Black Forest Regional Park Master Plan

2011

Community Services Department
Planning Division

Acknowledgements

The El Paso County Board of County Commissioners approved Park Lands Agreements with the Cathedral Pines developer and approved a Subdivision Improvements Agreement for Filing No. 5 of Cathedral Pines on January 5, 2010 that further addressed park land dedication and fees. The latest agreement secured County ownership of 145 acres of land for Black Forest Regional Park, for a total of 385 acres. The Black Forest Regional Park Master Plan is intended to ensure continued good stewardship of this regional park resource into the future. Funding for the Black Forest Master Plan was provided via the above agreements and El Paso County made a significant contribution in staff time by Planning and Park Operations divisions.

As always, we appreciate the leadership and support from the Board of County Commissioners for the continued development of parks, trails, and open space in El Paso County.

El Paso County Board of County Commissioners
Amy Lathen, Chair
Sallie Clark, Vice Chair
Dennis Hisey
Darryl Glenn
Peggy Littleton

Planning for use of this resource required the interaction of diverse interests. I wish to acknowledge the following individuals and organizations that have helped to create the vision for Black Forest Regional Park.

The Park Advisory Board committed significant time and effort to the oversight of the Black Forest Master Plan planning process.

El Paso County Parks Advisory Board
Jane Fredman, Chair
Robert Altenbernd
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Chris Meyer
James Mariner
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Jeff Cramer
Martha Johnson
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Direction and public input for the Black Forest Master Plan was provided by a citizens planning committee. Members of the Master Plan Committee, listed below, gave valuable input to County staff and generated thoughtful ideas that are incorporated into the Plan.

Black Forest Master Plan Committee Members

- Barbara Remy
- Jim Mariner
- Bart Atkinson
- Hank Hoover
- Cheryl Pixley
- Anthony Wenger
- Debbie Stalnaker
- Jason Niebuhr
- Walt Seelye

County staff played a significant role in the preparation of the Black Forest Master Plan. The following staff members deserve recognition for their contributions:

- Jason Meyer, Park Planner
- Elaine Kleckner, Planning Manager
- Jerry Westling, Park Operations Manager
- Bill Campbell, North District Maintenance Supervisor
- Patrick Salamon, Park Maintenance III

Finally, we are grateful for the many citizens who provided input on the development of the Master Plan to ensure that we are meeting the needs of park users.

Tim Wolken
Director of Community Services

Acknowledgements…….....2

Table of Contents…….....4

I. Introduction……5

II. Site History……7

III. Planning Process…….....9
- Tasks
- Timeline
- Public Involvement
  - Committee
  - Survey
  - Public Notice
  - Other Research

IV. Site Inventory and Analysis…….....13
- Topography
- Soils and Geology
- Drainage and Wetlands
- Vegetation
- Wildlife
- Visual Resources
- Man-made Structures

V. Goals and Objectives……27

VI. The Plan…….....29
- Alternatives
- Proposed Improvements

VII. Management Actions…….....41

VIII. Design Guidelines……43

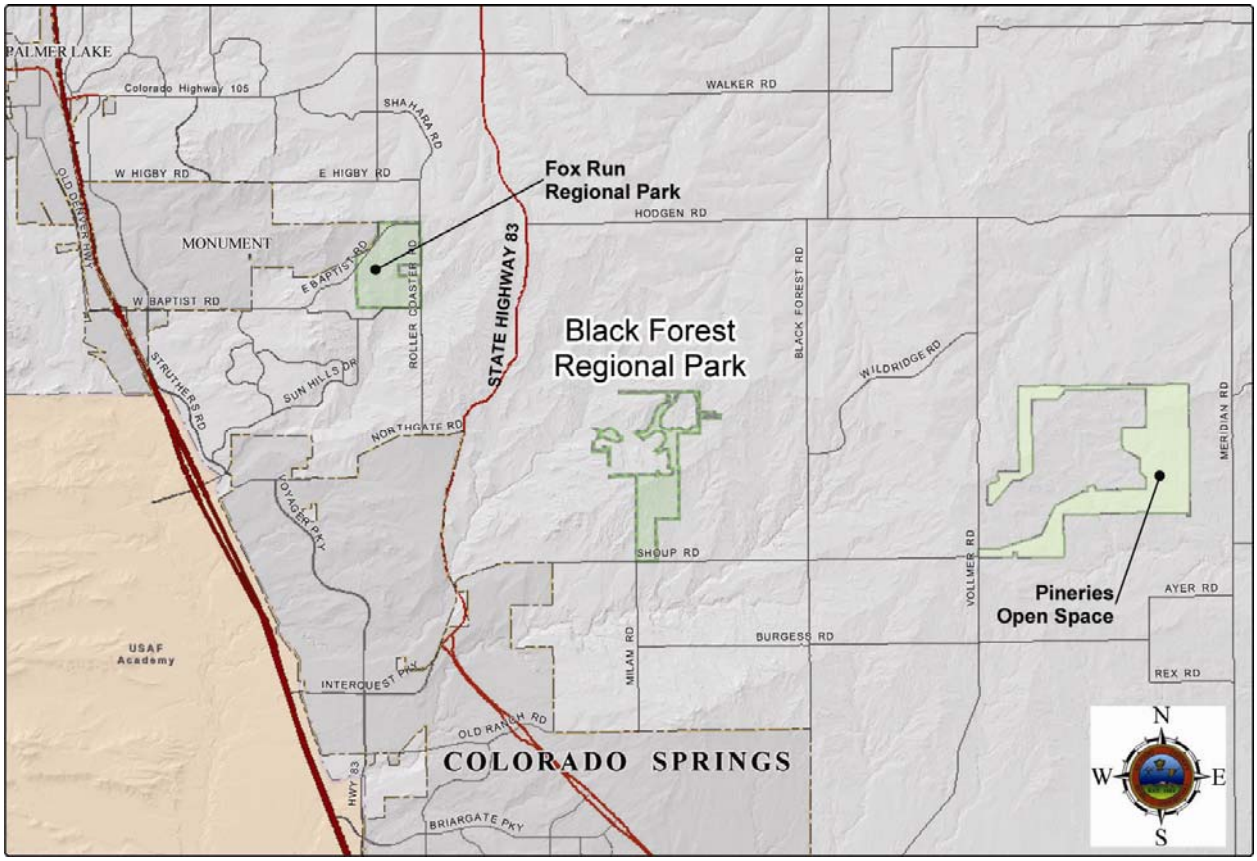
XI. Implementation…….....51
- Phasing
- Capital Costs
- Maintenance Costs
- Funding Considerations

X. References…….....57

XI. Appendices……59

I. Introduction

The Black Forest Regional Park is located in the Black Forest area of El Paso County, Colorado, northeast of the intersection of Shoup Road and Milam Road, continuing north east to the intersection of Vessey Road and Holmes Road. Access to the Regional Park is off of Milam Road and Vessey Road.



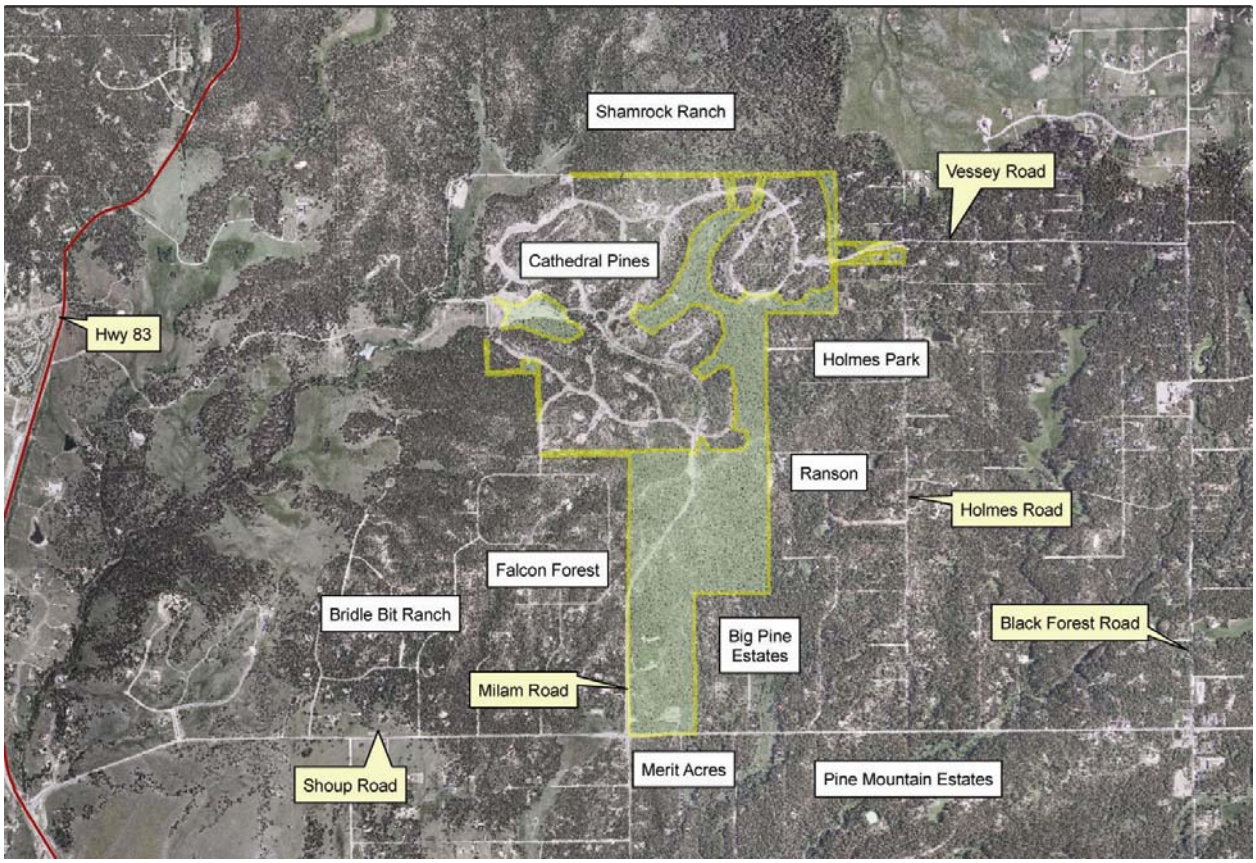
Black Forest Regional Park has been under the care of El Paso County since 1977. As a Regional Park Black Forest preserves a unique open space and provides recreational opportunities to the citizens of El Paso County.

The most recent agreement with the Cathedral Pines developer secured 145 acres of open space for public use as a regional park north of the original park. The $400,000 in fees for park improvements will be given to the County in phases as final plats for the development are recorded. Under the agreement, $246,155 was donated to El Paso County at the recordation of Cathedral Pines Filing No. 5 on a pro rata basis (based on 8/13 of the lots). The remaining funds of $153,845 will be provided to the County at recordation of the remaining 5 lots (13/13 lots) of Cathedral Pines Filing No. 5.

The intent of this Master Plan is to set forth parameters for public access and use of the park land, the allocation of improvement funds, and establish management and maintenance requirements of the park land and associated facilities.

A rudimentary master plan was developed by the County in the 1970's when ownership of the park land transferred from the U.S. Forest Service to the County. This plan provided the basis for the location of existing park facilities.

Black Forest Regional Park is surrounded by existing residential subdivisions. There are four major access points into the park, three trailheads and one trail access point from the Cathedral Pines Metropolitan District property located north of Black Forest Regional Park.



II. Historical Use of Black Forest Regional Park

The property known as Black Forest Regional Park has a history of settlement that dates back to 1860. Prior to settlement, Ute Arapahoe and Cheyenne Indians hunted in and defended the area (Vale 2002).

The park land has been part of lumber operations, cattle grazing, and under public ownership since 1944. El Paso County leased and then acquired the land from the U.S. Forest Service in 1977. The following timeline represents the ownership history of the land known as Black Forest Regional Park (Von Ahlefeldt 1979).

1870: General Palmer placed a land patent on 50,000 acres in Black Forest for timber and cattle grazing.

1917: The land was sold to Edgar Lumber and Box Company as part of a 12,000 acre commercial forestry operation, which later became known as the Kettle Creek Ranch. It was later determined that it was unsuitable for commercial forestry.

1944: The land was donated to the U.S. Forest Service for a forestry demonstration area and eventually became a popular picnic area with local residents.

1977: The U.S. Forest Service leased the park commonly known as the “Black Forest Picnic Grounds, Pike National Forest” to El Paso County. The initial Master Plan was developed for the Black Forest Regional Park. It has since remained relatively unchanged.

1999: The U.S. Forest Service deeded the 160 acre park to El Paso County in exchange for $320,000 and 160 acres of land located 3 miles west of the Town of Monument.

1999: The Milam Road extension through Black Forest Regional Park to the Cathedral Pines development directly north of Black Forest Regional Park was initiated.

2004: Cathedral Pines Filing #1 was recorded with El Paso County. The original Park Lands Agreement between Cathedral Pines and El Paso County was executed.

2010: Per an Amended Park Lands Agreement with the Cathedral Pines developer, El Paso County received an additional 145 acres from Cathedral Pines. With this addition, Black Forest Regional Park expanded by 60%, from its original 240 acres to 385 total acres, and $400,000 was provided by the developer for park improvements.

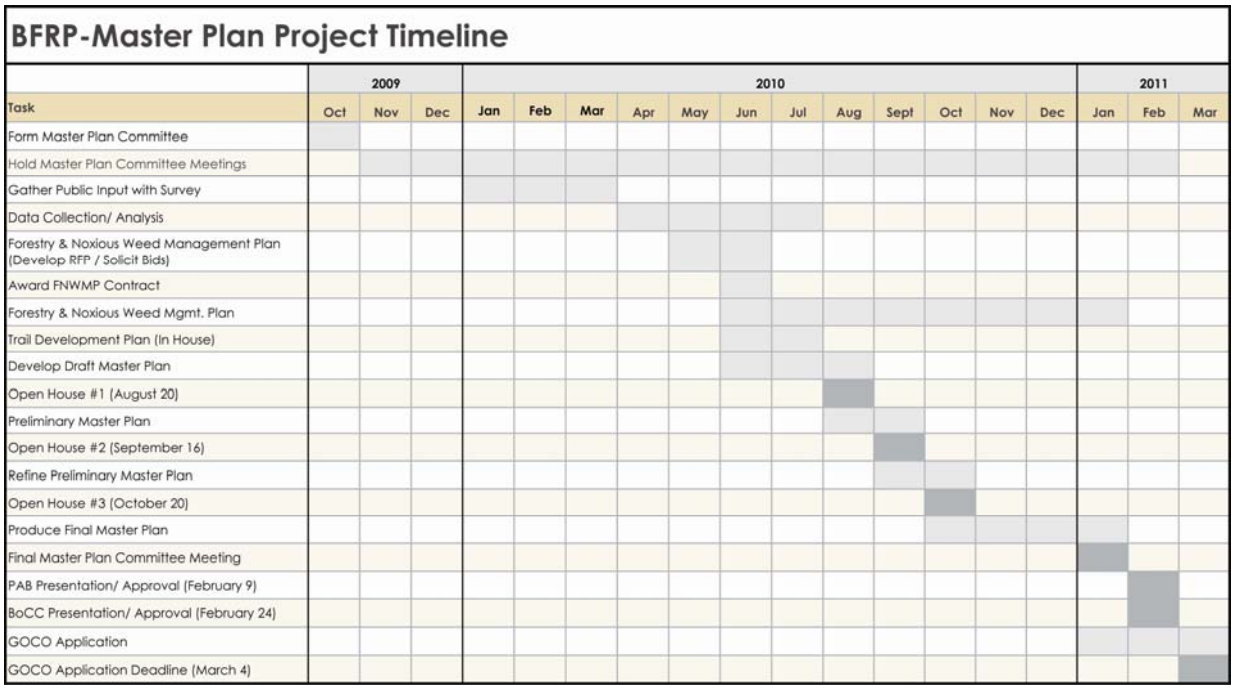
III. Planning Process

Tasks

With the dedication of 145 additional acres to Black Forest Regional Park in 2010, El Paso County elected to update the Park's Master Plan. The process included establishing a Master Plan Committee, conduct public meetings to seek general comments from citizens and County staff to prepare the Master Plan.

