

# RidgeGate West Village Parks, Open Space and Trails Master Plan



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## Vision Statement

RidgeGate's identity is intrinsically tied to the surrounding landscape. The bluffs are a defining land feature. The Willow Creek and Cottonwood Creek drainage corridors that wind their way down from the bluffs to the development area provide strong physical and visual connections to open space. The parks, trails and open spaces serving the community will be concentrated in these open space features and will provide important visual relief, access to neighborhood open space and regional connectivity.

By creating denser, mixed-use development, RidgeGate plays a regional role in preserving large areas of open space. The resulting distinction between urban and non-urban areas enhances the community's identity as a city in the landscape so that open space complements the built environment with visual and recreational amenities. In order to maintain this identity, RidgeGate's parks, trails and open spaces must be carefully considered, preserved and enhanced for residents of the immediate community and neighboring areas. RidgeGate's integrated pattern of open space and trails contribute to wildlife habitat, enhance quality of life by providing active and passive recreational opportunities, provide educational, cultural and environmental amenities, and strengthen connectivity to the greater Lone Tree community and to the region beyond.

The purpose of this Master Plan document is to articulate guidelines for the planning, programming and implementation of the community's parks, trails and open spaces that are essential to its identity so that the vision of the RidgeGate development as a city in the landscape is realized.

## Executive Summary

The RidgeGate West Village Parks, Open Space and Trails Master Plan was created to guide the land planning, programming and development of future open space projects within Section 15. The document describes the context of RidgeGate and its position within larger regional open-space systems. Further, it provides information for site analysis, including habitat, vegetation, soils, views, cultural and natural resources. Using the contextual and site analysis as a basis, this document articulates a vision for parks, open spaces and trails within RidgeGate that enhance the value to the larger community, including other areas of the City of Lone Tree, while integrating with RidgeGate's various residential, commercial, office and mixed-use areas. The document concludes with specific recommendations regarding circulation, grading, facilities, landscape and educational programs to benefit the community and realize this important vision.

The principles for open-space and trail planning described in this document are conceptual, and detailed design must be completed for each component of the open-space system. RidgeGate's commitment, as detailed in the PDD document, is solely to provide land for public open space. This Master Plan should not be construed as a commitment by RidgeGate to design and/or construct the public spaces envisioned herein. Rather, it is intended to be a useful guide for future development and an expression of an overarching belief that public open space within RidgeGate should be planned in an integrated manner, and consistent with the stated vision.

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# RidgeGate West Village Parks, Open Space and Trails Master Plan

## Chapter 1

# RidgeGate West Village Parks, Open Space and Trails Overview

## 1.1 Principles and Objectives

The RidgeGate West Village Parks, Open Space and Trails Master Plan document is intended to provide specific guidance for future community and neighborhood open-space projects within Section 15 of the development, which is also known as the West Village. It works within a framework, which is based upon site analysis, current planning standards, and the needs of RidgeGate and the other areas of the City of Lone Tree and its surrounding communities. The framework and vision shall guide the parks and open-space development for RidgeGate's West Village, as per the limits of the master plan area (Exhibit 9.1). The vision is intended to meet specific obligations, recognize key open-space components and direct a unified strategy. Furthermore, the RidgeGate open-space master plan addresses and integrates delicate resources, such as water, wildlife and habitat, as valuable and often irreplaceable elements that cannot be ignored in the development of specific open-space plans.

The purpose of this document is to give developers, builders, city officials and the public a common document to preserve and create RidgeGate's open space and ensure that RidgeGate becomes the "city in a landscape" it is intended to be. Through this master plan, RidgeGate can be a community that respects both city and natural boundaries, making it a pleasant and successful place for people to live, work and recreate.

Elements of this document are integrated with and complementary to the City of Lone Tree Parks, Trails and Open Space Improvements Plan. This document is considered an element of the City of Lone Tree's Comprehensive Plan. The Plan articulates a vision for parks, open spaces and trails within RidgeGate that enhances the value of the larger community including other areas of the City of Lone Tree while integrating with RidgeGate's various residential, commercial, office and mixed-use areas and provides specific recommendations for circulation, grading, facilities, landscape and educational programs to benefit the community.

## 1.2 PDD Obligations

### 1.2.1 Open Space

RidgeGate encompasses approximately 3,514 acres. Of these, it is expected that approximately 1,150 acres will be retained as open space (see Exhibit 9.1). Approximately one-fourth to one-third of the open space acreage is located within Sections 15 and 22, on the west side of Interstate Highway 25.

### 1.2.2 Land Dedications for Neighborhood Parks

Projects shall provide 5 acres of neighborhood park dedication per 1,000 planned residents within, among, and/or in total between projects. As an alternative, fees-in-lieu may be paid to the City of Lone Tree at a rate of \$75,000 per acre.\* Parks shall be dedicated or fees-in-lieu may be paid incrementally. In consideration of land dedications including open space planning areas and the recreation center, as well as the desire for a more compact urban form, the City agreed to reduce the standard for dedication to 5 acres per 1,000 population. Credit may be granted by the City based on the stated policy considerations, and would be predicated on implementation of resources and amenities of this Master Plan. Refer to Exhibit 9.4 for the RidgeGate Local Park Dedication Credit and Cash-in-Lieu Policy. The City of Lone Tree will provide credit for 5 acres of neighborhood park to be applied to the neighborhoods in the vicinity of the community park upon dedication of said park adjacent to the recreation center (which exceed the PDD obligations by the same amount) (Exhibit 9.1).

\*Amount may be adjusted annually to market conditions.



## 1.3 Components

### 1.3.1 Regional Context

The RidgeGate site shares an integral relationship with the regional open-space system. First, the RidgeGate property shares important geological features with the Bluffs Regional Park, namely the bluffs themselves. Additionally, the bluffs and RidgeGate open space are an important link in the proposed east-west Douglas County open-space trail system that connects the communities in northern Douglas County. The expanded trail system interconnects with the trail system of the South Denver Metro Area. The bluffs offer an ideal open-space environment that is on the southern boundary of the Greater Denver Metro area and are likely to attract regional users, even if those users reach the open space by automobile. The RidgeGate open space will provide an important link to an existing system of trails in northern Douglas County (Exhibit 9.5). RidgeGate plays an important regional role in preserving open space and community separation by creating denser, mixed-use development opportunities and thus taking the pressure off rural areas. Land development patterns are shaped by an integrated mix of open space and trails, an amenity which enhances quality of life and provides wildlife habitat.



*Photo Caption: The bluffs and open spaces at the RidgeGate West Village area, 2002.*

### 1.3.2 Community and Site Context

Within RidgeGate's West Village, five areas define open space: the bluffs, a major east-west utility easement, and two large drainage corridors and developed neighborhood parks. The drainages, Willow Creek and Cottonwood Creek, transect the site in a north-south orientation. The creeks augment the open-space plan and connect RidgeGate's development to the larger open-space system.

### 1.3.3 Site Analysis

Analysis of topography, existing vegetation, natural restrictions, views, and easements are detailed throughout this document's appendices (Chapter 9). These diagrams illustrate the urban-rural boundary of RidgeGate and the delineation between RidgeGate's built and open-space environments. Land adjacent to the bluffs will present challenges to development due to slope, unstable soils and sensitive vegetation.

### 1.3.4 Parks and Open Space Framework

The Douglas County Parks, Trails and Open-Space Plan, revised 1998, is the intended framework for the development and management of parks, trails, and open-space conservation in the northern part of the county. The framework will provide a unified plan to which RidgeGate's parks and open space contribute. The county's framework addresses numerous components: site context, connections, sensitive areas, special opportunities, constraints and program suitability. This master plan document should be reviewed in conjunction with the county's framework plan, particularly as the county's plan evolves and is implemented. In addition, this master plan should be integrated with and complementary to the City of Lone Tree Parks, Trails and Open Space Improvements Plan discussed in section 1.1.

### 1.3.5 RidgeGate Parks Program

RidgeGate will provide excellent opportunities for active and passive recreation and education within its open space. The long-term population of RidgeGate, combined with its proximity to other large population centers such as other areas of the City of Lone Tree, Highlands Ranch, Parker and northern Douglas County, will attract significant activity and opportunities. RidgeGate's location as a transitional zone between urban and open lands provides an opportunity for multiple kinds of recreation that serve needs at both the regional and community level.

A number of uses are appropriate for RidgeGate in limited areas, such as hiking trails, cross-country bike trails and equestrian trails. The region provides opportunities for education that highlights the wildlife, geology, history, archaeology and paleontology of the region. Animals found within the area include non-aquatic predatory birds, such as hawks, eagles, and owls, and mammalian predators, such as fox, coyote, and limited numbers of black bear and mountain lion. Large grazing mammals, such as elk, antelope and deer, also frequent the area. These animals are an amenity that requires understanding on the part of developers and the public. Educational uses around these amenities could be developed and would involve areas for protection and the incorporation of interpretive signage.

Two park types are appropriate for RidgeGate neighborhoods: pocket parks, approximately one-quarter to one-half acre; and neighborhood parks, approximately 1 to 5 acres. Larger neighborhood parks will include active uses such as soccer, football and/or softball fields. Ballparks should exist where significant population and access combine with level slopes of 1 percent to 2 percent. Active uses such as running, biking, and walking can be accommodated on steeper areas with slopes up to 5 percent. Limited areas beyond the main park areas can have slopes in excess of 5 percent with careful planning, for example along the Bluffs Trail to minimize the visual impact of cuts into slopes. Neighborhood parks, trails and paths where families can meet and play, should be on slopes no greater than 5 percent. Parks should connect with the open-space system, but are to serve primarily neighborhoods and developments directly.

Opportunities for cultural uses, such as an amphitheater, are best located in areas that are both adjacent to urban activities and connections to open space. More intense uses are possible with planning, such as educational centers/activities and interpretation trails. Local cultural centers can be located within transitional zones between urban and open land uses.

### **1.3.6 Master Plan Recommendations**

This master plan document includes specific recommendations toward the development of RidgeGate's parks and open space. Initial site, land-use and transportation analysis, and the studies completed by other public and private agencies are noted within this report. Analysis of existing conditions resulted in the assignment of the park development zones. This research informed the creation of Development Zones, explained below, which designates where certain park types should be located. This matrix should be seen as a guide and not completed site-specific analysis.

### **1.3.7 Phasing and Implementation**

The phasing and implementation of the RidgeGate open-space system will be determined by two factors: internal and external demands. First, it should be determined by internal needs, as required by the City of Lone Tree for each development, for the total of all completed developments and for developments under construction. Neighborhood-specific open space, such as pocket parks, should be completed as a condition of residential development. Larger open-space programs should be completed as needed and according to the RidgeGate Planned District commitments and in coordination with the City of Lone Tree, Douglas County, and South Suburban Parks and Recreation. Second, open-space programs, especially those that connect to the regional trail system, shall be integrated with the Douglas County Parks, Trails and Open Space Plan, as possible.

Phasing to meet external open-space needs shall be determined by the time of plan approval, based upon accepted development thresholds. An initial open-space phasing plan is illustrated in Exhibit 9.8. Developers, as part of individual project approval processes, will propose phasing plans to meet internal project needs.

Chapter 2

**Regional and Community Context**

## 2.1 Bluffs Regional Park

The Bluffs Regional Park encompasses approximately 253 acres adjacent to the west boundary of RidgeGate and shares a boundary with Sections 15 and 22 and includes the western extension of the bluffs. The total park area is illustrated in the framework plan (Exhibit 9.9) and includes a trail system that is an integral part of the proposed east-west trail system by Douglas County. This is part of the wider metro-area system that connects with South Suburban Parks and Recreation, Chatfield Reservoir and Cherry Creek Reservoir.

## 2.2 Douglas County Regional Trail Connections

RidgeGate open space will be integral to Douglas County regional trail connections, particularly those in northern Douglas County. Regional trail connections are illustrated in the Douglas County Parks, Trails and Open-Space Plan (Exhibit 9.3 and 9.5). As part of its commitment, RidgeGate will provide a multi-use trail through its property, making the east-west multi-use trail connection possible. The trail system allows for hiking, biking, walking and possible limited equestrian use, as well as connections to wider recreation areas like the reservoirs.

*Photo Caption: Trailheads provide an introduction and orientation of the park to the users.*



## 2.3 City of Lone Tree

This master plan document is being coordinated with the City of Lone Tree Parks, Trails and Open Space Improvements Plan in order to ensure regional trail connections and an integrated system of complementary recreational opportunities within the entire Lone Tree community. Connections will be provided to link the Willow Creek Regional Trail and park system from the RidgeGate development to the City of Lone Tree. Programming of the RidgeGate parks, trails and open spaces will be determined in consultation with City of Lone Tree to ensure adequate and complementary uses.

## 2.4 Chatfield and Cherry Creek Reservoirs

The reservoirs offer a number of recreational opportunities that are found in very few locations within the metro area. Most notable are the numerous water activities, such as sailing, boating, sail boarding, horseback riding, and permit-only overnight camping and RV camps all within 10 to 15 miles of RidgeGate.

## 2.5 RidgeGate Parks and Open Space

RidgeGate's system will exist as part of the above overall open-space system. For users of RidgeGate as an entry point to the east-west trail corridor, RidgeGate will be a necessary connection that will enhance their experience. For those who will drive to access the regional trail, RidgeGate offers compelling reasons why the public will use its open space. RidgeGate's bluffs offer views to the Front Range and the prairie that can be found almost nowhere else in the metro area. This is a result of its geographic location along the Rampart Range plateau. Because of the plateau, a portion of dedicated land will be in ecological transition zone that support numerous wildlife species. This is an amenity that should be protected and that could provide a significant draw for recreation from throughout the region. Additionally, the plateau provides terrain for more rigorous outdoor recreation, since a significant portion of the open space has slopes of 12 percent or greater (Exhibit 9.12).



*Photo Caption: A view of the Bluffs, looking south west.*

Chapter 3  
**Site Analysis**

### 3.1 Habitat

The habitat of the RidgeGate property is a temperate transitional zone between prairie and scrub oak ecologies. The area has undergone grazing and is part of the geological ridge within RidgeGate. Overall, the ridges and drainages represent the highest concentrations of valuable wildlife habitat (Exhibit 9.11).

Numerous sensitive species live in or migrate through the Rampart geographical region, which includes the bluffs in RidgeGate. Elk and black bear descend through greenbelts in very small numbers; elk in late fall and winter, black bears in late summer and fall. They come from and return to wider habitats either to the west-the Dakota Ridge, hogbacks, foothills, and mid-elevation forests-or to the east-wide plains, grazing lands and drainage basins. Greenbelts are particularly important for wildlife during Colorado's drought cycles. As places for food and water sources year round, whitetail deer migrate through Front Range greenbelts, including the ridge areas. Antelope graze on the grasslands and atop the bluffs at RidgeGate. Mountain lions maintain populations in these areas despite encroachment by human populations, though their secretive nature-similar to that of black bears-means that humans seldom encounter them.



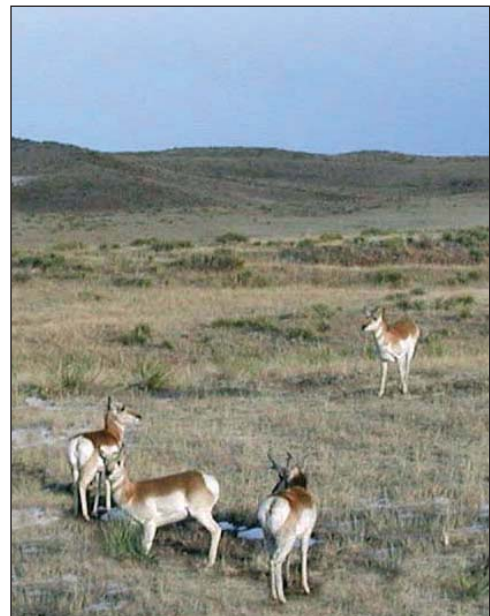
*Photo Caption: Courtesy: U.S. Fish and Wildlife*

Smaller predators are important ecologically and exist well in scrub oak transition zones. Predatory birds such as hawks and eagles, coyotes and foxes are most notable. Rodent populations should be controlled. Other migratory birds are important to plant species, though many common migratory birds have significantly altered their migratory paths in recent decades. The Canadian goose exemplifies this.

*Photo Caption: Wildlife can be easy to find or elusive.*

#### 3.1.1 Transitional Habitat

The transitional habitat zone is a broad habitat that extends along Colorado's Front Range and northward into Wyoming and is significant part of RidgeGate's landscape near and on top of the bluffs. It consists of short native grasses, scrub oak, low cactus, yucca and similar vegetation that thrives in dry climates. Shrub growth in transitional habitats tends to be heavier than in adjacent grassland habitats at lower elevations; therefore, wildlife congregates in transitional habitats. Mountain lions and foxes commonly establish territories that are centered in transitional habitats. Deer and antelope bed within these zones during daytime hours, while black bear and elk will use them during migratory periods (early spring and late fall for elk; early and late fall for black bears).



