



Pineries Open Space Tier One Trail Corridor Clearance Final Project Report

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Photo credit: George Lee

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BACKGROUND

In June 2013, the Black Forest Fire burned 14,280 acres in Black Forest, Colorado. With the loss of 486 homes and 2 lives, the fire surpassed the 2012 Waldo Canyon Fire as the most destructive wildfire in Colorado state history. Although the majority of the fire burned on private land, approximately 1,200 acres of El Paso County Parks land were affected. Between 2013-2015, Rocky Mountain Field Institute (RMFI) worked with volunteers and local youth conservation crews to implement priority post-fire stabilization and restoration objectives in the Black Forest Regional Park (BFRP) and in the Pineries Open Space (POS), both operated by the Park Operations Division within the El Paso County Community Services Department.

A Park Master Plan (El Paso County Community Services Department, 2010) was completed for the POS property in 2010; however, public access development on the property was delayed by the 2013 fire. Over the winter and early spring of 2016, RMFI partnered with El Paso County Park Operations staff to begin preparation of a tier-one multi-use trail corridor featured in the Master Plan. When complete, the trail corridor will connect two nearby regional trails, the Black Forest Section 16 Trail, to the southwest, with the Woodlake Trail, to the northeast of the property. As the open space property forms a ring around privately-held property and is surrounded by established residential neighborhoods, trail spacing and visibility considerations applied in the project.

The POS is characterized by gently rolling terrain, including a subtle ridgeline that is part of the Palmer Divide, separating the Lower Platte and Arkansas River Watersheds. The terrain is dominated by ponderosa pine forest and with a sparse understory composition, including kinnikinnick, squaw current, mountain mahogany, blue grama, western wheatgrass, needle and thread, and mountain muhly. The POS is also managed under a Forest Management Plan (Worley, Reinold, & Lawton, 2014) prepared following the 2013 fire. A majority of the property is also managed under the requirements of a conservation easement, held by the Palmer Land Trust. County-led surveys of the property have located an inventory of rare plants and of Culturally Modified Trees (CMTs), commonly known as “Ute Trees”, both of which required protection during public access development.

In early December 2015, representatives from RMFI and El Paso County parks staff visited the southwest portion of the property to confirm survey markings delineating trail routing through an easement crossing private land. Representatives also discussed the general alignment and corridor clearance requirements for the remainder of the trail, estimated at approximately 3.7 miles in length, and running along and inside the west and north boundaries of the property. In early February 2016, RMFI and the Community Services Department signed a Supplemental Project Agreement (Contract #16-020, February 4, 2016) dividing the preparation of the trail corridor into 3 tasks and adding a fourth task, to remove hazard trees on POS property bordering the Blue Spruce Lane neighborhood. Soon after, RMFI staff began work on task 1, marking trail alignment, clearing the corridor, and removing hazard trees in the southwest corner of the property. Under this agreement, RMFI and El Paso County each committed funding to the project.

PROJECT TASKS

Summary. RMFI’s role in trail corridor preparation first involved marking an exact intended alignment of the future tier 1 trail, using an access easement and a proposed general depiction of the course of the trail as shown in Figure 1. Upon approval of the alignment marking, RMFI began corridor clearance by

removing trees and shrubbery for a total width of 12 feet, centered on the trail alignment, and for a minimum height of 10 feet to accommodate equestrian users. Additionally, hazard trees, defined as dead trees of 6 inches or greater diameter at breast-height (dbh), and within 60 linear feet of the center of the trail, were also removed. Before clearing began, the County and RMFI decided to modify earlier Black Forest Fire hazard tree criteria to protect trees that still had live, green needles (no matter how small the percentage) in the crown. The cut branches and small-diameter remains of the felled trees (slash) were scattered on the property so as not to pose a significant impediment to wildlife, and to disperse ground fuels. Where practical, tree trunks were bucked at 10 foot lengths and stacked for later use by the Parks Division staff.