A Master Planning Committee was established in the fall of 2009. This committee worked with County staff to prepare a public survey. This survey was sent out in February of 2010 seeking general public comments. County staff and the Committee used the survey results, in combination with input from the Cathedral Pines Metropolitan District, adjacent landowners, and other interested parties to develop alternatives and a conceptual Master Plan. This Master Plan was presented at several public outreach events and three public meetings over the course of 2010 and was refined.

Timeline



Public Involvement and Outreach

El Paso County uses a public process to gather input for master plans and significant improvements. The Black Forest Regional Park public process consisted of several input opportunities and formats.

1. Master Plan Committee

A Master Plan Committee consisting of nine individuals was appointed by the El Paso County Park Advisory Board as an advisory working committee. The Master Plan Committee members represented both the interests of the County park users as a whole as well as specific use types, such as equestrians, hikers, mountain bikers, and conservation interests. Residents of neighboring subdivisions were also included in the Master Plan Committee membership. All Committee members were very familiar with the park and visited it often. The members also held eight open meetings to review, seek input, and make recommendations to County staff regarding the Master Plan.

BFRP-Master Plan Public Involvement & Outreach Timeline

	2009			2010												2011	
Task	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb
Form Master Plan Committee																	
MP Committee Meeting #1																	
MP Committee Meeting #2																	
MP Committee Meeting #3																	
MP Committee Meeting #4																	
Meeting with Cathedral Pines #1																	
MP Committee Meeting #5																	
MP Committee Meeting #6																	
MP Committee Meeting #7																	
MP Committee Meeting #8																	
Community Outreach #1 Black Forest Festival																	
Public Meeting #1																	
Public Meeting #2																	
Community Outreach #2 Black Forest Trails Association																	
Public Meeting #3																	
Community Outreach #3 Monument Community Night Out																	
Meeting with Cathedral Pines #2																	
Final Draft / MP Committee Meeting #9																	
Presentation to Parks Advisory Board																	
Presentation to Board of County Commissioners																	

2. Public Survey

A public survey was distributed to collect input from citizens in the Black Forest Area. A press release with notification of the survey was issued. The survey notification was also published in the Black Forest News and was sent to all homeowners associations in the greater Black Forest area. In all, 137 surveys were received. All input from these surveys was used in conjunction with the comments from the public meetings.

The results of the survey demonstrated that the park's trail system is the most popular feature. Over 80% of survey participants' rank trails as their favorite feature of the park. In addition, 65% of respondents completely agree that trail improvements and/or expansion should be a high priority.

There were also a significant number of respondents that value the park for its active use area. Positive comments were received supporting swimming pools, sledding hills, sand volleyball courts and other sport oriented activities. Staff and the Committee took these active use suggestions into consideration. A complete analysis of the active use area development potential is included in the site inventory and analysis portion of this document.

The survey is attached as Appendix _____.

Respondents Agreement on Improving/Expanding Existing Facilities

Black Forest	Completely Agree	Partially Agree	Neutral	Partially Disagree	Completely Disagree	Not Applicable	Totals	Mean	Mean 1 – 5
Improve/expand trail system	83.0 64.8%	31.0 24.2%	9.0 7.0%	1.0 0.8%	2.0 1.6%	2.0 1.6%	128.0 100.0%	4.52	
Improve/expand pavilions	15.0 12.5%	35.0 29.2%	46.0 38.3%	13.0 10.8%	7.0 5.8%	4.0 3.3%	120.0 100.0%	3.33	
Improve/expand roadways/parking lots	19.0 15.4%	31.0 25.2%	47.0 38.2%	16.0 13.0%	8.0 6.5%	2.0 1.6%	123.0 100.0%	3.31	
Improve/expand playground	15.0 12.0%	17.0 13.6%	58.0 46.4%	19.0 15.2%	12.0 9.6%	4.0 3.2%	125.0 100.0%	3.03	
Improve/expand landscaping	5.0 4.0%	22.0 17.7%	54.0 43.5%	23.0 18.5%	17.0 13.7%	3.0 2.4%	124.0 100.0%	2.79	
Improve/expand tennis courts	2.0 1.6%	18.0 14.5%	57.0 46.0%	20.0 16.1%	22.0 17.7%	5.0 4.0%	124.0 100.0%	2.65	
Improve/expand open space areas	40.0 32.0%	33.0 26.4%	41.0 32.8%	6.0 4.8%	2.0 1.6%	3.0 2.4%	125.0 100.0%	3.84	
Improve/expand multi-use fields	13.0 10.5%	27.0 21.8%	57.0 46.0%	15.0 12.1%	7.0 5.6%	5.0 4.0%	124.0 100.0%	3.20	

Two Favorite Existing Facilities

Please check your two most favorite existing facilities at Black Forest Regional Park.

	Counts	Percents	Percents 0 100
Trail System	109	80.1%	
Open Space	61	44.9%	
Pavilions	33	24.3%	
Playground	28	20.6%	
Multi-use Fields	25	18.4%	
Tennis Courts	10	7.4%	
Totals	*	*	

3. Public Meetings

El Paso County hosted three open houses to provide information about the planning process and to collect public input on elements of the Master Plan. Two were held at the Black Forest Community Club and one at the Lodge at Cathedral Pines. Public feedback was solicited through general comments and distributed comment sheets.

Throughout all three public meetings, there was strong support for general trail improvement and expansion, emphasized equestrian trailheads, preserving smaller hiking trail corridors, and general forest and habitat preservation. There were also several comments received citing a need for more picnic units and pavilions surrounding the active use fields.

4. Community Outreach

In addition to the three public meetings, County staff was present at the El Paso County Fair, the Black Forest Festival, and the Town of Monument's Community Night Out event. The proposed improvements were on display for public comment and all open houses were advertised. Public input was collected using comment sheets.

5. County Website & Email

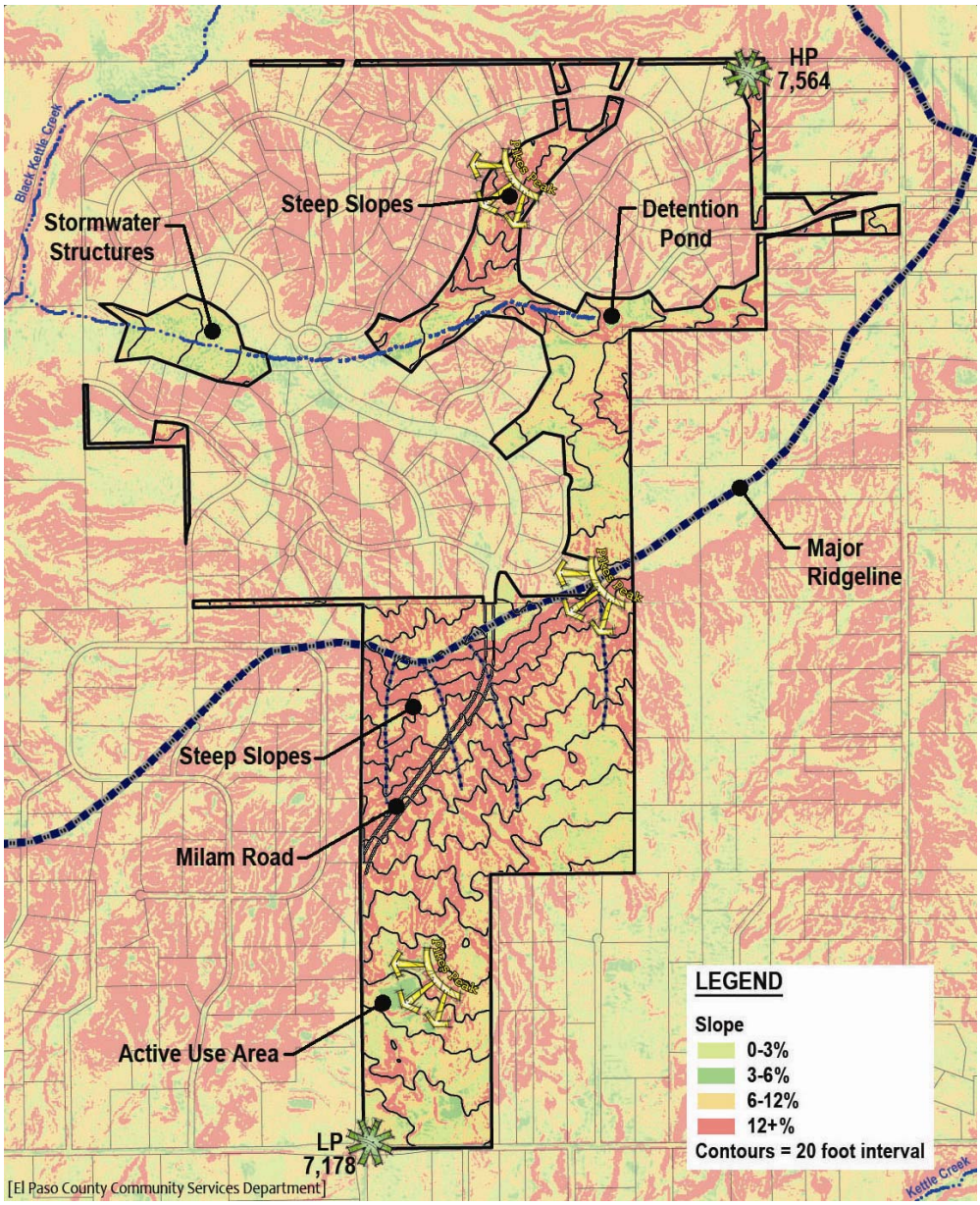
The County maintained a website throughout the public process. The website provided a link to the public survey and a monthly update email was sent to all Committee members and interested parties.

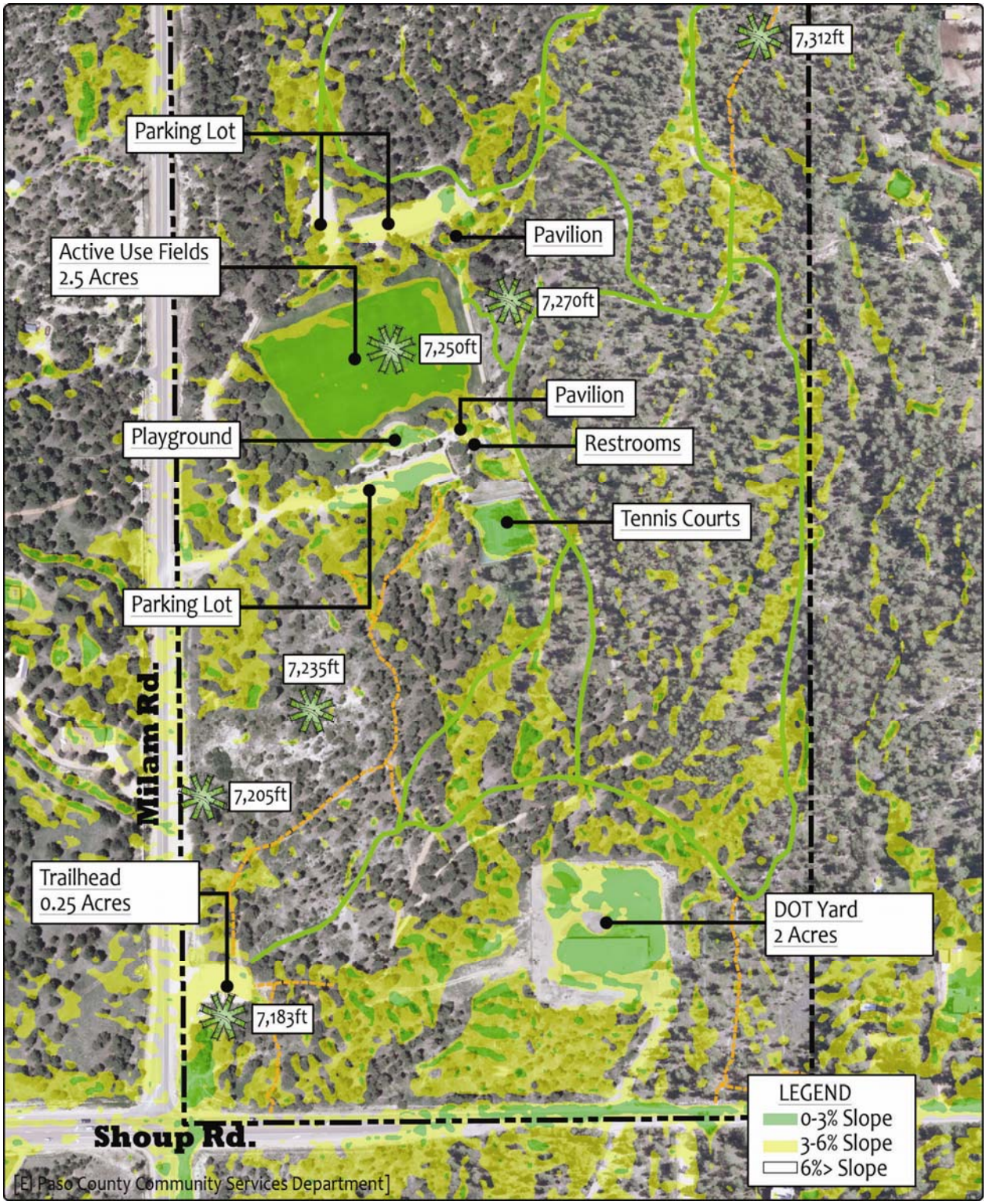
IV. Site Inventory and Analysis

The purpose of the site inventory and analysis was to develop an overall understanding of existing conditions of the park. Black Forest Regional Park has been utilized by the general public as a park site since 1944. Since then, the residential development of Black Forest has increased the amount of park visitors, increased the demand on the park, and increased impacts on natural resources.

1. Topography / Slope

The site is characterized by slopes in the 6-12% range, with many areas exceeding 12%. The site is split by a ridgeline that runs generally southwest to northeast. There is a 386 foot elevation difference between the southern and northern portions of the park. This challenging topography makes it difficult to implement trail and active use area improvements.




7,312ft
Parking Lot
Pavilion
Active Use Fields
2.5 Acres
7,270ft
7,250ft
Pavilion
Playground
Restrooms
Tennis Courts
Parking Lot
7,235ft
Milam Rd.
7,205ft
Trailhead
0.25 Acres
DOT Yard
2 Acres
7,183ft
LEGEND
0-3% Slope
3-6% Slope
6%> Slope
Shoup Rd.
[El Paso County Community Services Department]

2. Soils and Geology

The soils in Black Forest Regional Park can be characterized by its crumbly and gravelly texture. It often supports little ground vegetation and is easily erodible by storm events. According to the USDA's Soil Survey of El Paso County, there are four soil types in the Black Forest area;

- Kettle gravelly loamy sand, 3-8% slopes (40)
- Kettle gravelly loamy sand, 8-40% slopes (41)
- Elbeth sandy loam, 8-15% slopes (26)
- Pring course sandy loam, 3-8% slopes (71)

Kettle gravelly loamy sands:

Deep, well drained soil formed in sandy arkosic deposits on uplands. This soil is found at elevations of 7,000 to 7,700 feet with an average annual precipitation of 18 inches, an average annual air temperature of 43 degrees Fahrenheit, and has a frost-free period of 120 days.

The surface layer is a 3-inch grey gravelly loamy sand followed by 13-inch thick light-grey loamy sand. The subsoil, another 24 inches, is a very pale-brown gravelly sand loam. The substratum, to 60 inches or more, is yellowish-brown extremely gravelly loamy sand. Permeability of the Kettle soil is low to moderate. Surface runoff is slowly creating a low to moderate hazard of erosion.

Elbeth sandy loam:

Well drained soil formed from arkosic deposits on uplands. This soil is found at elevations of 7,300 to 7,600 feet with an average annual precipitation of 18inches, an average annual air temperature of 43 degrees Fahrenheit, and has a frost-free period of 120 days.