### 3.1.2 Riparian Habitat

Two major drainage corridors transect RidgeGate, west of I-25: Willow Creek and Cottonwood Creek. Cottonwood Creek is envisioned to be preserved and retained as open space with limited park or open space improvements. Its habitat is to be improved through careful planning, design and implementation. Willow Creek will be reconstituted, but programmed and developed as a system of parks. RidgeGate's open-space plan designates these corridors as parks and/or open space. Consistent with the PDD, the drainages intersect with urban development and activities. Therefore, they are critical pieces of the park and open-space system. Existing drainage slopes may allow too much erosion when bracketed by development and grading is needed to mitigate this impact. Some drainage corridors may pipe storm water through them while other will rely on open channel drainage systems. Therefore, both drainages may require reconstitution and revegetation after grading and construction is completed.

In RidgeGate's major drainages, riparian vegetation generally consists of thicker wet grasses, some reeds, and a few native willows and cottonwood trees. These areas are wildlife habitat, and avian, amphibious and mammalian species have been observed at RidgeGate and in the surrounding area. In addition, many native flowering plants depend upon the presence of birds that congregate along riparian corridors.

### 3.1.3 Grassland Habitat

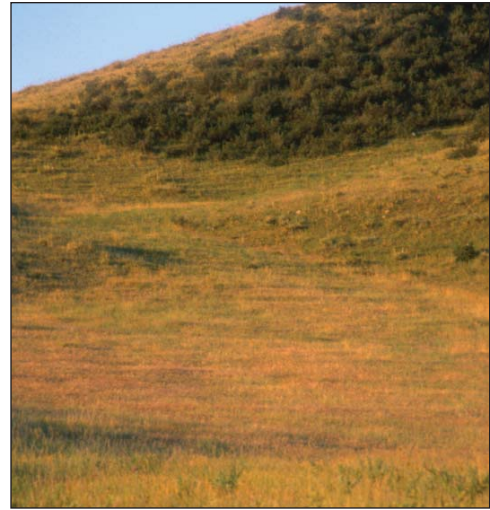
The majority of RidgeGate is within Colorado's grassland habitat. For the most part, this consists of short dry grasses and low shrubs, as well as limited low-growing cactus and yucca. Grassland species are numerous, but most are not visible on a typical basis. Prairie dogs, other small mammals, and lizards are the diet for native hawks and eagles. Foxes and coyotes also depend upon these species. Antelope exist primarily within the grassland habitat, and deer species require clear grassland corridors from the foothills for annual migrations. Wildlife crossings are envisioned beneath I-25 at Cottonwood Creek and Happy Canyon.

Over the last 150 years, the Great Plains, including grassland areas in Colorado like RidgeGate, have undergone a transformation. Limited and consistent grazing by cattle and sheep have reduced growths of native long grasses. Areas still supporting native long grasses are unusual, sensitive, very difficult to reconstitute if lost, and valuable to the public as a natural heritage.



### 3.1.4 Bluff Habitat

In general, the bluffs are part of the transitional habitat zone, but because of their geographic nature, they bear some differences. Their altitude and relationship with the surrounding landscape isolates them. This makes them an ideal retreat for animals that are sensitive to human encroachment. Like other transitional habitats, the dry topsoil of the bluffs is sensitive to erosion and pedestrian traffic. Once gone, these soils are difficult to reconstitute, requiring significant land management expenditures and time. The bluffs have high exposure to downslope winds from the west, northern winds during the wintertime, and upslopes from the east. Once disturbed, bluff soils tend to blow away under windy conditions. This would leave behind only the underlayment of thick clays, which cannot support the habitat's low grasses, cacti, yucca and similar dry grasses.



*Photo Caption: Vegetation indicates the presence of micro-climates (shade on the steep north-facing slope) which provides habitat, shelter, and erosion control.*

## 3.2 Vegetation

Vegetation consists of native and introduced grasses, which have been in part affected by grazing over extended time periods. Additionally, scrub oak and mountain mahogany cap the ridge-line and dry lower slopes. Native willow and cottonwood tend to grow along drainages. Native flowering species depend upon the maintenance of seed-carrying wildlife, such as birds and insects. Limited riparian species have been observed in the drainage corridors. Very few areas of wetland plants have been found based on a cursory field study by a qualified consultant. Along mostly southern-facing slopes, cactus species and yucca grow in significant numbers. Short buffalo grass and grazed native grasses grow in varying quantities throughout the site within all ecologies. Wherever possible, existing native topsoil should be used for planting or the reconstitution of native vegetation.



*Photo Caption: Different vegetation types indicate the varying levels of soil moisture.*



*Photo Caption: RidgeGate hosts diverse geology and vegetation on its bluffs, slopes and drainages.*

### 3.3 Soils and Geology

Soils in this area include alkaline and clay soils that are common throughout the Front Range region of Colorado. Expansive clay soils create well-documented construction challenges, which can be mitigated by sufficient building methods. Organic rich topsoil in the region is thin and difficult to replace once lost. In areas designated as open space, topsoil preservation is ideal. Where topsoil is not preserved, it should be reused at another onsite location.

#### 3.3.1 Elevation

Elevations in the RidgeGate development vary. The most extreme elevation changes occur along the bluff slopes. Typical bluff elevation along the bluffs averages 220 feet from the prairie transition to the bluff top.

#### 3.3.2 Slopes

Slopes in the RidgeGate development vary, especially along drainages and surrounding the bluffs. Slope categories include: Flat (0-3 percent), which is appropriate for nearly all active and all passive uses, development, and all roads; Moderate (4-5 percent), which is appropriate for most active and all passive uses, development, and all roads; Steep (6-11 percent), which is appropriate for some active and passive uses, most development, and roads only when necessary and under tighter engineering restrictions. Very steep (slopes of 12 percent or greater) are shown in a general restrictive manner for the purposes of this document; however, some uses are appropriate for steeper grades. For example, very steep slopes are still appropriate for limited active and passive uses, very limited for development including roads, which would require extensive cuts into the slope. Slopes of 15-19 percent are appropriate only for limited recreational uses, and slopes of 20 percent or more are appropriate only for limited trails and open space (Exhibit 9.12).

#### 3.3.3 Unstable Soils

RidgeGate has soils that consist of dry loams and clays that can be restrictive to construction due to their expansive and unstable nature. The extent of unstable soil are included in Exhibit 9.13, which illustrates a number of natural restrictions imposed upon the site, and unstable soil generally coincides with areas of extreme slope. As of this time, thorough geotechnical studies have not been completed for the entire RidgeGate site. For open space and trail development, unstable soils represent specific risks: most notably, trails on steep clay and loam slopes may be subject to fast erosion and even washouts under quick-thaw or heavy rain condition. This can be true even if trails have been paved or improved with trail cuts and drains. Site-specific engineering should always be completed.

### 3.4 Natural Features

Major natural features include the bluffs and drainages-Willow Creek and Cottonwood Creek. Minor features include a number of sandstone and limestone escarpments, caves, which are found along the bluff rock outcroppings. The exact locations and value of natural features should be determined on a site-by-site basis for all future development.



*Photo Caption: Rock outcroppings can be seen on site.*

### 3.5 Views

Views to and from the bluffs from all points should be analyzed for each project. Additionally, view lines along the drainage corridors should be considered for projects adjacent to Willow or Cottonwood Creeks, and views via these creeks to and from Lincoln Avenue must be preserved. Views to major Front Range features should be considered. Primary views are shown in Exhibit 9.14.

### 3.6 Cultural Features

Existing cultural features are a matter of archaeological/historical or geological/paleontological context.

#### 3.6.1 Archaeological and Historical Sites

The Colorado Historical Society denotes several possible archeological points of interest within the site. Up-to-date records are available for individual sites through the Colorado Historical Society's Office of Archaeology and Historic Preservation.

The exposed and stratified layers of the bluffs as a geological feature suggest the possibility of anthropological or paleontological resources; however, no major sites are known at this time. Development projects, especially those occurring closer to the bluffs, should be conscious of the possibility of geological, anthropological or paleontological sites.

### 3.7 Encumbrances

#### 3.7.1 Easements

The east-west major gas line utility easement that transects RidgeGate is of particular interest to the overall open space system. The gas line easement is shown on Exhibit 9.14. When possible, easements should be used for pedestrian connectivity, especially between neighborhood park and open-space systems within RidgeGate. Where appropriate, easements should connect to regional trails at RidgeGate's periphery.

#### 3.7.2 Rights-of-Way

Rights of way are established by the RidgeGate Street Design Standards and Guidelines. Trails should be separated by grade, either passing beneath or over major roads where feasible. Minor intersections between trails and rights-of-way should be analyzed on a project-by-project basis. Proper transition and crossing design should be implemented at intersections.

**3.8 Sensitive Resources**

Sensitive resources at RidgeGate are defined as natural amenities that would be difficult to repair, reconstruct, or replace if damaged or poorly maintained. Sensitive resources include wildlife, rural land, views, escarpments, drainages, archaeological sites, paleontological sites and historical sites.

Chapter 4

**Parks and Open-Space Framework**

The parks and open-space framework categorizes open-space types and uses. These vary from urban contexts such as pocket parks, to open land uses that are isolated from development. RidgeGate is conceived as a "city in the landscape." Urban environments ensconced in rural landscapes share common features: the concentration of urban uses, the preservation of rural lands and transitions between the two.

The park and open-space development types defined below are the urban, semi-urban, semi-rural, rural and open lands zones, defined per section 4.2 below. RidgeGate will strive to create a distinctive edge between the urban boundary and the landscape, which is often not the case in poorly designed parks and open space. RidgeGate parks and open space should focus on creating urban and rural zones, with as few semi-urban and semi-rural zones as necessary. Because of RidgeGate's proximity to the greater Denver metropolitan area, true open lands zones may only be possible in limited areas.

#### 4.1 Site Opportunities and Constraints

RidgeGate enjoys rare opportunities for the creation of open space. The property's size, its commitment to open space, its relationship with major thoroughfares, including I-25, and the power of its landscape setting, particularly in the bluffs, offers the Denver region one of its prime possible developments in which a city is truly created in a landscape. In many ways, RidgeGate is a clean canvas on which to paint.

RidgeGate's natural features contrast with and are important to the metro area horizon line, to indigenous wildlife, to the extended environment, and offer chances for education in ecology, geology, history, and archaeology. These considerations may be viewed as constraints, but to RidgeGate they are advantages to be integrated into the parks and open space system. Specifically, site constraints of elevation, slope, and unstable geology limit some uses while encouraging others; i.e., casual foot trails may be appropriate for the bluff faces, but residential development is not.

#### 4.2 Park Development Zones

The following park and open-space development zones define the parks and open-space framework for RidgeGate. These zones are categorized based on projected land uses and densities.

*Photo Caption: Parks provide immediate relief from the confines of the more urban environment.*



##### 4.2.1 Urban

The most intense uses of open space are appropriate for urban and mixed-use developments, including plazas, amphitheaters and similar public spaces. Urban parks will include a mixture of green space, with grasses and trees, and hardscape areas, though not necessarily within the same project. Green spaces should serve dense residential uses, such as a town homes, stacked town homes, condominiums and apartments. Paved spaces should serve commercial and mixed-uses, allowing for a town center, sidewalk retail, café seating, restaurants, and entertainment plazas or amphitheaters. Such areas often have residential densities of 10 or more dwelling units per acre minimum and have mixed-used and commercial densities of 1.0 FAR or higher. The Promenade, Westminster; Vail Village Square, Vail; the Plaza, Santa Fe; Pearl Street Mall, Boulder are good examples. Within reason, water features can occur

in urban parks; however, they should be designed with water conservation in mind. Urban zones should not occur where suitability analysis shows moderate, major or prohibitive levels of restriction without extensive site improvements, as per Exhibit 9.15.

#### 4.2.2 Semi-urban

Semi-urban parks may be green, but also have urban relationships with residential and retail/mixed-use functions. Such parks tend to be larger (5 to 80 acres) and allow for a multitude of uses, including some recreation areas, such as baseball fields, soccer fields, walking paths, etc. Cafés and similar uses may border the park on one side or more. In more residential areas, such parks may provide athletic areas, such as football, soccer, and baseball fields, or a swimming pool or similar use. Semi-urban areas, in order to support associated activities, often have average residential densities of five to nine dwelling units per acre. A good example is Washington Park in Denver. Semi-urban zones should not occur where suitability analysis shows major or prohibitive levels of restriction.



*Photo Caption: Generous room for flexible outdoor activities.*

#### 4.2.3 Semi-rural

Semi-rural parks and open-space are located adjacent to semi urban and/or rural and/or open lands and range in size from 10 to 100 acres. In many ways, semi-rural open spaces may be indistinguishable from rural open spaces, except in use. Semi-rural open space may still provide green, manicured spaces that transition into non-manicured native grasses. These green spaces may be used for athletic uses like football, soccer and baseball fields, or for passive uses such as barbecuing, walking, and family gatherings. Loop trails may be marked only by crusher-fine improved trails and exercise stops, which might provide pull-up bars, stretching equipment, and other exercises for runners. Similarly, semi-rural open space may provide areas for uses that are inappropriate for more urban areas, such as dog parks, frisbee golf or community gardens. Lastly, a more intense use may be couched within the semi-rural environment with only a single right-of-way and a structure. Such uses are not numerous, but do exist. Cultural and educational centers are a prime example, such as the Westminster Recreation Center. Semi-rural zones often have residential densities of three or four dwelling units per acre on average and should be mixed with higher density of attached housing wherever feasible. A good example is Chatauqua Park in Boulder. Semi-rural zones should not occur where suitability analysis shows prohibitive levels of restriction.



*Photo Caption: Open Space produces necessary "breathing room" for residents.*

#### 4.2.4 Rural

Rural parks and open spaces are essentially unmodified, except in that trails or paths are provided to pass through them and range in size from 20 to 400 acres. A good example is the Bluffs Regional Park in Northern Douglas County. Trails and landscapes may be improved through management to control erosion and preserve the environment by protecting it from pollution, flood, fire and similar forces. Trails through rural landscapes might provide simple shelters, overlooks and signage for education and direction. Vehicular and/or motorized bike access will be minimal and peripheral in rural parks and open spaces with adequate parking activities or trail heads. Controlled outdoor opportunities should be provided in rural parks. Equine and archery uses are appropriate in limited and controlled areas; e.g., Bear Creek Lake Park. Two open-space systems employ extensive use of rural parks and open spaces, have won multiple awards and deserve reference: Jefferson County Open Space and Boulder County Open Space. Along the Front Range, Apex Park, Lair o' the Bear Park, Lookout Mountain Park, Bear Creek Lake Park, Chatfield Reservoir, Cherry Creek Reservoir, and others exemplify rural parks and open space. Low-density rural residential areas have specific impacts on natural environments and trails. Required densities are typically a maximum of three dwelling units per acre. Rural open-space zones may occur anywhere, regardless of restrictiveness shown by suitability analysis.



Photo Caption: Deeper appreciation through access.

#### 4.2.5 Open Lands

Open lands zones are managed but otherwise natural areas that provide minimal and often restricted access. Trails are very limited, and camping access is highly controlled. Equine, mountain bike, archery, and many other uses are allowable but under tighter restrictions. Open lands are typically undeveloped with respect to residential uses, except through previous homesteading. True open land is usually the province of state and federal lands, and as such is outside RidgeGate's immediate boundary. RidgeGate, while bordering open lands, does not possess the area or provide proper access for true open land parks.



Photo Caption: Trails allow access to natural and preserved landscapes.



Chapter 5  
**RidgeGate Parks Program**

The vision for RidgeGate's parks program is the result of two considerations: uses appropriate to the land and uses appropriate to the needs of the community. Uses are generally active and passive recreation, education or conservation oriented. Conceptually, RidgeGate intends to provide uses that are compatible with the land, according to the definitions already outlined and appropriate to the needs of the community.

## 5.1 User Demographics

The demographics affecting parks and open space for RidgeGate should respond to two different dynamics: local and regional users. Local users consist of known and projected demographics within the City of Lone Tree, including RidgeGate. Regional users consist of those in a much larger area that consists of the southern Denver metropolitan area. Neighborhood parks and open-space amenities will attract primarily local users. Community parks and open space will attract mostly local users, but may attract users from an immediate region. Regional uses, such as hiking and biking trails, will attract not only local users, but may attract regional users who may travel several miles by car or public transit to use the parks, open spaces and trails.

## 5.2 User Needs

### 5.2.1 Neighborhood

Possible neighborhood users require the greatest variety of uses, which depends upon the type of neighborhood in which parks and open space occurs. Well-designed and integrated neighborhoods will support a variety of people of differing ages and ethnicities; however, certain neighborhoods are predisposed to certain users. Urban users will expect urban open spaces-plazas, gathering spaces, multi-use spaces, green areas and hardscape. Users in lower-density residential areas expect green open space that is safe for children and pets. Safe playground equipment is appropriate for neighborhood parks.

### 5.2.2 Community

Community open spaces tend to be larger and may contain mixed uses, buildings such as recreation centers, cultural centers, etc. Community open spaces might hold recreational uses that have a higher impact on the land: tennis courts, ball fields, skate parks, etc. Community open spaces appeal to the widest possible demographic.



