1840 Sun Peak Dr Park City, UT 84098
(435) 200-8400

ENCLAVE AT SUN CANYON HOMEOWNERS ASSOCIATION

Parcel numbers: ECDS-A-AM (63.12 acres)
1794 Olympic Parkway STE 200, Park City, UT 84098

Greg Douglass - HOA Board Member (972) 333-3324, gregkdouglass@yahoo.com

CANYONS RESORT VILLAGE ASSOCIATION INC

Parcel numbers: WWDDAM-WWD7 (7.25 acres)
1790 Sun Peak Dr #B-104 Park City, UT 84098
(435) 655-2580

CANYONS GOLF CLUB LLC

Parcel numbers: WWDDAM-WWD1 (10.67 acres), FRSTW-A-1AM (30.98 acres)
4000 Canyons Resort Dr Park City, UT 84098
(435) 649-8111

SUMMIT COUNTY

Parcel numbers: PP-75-H-X (.92 acres), PP-75-A-3-X (3.82 acres)
PO Box 128 Coalville, UT, 84017 (435) 336-3124

PROJECT SUMMARY

This report, combined with the phase one assessment, is intended to set the foundation for the long term management of Sun Peak open space. The recommendations provided herein were designed after careful analysis of the many factors affecting Sun Peak pertaining to wildfire risk, hazardous fuels, and overall forest health. Since the scope of this project was to determine five priority treatments, this is by no means a complete list of all the fuels reduction work that could be accomplished on Sun Peak open space. This is, however, a solid starting point from which to focus your efforts on wildfire risk mitigation. Wildfire risk and forest management are complex, dynamic issues, which require detailed planning and monitoring to ensure the best outcome for the community and its natural resources. The condition of the fuels and forest health should be continually assessed over time to ensure that the recommendations and priorities remain relevant.