The surface layer is 3-inches very dark grayish brown sand loam. The subsurface layer is 20 inches thick, is a light-gray loamy sand and the subsoil, another 45 inches is a brown sandy clay loam. The substratum is light brown. Permeability of the Elbeth soil is moderate and available water capacity of this soil is high. Surface runoff is slowly creating a low to moderate hazard of erosion.

Pring course sandy loam:

Deep, non-calcareous, well-drained soil formed in sandy sediment on valley slopes and on uplands. This soil is located at elevations of 6,800 to 7,600 feet. Precipitation and temperature is similar to the Kettle soil.

The surface layer is a 4-inch dark grayish brown course sandy loam. The subsurface layer, 10 inches thick, is similar over a pale brown gravelly sandy loam that extends to a depth of 60 inches or more. Permeability of the Pring soil is rapid and available water capacity of this soil is moderate. Surface runoff is slowly creating a low to moderate hazard of erosion.

Since the soils in the park are characterized by its gravelly texture, special considerations should be placed on trail alignments and trail construction. All existing trails should be analyzed to identify potential re-routes to minimize steep slopes.

Groundcover vegetation is hard to grow in the park, so extra care should be taken to prevent the development of social trails. The revegetation of old social trails and other disturbed areas should be undertaken to help secure the soils and prevent erosion.

3. Climate / Microclimates

Weather extremes affect and define landscapes. The survival of plant and animal species depend on the ability to adapt to the contrasts in weather. Located on the Palmer Divide, Black Forest Regional Park often experiences drastic weather extremes.

The annual precipitation in Black Forest is 18 inches with 80% of the precipitation coming between March and October. Monsoon moisture in the form of thunderstorms in July and August contribute the most. Winter is the driest season of the year. The mean annual snowfall is 84 inches with the peak amount in March.

Winds in Black Forest can often reach 50+ mph and have been recorded over 100 mph. This strong wind often topples trees, helps spread wildfire, and dries out the soil. The strong winds also aid in the spreading of plant seeds.

Lightning is the most dramatic weather event and the source of ignition for over half of all wildfires in the Black Forest area. Small ignitions are common, but these small fires are often spread with the combination of high summer temps, drought conditions, and high winds. Several trees with lighting strikes are located in the park, suggesting that lighting is significant in Black Forest (Wegner 2010).

4. Drainages and Wetlands

One of the unique features about the Black Forest area is the perched water tables. A dense clay layer of subsoil often creates ponds or wetland areas in the forest.

There is one major drainage area in Black Forest Regional Park. This area is located on the site inventory map and generally runs east to west, from the intersection of Vessey Road and Homles Road, along Vessey Road to Milam Road, then continues west past the park into the adjacent Knox conservation easement. The few rare or unique plant communities in the Park were found here, and most of the grasses are as well. This drainageway also serves as a wildlife corridor connecting the park to adjacent open spaces (Von Ahlefeldt 2010).

With the development of the Cathedral Pines subdivision, four detention ponds were spaced along the drainageway to handle the additional capacity of runoff. A stormwater channel was also constructed on the western portion of the development to reduce the impact on residential developments downstream.

The development of the stormwater channel changed the character of the site and improvements and maintenance have been ongoing. The facility functions to channelize stormwater and can reach capacity rather quickly. Active use of the area was deemed unsuitable. However, County Staff and the Master Plan Committee agreed that the proposed trail corridor adjacent to this area would be acceptable and allow for the continuation of the Tier III trail.

5. Vegetation

Black Forest Regional Park is part of a larger forest of ponderosa pine that extends eastward on a high elevation ridge from Palmer Lake to Elbert County. Native Ponderosa Pine is commonly found in Black Forest Regional Park, and is well suited to the Kettle soils. In addition to Ponderosa pine, Gambel oak and Douglas-fir have adapted to the area. The Black Forest area supports Ponderosa pine woodland, foothill prairie, and wet meadow plant communities.

In the lower elevation Pring soils, native grasses such as mountain muhly, little bluestem, needle-and-thread, Parry oatgrass and junegrass are commonly found. Additional information about vegetation may be found in the Forestry and and Noxious Weeds Management Plan (Wegner 2010, Appendix___).

Ponderosa pine *(Pinus ponderosa var. scopulorum)*: Ponderosa pine is the primary tree species found in the Black Forest area. Ponderosa pine is the most common forest tree throughout the Rocky Mountains and across the southwest. This pine spreads out along the Colorado Front Range, and lies between lower-elevation grassland or pinyon / juniper forests and higher-elevation Rocky Mountain Douglas-fir forests. Ponderosa pine is most commonly found around elevations of 6,500 feet.

Ponderosa pines are generally fast growing and maintain a pyramidal crown when not suppressed. The crown eventually becomes more rotund as the tree ages and in natural settings is a vigorous self-pruner.

In some regions, interior Ponderosa pines may reach heights of 150 feet and ages of 700 years, however such trees are on open canopied fertile sites that have little competition. This oldest class of Ponderosa is disappearing due to the increasing density of the Forest in the Black Forest area. Colorado's Front Range forests, including Black Forest produce heights of about 50 to 60 feet. The natural open stand structure helps individual Ponderosa pines to develop. Interior Ponderosa pines grow quickly and extensively underground. Ponderosa pines are extremely resistant to windthrow due to their deep taproots and extensive lateral root networks. These networks also make this pine extremely drought resistant.

Gambel oak *(Quercus gambelii)*: Gambel oak is a minor component in Black Forest Regional Park. It is extremely common through the foothills of Colorado's Southern Front Range, growing in solid shrub stands or associated with Ponderosa pine and mixed-conifer stands. Gambel oak does very well on lesser developed soils such as those found on slopes, ridges, and in high elevation areas where erosion is commonplace. It is moderately shade tolerant, and can regenerate well in the filtered sunlight. The dense thicket structure is common because of its vigorous sprouting nature. Individual stems are not vey long lived, however the underground networks live for much longer and help Gambel Oak stands maintain site dominance for long periods of time and survive large disturbances such as fire. Generally, Gambel oak is a persistent seral species that exhibits early dominance after a disturbance, but is overtopped by larger trees such as Ponderosa pine. After this succession has taken place, Gambel oak growth and spread will begin to slow due to the lack of light and nutrients.

Rocky Mountain Douglas-fir *(Pseudotsuga menziesii var. glauca)*: Douglas-fir is present in areas of Black Forest and is commonly associated with Ponderosa pine, but there are very few examples in the Regional Park. It is a significant tree species in the foothill and montane zones from 6,500 to 9,500 feet in elevation (Reimer 2001). It thrives in cool wet conditions present on north and east-facing slopes and is very shade tolerant allowing it to thrive in the presence of other trees. It's the adaptation of the Douglas-fir to the shaded environments that gives this species a competitive edge in dense forests like Black Forest.

Aspen *(Populus tremuloides)*:

Aspen is a minor tree species on the parkland found on sites that were generally cooler and moister. Aspen stands are unique in their ability to stabilize soils and watersheds and their abundant leaf litter contains more nutrients than most trees, creating nutrient-rich humus. Aspen thrives for a time but without disturbance gradually age and deteriorate. Aspen readily colonize after fire, clear cutting or other disturbances.

Other Vegetation

Kinnikinnick *Arctostaphylos urvaursi*

The dominant understory species varies across the landscape. Shrubs represented include kinnikinnick *(Arctostaphylos urvaursi)*, squaw current *(Ribes* cereum), rose (Rosa woodsii), snowberry (Symphoricarpos spp.), mountain mahogany (Cercocarpus montanus) and common juniper *(Juniperus communis)*.

Common ground vegetation and grasses include blue grama *(Bouteloua gracilis)*, western wheatgrass *(Agropyron smithii)*, side-oats grama *(Boutelous curtipendula)*, needle-and-thread *(Stipa comata)*, little bluestem *(Andropogon scoparius)*, mountain muhly *(Muhlenbergia Montana)*, and Parry's oatgrass *(Danthonia parryi)*.

There are a few small riparian areas found in the park. These are typically found in the drainage areas and should be protected. Meadows with Aspen and Willow *(Salix spp.)* are the dominant component (Wegner 2010).

Rare Plants

Rare plants are listed by the U.S. Fish and Wildlife Service (USFWS) as threatened or endangered. There are also “special concern” plants listed by the U.S. Forest Service, the Bureau of Land Management, the USFWS, and / or the Colorado Natural Heritage Program.

Prairie violet *Viola pedatifida*

No rare plants or those of special concern were found in Black Forest Regional Park. However, two plant communities tracked by the Colorado Natural Heritage Program are in Black Forest and found in the park (Wegner 2010). One is hoary frostweed *(Helianthemum bicknellii)* and the Ponderosa pone / little bluestem woodland occurs occasionally in the ponderosa pine forest (Markstein and Kelso 2008). Prairie violet *(Viola pedatifida)* has also been identified by the Colorado Natural Heritage Program as occurring in the Black Forest area (Spackmen et al 1997).

Noxious Weeds

Noxious weeds are non-native plants that have been introduced without any natural biological controls. This allows them to spread readily, dominate a site and crowd out native plant species. They are most commonly established on soils that have been disturbed by construction, vehicles, road maintenance, erosion, or overgrazing.

The Colorado Noxious Weed Act (35-5.5-101-119. C.R.S) regulates the control of noxious weeds in Colorado. There are three categories of Noxious Weeds separated into lists A, B, and C. List A species are mandated to be eradicated. Species on List B require a plan to stop their spread. List C species should have plans to provide educational, research, and biological control resources for management (Colorado Weed Management Association 2004).

Noxious weeds are present in Black Forest Regional Park. Locations are identified in the Forestry and Noxious Weeds Management Plan (Wegner, 2010). Noxious weeds noted were Diffuse knapweed *(Centaurea diffusa)*, Spotted knapweed *(Centaurea maculosa)*, Canada thistle *(Circium arvense)*, and Common mullein *(Verbascum thapsus)*. Diffuse knapweed, Spotted knapweed, and Canada thistle are List B species, requiring a plan to stop their spread. Common Mullein is a List C species.

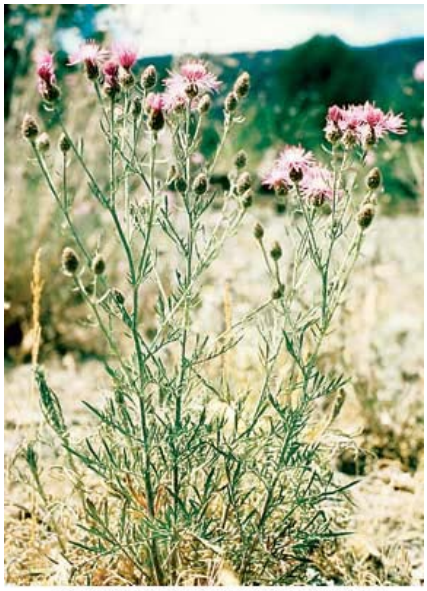
Diffuse knapweed:

Diffuse knapweed is a biennial or short term perennial, reproducing only from seed. It is found in pastures, riparian areas, roadsides and waste areas. In Black Forest Regional Park it was found around the detention pond off of Vessey Road and at several disturbed sites along roads and trails.

Diffuse Knapweed *Centaurea diffusa*

Spotted knapweed:

Spotted knapweed is a perennial that reproduces from seed and forms a new shoot each year from a taproot. It occurs in dry meadows, pasture land, stony hills, and sand or gravelly flood plains. It tolerates dry conditions, but will survive in high moisture areas as well. In Black Forest Regional Park Spotted knapweed was found along Milam Road.



Spotted Knapweed *Centaurea maculosa*

Canada thistle:

Canada thistle is a creeping perennial and reproduces by seeds and roots. It invades disturbed areas, wetland, open meadows, pastures, forests and gardens. Canada thistle is found in the northern part of Black Forest Regional Park.

Canada thistle *Cirsium arvesne*

Common mullein:

Common mullein is a biennial that produces a thick rosette of fuzzy leaves the first year and a single tall stout stem the second. It is found in river bottoms, pasture, meadows and along fencerows. It is readily found in sites disturbed by fire or forest cutting. It is prevalent on gravelly soils. Common mullein is found on some of the gravelly knolls in Black Forest Regional Park were forest cutting had previously occurred.

Common mullein *Verbascum Thapsus*

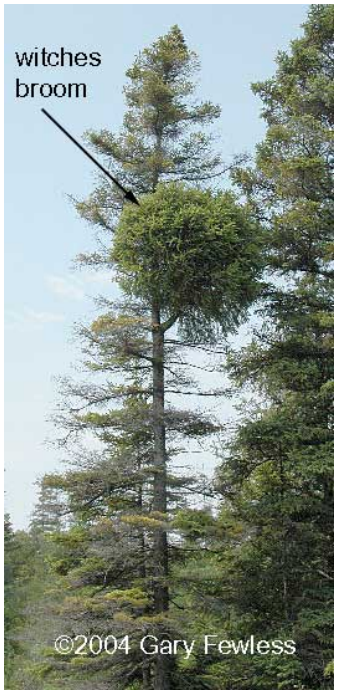
Dwarf mistletoe *(Arceuthobium vaginatum)*: Dwarf mistletoe is found in the Black Forest area in Ponderosa pine trees and is present at some level in every part of Black Forest Regional Park. It is one of the major issues in the Park both visually and for its impact on the overall forest health.

Dwarf mistletoe is a parasitic flowering plant that spreads by ejecting seeds in late summer (July to September). Spread occurs from tree to tree and within the crowns of infected trees. It is a leafless plant that lives by creating an extensive root network throughout the cambium of the host tree, sharing water and nutrient resources that the tree takes up.

The visible portion of the parasite is orange, yellow or green. It tends to build up initially in the lower part of the crown and gradually spreads upward. Over time this leads to the production of the profusely branched, dense masses of distorted branches called “witches’ brooms”. Spread of the parasite is slow, only one to two feet per year outward in a

forested stand (Hawksworth and Weins 1996). It is a dioecious plant with separate male and female plants, thus, long distance spread is infrequent.

Birds and mammals contribute to the longer range dispersal of seeds. Distribution is patchy with discrete areas of infection surrounded by areas without the pathogen (Conklin and Fairweather 2010).



Effects of Dwarf mistletoe include growth reduction, loss of wood quality, poor growth form, a predisposition to other insect and disease problems, premature death, and reductions in seed crops. Infected trees can survive for decades, although during drought times there is not enough water to support both the tree and parasite (Wegner 2010).

6. Wildlife

Black Forest offers a diversity of habitats offering many wildlife opportunities. Dense forested areas, meadows, and wetlands are all present in the Black Forest area and Black Forest Regional Park. Much of the wildlife is found in transitional zones or at the edges of the heavily forested areas.

Lower elevation grasslands and Gambel oak habitat provide excellent habitat for small bird communities. Small rodents also thrive in this habitat, with plant seeds offering food sources. The dense growth pattern of Gambel oak provides excellent shelter from predatory species. Large mammals such as deer and elk can also be found in this habitat, but the lack of cover discourages their presence.

Ponderosa pine stands offer great habitat opportunities for birds and squirrels. Abert's squirrel *(Sciurus aberti)* is an indicator species of the Ponderosa pine forest. There is a positive relationship between the two. The squirrel is dependent upon the trees for shelter, nesting sites and seeds for survival. The tree is benefited by a fungus that is distributed through the squirrels' feces

that's essential for the pines' health (Howard 2001). Abert's squirrels also require a more closed canopy to move around in and often nest in witches' brooms.

Other wildlife species that utilize a Ponderosa forest as habitat, and have been found in the Black Forest area include; hummingbirds, raptors, deer, elk, bears, mountain lions, wild turkeys, and rodents (Howard 2001).

7. Forest Condition

A detailed description of the forest condition is available in the Forestry and Noxious Weed Management Plan for Black Forest Regional Park (Appendix 4).

From the historical use of the area for timber harvest to public recreational uses, the forest has become unnaturally dense. Based upon the historical records and the forest inventory, the forest in Black Forest Regional Park is probably the densest it has ever been. This current condition favors a heavier mistletoe infestation, a higher incident of bark beetles, and more risk of wildfire.