*Photo captions: Community facilities can be integrated with the natural environment.*

### 5.2.3 Region

Regional open spaces appeal to a wide demographic, similarly to community open spaces, but may be inappropriate for some users: elderly in need of assistance and children without immediate adult supervision. Regional uses require more space and attract their demographic from a much wider geographic area.

## 5.3 Program Elements by Zone

Using the zones defined below for RidgeGate parks and open-space development, program elements can be

organized for uses appropriate to each zone.

### 5.3.1 Urban

Some examples of program elements in an urban zone might include: chess tables, neighborhood gathering spaces, community gardens, rose gardens, café seating, kiosks, food stalls, farmers markets, festivals, outdoor concerts, public art, memorials, and exhibits. Especially in urban areas, public spaces



must be designed to accommodate a diversity of activities and must provide adequate sun and protection from winds. In successful communities, urban open spaces act as a social stage "to see and be seen." Dynamic urban open spaces mix and condense a number of activities into limited space, which is efficient and brings more activity to the synergy of uses.

*Photo Caption: Generous space for outdoor gathering and performances.*

### 5.3.2 Semi-urban

Some examples of program elements in a semi-urban zone include: limited ball fields, swimming pools, volleyball, climbing walls, tennis courts, playgrounds, skate parks, basketball courts, picnic tables, shelters, farmers markets, festivals, walking trails, community centers and retention ponds. Successful semi-urban open spaces are not the 24/7 places that urban open spaces are. Semi-urban open spaces depend upon significant residential or employment centers, where daytime workers and evening residents can use the open space. Semi-urban parks are also most successful when they have a large degree of diversity in their available activities.



*Photo Caption: Farmer's Markets are a different form of outdoor recreation.*

### 5.3.3 Semi-rural

Some examples of program elements in a semi-rural zone include: ball fields, playgrounds, stables, trail connections, hiking trails, fitness trails, walking trails, mountain bike trails, wildlife viewing, community centers, observatories, and climbing walls. Semi-rural parks and open spaces are almost exclusively oriented to residential areas and boundaries. These parks are most successful when immediately adjacent to diverse kinds of residential development, including single-family attached and detached, as well as multi-family housing.



*Photo Caption: Safe, exciting play areas for children and families.*

**5.3.4 Rural**

Some examples of program elements in a rural zone include: stables, trail connections, archery ranges, interpretive hiking trails, walking trails, equestrian trails and mountain bike trails. When associated with developed land, rural open spaces are always adjacent to residential development. Often, this development is at a density appropriate to the surroundings. Rural open space connects local open space networks with larger regional systems.



*Photo Caption: Becoming immersed in the natural environment.*

Chapter 6

**Master Plan Recommendations**

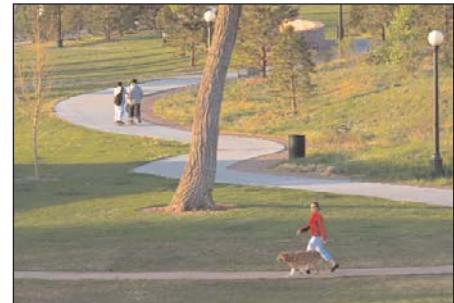
This document includes an analysis of RidgeGate's existing and potential conditions, constraints, and opportunities. This section embodies recommendations for planning and locating the project's parks and open spaces based upon the analysis and human factors, especially residential densities and five-minute walking radii. It is important to remember that this document is visionary and intended only to be a beginning point from which each smaller project should complete more in-depth analysis, planning and design. It is a guide that should strongly be considered in the design, development and management of the RidgeGate parks and open-space system in the future.

## 6.1 Circulation

Circulation refers to the open-space trail system, used primarily by pedestrians, bicyclists, and sometimes equestrians. In regards to automobile circulation, trails shall be separated both horizontally and vertically wherever possible. Special care shall be observed in the design of all individual projects to buffer pedestrian and recreational uses from automobiles, especially where children and pets are likely to be. Throughout the development, sidewalks will clearly connect to paths and trails through the open space and parks system. Where trails must cross roads, special attention towards the design of the roadways, crosswalks, and traffic control systems must be provided (Exhibit 9.6).

### 6.1.1 Trail Usage Policies

In order to foster comfortable environments for a wide variety of users, RidgeGate will clearly mark trails and paths with policies related to their intended use. With the exception of maintenance vehicles, all motorized traffic, scooters and skateboards will be prohibited in the Willow Creek Park Corridor and on the Bluffs Trails in order to encourage pedestrian- and bicyclist-oriented activities throughout the open space system. Equestrian uses will be limited to the regional East-West Trail and the Bluffs Trail where it overlaps with this regional system. Equestrian uses will be prohibited from entering local neighborhood and community areas where conflicts with other users are more likely to occur.



*Photo Caption: Parks provide walkable connections from home to work and shopping districts*

### 6.1.2 Local

Local trails include neighborhood and community parks trails and public sidewalks. Neighborhood parks may have limited connections and be accessed directly from local neighborhood streets. Paths may be paved typically constructed of concrete to provide access to picnic areas, playground equipment, or sanitary facilities. Asphalt paving may be permitted only in non-pedestrian areas or service roads. In some areas, paving is especially important because local parks must be accessible to the handicapped and to parents who may require paved surfaces for strollers. All paths should meet ADA standards, be well maintained and provide adequate drainage especially during the winter. Trail widths should vary by use, but should not generally be narrower than 6 feet in width. Trails around major recreational areas may require more width, 12 feet or more for multiple users such as bicyclist, skaters and parents with strollers or young ones on foot. Paved trails should be engineered to support maintenance vehicle traffic. All paved community parks may provide access to trails if adjacent to drainage ways, utility easements or bluff areas.



*Photo Caption: Local trails can accommodate different uses.*

### 6.1.3 Regional

Regional park and open-space circulation typifies RidgeGate's role in the regional parks and open-space system. In addition, careful planning should be exercised where regional trails must cross drainages, water course or wetland environments via bridges, boardwalks or wet crossways. Regional walking, hiking, biking and equestrian trails transect the bluffs and other sections of the RidgeGate system. They often intersect with local trails and connect to local neighborhood and community parks and open spaces. Trails for regional open space may be paved using either concrete or crusher fines where program requirements suggest reasonable need for handicap accessibility. Trails should also be paved where facilities maintenance is required, such as for public restrooms near trailheads or parking lots. Paved trails for any use should not be less than 8 feet wide and should be designed for access by maintenance vehicles, but no other motorized vehicles including scooters and skateboards. Unpaved or natural surface trails should be well-maintained at a minimum of 8 feet wide near trailheads, parking lots and facilities, or not less than 3 feet wide on foot trails if dirt only with no crusherfines. Equestrian trails should generally be 10 feet wide and allow for appropriate head clearance where trees and other flora might grow or where grade separate road crossings are necessary. Equestrian trails may be limited to the East/West trail or otherwise restricted in multi-use areas where conflicts with other users are anticipated to occur.



*Photo Caption: Wide paths or sidewalks accommodate different users.*

### 6.1.4 Parking

Neighborhood parks will often require no more than street parking for service. They are intended for residents within a few blocks or no more than a five-minute walking radius. Community parks with more intense uses will require appropriately sized parking at their periphery. Ball fields, recreation facilities and cultural facilities have specific parking needs, which must be determined by demand-use criteria on a case-by-case basis. In each case, parking will be influenced by current build-out and expected growth and the possibility of shared parking arrangements with other adjacent uses. Regional parks, those in semi-rural or rural locales, require trailhead parking, which should be located at park-peripheries and the quantity should be based on anticipated demand by regional users who travel by car.

## 6.2 Grading, Topography, and Drainage

In a more urban, mixed-use community such as RidgeGate, uses can exist alongside delicate natural landscapes. Because of this, extreme care shall be exercised for all projects to minimize non-point-source pollution through grading, site planning, building location, etc. Manicured slopes or slopes with grasses should be designed and maintained at slopes no greater than 1:4. Non-manicured slopes in designed drainages should be designed and maintained at slopes not greater than 1:3 and should blend with existing topography. The open spaces created on steeper topography will generally be used for more passive activities, as places where people can sit, gather and relax.

Drainages, especially Willow Creek, will require significant regrading to manage erosion and runoff. As a result, their existing vegetation and groundcover will be disturbed or scraped. Reconstitution of the drainage corridors to control flow, filter pollutants and conserve water should be undertaken.

In general, topography should be designed to separate automobile circulation from open space, maintain views, mitigate sound pollution, and augment the edges and transitions between urban and non-urban uses throughout RidgeGate. Outside urban zones, regrading should be minimized. When possible, natural and existing grades in non-urban zones should be preserved. In delicate ecosystems, such as atop the bluffs, regrading should be avoided, except where absolutely necessary to achieve reasonable grades for hiking, biking and equestrian trails. When regrading is necessary, all steps should be taken to control erosion—reseeding of native grasses and water breaks should be required. New slope contours should be blended with existing contours to create a contiguous landscape.

### 6.3 Sensitive Resources and Ecosystems

Wildlife, vegetation, soils, historical, and geological resources are sensitive features and are discussed in the context of the Front Range hydro-climate, including RidgeGate, which is a semi-arid desert. Open-space design, especially around drainages, is integral to water conservation. Willow and Cottonwood Creek, in accordance with the PD and the requirements of urban drainage for the City of Lone Tree, will use a catchment and detention system. In addition, use of native drought tolerant plant species in these areas can minimize evaporation, improve habitat and provide a visually pleasing amenity.

Not only should water quantity be retained, water quality should be maintained. All open space should be designed and maintained to minimize water pollution, both point-source and non-point-source. In manicured landscapes, nitrification poses significant environmental and health risks. Nitrification, the introduction of nitrogen into the chemical composition of water, occurs as fertilizers and common chemicals drain from development into drainages. Nitrification can threaten multiple animal species, mostly birds and fish, even if those species are significantly distant from the point of pollution. Nitrogen levels that remain even after water treatment may pose some threats to humans, especially children. Other chemicals, such as automobile oil, antifreeze, brake fluid, unmanaged septic systems, solvents and paints, can act as a catalyst and contribute to nitrification and pollute water in other ways. While these chemicals are controlled by statute and lie outside the scope of design considerations for open space, drainage design can help control pollutants even when they occur in the water system. Natural filtrations, many accomplished through bioremediation, filter many chemicals and nitrogen very well. Reeds and wet grasses, many of which grow in Colorado, are effective. They re-oxygenate water and could help address existing soil conditions that include the presence of sulfates, which can be caustic in sufficient concentrations.

Nearly all RidgeGate's area has been disturbed during the last century, mostly by cattle grazing. This has had long-term effects on its various ecosystems. Bluff areas and their slopes, and areas along Cottonwood Creek may be good candidates for future ecosystem restoration. This may include ongoing identification and measurement of key plant and animal species in order to develop an overall picture of the site's ecological health.

Once land has been graded and reseeded and trails have been laid, the open-space system should be observed periodically to determine the effects of human impact on the environment, the effects of the trails on erosion and vegetation and the success of the system as relates to its human users. Complete measurements, observations and analysis should be performed. In all cases, current and appropriate governmental agencies should be sought as partners in the area's continued health and success.



## 6.4 Facilities Features

RidgeGate offers a chance to provide park and open space facilities that address the needs of the community and that complement the regional network of parks, open spaces and trails. Specifically, the *RidgeGate West Village Parks, Open Space and Trails Master Plan* (see Exhibits 9.14 and 9.14.1) illustrates specific park features, functions and linkages to surrounding neighborhoods or districts and regional amenities. The goal of the Master Plan is to provide a framework and game plan for future dialogue, design and implementation. The following generally characterizes some, not all, of the facilities that are possible within their respective park zones, wherever they may be. For specific concepts on the park program, facilities and trail connections, see the exhibits enclosed herein.

### 6.4.1 Urban and semi-urban

Urban architectural features such as trellises, pavilions, kiosks, etc. should complement adjacent architecture. Designs, colors, materials and other factors should be consistent with district residential and/or commercial design standards for RidgeGate parks in urban and semi-urban areas. They should be ample in size and flexible in use. Pedestrian connections, visual access and public safety must be addressed in the park design. Outdoor art, gathering spaces, plazas, playground equipment, shelters, furniture and similar features should coincide with and complement nearby architecture and urban design.



*Photo Caption: A grand staircase and shelter provide additional seating and gathering.*

### 6.4.2 Semi-rural

Architecture in semi-rural zones may and should diverge from architecture in adjacent semi-urban or urban zones. Architecture-furniture, shelter, benches, or significant architecture like cultural or educational buildings-shall reflect or complement local natural features, such as landform, geology, etc., in colors and materials. Parks in semi-urban areas should provide passive and active recreation and facilities for large groups including families, school classes, etc. Architecture should not block major views and should provide views either by placement, in the cases of furniture or shelters, or by virtue of design, in the case of significant architecture.



*Photo Caption: Shelters provide areas for picnics, birthday parties, etc.*

### 6.4.3 Rural

Rural zones should have no major architectural structures. Uses should be limited to those who do not adversely effect the natural environment such as overlooks, trails, etc. Shelters and furniture may be appropriate, as determined by review on a case-by-case basis. If present, architecture should complement local ecological conditions, reflecting similarities in material, form and color.

*Photo Caption: An overlook provides visual access and orientation to the region.*



## 6.5 Landscape Character

RidgeGate's open-space landscape character should reflect its landscape development zones, the needs of the community, and the program associated with each zone. See Exhibit 9.16 for RidgeGate plant palette.

### 6.5.1 Vegetation

Planting and irrigation policies for RidgeGate will address local concerns over water consumption and quality through best practices. Plantings will use native or drought-tolerant plant species and seed mixes wherever possible; however, non-native and more water consuming plants may be used in limited application when appropriate.

### 6.5.2 Ground Cover

Except where needs dictate (ball fields, for example) bluegrass sod should not be used. Synthetic grass may be considered for use on athletic fields that support organized sports on a regular basis. Pocket parks may be sod. Neighborhood parks of 3 acres or less may include sod. Implementation of sod must consider proper soil amendments.

### 6.5.3 Irrigation

Water conservation is essential. Parks and open spaces should use natural rainfall and run-off whenever possible. In addition, irrigation systems should use bubblers, subsurface and efficient spray and rotor head systems. All parks and open spaces, except active play or sports fields, should use temporary or minimal irrigation to establish and/or support the landscape. Irrigation systems should be automated and possibly linked to a master control station. The use of water harvesting methods is also encouraged.



*Photo Caption: Lifelong learning beyond the school house.*

## 6.6 Education

RidgeGate's intention is to provide a significant education component to its open-space amenities. This could include educational and interpretational trails, or even outdoor laboratories like water quality testing for local schools and educational organizations. Such a program requires further analysis of the site's ecological, archaeological or paleontological resources and should be developed in coordination with local educators and scientific institutions, such as with the University of Denver, the University of Colorado, the Denver Museum of Nature and Science, and with Douglas County Schools. Willow Creek's water quality basins and parkland areas provide an opportunity for outdoor educational opportunities by school kids, local community organizations or regional institutions. Effective education partnerships, combined with RidgeGate's beautifully situated open space, could provide a regional educational component of exceptional quality.

## 6.7 Character and Identity

The design of parks, open spaces and trails within the RidgeGate community should enhance and express the native landscape in bold and innovative ways. It may also memorialize environmental, geographic or otherwise important facts, features or people. To that end, RidgeGate intends to work with the City of Lone Tree to name public facilities, including parks, plazas, open spaces, trails, overlooks, bridges, streets or other features. RidgeGate also intends to work with the City of Lone Tree to install informational, interpretive, inspirational or memorial displays in public or private open-space areas.

## 6.8 Conclusion

RidgeGate's identity is intrinsically tied to the surrounding landscape. The bluffs are a defining land feature and the drainage corridors that wend their way through the development and where parks and trails will be concentrated provide important visual relief, access to neighborhood open space and regional connectivity. In order to maintain its identity as a city in the landscape, RidgeGate's parks, trails and open spaces must be carefully considered, preserved and enhanced for residents of the immediate community and neighboring areas.

The purpose of this master plan document is to articulate guidelines for the planning, programming and implementation of RidgeGate's parks, trails and open spaces so that the vision of the development as a city in the landscape can be realized. This document provides a basis for all future landscape analysis upon the site, for each individual project, for all open space uses, and for all connections within and beyond RidgeGate. Each new phase should ask if a balance between natural and human needs has been maintained successfully. RidgeGate's open space should protect the area's ecosystems, flora and fauna. It should also educate the public and provide a multitude of options for active and passive recreation.

# RidgeGate Parks and Open Space Master Plan

## Chapter 7

# Phasing and Implementation

### 7.1 Phasing Plan

The initial open-space phasing is shown in Exhibit 9.8. Existing temporary open-space improvements are at the north ends of both Cottonwood and Willow Creeks and are directly associated with needed storm-water detention facilities. It is RidgeGate's intention to transition these to permanent open-space improvements as triggered by surrounding development and the emergence of regional needs created by the completion of the east-west open-space connection. Additional improvements are intended to occur as shown. Open-space improvements along Willow Creek, south of the gas utility easement, on southern Cottonwood Creek and on the bluffs are more long term. Subsequent plans are intended to show specific open-space improvements within these areas.

