



# Land Use

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## PLANNING COMMISSION

**May 17, 2017 – 1:30 PM**  
**Commissioners Hearing Room, Third Floor**  
**Boulder County Courthouse**

### **Docket BVCP-15-0001: Boulder Valley Comprehensive Plan Major Update, CU South Land Use Designation**

#### **STAFF PLANNERS:**

Nicole Wobus and Amy Oeth, Boulder County Land Use Department

#### **I. INTRODUCTION**

Staff is requesting that Planning Commission provide feedback related to Boulder Valley Comprehensive Plan (BVCP) land use designation changes for the University of Colorado's "CU South" property. Changes to the BVCP Land Use Map designations for the property are under consideration as part of the 2015 BVCP Major Update. Staff will present information about the property and land use designation change process, a summary of analysis informing proposed changes to the land use designations, and principles and considerations to inform both land use designation changes and future annexation provisions.

The other three BVCP decision-making bodies (City Council, Planning Board, and Board of County Commissioners) have all held previous study sessions related to CU South. Those sessions focused on providing background information and summarizing analysis conducted to inform the land use designation process.

Comments from the public related to CU South span a broad range of topics. Note, however, that the county's decision-making pertains only to land use designations; the Board of County Commissioners and Planning Commission are two of the four decision making bodies that must approve BVCP changes for any land outside of BVCP Area I. The county will have a role as a referral agency at the time of a potential future proposal by CU to annex the property to city jurisdiction.

Staff finds that a change in land use designations is warranted to reflect current information about flood risks and site suitability, as well as CU's ownership of the property. County Land Use, Transportation and Parks and Open Space staff reviewed high level site design and development issues as part of efforts to develop principles to guide land use designation decision making for the property. While the decision of the Planning Commission related to this matter is limited to the land use designations and potential accompanying policy language, county principles (see draft principles available in Section V) can guide future stages of planning and development.

**A. Report Contents and Organization**

This staff report includes the following sections:

**Section I - Introduction**

Summary of study session purpose, report content, and questions for Planning Commission

**Section II – Site Summary and Background**

A brief overview of site characteristics and considerations related to the land use designation process and future development on the property

**Section III - Process Overview**

Relationship of the BVCP land use designation process to South Boulder Creek flood mitigation and future development planning processes; CU’s planning process; and a summary of the public engagement process and meetings with advisory and decision bodies

**Section IV - Highlights from Site Suitability Analysis**

A brief summary of findings from the site suitability analyses focusing on ecology, open space, transportation, city utilities, and other relevant topics

**Section V – Proposed Approach to Address CU South in BVCP Update: Policy Recommendation and Draft Principles**

An overview of the proposed approach to incorporate policy language into the updated BVCP, along with updating land use designations; city and county draft principles developed to guide future uses on the property

**Section VI – CU’s Draft Concept Plan**

A summary of CU’s draft development principles and land use assumptions

**Section VII –Next Steps**

A summary of next steps in the land use designation decision making process

**Attachments**

For ease of reference, the report includes related key documents as attachments. These include sit suitability analyses, CU’s draft concept map, principles and related materials, Frequently Asked Questions about flood mitigation topics, as well as comment and feedback from the public and from advisory boards and decision bodies.

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**B. Questions for the Study Session**

Staff seeks feedback on the following questions:

1. Does Planning Commission have feedback to share related to draft principles to inform the land use designation changes and future annexation provisions?
2. Does Planning Commission have additional feedback to share related to potential land use designations for the CU South property?

**II. SITE SUMMARY AND BACKGROUND**

This section provides a brief overview of site characteristics and history. More detailed descriptions of the site and its history are included in the Site Suitability Analysis Report prepared by city staff in January, 2017 (see Attachment A). Additional detailed information is also available in a city staff report prepared for the April 6 Planning Board and April 11 City Council study sessions.

- City staff report for the April 6 Planning Board is available at this link:  
<https://documents.bouldercolorado.gov/weblink8/0/doc/141898/Electronic.aspx>
- City staff report for the April 11 City Council Study session is available at this link:  
[https://www-static.bouldercolorado.gov/docs/2017\\_04\\_11\\_SS-1-201703311001-1-201703311051.pdf?\\_ga=2.260005517.645888578.1494869657-420359759.1492723898](https://www-static.bouldercolorado.gov/docs/2017_04_11_SS-1-201703311001-1-201703311051.pdf?_ga=2.260005517.645888578.1494869657-420359759.1492723898)

**A. Overview**

The University of Colorado Boulder (CU) purchased the 308-acre property commonly known as CU South in 1996. The property was previously used for gravel mining. The site is not an open space property, though the university has allowed extensive public access for recreation and dog walking. The property is currently in unincorporated Boulder County and classified as Area II in the BVCP, which makes it eligible for annexation. As shown in Figure 1, the site currently has the following

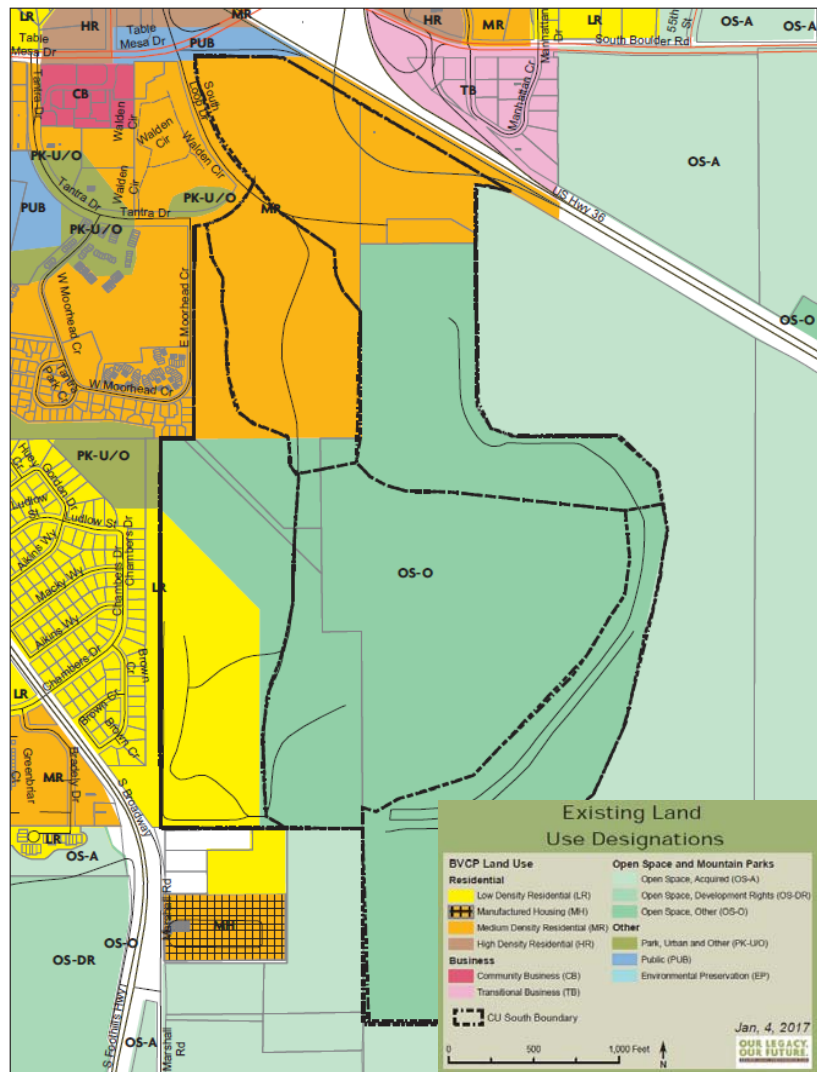
three BVCP land use designations on portions of the property – Low Density Residential (LR), Medium Density Residential (MR), and Open Space-Other (OS-O).<sup>1</sup> Should the university and the city move forward with annexation, more specific conditions and agreements would be codified in an Intergovernmental Agreement.

The property’s proximity to South Boulder Creek, which is located to the east, factors significantly into its history and planning for its future uses. A levee was built by a previous owner to protect the property from flood risk, and the northeastern portion of the property was identified as the appropriate location for a retention dam and other flood mitigation-related uses based on the city’s multi-year South Boulder Creek Flood Mitigation study process. That process culminated in a 2015 report by CH2MHill.

A 2009 Risk Assessment Report by HDR Engineering followed a remapping of the 100 year floodplain (see Figure 2). The Risk Assessment identified an additional 1,200 dwelling units (240 structures) within the 100-year flood plain in an area called the West Valley beyond those units that were previously mapped.<sup>2</sup> This brought the total number of structures in the flood plain to 700. See the South Boulder Creek Flood Mitigation Study website for more information or to access reports referenced here: <https://bouldercolorado.gov/flood/south-boulder-creek-flood-mitigation-planning-study>.

City Council approved the South Boulder Creek flood mitigation study in 2015, including the “Option D” flood mitigation concept that involves construction of a high hazard dam and other flood detention infrastructure on the northeast portion of

Figure 1. Current BVCP land use designations



<sup>1</sup> The Low Density Residential Land Use Map designation allows 2-6 dwelling units per acre. The Medium Density Residential designation allows up to 6-14 dwelling units per acre. The most recent changes to the land use and planning area designation of the CU South property were made during the 2000 BVCP major update. At that time the area II boundary that runs along the eastern edge of CU South had been redrawn changing a small northern portion of the site from Medium Density Residential (MR) to Open Space-Acquired (OS-A).

<sup>2</sup> This area is generally bounded by US-36 on the south, Mohawk Drive on the west, 55th Street on the east and Arapahoe Avenue on the North (Study Area).

the CU South property. Following passage of the flood mitigation plan city and county identified CU South as a track of the 2015 BVCP Major Update. Staff has considered the following factors while working toward a land use change:

- Address flood safety along South Boulder Creek, carrying forward the City Council approved Option D conceptual plan from South Boulder Creek Major Drainageway Plan
- Engage the community and stakeholders in discussions about future uses of the property, using analysis to inform the conversation
- Recognize CU's intent to plan for and develop some of the site and annex it in its entirety
- Conserve sensitive areas, retain open space values for parts of the site, and maintain recreational uses

Figure 2. Floodplain map



Should the city and the university decide to move forward with annexation, they will need to continue to work cooperatively to achieve multiple community objectives for future uses on the site while addressing the needs of the university—the site's owner. While flood safety is a major objective, there are other equally important objectives including addressing the regional jobs-housing balance by housing faculty and students, addressing local and regional transportation impacts, as well as addressing sustainability and open space concerns. The university has expressed willingness to cooperatively work with the city on future uses and processes. Both entities would like to continue to work with the county and community to achieve objectives. The university has taken the position that planning for the property must address the site in its entirety; it is not an option to separate the flood mitigation discussion and planning from an overall recommendation.

