



2021 Open Space Management Plan



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12/01/20 – Reviewed by GEM Committee to be moved to the Board of Directors.

1/27/21 – Sent to Board of Directors for review & approval.

1/27/21 – Approved by Board of Directors

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Executive Summary

Genesee’s 1,200 acres of open space is intrinsic to the identity of the community and cherished by residents. Genesee Foundation Open Space provides stewardship to maintain this land in a natural, healthy, ecologically diverse state that promotes resilience to threats from extended drought, wildfire and the effects of disease and insects on plant species, trees, other vegetation, and continued use by residents. Our location in a biologically diverse elevation imposes a unique responsibility to protect the health of the land around us. This is done through effective utilization and application of professional forestry and ecological management standards and practices. The Foundation works with committee members, and others to evaluate needs, develop targets and standards, and then execute actions on the ground and monitor activities, follow up mitigation or reparation of damaged areas helps ensure a continued co-existence in harmony with the views and quiet surroundings of our area’s beautiful natural landscape.

The Open Space Management Plan is reviewed by the Genesee Ecosystem Management Committee (GEM) and Genesee Foundation Board of Directors (BOD). The plan becomes effective when approved by the BOD. This plan prioritizes recommended action items, lists budget allocations, and outlines forest health and natural resource benefits for Genesee Open Space Management activities proposed for the upcoming year.

Genesee ecosystem management is guided by overarching principles established by GEM: “to ensure ecosystem health, human safety, home values, and aesthetics while maintaining fiscal responsibility by performing tasks in a cost-effective manner.”

Open Space Action Areas with Operating Budget and Costs:

(see page 16 for more detail)

Category	Budget
Forest Management*	\$40,000+ in-house labor
Erosion Control	\$3,000
Weed Management	\$13,500 + in-house labor
Insect and Disease Management	In-house labor
Trails	\$6,000 + in-house labor
Misc. Operating Budget	\$11,300 + in-house labor
Total OS Budget	\$73,800
OTHER OPEN SPACE COSTS	
Seasonal Labor	\$57,500
Capital Expense	\$55,000
Estimated Crew Hours* *	3280

*Forest Management activities includes thinning operations, dwarf mistletoe control, meadow restoration, aspen regeneration, and forest inventory. Genesee Foundation actively holds a grant from the Colorado State Forest Service and will be completing the contracted work with these funds.

**The Open Space Crew consists of four seasonal, natural resource professionals dedicated to projects on Open Space at the direction of the Open Space Manager.

Introduction

The Open Space Manager annually prepares a plan for the best use of funds allocated towards management of Genesee's open space lands. The Genesee Ecological Management (GEM) committee makes recommendations to the Open Space Manager and approves the plan. The approved **2021** Open Space Management budget is **\$73,800** (see Appendix I on **page 16** for more detail). All subsequent steps will follow the "Planning Process" outlined in Appendix II.

Budget items outside the normal scope of the Open Space Management budget yet still impact Open Space operations are also included. Chiefly among these is seasonal labor. This budget item allows the Open Space Manager to hire and train up to four seasonal employees to complete projects on Open Space. This item was increased for 2021 at the request of the Open Space Manager in order to complete more work internally. Internal work (versus hired contractors) can be more closely monitored and allows for more flexibility when handling the nuances involved in natural resource management. Outside contractors will still be utilized where necessary.

Genesee divides Open Space Management projects into six categories: 1) Forest Management; 2) Erosion Control; 3) Weed Management; 4) Insect and Disease Management; 5) Trails; & 6) Future Planning Considerations. For each category, there is a recommended action, cost estimate, estimated crew hours, and general comments. Appendix V shows each management location within the Genesee community.

Genesee Background

Genesee is a unique residential community located in a biologically diverse foothills and lower montane ecosystem. These climate zones represent an ecological transition between the lower elevation plains and higher elevation montane zones. Ponderosa pine and Douglas-fir trees dominate the landscape in Genesee with Juniper trees found at lower elevations and on warmer, south-facing slopes. Shade-tolerant Douglas-fir trees are located at higher elevations and north-facing slopes. The transitional nature of the foothills ecosystem is a key factor contributing to its rich biological diversity.

Historically, the foothills and lower montane life zones were subject to periodic low and mixed severity fires. This disturbance served as the tool to "re-set" ecological succession which changes the vegetation makeup or ecological state over time. The result of this natural, regenerating fire is the creation of open ponderosa pine and mixed conifer forests. In Genesee, natural succession after a disturbance begins with native grasses and forbs which provide the necessary environment for shrubs and open forests. Over time, and without subsequent disturbance, the end stage is typically a dense forest with abundant understory vegetation. When we find these conditions located on Open Space, we need to act in order to restore the land back to a defined previous ecological state.

At any successional stage, Genesee's environment can be "re-set" with a management or natural disturbance. Although periodic prescribed/controlled fires would best serve Genesee's environmental restoration objectives, the land management prescriptions outlined in this plan are aimed to mimic historical forests within Genesee to reflect a more natural, sustainable, condition without the use of prescribed fire.

Forest Management

Genesee's forest management includes forest restoration, wildfire hazardous fuels reduction, forest health treatments, forest inventory, meadow restoration, and aspen regeneration. GEM has identified these management categories as a priority for Genesee's Open Space and a description of each can be found below.

Forest Health Restoration and Wildfire Fuels Reduction

In the absence of natural fire cycles, the competition for resources among Genesee's trees will occur when sapling trees grow in close proximity. Selective removal of trees will relieve competition stress and allow remaining trees to succeed with the available resources on any particular site. Tree thinning also decreases the amount of fuel available for wildfires which reduces the overall wildfire hazard to an area and adjacent houses.

Many developed communities with a diverse group of people enjoy the unique areas of Colorado's front range mountains. Because many of these communities are located within an area classified as the "Red Zone" by Jefferson County, they have a high wildfire hazard rating. Residents need to understand the Red Zone designation and be aware of potential wildfire risk, so they may take the necessary steps and responsibility to mitigate the wildland fire hazards.

Factors making Genesee a Wildland Urban Interface (WUI) community in the Red Zone include: residential development in a fire adapted ecosystem, steep topography, frequent natural and human caused fires, hazardous fuels, drought, wind, and extreme weather conditions. These factors are the reason many areas within Genesee are designated with an extreme wildfire hazard rating. The only way to lower this rating is to take steps to reduce the amount of available fuel a fire can ignite and incorporate Firewise maintenance tasks near individual properties.

Previous environmental assessments of Genesee's Open Space have identified the importance of tree removal and ladder fuel reduction to reduce the risks associated with wildfire. The Genesee Fire Protection District Community Wildfire Protection Plan (GFPD CWPP) created in 2008 recommends the Genesee community continue this practice with a focus on steep forested slopes and drainages. This document will be updated in 2021 by the Forest Stewards Guild.

Furthermore, locating fuel breaks strategically along roads allows fire suppression resources the opportunity to control a wildfire before it becomes a catastrophic event. These efforts, coordinated with responsible defensible space mitigation and maintenance on private property, increase the community's ability to survive a wildfire.

