



ALPINE FORESTRY

Forest Project Summary

General Information	
Project Name: <i>(unique name for specific project)</i>	2022 Treasure Hill Forest Health and Fuel Reduction
Project Year: <i>(year project will take place in, could include fiscal information)</i>	2022
Project Manager: <i>(name of primary contact for specific project)</i>	David Telian, Alpine Forestry
PM Contact: <i>(full contact info for project manager)</i>	435-400-4154 / david.alpineforestry@gmail.com
Land Ownership: <i>(who owns the land/s the project will take place on)</i>	Park City Municipal Corporation
Owner Contact: <i>(name and contact of owner, land manager, or representative)</i>	Logan Jones, Trails and Open Space Coordinator logan.jones@parkcity.org / 435-615-5176
Parcel No. <i>(county assigned parcel numbers)</i>	PC-364-A-X and THILL-5-X
Descriptive Location: <i>(area description and any local slang or historical names)</i>	Treasure Hill, west of old town Park City

References: <i>(list any plans or documents accompany this summary)</i>	2022 Treasure Hill Forest Management Plan
Other	
Project Information	
Project Summary: <i>(brief narrative of what is planned)</i>	First entry forest restoration including hazard tree removal, understory fuel reduction, and defensible space.
Objectives: <i>(specific objectives to accomplish i.e. fuel reduction, forest restoration, hazard removal, defensible space, etc)</i>	Increase public safety by reducing forest hazards and wildfire risk. Protect and improve forest health through fuel reduction and thinning. Encourage aspen regeneration.
Total Acres: <i>(number of project area acres planned)</i>	55
Project Type: <i>(manual work, mechanical work, prescribed fire, etc)</i>	Manual thinning - cut and pile Mechanical - cut and broadcast chip Prescribed fire - pile burning
Recommended Resources: <i>(logging equipment, cutting crews, burn crews, etc)</i>	Cutting crews to fell hazard trees and thin fuels. Tracked chipper to broadcast chip along roads and ski runs. Burn crew for prescribed fire pile burning.
Anticipated Timeframe: <i>(calendar months slated for all aspects)</i>	June 2022 - April 2023
Project Partners: <i>(list any project partners and relevant stakeholders, include funding information as needed)</i>	Park City Municipal Corporation Park City Resort Park City Fire District Mountain Trails Foundation Summit Land Conservancy
Public Outreach: <i>(list necessary outreach mechanisms including posts, mailings, signage, etc)</i>	PCMC open space and communications departments advised to utilize media sources, targeted adjoining land owner contacts, and signage to engage and educate neighbors and the public.
Other	
Resource Considerations	

Evaluation Summary: <i>(what desktop or field study was completed or work cited)</i>	Reference 2022 Treasure Hill Forest Management Plan
T&E Species: <i>(any threatened or endangered species known or suspected in the area, with best practice or mitigation strategy used)</i>	None
Wildlife LOP: <i>(any limited operating period used for aspect of the project)</i>	Main project should begin after July 31st to account for breeding and nesting of mule deer, bats, and birds. Defensible space cutting in the gambel oak could proceed as soon as feasible. (See Appendix A and page 13 of the 2022 Treasure Hill Forest Management Plan)
Wetland/Riparian: <i>(any area warranting changes to preserve sensitive wetlands or riparian areas)</i>	None
Water Quality: <i>(any watershed concerns to maintain water quality through best practices)</i>	Ensure soils are sufficiently dry and stable for any equipment use. Rehabilitate disturbed areas by equipment using hand tools.
Soil Disturbance: <i>(any chance for soil disturbance and mitigation strategy)</i>	Rehabilitate pile burn rings by breaking up hydrophobic layers and reseeded to reduce erosion and potential for invasive weeds to establish. Use seed mix identified by PCMC in Exhibit C below. (See Appendix H and page 13 of the 2022 Treasure Hill Forest Management Plan)
Avalanche PRA: <i>(any project area involving avalanche terrain and potential release areas and mitigation strategy)</i>	Multiple PRA's exist in the project area. Management specifications have been altered in many PRA's. Marking of altered and exclusion areas is critical to ensure appropriate actions for each PRA. (See Appendix C of the 2022 Treasure Hill Forest Management Plan)
Cultural / Historical: <i>(any cultural or historical sensitive areas and mitigation strategy)</i>	Historic mining structures shall be protected against damage during forestry operations. The Silver King Aerial Tramway towers is the only known "significant historic site" on the parcels. Notify PCMC immediately for direction if suspected historical or cultural sites are encountered. (See page 15 of the 2022 Treasure Hill Forest Management Plan)
Aesthetic: <i>(any aesthetic values considered and mitigation strategy to preserve quality)</i>	Targeting of standing dead serves to improve aesthetic quality, while increasing fire resiliency.