Task 1. This task covered trail corridor preparation beginning in the southwest corner of the property, connecting with Black Forest Section 16 Trail at the intersection of Shoup and Vollmer Roads, and proceeding north, for approximately 4,300 feet to the future “Main Trailhead” located at the old ranch headquarters. Approximately 3,200 feet of this task were through a narrow public-access easement on private land. The majority of this length was through severely-burned area; however, a large number of dead trees bordering the trail easement had already been removed by the private land developer.

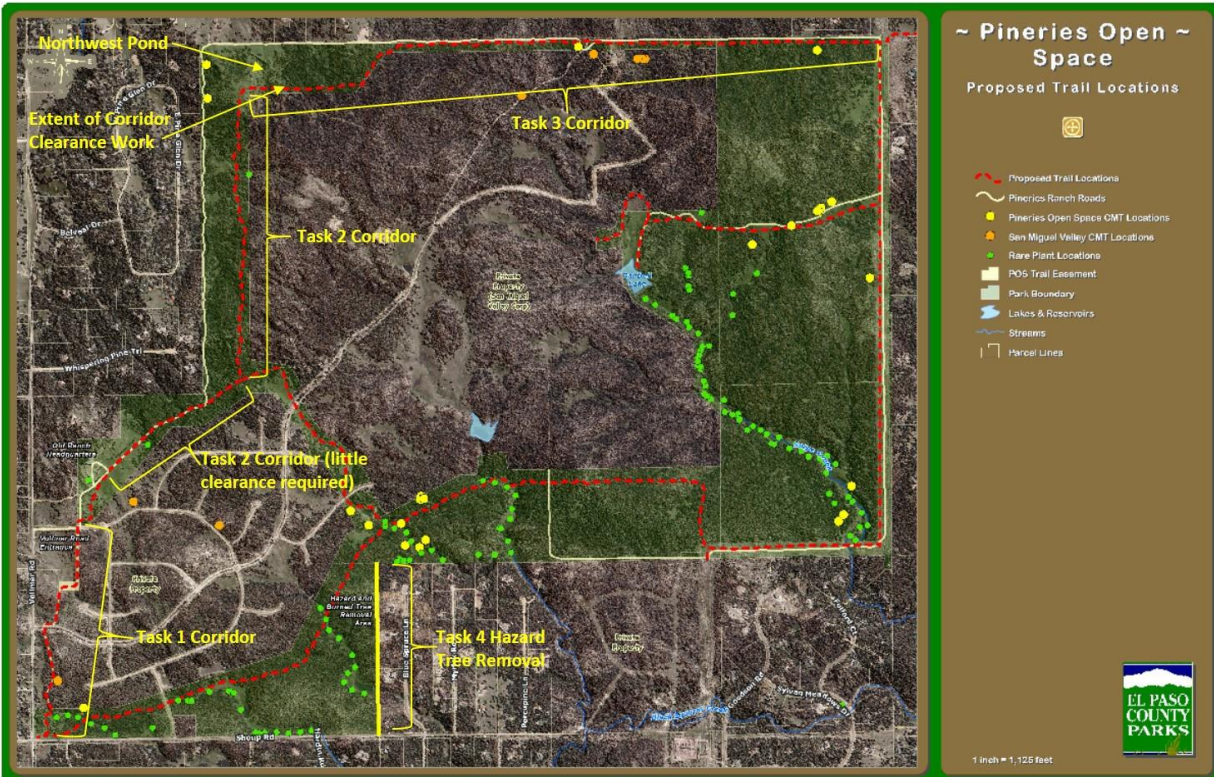
Task 2. This task included trail corridor preparation running northeast from the future Main Trailhead and along an existing ranch road, and then running due north along the property’s western boundary to the vicinity of a WPA or CCC-built dike and pond in the property’s northwest corner. The alignment running along the existing ranch road required no clearance work; however, the north-running segment of approximately 5,200 feet transited frequent patches of moderate and severe-intensity burn areas of thick ponderosa forest, where intensive hazard tree removal was required. The alignment here was through a relatively narrow, 700-foot wide section of POS property, with additional conditions that the trail be no closer than 500 feet from the west boundary and no closer than 50 feet from the east boundary. With only 150 feet of lateral space remaining for alignment, these restrictions posed some considerable challenges in certain places where the trail had to cross over ridgelines or through severe-intensity burn areas.