Meadow Restoration

Meadows have the unique ability to support a variety of grasses, forbs and shrub species which are unable to grow in forested areas. Both large and small meadows in a forest create unique transitional environments necessary for many plants and animals. Managing these areas to prevent re-forestation increases the overall biodiversity in Genesee.

Meadows can also provide a change in stand density significant enough to alter the behavior of potential crown fire. It is possible that an advancing crown fire can drop to the ground when encountering a meadow, thus becoming a surface fire, and offering first responders more opportunity to attempt suppression.

Historically, mixed severity fires were common in the forests of Colorado's front range foothills. These fires consisted of both low intensity ground fires and high intensity stand-replacing crown fires. The variation in this fire intensity is responsible for the mosaic of trees and meadows throughout the landscape. Without disturbance, either by tree removal or fire, meadows are encroached on by surrounding forest.

Aspen Preservation

Aspen stands are significantly different from ponderosa pine dominated forests because they offer a unique habitat and support a variety of wildlife. Aspen trees are capable of growing in a variety of climates and are commonly located in areas with abundant sunlight and moisture. Generally, aspens are a climax or end stage tree species; however, in Genesee they are seral or transitional to conifers. After an ecological disturbance such as fire, aspens actively re-sprout or sucker from lateral roots. Initially aspens will out-compete seed-producing conifers but will eventually decline due to the shade produced from the slower growing conifer trees.

Aspen trees in Genesee and throughout Colorado have been in decline over the past decade. Dead and decaying remnant aspen trees are visible well outside current aspen stand perimeters which suggests a much larger previous stand size. Genesee is at the low end of the altitude range for aspen viability, so aspen trees here are extremely susceptible to warmer-than-usual temperatures and sustained drought conditions. Another major factor contributing heavily to the decline of aspen stands in Genesee is the persistent deer and elk browse.

Conifer replacement may be gradual, but when located within a mixed conifer forest, it is possible conifers will replace aspens within a decade. Remaining aspen trees will die or exist in a stunted or suppressed form which results in a homogenous ponderosa pine/Douglas-fir forest. Again, similar to meadow encroachment this monoculture forest will remain unchanged until an ecological disturbance "re-sets" ecological succession allowing aspens to re-sprout.

Small stands of aspen trees are within the mixed conifer forests across the Open Space forest. Conifer encroachment and deer browse occur in these stands and the prescription for tree removal will incorporate removing shade producing conifers adjacent to aspen trees to promote aspen growth. Protecting young aspen sprouts from excessive browsing may also help the re-generation process, though large-scale protection (i.e., effective fencing) is generally not practicable on Open Space at this moment.

Roadside Thinning

In the event of a fire, many Genesee residents may be traveling along narrow roadways with dense, overhanging vegetation. If a roadway is cleared of this overhanging and flammable vegetation it will increase evacuation safety and ideally offer more time to evacuate without the threat of the advancing fire overcoming the roadway. Roadside thinning is an important action item often highlighted in Community Wildfire Protection Plans (CWPP); it was an action item in the 2008 CWPP for the Genesee Fire Protection District and will have a place in the updated version to be released sometime in 2021.

Pre & Post Project Monitoring

Understanding the land is achieved through baseline inventorying. This process involves gathering quantitative and qualitative data such as vegetation characteristics, topography, species diversity, and descriptive photographs. Before a project commences it is important to gather this data and compare it to data gathered with the same method after project completion. This analysis will answer the important question: Did we achieve our objective?

Monitoring before and after projects takes time and resources but it is an essential task to determine efficacy of management actions.

Holistic Approach to Forest Management

A comprehensive holistic approach to Genesee's forest management incorporates fire mitigation activities with other ecosystem management functions. This approach proves to be both time and cost efficient in managing Genesee's Open Space. Removing suppressed, diseased, and overcrowded trees will create openings and spacing to promote understory growth consisting of grasses and forbs. Enhancing biodiversity in this way is an overall goal of Genesee's Open Space.

Access to forest management areas and removal of material on Genesee's Open Space is the most challenging obstacle in completing the identified projects. Community participation in walkthroughs has helped deal with these problems in the past and will continue to be offered to allow resident input. Coordinating Open Space efforts and neighborhood mitigation projects when feasible, in partnership with educational efforts from the Genesee Fire and Safety Committee, will improve overall management.

Residents near a tree removal area are often concerned with the impact of their view corridor. Understanding and addressing these concerns is key to the overall success of these projects. Additionally, residents near forest management areas are often dissatisfied when projects take longer than 4-6 weeks to complete. Additional time spent up front with individuals to review concerns and address them in a productive manner increases the likelihood of success of each project; however, unforeseen challenges and delays commonly arise.

In all of Genesee's Open Space management areas, successful fire mitigation work that is beneficial to adjacent property owners is truly effective when they are willing to complete mitigation work and maintenance on their properties. Otherwise, the work done is sound forest restoration for healthy forests, but the fire fuel mitigation impact is not optimal.

Recommended Actions:

Recommended action in the Open Space Management Plan combines field observations, data collection and literature review by the Open Space Manager. Recommendations presented in past management plans and assessments prepared by fire management and environmental professionals were also considered and incorporated.

Grant Funded Project

- Completing 38 acres of forest health and fire mitigation treatment to satisfy the grant received from Colorado State Forest Service in 2018
 - 6 acres were completed in 2019, 14.9 acres might be completed in 2020, with 17.4 acres remaining in 2021
- Northridge East Unit & West Unit (10 acres) **See Forestry Map 2**
- Montane Units 1 & 6 (14.9 acres) **See Forestry Map 1**
- Forest Management Prescription includes:
 - Reducing basal area to between 50 – 80 square feet per acre
 - Reduce crown spacing to 15 feet between individual trees or groups of trees
 - Eliminate ladder fuels under the dripline of residual trees
 - Contractor will start work in October and complete all acres by summer 2021 (dependent on weather)

Internal Projects

- **Chokecherry Treatment Area (22 acres) See Forestry Map 3**
 - This area has not been treated or has no documentation of treatment
 - It is an overgrown mixed conifer stand with an interconnected canopy and thick understory
 - Divided into six units that will be completed over the course of three years
 - The large timber resulting from this project will be milled or bucked for firewood
 - Removal of up to 50% of vegetation in the stand
 - 35 adjacent Genesee homeowners will directly benefit from this treatment
 - Genesee Village HOA is an adjacent landowner with a similar steep & dense parcel; the Open Space Manager will seek out cross-boundary opportunities for this project
 - Completed with in-house labor
 - Complete by 2023
 - Estimated 610 hours
- **Montane Unit 5 (7.2 acres) See Forestry Map 1**
 - Connects to treatments from 2020 and grant acres to be completed by contractor in 2021
 - Located at the eastern edge of Genesee Foundation property; opposite a steep private parcel that is over-grown and unlikely to be treated
 - This unit was previously treated in 2011 thus treatment prescription will focus on ladder fuels and crown spacing
 - Removal of up to 35% of flammable vegetation in the stand
 - 6 adjacent Genesee homeowners will directly benefit from this treatment along with 21 homeowners indirectly benefiting
 - Complete in summer of 2021
 - Completed with in-house labor
 - Estimated 200 hours
- **Juniper Treatment Area (15 acres) See Forestry Map 4**
 - Sits on Genesee's southwestern edge
 - Removal of up to 40% of flammable vegetation in stands
 - The large timber resulting from this project will be milled or bucked for firewood
 - 47 Genesee homeowners will directly and indirectly benefit from this treatment
 - Precise stand inventory to determine basal area still needs to be completed
 - Completed with in-house labor
 - Complete in 2022
 - Estimated 415 hours