Other	
Vegetation	
Vegetation Summary: <i>(brief overview of setting and profile)</i>	Treasure Hill has several dominant vegetation profiles, including middle aged high density white fir stand, small and declining aspen stand, dense gambel oak and mixed hardwood shrubs, and grassy slopes (ski runs). (See Exhibit B below; page 22 and Appendix B of the 2022 Treasure Hill Forest Management Plan)
Elevation: <i>(low and high elevations of project area)</i>	7,000' - 8,000'
Aspect: <i>(primary cardinal directions of project area)</i>	N - NE - E
Slope: <i>(average or range of slope steepness in project area)</i>	10° - 30°
Vegetation Type/s: <i>(list of vegetation types in project area)</i>	Mixed conifer, aspen, mixed vegetation, gambel oak, sagebrush and grass.
Treatment Specifications: <i>(detail treatment specs per vegetation type)</i>	See Exhibit A below, and Appendix X of the 2022 Treasure Hill Forest Management Plan.
Other	
Operational Plan	
Operation Summary: <i>(brief overview of how actions will take place)</i>	Project plans finalized and boundaries marked Wildland / Urban Interface defensible space work begins Hazard tree felling project General thinning work, broadcast chip where accessible along roads and ski runs. Pile all other areas. Pile burning. (See Exhibit A below)
Timeline: <i>(when operations are scheduled)</i>	Boundaries and PRA's marked: July 1 - 15 WUI defensible space work(previously marked): June 20 - Aug 15 Hazard tree felling project: July 11-15 General thinning work: Aug 4 - 24 Pile burning: Fall, Winter, Spring, 2022/23; weather and

	conditions dependant.
Boundary Marking: <i>(notes on what boundaries will be marked)</i>	Project boundaries, specific treatment areas, and PRA altered and exclusion areas to be marked prior to project implementation. Marking will be accomplished using handheld GPS devices.
Closures: <i>(any planned road or trail closures during work)</i>	Roads and trails will be periodically closed to ensure the safety of area users. Resort access roads - Will be closed on select days for tree felling. Trails - Will be closed on select days for tree felling. Flat Cable, Sweenys, Sweeney's Switchbacks, South Sweeny, King Road Connect. The Contractor will notify PCMC of necessary closures. PCMC will provide closure signage to the Contractor and make their necessary community notifications. (See timeline above)
Notifications: <i>(any planned or required notifications regarding work)</i>	General cutting operations - PCMC, Summit Land Conservancy (1 week prior to cutting operations) Prescribed fire - PCMC, Summit County, DAQ (Notifications will be made as burn windows become apparent, generally 1-3 days before ignitions, see project burn plan)
Permitting: <i>(any required permits for work)</i>	Pile burning requires PCMC burn permit, DAQ emissions approval (see project burn plan)
Laws/Ordinances: <i>(any applicable laws, policies, or ordinances related to the work)</i>	City noise ordinance restricts operating hours. No work shall be performed between 10 pm and 7 am Mon - Sat or before 9 am on Sunday. (Park City Municipal Code 6-3-8) Utah smoke management plan and prescribed fire rules (307-204)
Wildfire Response: <i>(plan for fire suppression)</i>	Contractors shall have wildfire suppression tools on site including 10lb ABC extinguisher, 5 gallon water pump, and hand tools. In the event of a wildfire, the Contractor shall immediately call 911 to report the incident, and take suppression action if safe to do so. Contractor will notify PCMC as soon as feasible to do so.
Noxious Weeds: <i>(plan for managing noxious weeds and contamination)</i>	Contractors to coordinate with PCMC noxious weed program manager and cooperators for any crucial weed abatement actions prior to project implementation. All equipment will be washed before entering the site. (See page 36 of the 2022 Treasure Hill Forest Management Plan)
Other	

