



OPEN SPACE MANAGEMENT PLAN

January 2010

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I. Introduction

A. HISTORY

The Town of Superior has a rich history and has experienced rapid growth similar to many municipalities located along the Front Range. The Town itself was founded in 1896 and incorporated in 1904 and was reportedly named after the "superior" quality of coal found in the area. Mining was the major force in Superior's history until the Industrial Mine closed in 1945 when many people moved out of the area and the Town evolved into a quiet ranching and farming community of around 250 residents, until recently. In the 1990's economic and new construction boom caused Superior to become one of the fastest growing communities in the nation. U.S. Census data for the Town showed a population of 9,011 in 2000. Today's population estimate is over 12,000.

The Town owns multiple properties within its limits including most greenway areas. As of 2010 the areas include over 200 acres of irrigated turf, parks and streetscapes, 400 acres of native open areas, 58.45 acres designated as open space and 159 acres of open space easements. The Town is charged with a variety of responsibilities with respect to these properties, including maintaining aesthetics, providing for public safety, and conducting natural resources management for each property.

In 2000 and 2001 the citizens of the Town of Superior put forth an effort to start an Open Space program. This effort ultimately led to the formation of the Open Space Advisory Committee (OSAC) in April of 2001.

In July of 2001 the OSAC completed the first draft of the Summary Report and Recommendations and presented the report to the Planning Commission and Town Board of Trustees. The report was revised in October of 2001. This report was not adopted.

In November of 2001 the citizens passed a Sales Tax ballot authorizing a 0.3% sales tax for the acquisition and maintenance of Open Space within the Town of Superior.

In early 2002 the definitions of Natural Open Space and Developed Open Space presented in the Open Space Summary Report and Recommendations were incorporated in the Comprehensive Plan.

In February 2003, the Town of Superior contracted with Smith Environmental, Inc. to perform a wildlife assessment of 18 of the undeveloped properties in Superior.

In mid 2003, in anticipation of the dissolution of the Superior Metropolitan Districts, the Town utilized and converted the Community Services Department to become the Town's Parks, Recreation, and Open Space Department and hired its first Director.

In February 2004 Resolution R-13, Series 2004 was passed by the Town Board of Trustees prioritizing the expenditures of the revenues from the Open Space sales tax.

In March of 2005 the Open Space Advisory Committee presented the final Open Space Summary Report and Recommendations to the Town Board of Trustees. This report outlines priority open space parcels for future acquisition and protection by the Town. This plan was approved by the Board of Trustees.

Current Town Open Space properties include the Harney Lastoka parcel purchased in 2006, a Conservation Easement on the Verhey property formalized in an agreement with Boulder County and City of Boulder in 2007, the Arsenault parcel purchased in 2007, the Madson parcel purchased in 2009 and the Ochsner property purchased in 2009.

Town staff and OSAC have formed a great partnership with goals to acquire, manage, and improve open space within the Town of Superior. Both parties feel open space is a valuable natural resource and that responsible management of open space is a priority.

B. OPEN SPACE - A Valued Natural Resource

Natural open space areas are highly valued in Town. Through the Citizen Survey conducted by GreenPlay and Leisure Vision, citizens rated the need for existing open spaces as well as purchasing additional parcels as one of the highest priorities of the Town. Sixty-seven percent (67%) of respondent households indicated a need for protecting wildlife and 68% of households indicated a need for observing wildlife. Preserving the environment/open space was found to be “very important” or “somewhat important” by 93%, and 91% gave the same ratings for providing natural areas for wildlife and plants. Forty percent (40%) of resident households placed preserving the environment/open space in their top three choices for most important functions for the Town to provide.

Lands with significant natural features, such as critical wildlife or plant habitat, wetlands, rock outcroppings, stream buffers, and other features are fragile and should be protected. Nature preserves, greenways, linear parks, and passive parks are important features of any park system and may be developed by the Town when possible as a way of protecting important natural resources. Tracts adjacent to the Town limits have valuable open space areas in respect to wildlife habitat, scenic views, noise buffering, conservation, and stream buffering.

Natural open space areas are supported by the Open Space Advisory Committee (OSAC). This group developed criteria, formulated into a Tier 2 Analysis, which assigns a score or value for each parcel based on desired attributes. This allows the group to both identify top priority parcels for protection/preservation through potential acquisition of the full parcel and identify valuable portions of properties that are scheduled for potential future development as residential or commercial areas.

C. LANDSCAPE SETTING

1. Location

The Town is located between U.S. Highway (U.S.) 36 to the north and Colorado State Highway (SH) 128 to the south, approximately five miles southeast of the City of Boulder. McCaslin Boulevard is the major north-south roadway through the Town. Most of the Town is located in southeastern Boulder County, with a small portion of land in northern Jefferson County. Downtown Denver is approximately 20 miles to the southeast.

The Town has fee simple ownership of the parcels listed below:

- 30 acres referred to as the Harney- Lastoka Property;
- 13.45 acres referred to as the Arsenault Property;
- 1.5 acres referred to as the Madson Property;
- 13.5 acres referred to as the Ochsner Property (Includes 4 acre Mayhoffer/Singletree easement)

Together these properties comprise approximately 58.45 acres of open space.

The Town owns conservation easements on the parcels listed below:

- 155 acres referred to as Verhey - easement shared with City of Boulder, parcel owned by Boulder County;
- 4 acres referred to as Mayhoffer/Singletree (Arsenault/Ochsner)

Together these properties comprise of approximately 159 acres of open space.

2. Climate

With an average elevation of 5,370 feet, the climate of the Superior area can be described as a high plain, continental climate, with light rainfall and low humidity. The climate is modified considerably from that expected of a typical high plains environment because of the nearby mountains. Winds are channeled from the Continental Divide down the Front Range and can be severe. Prevailing winds are generally from the west.

The average high temperature in July is 88°F, and the average low temperature in January is 14°F. Annual precipitation averages 16 inches. Relative humidity is about 30-35% in summer and about 40-50% in winter. Periods of drought are frequent, usually occurring in the fall and winter. The length of the growing season is approximately 140 days, with the average date of the first killing frost being September 28. The last killing frost occurs around May 11.

3. Environmental Setting

The Town of Superior is generally characterized by gentle to moderately rolling topography, rising from east to west. Topographic lows occur along Coal Creek and Rock Creek, the two principal drainages through the Town. These creeks drain to the northeast into Boulder Creek, a tributary of the South Platte River. Historically, native mixed-grass and tall-grass prairie dominated in the upland areas and trees, shrubs and grasses dominated in the riparian areas of the Town. Dominant wildlife species likely included

typical Central Plains keystone species including: black-tailed prairie dogs (*Cynomys ludovicianus*), black-footed ferret, (*Mustela nigripes*), bison (*Bison bison*), pronghorn (*Antilocapra americana*), western rattlesnake (*Crotalus viridus*), and numerous songbird and raptor species. The introduction of large-scale human disturbances including settlement, coal-mining and conversion of prairie to agricultural use permanently changed the physical and biological features of the landscape.

The Town and surrounding vicinity contain a variety of wildlife because of its location between the foothills and the plains. The study area likely receives infrequent visits from species inhabiting plains, foothill, montane, and aquatic/riparian habitats. The Town is the edge of geographical range for numerous species. The abundance of wildlife species varies widely within and across habitats can not be obtained without detailed population studies.

The Colorado Natural Heritage Program (CNHP) identifies the Town vicinity, and more specifically, the Louisville quadrangle, as an ecologically important area. They identify four Potential Conservation Areas (PCA's) within the Louisville quadrangle. These PCA's are remnants of historical (pre-disturbance) native plant and animal communities and host several biologically rare and imperiled species. Several of these species are listed and protected as Threatened under the Endangered Species Act, including the bald eagle (*Haliaeetus leucocephalus*), Ute ladies'-tresses orchid (*Spiranthes diluvialis*) and the Preble's meadow jumping mouse (*Zapus hudsonius preblei*).

II. Management

A. MANAGEMENT GOALS and OBJECTIVES

The Town of Superior Open Space program is managed in a manner consistent with good stewardship and sound ecological principles that benefit citizens of Superior by promoting native plants, wildlife, wildlife and plant habitat, cultural resources, agriculture and scenic vistas and appropriate passive recreation. It is intended that the differing classifications of Open Space will require different management practices to provide reasonable levels of protection consistent with the desired uses of the land.

1. Town of Superior Comprehensive Plan, September 10, 2001

The Town Comprehensive Plan contains elements relating to Parks, Recreation, Open Space and Trails. The following goals are relative to the provision of those services:

Goal 13 - The Town's park system is desired to furnish important recreation and cultural benefits for all residents while also enhancing the Town's overall physical and natural framework.

Policy 13.1 Provide parks within approximately ½ mile walk of every home and business

Policy 13.2 Develop a new neighborhood park in Original Superior

Policy 13.3 *Employ design practices that enhance accessibility within the Town's park system*

Policy 13.4 *Ensure that the Town's park system respects and implements the Town's environmental plans and policies*

Policy 13.5 *Evaluate wildlife habitat impacts when developing parks near or within existing habitat areas*

Policy 13.6 *Develop, where appropriate, year round recreational uses and facilities*

Policy 13.7 *Ensure that phased development provides its core park facilities as part of its initial phase*

Policy 13.8 *Develop and integrate Special Interest Areas as part of the Town's park system*

Policy 13.9 *Ensure that interpretive signage identifying historic, cultural, and natural areas within or near the Town's park system are developed*

Goal 14 - Preserve those areas of existing open space that offer natural links between neighborhoods and community centers that offer unique outdoor recreation and enjoyment, that provide important ecological functions, and that contribute to the community's aesthetic beauty in order to maintain an enjoyable and healthy community.