### 7.2 Cost Estimate

Cost estimates for open-space construction and maintenance will be developed as improvements are planned.

### 7.3 Conveyance

Final decisions concerning ultimate control and ownership of the Willow Creek Parks and the Bluffs Open Space will be established in coordination with the City of Lone Tree. The linear Willow Creek system of parks and the Bluffs Open Space will be built, maintained and owned by Rampart Range Metro District due to its importance in marketing RidgeGate, but may be conveyed to other entities established to own and manage parks and open space, such as the South Suburban Parks and Recreation, in the future by mutual agreement. The community park that is adjacent to Lone Tree Recreation Center will be conveyed subject to credit for dedicated acreage in excess of PDD requirements to South Suburban Parks and Recreation or the City of Lone Tree when construction funds are available and a schedule for construction is established. All parks, trails and open spaces will be designed to meet South Suburban Parks and Recreation (SSPR) design and maintenance standards, unless otherwise agreed to by RidgeGate and SSPR.

Neighborhood parks built by homebuilders will be conveyed to the RidgeGate West Village Community Association for ownership and maintenance, funded by homeowner assessments.

Chapter 8  
**Open Space Management Strategy**

Two issues require specific management in RidgeGate's open space: the management of disturbed ecosystems and wild land fire management.

## 8.1 Ecosystems

Nearly all of the land within RidgeGate has been disturbed during the last century, mostly by cattle grazing. This has had long-term effects on its various ecosystems. The first step in this process is the revitalization of some areas into more balanced ecosystems, especially on the bluffs and their slopes and along Cottonwood Creek. Key plant and animal species should be identified and measured on an ongoing basis to develop an overall picture of the site's ecological health.

As land is graded and reseeded and trails are laid, the open-space system should be observed periodically to determine the effects of human impact on the environment, the effects of the trails on erosion and vegetation and the success of the system as relates to its human users. Complete measurements, observations and analysis should be performed. In all cases, current and appropriate governmental agencies should be sought as partners in the area's continued health and success.

## 8.2 Wild Land Fire Management

Open space fire management policies for RidgeGate should be developed in coordination with local fire enforcement and protection agencies, as well as with any other applicable governmental agencies, such as the Bureau of Land Management or the National Forest Service, which also concerns itself with fire management on national grasslands in proximity to RidgeGate that are in an ecosystem very similar to that of RidgeGate. RidgeGate's fire hazard breaks down into several specific groups: grassland, scrub oak and drainage corridors.

### **Grassland Fires**

Grassland fires burn at temperatures that are relatively low when compared to woodland fires. This does not, however, make them any less dangerous. Grasses burn quickly once ignited and can spread nearly as fast as wind speed. This means that under high-wind conditions, fire in tinder-dry grasses can spread at speeds of 35mph or greater. Furthermore, grass fires can "spot fire" just as woodland fires do, meaning that sparks carried by the wind can ignite new fires as much as a mile or more distant from the parent fire. Sparks from "spotting" can also ignite buildings with dry roof materials, cedar siding or untreated wood decking.

Development near open wild grasses should be protected by a series of buffers ranging from 20 to 100 feet. In the buffer zone immediately surrounding any building or structure, a minimum of 20 feet should be irrigated and maintained, including a provision for at least 3 feet of concrete or crusher-fine surface that has been completely stripped of organic materials. The 3-foot buffer should be regularly maintained to keep organic materials from growing. The remainder of the buffer should be mowed to less than 6 inches regularly. Structures within 50 feet of open grassland should be constructed to the highest possible fire resistance, especially as concerns siding, roofing and decking.

### **Scrub Oak Fires**

Scrub oak swaths along the bluffs are important wildlife habitat, but pose particular problems for fire safety. Scrub oak is less likely to ignite than grasses. However, oak growths are extensive and, in the event of a fire, would burn at extreme temperatures that would be difficult to contain. Annual analysis of the scrub oak growths should be conducted and "thinning" of deadwood should be prescribed

for scrub oak growths that have died and are in the process of drying and rotting. As long as thinning is maintained and the scrub oak growths kept healthy, fire threat from scrub oak should be minimal.

A minimum 10-foot buffer should be kept between structures and scrub oak. A number of the proposed trails for the bluffs will pass through scrub oak growths and the design and construction of these trails should be made in consultation with fire protection authorities, since trails are often the first and most convenient fire breaks in fighting wild land fires away from roads and flowing water.

### **Drainage Corridor Fires**

Drainage corridors typically have a higher water content than vegetation on other portions of the property. Once dry, however, willows and grasses along these corridors pose the same threats as fire fuels anywhere else. Drainage corridors, when ignited, also often provide funnels by which fires travel uphill, and as such, fire breaks along the Cottonwood Creek and Willow Creek corridors should be planned accordingly. Furthermore, the corridors contain cottonwood growths that present their own challenges to wildfire management. Once dry, large cottonwood trees are significantly dangerous fuel sources for fires that burn at remarkably high temperatures. Cottonwoods along the creeks should be regularly inspected for the tree's health and water content and trees that are dry should be the focus of rehabilitation efforts. Trees that are dead should be cut down and removed.

RidgeGate must be prepared to offer several lines of defense using best management practices and established minimums for buffers. These lines are both within the public open spaces and on private property. Both public and private lands must commit to fire prevention through the recommendations previously listed. In addition, the alignment and width of trails or unpaved, soft maintenance roads in the open spaces can provide a reasonable fire break. Their location should be studied carefully with fire prevention in mind. Fire is a natural phenomenon that should not be seen as a negative. In fact, in some communities, control burns are performed to lessen the probability of a catastrophic fire event and to restore the vigor and vitality of many native plant communities, which benefit from periodic fire.



Chapter 9  
**Appendix and Exhibits**

**Transition Overlay**  
Use Provisions  
- See Land Use Maps contained in PSD

**View Preservation Overlay**

Limit of West Village Parks, Open Space and Trails Vision Plan

- Zone 1  
87 Average Height limitation (3 story), including 14' mechanical overruns, parapets and special roof features.
  - Zone 2  
70 Average Height limitation (3 story), including 14' mechanical overruns, parapets and special roof features.
  - Zone 3  
143 Average Height limitation (11 story), including 14' mechanical overruns, parapets and special roof features.
  - Zone 4  
175 Average Height limitation (12 story), including 14' mechanical overruns, parapets and special roof features, with allowance for up to 10 buildings with 25,000 s.f. maximum footprint at up to 250' height limit (20 story).
- View Corridors  
1, 2, 3, 4 External Views  
2, 3, 4 Internal Views  
Site Planning Ordinance, to be developed with Detailed Plans, will organize Open Space and surface parking along these corridors and require adjacent buildings to be stepped.

**Transit Station legend**

- Sky Ridge Station**  
In-line mixed-use/neighborhood station with shops, restaurants, and office space with pedestrian connections to the adjacent medical center, Commonsweath Street, and medium density residential. Station is within walking distance to adjacent neighborhood and features a Kiss-and-Ride loop with RTD bus connections and a RidgeGate loop bus service.
- Lone Tree City Center Station**  
Urban below ground downtown station with high density mixed-use commercial, office retail and residential. 10-30 story high density mixed-use buildings with shared parking and features a curbside bus stop, layered rail/bus connection, RTD local bus connections, and RidgeGate loop service.
- Ridgegate Parkway Station**  
End-of-line station with medium density development surrounding the site consisting of commercial, office, and retail uses. The station features 2,000 surface parking spaces, RTD local and regional bus connections, and RidgeGate loop service.

**Legend**

- Planning Areas**  
(See PSD for detailed information and standards)
- Rural Residential (RR)
  - Residential Mixed Use (R/M-U)
  - Commercial Mixed Use (C/M-U)
  - City Center (C/C)
  - Open Space (OS)
  - Central Community Park
  - Institutional
  - Pillar Monument

**Note: Topographic Interval is 20 feet.**

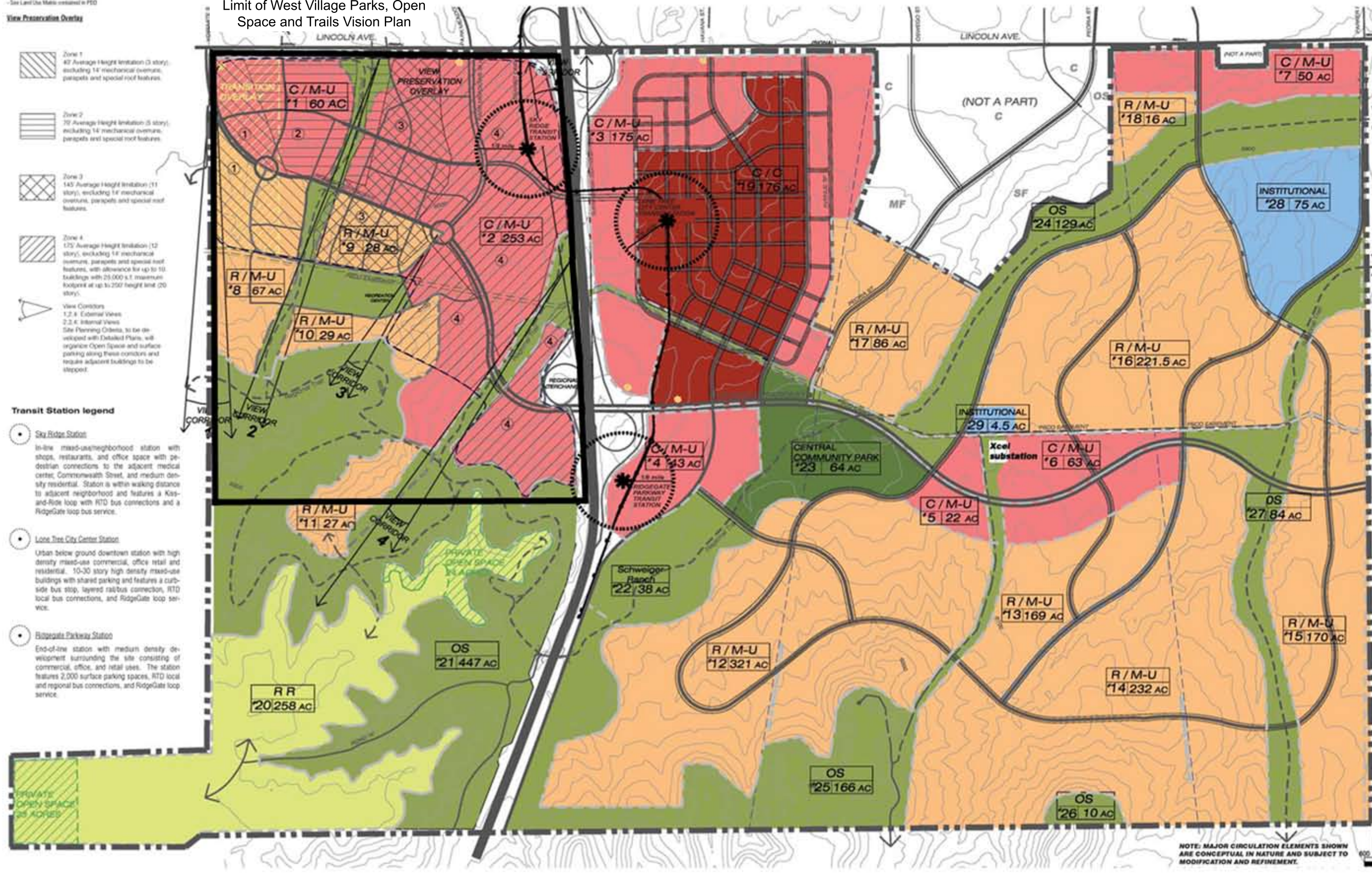
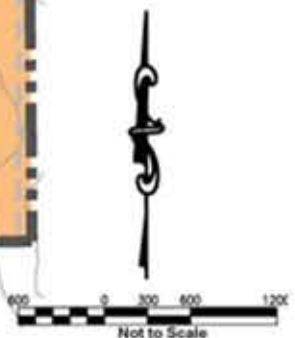
planning area designation	
parcel #	gross acreage
1	160 AC
2	253 AC
3	175 AC
4	258 AC
5	222 AC
6	63 AC
7	75 AC
8	67 AC
9	28 AC
10	29 AC
11	27 AC
12	321 AC
13	169 AC
14	232 AC
15	170 AC
16	221.5 AC
17	86 AC
18	16 AC
19	176 AC
20	258 AC
21	447 AC
22	38 AC
23	64 AC
24	129 AC
25	166 AC
26	10 AC
27	84 AC
28	75 AC
29	4.5 AC

Middle / High School and Central Community Park sites shown are subject to mutually agreed upon refinements of location and boundaries, but total size will not be reduced or increased.

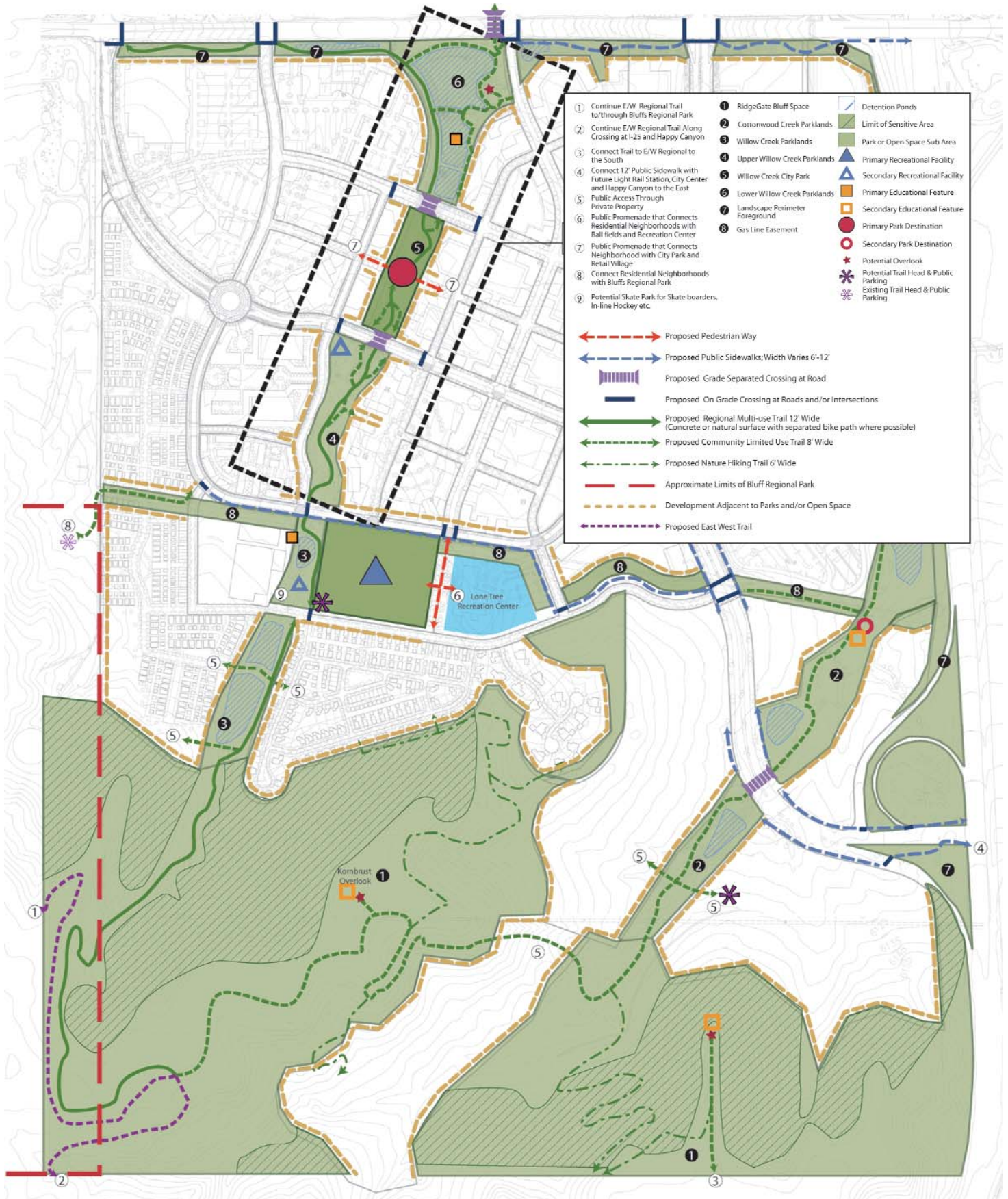
Landscape Architect:  
**DESIGNWORKSHOP**  
1300 Lawrence Street, Suite 200  
Denver, Colorado 80204  
(303) 623-5180

Amended: 22 October, 2008

NOTE: MAJOR CIRCULATION ELEMENTS SHOWN ARE CONCEPTUAL IN NATURE AND SUBJECT TO MODIFICATION AND REFINEMENT.