Project Maps	
Vegetation Overview <i>(map showing vegetation types and distribution)</i>	See Exhibit B below and Appendix B of the 2022 Treasure Hill Forest Management Plan.
Treatment Map <i>(map showing area to be treated, boundaries, and land ownership)</i>	See Exhibit B below.
Operational Map <i>(map showing treatment types or other notes i.e. access, staging areas, water sources, sign and closure locations, special resource protection areas, log decks, etc)</i>	See Exhibit B below.
Other	
Author / Contributor / Reviewer	
Completed By: <i>(who assembled the project summary, contact information, and date)</i>	David Telian / Matt Castellon 435-400-4154 alpineforestryutah@gmail.com 6/14/2022
Reviewed By: <i>(agency or landowner review, contact information, and date)</i>	Logan Jones

Exhibit (A)

Detailed Treatment Specifications

Vegetation Type	Treatment Specifications
<p>Conifer</p>	<ul style="list-style-type: none"> ● In all areas, remove down woody debris to minimize fuel loading: <ul style="list-style-type: none"> ○ Remove 80% of downed woody material 3-10 inches diameter. ○ Downed woody material >10 inches diameter will be left in place, bucked in lengths necessary to lay flat on the ground. ● Cut snags and other identified hazard trees within 1.5 times the snag/tree height targeting areas protecting infrastructure, trails, ski runs, and roads. <ul style="list-style-type: none"> ○ Hazard tree cleanup would follow specifications for downed woody debris. ○ Retain 1 to 2 snags >11 inches diameter per acre and 6 to 15 snags <11 inches diameter per acre where feasible (away from trails, roads, and other infrastructure to meet public safety objectives). ● Thin conifer regeneration <5 inches dbh to approximately 15 foot spacing between stems. <ul style="list-style-type: none"> ○ Leave species priority (most to least desirable): healthy aspen, DF, WF. As a rule, leave the healthiest trees first as exact spacing is not the desired outcome. ○ Spacing will not be met where existing densities are lower than target, or where trees do not meet the definition of “healthy.” ● Remove conifer regeneration <5 inches dbh under drip lines of larger trees adding to ladder fuels. ● Limb 6 feet (leave a minimum of 30% of live crown ratio) of lower bole of live trees, targeting areas within 50 feet of infrastructure. ● Reduce understory hardwood shrubs by 60%, clearing around conifer drip lines and targeting ladder fuels. ● All material will be eliminated by piling and burning, lightly broadcast chipping <4”, or hauling offsite. ● Burn piles when sufficiently cured to achieve at least 80% consumption of materials, and under conditions that minimize residual fire effects on the stand and risk of fire spreading beyond the piles. <p>IMPORTANT NOTES:</p> <ul style="list-style-type: none"> ● No live conifer >6” DBH should be removed from PRA TH002.