The Ponderosa pine community in Black Forest is an important area for wildlife habitat and public recreation. Many species of plant and animal communities are dependant upon the health of the Ponderosa pine forest. Developing a more uneven-aged stand structure and protecting old-growth areas are keys to protecting this ecosystem. Management strategies are recommended in the Forestry and Noxious Weeds Management Plan.

8. Visual Resources

With the unique location of the Park along the Palmer Divide, there are ample opportunities for long-range and short-range view corridors. Most view corridors are located in the middle of the park, looking south, downslope. Unique view corridors are also found in the northern section of the Park, offering views to Pikes Peak. In the southern section of the park Pikes Peak can be seen from the soccer fields.

Forest edges and water features also offer unique viewing opportunities. These areas often attract wildlife and unique plant species to a Ponderosa pine forest. The detention pond located in the northern section of the Park off of Vessey Road and the clearing off to the west of the Park both offer unique visual resources.

9. Man-made Structures

There are numerous man-made structures that surround the Park. All sides of the park are surrounded by residential subdivisions. Residences are on 2.5 to 5 acre parcels in the immediate vicinity. Road and stormwater infrastructure are also found in and around the park. The two main influences on the wildlife and plant communities would be Milam Road and the previously-mentioned drainage structure in the meadow on the western edge of the Park.

10. Human Influences

Currently there are three primary user groups that frequent the park; the equestrian user, the trail user, and the active use area user. Each group is unique in how they impact the park and how they interact with the other group types.

Equestrian User:

Equestrian users require large parking spaces and turning radii. They often park their vehicles for long periods of time and spend time in the parking lot longer than the other two user groups. They tend to avoid the smaller trail corridors and use both the Tier I regional trail and Tier III park trail. They may stay in the park, or ride the regional trail to other areas in Black Forest.

Trail User:

Bikers and hikers fit into this trail user category. They can be visiting for a leisure hike, trail running, or mountain biking. They do not require large spaces or turning radii. They are the most frequent visitor to the park. This group uses every type of trail corridor in the park and is the most prevalent at creating social trails.

A social trail is generally defined as an unofficial trail that diverges from an existing trail. They are created to avoid trail hazards or are often shortcuts. Social trails negatively impact the landscape. They encourage noxious weed spread by trail users, increase the trail corridor and erosion potential, make wayfinding difficult, and often lead to more social trails. The re-vegetation and proper trail placement can prevent social trail development.

Active Use Area User:

The active use area user group is a broad category. It includes people who rent a pavilion, participate in a soccer game, use the field for catch, play tennis, use the playground, etc. This group tends to use the main parking area next to the fields. They tend to stay in the active use area and stay off the trails. They have a high turnover rate and are typically in the park on weekends or holidays.

V. Goals and Objectives

Black Forest Regional Park has been used as a public park since 1944 and has numerous social trails and other unregulated uses. These impacts need to be minimized to preserve the quality of the park for future generations. The general goal of the Black Forest Master Plan is to allow continued use and enjoyment of the Park while minimizing the impacts of recreational use on the open space quality and natural resources.

Goals and objectives were established to guide development of the Master Plan and future use of the property and provide direction and structure for the master planning process. These goals and objectives were derived from the Park Lands Agreement with Cathedral Pines, input from the Master Planning Committee, and input from County Staff.

The goals and objectives of the Black Forest Regional Park Master Plan are:

- Provide a place for recreation and enjoyment by the citizens of El Paso County.

- Develop the site as a regional park, serving a variety of recreational needs with mixed use facilities, consistent with intent and standards of the Parks and Leisure Services Department Master Plan (2005).

    - Minimize impacts on adjacent residential properties in the design and management of facilities.

    - Develop a Forestry and Noxious Weeds Management Plan to improve and preserve the habitat quality of the park.

    - Analyze areas of high and low use to better understand and distribute park patrons throughout the park.

    - Establish equestrian emphasized parking areas to limit conflicts between different park users.

- Comply with the terms of the Park Lands Agreement.

    - Per the Park Lands Agreement, dedicate $100,000 for mistletoe mitigation and forest restoration in Black Forest Regional Park with general acceptance from Cathedral Pines.

    - Per the Park Lands Agreement, dedicate $300,000 for general park improvements with general acceptance from Cathedral Pines.

- Per the Park Lands Agreement, adhere to the equestrian limitation in the Cathedral Pines Metropolitan District open space.

- Develop a sustainable trails plan for Black Forest Regional Park.
    - Complete a comprehensive trails inventory to identify all County, Forest Service, Cathedral Pines, and social trails.
    - Keep trail corridors narrow to preserve the historical use and reinforce the character of the Black Forest area.
    - Design trails to avoid drainage ways, ponds, and wetland areas whenever possible.
    - Design the trail system to discourage the development of social trials
    - Provide trail connections to the Cathedral Pines Metro District Open Space areas.
    - Provide a Tier 1 trail connection through the park. More specifically from the western park boundary, continuing east then north, to the trailhead at Vessey Road and Holmes Road.
    - Ensure that all regional trail connections are in accordance with the Black Forest Preservation Plan Trails Addendum (1999).

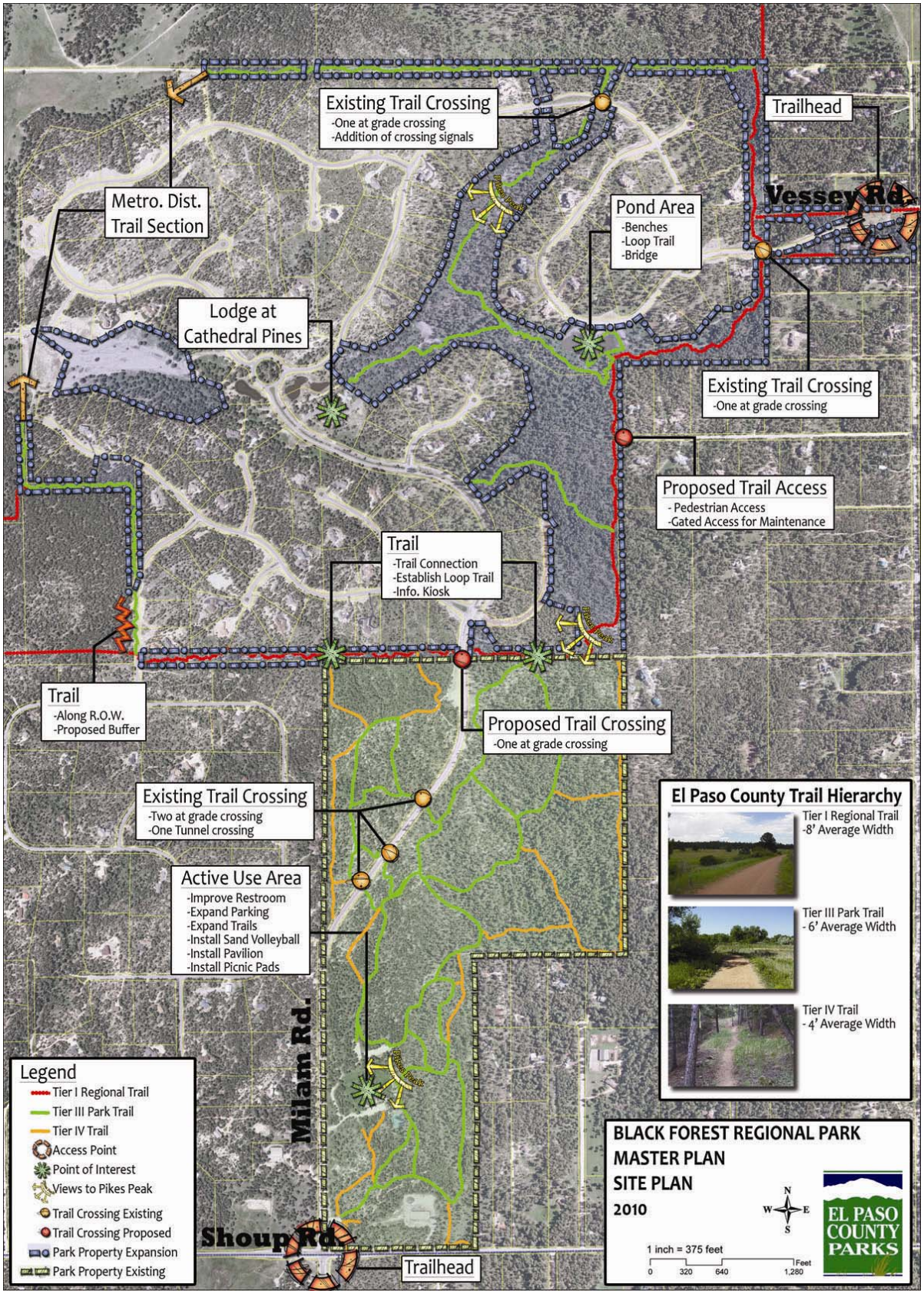
VI. The Plan

This Master Plan evolved from alternatives presented to the committee and general public. The alternatives were based on public comments received form the public process and differed in terms of trail hierarchy and parking lot size.

County staff worked with the Master Planning Committee to analyze the public survey comments, comment forms from all public meetings, and comments made from specific user groups to evaluate the alternatives and developed the preferred alternative reflected in the Master Plan. The effort was a collaborative process that took into account the thoughts of the general public for the best use and management of the Park.

Park Operations Staff were key contributors to development of the Master Plan, bringing in-depth knowledge of the site as well as experience with management and maintenance issues to the planning process. The Master Plan was developed with sustainability in mind. The proposed improvements and management actions were selected and phased to make the best use of limited resources.

The following plan graphic shows the proposed improvements as described in the following text of section VI.


Existing Trail Crossing
-One at grade crossing
-Addition of crossing signals
Trailhead
Vessey Rd.
Metro. Dist.
Trail Section
Pond Area
-Benches
-Loop Trail
-Bridge
Lodge at
Cathedral Pines
Existing Trail Crossing
-One at grade crossing
Proposed Trail Access
- Pedestrian Access
-Gated Access for Maintenance
Trail
-Trail Connection
-Establish Loop Trail
-Info. Kiosk
Trail
-Along R.O.W.
-Proposed Buffer
Proposed Trail Crossing
-One at grade crossing
Existing Trail Crossing
-Two at grade crossing
-One Tunnel crossing
Active Use Area
-Improve Restroom
-Expand Parking
-Expand Trails
-Install Sand Volleyball
-Install Pavilion
-Install Picnic Pads
Milam Rd.
Shoup Rd.
Trailhead
El Paso County Trail Hierarchy
Tier I Regional Trail
-8' Average Width
Tier III Park Trail
- 6' Average Width
Tier IV Trail
- 4' Average Width
Legend
Tier I Regional Trail
Tier III Park Trail
Tier IV Trail
Access Point
Point of Interest
Views to Pikes Peak
Trail Crossing Existing
Trail Crossing Proposed
Park Property Expansion
Park Property Existing
BLACK FOREST REGIONAL PARK
MASTER PLAN
SITE PLAN
2010
N
W
E
S
1 inch = 375 feet
0
320
640
1,280
Feet
EL PASO
COUNTY
PARKS

1. Trail Improvements:

Trail improvements were by far the most favored item during the public process. Using El Paso County's trial hierarchy, the trail system was designed with tiers to filter users by type and intensity of use and offer different user experiences. All trails in Black Forest are non-motorized, multi-use to include hikers, runners, mountain bikers and equestrians. The exemption is where equestrian use is prohibited in the Cathedral Pines Metropolitan District.

Three trail types are proposed in Black Forest Regional Park: Tier I, Tier III and Tier IV. The Tier I trail will provide regional connectivity across the park from east to west to other parts of the Black Forest. The Tier III Trails mostly exist on the site and provide interior loops in the Park. Tier IV trails are proposed where well-established social trails exist. They provide interior loops and are more remote than the other trails.

Many of the trails in the Park exist, with some dating back to 1944. The Master Plan seeks to consolidate trails, where appropriate, to improve open space quality and formalize many of the existing social trails.

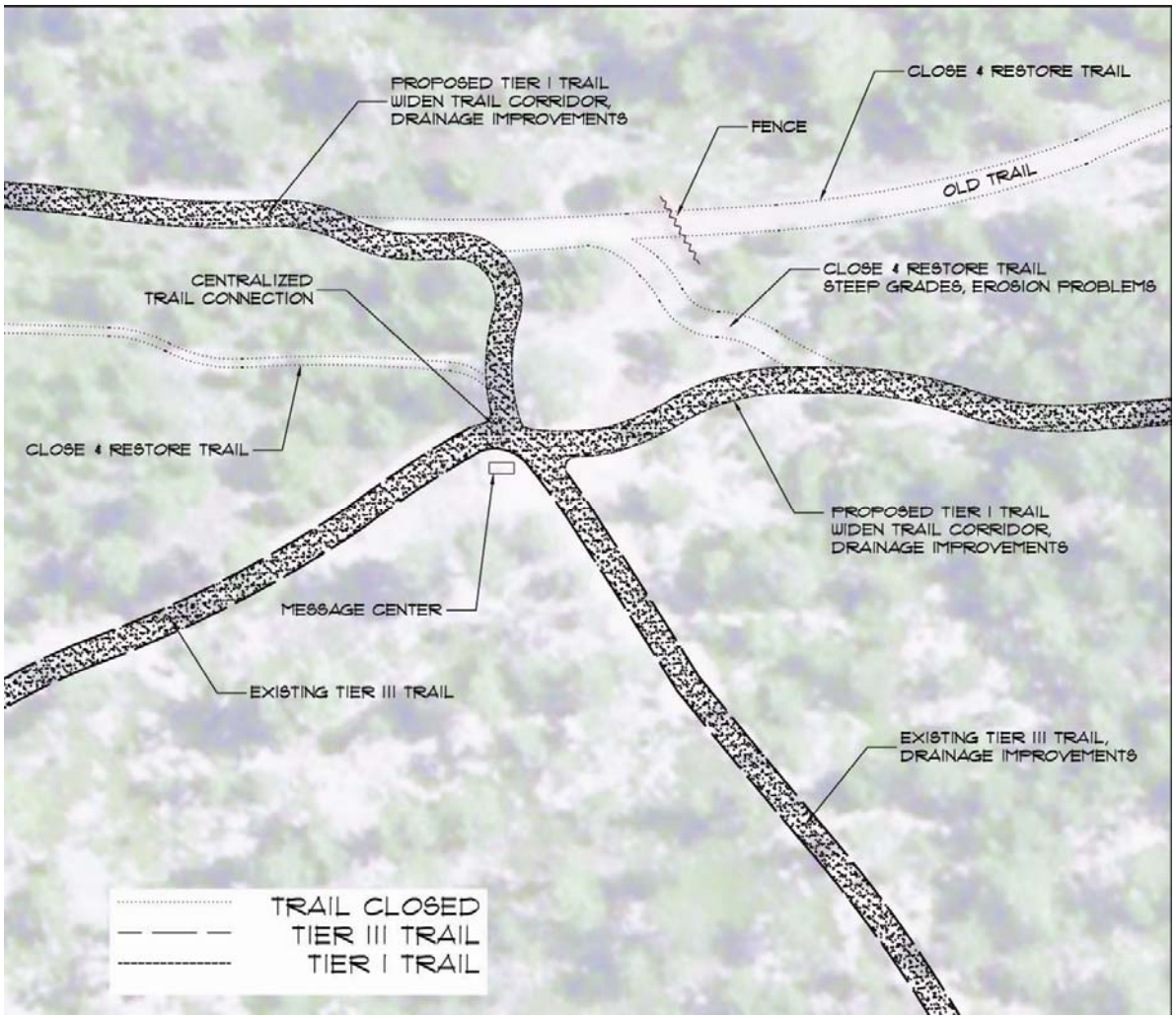
All trails in Black Forest Regional Park will be designed with trail sustainability practices and user experiences in mind. Tree removal will be kept to a minimum and all trail structures will be designed to make minimal impact on the site. The proposed improvements will prevent most erosion and reduce maintenance.