**B. Key Site Characteristics**

### **Size and Location**

CU South is comprised of six parcels totaling 308 acres, all owned by CU Boulder. Located south of Table Mesa Drive west of U.S. 36, the site is part of the gateway for the city of Boulder. The site is approximately a mile and a half from the Main and East Campuses and a half-mile from Williams Village. South Boulder Creek is located to the east.

### **Site Context**

Properties directly west of the site are primarily designated as residential with Tantra Park bisecting the low and medium density residential uses. Properties to the east and south are designated as open space with some existing low density residential and manufactured housing to the south. Some commercial and business areas are near the site, particularly along Table Mesa Drive and South Boulder Road. The residential neighborhood to the west has a range of housing types including single-family homes, townhomes, and apartment complexes.

The lowest intensity of housing immediately adjacent to the site is found in the single-family housing neighborhoods north and south of Tantra Park. The density of the multifamily housing ranges between 12 – 14 units per acre. Tantra Park runs throughout the neighborhood, providing direct access to open space and parks for residents. The commercial area to the north along Table Mesa contains a restaurant, offices, and a gas station. Summit Middle School and the Morning Star retirement complex are also located in the area to the west of CU South property. The only access to the neighborhoods to the west is off Table Mesa and South Broadway.

## **III. PROCESS SUMMARY**

As outlined in this section, county decision makers' role pertains to the land use designation change. CU is early in its planning process for the site, and the university holds that land use designation followed by annexation of the property in its entirety are necessary steps toward working with the city to address the site's role in flood mitigation. As such, recommended changes to CU South land use designations, which are forthcoming, are scheduled to advance as part of the BVCP major update. The land use designation recommendations will be based on city and county staff's guiding principles, which reflect input from public comments and advisory and decision making boards. While the county's decision making role is limited to the land use designation process, county staff can continue to reference guiding principles at future stages when the county's role shifts to that of referral agency.

### **A. BVCP Land Use Changes and Relationship to Future Annexation**

Consideration of land use designation changes for the CU South property has proceeded on its own separate track in the BVCP Major Update process. Land use designation changes considered up to this point in the BVCP Major Update process were requested by the public. In contrast, the CU South land use designation change process is carried forward by staff. Changes to the property's land use designations are underway in an effort to bring the designations into alignment with current circumstances (i.e., the property's suitability to support flood mitigation infrastructure, and the property's ownership by a university) and the community's interest in using the site to achieve multiple objectives.

In 2015, following six years of options analysis and community engagement, City Council approved a preliminary concept for the regional stormwater detention facility commonly referred to as "Option D." Following approval of that plan the city determined that it was an appropriate time to add CU South BVCP Land Use Designation map changes for consideration as part of the 2015 Major Update.

As part of the major update to the BVCP, staff and consultants prepared a site suitability analysis to assess environmental features, view corridors, wetlands, the availability of city services and other

pertinent information. Key outcomes from the technical analyses (see Attachment A), coupled with input from extensive community engagement (see Section IV and Attachments E and F) and will be used to form a recommendation for future land uses on CU South.

The University of Colorado may apply for annexation to City of Boulder jurisdiction at any time, but it is likely that would occur following the BVCP land use designation recommendation. CU has expressed preference to annex and work with the community and city to plan for the whole site. At the time of annexation the city and university would negotiate an intergovernmental agreement to more precisely detail future uses and process for the site. CU is not required to follow local land use regulations. However, the city could require the university to address community standards and desires and other issues through the annexation agreement.

As noted previously, the Board of County Commissioners and Planning Commission have a decision making role in the land use designation change process. In contrast, the county will have a role as a referral agency should a proposal come forward from CU to annex the property to city jurisdiction. County Land Use, Transportation and Parks and Open Space staff reviewed high level site design and development issues and developed principles to guide land use designation decision making for the property. Those principles will be used to inform both the land use recommendation at this stage, as well as county staff's comments in its role as a referral agency in the future, at the time of an annexation request.

Figures 3 and 4 summarize the process. Figure 3 presents the steps and roles of the city, the county and CU in moving toward annexation and an agreement between the city and CU. The box outlined in green represents the component of the process in which the county plays a decision making role: the BVCP land use change. Figure 4 presents a broader view of the process, including CU master planning and development stages that will extend for many years into the future.

**Figure 3. Process overview for BVCP land use change to annexation and CU-City agreement**

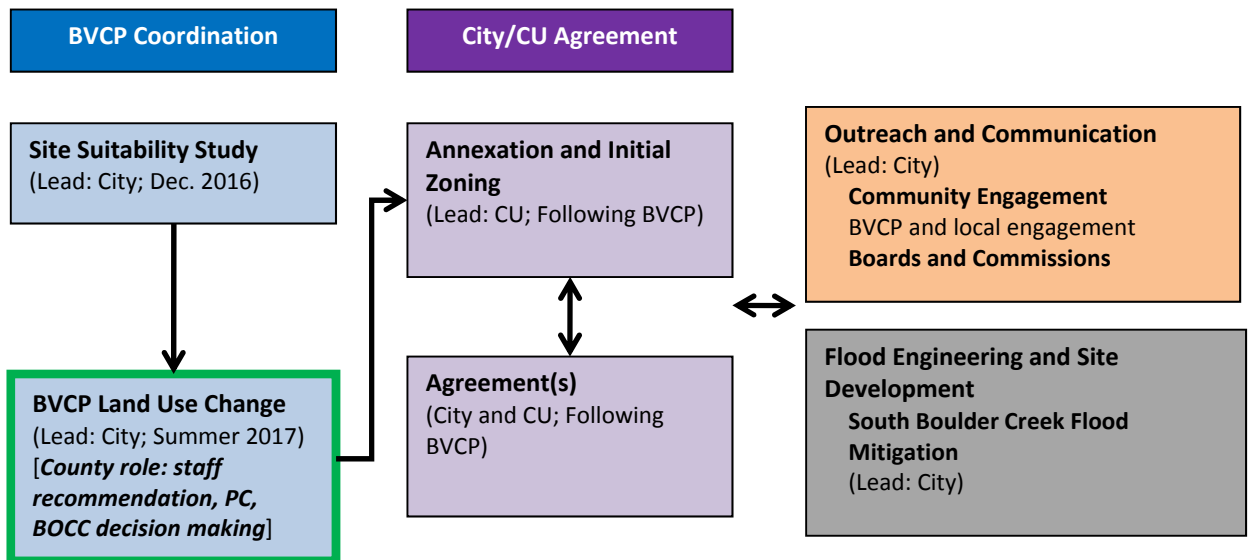
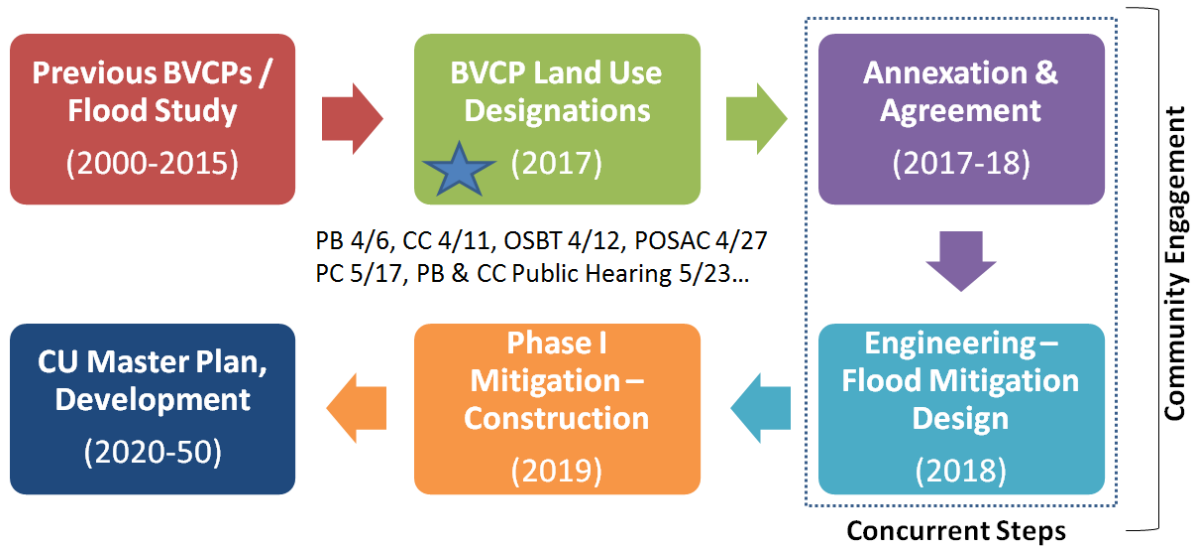


Figure 4. Process and timeline for CU South development



**B. Summary of CU’s Planning Process**

CU is about to engage in its regular 10-year planning review for the Boulder campus. Results of that work will provide more specific information to inform future development planning for the CU South property, though the culmination of that planning effort will take several years.

CU will seek input from the city and community, and will proceed through a series of reviews as the master plan proceeds. Reviews will include those by the Chancellor’s Executive Committee, the University’s Design Review Board, the Board of Regents, the Colorado Commission on Higher Education and the Office of the State Architect. Once that is done, each individual project and proposed building plans for CU Boulder South would have to follow a similar regime of input and review, including additional reviews or approvals by the Governor’s Office of State Planning and Budgeting and the Capital Development Committee of the Colorado State Legislature. Approval by the Joint Budget Committee of the State Legislature and from the full Colorado State Legislature is also required.

CU will work with the city to hold community input meetings and will review plans with the city. It will be a number of years before CU has specific development plans. However, the university is committed to keeping the city and community informed.<sup>3</sup>

**C. Summary of Public Engagement Activities and Feedback**

The public process related to the CU South land use designation changes has involved a variety of open houses and study sessions with advisory and decision making bodies.

**Public engagement events**

As part of a series of public events held for the BVCP Major Update, three events included a focus on CU South. A Sept. 26, 2016 open house included presentations of preliminary findings from ecological and transportation studies. A Dec. 5, 2016 open house included a presentation by city planners and by Vice Chancellor Francis Draper from CU. At an open house on April 3, 2017 city staff received feedback on an initial site suitability diagram and set of principles to guide future

<sup>3</sup> Members of the public can provide feedback directly to CU Boulder, the Board of Regents, Colorado Commission on Higher Education and the state’s Capital Development Committee.



development at the site. City and county staff answered questions and gathered feedback at each event.

Key topics of focus in public comments are listed here. See Attachment E for a more comprehensive summary, and for a full set of comments received by the county on the CU South topic go to this link: <https://assets.bouldercounty.org/wp-content/uploads/2017/05/bvcp-15-0001-supplement-to-attachment-e-cu-south-public-comments-through-20170508.pdf>.