Task 3. This task comprised trail corridor preparation running west from the property’s northwest pond to the property’s east boundary, paralleling a power-line right-of-way running just north of the property’s northern boundary. This stretch was approximately 9,800 feet long. The proposed alignment was already mostly cleared for off-road vehicle access along boundary fencing to the north and along severe-intensity burn areas on its south. The electrical company had removed hazard trees that were within range of the adjacent power lines; however, many hazard trees remained to the south of the proposed alignment and within the 60-foot distance of concern for the trail corridor.

Task 4. This task required the removal of hazard trees within 60 feet of private fencing or private property along a 2,300 foot stretch bordering the adjacent Blue Spruce Lane neighborhood.

The POS property and task locations are depicted in Figure 1 below.

Figure 1. A map of the Pineries Open Space and delineations of tasks 1 through 4. Map courtesy of the El Paso County Community Services Department.



PROJECT WORK AND ACCOMPLISHMENTS

Over the course of 26 work days between January 22nd and April 22nd, RMFI staff marked alignment in tasks 1 and 2, cleared corridor and hazard trees for tasks 1 and 2, and removed all hazard trees in task 4. Between February 6th and June 8th, RMFI also hosted 7 community volunteer workdays to assist in scattering slash and finishing work for corridor clearance in which RMFI engaged 148 volunteers for a total of 789 volunteer hours (valued at \$20,482). The assistance of certified Volunteer Crew Leaders, including Mr Larry Fariss and Mr George Lee, was greatly instrumental in the later parts of this project.

Task 1. RMFI staff marked alignment and felled and disposed of 44 standing dead trees along approximately 3,900 feet of alignment from the intersection of Shoup and Vollmer Roads north to the trail crossing of the current main drive to the ranch/main trailhead off of Vollmer Road. This end point is approximately 800 feet short of the parking and main trailhead; the remaining trail segment awaits final alignment determination by the Community Services Department to tie-in with future development of the main trailhead and parking area.

Task 2. RMFI staff marked a primary alignment (in green flagging) along 5,200 linear feet of trail corridor and 6 short segments of alternate alignment (orange flagging) connecting with the primary alignment. This task ran from the old ranch road (starting approximately 2,500 feet east of the future main trailhead) north

to directly south of the northwest pond. The purpose of the alternate segments was to provide options for trail alignment remaining outside of the 500-foot buffer from neighboring properties to the west. Certain segments of primary alignment were marked just within the 500-foot buffer to route through green (unburned) trees, to pass on the edge of a meadow, and to avoid passing through additional large patches of severely-burned standing (hazard) trees. Community Services Department staff invited neighboring residents to review both options for alignment in an early May visit following RMFI's corridor clearance. Along the primary and alternate alignment, RMFI felled and disposed of approximately 393 trees, almost all of these hazard trees. GPS track files for the primary and alternate alignments were provided to the County staff. Photos in Figures 2 through 5 show examples of this work.

Task 3. County staff reallocated time and resources from this task for RMFI to more comprehensively address requirements in task 4.

Task 4. RMFI staff designated and felled approximately 217 hazard trees from within 60 feet of private residential property and fencing along the Blue Spruce Lane neighborhood. Slash from the processed trees was dispersed on the POS property and remaining logs were stacked for future use by County staff. Many of the hazard trees were large, mature ponderosas, and several had leans toward the private property, necessitating special techniques to assure felling onto POS property. In only one case did the top 5 feet of a hazard tree fall onto a neighboring property, striking a wire fence and causing slight stretching of the fence wire. RMFI settled the cost for repair directly with the neighbor, who was understanding and happy that the tree removal was conducted. Figures 6 and 7 show examples of this work.