Policy 14.1 *Protect areas that provide significant habitat and/or important corridors between established habitat areas*

Policy 14.2 *Identify and develop open space corridors linking open space throughout the Town of Superior*

Policy 14.3 *Ensure that proposed development evaluates wildlife habitat impacts and reasonably mitigates any potential impacts when located near or within existing habitat areas*

Policy 14.4 *The majority of designated open space identified as significant habitat and/or as a corridor should be left undeveloped, with no more than 20% developed in a low intensity manner*

Policy 14.5 *Protect, enhance and develop the existing reservoirs and creek drainage ways to protect wildlife habitat and to provide amenities for public use*

Policy 14.6 *Acquire natural and developed open space when it is fiscally responsible and financially feasible*

Policy 14.7 *Establish open space planning, acquisition, and maintenance as an integral part of the Town's general planning, administrative, and budgeting process*

Policy 14.8 *Develop open space acquisition and maintenance standards that integrate the existing standards of other jurisdictions and districts*

Goal 15 - Ensure that all development provides appropriate amounts of both formal landscaping and/or natural open space as a key method for enhancing a development's visual appearance.

Policy 15.1 Ensure that all future development provides an appropriate amount of open space and /or landscaping in order to maintain compatibility between buildings, parking areas, and adjacent uses

Goal 16 - Develop the Town's trail system as an integral part of all physical development throughout the Town, meeting the various recreational, cultural, and mobility needs of all user groups.

Policy 16.1 Develop a well-defined Town loop trail as one of the trail system's fundamental components

Policy 16.2 Ensure that the trail system provides convenient and attractive access to key public amenities and community facilities

Policy 16.3 Explore trail system links to neighborhoods and business centers to strengthen the Town's sense of community and identify and stimulate commercial synergy

Policy 16.4 Use the trail system as a means to facilitate both regional and local pedestrian connections

Policy 16.5 Locate trails within approximately ½ mile walk from every home and business. Require developers to draw a circle on development submittals reflective of a ½ mile walk

Policy 16.6 Identify and develop strong links between Rock Creek and Coal Creek regional trails

Policy 16.7 Extend the Rock Creek trail to link to future residential development along Rock Creek with Community Park

Policy 16.8 Coordinate with neighboring jurisdictions to extend the Coal Creek trail eastward under U.S 36 to connect with regional trail with open space owned and maintained by neighboring jurisdictions

Policy 16.9 Identify and develop strong links between residential areas of the Rock Creek subdivision and the commercial and retail centers near the McCaslin Blvd and U.S. 36 interchange

Policy 16.10 Develop and trail linking Superior to the Monarch Schools in Louisville using the underpass near the cemetery and the 88th Street Bridge

Policy 16.11 Identify and develop preferably grade-separated trail connections across McCaslin Blvd. linking together the Town's east and west sides

Policy 16.12 Design the trail system, where it is most appropriate and practical, to enhance accessibility

Policy 16.13 Ensure that the design and development of future trails complies with the Town's Environmental Resources policies

Policy 16.14 Encourage access to habitat areas while minimizing the impacts of proposed trails adjacent to or within existing habitat areas

Goal 17 - Establish trails planning, construction, and improvements as an integral part of the Town's total transportation system equal to the Town's general planning, administrative, and budgeting processes addressing traffic.

Policy 17.1 Develop a clear set of trail development and maintenance standards that coordinate with standards of other jurisdictions and districts

***Policy 17.2** Emphasize safety in trail design, particularly where trails intersect with roads and other trails. Where conditions warrant, separated grade crossings and detached trails should be considered*

***Policy 17.3** Provide, to the greatest extent, possible safe off-street corridors for children to get to and from school*

***Policy 17.4** Require trail corridors to average at least 50 feet in width*

***Policy 17.5** Require recreational hard trails to be 8' minimum in width, sidewalks to be 5' minimum, soft trails to be 4' minimum naturalized to 3'*

***Policy 17.6** Design trails that respond to the various needs of different user groups*

***Policy 17.7** Initiate an Adopt-a-Trail program similar to the Adopt-a-Highway program*

***Policy 17.8** Require phased developments to provide their core trail facilities as part of their first phase of street construction*

***Policy 17.9** Require trails adjacent to McCaslin Blvd be detached*

***Policy 17.10** Include trails as an integral part of a multi-modal transportation system to efficiently meet local and regional transportation needs*

***Policy 17.11** Ensure that development provides bicycle and pedestrian trails that link residential areas with commercial, residential, open space facilities, established trail systems and transit hubs*

***Policy 17.12** Require development to provide trail amenities such as trail heads with adequate parking, bicycle racks, trash receptacles/recycling bins, appropriate signage and maps, fencing and benches*

***Policy 17.13** Support links to U.S. 36 commuter bicycle expressway if and when developed*

***Policy 17.14** Ensure that the trail system provides access to future Special Interest Areas as identified on the Town of Superior Parks, Open Space and Trails Master Plan*

2. Open Space Definitions

The definitions below are compiled from both the Town's Land Use Code and the Comprehensive Plan.

- **Natural Open Space:** Undeveloped land that is secured for the protection of habitat for native animals and plants, for limited recreational use, and for the preservation of archeological and topographical significance. *Natural buffers can consist of prairie, aquatic or riparian open space.* Three types of natural open space are:
 - *Prairie-* flat or rolling tracts of land dominated by a variety of grasses and inhabited by numerous species of animals.
 - *Aquatic-* lakes, streams, ponds and wetlands providing habitat for a variety of plants and animals living in water or at the water's edge.

- *Riparian*- land occurring along streams or ditches characterized by a variety of plant life, providing habitat, migratory corridors, and nesting and breeding sites for birds and mammals.

- **Developed Open Space:** Developed lands that can be used for any or all of the following purposes. *Developed buffers can be greenbelts consisting of parks, landscape, trails or berms:*
 - *Parks*- public recreational areas that can include playgrounds, ball fields, rinks, picnic areas, etc.
 - *Landscaping around buildings or structures*- trees, shrubs, flowers, streams, and ponds that surround commercial, residential or public areas; urban shaping between or around municipalities or community service areas, and buffer zones between residential and nonresidential development. In these areas, indigenous and xeric landscape materials and nursery stock are recommended, which provide food, shelter and nesting place for wildlife.
 - *Trails*- constructed pathways for recreational use.
 - *Berms*- large or small mounds of earth that may be landscaped to help alleviate site, sound and air pollution, as well as to create new habitat for birds and animals.
 - *(Developed buffers can be greenbelts consisting of parks, landscape, trails or berms.)*

- **Greenways:** Effectively tie park system and/or natural open space components together to form a continuous park and/or natural open space environment.

- **Zoning:** Defined in the Town of Superior Municipal Code Chapter 16- Land Use.
 - *Sec. 16-186. Open Space and Recreational District established.*
The OSR, Open Space and Recreation District, is established as a conservation district to preserve the environment and natural character of the landscape within the district. Land within the district may be protected from development, but may also be used for trails, buffering between land uses, defining the edges of urbanization and the preservation of valuable natural features. In addition, this district is intended to provide open space areas for passive, active and developed recreation. These areas may include and take advantage of a natural feature or amenity, and provide facilities ranging from playing fields to ballfields and court complexes. The OSR District may be composed of both public and private lands. (Prior IDC §7.1.6)
 - *Sec. 16-187. Open Space and Natural Uses District.*
The OSN, Open Space and Natural Uses District, is established as a protection district to preserve the open space and undeveloped character of those properties within the district. Land within the district is protected from development but low-impact improvements to the land such as trails,

trailheads, flood control facilities and reclamation may be allowed pursuant to a special use or conditional use permit as set forth in the Schedule of Uses in Section 16-189 below. The Open Space and Natural Uses District may be comprised of both public and private lands. (Ord. O-13 §1, 2007)

o *Sec. 16-190. Schedule of Uses.*

OSN Uses:

- i. Permitted Use:
 - (1) Fencing
 - (2) Barbed wire fence
 - (3) Signage- Signage shall be approved only as part of a signage program that establishes design consistency within the site/property and consistency with signs at other OSN and OSR sites or open space properties in the Town.
- ii. Permitted by Conditional Review Use:
 - (1) Restoration or reclamation of natural habitat greater than ½ acre
 - (2) Trails, unpaved
 - (3) Flood control improvements
 - (4) Pedestrian bridge
- iii. Permitted by Special Review Use:
 - (1) Oil and gas drilling accessory equipment and storage tanks
 - (2) Utilities and cable facilities; underground
 - (3) Kiosks – information
 - (4) Restoration or reclamation of natural habitat greater than ½ acre
 - (5) Trails, paved
 - (6) Trailhead without restroom facilities
 - (7) Parking, paved or unpaved- The number of parking spaces shall be determined by a demand analysis and only those parking standards for parking space size, aisle width and ADA requirements shall apply.
 - (8) Unpaved maintenance roads
- iv. Prohibited Uses: Include all other uses not listed.

The Open Space Advisory Committee recommends that when the Town of Superior Municipal Code is reviewed, trash cans, benches and dog stations be added to OSN under the Permitted by Conditional Review Use.