- **Flood mitigation**, including comments urging immediate action to address public safety concerns, concerns that the Option D approach provides insufficient protection for an event larger than a 100-year flood, and suggestions that further analysis is needed to arrive at an appropriate mitigation approach
- **Open space conservation**, including requests to maximize preservation of sensitive areas and minimize impacts on viewsheds
- **Trail access**, including the importance of maintaining flat hiking, nordic skiing, and off-leash dog walking opportunities
- **Traffic congestion** and concerns that site development would exacerbate existing problems
- **Site uses**, including interest in better information about intended uses for the site, in using the site for workforce housing, and potential impacts on views

#### **Meetings with advisory and decision bodies**

Staff has also presented on CU South at meetings with a number of advisory and decision making boards including the Board of County Commissioners, Planning Board, City Council, the city's Open Space Board of Trustees, and the county's Parks and Open Space Advisory Committee. City flood engineering staff was present at the meetings to answer questions about South Boulder Creek flood mitigation plans. Staff gathered feedback and has followed up on questions raised during the meetings, including through Frequently Asked Questions documents. Key topics of focus raised at the meetings with advisory and decision bodies are listed below. See Attachment F for a more comprehensive summary.

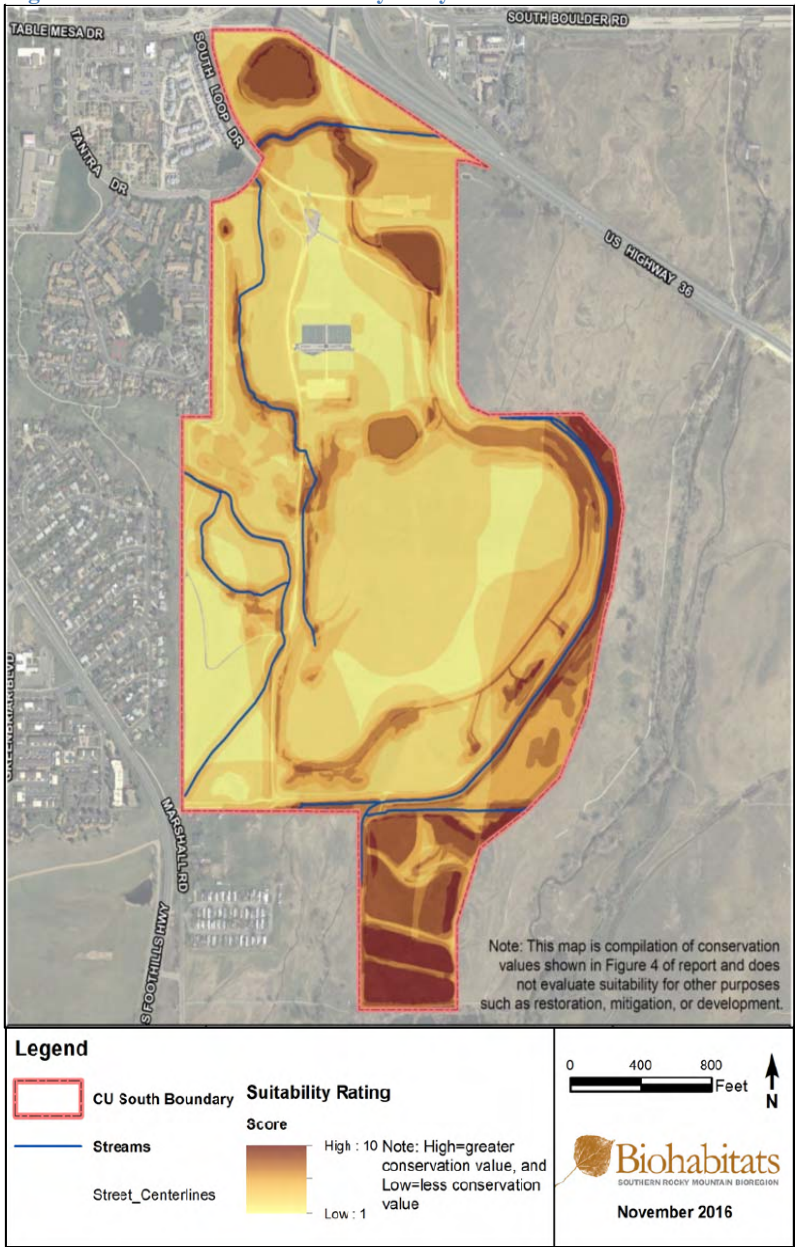
- An understanding by Planning Board and City Council of city staff's approach in addressing the CU South land in the BVCP update both through policy language and changes in land use designations, while requesting additional information to address concerns as specified below<sup>4</sup>
- Flood mitigation discussion regarding the speed of the BVCP process - some would like to see the flood mitigation expedited while others would like more analysis
- Strong concern for health and safety in terms of flood mitigation
- Process discussion including the BVCP land use change process, review body roles, components of an intergovernmental agreement between CU and the city, and components of the annexation process
- Interest in retaining open space values on the property especially for wetlands and habitat
- Interest in preserving recreational access for the public
- Requests to know more about CU's development plans
- Interest in transportation connections
- Requests for continuing clear communication with the public to clarify misinformation

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<sup>4</sup> Note that the proposed approach to address CU South through both policy and land use designations had not yet been introduced at the time of the Board of County Commissioners study session on January 31, 2017.

#### IV. HIGHLIGHTS FROM SITE SUITABILITY ANALYSES

Figure 5. Site conservation suitability analysis



Site analyses were conducted during the summer and fall of 2016 related to ecology and conservation, transportation and utilities. A conservation suitability analysis was conducted by environmental planning firm Biohabitats (Denver, CO) to identify ecological characterizations, suitability mapping, and preliminary sketches of viewshed and connectivity considerations. A supporting transportation multi-modal analysis was conducted by Fox Tuttle Hernandez Transportation Group. Finally, city staff analyzed utility access and capacity-related topics.

As shown in Figure 5, the results of the Biohabitats study suggest that the eastern perimeter and the southern wetlands have the highest ecological value and sensitivity to disturbance or development. The central portion of the property and the western edge have lower conservation values, making them less sensitive to disturbance or development. The Biohabitats study informed City Open Space and Mountain Parks’ (OSMP) CU South OS-O Open Space Analysis which was

presented to City of Boulder Open Space Board of Trustees on April 12 (see Attachment F and this link: <https://www-static.bouldercolorado.gov/docs/17-0412-osbt-packet-1-201704061114.pdf>, see pdf p.64).<sup>5</sup>

The transportation analysis conducted by Fox Tuttle Hernandez Transportation Group resulted in a recommendation to keep the primary vehicular access to the site on South Loop Drive and secondary access along Tantra Drive in the future. Other recommendations included incorporating the northern end of South Loop Drive as a mobility hub, improving existing trails to create multi-use paths and

<sup>5</sup> This sentence and report hyperlink were added to the staff report on May 15, 2017. Previously, the OSMP report was referred to only in Attachment F, without reference in the main body of the report.

providing new pedestrian connections to adjacent neighborhoods. An additional transportation analysis was recently conducted by the same consulting firm for CU Boulder to estimate the amount and type of land uses that could be considered for the site based on multi-modal carrying capacity of surrounding transportation facilities. As the results of that study have not yet been released staff cannot comment on its adequacy.

Existing City of Boulder water distribution, sewer collection and treatment facilities have adequate capacity to serve some additional development on the site. Other than a potential water main extension, no major off-site improvement requirements for water or sewer are anticipated at this time. Prior to connecting to city services, CU Boulder must provide a utility report identifying usage requirements and the on-site (private) utility design to ensure compliance with city standards.

## **V. PROPOSED APPROACH TO ADDRESS CU SOUTH IN BVCP UPDATE: POLICY RECOMMENDATION AND STAFF PRINCIPLES**

County staff developed a set of draft principles that are intended to expand upon and complement those presented by city staff in April (included here for reference). County staff supports the principles put forward by city staff in April, and the county's principles should be viewed as supplemental to the city's principles. This section presents county staff principles and considerations, with draft city principles from the April report interspersed for reference.

### **A. Proposed Approach for Addressing CU South in BVCP Update**

In early April, city staff proposed an approach to address CU South in the BVCP update both through policy language, and through changes to land use designations. The intent is to accompany the land use designation with policy language that recognizes the importance of the strong collaborative relationship between CU and the community. The policy language is also meant to reflect the significant role CU plays within the community's economy and in key issues such as housing and transportation. County staff concurs with this proposed approach.

Leading up to study sessions with Planning Board and City Council, city staff presented a report that included a suitability diagram and guiding principles. City staff's site suitability analysis reflected their review of the full range of issues and considerations, including consultant studies completed up to that point.

New BVCP policy language proposed by city staff to address CU South follows. An updated version of the policy that will be released by city staff prior to the Planning Commission meeting is likely to include more specific reference to the county. The CU community is large enough to significantly affect regional issues such as housing and transportation. Therefore, staff supports including language recognizing that the county would be involved in discussions with regional implications. The draft policy broadly describes the city's strong intergovernmental partnership with the university. These policies are common among cities with a university presence and positive cooperative relationships.

#### ***New Policy in Sec. 1: Coordination with University of Colorado***

*With three campus locations in Boulder and serving over 30,000 students, the university is integrated into the city's fabric and benefits the community socially, economically, and culturally. The city will aim to coordinate with the university and engage with the community to exchange information and plan for future uses and activities on the Main campus, East Campus, CU South, and Williams Village area, especially where changes may affect surrounding areas or have regional implications. The city aims to work with CU cooperatively to address critical needs of flood safety, student and faculty housing, and transportation and other infrastructure. Intergovernmental agreements between the agencies can provide clarity about roles and responsibilities on such issues of mutual concern building on collaborative planning process and guiding principles.*

**B. County staff draft principles and considerations to guide land use designations and future annexation provisions**

Principles developed by county staff represent the professional judgment of staff from the county's Land Use, Parks and Open Space, and Transportation departments. As noted, the county staff's principles are intended to expand upon and complement those draft principles presented by city staff in April. County staff supports the principles put forward by city staff in April, and the county's principles should be viewed as supplemental to the city's principles.

For reference, relevant draft principles from city staff's April report to Planning Board and City Council are interspersed throughout the set of county staff principles presented here, along with city staff's site suitability diagram (see Figure 6). Note that city staff's April report organized principles according to the areas shown on their site suitability diagram (Areas 1-5 in Figure 6). In an effort to present a consolidated set of principles here, county staff sought to arrange city staff's principles according to the same categories used for county staff's principles. The full set of city staff's draft principles is included as Attachment B.