Proposed trail improvements include using sustainable trail design practices to minimize the cost of future maintenance and infrastructure costs. Some of these principles include the use of trail tread cross slopes to keep water in sheet flow, grade reversals to keep water from gaining momentum, and kinks to divert water off of the trail.

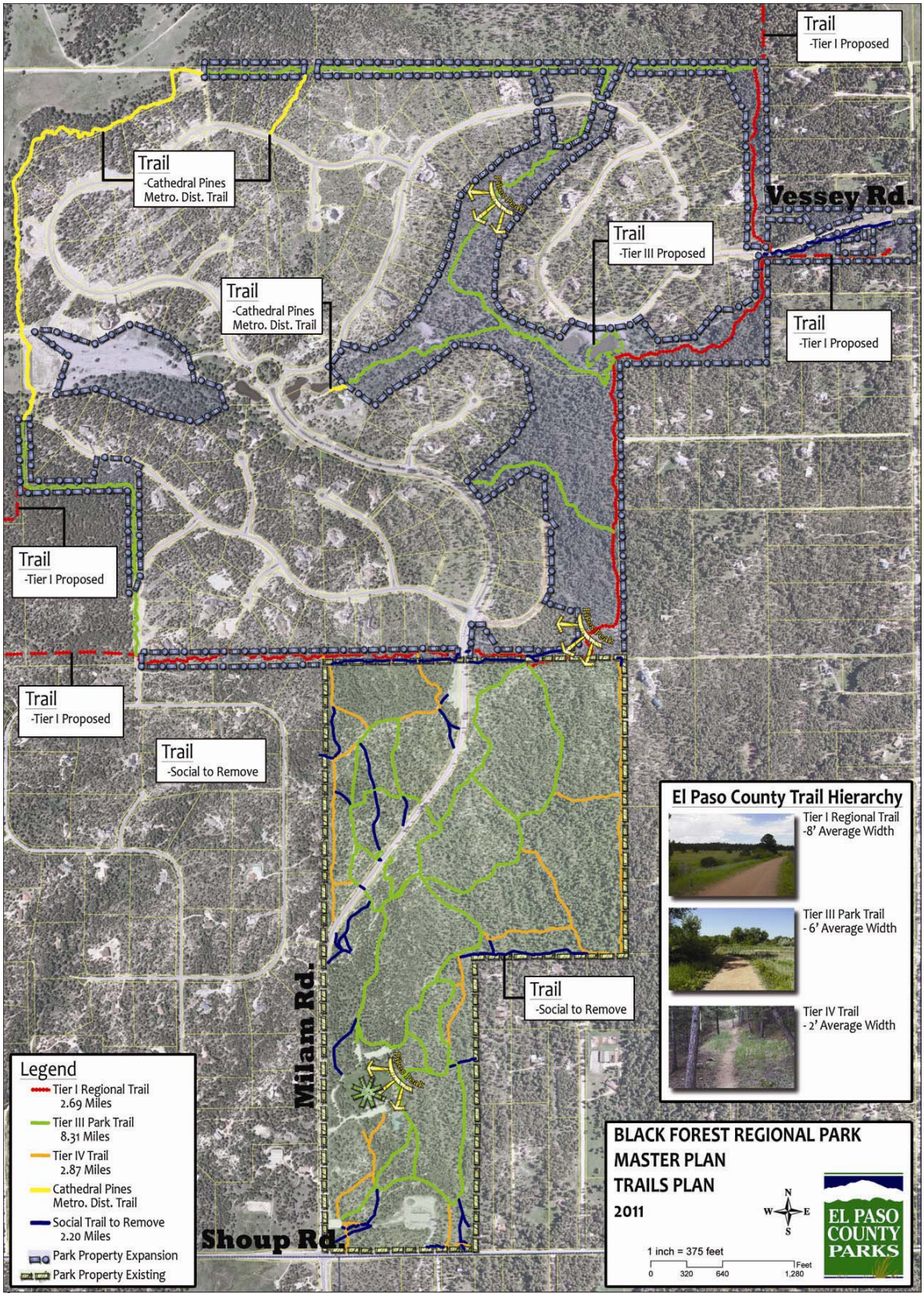
Trail reclamation will also be performed where appropriate. Over two miles of social trails are identified for removal. Sustainable reclamation practices will be used to effectively close social trails. Some of these principles include the use of slash and wood chips to prevent erosion, seeding and re-vegetation, and temporary trail closure signs.

Many resources are available and used by El Paso County when designing and improving trail corridors. Some of these resources include: International Mountain Biking Association, U.S. Forest Service, National Park Service, and the Bureau of Land Management. The County has established its own standard for trails in the Parks and Leisure Services Master Plan. See the Design Guidelines section of this Master Plan for more specific information.

The following map shows a section of the proposed trail corridors in Black Forest Regional Park, located east of Milam Road where the original Black Forest Regional Park intersects with the newly added parkland.



The following map shows existing and proposed trail corridors in Black Forest Regional Park. It includes Tier I Regional Trails in red, Tier III Trails in green, Tier IV Trails in orange, Cathedral Pines Metropolitan District Trails in yellow, and Social Trails to be removed in blue.



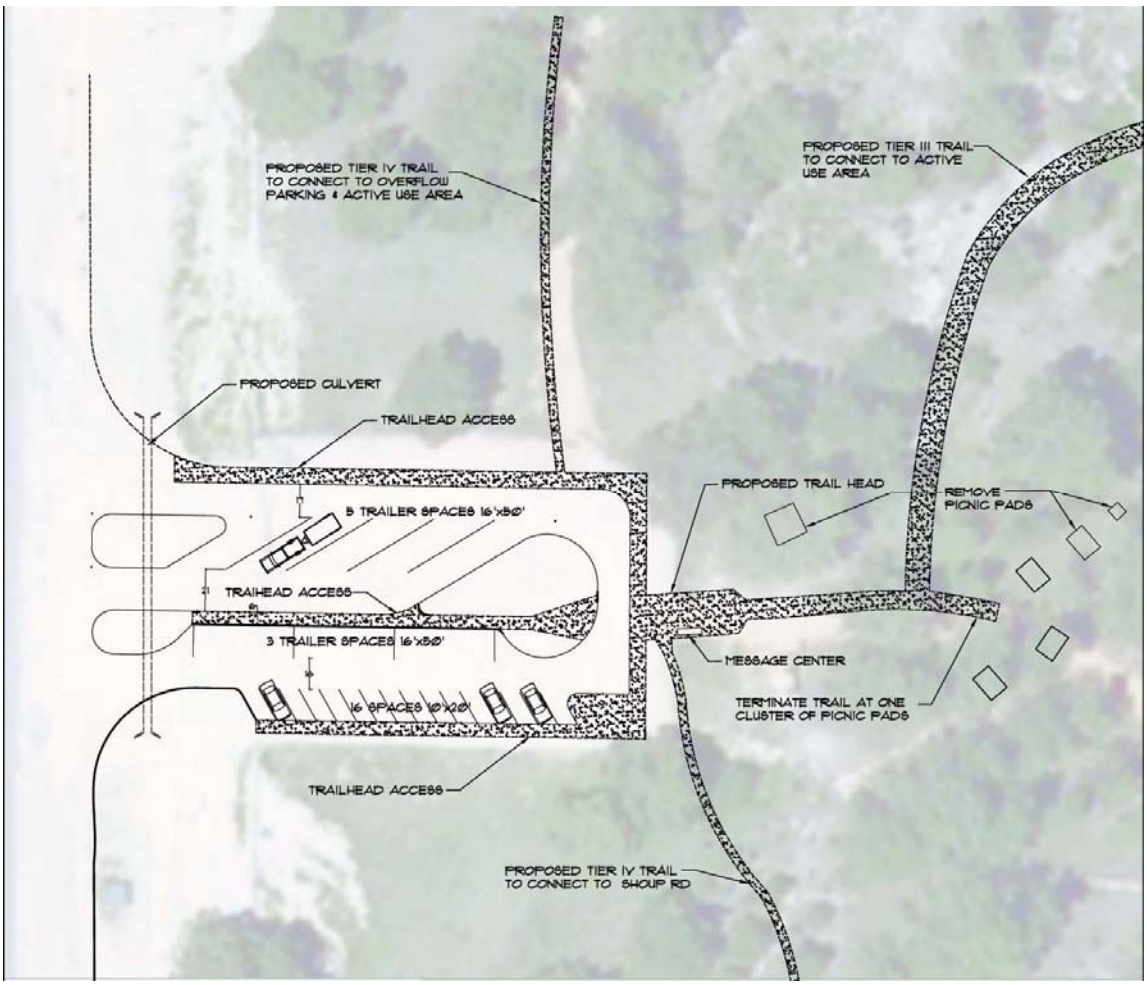
2. Trailhead / Parking Lot Improvements

Vehicular access to the Park will emphasize user type to avoid user conflicts. Two parking lots will be emphasized for equestrian use around the perimeter of the park, while the two parking lots around the active use fields will be emphasized for trail and active use area patrons.

Trailhead off of Milam Road:

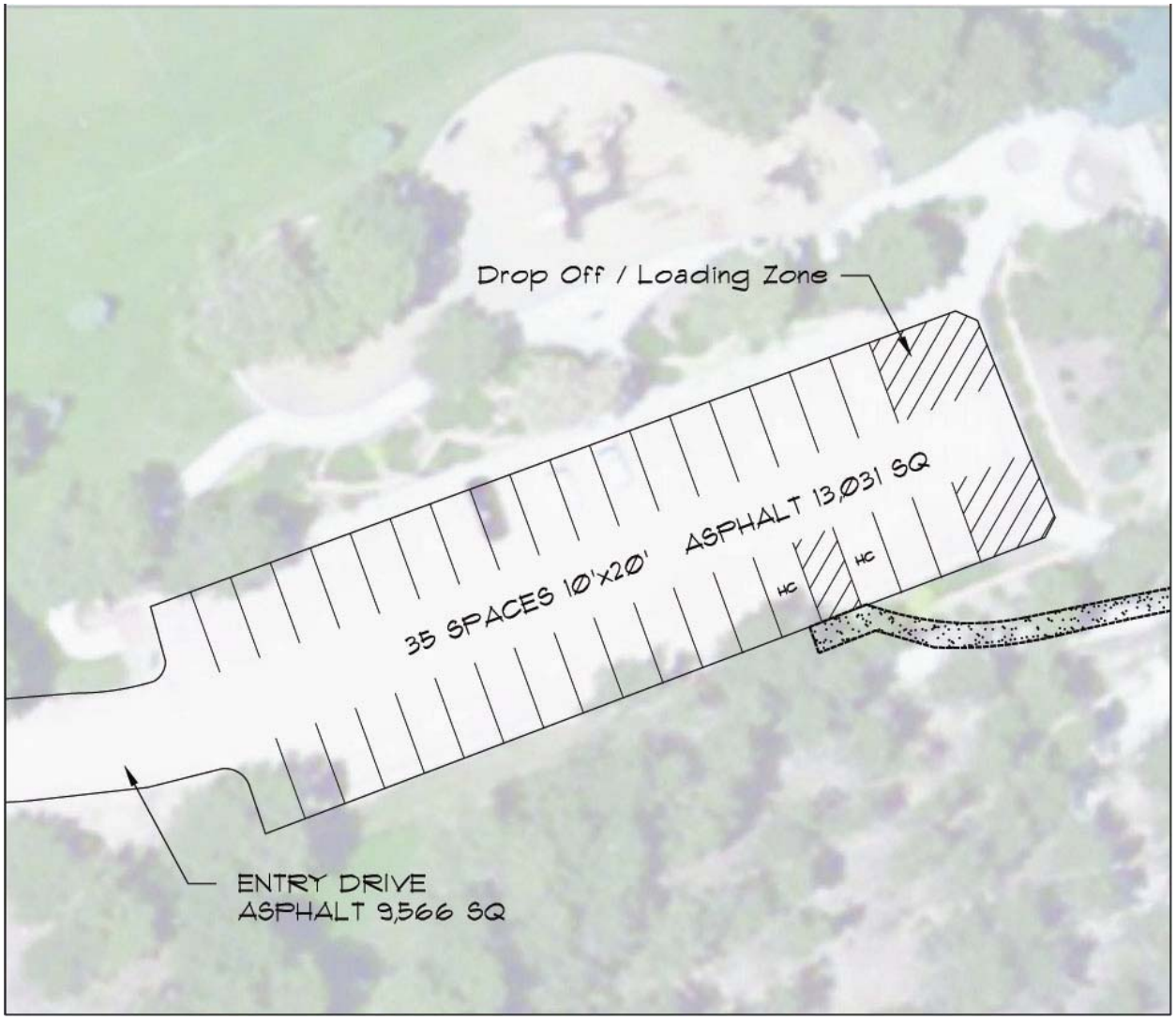
The southern parking lot located on Milam Road just north of its intersection with Shoup Road is not formalized. This often creates confusion and an underutilization of the parking lot between trailhead users. It will be expanded and emphasized for equestrian use, accommodating 8 trailer spaces (16x50 feet) and16 standard spaces (10x20 feet). The parking lot surface will remain gravel and the entrance to the parking lot off of Milam Road will be improved to solve erosion issues.

The trailhead to the east of the parking lot will also be improved. These improvements include a formal trail connection and a message kiosk for wayfinding and community bulletins. In addition, there are several picnic tables that need to be replaced because of age. These tables will be removed, and new tables will be located near the trailhead.



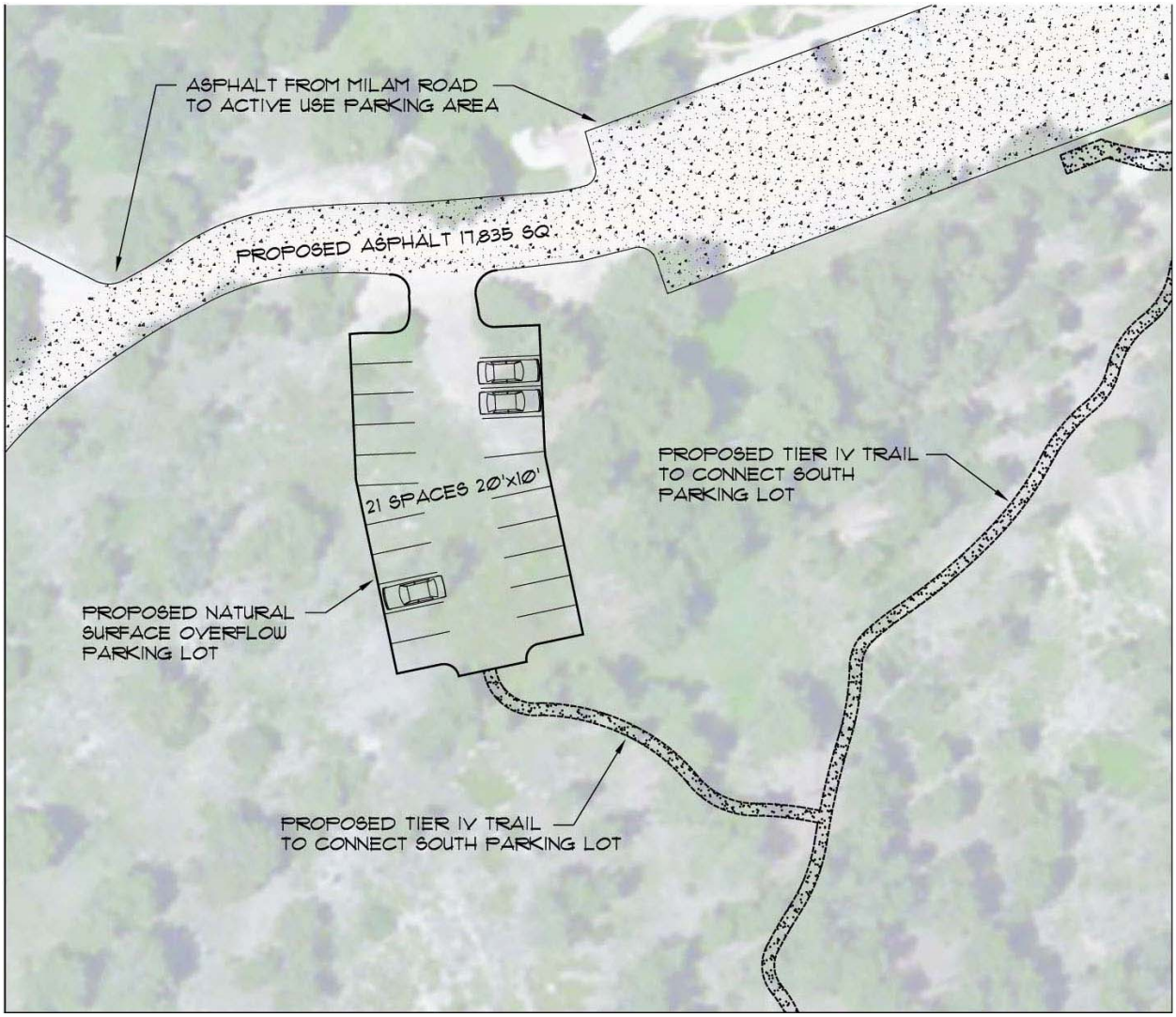
Active Use Area Southern Parking Lot and Entrance Drive:

The main parking lot of Black Forest Regional Park is located south of the soccer fields and adjacent to the restroom facility. It is often at or over capacity during large events. The parking lot has a curb and gutter system in place but has not been paved. The gravel parking lot is trapping water creating rutting and muddy areas. Maintenance staff is also having difficulty with snow removal. Asphalting and striping the parking lot and entrance drive will solve these maintenance issues and increase the parking efficiency of the lot.