B. MANAGEMENT PROTOCOL

1. General

- Open space lands will not be mowed on a regular basis. Certain conditions may arise where the Town Staff may prescribe mowing to enhance plant vigor, or in some circumstances, to decrease extreme fire danger. Buffers may be mowed between residential housing and open space to reduce fire hazard. Strips may be mowed along the side of open space trails.
- Maintenance vehicles are restricted to trails, unless prior approval from the Director of Parks, Recreation and Open Space has been obtained.
- It is illegal for any resident to create a garden, landscape, playground or any other type of “improvement” without written consent from the Director of Parks, Recreation and Open Space.
- Utility easement holders must obtain a permit with the Parks, Recreation and Open Space Department to disturb open space during the course of maintaining a utility line. Any vegetation disturbance is the responsibility of the utility to rehabilitate to the Town of Superior’s re-vegetation standards.
- Unless special circumstances exist where the open space would need prairie dogs relocated to repopulate historical prairie dog colonies, Town of Superior open space does not allow any release of prairie dogs on its parcels.
- The sides of newly constructed trails will be reclaimed with plant materials that are native to the Boulder County plains. Native plant materials may be used to replant any disturbances to open space. The exception to this protocol may be for lands leased for agriculture and urbanized open space.
- The Town recognizes the importance of the prairie dog to the grassland ecosystem. In recognition of their significance and in order to provide watchable wildlife opportunities for Superior residents, the Town may strive to maintain a minimum one Prairie Dog Education Area on the Town of Superior open space.
- In order to maintain healthy prairie dog colonies and protect other elements of a particular property, the most humane lethal control of prairie dogs may be used when relocation options have been fully considered.

2. Specific Mowing

No native grass mowing will occur on existing and established native grasslands. The only exception may be the maintenance path that allows access to fences for maintenance. This path may be maintained on a monthly basis. However, one exception does exist and this is for prairie dog management. No mowing will occur behind fences where prairie dogs exist.

Weed Management/Noxious Weeds

In 2005 Town Staff created a weed manual. This manual highlights areas where ongoing weed management will occur. Outlined in this book are types of controls ranging from chemical, mechanical, and biological. The degree of noxious weeds determines the method to be used. According to the Colorado Noxious Weed Act adopted as a State statute (CRS 35-5.5) in 1990, owners are responsible for controlling weeds on the property.

Code Enforcement for Open Space Access and Dumping

At this time Town Staff may monitor and approve open space access as well as any illegal open space dumping. Chapter 11 of the Superior Municipal Code was amended in 2005 with Ordinances 11-100 and 11-101. Ordinance 11-100 covers the unlawful dumping in any open space areas. Ordinance 11-101 is the application for access through Town open space.

Trails

Trails provide recreational linkages for passive recreational activities. Passive recreational activities only include hiking, running, dog walking, biking, nature observation, photography. In addition recreational activities on hard surface trails include skateboarding, rollerblading and non-motorized scooters. Superior's trails vary between soft and hard surface.

Trails within the Town are very popular. According to the Citizen Survey conducted by GreenPlay and Leisure Vision, ninety-five percent (95%) of survey respondent households indicated they have a need for walking/biking trails. Only 49% of that group felt that their needs were being completely met. When given choices, the highest number of respondents (45%) said that walking/biking trails were one of the four "most important" facilities to their household. Seventy-two percent (72%) said that trail and linear park connections to neighborhoods was a "very important" function to be provided by the Town, listing it as one of the top three "most important" functions.

Both soft and hard surface trails are used by families throughout the community and continue to be a highly desired amenity within the Town. Trails intersect areas throughout Town providing linkages to places in town and in nearby towns and counties. Connections to existing trail networks need to continue. Areas between Rock Creek, Original Town, and Sagamore need to be strategically linked in order to provide alternative methods of transportation. Further, connections to existing Boulder County open space areas should continue to be planned in order to access these valuable natural assets.

With respect to open space areas, where possible, it is encouraged that trail access, preferably soft surface, occur. One such trail, the Singletree Trail in Boulder County, is a good example of using an open space area with a trail. People using the trail have the opportunity to view scenic vistas and Coal Creek.

A hierarchy for trails has been developed, in which main routes serving the entire Town are identified and highlighted with appropriate signage. These would be known as Primary Trails. Other routes connecting to the primary trails would be considered Secondary Trails. The width and type of surfacing for trails should vary depending on the location and purpose of each trail. In general, Primary trails have been designed with a cross-section that includes 8 feet of hard surface (preferably concrete) and three feet of soft surface, such as compacted crusher fines. These widths may be increased where heavier use is expected. In more natural settings, the full width of the trail may be soft surface.

Secondary trails may be either hard- or soft-surfaced, and the width may vary depending on use. Where new trails are built to fill in “missing links”, the new trail should match the trails to which it connects in width and surface type.

- **Trail Design**

The soft surface trails should generally be 4-10 feet wide to accommodate multiple types of user groups and user skill levels.

- **Trail Grades**

All trails should have a cross slope to create positive drainage across the trail. A minimum of 2% for crusher fine trails and a minimum of 5% for natural surface trails are recommended. Longitudinal slopes of 5% or less are ideal and should not exceed 8.33% wherever possible. All trail grades shall conform to the intent of the Americans with Disabilities Act (ADA) where practical. Trail design should be done to ensure a sustainable tread. Tread type, slope, lay-of-land, user amenities, user types, access points, and year-round use should be considered during the design.

- **Trail Right of Way**

When a new trail right of way is to be dedicated to the Town or Boulder County, a minimum ideal dimension should be 50 feet. This will allow for a 10-foot wide trail with 3-foot shoulders on each side with room for grading during the construction process.

- **Trail Re-vegetation**

Where appropriate, trails should be landscaped or revegetated with native vegetation to match the contextual surroundings. Trails developed in open spaces should have native, low water consumptive, low maintenance vegetation.

- **Vertical Clearance**

Minimum vertical clearance from obstructions such as overhead branches should be 10 feet.

- **Bridges**

Bridges over ditches or drainage ways should be up to 12 feet wide. Actual design would be site specific and be determined in the design phase. Design should be consistent with Town and Boulder County standards.

- **Culverts**

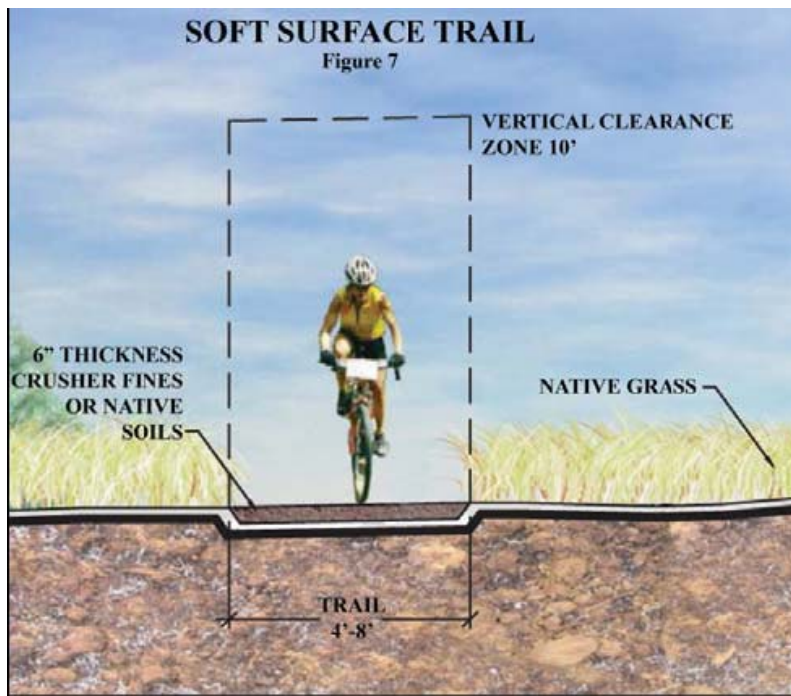
Culverts for minor drainage crossings should be designed to allow for the trail tread width including shoulders. Culverts should be located to allow for 12 inches minimum of clearance between the top of the pipe and the finished trail surface.

- **Miscellaneous Structures**

It is recommended that structures such as signs, railings, walls, benches, etc. be located a minimum of 2 feet from the edge of any trail.

- **Trail Materials**

A soft surface material is recommended for all trails. These materials blend well with the rural landscape. It is recommended that the soft surface trails be generally 4-10 feet wide. See the Figure below.



- **Soft Surface Trails**

Soft surface trails are typically constructed of native soils or crusher fines materials. Crusher fines are a by-product of gravel mining and generally include materials that pass through a 3/8" sieve. This is a preferred material as it creates a smooth, firm and stable surface. Soft surface trails should be constructed of native soil or crusher fines material approximately 6" thick.

- **Trail Construction**

The site design and construction of trails should be conducted with the minimal disturbance to native plants and potential wildlife habitat, and minimal disruption of agricultural operations. The trampling and removal of vegetation due to construction activities can result in weed infestations, erosion problems, and in some cases, a proliferation of undesigned trails.