	<ul style="list-style-type: none"> ● No fuels reduction activities involving live trees and shrubs will occur within PRA TH004, and no hardwood shrub fuels reduction should occur in the downslope area of TH004. ● Specifications may be altered in select areas to meet critical prescribed fire objectives.
<p>Aspen</p>	<ul style="list-style-type: none"> ● Cut snags and other identified hazard trees within 1.5 times the tree height around trails, lifts, or other infrastructure. ● Remove all conifers (subalpine fir, white fir, and Douglas-fir) growing in the understory and midstory layers of aspen stands (under the drip lines). ● Remove 90% of the understory consisting of maple and shrubs, preserving any aspen regeneration. ● Remove 90% of dead and down to increase the suckering potential of aspen. <ul style="list-style-type: none"> ○ 10% of dead and down aspen shall be left for moisture retention and soil stability. ● All material will be eliminated by piling and burning, lightly broadcast chipping <4", or hauling offsite. ● Burn piles when sufficiently cured to achieve at least 80% consumption of materials, and under conditions that minimize residual fire effects in the stand and risk of fire spreading beyond the piles. ● Specifications may be altered in select areas to meet critical prescribed fire objectives.
<p>Gambel Oak / Hardwood Shrub</p>	<ul style="list-style-type: none"> ● Adjacent to structures, Firewise Home Ignition Zone concepts should be used with limited Gambel oak within 30 feet and small pockets allowed from 30-100 feet from the structure. ● Gambel oak will be thinned allowing for a few older growth clumps of 5-10 trees to remain serving as a shaded fuel break. Clumps will be isolated to create canopy gaps. ● Dead material, understory vegetation, and branches serving as ladder fuels should be removed. Limb oak clumps to a height of 3-4 feet to raise canopy base height. ● All material will be eliminated by piling and burning, lightly broadcast chipping <4", or hauling offsite. ● Burn piles when sufficiently cured to achieve at least 80% consumption of materials, and under conditions that minimize residual fire effects in the stand and risk of fire spreading beyond the piles. ● Maintenance treatments will need to be applied every 3 to 5 years at a minimum to address sprouting response. ● No fuels reduction activities involving live trees and shrubs will occur within PRA TH004, and no hardwood shrub fuels reduction should occur in the downslope area of TH004.