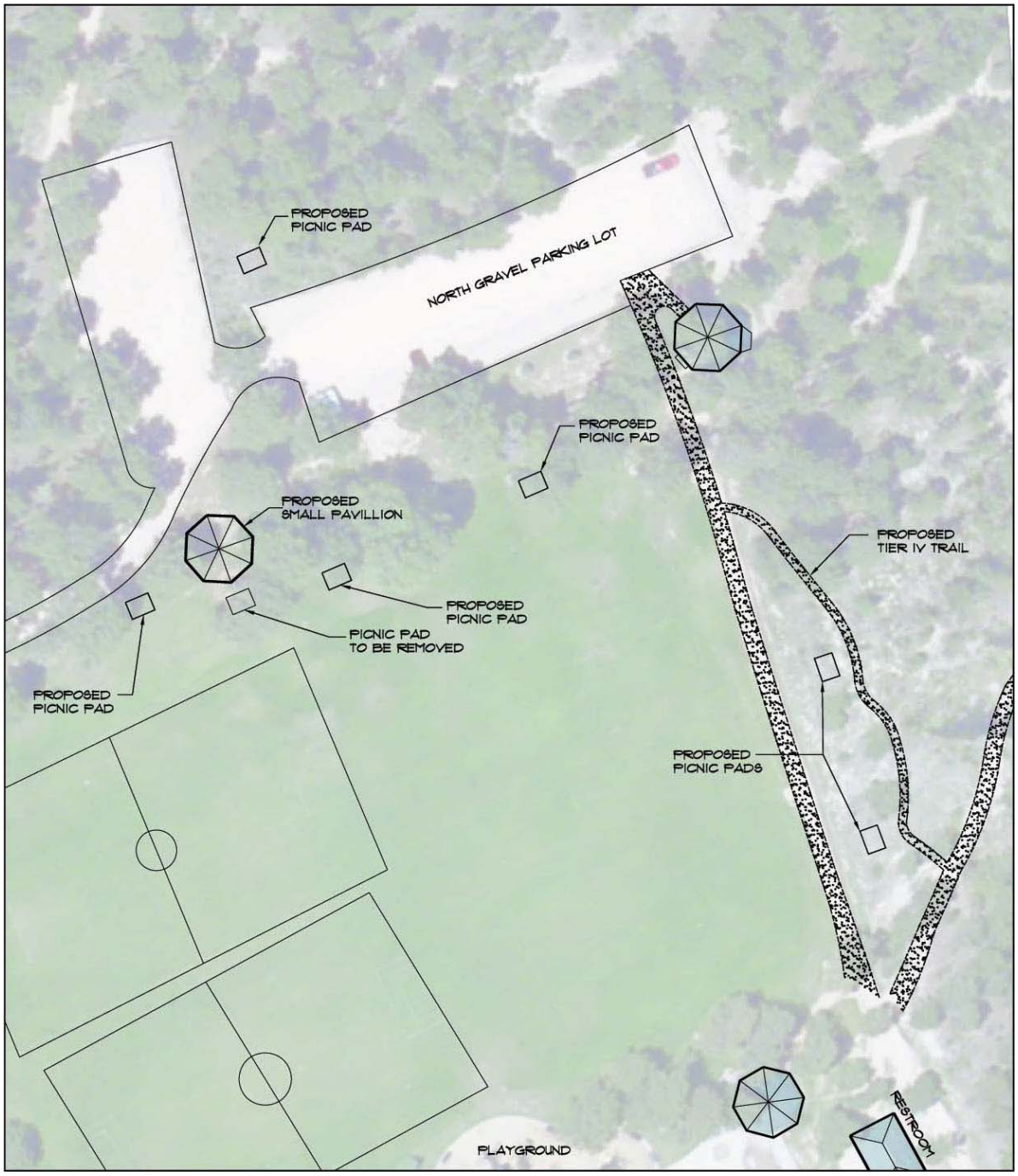
Overflow Parking:

One of the major issues in the active use area is the overcrowding that happens during soccer games or other large events. Many cars are double parked, cannot turn around, or block emergency vehicle access along the roads. To solve this, a native surfaced overflow parking area will be installed just west of the main parking lot. This area will accommodate about 21 vehicles and offer a trail connection to hinder social trail development.



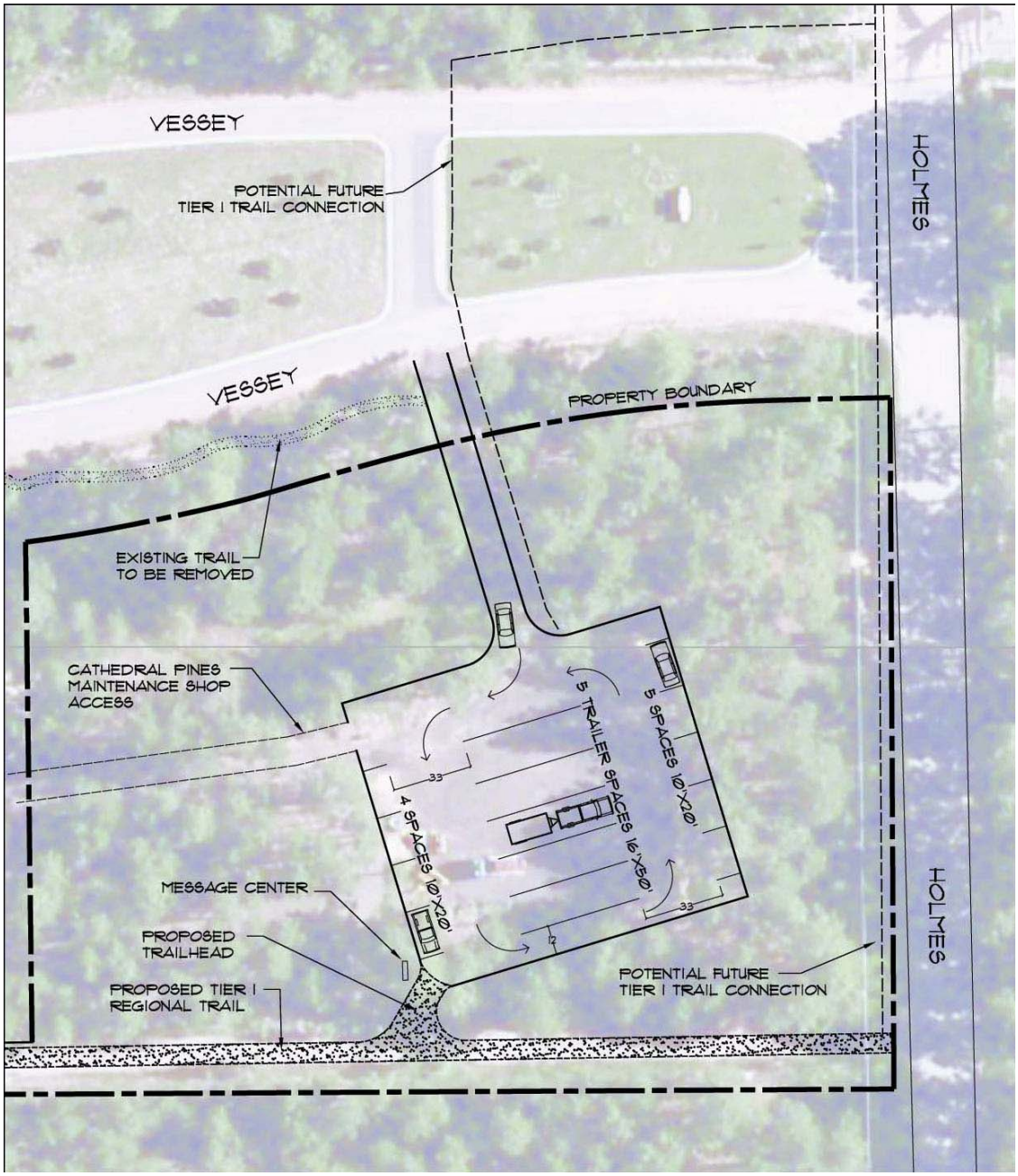
Active Use Area Northern Parking Lot:

North To the north of the active use area is another large gravel parking lot. Currently this parking lot is underused. This was identified as a place to encourage people to park to lessen the congestion on the southern parking lot. This parking lot offers great views of the fields and is close to a pavilion and trailhead. It also provides a large shaded lawn for picnic use. Installing enhanced directional signage, picnic pads and a small pavilion between the parking lot and the active use fields will encourage people to use the northern portion of the field and adjacent parking lot.



Vessey Road Trailhead:

This parking lot is located on Vessey Road west of its intersection with Holmes Road. It is the only parking lot in the northern half of Black Forest Regional Park. This parking lot will be emphasized for equestrian use. It will include 5 trailer spaces (16x50 feet) and 9 standard spaces (10x20 feet). This lot is currently made of asphalt millings and will not be resurfaced. This parking lot will be slightly expanded to accommodate the turning radius of the equestrian trailers.



3. Facility Improvements

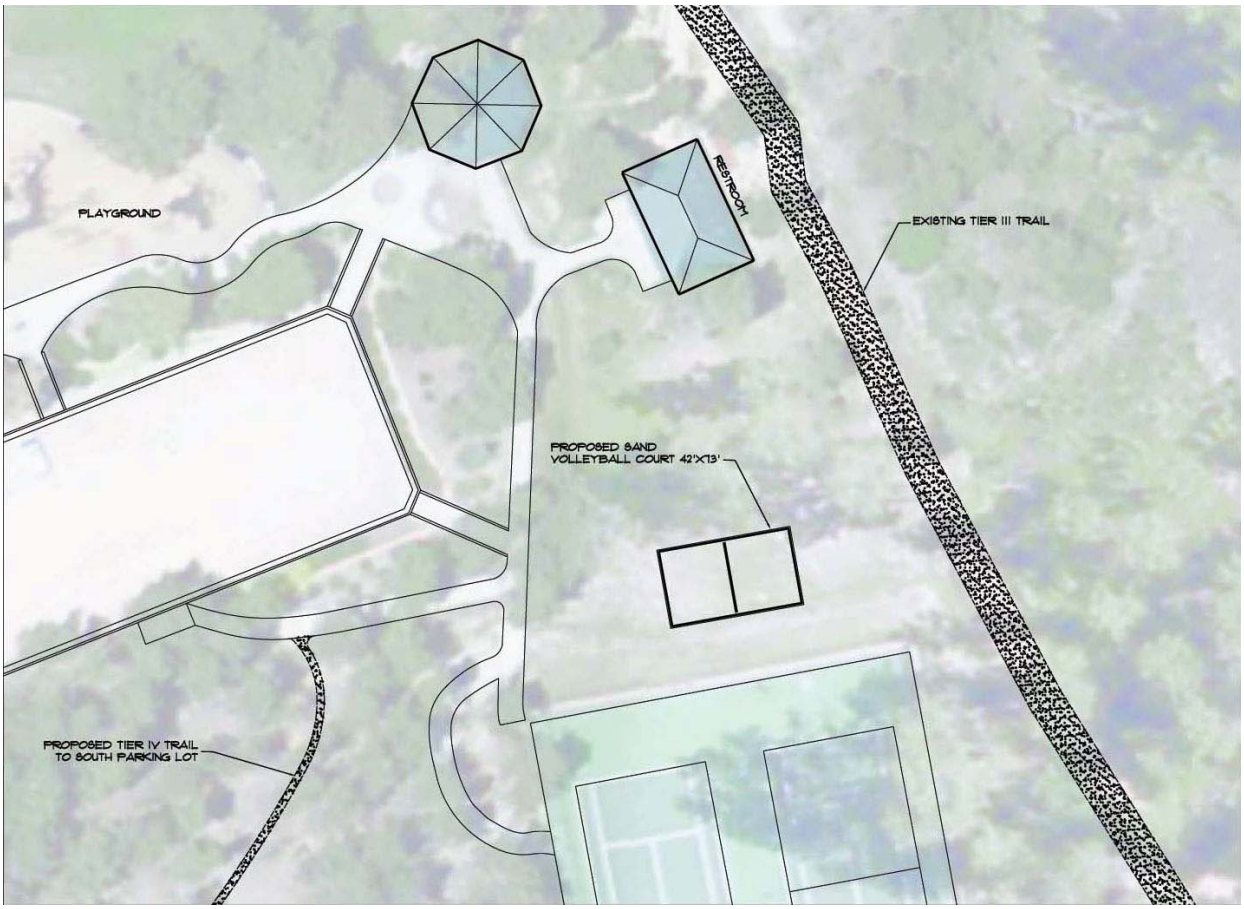
Restroom Upgrades:

The restroom facility at Black Forest Regional Park is in need of well and plumbing improvements. On high-use days it is common for sand to be in the water being drawn up from the well. This sand can damage plumbing equipment and is a symptom of a low-level well.

In addition to the well and pump improvements, upgrading the restroom facilities to new efficient stainless steel fixtures will reduce the use of water and minimize vandalism and maintenance requirements.