### Exhibit 9.2 West Village Parks, Open Space and Trails Master Plan



### Exhibit 9.2.1 Willow Creek Enlargement Plan

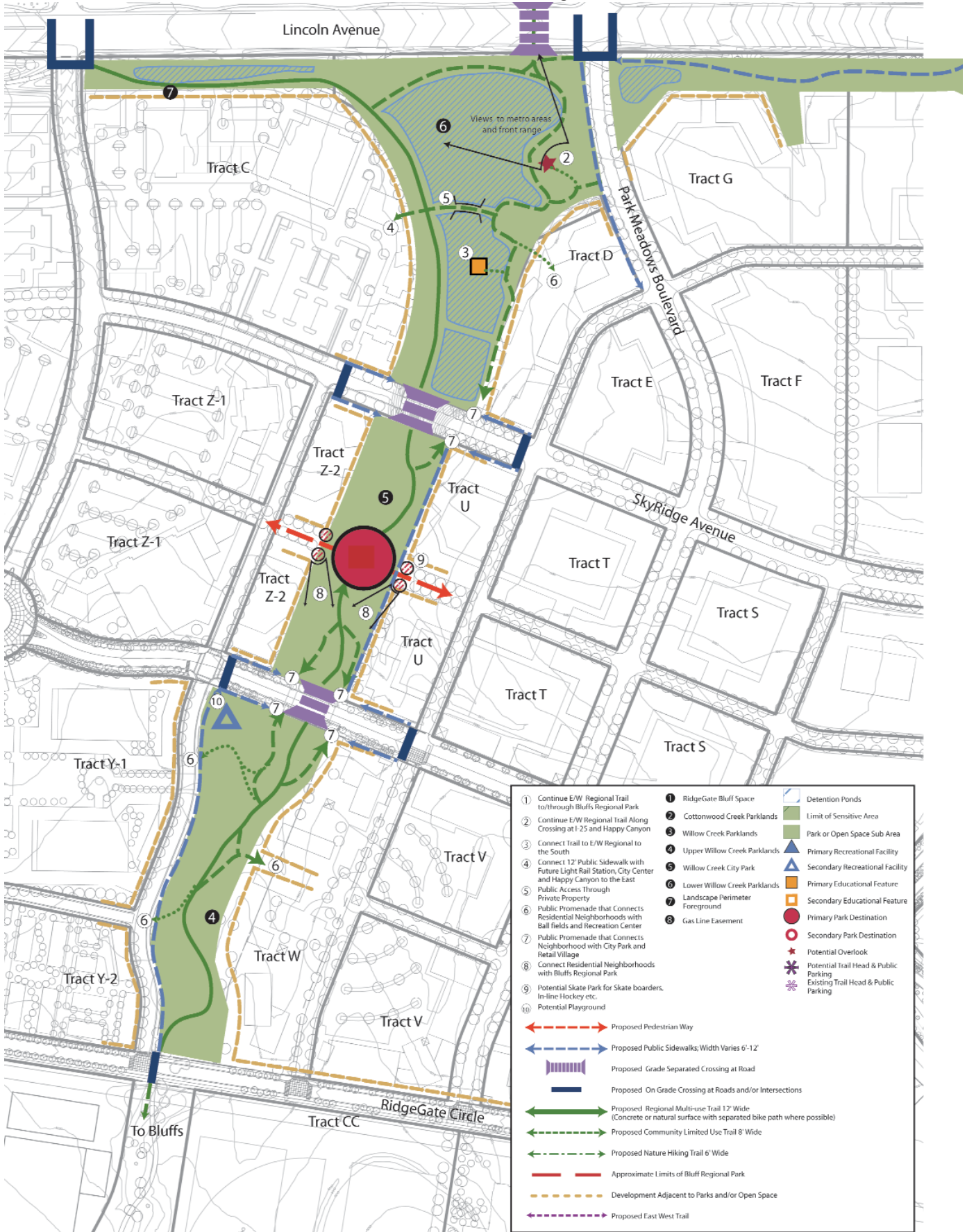
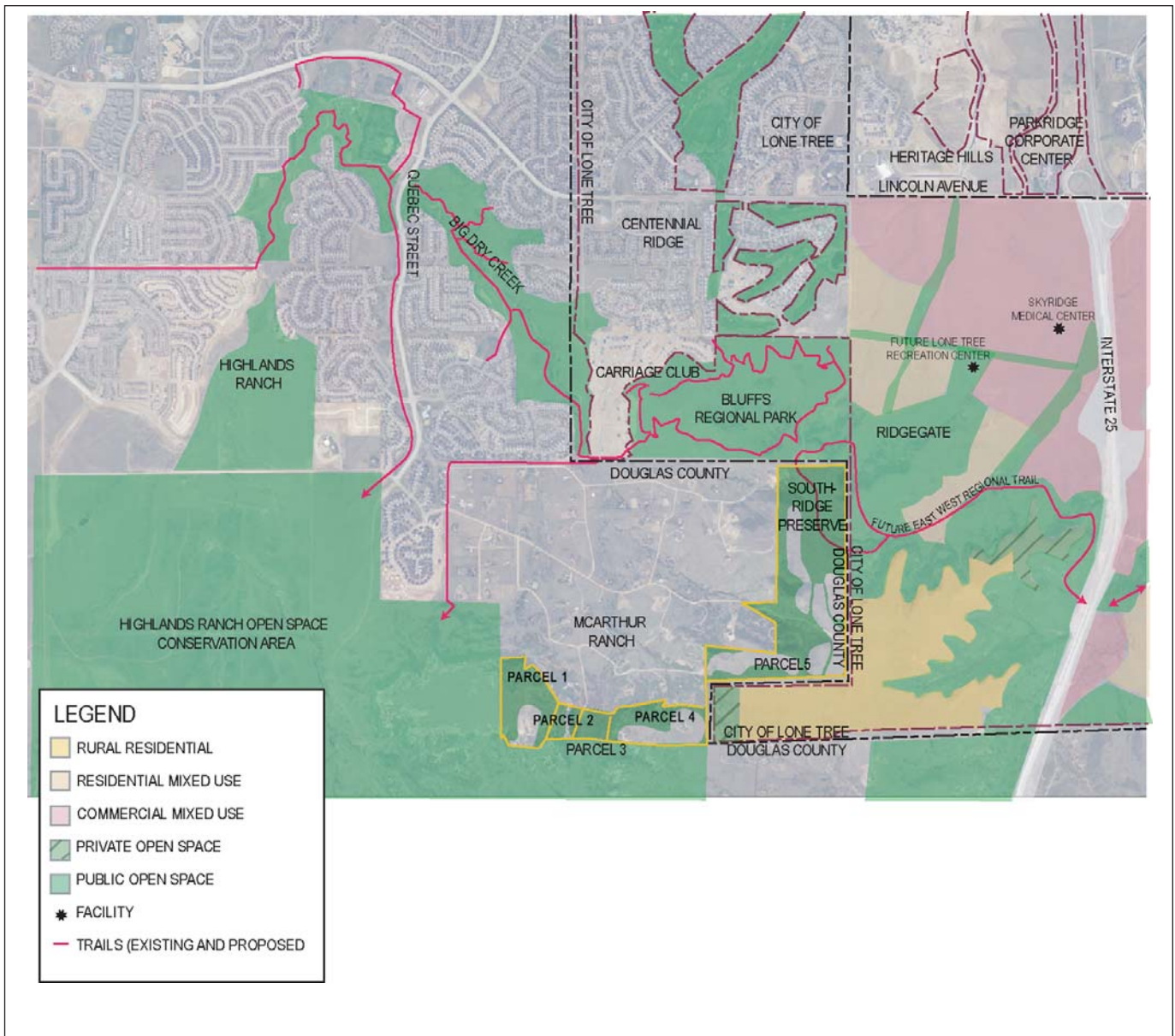


Exhibit 9.3 Regional Map



## Exhibit 9.4 RidgeGate Local Park Dedication Credit and Cash-in-Lieu Policy



CITY OF LONE TREE  
Community Development Department

RIDGEGATE Local Park Dedication  
Credit & Cash-in-Lieu Policy

**Park Land Dedication Standard per the PD:**

Local/neighborhood parks shall be dedicated by the owner at the time of residential platting and based on the standard of 5 acres/1,000 population.

**Credit\*:**

The City may grant credit towards the project's total required acreage for parkland dedication, based on the provision of appropriate internal project amenities that are determined by the City to be equal or greater in value to the estimated market value of the required acreage amount.

*Note: In such a case as described above, value of the land shall be based on anticipated market value after completion of platting. The City may require the applicant to provide at least one appraisal of the property by a qualified appraiser, as well as cost estimates for internal amenities.*

Internal project amenities that may be considered appropriate towards credit of local park dedication include but are not limited to:

- Common open space for passive or active recreation;
- Pedestrian connections to adjacent or nearby parks, trails and open space;
- Swimming pools;
- Non-commercial indoor recreation centers and other specialized recreation facilities;
- Other amenities that demonstrate fulfillment or supplement of the park and recreation needs of residents within the project, as determined by the City.

The City may grant up to 75% credit towards the project's total required acreage for private amenities.

The City may grant up to 100% credit of the project's total required acreage for parkland dedication if said amenities are available to the general public and meet a demonstrated public need, as determined by the City.

*\*Determination of parkland dedication credit is at the City's discretion, and is negotiable based on the guidelines presented above.*

## Exhibit 9.4 RidgeGate Local Park Dedication Credit and Cash-in-Lieu Policy (continued)

**Cash-in-lieu of land dedication**

Cash-in-lieu of land dedication shall be used in cases in which the cash value of park land dedication is deemed, by the City to be more appropriate in satisfying the needs of the proposed development than land within the proposed development. Such cases include, but are not limited to, small developments not able to meet the minimum size requirement and development, which already have adjacent facilities that serve or could be expanded to satisfy the need created by the development.

**The cash-in-lieu fee shall be based on \$75,000\*\*/acre.**

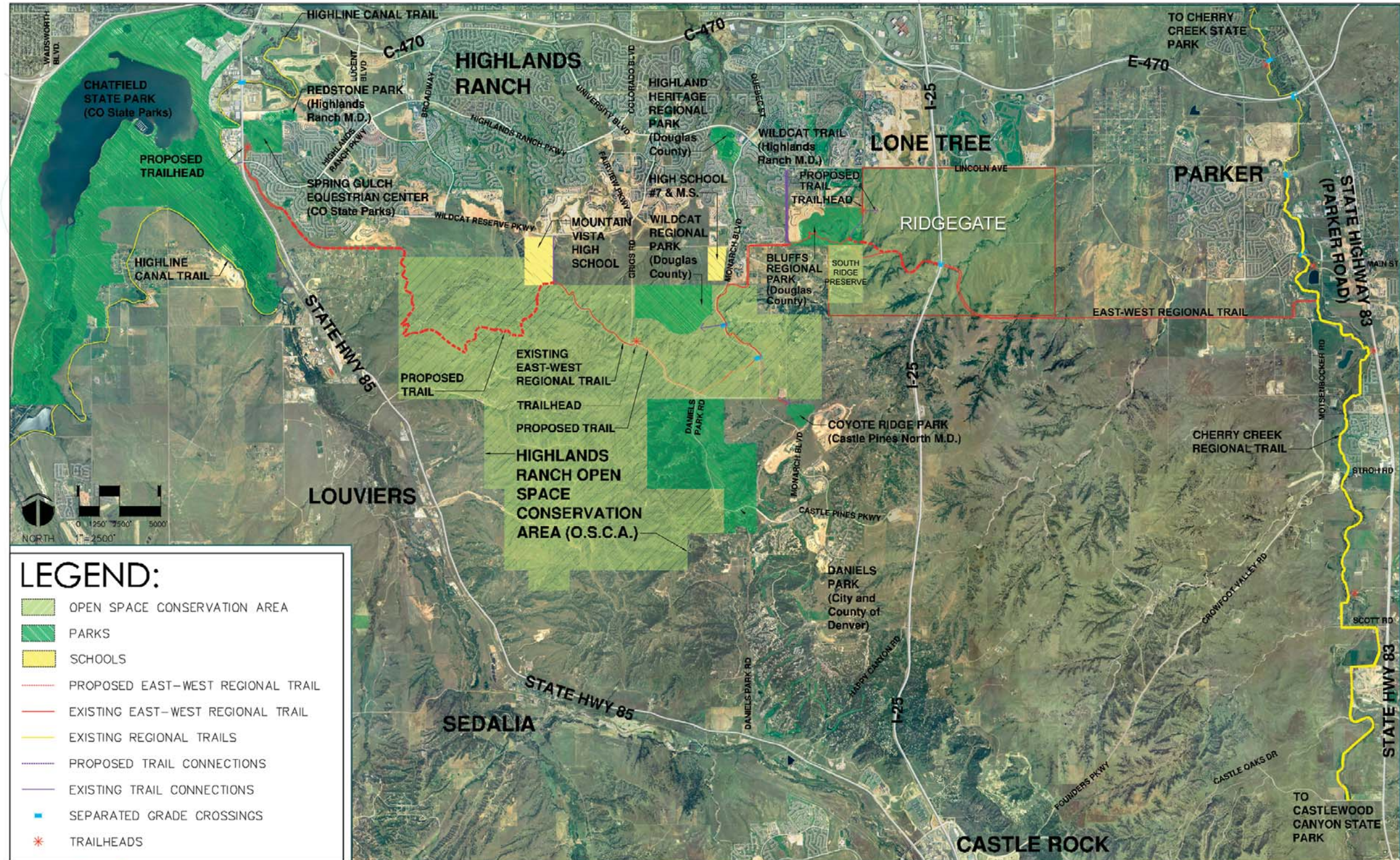
Again, the total acreage required is based on 5 acres/1,000 population

Any combination of land dedication, cash-in-lieu and parkland credit may be accepted, as negotiated based on the guidelines presented herein, and as determined by the Director

The minimum cash-in-lieu fee shall be \$1000.

*\*\* This amount may be adjusted annually to market conditions.*

Exhibit 9.5 East-West Trail Map



**LEGEND:**

- OPEN SPACE CONSERVATION AREA
- PARKS
- SCHOOLS
- PROPOSED EAST-WEST REGIONAL TRAIL
- EXISTING EAST-WEST REGIONAL TRAIL
- EXISTING REGIONAL TRAILS
- PROPOSED TRAIL CONNECTIONS
- EXISTING TRAIL CONNECTIONS
- SEPARATED GRADE CROSSINGS
- TRAILHEADS



# CONCEPTUAL TRAIL PLAN

## EAST-WEST REGIONAL TRAIL

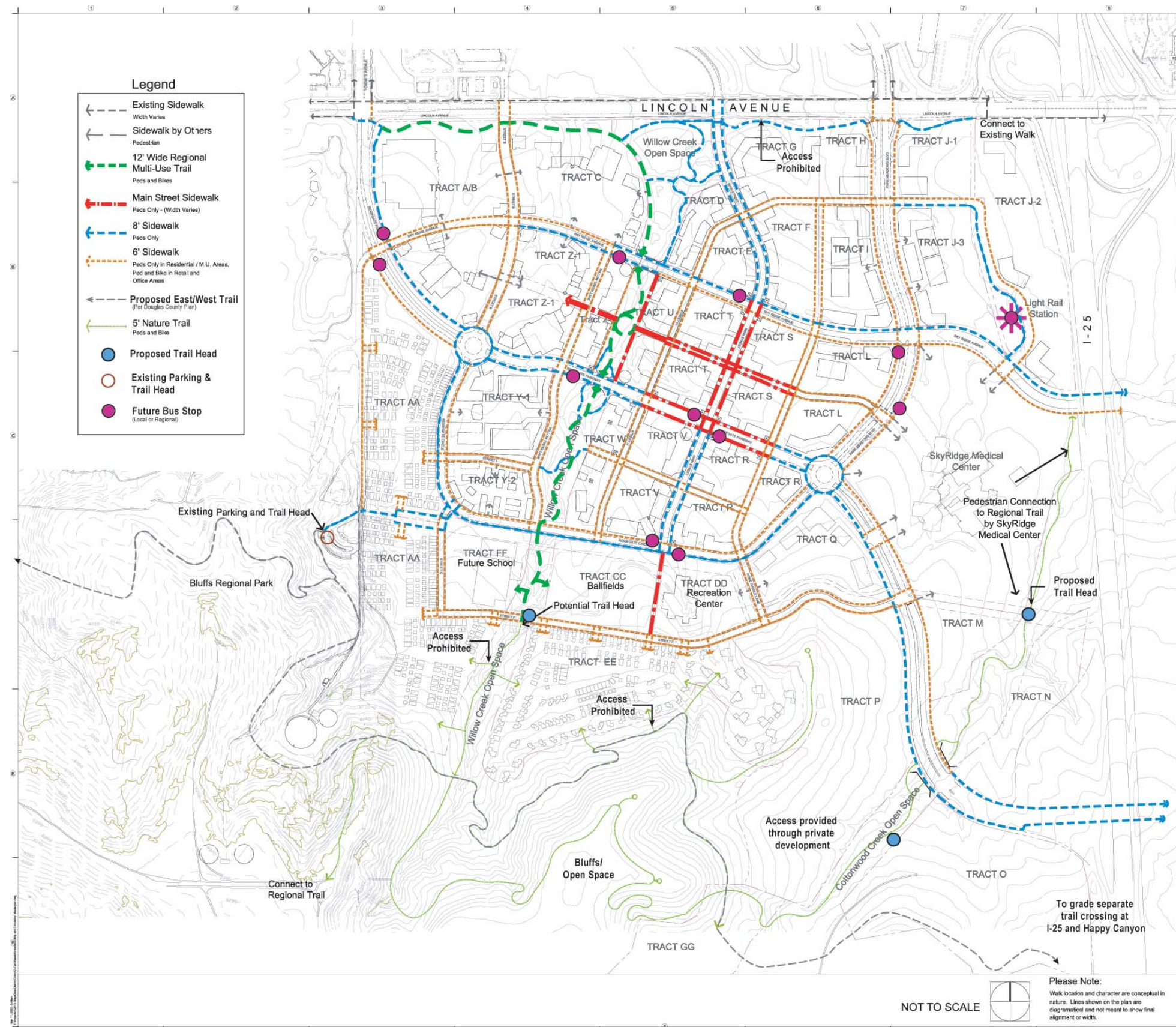
Regional Context Map



NOVEMBER 2002



Exhibit 9.6 Pedestrian Circulation Master Plan



**Legend**

- Existing Sidewalk  
Width Varies
- Sidewalk by Others  
Pedestrian
- 12' Wide Regional Multi-Use Trail  
Peds and Bikes
- Main Street Sidewalk  
Peds Only - (Width Varies)
- 8' Sidewalk  
Peds Only
- 6' Sidewalk  
Peds Only in Residential / M.U. Areas,  
Ped and Bike in Retail and Office Areas
- Proposed East/West Trail  
(Per Douglas County Plan)
- 5' Nature Trail  
Peds and Bike
- Proposed Trail Head
- Existing Parking & Trail Head
- Future Bus Stop  
(Local or Regional)

NOT TO SCALE

Please Note:  
Walk location and character are conceptual in nature. Lines shown on the plan are diagrammatic and not meant to show final alignment or width.