Roadside Thinning Survey

- Collaborate with Genesee Fire Protection District, GEM Committee, Fire & Safety Committee, and Jeffco Road & Bridge to develop a plan for community wide roadside thinning to reduce flammable and dead vegetation along evacuation routes
- Use recommendations from the new Community Wildfire Protection Plan
- Gather support from private landowners
- Complete roadside thinning in 2022

Budgeted Cost estimate: \$40,000

Additional Estimated Crew Hours: 1800

Erosion Control

Erosion is a natural process but is an environmental concern based on its impact to existing watersheds. The loss of soil and sediment (erosion) occurs when energy from rainfall and water runoff exceeds the resistance of the soil to stay in place. Soil will wash away from a location and typically stabilizes when bedrock is exposed.

Roads and recreational trails have a direct impact on the erosion of a stream bank or drainage area. Soil erosion increases sedimentation in streams and contributes to plant loss by depleting nutrients and organic matter. When Genesee roads, structures, and drainage features such as culverts are added to the landscape, the erosion process is concentrated in certain locations and mitigating steps to limit the impacts become necessary.

Past assessments have determined how erosion impacts sedimentation along stream corridors within the Genesee community. A number of situations are evident where runoff from road culverts and drainages accelerates water flow causing erosion. Adverse impacts (e.g. excessive erosion, creation of new water channels, etc.) require consideration and maintenance to prevent further damage of drainage areas. Sometimes these erosion control projects are delayed because we are waiting on the county or other cooperators to complete their mitigation/remediation actions that has caused erosion on Open Space.

Recommended Action:

Recommended action in the Open Space Management Plan combines field observations from the past year and information from past erosion assessments with Genesee's continuing erosion and watershed analysis.

Erosion Control on Upper Montane Trail

- Remove non-biodegradable erosion matting. **See Erosion Map 1**
- Install biodegradable erosion matting
- Build rock check dams
- Install riprap
- Re-seed area
- Completed internally

Estimated Crew Hours: 100

Combined Cost Estimate: \$3000

Weed Management

Natural resource management defines a weed as a non-native invasive plant introduced to local environments from other areas of the world. Noxious weeds are invasive because they out-compete native vegetation.

The current Genesee weed management program complies with the “Colorado Noxious Weed Act” legislation signed in 1996. This legislation requires public and private landowners in the state of Colorado to maintain control over certain noxious weeds. In addition to the legal requirement, if left unmanaged, weed populations create a long-term change in native plant communities, subsequently resulting in soil problems, reduction of native flora, and an increase of bare ground.

Genesee has actively managed new and existing weed populations on its Open Space since 1994. This activity has reduced a large amount of the known weed populations. Genesee Foundation staff applies herbicide to noxious weeds along roads, within meadows, and in areas of the community with difficult access via backpack sprayer. In addition, Genesee also contracts with licensed herbicide applicators to assist with management efforts. Licensed herbicide applicators are primarily focused on reduction of noxious weeds in areas of most-recent disturbance (i.e. thinning projects). After major disturbances like forest management, it is important to make sure there is no uptick in noxious weeds. Focusing reduction efforts in these areas helps to control or prevent the spread of noxious and invasive weeds.

Weed species identified for control in Genesee include cheatgrass (*Bromus tectorum*), musk thistle (*Carduus nutans*), diffuse knapweed (*Centaurea diffusa*), Canada thistle (*Cirsium arvense*), Dalmatian toadflax (*Linaria dalmatica*), woolly mullein (*Verbascum thapsus*) and small populations of other noxious weeds.

Recommended Actions:

Contract Cheat Grass Mowing

- Hire contractor with flail mower to mow large tract of cheat grass on Genesee Property. **See Weed Map 1**
- Hire same or different contractor to drill seed same plot immediately after mowing

Contract Chemical Applicator

- Hire a professional chemical applicator to spray 10 acres of Canada Thistle, Common Mullein, Myrtle Spurge, and Leafy Spurge **See Weed Map 2**

Chemical Application with OS Crew

- Apply herbicide on 5 to 10 acres; focusing on dense patches of Canada thistle. **See Weed Map 2**

Estimated Crew Hours: 700

Combined Cost estimate: \$13,500

Insect and Disease Management

Most forest insects and diseases are native and important players in the forest ecosystems of Genesee. Some insects and diseases reduce tree growth, cause mortality, reduce timber productivity, create hazardous situations in developed sites, and change wildlife habitat, fire hazard conditions, and overall watershed quality. They provide food and habitat for other wildlife, increase structural diversity of forests, and are important forest recyclers in Genesee.

Typically, forest insects are at low or endemic levels. From time to time, significant outbreaks cause rapid changes across the forest. Diseases are more likely to increase gradually or remain at similar levels over time, depending on forest conditions. Dwarf mistletoes and root diseases are ever-present in the forest and are some of the main contributors to growth loss, reduced vigor, and mortality in their hosts.

At times, natural or human-made events or conditions can cause insects or diseases to become more active. Fire, wind, and drought can weaken host trees and create favorable environments for insects and diseases to attack. Altered age, density, composition, and structure can also lead to greater susceptibility and increased disease and insect activity.

Insect and disease management involves changing the conditions that have created the pest situation. Reducing stand density in conifer stands can lower bark beetle impact.

Dwarf mistletoe

Dwarf mistletoe (*Arceuthobium spp.*) is a parasitic plant that acquires almost all of its needs from its host. This stresses infected trees, causing reductions in growth, cone, and seed production and, with high infection levels, mortality. When left untreated, the area of infection spreads at a rate of 1-2 feet per year. Methods to slow or stop mistletoe from spreading include containment or isolation of infected trees, pruning infected branches, and complete removal of heavily infected trees. Five species of dwarf mistletoe occur in the Rocky Mountain Region.

Forest management options include pruning of infested limbs and sanitation cutting of infested trees. Due to the explosive seed dispersal mechanism, implementing buffer strips around infection centers or around sanitized patches can also be effective.

Mountain pine beetle

Mountain pine beetle (*Dendroctonus ponderosae*) (MPB) is a common pest in Genesee infesting ponderosa pine trees. MPB is native throughout western forests of North America, typically infesting lodgepole, ponderosa, Scotch, pinyon and limber pines. Outbreaks of MPB can kill many trees on a landscape scale as seen in lodgepole pine forests west and north of Genesee. These native insects are always present; however, their management can prevent epidemic populations from devastating Genesee's ponderosa pine forest. Due to the elevated awareness of this insect, it is outlined with additional detail and comes with a specific management plan.