**Overarching County Staff Draft Principles**

Development on the CU South Property should result in:

- **A net gain in the property's ecological value**
- **Outcomes that address the community's serious affordable living challenges, that center around housing and regional transportation constraints**
- **A substantial reduction in the community's jobs-housing imbalance**; Specifically, development should provide significantly more new housing than new jobs, and it should substantially reduce any housing deficit associated with employment on CU's main and east campus.
- **Future uses on the property that reflect both the regional and local context**
- **A healthy community by planning for people (not cars)**
- **Innovative design and planning that incorporates connections between environment and development**
- **Application of resilient and sustainable design, construction and maintenance strategies** that minimize the carbon and overall environmental footprint of development. Future use of the property should serve as a model for innovation in environmentally sustainable development
- **Incorporation of these principles and county concerns as expressed through participation in the CU Boulder South master planning process**

*City staff's draft general principles (April 2017, subject to revision):*

- *Encourage further collaboration and planning between the city, CU and community engagement to prepare a master plan for CU South.*
- *Protect sensitive ecosystems and areas with high open space value.*
- *Protect and where possible restore the South Boulder Creek flood plain including wildlife habitat, grasslands, wetlands and streams.*
- *Explore opportunities for a multi-modal mobility hub and connections between CU South and other campus locations to manage employee and resident access and mobility. Discourage any outside traffic from cutting through the CU South property to avoid the Table Mesa Drive/Broadway connection.*
- *Support connected pedestrian, bike and transit systems through CU South, including a trail link to the South Boulder Creek Trail.*
- *Ensure site planning contributes positively to city's "gateway" character.*

- *Use Intergovernmental agreements between the city and university to address how to provide opportunities for city input around issues such as site planning and infrastructure planning.*

## Principles and Considerations by Topic

### Development and Distribution of Uses

- **Provide convenient, safe, walkable connections.** Seek to provide a convenient walkable connection to, and across South Boulder Road, the US36 Bikeway, adjacent neighborhoods, and the Table Mesa Park-n Ride.
- **Apply innovation in the location and mix of uses to minimize resource use and optimize the experience of residents, employees and visitors.** For example, cluster development to maximize open space available on the property, co-locate and mix complementary uses, blend the siting of apartments and townhomes within areas identified for housing development, give careful consideration to transitions between uses, and avoid stark breaks between developed and undeveloped areas.
- **Structure design and location should minimize impacts on viewsheds and carefully reflect aesthetics and transitions to adjacent neighborhoods.** CU should give careful consideration to building heights, maintaining general consistency with the city's height limits, and including a mix of building heights. Viewshed protection and existing western hillside topography should be taken into consideration when deciding on structure location, orientation, bulk, and massing.

### City staff's related draft principles (April 2017, subject to revision):

- *Ensure any development is contextually appropriate to neighboring open space.(Areas 1, 2, 4)*
- *Address transitions to adjacent properties.(Area 2)*
- *Minimize development on slopes at or exceeding 15 percent.(Area 2)*
- *Encourage high quality design and architecture.(Area 3)*
- *Explore placing more intense development around the existing tennis courts that transitions to less intense development towards the south.(Area 3)*
- *Encourage buildings to meet the U.S. Green Building Council's Gold or Platinum LEED standards.(Area 3)*
- *Arrange buildings to fit the landform and protect views from city entryways.(Area 3)*

### Transportation

- **Apply performance based transportation standards to advance multi-modal policy objectives.** Initial estimates by CU's consultant of traffic impacts associated with CU's development concept for CU South indicate the potential for a significant increase in vehicle trips. Given that specifics about type and intensity of development are not yet known, performance based standards would provide CU and the city with flexibility regarding specific development plans while minimizing impact to the local and regional transportation system. Performance standards may include:
  - Restrictions on the total number of parking spaces
  - Limits on the % of trips that are in single occupant vehicles
  - Limits on the total number of single occupant vehicles that can access, or leave the site
  - Requirements that specific travel demand management programs be developed, such as shuttles connecting the campuses and key destinations that are integrated with the public transit system, financial support for regional local and regional transit services that would address regional system impacts, carpool, vanpool, bike connections, etc.

- **Take aggressive steps to minimize increased traffic.** Modeling from several recent studies (SH7, SH93, BVCP Jobs/Housing Balance) indicates that we can expect to see an overall 20 - 30% increase in travel into and out of the city between now and 2040. The county currently lacks funding necessary to address these increased demands; maintaining our current system is already a serious challenge. Furthermore, it is county policy to move people rather than vehicles, and to minimize use of fossil fuels and global warming related emissions.

**Ecology, Open Space, and Trails**

- **For the purposes of the property as a whole, match or improve upon the ecological values that exist in areas currently identified as holding high or moderate ecological value.**
  - The restoration process may result in a shift in the location of high or moderate-value ecological areas on the property. Specifically, the northern portion of the property identified for flood mitigation work could be a priority area for restoration and location of high value wetlands.
  - Current restoration strategies and techniques hold the potential to provide high quality wetland resources and other natural spaces that may be richer from an ecological perspective than those that exist on the property today.
  - Restoration improvements should ideally be carried out at the time of flood mitigation work and site development, or potentially initiated prior to development.
- **The existing levee acts as a barrier for ecological communities and efforts should be made to minimize the impact of this barrier.**
  - The levee is not an optimal feature from an ecological perspective. Ideally, the levee would be removed to allow for a smoother transition to neighboring open space. However, removal of the levee may not be practical and it is not essential to achieving an outcome that provides areas of high ecological value on the property as a whole.
  - The county supports maintaining habitat on both sides of the levee, as well as opportunities for connectivity across the levee to the city's open space to the east.
  - The county recognizes the city's plans to partner with CU to achieve a favorable outcome that provides an appropriate buffer between development and sensitive ecological areas (e.g., Preble's Meadow Jumping Mouse).
- **Maximize pocket parks, greenspaces and greenway connections throughout the property. The trail network on the property should remain available for use by the public, and to support trail connections with neighboring properties.**
  - Emphasize providing trail and greenspace connectivity running from Tantra Park (located adjacent to property on the west) across to city open space to the east. Direct particular attention to the intersection of a travel corridor running north-south on the property.
  - A looped trail system similar to that which currently exists on the property should remain accessible for use by the public. Specifically, CU should continue to allow for use and grooming by the nordic ski community, and the location and design of trails should involve collaboration with local recreational stakeholder groups.

*City staff's related draft principles (April 2017, subject to revision):*

- *Where possible, conserve areas with high ecological value and mitigate any ecological impacts.(Area 1)*
- *Encourage restoration of areas with high ecological or open space values.(Area 4)*
- *Restore floodplain wetlands as part of compensatory mitigation for impacts elsewhere on site.(Area 4)*
- *Maintain and enhance the trail system and where appropriate, provide connections to adjacent trail systems.(Area 2)*

- *Maintain recreation opportunities where they do not conflict with ecological values.(Area 5)*

### Flood Mitigation

- **The county supports the city’s plans to proceed with detailed engineering necessary to better understand the implications of the Option D flood mitigation concept approved by City Council in 2015.** The county recognizes the extensive concept-level engineering that went into the 2015 decision. The county recognizes that the dam that would be built adjacent to US36 would be designed to reduce the risk of a 100 year (and larger) flood event to downstream properties and residents by providing an area that catches the water behind the proposed dam and metering it out gradually along South Boulder Creek under US36 at its current location.
- **The county acknowledges the inherent uncertainty associated with climate change, and encourages the city and CU to engage in public outreach to downstream residents that recognizes the potential increased risk when a flood event exceeds the design capacity of the flood mitigation infrastructure.**
  - There are public concerns related to use of structural approaches (i.e., the Option D dam) to flood mitigation because structures are at risk for failing should a more extreme event occur that exceeds the structures’ design capacity.
  - To address the risk of structural failure and extreme events beyond what the structure can handle, one potential option is to continue to require that new development and improvements on the properties in the current 100 year floodplain meet strict flood protection requirements after implementation of Option D, though they would not be mapped in the FEMA 100 year flood plain due to the new dam.
  - Development within and *adjacent to* the area designated for the city’s flood mitigation activity (Area 1) should be limited to that which could provide flood detention and would present minimal safety risk in the event of flooding (e.g., athletic fields and not dwelling units or academic/office buildings).
- **Development within the area currently protected by the existing levee (Area 4) should exclude dwelling units and minimize safety risk in the event of flooding that exceeds the levee’s capacity.**
  - The existing levee provides some flood protection for the CU South property itself. Its purpose is not to provide protection to residents and properties downstream.
  - Removal of the existing levee would reduce the area of CU South property that is appropriate for permanent occupation or building, increase the flood storage capacity on the CU South property behind the Option D dam, and would therefore provide some additional protection to downstream properties during a major flood event.
- **Development on the property would adhere to the updated floodplain policies included in Policy Section 3 of the Boulder Valley Comprehensive Plain (3.20 Flood Management; and 3.23 Larger Flood Events).**

### *City staff’s related draft principles (April 2017, subject to revision):*

- *Coordinate with the University of Colorado to implement South Boulder Creek Flood Mitigation Study (Phase 1) on this part of the property. Design improvements to the highest standard possible with available funding sources.(Area 1)*
- *Explore opportunities for passive and active recreation activities, or other uses compatible with floodwater mitigation systems.(Area 1)*

### **Process Considerations**

- **These principles are intended to provide context and inform decision-making related to BVCP land use designation.** The county requests that the city take these principles into consideration at the future annexation and development stages.

- Prior to floodplain mitigation activity and other development occurring on the property a variety of ecology-related studies would be necessary.** Studies would include a Preble’s Meadow Jumping Mouse trapping study, more precise mapping of wetlands, and other studies necessary to understand the implications of Option D.

Figure 6. City staff site suitability diagram (April 2017)



## VI. CU’S DRAFT CONCEPT PLAN

On May 1 CU presented a draft concept plan and assumptions for future uses on the CU South property. A CU website (<http://www.colorado.edu/cubouldersouth>) presents the draft plan and provided an opportunity for the public to submit comments directly to CU through May 10. CU’s concept plan envisions academic, housing and recreational uses for the property. CU’s general development concepts and a summary of CU’s land use assumptions are presented here. CU’s draft concept map is included as Attachment C.

CU will refine and make clarifications to the concept plan based on public feedback received. CU will present any revisions to the plan prior to city and county land use designation change decisions.



**CU's general development concepts:**

- CU Boulder will actively engage the community on its plans for development.
- All structures and buildings will be located outside of the 100-year floodplain.
- Public access will be maintained consistent with other areas of the university.
- CU Boulder South will include robust trail systems, including a formal trail connecting U.S. 36 and the South Boulder Creek Trail.
- Buildings will be developed at pedestrian scale for a walkable community and will provide access to trails, parks and open space.
- Land and buildings will be developed using advanced sustainability and resiliency concepts.
- Protection of natural habitat will be incorporated into the development.
- Site will be designed to ensure water quality, storm water management, and protection of groundwater resources.
- Buildings and land uses will reflect the style of the university and be sensitive to the character of surrounding neighborhoods.

**Summary of CU's land use assumptions for CU South:**

**Land Use Designation:** Public - consistent with other CU Boulder properties. CU commits to maintaining a significant portion of the property for flood mitigation and open space.

**Flood Storage (81 acres):**

- Flood detention area provided will be consistent with the city's preferred Option D plan.
- Athletic and recreation fields will be incorporated into flood storage areas.
- Limited structural build zones will be established adjacent to the berm. Limited structural build areas could include such uses as community gardens, recreation fields, tree nurseries, and solar gardens.