Exhibit 9.7 On-Site East-West Trail Connections

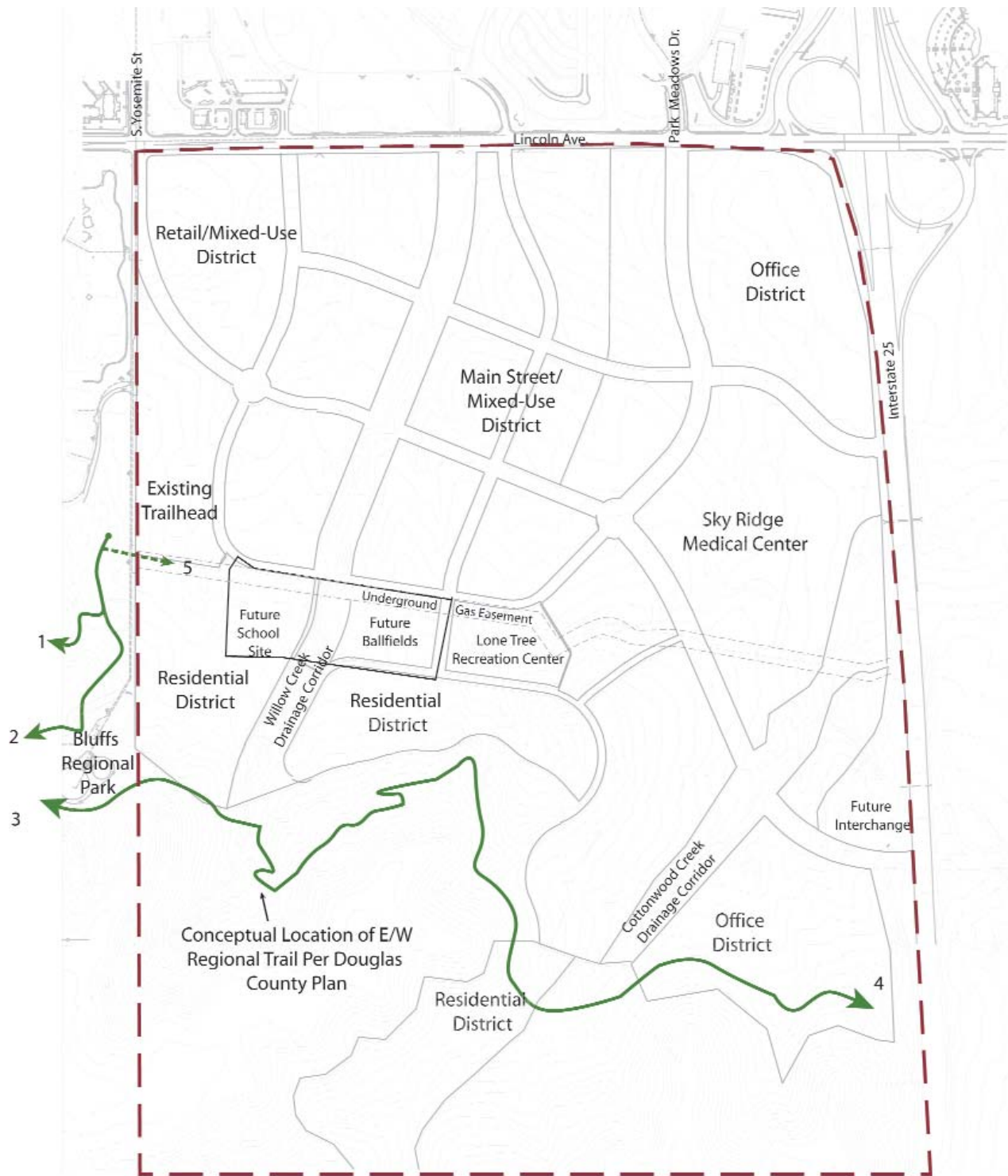
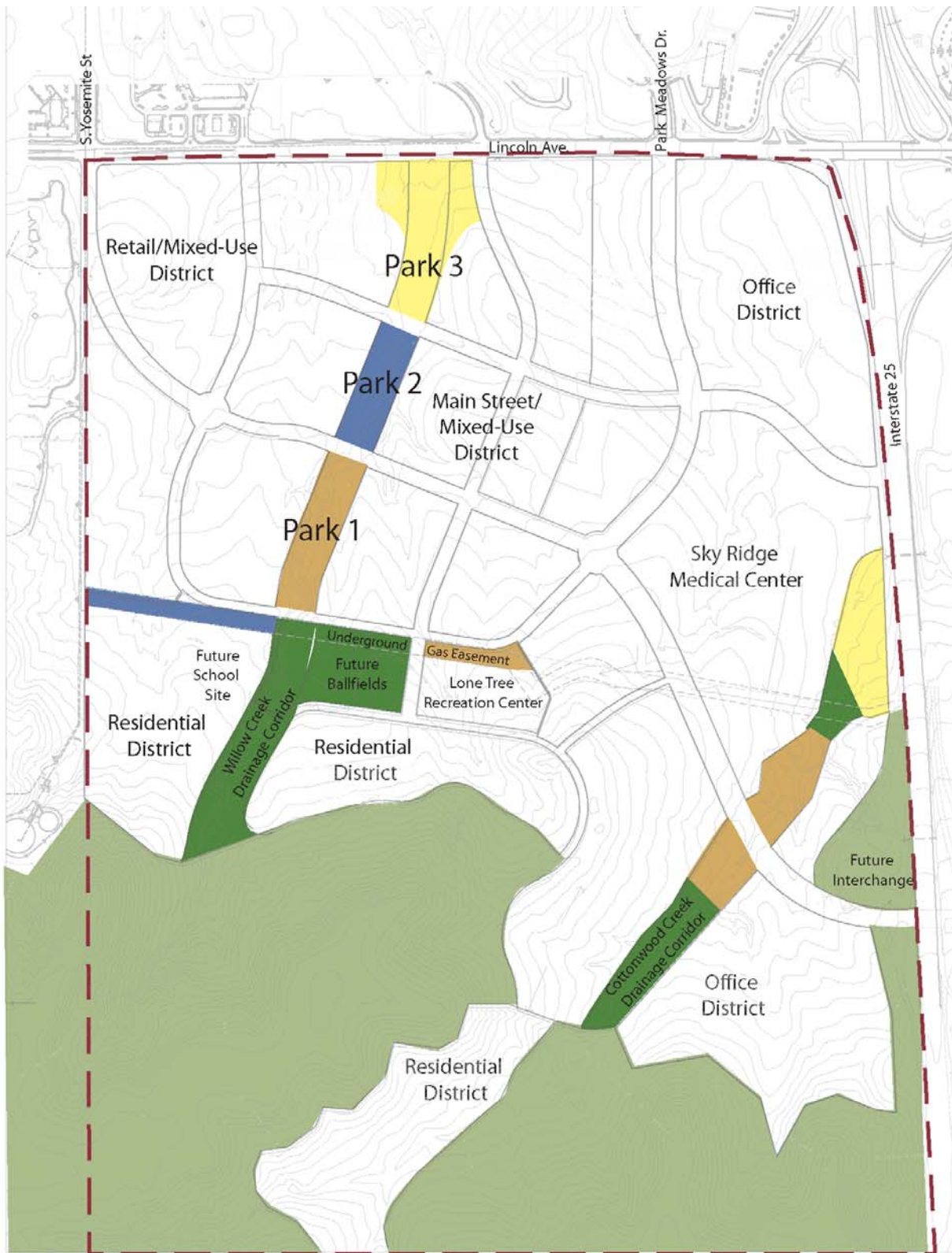