Since 2000, Genesee has experienced low numbers of MPB infested trees. Genesee staff fells and treats approximately 5 – 20 MPB infested trees on a yearly basis. Once again, as stated in the [2018 Report on the Health of Colorado's Forest](#) by Colorado State Forest Service (CSFS), MPB is now at endemic or natural levels aside from a few localized pockets. Per the CSFS [2018 Report on the Health of Colorado's Forest](#), less than 500 acres of native pine forests were affected in 2018. Also, 2018 saw the lowest acreage impacted by mountain pine beetle statewide in two decades.

The best prevention methods involve forest management. Generally, MPB desire forests that are older and have higher tree densities. If we manage the forest for age and structure diversity, our forest will be healthier as well as being more resilient to MPB. Completing our forest treatments gives trees better access to available water and nutrition; thus, making our forests more resilient in repelling MPB attack. This resiliency is especially impactful during periods of sustained drought.

Recommended Action:

Continue awareness and education efforts to the community on Genesee's management plans and how to identify insect/disease. Develop plans for areas that are known to have insect/disease. For Dwarf Mistletoe infestation, remove anything equal to or greater than a DMR of 3.

Educate - Continue education measures with current updates and include additional graphical descriptions of the issue with descriptive maps.

Continued awareness and education will assist the foundation and homeowners by recognizing and treating any individual or small pockets of infested/diseased trees. Residents are encouraged to protect their own property as well as their neighbors' property. Cooperate as much as possible with neighboring communities. It is important for residents to identify and eradicate insect/disease populations on their property, so they do not escape to adjacent Open Space or neighboring properties.

- Encourage homeowners to view property and alert the association if infested/disease trees are suspected.
- Educate private property owners about county regulations and penalties for noncompliance. Encourage neighborhood involvement and explain how each individual impacts the overall community.
- Provide contractor lists for prevention, remediation, or removal of trees on private property.

Trail Management

Genesee's 11.5 miles of trails are being maintained regularly by a growing group of qualified volunteers, the Trails Stewards. The Open Space Manager relies heavily on the input from the Trails Stewards and Trails Committee for direction of management. In conjunction with the seasonal Open Space Crew, the Genesee Trail System is growing and achieving universally accepted, sustainable trail standards on all trails.

Recommended Actions:

Continue to work with the Trails Committee and Trail Stewards to get our trail system to the "Genesee Standard." Continue to work on our new Trail Inventory that will help create a schedule of required trail maintenance. Assist with trail maintenance, trail realignment and off-season emergency repairs in accordance with the maintenance schedule or as needed. Promote and coordinate volunteer efforts within the community to maintain and improve existing and new trails. Develop policies regarding the removal or adoption of volunteer /social trails. Lead the development of new trails, as approved by the Foundation. Provide information to the community about trail opportunities through print, digital, and signage media.

Trail work with OS Crew & Trail Stewards

- Elk run realignment at Rockress Drive. **See Trails Map 1**
- Repair timber bridge on Bear Creek Highlands. **See Trails Map 2**
- Plainsview Trail re-alignments & closing down social trails. **See Trails Map 3**

Contract Mile High Youth Corps

- Bear Creek Highland re-alignments. **See Trails Map 4.**

Budgeted Estimate: \$6,000

Additional Estimated Crew Hours: 700

Future Planning

Future planning considerations and topics of interest to Genesee Open Space will be discussed within GEM and brought to the larger community when appropriate.

Expand Open Space Seasonal Budget

The Open Space Manager is responsible for 1200 acres of open space which includes forest health and wildfire risk reduction, noxious weed management and eradication, trails management, erosion control measures, along with educating residents on the risk of living in a high wildfire risk area. The 2021 budget has been expanded to allow the Open Space Manager to hire a qualified, seasonal crew for a longer duration than previous seasons.

In order to continue providing quality stewardship of Genesee's open space, the ability to hire a full-time or seasonal full-time (10 months) *Assistant Open Space Manager* would boost the internal capacity of the Open Space staff. An expanded budget to hire a qualified individual as a field assistant to the Open Space Manager would provide more oversight of the seasonal crew and more controlled, quality-driven outcomes of the designated projects on Open Space.

GEM has greatly expanded its operational Open Space involvement from just forest thinning (25 years ago) to a sophisticated forest health management process, erosion control, insect/disease management, noxious weed management, resident education, and shared activities. The Open Space Manager applies for, and receives grants, which augment the budget on a consistent basis. In recent years, Genesee has been unable to accomplish all of its planned projects due to contractor and labor shortages. Thus, the Open Space Manager has completed more work internally with a qualified seasonal crew.

Cooperation with Surrounding Communities

Genesee's Open Space issues (Mountain Pine Beetle, Dwarf Mistletoe, wildlife, healthy forest, etc.) are common to a much wider population than Genesee. Some years ago, we had visitors from Riva Chase interested in what GEM was doing. Convening with, and educating, a larger group of stakeholders could deliver more robust ideas which would lead to forward-thinking planning, collaboration, and implementation. In 2021, there will be cross-boundary forestry work proposed with our neighbors, Genesee Village, to treat high wildfire risk areas.

Appendix I

Budget

2021 Open Space Budget			
	2020 Budget Full Year	2021 Budget Full Year	% Change 2020- 2021
Open Space			
Forest Management	\$30,000.00	\$40,000.00	33%
Contractors	\$5,000.00	\$1,000.00	-80%
Equipment	\$1,000.00	\$2,000.00	100%
Supplies	\$1,000.00	\$1,000.00	0%
Landscape			
Equipment	\$1,000.00	\$500.00	-50%
Supplies & Repairs	\$600.00	\$400.00	-33 %
Weeds			
Chemicals/ Supplies	\$3,600.00	\$3,000.00	-17%
Contractors	\$24,000.00	\$10,000.00	-58%
Equipment	\$480.00	\$500.00	4%
Operating			
Seed & Nursery License	\$3,000.00	\$3,000.00	0%
Printing / Education / Website	\$500.00	\$500.00	0%
Seminars/Training	\$2,500.00	\$1,500.00	-40%
Trail Repair and Supplies	\$5,000.00	\$6,000.00	20%
Wildlife	\$200.00	\$200.00	0%
Office Supplies	\$250.00	\$200.00	-20%
Erosion Control	\$4,000.00	\$3,000.00	-25%
General	\$1,200.00	\$1,000.00	-17%
Total	\$83,330.00	\$73,800.00	-11%

Appendix II

Glossary of Forestry Terms

ACRE — An area of land measuring 43,560 square feet. A square 1-acre plot measures 209 feet by 209 feet; a circular acre has a radius of 117.75 feet.

BASAL AREA — (a) The cross-sectional area (in square feet) of a tree trunk at breast height (4.5 feet above the ground). For example, the basal area of a tree that measures 14 inches in diameter at breast height is about 1 square foot. (b) The sum basal areas of the individual trees within 1 acre of forest. For example, an over-stocked ponderosa pine stand might have a basal area of 100 to 120 square feet per acre. On the front range, research has shown that natural stocking levels for ponderosa pine stands should have a basal area of around 50 square feet per acre (*See USFS General Technical Report 373*).

BIOLOGICAL DIVERSITY — The variety of life forms in a given area. Diversity can be categorized in terms of the number of species, the variety in the area's plant and animal communities, the genetic variability of the animals, or a combination of these elements.