**Habitat Preservation and Natural Areas (66 acres):**

- Preservation of federally recognized regulatory wetlands.
- Conservation of other natural areas with potential dedications of land to city Open Space.

**Residential Workforce Housing, Graduate and Non-Freshman Student Housing (68.4 acres):**

- **Apartment Development Concepts**
  - 750 units in three-story-tall buildings, each with a 55-foot height limit.
  - Assumes 35,000-square-foot building floor plates (840,000 total gross square feet) for purposes of a fit test.
  - Outdoor area would include pocket parks, playgrounds, and landscaped amenities at 1,600 square feet per unit or a total of 27.5 acres (consistent with city requirements), with small amounts located in other outdoor areas.
- **Townhome Development Concepts**
  - 375 two-story units.
  - Assumes 1,400 gross square feet per unit for purposes of a fit test.
  - Outdoor areas including pocket parks, playgrounds, and landscaped amenities at 3,000 square feet per unit or total of 25.8 acres (consistent with city requirements), with small amounts located in other outdoor areas.

**Academic Village and Mixed-Use Area (40 acres):**

- 1.25-million gross square feet of building space.
- 8 buildings at approximately 150,000 gross square feet per building, with a height limit under 55 feet for the purposes of a fit test.
- 3-acre lots (landscaping included for each building).

**Multimodal-Oriented Development:**

- Traffic analysis study was conducted by consulting firm Fox, Tuttle, Hernandez to better understand the traffic and access constraints of the property.
  - Primary access from Table Mesa Drive and secondary access from Tantra Drive.
  - Highway 93 access will be designed for limited and emergency access only.
  - There will be no connector between Highway 93 and U.S. 36.
  - CU Boulder South would generate approximately 5,800 vehicle trips per day, which could be accommodated by the existing roadways in the area.
- CU Boulder has a lower vehicle trip generation average than typical city neighborhoods. In developing the concept plan that lower trip generation is expected to be maintained.
  - Strong use of alternative transit for residents and events at recreation and athletic areas.
  - Central transit hub will provide for buses and eventual capacity for 600 structured and 100 surface parking spaces for on-site uses.
  - Narrow roads will help traffic calming through the site.

**Public Access and Trails:**

- Public access to the property will be maintained.
- A public trail will be formally established to connect U.S. 36 (RTD Table Mesa bus stop) to the South Boulder Creek Trail.
- Continued access to dog-walkers will be consistent with CU rules and regulations.

**Athletics and Recreation:**

- This will include the existing tennis facility, plus sites for playfields and low-impact athletic uses that can be shared with the community.
- Support service buildings will be developed for locker rooms and restrooms.
- The cross-country track course and Nordic ski access will be maintained.

**VII. NEXT STEPS**

Following the Planning Commission study session, staff will share the latest information and feedback with the Board of County Commissioners. Staff will post any additional feedback from Board of County Commissioners on the BVCP-15-0001 website, [here](#). The CU South topic is scheduled to be included on agendas for both the city and county joint public hearings, to take place on May 23 and June 28 respectively. Upcoming meeting dates related to CU South are listed below.

**Upcoming meeting dates related to CU South land use designations**

|         |   |
|---------|---|
| May 23  | City Hearing (City Council Jointly with Planning Board) |
| June 13 | City Council adoption decision                          |
| June 15 | Planning Board decision                                 |
| June 28 | County PC and BOCC Joint Public Hearing                 |
| July 19 | County PC adoption decision                             |
| July 26 | BOCC adoption decision                                  |

# Boulder Valley Comprehensive Plan University of Colorado Boulder, South Campus



## Site Suitability Analysis



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|--|---|

**Attachments**

- A. Project Maps
  - Map 1: Vicinity Map
  - Map 2: Existing Land Use Designations
  - Map 3: Trails
  - Map 4: Floodplain
  - Map 5: Key Considerations
- B. Conservation Suitability Analysis (Biohabitats)
- C. Off-site Viewshed Survey
- D. Multi-modal Opportunities and Constraints (Fox, Tuttle, Hernandez)
- E. Public Comment Summary

## Introduction / Executive Summary

This report is intended to inform potential changes to Boulder Valley Comprehensive Plan (BVCP) land use designations for the CU South site and subsequent annexation, initial zoning, and agreements between the City of Boulder and University of Colorado Boulder (CU Boulder). Discussions surrounding changes to land use designations for CU South were tabled during previous updates to the BVCP until the completion of the South Boulder Creek Flood Mitigation Study. With the flood mitigation study approved by City Council in 2015, city staff reinitiated discussions about CU South as a part of the 2015 BVCP update. This report includes a high-level analysis of conservation suitability, multimodal transportation, and utility services, and concludes by offering initial insights into conservation and development of CU South.

A conservation suitability analysis was conducted by environmental planning agency Biohabitats (Denver, CO) to identify ecological characterizations, suitability mapping, and preliminary sketches of viewshed and connectivity considerations. The results suggest that the eastern perimeter and the southern wetlands have the highest ecological value and sensitivity to disturbance or development. The central portion of the property and the western edge have lower conservation values, making them less sensitive to disturbance or development.

A supporting transportation multi-modal analysis was conducted by Fox Tuttle Hernandez Transportation Group, a local transportation consultant agency. This analysis recommends keeping the primary vehicular access to the site on South Loop Drive and secondary access along Tantra Drive in the future. Other recommendations include incorporating the northern end of South Loop Drive as a mobility hub, improving existing trails to create multi-use paths and providing new pedestrian connections to adjacent neighborhoods. An additional transportation analysis is being considered by CU Boulder to estimate the amount and type of land uses that could be considered for the site based on multi-modal carrying capacity of surrounding transportation facilities.

Existing City of Boulder water distribution, sewer collection and treatment facilities have adequate capacity to serve some additional development on the site. Other than a potential water main extension, no major off-site improvement requirements for water or sewer are anticipated at this time. Prior to connecting to city services, CU Boulder must provide a utility report identifying usage requirements and the on-site (private) utility design to ensure compliance with city standards.

Interest in the future of the property remains very high. Two community meetings were held to share results of recent studies and gather insights into key issues. Some issues identified include flood mitigation, open space conservation, recreational access, neighborhood impacts and off-site visual impacts, as further described in this report. Community input is being used to inform changes to the land use designations and in developing key issues to be addressed at annexation.

Staff will use information referenced in this report and feedback from decision-making bodies to form a recommendation for changes to the CU South land use designations and a list of issues to be addressed in future agreement(s) between the city and CU Boulder for development and conservation of the site. While conversations among BVCP approval bodies are ongoing, the analysis is starting to indicate that some areas are more suitable for conservation and other uses. Conservation of ecological values and wetlands appear to be most suitable for the southern portion and along the eastern boundary of the site. With 80 acres for regional detention and 30 acres to accommodate fill material, floodwater mitigation will also cover a sizeable portion of the site.

## Site Description and History

### Site description

#### *Current and Previous Land Use and Planning Area Designations*

The property is entirely in Boulder County and in BVCP Planning Area II, which makes it eligible for annexation (Map 1: Vicinity). The site currently has the following three BVCP land use designations on portions of the property – Low Density Residential (LR, 49.36 AC), Medium Density Residential (MR, 66.75 AC), and Open Space-Other (OS-O, 193.25 AC)(Map 2: Existing Land Use Designations). During the 2000 and 2005 updates to the BVCP, the city decided not to consider changing the land use designations until after completing the South Boulder Creek Flood Mitigation Study. With the flood mitigation study approved by City Council in 2015, city staff reinitiated discussions about CU South as a part of the 2015 BVCP update.

The most recent changes to the land use and planning area designation of the CU South property were made during the 2000-major update. At that time the area II boundary that runs along the eastern edge of CU South had been redrawn changing a small northern portion of the site from Medium Density Residential (MR) to Open Space-Acquired (OS-A).

#### *Size and location*

CU South is comprised of six parcels totaling 308 acres, all owned by CU Boulder and is commonly called "CU South" or "CU-Boulder South." Located south of Table Mesa Drive west of U.S. 36, the site is part of the gateway for the city of Boulder. The site is within Area II of the BVCP planning area. The site is approximately a mile and a half from the Main and East Campuses and a half-mile from Williams Village. East of the site is city-owned open space and South Boulder Creek.

#### *Site Context*

Properties directly west of the site are primarily designated as residential with Tantra Park bisecting the low and medium density residential uses. Properties to the east and south are designated as open space with some existing low density residential and manufactured housing to the south. Some commercial and business areas are near the site, particularly along Table Mesa Drive and South Boulder Road.

The residential neighborhood to the west has a range of housing types including single-family homes, townhomes, and apartment complexes. The lowest intensity of housing immediately adjacent to the site is found in the single-family housing neighborhoods north and south of Tantra Park. The density of the multi-family housing ranges between 12 – 14 units per acre. Tantra Park runs throughout the neighborhood, providing direct access to open space and parks for residents. The commercial area to the north along Table Mesa contains restaurant, offices, and a gas station. West of these residential neighborhoods contain Summit Middle School and Morning Star (retirement complex). The only access to these neighborhoods is off Table Mesa and South Broadway.

*Table 2: Net density for development adjacent to CU South.*

|   | Total Dwelling Units | Acreage | du/acre |
|---|----------------------|---------|---------|
| 1. Walden and South Creek Condos        | 195                  | 14.5    | 13.4    |
| 2. Tantra Lakes and South Creek Condos  | 349                  | 27.4    | 12.7    |
| 3. Tantra Park SF Homes                 | 65                   | 9.5     | 6.9     |
| 4. Majestic Heights Neighborhood        | 168                  | 42.4    | 4.0     |
| 5. Mountain Shadows and Somerset Condos | 157                  | 13.0    | 12.1    |

Note: Calculations reflect the net density of this neighborhood, which include building lots, rights of way and any common areas.

**Access and Connection**

South Loop Road serves as the primary entrance and only paved road to the site. The only other vehicular access is through a dirt road that intersects with Marshall Road, located on the south-west corner of the site; this road has a gated entry that limits public access. Pedestrian access is available mostly along the western edge of the site where multiple trailheads sit adjacent to neighborhood roads and parks, including Moorhead Circle, Chambers Drive and Tantra Park. A more detailed analysis of the existing and potential options for future access has been completed by Fox Tuttle (Attachment D).

**History of the property**

*Transfers*

Table 2 below contains a high-level summary of various actions taken by the city and the university related to changes in ownership and use. The following summary is an abbreviated historical account of the CU South property.

Figure 1: Adjacent neighborhood included in the net density calculations.