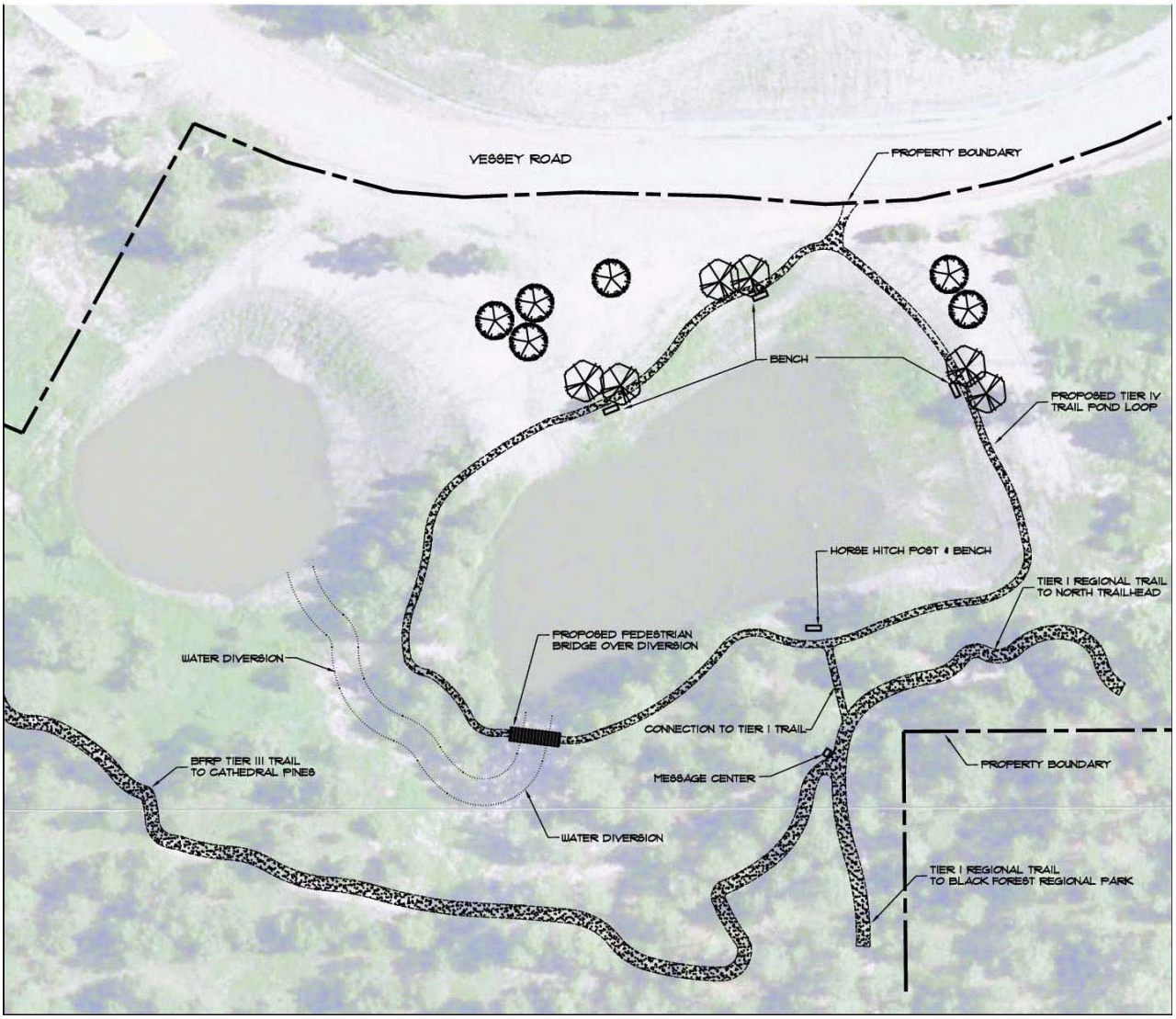
Sand Volleyball Court:

This potential use for the park repeatedly came up in survey and comment forms. An existing leach field is located just south of the restroom. This area would be ideal for a sand volleyball court. It is centrally located in the active use area and the minimal impact of sand will not affect the functioning of the leach field underground.



4. Pond Improvements:

Along Vesey Road in the northern portion of the Regional Park is a detention pond. This pond is located in the developed portion of Cathedral Pines and is adjacent to residences. This pond is located along the Tier I Regional Trail and offers a picturesque resting spot for all trail users. This is a unique opportunity to access fresh water and its associated plant and wildlife communities. The proposed improvements at this pond include a looped trail around the pond, fishing access, hitching post and benches. Area residents favored a natural treatment of this area, as opposed to active use facilities.

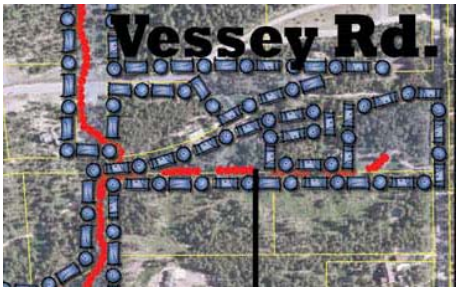


VII. Management Actions:

1. Forestry and Noxious Weed Management:
Implement the Forestry and Noxious Weeds Management Plan

2. Shamrock Ranch Fence:
On the northern boundary of the park there is over one mile of barbed wire fence that is roughly six feet south of the correct property line. El Paso County has committed to the adjacent property owner that the complete fenceline will be relocated north six feet of its current position. This relocation will increase the trail corridor and replace the old barbed wire fence with wildlife friendly fencing.

3. Trail Location:
Contact property owners adjacent to trailhead at Vessey and Holmes Roads to discuss Tier I regional trail location.



4. Trail Construction:
Use sustainable trail design principles when planning trail locations and improvements.
See Design Guidelines section of this Master Plan.

5. Signage:
Work with Cathedral Pines Metropolitan District to standardize trail and wayfinding signage along the trail corridors.

6. Maintenance Agreement:
Develop a general maintenance agreement with the Cathedral Pines Metro District pertaining to trail, open space and pond maintenance.

7. Friends Group:
Establish Friends Group to assist with supervised maintenance and construction projects.

- Memorial benches
- Organized trail maintenance
- Organized trail construction

8. Volunteer Projects:
Develop a list of volunteer projects and engage volunteers.

- Scout projects
- Forestry thinning
- Trail construction
- Trail revegetation
- Noxious weeds removal

VIII. Design Guidelines:

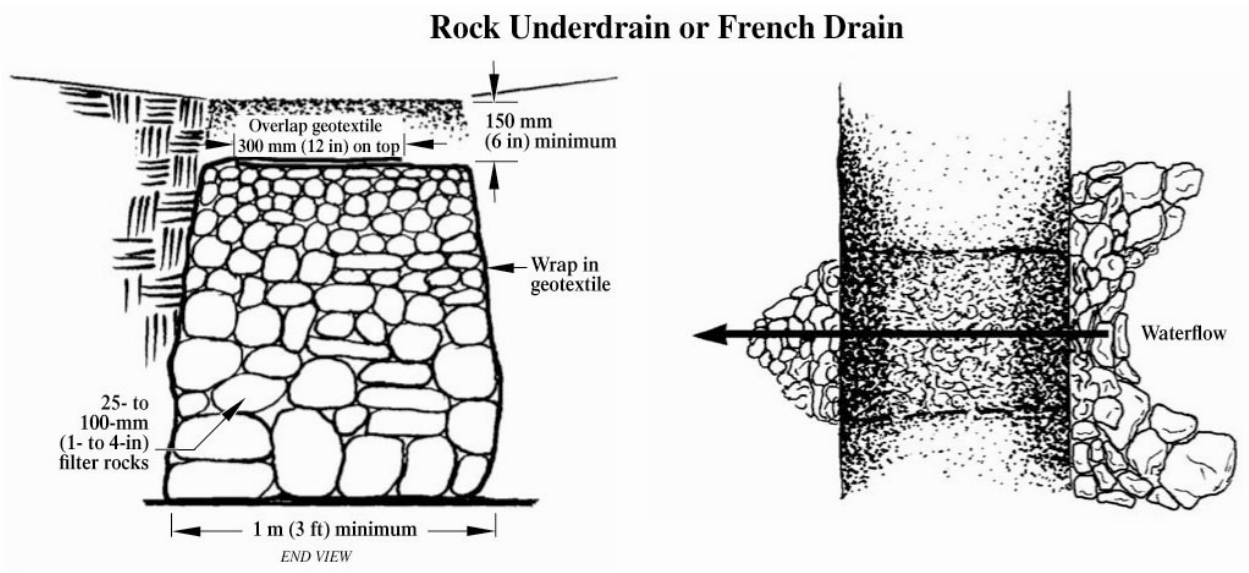
The following Design Guidelines are intended to aid in the design and implementation of the proposed site improvements and trail layout. As noted previously, several resources were used in the development of these guidelines. EL Paso County Parks Division strives to use best management practices in the design and construction of park improvements.

1. Drainage Crossings:

Black Forest Regional Park is defined by a large ridgeline and rolling terrain that makes trail layout difficult. The soils in the Park tend to crumble and erode easily with storm events. With the variety in terrain, several drainage crossing options should be utilized to minimize trail impacts on the surrounding site. Two drainage types were identified in the Park:

Minor- low swales where concentrated flows would only occur during or immediately after a weather event.

Major- drainages that would have a defined channel and may be subject to more constant flows.



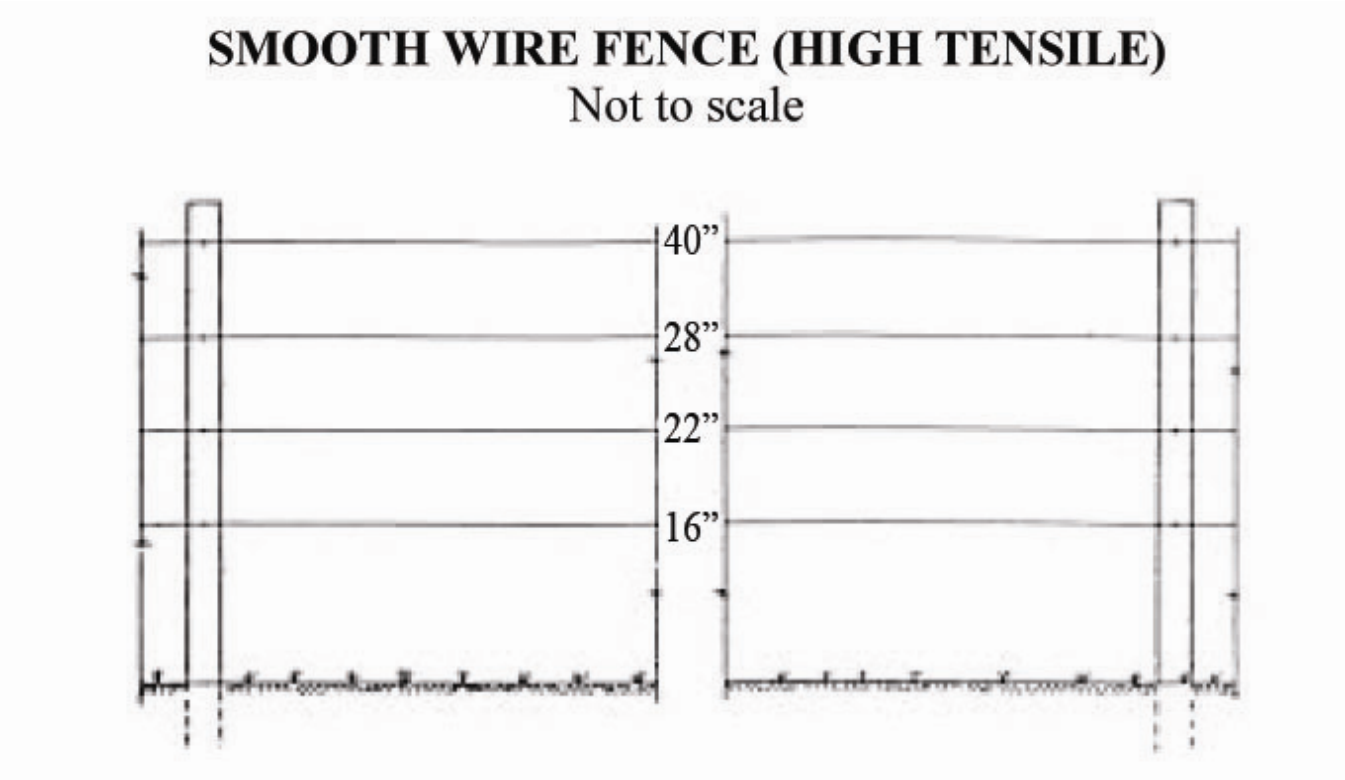
2. Site Furnishings:

Site furnishings in Black Forest Regional Park are primarily benches, picnic tables, and information kiosks. All site furnishings should conform to El Paso County Parks Division standards. These site furnishings should reflect the forested character of the park. Materials should be durable, low maintenance in either a perforated metal or recycled plastic. Colors should be green, brown or black.

3. Fencing:

When replacing fencing, wildlife friendly 4 strand smooth wire fencing should be used to protect the local wildlife and park patrons. The bottom stand should not be less than 16 inches from the surface. There should be at least 12 inches between the top two wires, and the overall height should not exceed 40 inches.

- Fencing With Wildlife in Mind,
  Colorado DOW
  http://wildlife.state.co.us/



4. Trail Standards:

All trails in Black Forest Regional Park will conform to El Paso County's trail hierarchy. Currently four trail standards exist, with three being used in the Park. Tier I Regional Trail, Tier III Park Trail, and Tier IV Single-Track Trail (El Paso County Parks and Leisure Services Master Plan, 2005).

In addition to complying with El Paso County Trail Standards, other resources should be utilized when developing and building trail corridors. Existing trail construction standards include:

- El Paso County Trail Hierarchy,
  El Paso County Community Services Department, Planning Division

- Equestrian Design Guidebook for Trails, Trailheads, and Campgrounds,
  USFS and USDOT
  http://fhwa.dot.gov/environment/fspubs/07232816/index.htm

- Trail Construction and Maintenance Notebook,
  USFS and USDOT
  http://www.fhwa.dot.gov/environment/fspubs/07232806/index.htm

- Trail Solutions: IMBA's Guide to Building Sweet Singletrack, IMBA
  http://www.imba.com/catalog/book-trail-solutions

EL PASO COUNTY TRAIL HIERARCHY

Tier I Regional Trail:

Surface=8' Average, Trail Corridor=12' Average
Multi-use crushed limestone surface with shoulders.

This Tier is included in our County Trails Master Plan document and is associated with the Land Development code. This Regional Trail system connects communities with open spaces and parks. It's the County's core multi-use trail corridor.

Tier II Double-Track Trail:

Surface=8' Average, Trail Corridor=8' Average
Multi-use crushed limestone / native surface without shoulders.

This Tier is designed for low maintenance and ease of construction. It's typically found in trail corridors that connect local communities with open spaces.

Tier III Park Trail:

Surface=6' Average, Trail Corridor=6' Average
Multi-use crushed limestone / native surface without shoulders

This Tier is commonly found in our regional and local parks. They connect active use areas to parking lots and are often aligned to create loops for park users. These are our most heavily used trail tier.

Tier IV Single-Track Trail:

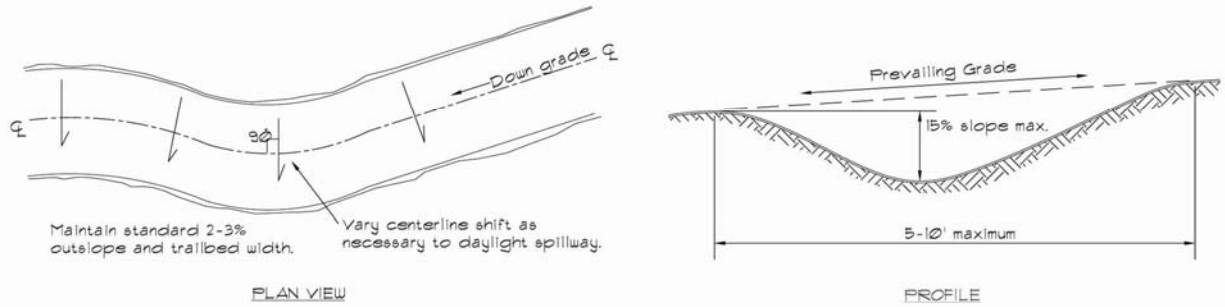
Surface=18"-2' Average, Trail Corridor=4' Average
Crushed limestone / native surface without shoulders

This Tier is designed to allow users to access remote open spaces. It is not multi-use and users are encouraged to use caution while passing other users. Typically this trail is used by hikers, preferring a more rustic experience. Maintenance is not routinely performed on these trails.