Impacts to natural resources in the study area can be reduced with the following measures:

- Use existing roads and trails when possible.
- Minimize the need for new or duplicate access roads.
- Use accepted Best Management Practices (BMPs) to reduce and control erosion from disturbed areas.
- Require the full restoration of access roads and other disturbed areas following construction.
- Explore alternative construction and access techniques in sensitive areas such as wetlands.
- Monitor and control weed infestations in restored areas

- **Trail Prohibitions**

To assure the safety of all trail users, some uses are prohibited by municipal ordinance. Motorized vehicles, horseback riding, and unleashed dogs are all prohibited on Superior trails. This is outlined in the Town of Superior Municipal Code Sec. 11-8: Riding of animals and vehicles on public property not specifically designated for such traffic prohibited. (Ord. 96-O-4 §1, 1996; Ord. O-18 §1, 2000; Ord. O-16 §1, 2001)

Horseback Riding

Horseback riding is not a permitted use on any Town trails. This is detailed in the Town of Superior Municipal Code Sec. 11-60: Riding of animals and vehicles on public property not specifically designated for such traffic prohibited. (Ord. 96-O-4 §1, 1996; Ord. O-18 §1, 2000; Ord. O-16 §1, 2001; Ord. O-5 §1, 2009)

Dogs

The Town of Superior has a leash law that is enforced by the Boulder County Animal Control Officer at the direction of the Boulder County Sheriffs department. This department tickets loose dogs to protect the safety of resident wildlife and open space visitors. It can be found in the Town of Superior Municipal Code Section 7-64 Dogs running at large Ordinance (Ord. O-12 §1, 2007; Ord. O-9 §1, 2009)

Prairie Dogs

In 2005 Roe Ecological was hired to write a Prairie Dog Management Plan for the Town and subsequently adopted by the Board in 2005. The implementation of this plan is ongoing and is budgeted on an annual basis. This plan can be accessed on the Town's website. Excerpts from this plan have been outlined below.

- **Goals & Objectives:** The goal of prairie dog management for the Town of Superior is to provide prairie dog habitat conservation and viewing opportunities to the greatest extent possible, without causing undue conflict with adjacent landowners/land uses, or resource damage through soil erosion, noxious weed infestation, or loss of riparian or wetland habitats.
 - Establish at least one Prairie Dog Education Area (PEA) on Town-

- owned property.
 - Identify opportunities either within Town boundaries or in a partnership with other entities (municipalities, counties, and non-governmental organizations) in the region to purchase a property or conservation easement for use as a Shortgrass Prairie Conservation Area (SPCA). No site currently exists on Town-owned properties for a SPCA.;
 - Monitor and manage the populations of prairie dogs on PEAs and SPCAs at prescribed intervals (control needs to be defined by prescribed acreage, population, vegetation, or soil parameters);
 - Remove prairie dogs as soon as practicable from No Prairie Dog Areas (NPDs) that are to be reclaimed as riparian/wetland wildlife habitats;
 - Remove prairie dogs from remaining NPDs as necessary.
- ***Land-Use Designations for Prairie Dog Management:***
 - **Shortgrass Prairie Conservation Area (SPCA)**
A SPCA is a property (or a portion thereof) managed for continued prairie dog existence in a healthy shortgrass prairie ecosystem in order to ensure the perpetual conservation of ecosystem processes and the continued presence of associated species. Populations on these parcels will be frequently monitored and adaptively managed (control needs to be defined by prescribed acreage, population, vegetation, or soil parameters) to ensure that noxious weeds, soil erosion, and impacts to adjacent land owners/land uses are kept to an absolute minimum.
 - **Prairie Dog Education Area (PEA)**
A PEA is a property (or a portion thereof) managed for continued prairie dog existence to provide for educational and prairie dog viewing opportunities within the Town. Prairie dog populations with this designation may or may not serve an ecological purpose, although these colonies will allow residents and visitors an opportunity to view prairie dogs in an urban setting. Parcels with this designation will be open to public viewing and will have at least one interpretive sign addressing accurate prairie dog conservation, biology, etc., for educational purposes. The population of prairie dogs on a PEA parcel will be frequently monitored and adaptively managed (control needs to be defined by prescribed acreage, population, vegetation, and/or soil parameters) to ensure that noxious weeds, soil erosion, potential for disease, and negative impacts to adjacent land owners/land uses are kept at an absolute minimum. In order to prevent dispersal to locations where their presence is not desired (e.g., adjacent private property, playgrounds, ball fields, etc.) it is likely that a PEA will need to be

fully encompassed by a barrier, which could be viewed negatively by many members of the public as facilitating and encouraging an artificial “zoo-like” atmosphere.

- **No Prairie Dog Area (NPD)**

A NPD is a property (or a portion thereof) that excludes prairie dogs due to incompatible land use objectives. If there are prairie dogs on adjacent properties, a barrier will be erected either by the Town or preferably on a cost-share basis with the adjacent landowner to minimize future dispersal (and subsequent removal) of prairie dogs onto the NPD. Town staff or a qualified contractor will remove all prairie dogs from these Town owned areas according to acceptable removal activities as frequently as deemed necessary by Town staff. Relocation will not be permitted to these areas for any reason.

For sites designated as NPDs, Town staff will monitor the properties for any evidence of prairie dogs or their burrows. Evidence of prairie dogs or their burrows will be immediately reported to the Open Space and Parks Superintendent, who will have authority to contract for any necessary services, including barrier installation, that are reasonable and prudent for maintaining compliance with this management plan.

- **Unclassified Area (UCA)**

An UCA is a property (or a portion thereof) that is inappropriate for classification as a PEA or SPCA because its current land use may change in the future. Such a parcel would generally not be suitable for prairie dogs, although few if any current incompatible land-use objectives—whether on the parcel or on adjacent properties—would justify its being designated an NPD. Population control may be employed as necessary to ensure that noxious weeds, soil erosion, and impacts to adjacent land owners/land uses are maintained at an absolute minimum. Relocation would not be permitted to such areas for any reason.

- ***Prairie Dog Parcel Guidelines:*** Land Use Designations were assigned and comprehensive guidelines developed for management of prairie dogs on each selected Town property. For each property, consideration was given to the following:
 - Health of the prairie dog population and its habitat;
 - Ecological significance of the parcel both within the Town and on a regional scale;
 - Priority of conflicting land uses for the Town and surrounding region; and

- Capacity of the parcel to provide an educational opportunity while not compromising other ecological factors or land-use objectives, or without causing conflict with adjacent private property owners.

- **State of Colorado- Fence out State:** Colorado Revised Statutes - C.R.S. 35-46-(101-114). Colorado is a "fence out" state. This means it is a landowner's responsibility to fence unwanted livestock out. The cost of constructing a lawful fence between two properties is shared by neighboring landowners. Colorado fence laws are part of the Colorado Revised Statutes.

- **Town of Superior Prairie Dog Barrier Methods:**
 - Straw bale barriers consist of two small bales stacked on top of one another with a poultry wire curtain to minimize the likelihood of prairie dogs climbing over the barrier. This method has proven to be very effective but very costly and unattractive.
 - Silt fencing is not an option in Superior due to high winds.
 - Poultry wire erected by itself with the wire curtain on the ground facing the colony. It is believed that if the curtain is 4' to 6' in length that the prairie dogs will not burrow.
 - Solid wood fence 3' to 4' in height also with a poultry curtain. This option will be a little more costly up front but is more esthetically pleasing.

- **Intergovernmental Agreements:** Joint Management Agreement with Boulder County- 2007. The agreement states that the Town and County have a shared desire to provide quality passive recreational experiences to members of the public, while simultaneously preserving the natural environment and being good stewards of the property they own and manage in the vicinity of the Town of Superior. It also outlines how management of the properties will be collaborated through the efforts of both the Town and County.

Wildlife Survey and Habitat Evaluation

In 2003, the Town of Superior hired Smith Environmental, Inc. to conduct a wildlife and habitat evaluation for all undeveloped properties. The survey evaluated both properties

that have been annexed into the Town and those that may potentially be annexed. This information is on the Town website.

Wetlands

Western Ecological prepares a yearly report for the U. S. Army Corp of Engineers. They are contracted by the Town and managed by the Parks, Recreation, and Open Space Department. The Wetland Monitoring Report is at Town Hall.

Resource Monitoring

Resource monitoring is conducted to determine if management objectives are being achieved. Monitoring provides information about changes that are occurring on the Property and helps inform decisions about future land management activities. The monitoring of specific resources is performed on a periodic basis in relation to resource sensitivity. Some monitoring takes place through routine staff activities, while others take place annually or every few years. This monitoring currently takes place and is budgeted within the Town's 5 year budget plan. The following monitoring activities are recommended:

Raptor nest survey-----	Every 5 yrs-----	Town Staff/Contractor
Prairie dog survey-----	Annual-----	Town Staff/Contractor
Weed monitoring-----	Annual-----	Town Staff/Contractor
Weed inventory-----	Every 5 yrs-----	Town Staff/Contractor
Wetlands monitoring-----	Annual-----	Town Staff/Contractor

Education/Outreach

- The Town provides opportunities for residents to participate in various programs throughout the year. One program is the annual Wetlands-Wildlife Walk sponsored by Western Ecological.
- Sign Program
 - The Town already has existing interpretive signage throughout the open space. These signs reveal significant details about certain areas of interest.
 - The Prairie Dog Education Area (PEA) currently has no interpretive signage. If this area remains a PEA signage that is appropriate for this area is recommended.
 - With the acquisition of new open space there may be interpretive signage for each parcel.
 - Location Sign Specifications:
 - Dimensions: Open Space Signs
 - 72" wide x 45" high (at the highest part of the sign)
 - Posts are 18" into the ground
 - Sign is positioned 30" above ground
 - Colors: Olympic Brand 100% Acrylic solid color stain
 - Border: California Rustic (rust)
 - Background: Oxford Brown (dark brown)

Pantone Color:

- Type and logos: Pantone 5855 (tan)

Typeface:

- Times Roman (all caps)

Logos:

- Town of Superior
- Easement Owner (if applicable)

Example: See Figure 1 in Appendix A.

o Interpretive Sign Specifications

Dimensions: Open Space Signs

- Size: 26" wide by 18" high and 1/2" thick

Colors:

- Background (Pantone 5875 - light green)
- Photos and accents (Pantone 7421 - dark purple)
- Logos (Pantone 7421 and 5875 - burgundy)

Typeface:

- Trebuchet MS (headings and body copy)

Orientation:

- The single post pedestal sits 30"-36" above ground with a 45 degree mounting plate.