Table 2: Recent timeline of key events.

|                           |   |
|---------------------------|---|
| <p><b>1950s – 80s</b></p> | <ul style="list-style-type: none"> <li>• In the mid-1950’s, Flatiron Companies purchases the estimated 168-acre property from the Deepe family to continue mining and purchases the remaining CU South property from the Van Vleet family shortly after.</li> <li>• An embankment and channel is constructed in the floodplain of the South Boulder Creek to provide flood protection for sand and gravel mining and to control the flow and minimize any impact on the 100-year flood discharge<sup>1</sup>.</li> <li>• In the early 1980s, construction of the embankment and channel is followed by a sand and gravel mining operation<sup>2</sup>.</li> <li>• Regulatory approvals for floodplain development and sand/gravel mining are approved in 1989 for the Marshall Pit, adjacent to and incorporated into the mining of Phase Four of the Deepe Pit<sup>3</sup>. The floodplain permits approve open pit mining on land south of the embankment and channel.</li> </ul> |
|---------------------------|---|

<sup>1</sup> [Boulder County Special Permit #AR-79-4](#) – Floodplain Construction, South Boulder Creek was approved on February 20, 1980.

<sup>2</sup> Boulder County Special Use Review #SU-81-10 – Deepe Farm Pit was approved on January 11, 1982.

<sup>3</sup> Boulder County Floodplain Development Permits #89-4A and #89-5 were approved on February 29, 1989, in conjunction with [Special Use Review #SU-88-19](#) for sand and gravel mining.

|             |  |
|-------------|--|
| <b>1996</b> | <ul style="list-style-type: none"> <li>• Flatiron Companies sells the full property to the University of Colorado.</li> <li>• Boulder City Council adopts Resolution Number 758 directing the City Manager and City Attorney to “take all necessary actions and work with the County to support the County taking all necessary actions to ensure that the University follows the goals, policies and land use designations of the BVCP in the development of the Property.”</li> </ul>  |
| <b>2000</b> | <ul style="list-style-type: none"> <li>• During 2000 BVCP Major Update, CU Boulder requests Public land use designation for CU South for possible student and faculty/staff housing, research, academic and athletic/recreation uses.</li> <li>• The city decides not to consider changing the land use designations of the site until the “South Boulder Creek Floodplain Study is completed and there are further discussions with the university on the proposed development for the site.”</li> </ul>  |
| <b>2001</b> | <ul style="list-style-type: none"> <li>• Boulder City Council adopts Resolution Number 877 which states that City Council “stands willing to purchase the Flatirons Property from a willing seller at a fair price, for open space or flood control management purposes, in fee title or by means or conservation easement; or to contemplate whatever agreement might lead to the maximum practicable preservation of the Flatirons Property as an environmental asset, consistent with the Boulder Valley Comprehensive Plan since 1977.”</li> </ul> |
| <b>2002</b> | <ul style="list-style-type: none"> <li>• CU-Boulder South Conceptual Land Use Assessment for CU South identifies approximately 128 acres of potential building area, 32 acres for either buildings or flood detention, 45 acres for flood storage and 92 acres conserved as buffers, wetlands, ponds or open space.</li> </ul>   |
| <b>2003</b> | <ul style="list-style-type: none"> <li>• The city and CU Boulder begin discussions about future land uses for CU South and develop potential terms for a Memorandum of Agreement.</li> </ul>   |
| <b>2006</b> | <ul style="list-style-type: none"> <li>• During the 2005 BVCP Major Update, a site suitability analysis and changes to land use designations are delayed until the South Boulder Creek Flood Study is complete.</li> </ul>   |
| <b>2015</b> | <ul style="list-style-type: none"> <li>• City Council approves the South Boulder Creek Flood Mitigation Plan. The plan includes regional detention of flood water upstream of U.S. 36 on the CU South campus and along Colorado Department of Transportation right of way.</li> <li>• With the flood mitigation plan adopted, the city reinitiates land use designation changes as part of the 2015 BVCP Major Update.</li> </ul>  |

### Previous Reports and Studies

This study takes into account the analysis done by CU Boulder in 2002 (“CU-Boulder South Conceptual Land Use Assessment”), the South Boulder Creek Flood Mitigation project, the Colorado Natural Areas Program Articles of Designation and Management Plan for the adjacent South Boulder Creek State Natural

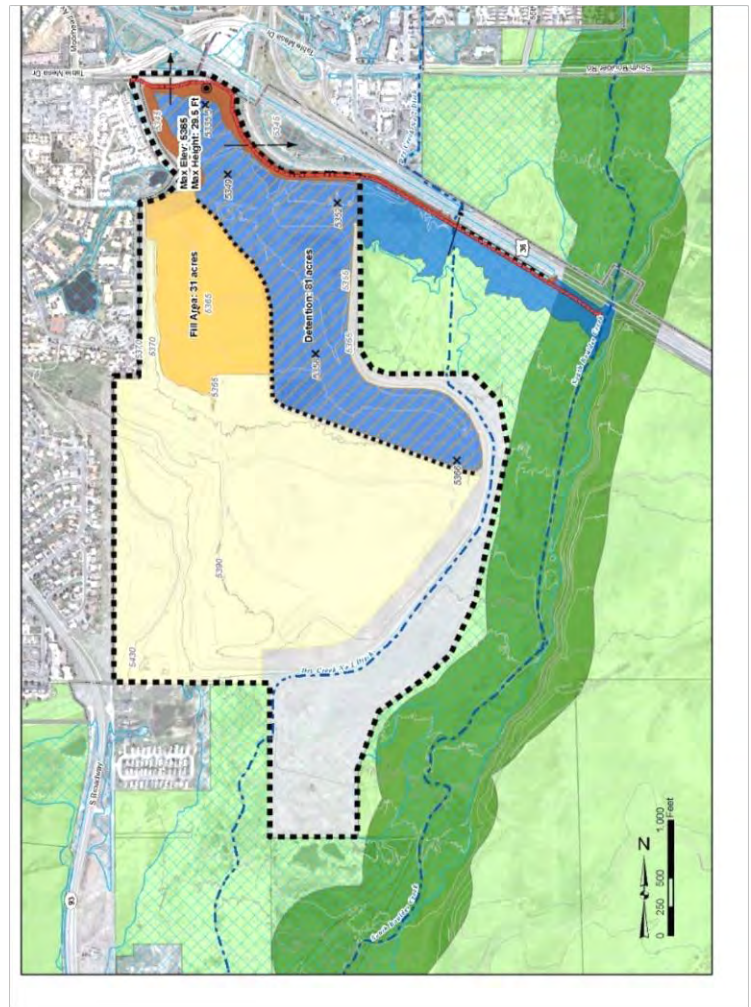


Area, and the U.S. 36 Environmental Impact Statement that included future options for the U.S 36 and Table Mesa interchange.

### South Boulder Creek Flood Mitigation

The city conducted a South Boulder Creek Mitigation Flood Study to develop and evaluate alternative options that may reduce flooding along South Boulder Creek and areas impacted but not directly adjacent to the creek (Map 4: Floodplain). A total of seven flood detention options were presented to City Council on August 4, 2015 in which City Council approved the full mitigation plan with Option D for U.S 36 Regional Detention (Fig. 2). Option D would create a flood control berm on the northern and eastern portions of the CU South site adjacent to U.S 36. This option includes about 80 acres of the CU South site for detention (blue area on map) and about 30 acres for an adjacent fill area (yellow area). The city is currently negotiating a scope of work with an engineering team to prepare preliminary design of the U.S. 36 regional detention facility, though work cannot commence until an agreement between the CU Boulder and CDOT is executed for use of their land. While the city has a place holder for bond funding in 2018, timing is contingent on land holder agreements and the design process. The city anticipates that the detention facility will take approximately two years to construct.

Figure 2: Option D for U.S. Regional Detention.



### Potential Range of Uses

While CU Boulder does not currently have plans to develop the site, the university has indicated interest in continuing the current recreational uses and exploring additional academic facilities. Some short-term plans include:

- Floodwater mitigation through implementation of the South Boulder Creek Flood Mitigation Study;
- Recreational and athletic fields;
- Adding restrooms and showers for athletes and restrooms and drinking fountains for spectators to sporting events;

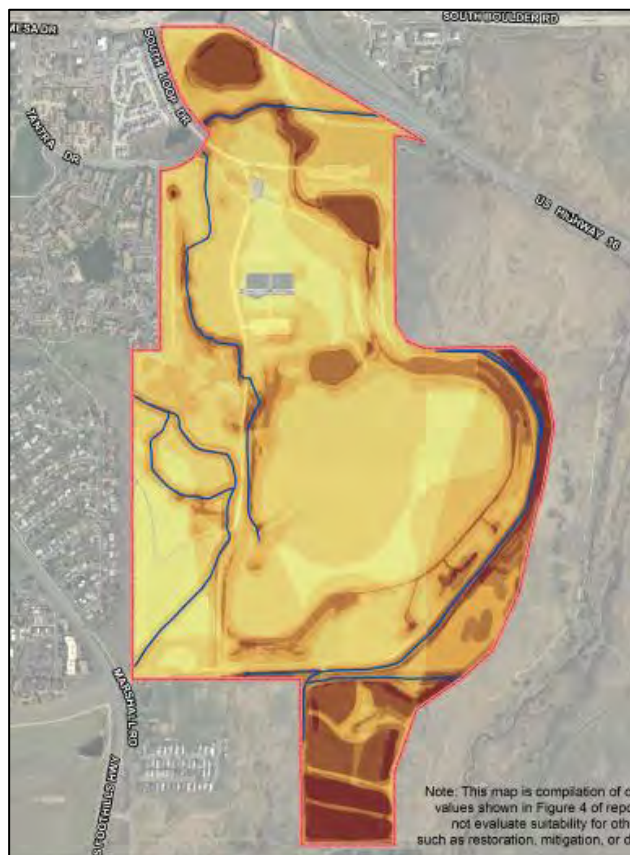
The university is also exploring several longer-term plans for CU South, such as:

- Affordable, workforce housing for faculty and staff (after studies to determine how much and what types);
- Graduate student housing and/or upper division undergraduate housing incorporated into academic villages;
- Academic, instructional and research facilities; and
- Outdoor research.

CU Boulder has also deemed that the following uses will not be pursued:

- A football stadium;
- Towers like Williams Village;
- A full build out of all 308 acres. More than half of CU South is wetlands, natural areas, ponds or potential floodwater mitigation areas which will not be developed for building sites
- First-year freshman housing;
- A bypass public roadway connecting Highway 93 and Highway 36; and

Figure 3: Site Conservation Suitability Analysis.



## Site Analysis

### Conservation Suitability Analysis

Biohabitats conducted a conservation suitability analysis to provide a framework for maintaining a landscape capable of integrating multiple land use objectives including flood control, protecting ecological values and identifying areas more suitable for development. The primary outcomes of the analysis are an ecological characterization, suitability mapping, and preliminary sketches of viewshed and connectivity considerations.