CANOPY — A layer or multiple layers of branches and foliage at the top or crown of a forest's trees.

CROWN — The branches and foliage at the top of a tree

ECOSYSTEM — A biological community of living organisms and nonliving components such as air, water and mineral soil that interact. An ecosystem can be of any size — e.g., log, field, pond, woodlot, or Earth's biosphere

EROSION — The wearing away of land or soil by the action of wind, water, or ice.

FOREST MANAGEMENT — (a) Proper care and control of wooded land to maintain health, vigor, product flow, and other values (soil condition, water quality, wildlife preservation, and beauty) to accomplish specific objectives. (b) The practical application of scientific, economic, and social principles to forest property.

THINNING — A tree removal practice that reduces tree density and competition between trees in a stand. Thinning concentrates growth on fewer, high-quality trees, provides periodic income, and generally enhances tree vigor. Heavy thinning can benefit wildlife through the increased growth of ground vegetation.

TREE SPACING — The distance between trees, which is most often regulated at the time of planting or during a harvest or thinning operation. Spacing, like stand density, affects understory vegetation, seed production, growth rate, and wildlife habitat.

TREATMENT — Any action in forest management guided by scientific principles specific to the forest and region. Can include thinning, fuel breaks, group cuts, restoration, etc.

Appendix III

Plan Development Process

Goal:

Develop a plan that clearly states the projects and priorities for the upcoming year consistent with the approved budget. Explain how the funds will be spent and describe how the work fits into the overall goals to maintain Genesee's natural beauty and ecosystem health. The Final plan serves as a road map for open space operations during the year and as source as of information and education for residents.

Planning Process:

Step 1 – Open Space Manager prepares a draft Open Space Management Plan for the following year. Typical open space activities include: forest restoration, shaded fuel break creation, forest health maintenance, weed and pest management, erosion control, meadow restoration. Plan may also speak to future open space management areas, issues and education. Recommendations for priority work primarily consider forest health. Work on the ground reflects best management practices and professional knowledge and takes into consideration the sensibilities of residents. (*September-October*)

Step 2 – The Open Space Manager provides the draft to GEM for discussion and comment. (*November*)

Step 3 – GEM and the Open Space Manager review this plan together and generally agree on any adjustments to be made. GEM members may also provide specific written comments and suggestions. The Open Space Manager updates the draft plan and provides a second draft for review if necessary. (*November/December*)

Step 4 – “Final Draft” Plan is presented to the board for discussion and approval. (*December*)

Step 5 – The approved plan is published on the foundation website. Open space management work begins. (*January*)

Step 6 – Plan Implementation. This includes community feedback through project walk-throughs with committees or interested residents.

Step 7 – Open Space Manager evaluates the year's work. (*December*)

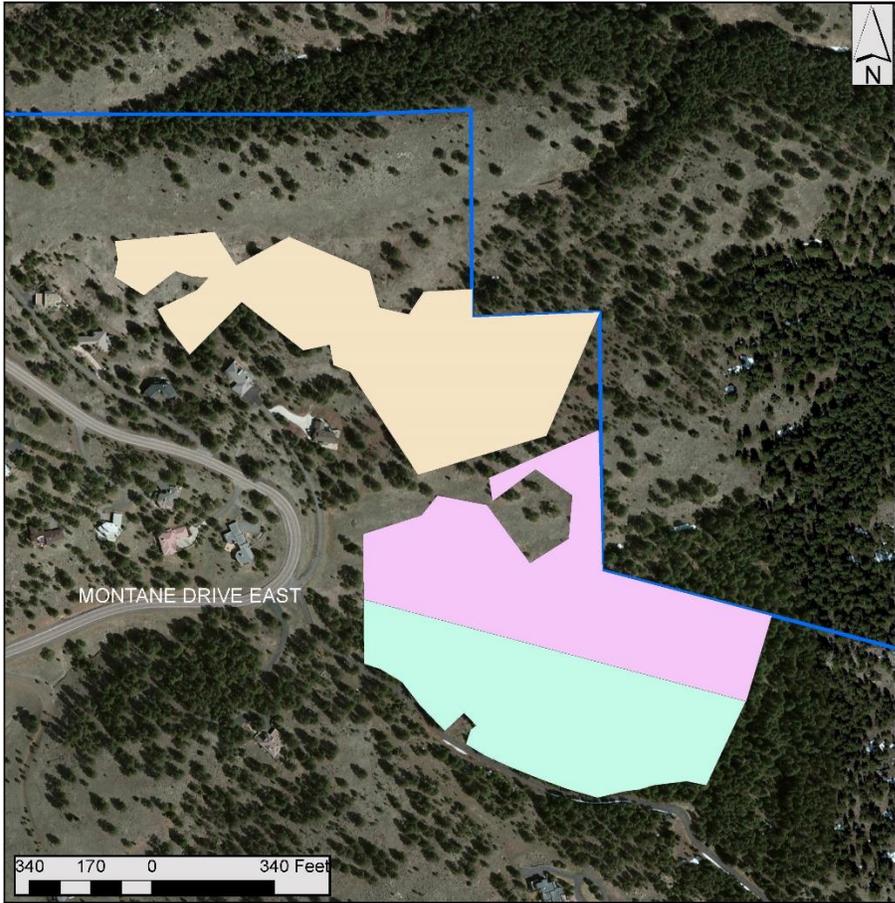
Appendix IV

Address of properties adjacent to forest management areas outlined in **2021** Open Space Management Plan. Residential properties listed here will receive individual letters with information on how to be involved with this project and how the work will impact the Open Space adjacent to their property. Additional forms of communication will include community wide email notification, Genescene articles and roadside posters.

2012	Montane Drive East	1069	Genesee Vista Road
2022	Montane Drive East	1059	Genesee Vista Road
2062	Montane Drive East	1049	Genesee Vista Road
2072	Montane Drive East	1139	Genesee Vista Road
2082	Montane Drive East	1129	Genesee Vista Road
2092	Montane Drive East		
2122	Montane Drive East	24225	Chokecherry Lane
2132	Montane Drive East	24205	Chokecherry Lane
2142	Montane Drive East	24265	Chokecherry Lane
		24245	Chokecherry Lane
952	Arrowwood Drive	24285	Chokecherry Lane
962	Arrowwood Drive	24315	Chokecherry Lane
963	Arrowwood Drive	24355	Chokecherry Lane
972	Arrowwood Drive	24335	Chokecherry Lane
982	Arrowwood Drive		
983	Arrowwood Drive	918	Northridge Court
1003	Arrowwood Drive	888	Northridge Court
1013	Arrowwood Drive	858	Northridge Court
		948	Northridge Court
1089	Genesee Vista Road	1108	Northridge Court
1099	Genesee Vista Road	1118	Northridge Court
1079	Genesee Vista Road	1268	Northridge Court
1149	Genesee Vista Road	1278	Northridge Court

Appendix V

Forestry Map 1



Objectives:
-Conifer thinning on 23.7 acres to reduce basal area to between 40 - 80 square feet per acre