Native Plant Community Restoration/Enhancement

The methods and prescriptions used may be accomplished with the following goals in mind:

- Enhance wildlife cover and nesting habitat to improve overall wildlife diversity.
- Limit spread of noxious weeds and enhance native vegetation.
- All planting and restoration will be done according to Town of Superior Best Management Practices (a list of recommended planting species can be found in Appendix A).

Emergency Services

- Law Enforcement: Primary law enforcement responsibility for the Property rests with the Boulder County Sheriffs' Office, as the Property is located within the Town of Superior and Boulder County limits. Police and code enforcement officers will enforce regulations.
- Fire Protection: The Boulder County Sheriff is responsible for all wildland fire management activities on public, private and state lands within Boulder County. By virtue of the resources of Fire Protection Districts to make initial attack, Fire Departments and Fire Protection Districts are dispatched and respond to wildland fires without regard to land jurisdiction. In the case of federal land, excluding Rocky Mountain

National Park, the responsibility of the fire protection district is to respond with the jurisdictional agency, initiate initial attack, control the fire if possible, and to contact the USFS via the Fort Collins Interagency Dispatch Center (FTC) to manage the fire.

- Fire potential on the Town Open Space property is generally limited to wildland fire, probably in the form of a grass fire. Primary fire protection responsibility rests with the Rocky Mountain Fire District, as the property falls within its initial attack jurisdiction.
- Mutual Aid is defined as assistance provided by a supporting agency or Fire Protection District at no cost to the jurisdictional (protecting) agency. Supporting agencies will, upon request (or may voluntarily) take initial attack action in support of the jurisdictional agency. It shall be the responsibility of the agency performing initial attack to notify jurisdictional agencies if those lands are involved or threatened. The jurisdictional agency will not be required to reimburse the supporting agency for costs incurred for the duration of the mutual aid period, unless other arrangements are agreed upon. Mutual Aid Period: Each agency or Fire Protection District will assume responsibility, (regardless of fire jurisdiction) for its own expenses during the first twelve (12) hours measured from the time of the initial dispatch, tone or report of a fire to a dispatch center. Federal Response Zone: Any lands within 2 miles of the accepted Federal lands management boundary. Agencies will upon request (or may voluntarily if adjoining land is threatened) respond to any other agency or Fire Protection District for the duration of the 12 hour mutual aid period within the zone.

Financing for Future Maintenance and Acquisitions

Potential funding sources for natural open space acquisition and maintenance may include the open space sales tax, property taxes, partnering with neighboring cities such as Boulder, Louisville, and Broomfield, and granting agencies such as Great Outdoors Colorado (GOCO) as well as County or other land agencies, regulatory techniques and/or financial incentives for developers. The Open Space budget funds only the properties specifically designated as open space; this includes Arsenault, the Harney Lastoka Properties and Madson totaling 58.45 acres. The Landscape Fee Fund, Superior McCaslin Interchange District and Superior Metropolitan District 1 budgets fund other open areas including native as well as turf and parks totaling over 557.6 acres. The General Fund budget provides maintenance funds for the medians, the cemetery, Community Park, North Pool, and the South Pool totaling 42.4 acres.

- *Management priorities determined annually through the budget process:*

- Utilization of Boulder County Youth Corps
- Trail maintenance and enhancement
- Wildlife management
- Noxious weed management
- Re-vegetation improvement
- Amenity additions

III. Property Descriptions, Resource Evaluations, and Management Direction

A. ARSENAULT

Long Range Goal – Long term management may be focused to enhance the native plant community, maintain the Prairie Dog Educational Area (PEA), and provide a high quality open space experience.

1. Acquisition History

The Arsenault property was purchased June 15, 2007 for \$1,450,000.00

Arsenault

Town of Superior	\$1,113,350*
BOCO Easement	\$ 336,250
Total	\$1,450,000

*Designates Fee Simple Owner. All others are easements. Owning easement rights typically provide for input on decisions made on the property that were not stated in easement agreement. However, authorization from easement owners is not necessary. Fee Simple Owners must provide for all maintenance costs.

2. Location

This property is located at the southern terminus of 2nd Avenue and encompasses approximately 13.45 acres, just south of Original Town Superior. Farmer’s Reservoir Irrigation Company (FRICO) Community Ditch (a concrete-lined irrigation canal) meanders along the south boundary of the property. Prairie dog activity is prominent on the northern half of the property.

There are several land uses adjacent to this property. The Rogers parcel borders the property to the north and east. An office building borders the property to the southeast. Private land borders the property to the south and east.

3. Site Characteristics

- **Open-Space Classification:**

The recently acquired Arsenault property is classified as a Natural Open Space.

- **Cultural Resources:**

- **Industrial Mine Site**

The surrounding area includes many reminders of the coal mining era that dominated the landscape between 1859 and the 1940s (Sampson 1995). While most of the mining activity was concentrated on the Marshall Mesa to the west of this area, remnants of the Industrial Mine dominate the Mayhoffer/Singletree open space parcel west of Arsenault. The Industrial Mine operated from 1895 to 1945, was one of the largest coal mines in the area, and was the impetus for the original Town of Superior.

The Industrial Mine site is considered to be an extremely important historic archaeological site, containing the remnants of numerous buildings, structures, features, and associated artifacts. The site is eligible for the National Register of Historic Places and for the State Register of Historic Properties because of its association with coal mining, the labor movement, and the Town of Superior (Gleichman 2002).

- **Community Ditch**

The Community Ditch was originally constructed in 1884-1886. Due to modifications such as a concrete lining, it is no longer considered to be representative of ditches built during the nineteenth century, and is considered ineligible for inclusion on the National Register (Gleichman 2002).

- **South Boulder and Coal Creek Ditch**

Within the area, the South Boulder and Coal Creek Ditch runs parallel to and immediately below the Community Ditch. This inactive ditch was constructed prior to the Community Ditch and was closed down due to damage from a 1938 flood on South Boulder Creek. It is ineligible for the National Register (Gleichman 2002).

- **Denver, Marshall, and Boulder Railroad/Colorado and Southern Railway Grade**

This railroad bed that traverses north of the Arsenault parcel was owned and operated by several railroad companies between 1885 and 1945. This railroad bed is currently actively used in the area as the Mayhoffer/Singletree Trail. It is considered to be field eligible for the National Register and State Register (Gleichman 2002).

- **Soils:**

The soil of the Arsenault property is classified as Nunn clay loam (NuC). This soil is deep and well drained. Cobble, large rocks, or gravel may be found on the surface. The slopes associated with this soil type are 1 to 9%. Runoff is slow to rapid, depending on slope. Similarly, the erosion hazard is slight to extreme, depending on slope. Permeability is low to moderately low. Typically, this soil is used for cropland (irrigated and dryland) and native pasture.

- **Vegetation:**

Little to no vegetation was observed on the Arsenault property on 11 April 2007. The amount of bare soil was extreme. On 8 May 2007, the primary (and almost sole) vegetation on the property was field bindweed, a state-listed noxious weed. The amount of bare soil was still high to extreme. This

vegetative composition and level of bare soil was identical to what was found in March 2004.

- **Prairie Dogs:**

The prairie dog colony covers the entire Arsenault parcel, its size estimated as of 8 May 2007 at 13.45 acres. The prairie dog colony and the greater complex continue to the south and west on City of Boulder and Boulder County Open Space properties. On 8 May 2007, prairie dog population density was estimated at 8-10 adult prairie dogs per acre.

- **Other Wildlife:**

Wildlife species visually evident or heard on the property during field surveys include: American Kestrel, Black-billed Magpie, European Starling, House Sparrow, Western Meadowlark, black-tailed prairie dog, coyote and desert cottontail rabbit. Additional species not seen also use this property.

4. Habitat Evaluation

The prairie dogs on this parcel are not critical for the health or sustainability of the greater complex and do not provide critical habitat or forage resources for associated species. Moreover, the vegetation is so denuded that generally the only plant growing is field bindweed, which does not allow the habitat to support any species other than prairie dogs and an occasional transient predator.

In Colorado, field bindweed is considered a noxious weed. It is an aggressive colonizer, its advance likely abetted by the high levels of surface disturbance created by prairie dogs, although its origins on this site may be a result of past mining activities. The plant is often highly successful at out-competing beneficial native vegetation. Creating a mat of aboveground vines and leaves during the summer, field bindweed prevents most other plants from obtaining moisture or sunlight for growth.

Although large areas of bindweed appear lush and green during the spring and summer months, the plant has very little root structure to provide for soil stabilization. Vines often spread several feet away from the parent stem, leaving large amounts of bare soil between individual plants. These roots are not fibrous, but rather consist of taproots and lateral shoots that primarily serve to absorb water and store carbohydrates.

Because field bindweed senesces in the fall, all aboveground vegetation dies, which ultimately leaves the surface nearly 100% bare until late spring. Because of the nature of field bindweed growth and development, areas primarily consisting of this plant are left vulnerable to surface erosion by wind or precipitation runoff. In bindweed fields where prairie dogs are present, erosion problems can often be exacerbated by the prairie dogs' practice of digging up bindweed roots for sustenance, a practice that decreases soil stability.