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ALPINE FORESTRY

(435) 400-4154
2665 Iroquois Loop
Wanship, UT 84017

alpineforestryutah@gmail.com
www.alpineforestryutah.com

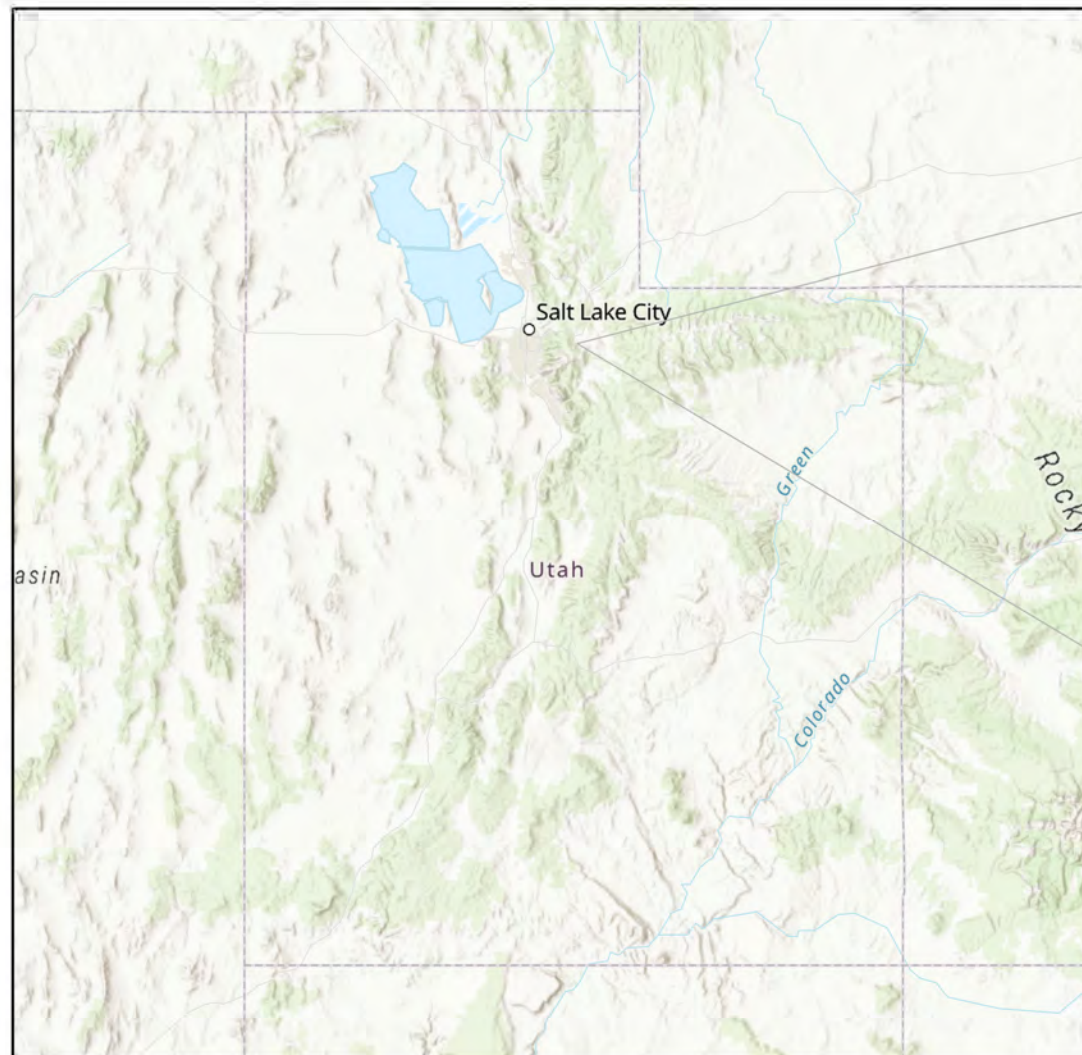


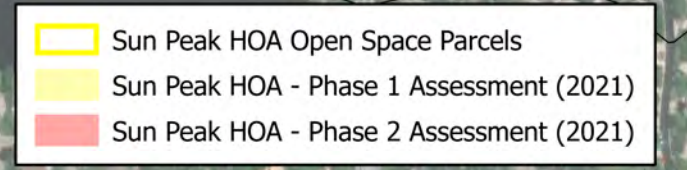
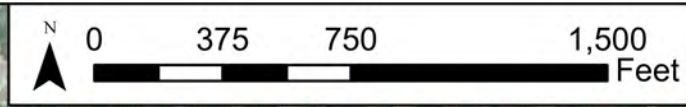
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2021 Sun Peak HOA Wildfire Risk and Hazardous Fuels Assessment Phase 2

Summit County, UT
September 2021

Appendix A - Wildfire Risk and Hazardous Fuels Assessment Maps



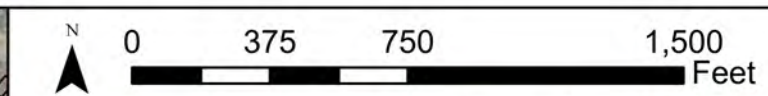


PP-73-3 (NORTH)
27.7 acres

PP-73-3 (ROB'S)
36.0 acres

PP-73-3 (SOUTH)
92.13 acres

Project Sun Peak Wildfire Risk and Hazardous Fuels Assessment		
Title Community Overview		
Map Author Robby Young	Evaluator Matthew Castellon	
Projection EPSG:32612	Project ID 2021 Sun Peak HOA	
Imagery Date / Time May-June 2021	Appendix # A	Exhibit 01
Parcel Boundary Source: Summit County GIS - Approximate representation to be used for map reference only		