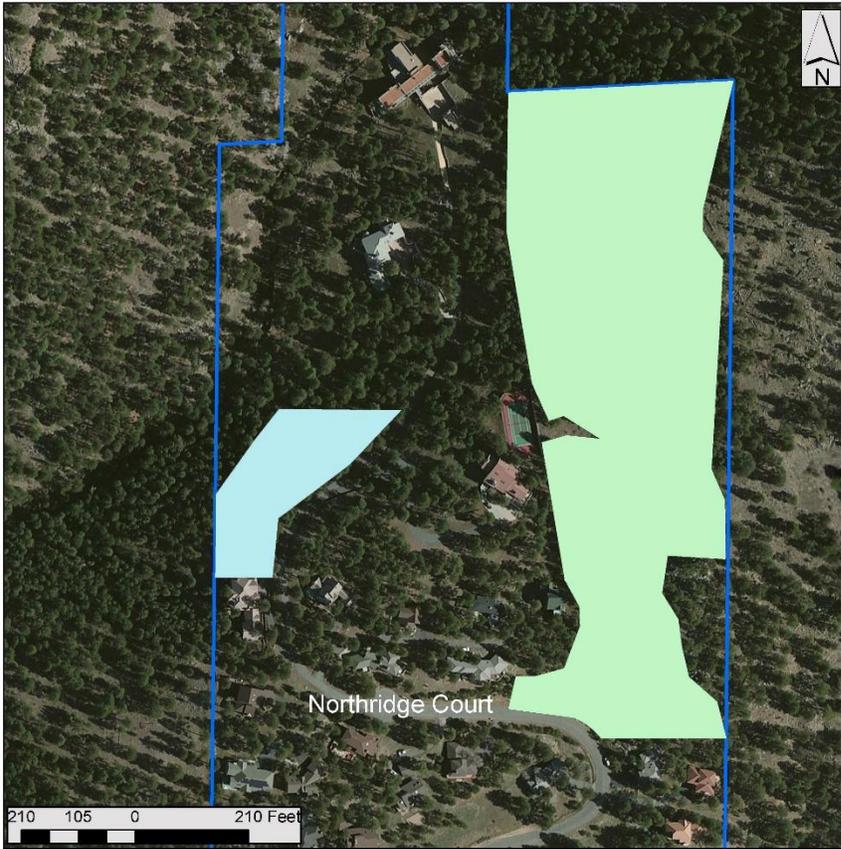
Outcomes:
-Alter potential fire behavior to benefit surrounding community
-Increase forest health and vigor

Legend

- Montane_Unit_1
- Montane_Unit_5
- Montane_Unit_6
- GeneseeBorder



Forestry Map 2

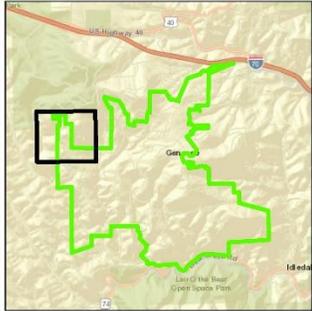


Objectives:
 -Conifer thinning on 10 acres to reduce basal area to between 30 - 50 square feet per acre

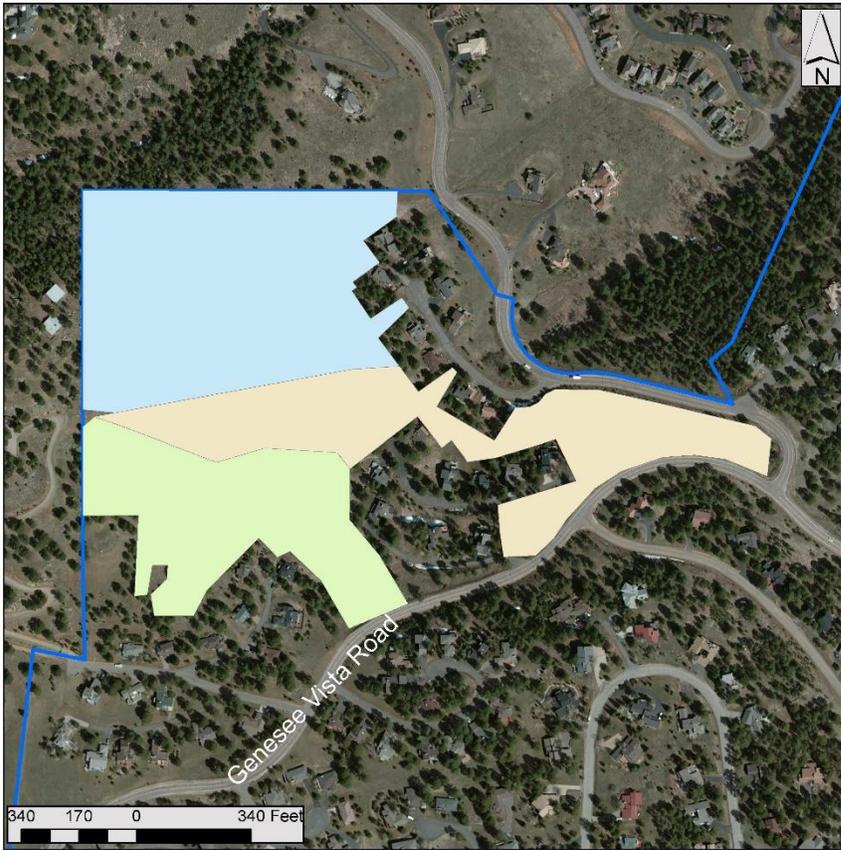
Outcomes:
 -Alter potential fire behavior to benefit surrounding community
 -Increase forest health and vigor

Legend

- Northridge_East_Unit
- Northridge_West_Unit
- GeneseeBorder

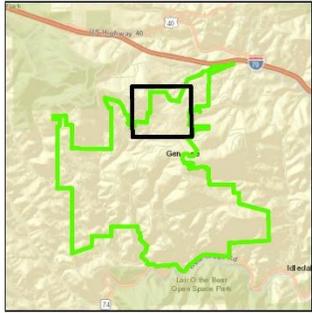
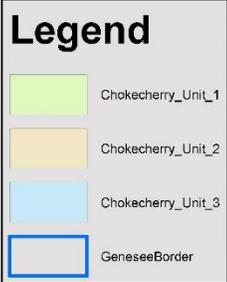


Forestry Map 3



Objectives:
-Conifer thinning on 27.4 acres to reduce basal area to between 40 - 80 square feet per acre

Outcomes:
-Alter potential fire behavior to benefit surrounding community
-Increase forest health and vigor



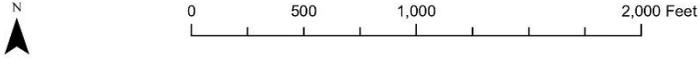
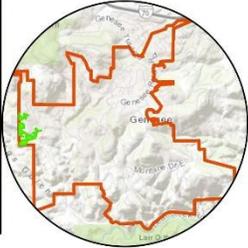
Forestry Map 4