5. Management Direction

- **Black-Tailed Prairie Dog**

This site has been designated as a Prairie Dog Education Area (PEA). This a logical area for the Town's PEA because the Arsenault property is bordered by a Boulder County HCA – Habitat Conservation Areas: Areas where prairie dogs will be allowed to function with minimal human intervention and without causing or experiencing significant negative impacts to or from adjacent land uses. As such, some interpretive signage may be developed and placed at the trailhead or along the south boundary adjacent to the old railroad bed.

The prairie dog colony, on poor habitat, is not significantly impacting any other current or adjacent land use at this time. While the level of noxious weeds is high, the site was clearly seriously disturbed in the past, and the presence or absence of prairie dogs is likely inconsequential. The main concern on this site from a biological standpoint is the health of the prairie dogs and whether or not the vegetation can sustain the colony without the mechanisms of starvation or infanticide being activated to maintain it at or below carrying capacity. If a 90+% die-off occurs (due to plague, starvation, etc.), the remaining prairie dogs may be removed and the property actively reclaimed to native shortgrass prairie. Once the shortgrass is established (after at least 7 to 10 years of average to above-average moisture), prairie dogs could be relocated back to the property. Structural diversity of vegetation allowing for additional perches and blinds may also be included to the extent determined necessary during the reclamation process.

- **Noxious Weeds**

The Arsenault property may be mapped for presence of noxious weeds to enable more effective containment and control. Weed management activities shall include an integration of appropriate tools such as mechanical, biological, herbicidal, and cultural controls, depending upon the biology of the invading species. All herbicide applications will be in accordance to State and Federal laws governing pesticide applications.

- **Agricultural Resources**

Since the Arsenault property lacks the proper infrastructure (fencing, water resources, etc.) or acreage for feasible agricultural program, it has been assigned a very low priority for agriculture.

- **Ecosystem Restoration and Enhancement**

Disturbed areas may be reclaimed with native species that would normally be adapted to the site. Since it is a predominantly native site, there are no plans to disrupt what presently exists, but to enhance the grassland resource through various inputs such as prescriptive fire, grazing, herbicides, etc.

- **Visitor Access and Recreation**

The Arsenault property offers no access at this time. Future access is being developed under a regional trail plan with Boulder County and is expected to begin in fall of 2010.

- **Education and Outreach**

Numerous opportunities exist for interpreting the resources and views of the Arsenault property. Plans are underway to post regulations and interpretive material.

Observations showed this parcel to have a fairly high buffering potential, fair air quality, very good views, and medium noise quality and nighttime light pollution. There is good compatibility with adjacent land uses as it is adjacent to the Coal Creek Trail corridor. With its proximity to the mine it has a high historic value.

It is a medium sized tract with a small number of mature trees, no surface water, but it is fairly pristine. It is a diverse wildlife habitat and could serve as a wildlife migration corridor. Raptors, coyotes and different types of fox have been observed here. This parcel should have a fair regional draw for passive uses.

- **Emergency Services**

- ***Law Enforcement***

Primary law enforcement responsibility for the Property rests with the Boulder County Sheriffs' Office, as the Property is located within the Town of Superior and Boulder County limits. Police and code enforcement officers will enforce regulations.

- ***Fire Protection***

The Boulder County Sheriff is responsible for all wildland fire management activities on public, private and state lands within Boulder County. By virtue of the resources of Fire Protection Districts to make initial attack, Fire Departments and Fire Protection Districts are dispatched and respond to wildland fires without regard to land jurisdiction. In the case of federal land, excluding Rocky Mountain National Park, the responsibility of the fire protection district is to respond with the jurisdictional agency, initiate initial attack, control the fire if possible, and to contact the USFS via the Fort Collins Interagency Dispatch Center (FTC) to manage the fire.

- a. Fire potential on the Arsenault property is generally limited to wildland fire, probably in the form of a grass fire. Primary fire protection responsibility rests with the Rocky Mountain Fire District, as the property falls within its initial attack jurisdiction.

- b. Mutual Aid is defined as assistance provided by a supporting agency or Fire Protection District at no cost to the jurisdictional (protecting) agency. Supporting agencies will, upon request (or may voluntarily) take initial attack action in support of the jurisdictional agency. It shall be the responsibility of the agency performing initial attack to notify jurisdictional agencies if those lands are involved or threatened. The jurisdictional agency will not be required to reimburse the supporting agency for costs incurred for the duration of the mutual aid period, unless other arrangements are agreed upon. Mutual Aid Period: Each agency or Fire Protection District will assume responsibility, (regardless of fire jurisdiction) for its own expenses during the first twelve (12) hours measured from the time of the initial dispatch, tone or report of a fire to a dispatch center.
- c. Federal Response Zone: Any lands within 2 miles of the accepted Federal lands management boundary. Agencies will upon request (or may voluntarily if adjoining land is threatened) respond to any other agency or Fire Protection District for the duration of the 12 hour mutual aid period within the zone.

- **Resource Monitoring**

Resource monitoring is conducted to determine if management objectives are being achieved. Monitoring provides information about changes that are occurring on the Property and helps inform decisions about future land management activities. The monitoring of specific resources is performed on a periodic basis in relation to resource sensitivity. Some monitoring takes place through routine staff activities, while others take place annually or every few years. This monitoring currently takes place and is budgeted within the Town's 5 year budget plan. The following monitoring activities are recommended:

Prairie dog survey-----Annual-----Town Staff/Contractor
 Weed monitoring-----Annual-----Town Staff/Contractor
 Weed inventory-----Every 5 yrs-----Town Staff/Contractor
 Grassland evaluation-----Every 3 yrs-----Town Staff/Contractor

B. HARNEY-LASTOKA

Long Range Goal – Long term management may be focused to enhance the native plant community, maintain the No Prairie Dog Area (NPD), and provide a high quality open space experience.

1. Acquisition History

The Harney Lastoka property was purchased February 15, 2006 for \$2,679,000.00.

Lastoka

Town of Superior	\$1,919,697*
BOCO Easement	\$ 759,303
Total	\$2,679,000

*Designates Fee Simple Owner. All others are easements. Owning easement rights typically provide for input on decisions made on the property that were not stated in easement agreement. However, authorization from easement owners is not necessary. Fee Simple Owners must provide for all maintenance costs.

2. Location

This property is located at the southwest corner of the intersection of Coalton Rd. and McCaslin Boulevard and encompasses approximately 30 acres in southwestern Superior. This property receives very little human use and retains natural mixed-grass prairie characteristics. Rock Creek runs through the property.

There are several land uses adjacent to this property. The Coalton Recreational Trail borders the property along the northern boundary. A mixed-grass prairie dog colony occurs north of the trail. McCaslin Boulevard borders the property along its eastern boundary. The Verhey property borders the property along its southern border. The land along the western boundary of the property is owned by Boulder County Parks and Open Space and limited cattle grazing occurs on this property.

3. Site Characteristics

- **Open-Space Classification**

The Harney Lastoka South property is a Natural Open Space.

- **Soils**

The soil of the Harney Lastoka South property is classified as Nunn clay loam (NuB). This soil is deep and well drained. Cobble, large rocks, or gravel may be found on the surface. The slopes associated with this soil type are 1 to 9%. Runoff is slow to rapid, depending on slope. Similarly, the erosion hazard is slight to extreme, depending on slope. Permeability is slow to moderately slow. Typically this soil is used for cropland (irrigated and dryland) and native pasture.

- **Vegetation**

The vegetation of the Harney Lastoka South property as of 11 April 2007 was primarily composed of blue mustard, tumble mustard (*Sisymbrium altissimum*), smooth brome, crested wheatgrass (*Agropyron cristatum*), prickly pear (*Opuntia polyacantha*), curly dock, field bindweed, and field pennycress (*Thlaspi arvense*). The Rock Creek cottonwood/willow corridor runs generally through the middle of the property (Figure 10). The amount of bare soil was low to moderate

- **Prairie Dogs**

As of 11 April 2007, there were no prairie dogs on the Harney Lastoka South property. There is, however, an extensive prairie dog colony to the north and northwest, on the Mayhoffer open space property owned by Boulder County. A chicken-wire barrier has been erected along the north and northwest boundary fences to minimize dispersal of prairie dogs onto the Harney Lastoka South property.

- **Other Wildlife**

No species were observed during the survey other than prairie dogs, and no raptor nests were observed in any trees along the corridor. There exists, however, the potential for multiple aquatic and riparian species (specialists and generalists) to use the property. In a separate wildlife survey of this property, Smith Environmental Inc. (2003) identified American Goldfinch, Bank Swallow, Bullock's Oriole, Eastern Kingbird, Great-horned Owl, Mallard, and Red-tailed Hawk. The creek may also provide habitat for Preble's meadow jumping mouse (*Zapus hudsonius preblei*).

4. Habitat Evaluation

Many acres of prairie dog and shortgrass prairie habitat lie immediately adjacent to this property, as well as throughout the region. It is important to maintain this property as a mixed-grass/riparian habitat because its juxtaposition with the prairie dog habitat likely enhances species richness in the area. Species that may be utilizing the property, particularly its riparian/aquatic habitat, may include the northern leopard frog (*Rana pipiens*), the common garter snake (*Thamnophis sirtalis*), and various migratory songbirds. Based on the habitat and on SEI's observations in 2003, this property is valuable habitat for various species of songbirds and raptors—not likely to be the case if a dense prairie dog colony were present on the property. Because of their potential for diverse wildlife viewing opportunities, functional riparian areas in urban open spaces should be preserved. It has been found that such amenities can even increase local property values, offering yet another reason for maintaining good juxtaposition and diversity of various habitat types in the region.