El Paso County Community Services Department, January 2011

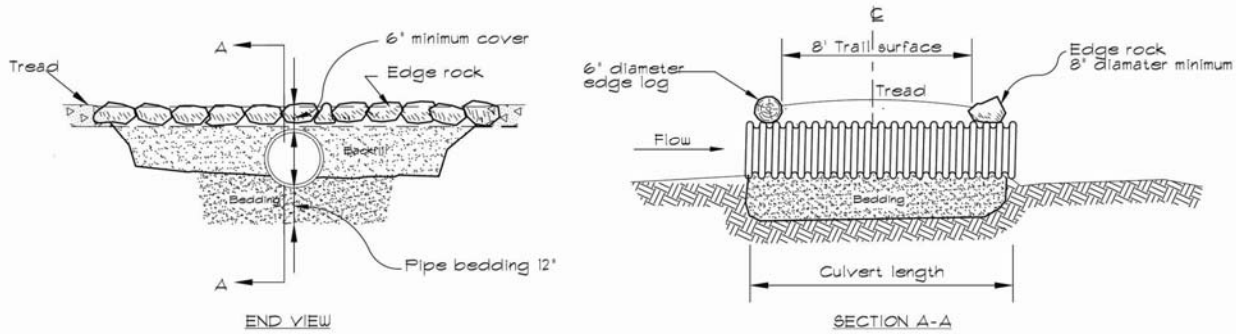
GRADE DIP

NOT TO SCALE



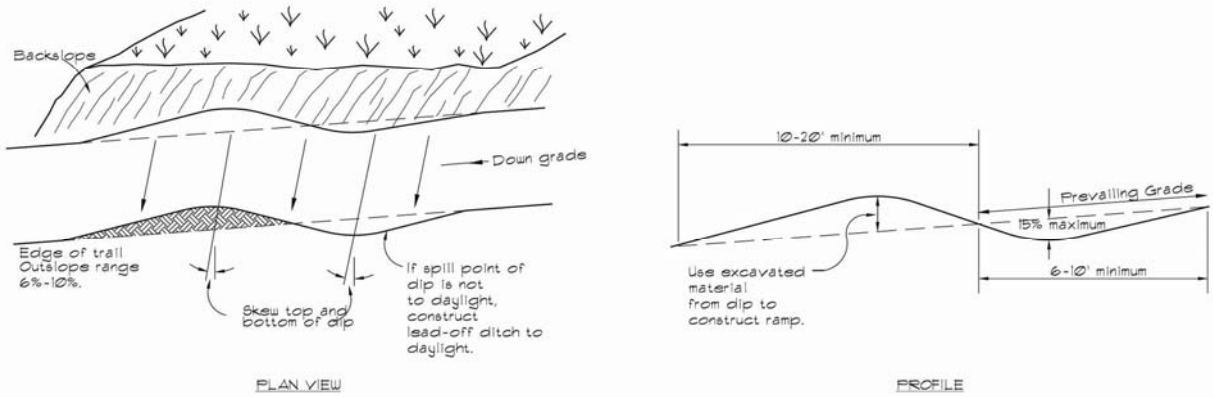
CULVERT WITHOUT HEADWALLS

NOT TO SCALE



ROLLING DIP

NOT TO SCALE



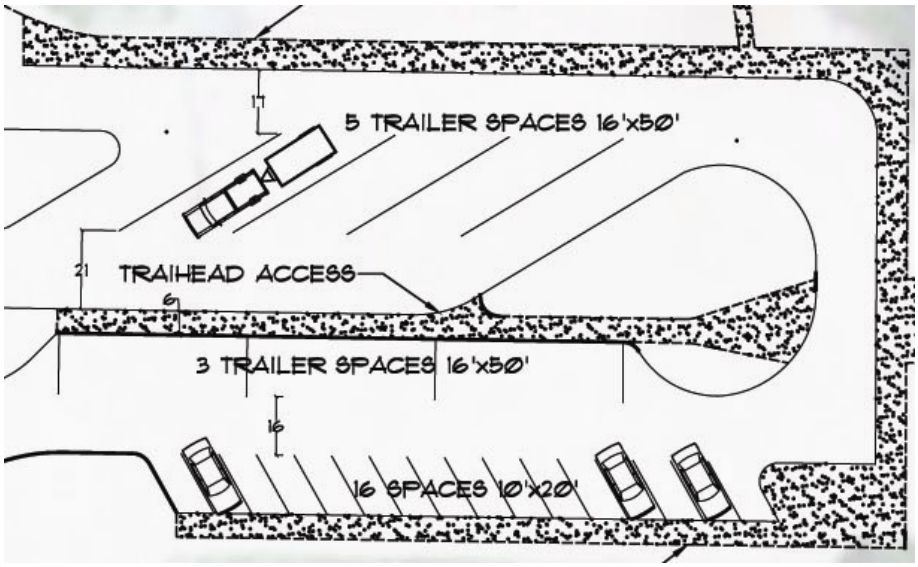
5. Trailheads:

All trailheads in the Regional Park will consist of a crushed limestone surface, wayfinding signage, and a message center for park and community information. Signage should not be located in the traveling path of any trail, and the approach should be widened to accommodate informal trail user gatherings.

Trailhead parking lots in Black Forest Regional Park will be class #6 gravel (or equivalent) and accommodate standard vehicles, large vehicles, and equestrian trailers. To accomplish this, two parking lot types are proposed. The first is a standard parking lot accommodating standard vehicle, while the second is emphasized for equestrian use. All parking lots should have adequate separation between vehicle traffic lanes and trail users (Harris1998).

- Standard Parking Lot
    - 10x20 foot parking spaces
    - ADA parking spaces

- Equestrian Parking Lot
    - 16x50 foot pull through parking spaces
    - 16x50 foot parallel parking spaces
    - ADA parking spaces
    - Minimum 53 foot turning radius



6. Signage:

There are three types of signs proposed for Black Forest Regional Park. All County signs should be designed in accordance with Park Division standards. Cathedral Pines has existing trail signs. New signs should be compatible and consistent with accurate trail identification and wayfinding.

- Wayfinding- This sign type includes park entry signs, general park boundary markers, trail maps and directional signage specific to the Park.

  Special consideration is needed for wayfinding signs in the Park because it does share some trail corridors with the Cathedral Pines Metro District.

- Operational- This sign type includes Park rules and regulations. It would also include public notices and general information.

- Interpretive- This sign type includes trail etiquette, forest health, historical information, social trail deterrence and other informative items. These signs should be located at all information kiosks and along the trail where appropriate.

IX. Implementation:

1. Phasing:

Phasing for the proposed improvements was derived from balancing the solicited public comments, public survey results, and County staff discussions. Improvement costs, funding, and maintenance needs were also considered in the phasing of this Master Plan.

General trail improvements are spread across all three phases. In each phase the construction of new trails and associated reclamation of social trails will be performed. In phase one, Tier I trails will be improved. This will reinforce the connection between the existing park and added park land from Cathedral Pines. In phase two, existing Tier III trails will be improved. These trails are heavily used by park patrons. In phase three, the development of Tier IV trails will be developed. This will establish looped trails in the eastern portion of the Regional Park.

The Forestry and Noxious Weeds Management Plan will be undertaken throughout all phases of the implementation plan. It will take several years to complete and will require the continued cooperation of the Cathedral Pines Metropolitan District and volunteer groups. Some activities, such as vegetation management, will continue into the future.

- Phase One
    - Implement Trail Improvements to Tier I and Social Trail reclamation
    - Implement Forestry and Noxious Weeds Management Plan
    - Upgrade Well water system (irrigation and restroom)
    - Improve Trailhead off of Milam Road
    - Relocate fenceline along Shamrock Ranch property
    - Asphalt active use area parking lot
    - Development of pond area off of Vessey Road
    - Install sand volleyball court in active use area

- Future Phases
    - Trail Improvements to Tier III and Social Trail reclamation
    - Forestry and Noxious Weeds Management Plan
    - Improve Trailhead off of Vessey Road
    - Development of overflow parking lot in the active use area
    - Install picnic pads / pavilions at trailheads and active use area

2. Capital Costs:

Estimated capital costs are as follows,
The capital costs for the proposed improvements will vary and the figures will be refined prior to construction and based on Phase One experiences.

BFRP Master Plan Capital Improvement Costs

Phase One	Action Items	Estimated Costs
General Trail improvements	Prioritize trail work, seek volunteers, solicit bids, schedule annual trail work dates, Implement improvements	$50,000
Forestry & Noxious Weeds Management Plan	Prioritize work, seek volunteers, solicit bids, schedule annual work dates, Implement the FNWMP	$50,000
Active Use Area - Well System	Solicit bids, upgrade well system for irrigation and restroom requirements	$100,000
Active Use Area - Restroom Upgrades	Solicit bids, Install new fixtures, upgrade plumbing, electrical system and public water system	$50,000
Active Use Area - Asphalt Parking Lot	solicit bids, close parking lot, asphalt, stripe	$60,000
Active Use Area - Sand volleyball court	In-house, bid materials, complete work	$10,000
Trailhead - Milam Road	Solicit bids, close parking lot, complete work, re-open with orientation signing	$60,000
Pond Area - Vessey Road	solicit bids, install pedestrian bridge, develop looped trail, open with signage	$75,000
	Total Phase One Costs:	**$455,000**
Future Phases		
General Trail improvements	Prioritize trail work, seek volunteers, solicit bids, schedule annual trail work dates, Implement improvements	$50,000
Forestry & Noxious Weeds Management Plan	Prioritize work, seek volunteers, solicit bids, schedule annual work dates, Implement the FNWMP	$50,000
Active Use Area - Picnic Pad / Pavilion	Solicit bids, remove/ install picnic pads and pavilion around trailheads and active use area	$50,000
Trailhead - Vessey Road	Solicit bids, close parking lot, complete work, re-open with orientation signing	$50,000
Active Use Area - Overflow parking lot	In-house, bid materials, complete work, open with orientation signing	$10,000
	Total Future Phases Costs:	**$210,000**
	TOTAL COSTS ALL PHASES:	**$665,000**

3. Maintenance Costs:

The Master Plan improvements are designed to reduce future maintenance costs. Using sustainable trail design principles and upgrading existing facilities will lead to a better utilization of County staff time and reduced costs over time. It is anticipated that these proposed improvements will not have a significant increase in maintenance costs.

General maintenance costs can be categorized as routine and periodic. Routine maintenance costs are less intensive and are done on a consistent schedule. Periodic maintenance requires significant staff time but is done less frequently.

The proposed improvements outlined in the plan will require routine and periodic maintenance as estimated below. Fleet and material costs, directly associated with maintenance operations were not calculated.

1. Active Use Area
- General
  - Maintenance
  - Snow removal
  - Trash removal
- Restroom
  - Cleaning
- Fields
  - Irrigation
  - Mowing
  - Noxious weed monitoring / spraying
- Parking Lot
  - Sweeping
- Pavilions
  - Cleaning
  - Reservation postings
- Playground
  - Mulch

2. Trailheads
- Parking Lots
  - Maintenance
  - Grading
  - Snow removal
  - Trash removal
- Kiosks
  - Maintenance
  - Update postings

3. Trail Corridors
- Trails
  - Maintenance
  - Inspection
  - Grading
  - Mowing
  - Noxious weed monitoring / spraying
- Kiosks
  - Maintenance
  - Update postings

4. Open Spaces
- General
  - Mowing
  - Noxious weed monitoring / spraying

5. Forestry and Noxious Weed Management Plan
- General
  - Planning
  - Scheduling
  - Implementation
  - Removal of vegetation
  - Planting understory

BFRP Master Plan Estimated Maintenance Costs (At Build Out)

Routine Maintenance	Action Items	Current Annual Work Hrs	Estimated Annual Work Hrs	Change Annual Work Hrs	Current Annual Costs ($14/hr)	Estimated Annual Costs ($14/hr)
General Maintenance-Summer	Trash removal, public water testing, tennis court, plant bed, and other routine grounds repair & maintenance (28 weeks)	588	784	33%	$8,232	$10,976
General Maintenance-Winter	Trash removal, sign & fence maintenance (24 weeks)	96	96	0%	$1,344	$1,344
General repair and & maintenance supplies	Herbicides, trash bags, cleaning and equipment maintenance	-	-	-	$3,500	$4,000
Vandalism Repair/Replacement	Vandalism Repair / Replacement Materials	-	-	-	$1,000	$1,000
Electrical Costs	Electrical Costs (2010 service level)	-	-	-	$3,556	$4,000
Restroom & Pavilion Cleaning-Summer	Sweeping, trash removal, dusting, mopping (28 weeks)	294	392	33%	$4,116	$5,488
Turf Maintenance	Mowing (average 26 weeks)	78	78	0%	$1,092	$1,092
Periodic Maintenance						
Turf Maintenance	Fertilization, Aeration weed control	22	22	0%	$308	$308
Turf maintenance supplies	Fertilizer Cost 2010 - 3 applications per year	-	-	-	$650	$650
Irrigation Maintenance Labor	Visual inspection of heads, water adjustments, scheduling, repair and maintenance	84	84	0%	$1,176	$1,176
Irrigation Repair & Maintenance Supplies	Current System is over 24 years old	-	-	-	$1,000	$1,000
Painting Maintenance	Paint facilities, pavilions, signs	170	210	24%	$2,380	$2,940
Parking Lot Maintenance	Grading, box blading (5 hr - 4 times year)	60	64	7%	$840	$896
Snow Removal	clearing sidewalks, trailheads, and sidewalks (average 18 events)	54	72	33%	$756	$1,008
Other Maintenance						
Gravel Parking Lot Maintenance	Grading, box blading (5 hr - 4 times year)	20	36	80%	$280	$504
Asphalt Parking Lot Maintenance	Asphalt repair, sealing, sweeping, striping, crack filling, cleaning and sweeping as needed.	-	-	-	$0	$829
Forestry management	Tree pruning, thinning, removal, and fire mitigation	320	320	0%	$4,480	$4,480
Trail Maintenance Tier I	Tier I $1,000 per linear mile / year : Box blading and surface repair. (Cathedral Pines maintaining 3 miles of Tier I trails)	0 miles	3 miles	0%	$0	$0
Trail Maintenance Tier III	Tier III $800 per linear mile / year: Box blading and surface repair. (Cathedral Pines maintaining 3.5 miles of Tier III trails)	3 miles	8 miles	166%	3 miles $2400	4.5 miles $3600
Trail Maintenance IV	$400 per linear mile / year : Resurfacing and surface repair	0 miles	3 miles	300%	$0	$1,200
Total Estimated Maintenance Costs		**1,786**	**2,158**	**21%**	**$34,710.00**	**$42,891.00**

*It is recommended to execute a maintenance agreement with Cathedral Pines to maintain 3 miles of Tier I Regional Trail and 3.5 miles of Tier III Pa

*Fleet equipment & gas costs directly associated with maintenance operations were not calculated.

4. Funding Considerations:

Several funding sources have been identified that can benefit Black Forest Regional Park. Currently the County collects development fees per park regions to fund park improvements. Agreements with the Cathedral Pines developer also supply funds specifically pegged for Black Forest Regional Park.

The most recent agreement with the Cathedral Pines developer secured $400,000 in fees for park improvements will be given to the County in phases as final plats for the development are recorded. Under the agreement, $246,155 was donated to El Paso County at the recordation of Cathedral Pines Filing No. 5 on a pro rata basis (based on 8/13 of the lots). The remaining funds of $153,845 will not be pro rated, and will be given to the county at recordation of the remaining 5 lots (13/13 lots) of Cathedral Pines Filing No. 5.

El Paso County also has corporate sponsorship and friends of the park programs that collect funds for park maintenance and improvements. In addition to County sources GOCO offers grants to assist in the funding of park improvements.

Great Outdoors Colorado (GOCO) offers State grant funds from lottery proceeds to assist in the preservation or development of public lands. GOCO grants are offered on a biannual cycle, with one application window in the spring, and one in the fall. El Paso County would like to use the funds obtained via the Park Lands Agreement and leverage them, to acquire a GOCO grant to implement this Master Plan. The County anticipates applying for the first grant - a Local Parks and Outdoor Recreation grant offered by GOCO - in the spring of 2011.

The Master Plan will be submitted as part of the application to GOCO for grant consideration. If approved, the County can begin to implement the Master Plan improvements as early as the fall of 2011. If awarded, El Paso County will have two years to spend the grant funds.

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XI. Appendicies:

1. Black Forest Regional Park Master Plan Update Survey, Peak Survey, Inc. 2010.

2. Black Forest Regional Park Forestry and Noxious Weeds Management Plan, Mile High Tree, Inc., 2010

3. Black Forest Regional Park Master Plan Graphic

4. Black Forest Regional Park Master Plan Capital Improvement Costs