### Ecological Characterization

Biohabitats identified and examined resources on the site for inclusion in the conservation suitability map. Key ecological factors included in the analysis were:

- Water resources (Floodplains, drainage)
- Wetlands
- Plant communities
- Species of concern
- Habitat connectivity to adjoining properties
- Wildlife observations
- Landscape features and character

### Conservation Suitability Mapping

Using the ecological characterization data, a conservation suitability map was then created to display areas with the highest density of sensitive ecological features. The analysis suggests that the eastern perimeter and the southern wetlands have the highest sensitivity to disturbance or development. The central portion of the property and the western edge have lower rankings for conservation values making them less sensitive to disturbance or development (Fig. 3).

### Habitat Connectivity

Biohabitats identified the general connectivity between the CU Boulder site and nearby areas containing native plant associations and the Preble's meadow jumping mouse habitat. The highest potential areas for conservation and connectivity are to the south and east to the protected land owned by Open Space and Mountain Parks.

### Viewshed – On Site

Biohabitats conducted an analysis that considers ecological value through the lens of aesthetics and experience from within the site. Following a landscape character viewshed analysis, a rapid assessment was conducted to examine the quality of the landscape character among several viewpoints throughout the site. Each viewpoint considered the general landscape character, attractiveness and views of natural resources. Each viewpoint was then scored and mapped (Fig. 4). Areas with a high conservation value generally also received a high viewshed score, particularly areas in the central and southern portions of the site.

### Viewshed – Off Site

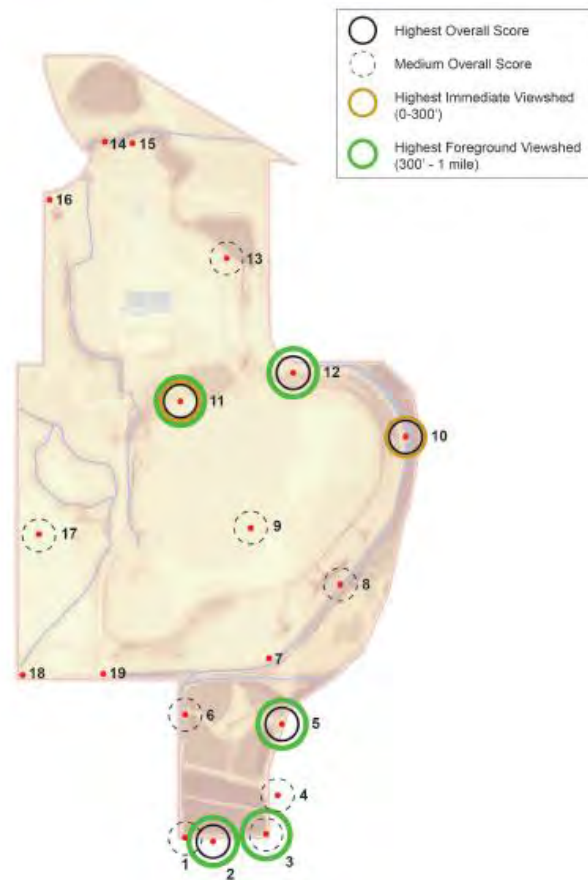
City staff also conducted a viewshed inventory from areas outside and around the perimeter of the site looking inward. The analysis found the higher value view corridors along westbound U.S. 36 and from the southwestern border of the site (Attachment C).

### Passive Recreation

Work by Fox Tuttle Hernandez Inc., public comments, site visits and observations by city staff were used to develop a picture of current patterns of community use of the site for passive recreation. Dominant activities are walking, dog-walking and running. Under an agreement with the university and when conditions are appropriate, the Boulder Nordic Club grooms trails for cross country skiing. Most visitor activities take place on dirt roads and social trails (Map 3: Trails).

Although CU requests that dogs be leashed on the site, most dogs are not leashed and the university does not enforce dog leashing. Unleashed dogs are typically either on or near the trails; however, it is not uncommon to see dogs ranging through the open areas or swimming in the ponds.

Figure 4: Preliminary Viewshed Analysis.



A portion (0.12 mile) of the South Boulder Creek Trail, constructed and maintained by OSMP, crosses the south end of the CU South property on an easement granted by the university to the city. CU South is also accessible from the US36 Bikeway that connects with the South Boulder Creek trail on city open space where the highway crosses over South Boulder Creek. If Option D of the South Boulder Creek Flood Mitigation Study is constructed as currently conceived, the US36 Bikeway will be reconstructed on the top of the proposed flood berm. The city has not identified any social trails in the OSMP land between the South Boulder Creek trail and CU South.

## **Transportation: Multi-modal Analysis**

### *Existing transportation infrastructure and proposed changes*

The analysis performed by Fox Tuttle has looked at the existing and potential multi-modal access to CU South. The city's Bicycle System Plan illustrates several new pathway connections between the site and the adjacent neighborhoods to the west, as well as a proposed highway underpass. The plan also looked to improve the existing "social paths" in the CU South property to become multi-use paths. These connections are believed to help support the bicycle and pedestrian access to and through the site, and provide access to the transit network as it evolves.

The US 36 Environmental Impact Statement (EIS) considered alternatives for reconstructing the US 36/Table Mesa Drive/ Foothills Parkway interchange. The interchange reconfiguration option ultimately chosen by CDOT, the University of Colorado, City of Boulder, and Boulder County was the interchange design that retained the existing intersection of South Loop Drive, and Table Mesa Drive to provide direct access to CU South. This preferred alternative is predicted to have impacts on the configuration of the interchange ramps and the relationship between U.S. 36 ramps, transit stops in the area, and future bus routes.

### *Perimeter Access*

Five roadways were examined for potential access to the CU South site. The analysis recommends keeping the primary vehicular access to the site on South Loop Drive and secondary access along Tantra Drive in the future. South Loop Drive is currently the only paved access to the site's 12 tennis courts and a gravel loop trailhead. The study recommends that as the property develops the drive should be upgraded to a "complete street" to accommodate bus, bicycle, pedestrian and automobile traffic. Tantra Drive is a 50-foot wide, two-lane street that appears to be a logical secondary access, as the eastern terminus of Tantra Drive was constructed as if it were intended to extend to CU South. Speed mitigation through the school access area will be important to address if Tantra Drive is used to provide vehicular access.

Access to the site from the south-west (off CO 93) can also be considered in the future, though it is not ideal. Creating this new access will likely require a State Highway Access Permit and variances from the Access Code geometric requirements. Ultimately, a circuitous or non-direct alignment would be necessary to discourage outside traffic from cutting through the CU South property to avoid the Table Mesa/Broadway connection. Moorhead Circle and Marshall Road were both found to be undesirable for perimeter access.

The analysis conducted by Fox Tuttle represents a first step in identifying critical multi-modal transportation considerations that will need to be examined at the time of annexation. Because the future uses on the property remain unknown, the analysis did not recommend specific traffic mitigation strategies. However, the city recognizes the potential impacts to an already congested network and will take that into consideration during any land use designation or subsequent annexation decisions. An additional transportation analysis is being considered by CU Boulder to estimate the amount and type of land uses that

could be considered for the site based on multi-modal carrying capacity of surrounding transportation facilities.

### **Utility Service**

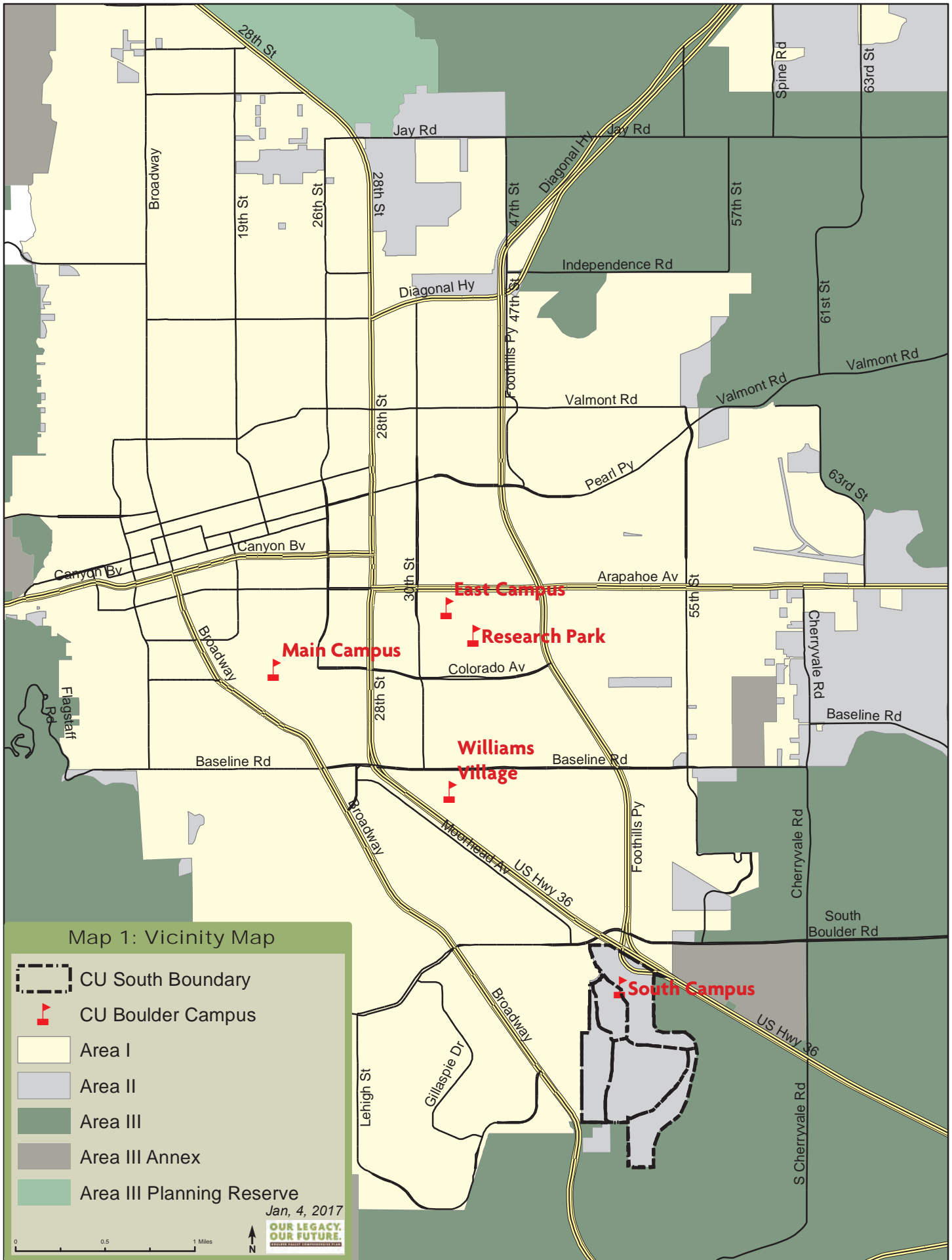
Existing water distribution, sewer collection and treatment facilities have adequate capacity to serve some additional development. The city's ability to provide service to CU South will depend largely on the specific utility needs of the project and the timing of development, neither of which are defined at this time. For this analysis, city staff assumed that the scale of future development on the CU South site would be comparable to other CU Boulder properties. The city currently has existing water mains along Table Mesa Drive (24" diameter), Moorhead Circle (12" diameter) and Broadway (16" diameter). Connections would be needed to two or more of these mains to provide service, with the Broadway main requiring an extension to the CU South site.