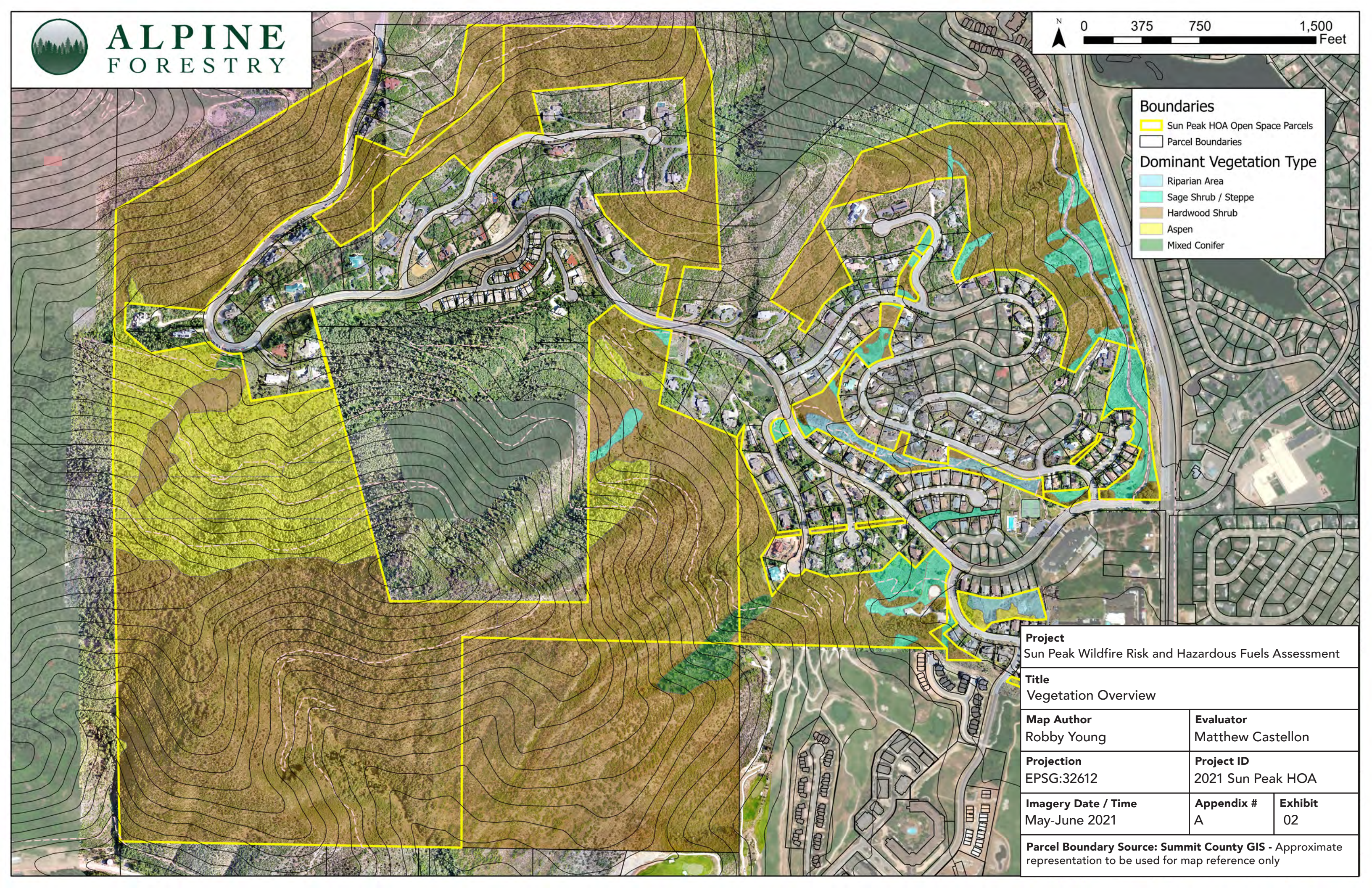
Boundaries

- Sun Peak HOA Open Space Parcels
- Parcel Boundaries

Dominant Vegetation Type

- Riparian Area
- Sage Shrub / Steppe
- Hardwood Shrub
- Aspen
- Mixed Conifer

Project Sun Peak Wildfire Risk and Hazardous Fuels Assessment		
Title Vegetation Overview		
Map Author Robby Young	Evaluator Matthew Castellon	
Projection EPSG:32612	Project ID 2021 Sun Peak HOA	
Imagery Date / Time May-June 2021	Appendix # A	Exhibit 02
Parcel Boundary Source: Summit County GIS - Approximate representation to be used for map reference only		



Boundaries

-  Sun Peak HOA Open Space Parcels
-  Parcel Boundaries

Defensible Space

-  Western Fuel Break (Phase 2)
-  Southern Fuel Break
-  NE Fuel Break
-  NW Fuel Break




Community Perimeter Protection

-  Ridgeline Fuel Break (Phase 2)
-  Enclave Fuel Break (Existing - 2021)
-  Millenium Trail Fuel Break
-  Rob's Corridor Fuel Break