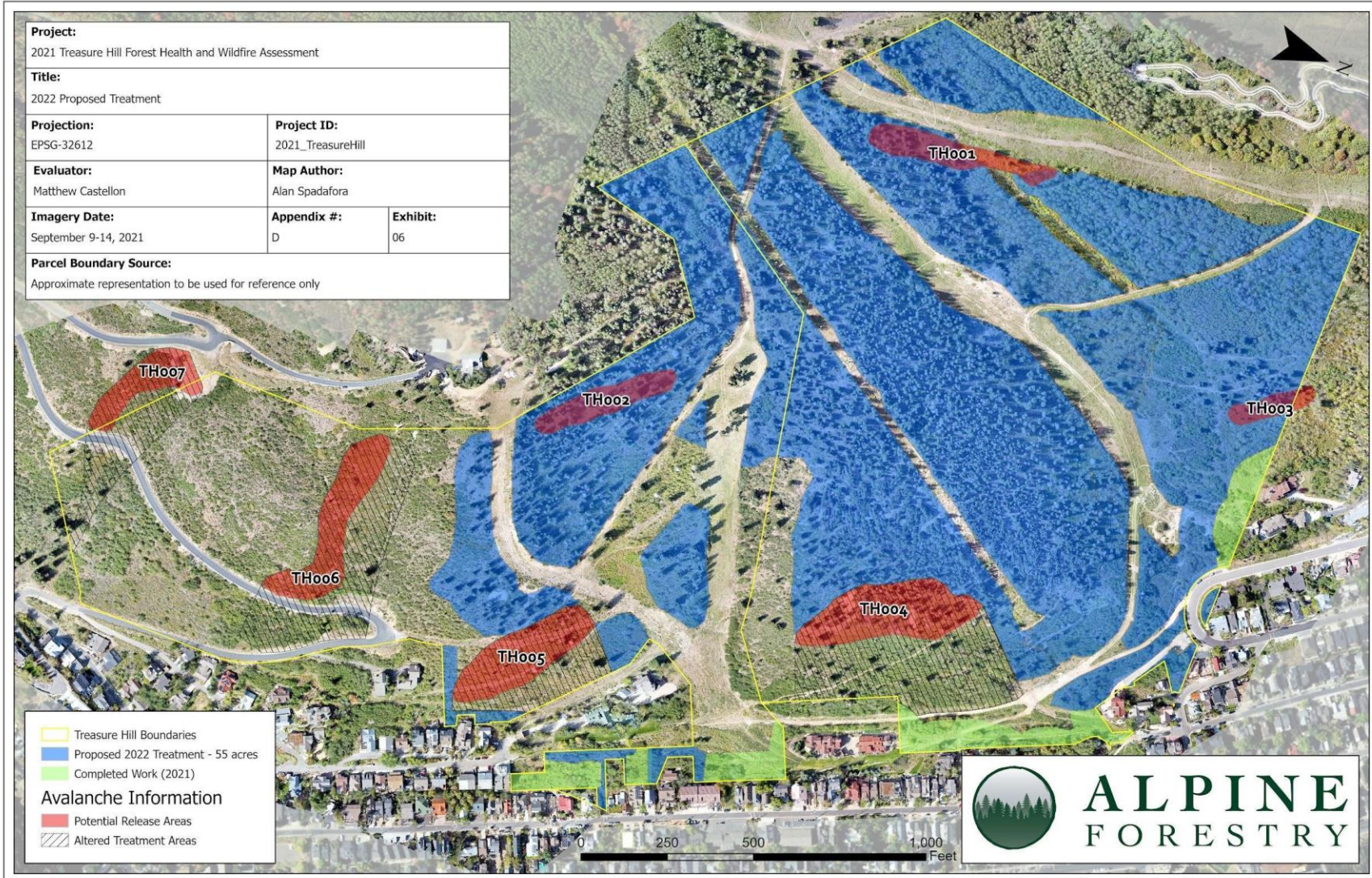
	<ul style="list-style-type: none"> ● No fuels reduction activities should be performed within or downslope of TH005, with the exception of defensible space treatment. ● Specifications may be altered in select areas to meet critical prescribed fire objectives.
Mixed Vegetation	<ul style="list-style-type: none"> ● Utilize vegetation specific principles listed above and apply as needed and appropriate, implementing priority species preference and stand best practices.

Exhibit (B)
Project Maps
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Vegetation Overview