Total Project Work Statistics - Pineries Open Space Trail Corridor Clearance, Winter-Spring 2016

- 30.5 total workdays (including 7 volunteer workdays).
- 1,405 total on-the-ground hours.
 - 789 volunteer hours (volunteer labor valued at \$20,482 at \$25.96/hour per independentsector.org).
 - 616 RMFI field staff hours.
- 148 community volunteers engaged.
- Approximately 9,900 linear feet of trail alignment marked (8,400 primary and 1,500 alternate).
- Approximately 9,900 linear feet of trail corridor cleared and approximately 438 hazard trees removed and processed.
- Cleared approximately 2,300 linear feet (or 3.2 acres in area) of safety corridor with 217 hazard trees removed and processed from hazarding Blue Spruce Lane neighboring property.

Volunteer Groups Engaged

- Peterson Air Force Base (4 days with 4 different Air Force units)
- Dordt College (Iowa) Spring Break Service Program (2 days)
- Colorado Springs Early Colleges

Photos of 2016 Work



Figure 2. Before and after photos at task 2, trail corridor clearance and hazard tree removal along a future tier 1 trail route. A corridor 12 feet wide was cleared of trees and shrubs and hazard trees were removed out to a distance of 60 feet on each side. The stake indicates a distance of 3,100 feet from the start of this segment of alignment.



Figure 3. Before and after photos at task 2. Trail alignment sought to preserve as many live trees as possible. The trail alignment bends to the right, around live trees, in the right foreground of this photo.



Figure 4. The left photo depicts one of several segments where primary (green) and alternate (orange) alignment options were marked, usually to give options to stay in “green” trees or through dead trees and outside of the 500-foot buffer of private properties to the west. The right photo shows one of many segments where the alignment had to transit a severely burnt area with a heavy hazard tree removal requirement. Volunteers were indispensable for scattering branches (slash).

Figure 5. Photo of a possible Culturally Modified Tree (CMT) or “Ute Tree” at the north end of the alignment (at stake 43) with a hazard tree felled in the foreground. Particular care was taken to report and to avoid impacting such trees and the inventory of rare plants on the property. The alignment passes approximately 15 yards west of this tree, which was killed in the fire.



Figure 6. Before and after photos at task 4, hazard tree removal on Pineries property along private property fencing. Dead, standing trees meeting hazard tree criteria were the only trees felled and processed with slash dispersed. Smaller trees were left and efforts made to avoid clear-cutting an un-natural even corridor.



Figure 7. Before and after photos at task 4. Considerable pre-cautions were taken to prevent tree strikes across property lines as all felling was of hazard trees within 60 feet. Mature, dead trees on the right of the photos are within private property adjoining the Pineries property.

FUTURE WORK

The timing of this project worked out well in that many of the required tasks could be completed during winter and early spring conditions well before the start of RMFI's traditional field season (April to November). Only a few workdays had to be postponed due to weather and road conditions. A similar project in the winter and early spring of 2017 should be possible with RMFI staff and community volunteers if El Paso County were interested.

This spring through fall of 2016, RMFI will shift its post-fire restoration and stabilization community volunteer work back to the Black Forest Regional Park. Work will primarily include stabilizing drainages, including former trails that now act as drainages. This work will complement the County's park-wide drainage study to inform future trail alignments. RMFI's work is currently scheduled to occur over 11 workdays with assistance from community volunteers.

RMFI Contact Information

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References

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- Worley, K., Reinold, S., & Grinter, L., 2014. *Pineries Open Space Forest Management Plan.*
- El Paso County and Rocky Mountain Field Institute, 2016. *Contract # 16-020, Supplemental Project Agreement between Rocky Mountain Field Institute and El Paso County, Colorado Regarding Pineries Open Space Winter Work*; Available upon request from rmfi@rmfi.org.