Exhibit 9.8 Open-Space Phasing Plan



LEGEND

- Phase 1
- Phase 2
- Phase 3
- Phase 4
- Phase 5

Exhibit 9.9 Open-Space Framework Plan

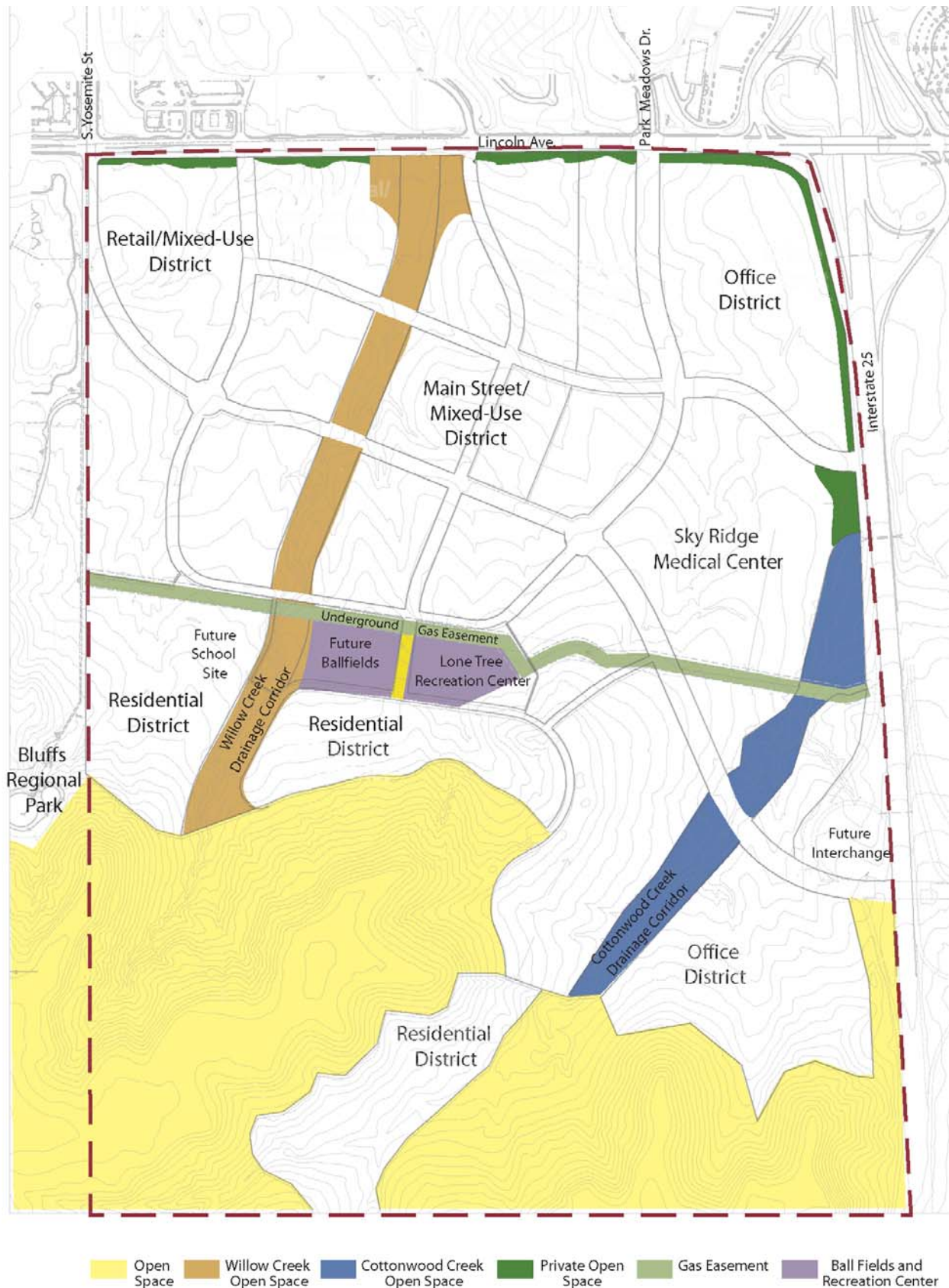


Exhibit 9.10 Significant Areas Where Slopes Exceed 12%

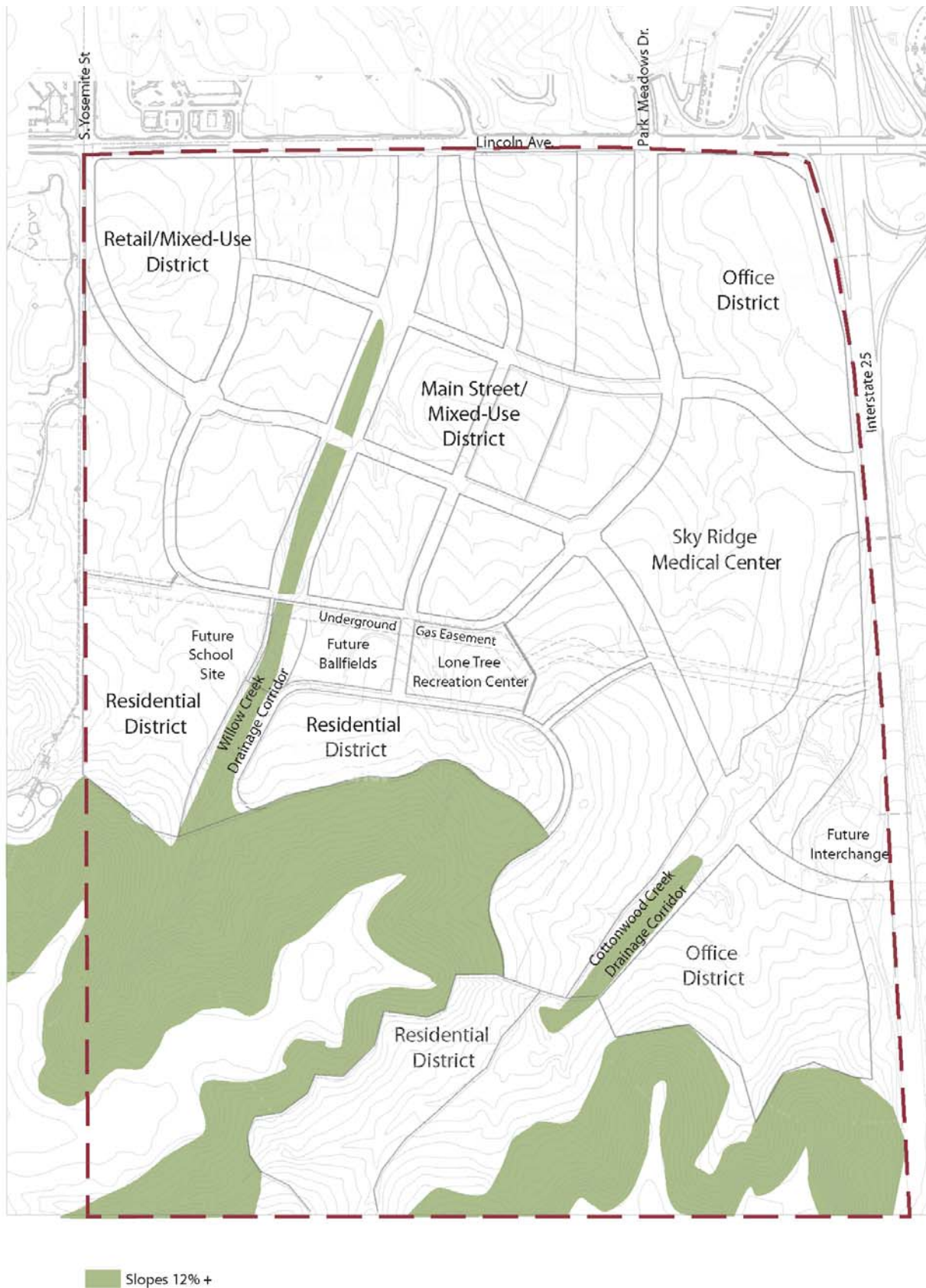


Exhibit 9.11 Existing Vegetation and Wildlife Habitat

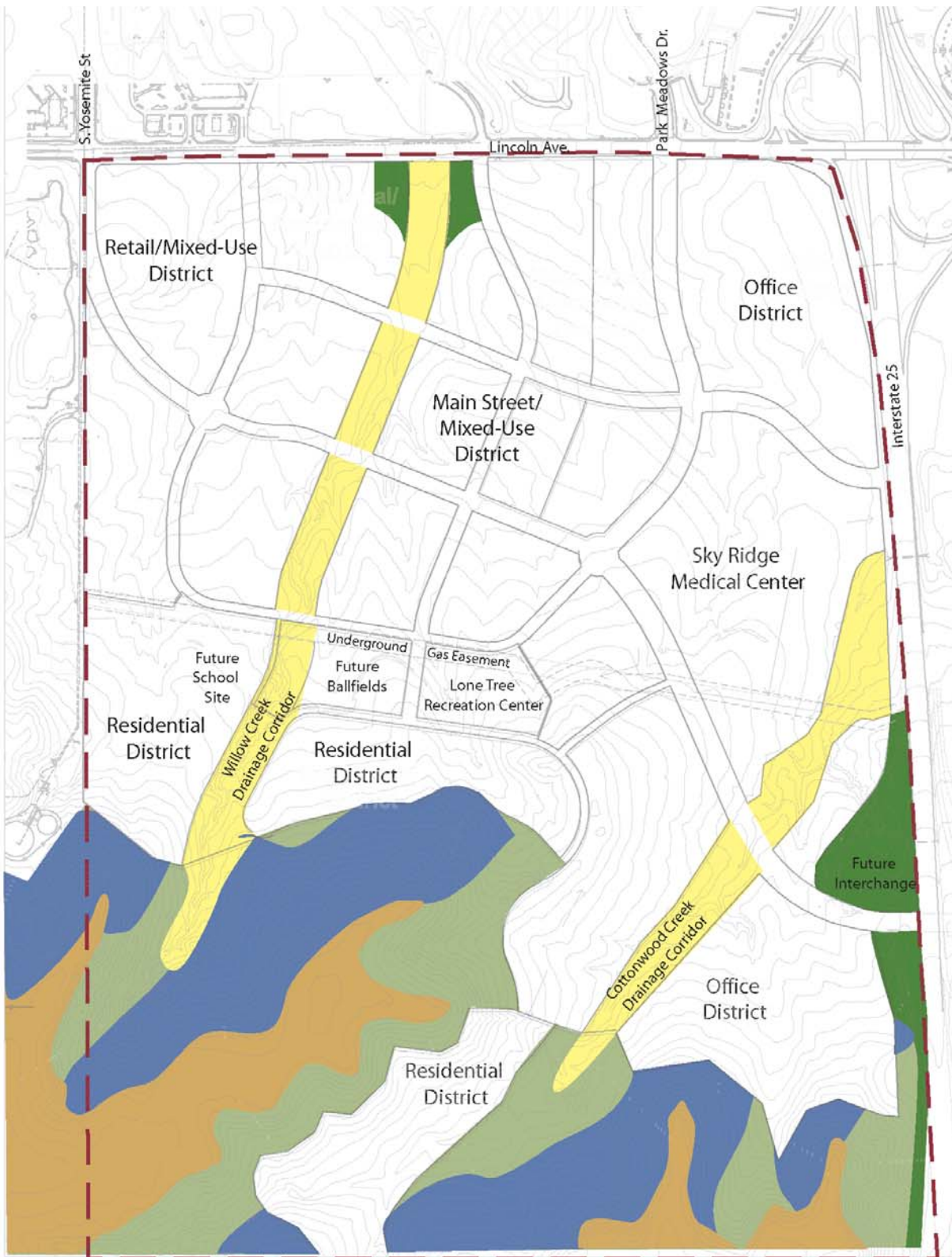


Exhibit 9.12 Broad Slope Analysis

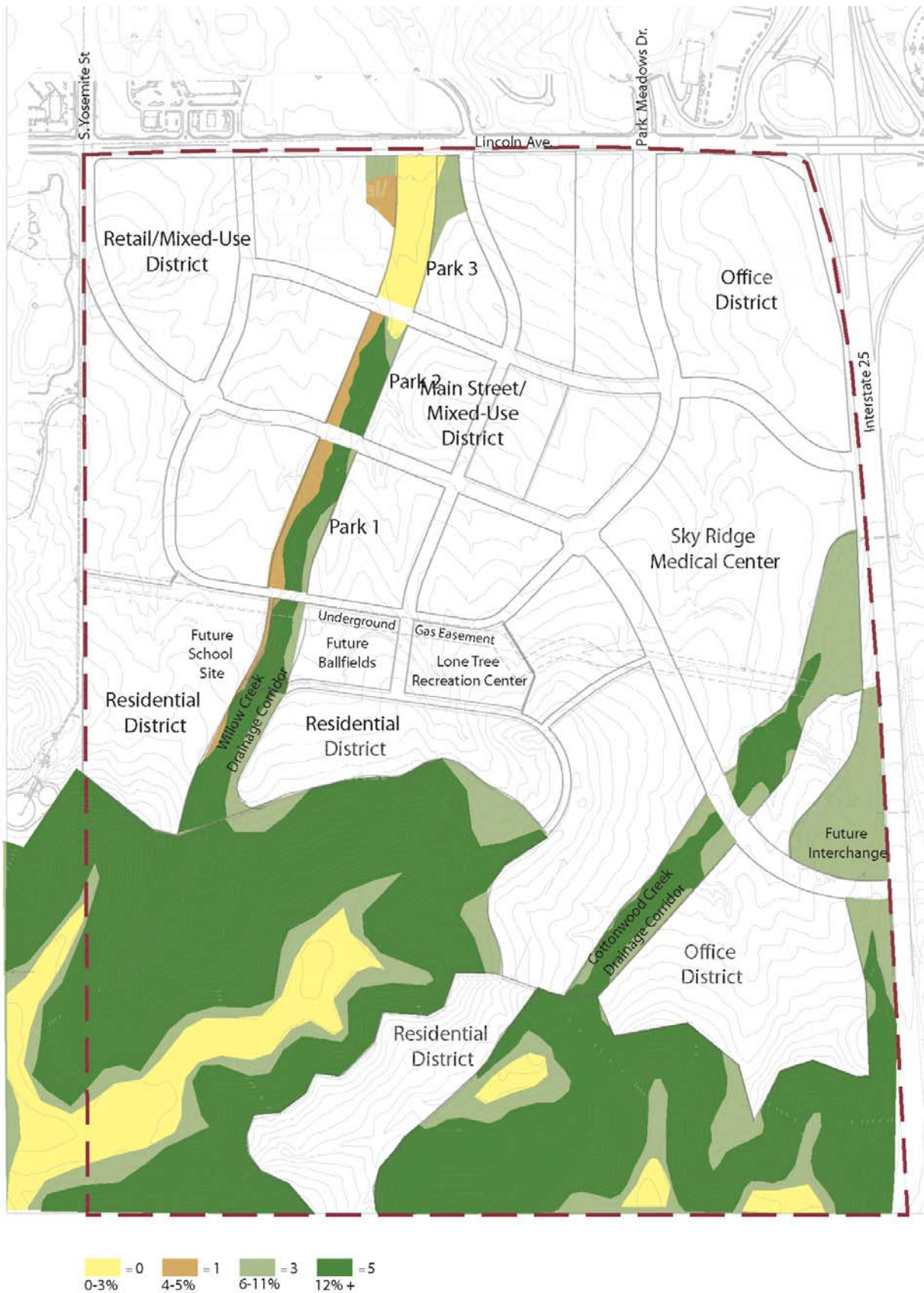


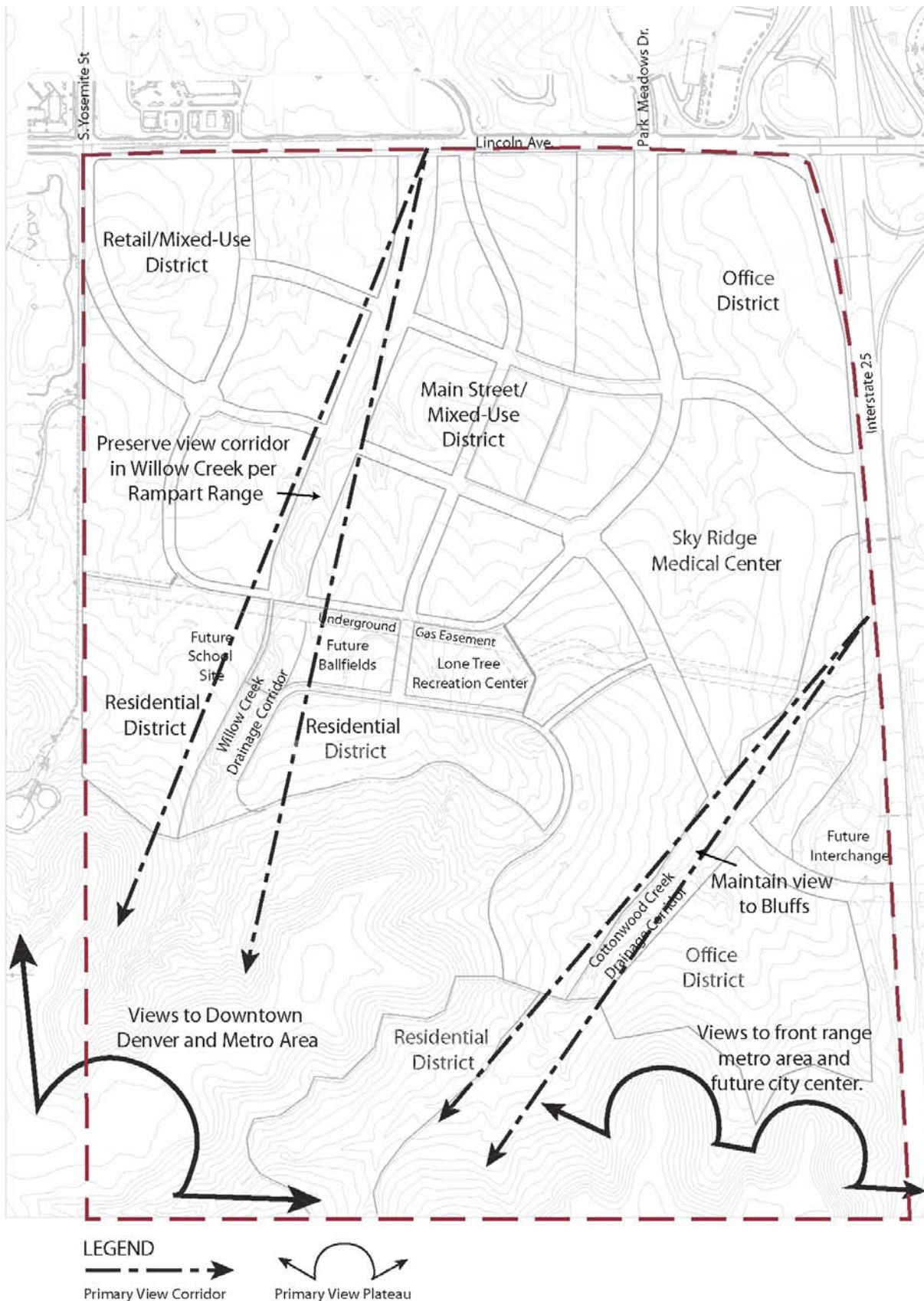
Exhibit 9.13 Potentially Unstable Soils



**LEGEND**  
 Restrictive = 6  
Potential Unstable Slopes



Exhibit 9.14 View Analysis



### Exhibit Analysis Methodology

This is an explanation of the methodology used to produce Exhibit 9.15 of this document. It uses simple geographic information system (GIS) weighting methods. To do this, it uses a concept known as restrictiveness.

Restrictiveness is a measure not only of how difficult it would be to build upon a piece of land, structure, trail or otherwise, but also the appropriateness of building. For example, Exhibit 9.11 gives values to vegetative areas and the wildlife commonly associated with those areas. Transitional vegetation, which includes scrub oak growths, the bluff top, and riparian areas receive higher levels of restrictiveness based upon the sensitivity of the vegetation or the importance of those areas to wildlife.

Exhibit 9.15 of this document is a simple land suitability analysis. It is an overlay of different levels of restrictiveness. For example, Exhibit 9.10 illustrates areas upon the site that exceed a 12% slope, which for purposes of this analysis were given a restrictiveness level of five (5). Exhibit 9.12 shows that slopes of 6% to 11% have a restrictiveness value of three (3), slopes of 4% to 5% have a value of one (1), and less severe slopes have no associated restrictiveness at all. Twelve-percent was used as the cutoff limit not necessarily because it represent a boundary in building difficulty, but because 12% has sometimes been recognized as a safety boundary: wild land fires where vegetative fuels are available to the fire, such as would be the case at RidgeGate's open space, can climb slopes of 12% or greater very quickly. Thus, such slopes with vegetation receive an appropriately high level of restrictiveness.

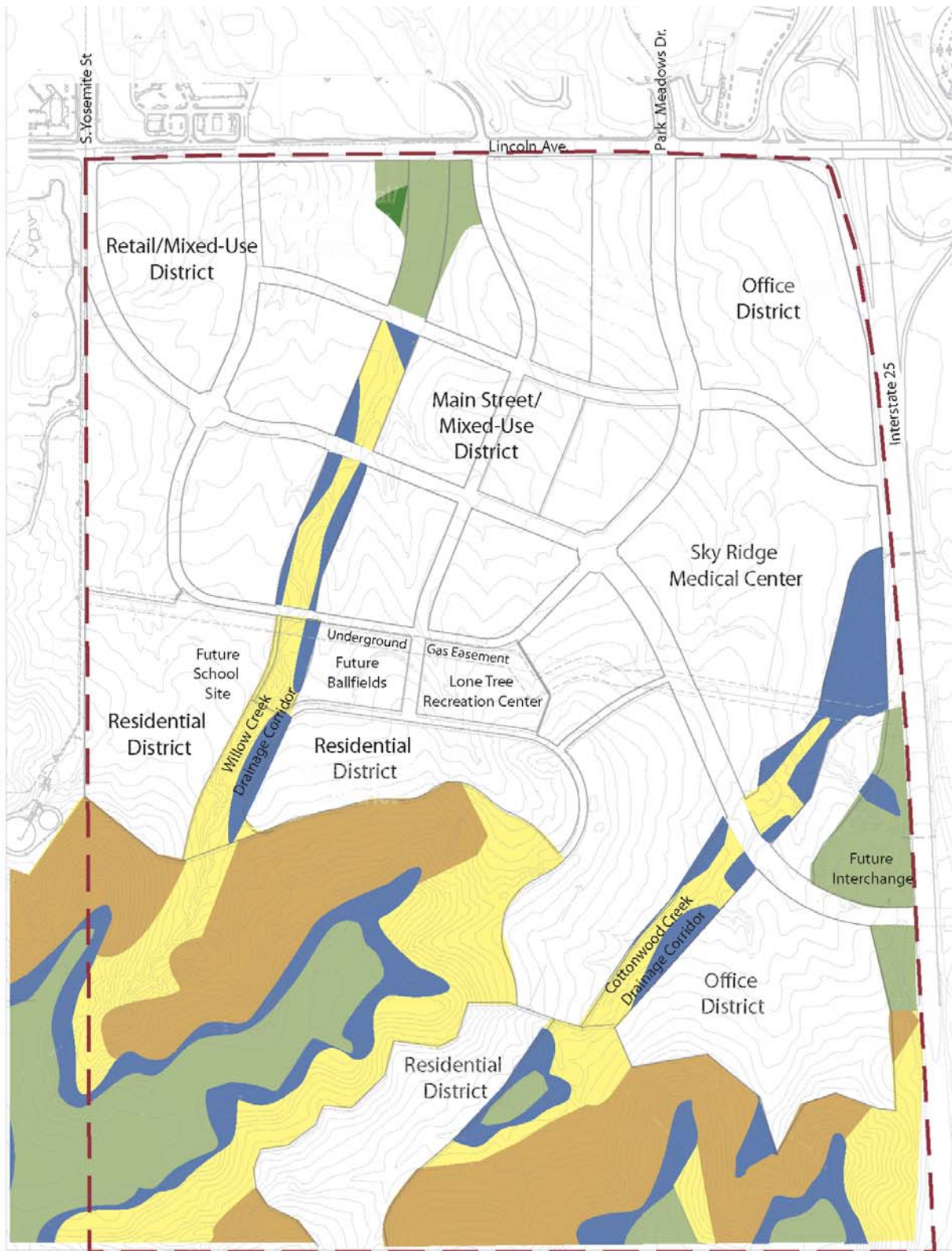
View corridors also do not affect the difficulty of building upon a site; however, the creek corridors both receive a restrictiveness of three (3) with regard to appropriateness for building, because of their importance as primary views throughout the site.