Project Sun Peak Wildfire Risk and Hazardous Fuels Assessment		
Title Phase 1 & 2 Treatment Recommendation Overview		
Map Author Robby Young	Evaluator Matthew Castellon	
Projection EPSG:32612	Project ID 2021 Sun Peak HOA	
Imagery Date / Time May-June 2021	Appendix # A	Exhibit 03

Parcel Boundary Source: Summit County GIS - Approximate representation to be used for map reference only





Boundaries

-  PP-73-3
-  Parcel Boundaries
-  UOP Property

Defensible Space

-  Western Fuel Break (Phase 2)
-  Southern Fuel Break
-  NE Fuel Break
-  NW Fuel Break

Community Perimeter Protection

-  Ridgeline Fuel Break (Phase 2)
-  Enclave Fuel Break (Existing - 2021)
-  Millenium Trail Fuel Break
-  Rob's Corridor Fuel Break

PP-73-3 (NORTH)
 AREA: 27.7ac
 FUEL TYPES PRESENT: Hardwood Shrub, Aspen
 PROPOSED PRIORITY TREATMENTS: Western Fuel Break
 (100' Defensible Space Shaded Fuel Break)

Project
 Sun Peak Wildfire Risk and Hazardous Fuels Assessment

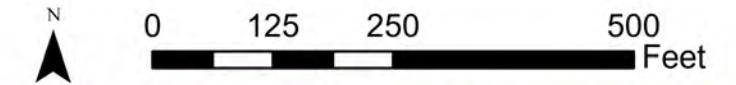
Title
 PP-73-3 (NORTH) - Detailed

Map Author Robby Young	Evaluator Matthew Castellon
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Projection EPSG:32612	Project ID 2021 Sun Peak HOA
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Imagery Date / Time August 26, 2021	Appendix # A	Exhibit 04
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Parcel Boundary Source: Summit County GIS - Approximate representation to be used for map reference only



- Boundaries**
- PP-73-3
- Defensible Space**
- Western Fuel Break (Phase 2)
 - Southern Fuel Break
 - NE Fuel Break
 - NW Fuel Break
- Community Perimeter Protection**
- Ridgeline Fuel Break (Phase 2)
 - Enclave Fuel Break (Existing - 2021)
 - Millenium Trail Fuel Break
 - Rob's Corridor Fuel Break

PP-73-3 (ROB'S)
 AREA: 36ac (Phase 2)
 FUEL TYPES PRESENT: Aspen, Hardwood Shrub
 PROPOSED PRIORITY TREATMENTS: Western Fuel Break (100' Defensible Space), Ridgeline Fuel Break (150'-Wide Shaded Fuel Break), Rob's Corridor Fuel Break (Selective Thinning, Hazard Tree Removal)
 OTHER TREATMENTS: Selective Thinning (in remainder of parcel)

Project Sun Peak Wildfire Risk and Hazardous Fuels Assessment		
Title PP-73-3 (ROB'S) - Detailed		
Map Author Robby Young	Evaluator Matthew Castellon	
Projection EPSG:32612	Project ID 2021 Sun Peak HOA	
Imagery Date / Time August 26, 2021	Appendix # A	Exhibit 05

Parcel Boundary Source: Summit County GIS - Approximate representation to be used for map reference only

Defensible Space

- Western Fuel Break (Phase 2)
- Southern Fuel Break
- NE Fuel Break
- NW Fuel Break

Community Perimeter Protection

- Ridgeline Fuel Break (Phase 2)
- Enclave Fuel Break (Existing - 2021)
- Millenium Trail Fuel Break