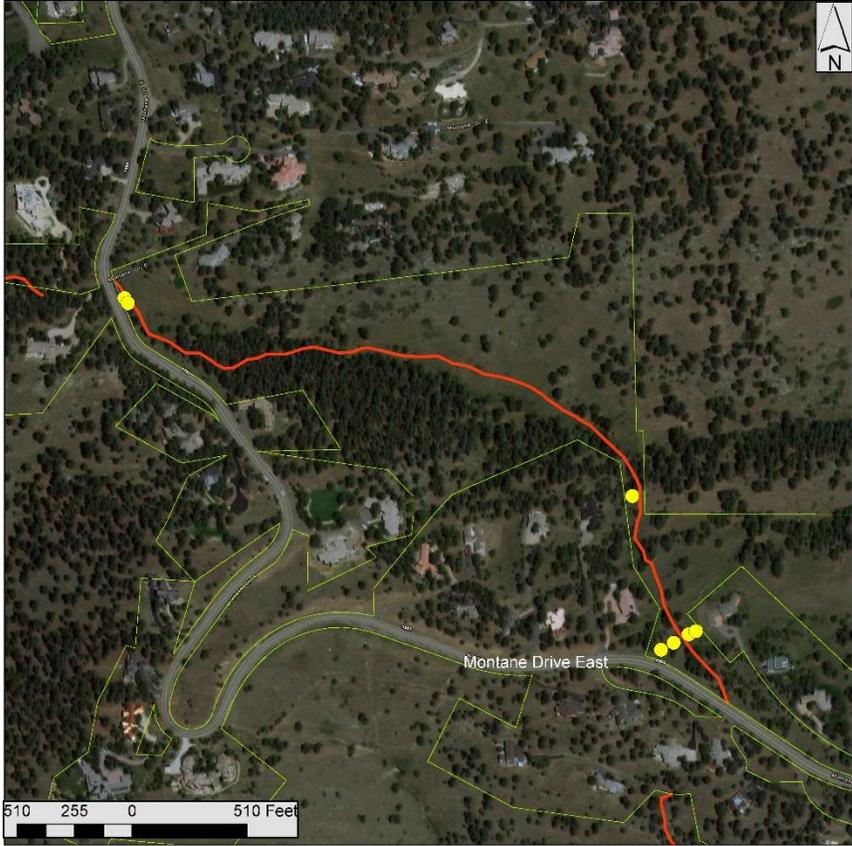
Objectives: 15 Acres of thinning on Open Space to increase crown canopy distance, reduce ladder fuels, and increase evacuation safety.

Outcomes:
 -Alter potential fire behavior to benefit surrounding community
 -Increase forest health and vigor

- Juniper Area
- Genesee Trails
- GeneseeBorder
- Privately Owned



Erosion Map 1



- Objectives:**
- Remove non-biodegradable erosion matting
 - Install rock check dams
 - Re-seed area with Genesee Native Grass Mix
 - Install biodegradable erosion matting

- Legend**
- OpenSpace_Boundaries
 - Erosion
 - Existing_Trail



Trails Map 1



Objectives:

- Open Space Crew and Trail Stewards to dig 750 feet of new trail
- Connect to Rockress Way and existing trail