5. Management Direction

- **Black-Tailed Prairie Dog**

The land-use designation of No Prairie Dog Area (NPD) chosen for this campus acknowledges the incompatibility of prairie dogs with the existing land use.

The Town may continue to maintain the barrier on north boundary and northwest corner; and promptly remove any prairie dogs. As long as the removal is immediate (within one week of prairie dog sighting), it is extremely unlikely that any non-target wildlife will use the newly excavated burrows. In this case, no wildlife impact survey should be necessary.

- **Noxious Weeds**

The Harney Lastoka property may be mapped for presence of noxious weeds to enable more effective containment and control. Weed management activities may include an integration of appropriate tools such as mechanical, biological, herbicidal, and cultural controls, depending upon the biology of the invading species. All herbicide applications will be in accordance to State and Federal laws governing pesticide applications.

- **Agricultural Resources**

Since the Harney Lastoka property has the proper infrastructure (fencing, water resources, etc.) or acreage for feasible agricultural program, it could potentially be used for agricultural uses. It is the most pristine open space property the Town owns and it has been assigned a very low priority for agriculture.

- **Ecosystem Restoration and Enhancement**

Disturbed areas may be reclaimed with native species that would normally be adapted to the site. Since it is a predominantly native site, there are no plans to disrupt what presently exists, but to enhance the grassland resource through various inputs such as prescriptive fire, grazing, herbicides, etc.

- **Visitor Access and Recreation**

The Harney Lastoka property offers no access at this time.

- **Education and Outreach**

Observations showed this parcel to have an excellent buffering potential, very good views, but only fair air and noise quality due to its proximity to McCaslin. Nighttime light pollution is better than many other parcels. This parcel has no known historic value. It is a medium sized tract with mature trees along Rock Creek but the majority of the parcel is pristine grass prairie. It has a diverse wildlife habitat and is definitely used by wildlife as a migration corridor. It should have a very high regional draw due to its proximity to Boulder County Open Space.

- **Emergency Services**

- ***Law Enforcement***

Primary law enforcement responsibility for the Property rests with the Boulder County Sheriffs' Office, as the Property is located within the Town of Superior and Boulder County limits. Police and code enforcement officers will enforce regulations.

- ***Fire Protection***

- a. The Boulder County Sheriff is responsible for all wildland fire management activities on public, private and state lands within Boulder County. By virtue of the resources of Fire Protection Districts to make initial attack, Fire Departments and Fire Protection Districts are dispatched and respond to wildland fires without regard to land jurisdiction. In the case of federal land, excluding Rocky Mountain National Park, the responsibility of the fire protection district is to respond with the jurisdictional agency, initiate initial attack, control the fire if possible, and to contact the USFS via the Fort Collins Interagency Dispatch Center (FTC) to manage the fire.
- b. Fire potential on the Harney Lastoka property is generally limited to wildland fire, probably in the form of a grass fire. Primary fire protection responsibility rests with the Rocky Mountain Fire District, as the property falls within its initial attack jurisdiction.
- c. Mutual Aid is defined as assistance provided by a supporting agency or Fire Protection District at no cost to the jurisdictional (protecting) agency. Supporting agencies will, upon request (or may voluntarily) take initial attack action in support of the jurisdictional agency. It shall be the responsibility of the agency performing initial attack to notify jurisdictional agencies if those lands are involved or threatened. The jurisdictional agency will not be required to reimburse the supporting agency for costs incurred for the duration of the mutual aid period, unless other arrangements are agreed upon. Mutual Aid Period: Each agency or Fire Protection District will assume responsibility, (regardless of fire jurisdiction) for its own expenses during the first twelve (12) hours measured from the time of the initial dispatch, tone or report of a fire to a dispatch center.
- d. Federal Response Zone: Any lands within 2 miles of the accepted Federal lands management boundary. Agencies will upon request (or may voluntarily if adjoining land is threatened) respond to any other agency or Fire Protection

District for the duration of the 12 hour mutual aid period within the zone.

- **Resource Monitoring**

Resource monitoring is conducted to determine if management objectives are being achieved. Monitoring provides information about changes that are occurring on the Property and helps inform decisions about future land management activities. The monitoring of specific resources is performed on a periodic basis in relation to resource sensitivity. Some monitoring takes place through routine staff activities, while others take place annually or every few years. This monitoring currently takes place and is budgeted within the Town's 5 year budget plan. The following monitoring activities are recommended:

Prairie dog survey-----Annual-----Town Staff/Contractor
Weed monitoring-----Annual-----Town Staff/Contractor
Weed inventory-----Every 5 yrs-----Town Staff/Contractor
Grassland evaluation-----Every 3 yrs-----Town Staff/Contractor

C. **VERHEY**

Long Range Goal – Long term management is the responsibility of Boulder County Parks and Open Space. The Town purchased an easement on the property. The easement is shared with the City of Boulder. The easement ensures that the property will remain open space.

1. **Acquisition History**

The Verhey property was purchased February 2007 for \$7,600,000.00.

Verhey

Town of Superior	\$1,900,000
City of Boulder	\$1,900,000
BOCO	\$3,800,000*
Total	\$7,600,000

*Designates Fee Simple Owner. All others are easements. Owning easement rights typically provide for input on decisions made on the property that were not stated in easement agreement. However, authorization from easement owners is not necessary. Fee Simple Owners must provide for all maintenance costs.

2. **Location**

This property is also located west of McCaslin Blvd. at the southwest corner of the intersection of Coalton Rd. and McCaslin and lies south of the Harney Lastoka property. It encompasses approximately 155 acres in the southwestern portion of town.

3. **Management**

The Town of Superior owns an easement on the Verhey property. Owning easement rights typically provides for input on decisions made on the property that were not stated

in easement agreement. However, authorization from easement owners is not necessary. On the Verhey property, the Fee Simple Owners (Boulder County) must provide for all maintenance costs.

D. MADSON

Long Range Goal – Long term management may be focused to enhance the native plant community, maintain the No Prairie Dog Area (NPD), and provide a high quality open space experience.

1. Acquisition History

The Madson property was purchased October 2009 for \$106,250.00.

Madson

Town of Superior	\$106,250
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2. Location

This property is located just west of 405 South 3rd Avenue in Original Town and encompasses approximately 1.5 acres. This property is adjacent to the Arsenault Open Space property, adjacent to Boulder County Open Space property and adjacent to Coal Creek.

3. Site Characteristics

- **Open-Space Classification**

The Madson Property is designated as Natural Open Space.

- **Soils, Vegetation and Habitat**

While the site is currently vacant, a past history of horse boarding and intense grazing has resulted in the proliferation of weedy plant species on this property. Barn Swallow and House Sparrow are the only species evident on the property.

4. Management Direction

- **Noxious Weeds**

The Madson property may be mapped for presence of noxious weeds to enable more effective containment and control. Weed management activities shall include an integration of appropriate tools such as mechanical, biological, herbicidal, and cultural controls, depending upon the biology of the invading species. All herbicide applications will be in accordance to State and Federal laws governing pesticide applications.

- **Agricultural Resources**

Although historically the Madson property had been used as acreage for agriculture, specifically horses the property is too small and lacks the proper infrastructure (fencing, water resources, etc.) or acreage for feasible

agricultural program. The property has been assigned a very low priority for agriculture.

- **Ecosystem Restoration and Enhancement**

Disturbed areas may be reclaimed with native species that would normally be adapted to the site.

- **Visitor Access and Recreation**

The Madson property offers no access at this time.

E. Ochsner

Long Range Goal – Long term management may be focused to enhance the native plant community, maintain the No Prairie Dog Area (NPD), and provide a high quality open space experience.

1. Acquisition History

The Ochsner property was purchased on December 22, 2009 for \$1,147,500.00.

Ochsner

Town of Superior	\$1,147,500.00
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2. Location

This property is southwest of Original Town, and encompasses approximately 17.5 acres. This property also includes the 4 acre Mayhoffer/Singletree Conservation Easement. Boulder County Open Space is contiguous to the south.

3. Site Characteristics

- **Open-Space Classification**

The Ochsner property is designated Natural Open Space.

- **Cultural Resources:**

The 4 acre conservation easement to the southeast was part of the original Hake Homestead, the founder of Superior. William Charles Hake and his wife Emeline came to Coal Creek Valley around 1860. The foundation to the original home and a portion of the stone wall fence can still be seen. An old cattle shoot and corral still exists.

- **Soils**

This property has historically experienced intensive cattle grazing, but has recovered dramatically in recent years due to the removal of cattle and irrigation. The site consists of a combination of gravels and sand.

- **Vegetation**

The vegetation of the Ochsner property is composed of mixed grass prairie, weedy vegetation, Nebraska sedge and wet meadow. The amount of bare soil was low to moderate. There is a riparian forest and cottonwood grove with scattered deciduous trees on the southeast portion of the property.

- **Prairie Dogs**

As of 11 April 2007, there were no prairie dogs on the Ochsner open space property.

- **Other Wildlife**

Wildlife species visually evident or heard on the property during field surveys by Smith Environmental in 2003 include Bald Eagle, Barn Swallow, Blue Jay, European Starling, House Finch, Mourning Dove, Red-tailed Hawk (possible breeding on site), Red-winged Blackbird, Rock Dove, Western Meadowlark, desert cottontail rabbit and red fox.