One aspect that does speak to building and safety, however, is addressed in Exhibit 9.13, Potentially Unstable Soils. This exhibit was constructed using very basic information from the USGS, particularly soils reports, as well as CDOT information regarding engineering for highway I-25. Existing reports are not particularly thorough. The areas shown in the exhibit are believed to be dry, sandy loam soils that are unstable at the surface, especially on steep slopes. Sandy loam soils are prone to slide or move during heavy rains or during spring-snow runoff. No structure of any kind should be built on the areas shown in Exhibit 9.13, and trails may not be appropriate for them, because it would be expected that such trails would require significantly more upkeep than those built on better terrain. It cannot be emphasized enough that each individual future project needs to complete thorough soils analysis for its site. Because of possible danger, areas of potentially unstable soils receive a restrictiveness rating of six (6).

Each layer of restrictiveness was overlaid. The results were averaged and adjusted by standard deviation to prevent extremely low or high levels of restrictiveness from skewing the results. This was, in fact, a very simply version of more complex GIS studies that should be conducted for all future development on the site. The result of this analysis was Exhibit 9.15, the Land Suitability Analysis, which measures site-specific restrictiveness on a measure from Minimal to Prohibitive.

One layer of information that should be studied in the future is not included here: archaeological information. It was determined that current archaeological surveys for the bluffs and surrounding area are outdated, questionable and not specific enough. This does not in any way mean that archaeological resources upon the site are insignificant.

Exhibit 9.15 Land Suitability Analysis



LEGEND

- minimal
- minor
- moderate
- major
- prohibitive level of restriction

## Exhibit 9.16 Proposed Plant Palette

This plant list is adapted from the City of Lone Tree *Landscaping, Signage and Lighting Master Plan*. Other plant species may be acceptable, subject to DRB review and approval.

	Development Zones			
	Urban	Semi-Urban	Semi-Rural	Rural
<b>Deciduous Trees:</b>				
Acer ginnala - Amur Maple		•	•	•
Crataegus ambigua – Russian Hawthorne		•	•	•
Fraxinus americana ‘Autumn Purple’ – Autumn Purple Ash	•	•	•	
Fraxinus americana ‘Empire’ – Empire Ash	•	•		
Fraxinus pennsylvanica – Green Ash	•	•	•	
Fraxinus pennsylvanica ‘Patmore’ – Patmore Green Ash	•	•	•	
Gleditsia tricanthos inermis – Thornless Honeylocust	•	•		
Gleditsia tricanthos ‘Skyline’ – Skyline Locust	•	•		
Gymnocladus dioicus – Kentucky Coffeetree	•	•	•	
Quercus rubra – Red Oak		•	•	•
Quercus bicolor – Swamp White Oak		•	•	•
Quercus macrocarpa – Bur Oak		•	•	•
Tilia americana ‘Redmond’ – Redmond Linden	•	•		
Tilia cordata ‘Greenspire’ – Greenspire Linden	•	•		
<b>Evergreen Trees:</b>				
Juniperus scopulorum – Rocky Mountain Juniper			•	•
Juniperus scopulorum ‘Cologreen’ – Cologreen Juniper		•	•	
Juniperus scopulorum ‘Wichita Blue’ – Wichita Blue Juniper		•	•	
Picea pungens – Colorado Spruce		•	•	
Picea pungens ‘Glauca’ – Colorado Blue Spruce		•	•	
Pinus aristata – Bristlecone Pine			•	•
Pinus cembroides var. edulis – Pinyon Pine		•	•	•
Pinus nigra – Austrian Pine	•	•		
Pinus ponderosa – Ponderosa Pine			•	•

Exhibit 9.16 Proposed Plant Palette (continued)

	Development Zones			
	Urban	Semi-Urban	Semi-Rural	Rural
<b>Deciduous Shrubs:</b>				
Berberis mentorensis – Mentor Barberry	•	•	•	
Berberis thunbergi – Japanese Barberry	•	•	•	
Caragana arborescens – Siberian Peashrub	•	•	•	
Caragana pygmaea – Pymy Peashrub	•	•	•	
Cornus sericea – RedTwig Dogwood		•	•	•
Cornus sericea ‘Isanti’ – Isanti Dogwood		•	•	•
Cornus sericea flaviramea – Yellowtwig Dogwood		•	•	•
Cotoneaster acutifolus – Peking Cotoneaster	•	•		
Cotoneaster apiculatus – Cranberry Cotoneaster	•	•		
Euonymus alatus – Winged Euonymus or Burning bush	•	•		
Forsythia intermedia – Border Forsythia	•	•		
Ligustrum vulgare ‘Lodense’ – Londense European Privet	•	•		
Potentilla fruticosa – Bush Cinquefoil		•	•	
Prunus besseyi – Western Sand Cherry			•	•
Prunus cistena – Purpleleaf Sand Cherry		•	•	•
Prunus triloba – Double Flowering Almond	•	•		
Rhus trilobata – Skunkbus/Three-leaf Sumac			•	•
Ribes alpinum – Alpine Currant		•	•	•
Ribes aureum – Golden Currant		•	•	
Spiraea vanhouttei – Vanhoutte Spirea	•	•		
Syringa meyeri – Dwarf Korean Lilac	•	•		
Syringa persica – Persian Lilac	•	•		
Viburnum lentago – Nannyberry Viburnum	•	•		
Viburnum trilobum – American Cranberrybush	•	•		
<b>Evergreen Shrubs:</b>				
Mahonia aquifolium – Oregongrape Holly	•	•	•	
Pinus mugo – Mugo Pine	•	•		
Pyracantha coccinea – Scarlet Firethorn	•	•		
<b>Perennial Shrubs:</b>				

Exhibit 9.16 Proposed Plant Palette (continued)

	Development Zones			
	Urban	Semi-Urban	Semi-Rural	Rural
<b>Perennials:</b>				
Aquilegia spp. – Columbine			•	•
Chrysanthemum x superbum – Shasta Daisy		•	•	
Cornus sericea ‘Isanti’ – Isanti Dogwood		•	•	•
Geranium spp. – Cranebill	•	•		
Hosta spp. – Hosta	•	•		
Kniphobia uvaria – Torch Lily/Red Hot Poker	•	•	•	
Liatris spicata – Gayfeather		•	•	
Linum spp. – Flax		•	•	•
Penstomen spp. – Beard Tongue		•	•	
Rhus aromatica ‘Gro-Low’ – Gro-Low Sumac		•	•	•
Ribes alpinum ‘Green Mound’ – Green Mound Currant			•	•
Ribes aureum – Golden Currant			•	•
Veronica spp. – Spike Speedwell		•	•	
<b>Ground Covers:</b>	•	•		
Ajuga reptans – Bugleweed	•	•		
Cerastium tomentosum – Snow in Summer	•	•	•	
Juniperus horizontalis ‘Hughes’ – Hughes Juniper	•	•	•	
Mahonia repens – Creeping Mahonia		•	•	
Vinca minor – Common Periwinkle	•	•		
<b>Vines:</b>	•	•		
Clematis x ‘Jackmanii’ – Jackman Clematis	•	•		
Hedera helix – English Ivy	•	•	•	
Lonicera sempervirens – Trumpet Honeysuckle	•	•		
Parthenocissus quinquefolia – Virginia Creeper	•	•		
P.q. englemanni – Englemann Virginia Creeper	•	•		
Parthenocissus tricuspidata – Boston Ivy	•	•		
Polygonum aubertii – Silver Lace Vine		•	•	

Exhibit 9.17 Cost Estimate Table

VISION PLAN TYPE	TYPE	COSTS OF CONSTRUCTION	ANNUAL MAINTENANCE PER ACRE *	COMMENTS / PRECEDENTS **
RU	RURAL / OPEN SPACE TRAILS	\$3,000 to \$70,000 per acre		Meadows Open Space, Castle Rock, Colorado Bluffs Regional Park, Douglas County Eastern Hills Open Space, Aurora, Colorado
RU / SR	DRAINAGE / OPEN SPACE TRAILS	\$90,000 to \$120,000 per acre		Eastern Hills Open Drainage, Aurora, Colorado
SR / SU / U	PASSIVE RECREATION	\$120,000 to \$195,000 per acre		Crescent Park, Lowry, Denver, Colorado City of Aurora - Neighborhood Park standards
SR / SU / U	ACTIVE RECREATION	\$80,000 to \$280,000 per acre	\$ 4,500.00	Paintbrush Park, Meadows, Castle Rock, Colorado Eastern Hills Village 1 and 2, Aurora, Colorado Metsler Ranch Community Park, Castle Rock, Colorado City of Aurora - Community Park standards Highlands Ranch Metro District - typical budget
UR	URBAN PARK	\$300,000 to \$900,000 per acre		Lowry Reading Garden, Lowry, Denver, Colorado 17th Street Plaza, Commons, Denver, Colorado
RU / SR / SU	INTERPRETIVE MONUMENTS / EDUCATIONAL SIGNAGE	\$5,000 to \$25,000 per station		Meadows Monuments, Castle Rock, Colorado
RU - Rural; SR - Semi-rural; SU - Semi-urban; U - Urban				
* Due to the recent construction of many examples, maintenance costs were not available.				
** Refer to Appendix B for park details and additional notes about costs.				

The table above provides a general range of construction cost for different types of parks based on a comparative analysis of existing parks throughout the Denver metro and Douglas County areas. The range in cost varies depending on many factors and variables. It is strongly recommended that these cost be used for reference only in future planning and design of parks and open spaces at RidgeGate.

Note: These costs are 2003 costs and may need to be adjusted for current costs.

## Exhibit 9.17 Cost Estimate Table (continued)

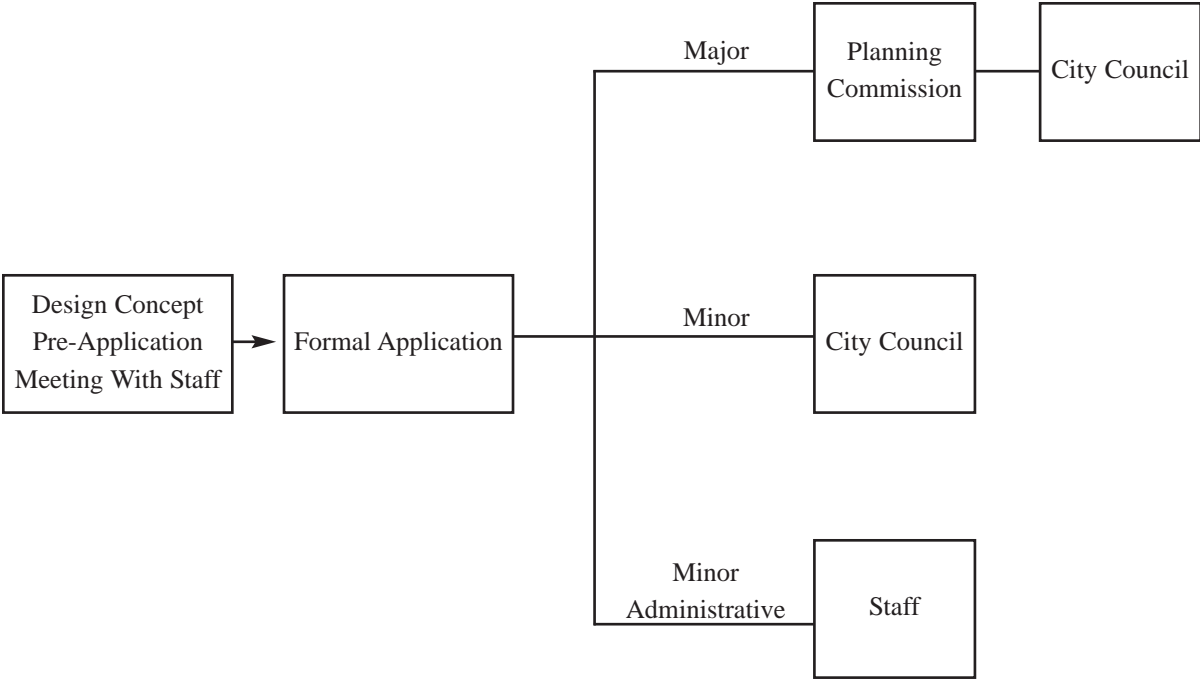
## Comparable existing parks cost matrix

PARK	YEAR	TOTAL COST	ACRES	COST / ACRE	ANNUAL MAINTENANCE PER ACRE	HIGHLIGHTS
Paintbrush Park, Meadows, Castle Rock, Colorado	2002	\$ 1,123,816	14.9	\$ 75,424		Seeded baseball diamonds (2), soccer field, pedestrian bridge, stone wall, small plazas, planting, concrete recreation trails, and a lot of unprogrammed native seed area - civil work such as parking lot curbs, paving and access road are additional totalli
Lowry Reading Garden, Lowry, Denver, Colorado	2003	\$ 436,000	0.46	\$ 949,608		Cost estimate for highly detailed garden for high-end residential neighborhood. Includes: stone work and stone paving, seat walls, art, shade structure, planting, lawn area, irrigation
Crescent Park, Lowry, Denver, Colorado	2002	\$ 1,500,000	7.8	\$ 192,308		City of Denver - Neighborhood/Community Park. Includes: sod flex field, pavillion, play structure, plaza, stone paving, concrete walks, land forms, planting
Meadows Monument and Signage, Castle Rock, Colorado	2002	\$ 80,000	n/a			Five locations, nine large stone monuments, this project received pro-bono work from DMNS
Meadows Open Space, Castle Rock, Colorado	2000	\$ 250,000 not verified	32.7	\$ 7,645		Originally concrete walk, limited planting, and dg paving for learing stations. Cost is approximate, augmented 2 years later by additional planting, etc from Meadows Monument (\$250K was the budget amount at contract signing)
Metsler Ranch Community Park, Castle Rock, Colorado	2002			\$ 280,000		Ballfield complex including parking, concrete, bleachers, fields, fencing, scoreboards, restrooms, and field lighting
Castle Rock Neighborhood Parks, Castle Rock, Colorado	2003		10 to 12	\$80,000 to \$100,000		Town of Castle Rock - Jeff Brauer. General expectations for any neighborhood park (10 to 12 acres) construction for Town of Castle Rock Parks and Recreation
17th Street Plaza, Commons, Denver, Colorado	2003	\$ 1,200,000	1.02	\$ 1,200,000		Budgeted cost only. Detailed urban plaza includes: stone seat wall, walks, furniture, lawn, plantings, irrigation. Approximately 1 acre at \$27/sf
Bluffs Regional Park	2002	\$ 703,000	250+	\$ 2,812		Douglas County Parks and Open Space - Randy Burkhart. Main trail 2.6 miles (8' cf), total trail 3.4 miles, parking lot, grading, seeding, entry and destination monuments, san-o-let enclosure, shade structure
Neighborhood Park - Highlands Ranch Metro District	2002	\$ 742,500	7	\$ 106,071	\$ 4,792	HRMD - Carl Ferguson. Typically includes 24'x24' shelter, tot lot playground, vaulted restroom, multi-purpose court, multi-purpose field, 8' concrete loop trail, small parking (28-30 cars), irrigation and plants. Of seven acres, only 4-5 are irrigated an
Open Space Trails - Highlands Ranch Metro District	2002			\$20 / LF		HRMD - Carl Ferguson. Based upon length of trail, cost include: grading, revegetation, 8' concrete trail, benches, trash cans, trail head signs.

The matrix above is intended to provide more specific information relative to cost. The cost information was obtained through various sources and it should be verified prior to using it in a decision making capacity.



Exhibit 9.18 City of Lone Tree Review and Approval Process for all Parks, Trails and Open Space Improvements



Note: Process to be determined by the Community Development Director. Review and approval process for improvements not otherwise part of a Site Improvement Plan.

## Exhibit 9.19 Bibliography

The following documents were either referenced during the creation of the *RidgeGate West Village Parks, Open Space and Trails Master Plan* or may be helpful to future developers and planners in the execution of open-space development projects. Additional documentation was provided by associated agencies, the City of Lone Tree, Douglas County, and South Suburban Parks and Recreation. Please contact their offices directly for the most up-to-date information.

Beatley, Timothy. *Green Urbanism*. Island Press, 2000.

Colorado Geological Survey website. <http://geosurvey.state.co.us>

Colorado Office of Archaeology and Historic Preservation website. <http://www.coloradohistory-oahp.org>

Douglas, Jim and Thomas J. Mills, eds. *Federal Wildland Fire Management Policy, 1995: Review and Update*. DIANE Publishing, 2001.

Hinshaw, Glen A. *Crusaders for Wildlife: A History of Wildlife Stewardship in Southwestern Colorado*. Western Reflections Inc., 2000.

Pyne, Stephen J. and Patricia L. Andrews. *Introduction to Wildland Fire: Fire Management in the United States*. 2nd ed. John Wiley & Sons, 1984.

U.S. Geological Survey website. <http://www.usgs.gov>

Williams, Byron K., et al. *Analysis and Management of Animal Populations*. Academic Press, 2002.