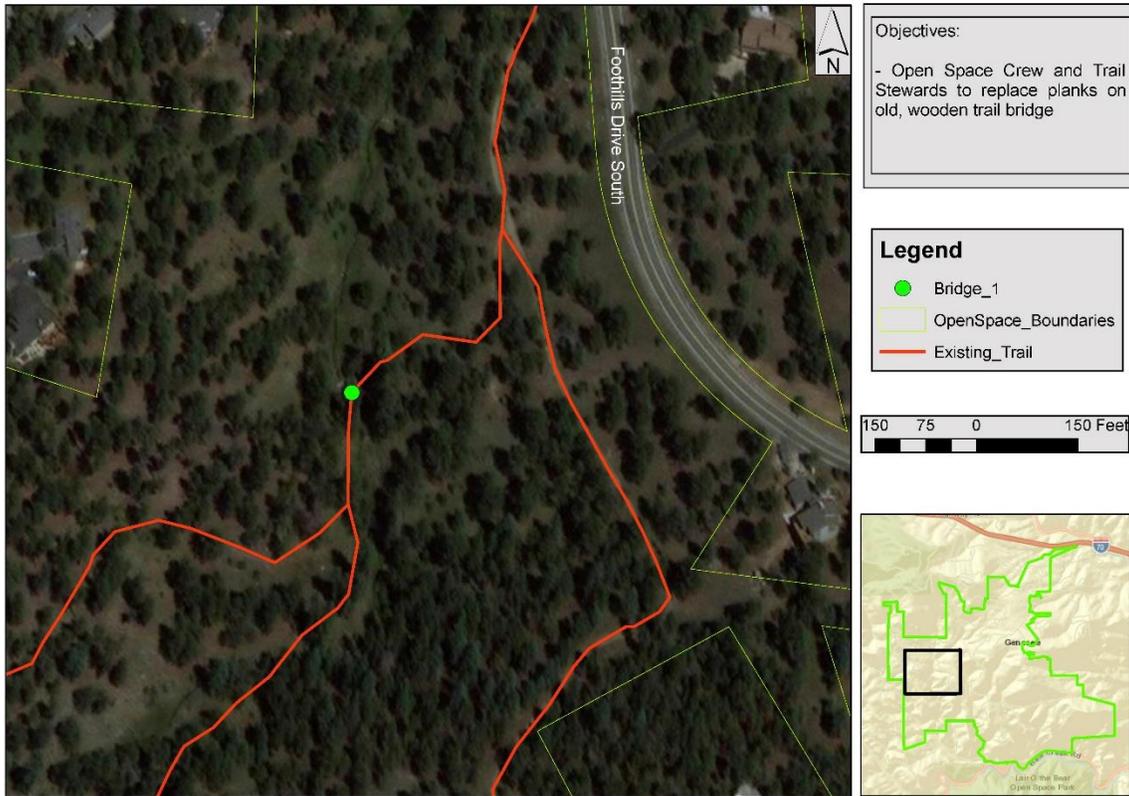
Legend

- OpenSpace_Boundaries
- Existing_Trail
- Rockress_Spur New_Trail

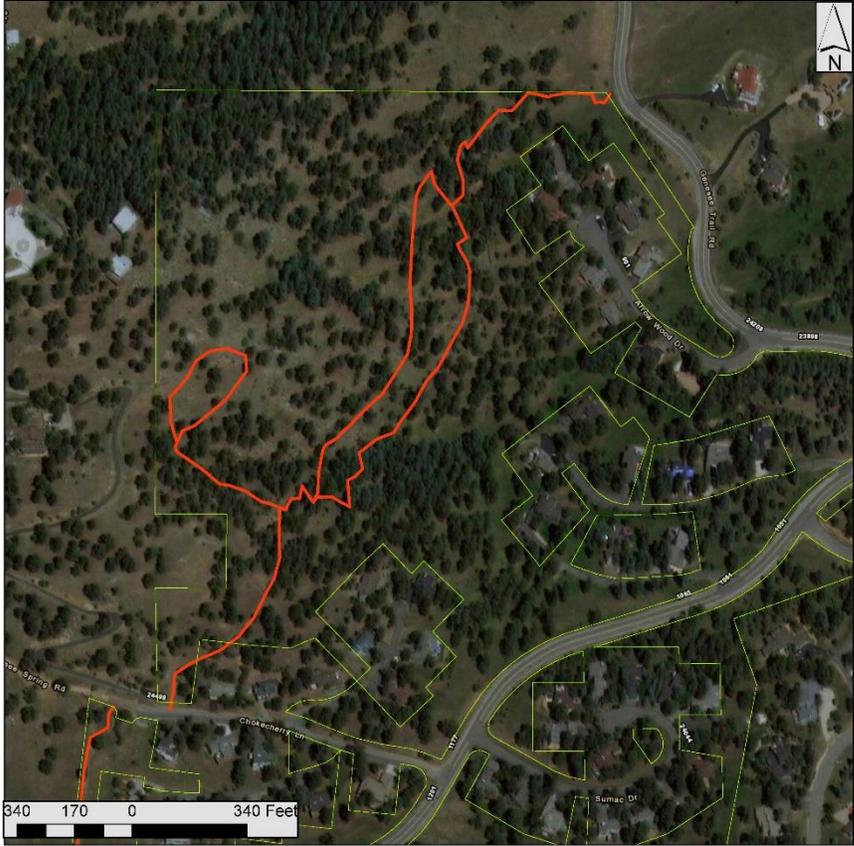
150 75 0 150 Feet



Trails Map 2



Trail Map 3



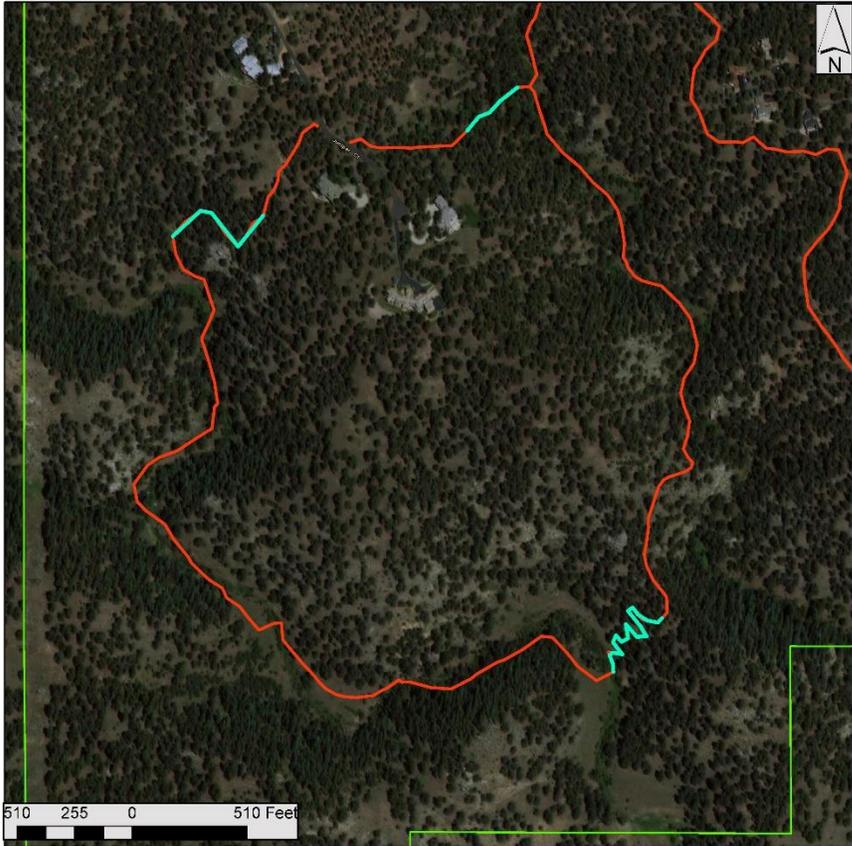
- Objectives:**
- Close down various social trails using natural materials
 - Install erosion control structures in existing trail
 - Reroute existing trail at locations of severe erosion

Legend

- OpenSpace_Boundaries
- Existing_Trail



Trails Map 4



- Objectives:
- Dig realignments to avoid steep eroding areas
 - Install water diversion and erosion control structures in existing trail
 - Close down old trail with natural materials

- Legend**
- Realignment_Area
 - Existing_Trail
 - GeneseeBorder



Weed Map 1

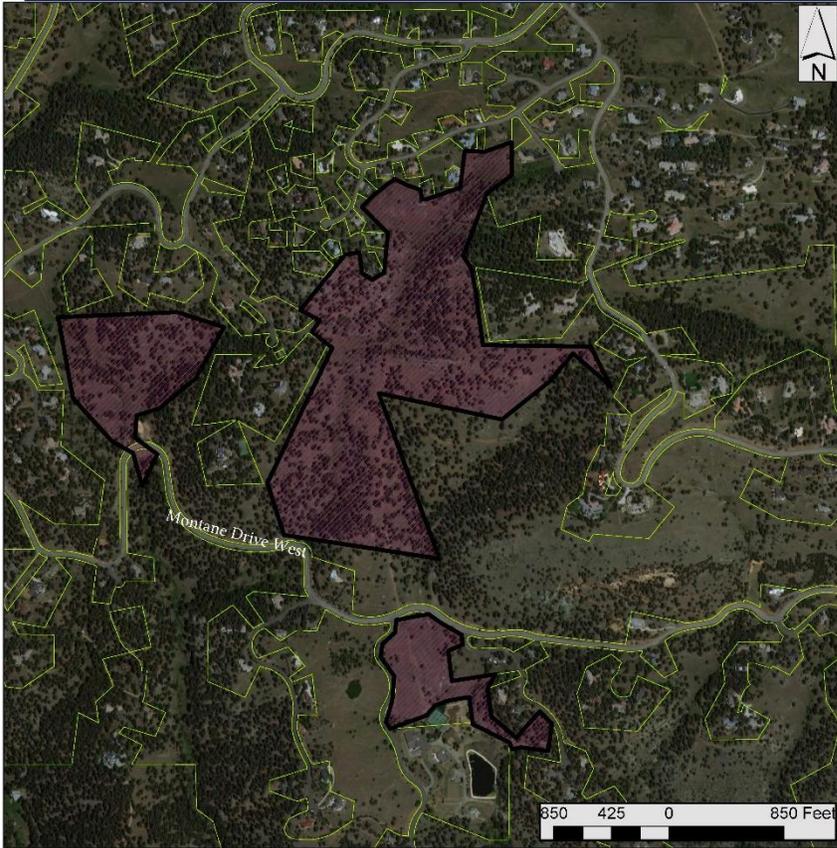


Objectives:
-Hire contractor to mow cheat grass in the spring and treat with herbicide shortly after
-Return after 3 weeks and re-seed the treated area with Genesee Native Grass Mix using a drill-seeder or hydro-seeder

Legend
OpenSpace_Boundaries
Cheatgrass_Treatment 7.4 Acres



Weed Map 2



Objectives:
-In late spring 2021, Open Space Manager will identify sub-areas within the highlighted area where canada thistle will bloom
-Hire a contractor in early summer to apply herbicide in the sub-areas
-Return in mid-summer with Open Space Crew to remaining areas with blooming canada thistle

Legend
OpenSpace_Boundaries
Thistle_Treatment