4. Habitat Evaluation

It is important to maintain this property as a mixed-grass/riparian habitat because its juxtaposition with the prairie dog habitat likely enhances species richness in the area. Species that may be utilizing the property, particularly its riparian/aquatic habitat, may include the northern leopard frog (*Rana pipiens*), the common garter snake (*Thamnophis sirtalis*), and various migratory songbirds. Based on the habitat and on SEI's observations in 2003, this property is valuable habitat for various species of songbirds and raptors—not likely to be the case if a dense prairie dog colony were present on the property. Because of their potential for diverse wildlife viewing opportunities, functional riparian areas in urban open spaces should be preserved. It has been found that such amenities can even increase local property values, offering yet another reason for maintaining good juxtaposition and diversity of various habitat types in the region.

5. Management Direction

- **Black-Tailed Prairie Dog**

The land-use designation of No Prairie Dog Area (NPD) chosen for this campus acknowledges the incompatibility of prairie dogs with the existing land use.

The Town may continue to promptly remove any prairie dogs if present. As long as the removal is immediate (within one week of prairie dog sighting), it is extremely unlikely that any further infestation will exist. In this case, no wildlife impact survey should be necessary.

- **Noxious Weeds**

The Ochsner property may be mapped for presence of noxious weeds to enable more effective containment and control. Weed management activities

may include an integration of appropriate tools such as mechanical, biological, herbicidal, and cultural controls, depending upon the biology of the invading species. All herbicide applications will be in accordance to State and Federal laws governing pesticide applications.

- **Ecosystem Restoration and Enhancement**

Disturbed areas may be reclaimed with native species that would normally be adapted to the site. Since it is a predominantly native site, there are no plans to disrupt what presently exists, but to enhance the grassland resource through various inputs such as prescriptive fire, grazing, herbicides, etc.

- **Visitor Access and Recreation**

The Ochsner property offers no access at this time. However as part of the future residential development to the north a soft surface trail will be constructed on a portion of the Town owned Ochsner property. This future connection may provide a link to the Singletree trail.

- **Education and Outreach**

Observations showed this parcel to have a high buffering potential, good air quality, fair views, and medium noise quality and nighttime light pollution. There should be some compatibility with adjacent land uses and has historical value due to the Hake Homestead. It is a large tract with a small number of mature trees, no surface water, but it is pristine. It appears to be a diverse wildlife habitat and serves as a wildlife migration corridor. This parcel should have decent regional draw for passive uses.

- **Emergency Services**

- ***Law Enforcement***

Primary law enforcement responsibility for the Property rests with the Boulder County Sheriffs' Office, as the Property is located within the Town of Superior and Boulder County limits. Police and code enforcement officers will enforce regulations.

- ***Fire Protection***

- e. The Boulder County Sheriff is responsible for all wildland fire management activities on public, private and state lands within Boulder County. By virtue of the resources of Fire Protection Districts to make initial attack, Fire Departments and Fire Protection Districts are dispatched and respond to wildland fires without regard to land jurisdiction. In the case of federal land, excluding Rocky Mountain National Park, the responsibility of the fire protection district is to respond with the jurisdictional agency, initiate initial attack, control the fire if possible, and to contact the USFS via the Fort Collins Interagency Dispatch Center (FTC) to manage the fire.

- f. Fire potential on the Ochsner property is generally limited to wildland fire, probably in the form of a grass fire. Primary fire

protection responsibility rests with the Rocky Mountain Fire District, as the property falls within its initial attack jurisdiction.

- g. Mutual Aid is defined as assistance provided by a supporting agency or Fire Protection District at no cost to the jurisdictional (protecting) agency. Supporting agencies will, upon request (or may voluntarily) take initial attack action in support of the jurisdictional agency. It shall be the responsibility of the agency performing initial attack to notify jurisdictional agencies if those lands are involved or threatened. The jurisdictional agency will not be required to reimburse the supporting agency for costs incurred for the duration of the mutual aid period, unless other arrangements are agreed upon. Mutual Aid Period: Each agency or Fire Protection District will assume responsibility, (regardless of fire jurisdiction) for its own expenses during the first twelve (12) hours measured from the time of the initial dispatch, tone or report of a fire to a dispatch center.
- h. Federal Response Zone: Any lands within 2 miles of the accepted Federal lands management boundary. Agencies will upon request (or may voluntarily if adjoining land is threatened) respond to any other agency or Fire Protection District for the duration of the 12 hour mutual aid period within the zone.

- **Resource Monitoring**

Resource monitoring is conducted to determine if management objectives are being achieved. Monitoring provides information about changes that are occurring on the Property and helps inform decisions about future land management activities. The monitoring of specific resources is performed on a periodic basis in relation to resource sensitivity. Some monitoring takes place through routine staff activities, while others take place annually or every few years. This monitoring currently takes place and is budgeted within the Town's 5 year budget plan. The following monitoring activities are recommended:

Prairie dog survey	-----Annual-----	Town Staff/Contractor
Weed monitoring	-----Annual-----	Town Staff/Contractor
Weed inventory	-----Every 5 yrs-----	Town Staff/Contractor
Grassland evaluation	-----Every 3 yrs-----	Town Staff/Contractor

REFERENCES

Boulder County. 2007. Marshall-Superior-Coalton Trail Corridor Management Plan. Prepared by: The Architerra Group & ERO Resources Corporation. Prepared for Boulder County Parks and Open Space.

Boulder County. 2008. 2008 Boulder County Annual Wildfire Operating Plan Agreement for Cooperative Wildfire Protection in Boulder County. Prepared by: Jay Stalnacker, Boulder County Sheriff's Office & Allen Owen, Boulder District Forester, and Colorado State Forest Service.

Reviewed By: Boulder County, Boulder County Sheriff's Office, Colorado State Forest Service, Boulder District, Arapaho-Roosevelt National Forests, Bureau of Land Management, Front Range Fire Center, National Park Service, Rocky Mountain National Park

Gleichman, Peter J. 2002. Cultural Resource Inventory of the Mayhoffer/Singletree Parcel. Boulder County Open Space and City of Boulder Open Space. Boulder County, Colorado. Prepared for Boulder County Parks and Open Space.

Sampson, Joanna. 1995. Walking through history on Marshall Mesa. Completed as a cooperative effort between the City of Boulder Open Space Department and the Colorado Historical Society.

Town of Superior. 2003. Wildlife Survey and Habitat Evaluation for the Town of Superior, Colorado. Prepared by Smith Environmental, Inc. Prepared for the Town of Superior.

Town of Superior. 2005. Summary Report and Recommendations. Prepared by: Open Space Advisory Committee-Town of Superior. Prepared for the Parks, Recreation, Open Space, & Trails Advisory Committee, Master Plan Recommendation Process, the Mayor, Board of Trustees, & Planning Commission of the Town of Superior.

Appendix A



Figure 1- Location Sign

SEED MIX – Uplands:

Grass Species	Cultivar	Mix %	Standard Seeding Rate (lb/ac)	Standard Seeds/SF	Actual Seeding Rate (lb/ac)	Actual Seeds/SF	Total lb PLS*
Big Bluestem (<i>Andropogon gerardii</i>)	Bison	10	6.03	20	.6	2.0	6.03
Prairie Sandreed (<i>Calamovilfa longifolia</i>)	N/A	10	3.17	20	.31	2.0	3.7
Switchgrass (<i>Panicum virgatum</i>)	Pathfinder	10	3.36	20	.33	2.0	3.36
Western Wheatgrass (<i>Pascopyrum smithii</i>)	Barton	25	7.57	20	1.89	5.0	18.92
Alkali Sacaton (<i>Sporobolus airoides</i>)	N/A	20	.49	20	.09	4.0	.98
Basin Wildrye (<i>Leymus cinereus</i>)	N/A	15	6.05	20	.9	3.0	9.07
Beardless Wildrye (<i>Leymus triticoides</i>)	Shoshone	10	5.11	20	.51	2.0	5.11

Rate will be higher for broadcast seeding. Drill seeding preferred method.

SHRUBS – Uplands:

Common Name -Shrubs-	Scientific Name	Planting Rate** (Individuals/acre)
Skunkbush sumac	<i>Rhus trilobata</i>	10-15
Wax Current	<i>Ribes cereum</i>	10-15
Woods' Rose	<i>Rosa woodsii</i>	5-10

** For maximum habitat benefit, shrubs should be clustered in either homogenous or mixed groups across the area rather than evenly dispersed. Shrubs can be planted as bare root seedlings or in pots.

SEED MIX – Drainage Bottom:

Species	Cultivar	Mix %	Standard Seeding Rate (lb/ac)	Standard Seeds/SF	Actual Seeding Rate(lb/ac)	Actual Seeds/SF	Total lb PLS*
Switchgrass (<i>Panicum virgatum</i>)	Pathfinder	33	3.36	60	2.01	8.0	10.1
Basin Wildrye (<i>Leymus cinereus</i>)	N/A	15	6.05	40	2.42	12	12.1

Rate will be higher for broadcast seeding. Drill seeding preferred method.

SHRUBS/TREES – Drainage Bottom:

Common Name	Scientific Name	Planting Rate** (Individuals/acre)
-Shrubs-		
Common Snowberry	<i>Symphoricarpos albus</i>	10-15

** For maximum habitat benefit, shrubs should be clustered in either homogenous or mixed groups across the area rather than evenly dispersed. Shrubs can be planted as bare root seedlings or in pots.