2022 Treatment Area



2022 Project Operations

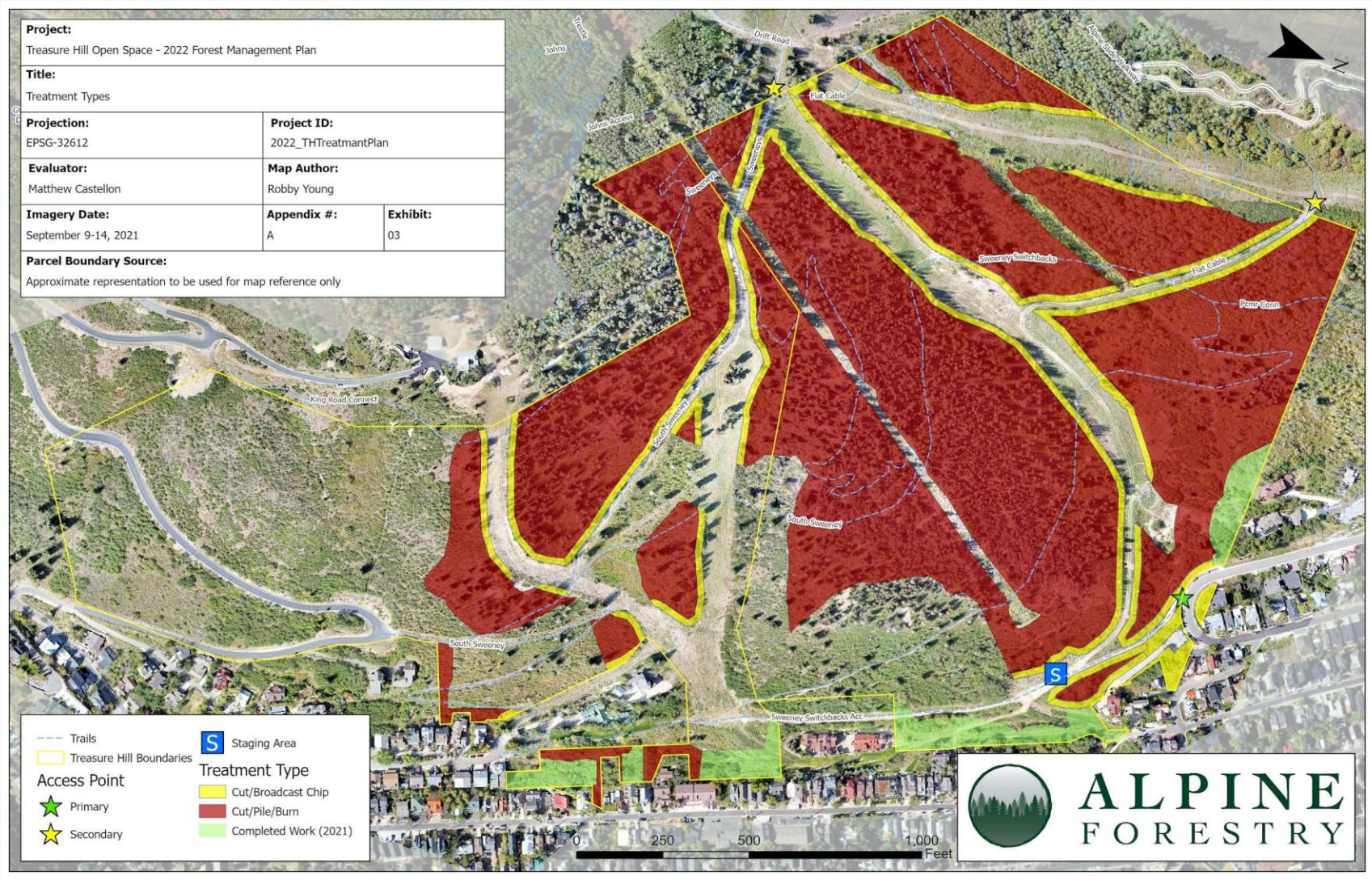


Exhibit (C)
Rehabilitation Seed Mixture

SEED MIX "A"							
GRASSES/ FORBS	SEED NAME			NUMBER SEEDS PER POUND	POUNDS OF PURE LIVE SEED PER ACRE	% OF MIX	SEEDS PER SQ. FT.
					BROADCAST		
	SEED NO	COMMON NAME	BOTANICAL NAME				
G	1	Sandbergs Bluegrass	<i>Poa secunda</i>	925,000	1	14%	21
G	2	Idaho Fescue	<i>Festuca idahoensis</i>	450,000	2	13%	21
F	3	Blanketflower	<i>Gallardia arisata</i>	186,000	5	14%	21
G	4	Indian Ricegrass	<i>Achnatherum hymenoides</i>	161,920	5	12%	19
G	5	Slender Wheatgrass	<i>Elymus trachycaulus</i>	150,000	5	11%	17
G	6	Blue Bunch Wheatgrass	<i>Pseudoroegneria spicata</i>	125,600	4	7%	12
F	7	Rocky Mountain Penstemon	<i>Penstemon strictus</i>	489,800	4	29%	45
TOTAL POUNDS OF PURE LIVE SEED PER ACRE					26	100%	156