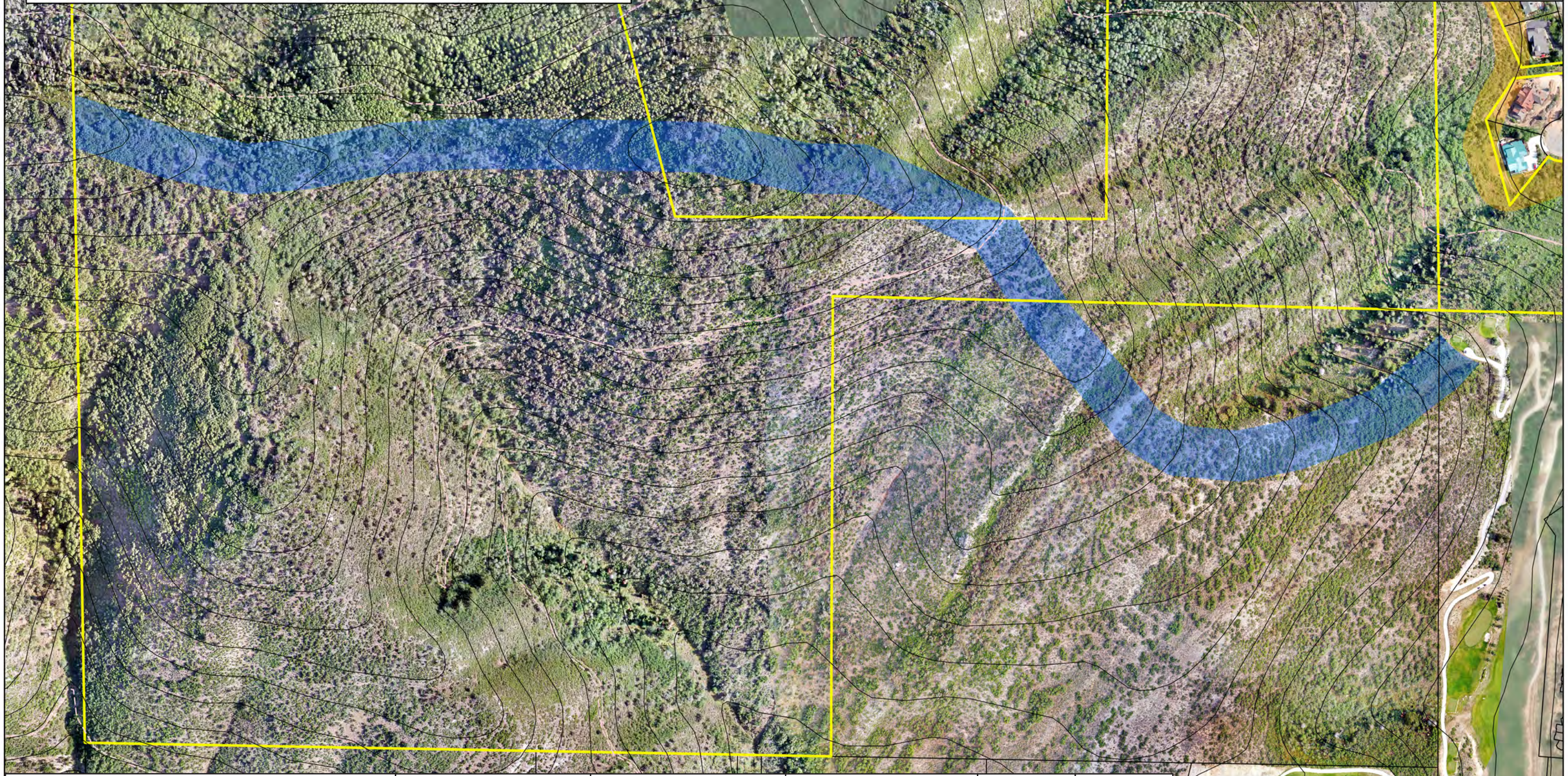
PP-73-3 (SOUTH)
 AREA: 92.13ac (PP-73-3 SOUTH)
 FUEL TYPES PRESENT: Hardwood Shrub, Aspen, Mixed Conifer
 PROPOSED PRIORITY TREATMENTS: Ridgeline Fuel Break (150'-Wide Shaded Fuel Break)



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0 200 400 800 Feet



Project Sun Peak Wildfire Risk and Hazardous Fuels Assessment	Map Author Robby Young	Evaluator Matthew Castellon	Imagery Date / Time August 24-25, 2021	Appendix # A	Exhibit 06
Title PP-73-3 (SOUTH) - Detailed	Projection EPSG:32612	Project ID 2021 Sun Peak HOA	Parcel Boundary Source: Summit County GIS - Approximate representation to be used for map reference only		