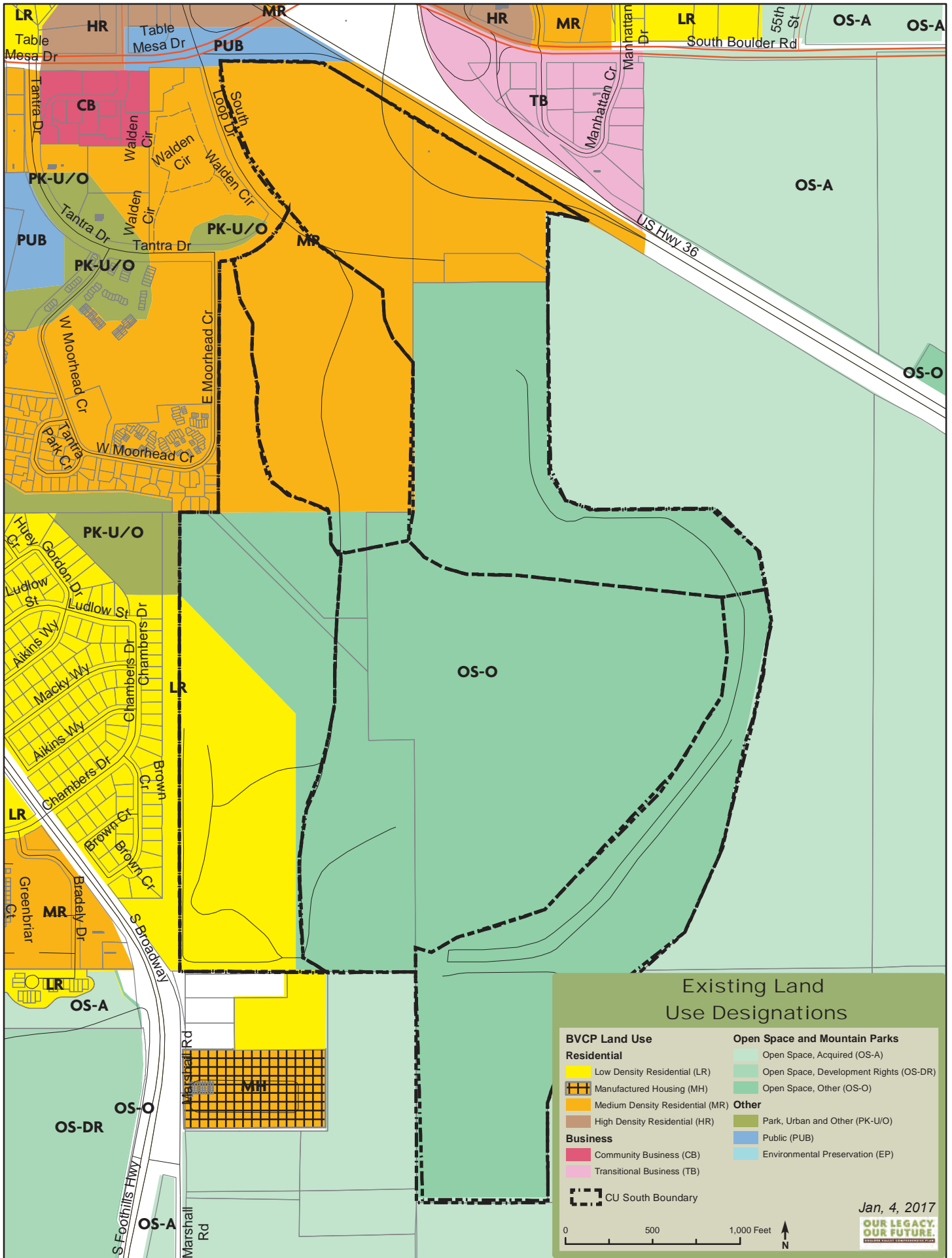
A major sewer main (27" diameter) abuts the southern and eastern edge of the property and should have adequate capacity to support development on the site. Stormwater flows will be examined at the time of development, particularly relating to minimizing stormwater contributions to irrigation ditches.

Other than the extension of the Broadway water main, no major off-site improvement requirements for water or sewer are anticipated at this time. Prior to connecting to city services, CU Boulder must provide a utility report identifying usage requirements and the on-site (private) utility design to ensure compliance with city standards and determine city fees.

### **Initial Conclusion**

Staff will use information referenced in this report and feedback from decision-making bodies to form a recommendation for changes to the CU South land use designations and a list of issues to be addressed in future agreement(s) between the city and CU Boulder for development and conservation of the site. While conversations among BVCP approval bodies are ongoing, the analysis is starting to indicate that some areas are more suitable for conservation and other uses (Map 5: Key Considerations). Conservation of ecological values and wetlands appear to be most suitable for the southern portion and along the eastern boundary of the site. Additional discussions, including a recommendation by the Open Space Board of Trustees, is needed to refine these potential conservation areas and identify other portions of the site that should also be preserved. With 80 acres of regional detention and 30 acres to accommodate fill material, floodwater mitigation will also cover a sizable portion of the site. After considering conservation and floodwater mitigation, other portions of the site may be suitable for development or conservation.

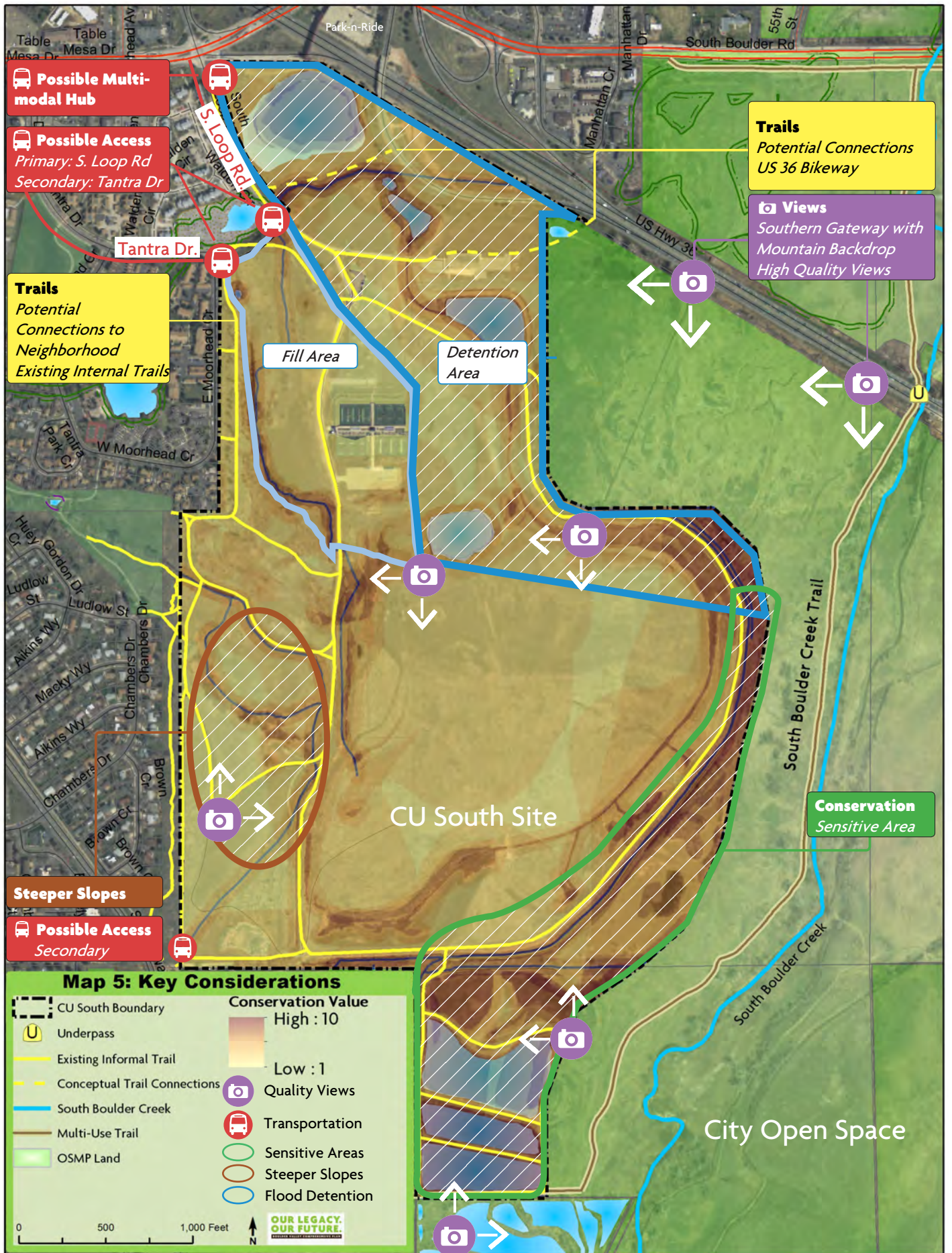












Jan. 4, 2017

# City of Boulder, Planning Housing & Sustainability Preliminary Conservation Suitability Analysis For University Of Colorado South Campus



*November 2016*

Biohabitats  
1732 Wazee Street  
Denver, CO 80202



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## 1 Introduction

This report provides a preliminary conservation suitability analysis of the University of Colorado South Campus property (“CU South”) with respect to protecting sensitive areas and identifying suitable development and conservation envelopes based on current natural resource conditions, opportunities, and constraints. The overarching goal of this analysis is to inform the CU South planning process – including land use change as part of Boulder Valley Comprehensive Plan – by providing an understanding of ecological patterns that have developed in the area over time. The results of the analysis are intended to provide a framework for maintaining a multifunctional landscape that can integrate multiple land use objectives including improving flood control, protecting ecological values, and identifying compatible development locations.

### 1.1 Purpose and Scope

With upcoming plans to implement the 2015 South Boulder Creek Major Drainageway Flood Mitigation Plan and desire to change land use to accommodate eventual development by the University of Colorado, the City of Boulder authorized a site suitability analysis for the property to serve as a guide to inform discussions regarding future uses on the property. The suitability analysis was conducted as part of the major update to the Boulder Valley Comprehensive Plan (BVCP) that will include updates to the land use designations for the parcel. The imperative articulated by the BVCP below guided the consideration of priorities in the current site suitability study:

*...conserve and preserve environmental resources including its unique or distinctive natural features, biodiversity, and ecosystems through protection and restoration in recognition of the irreplaceable character of such resources and their importance to the quality of life.*

In addition to interfacing with the BVCP, the suitability analysis is intended to inform considerations of annexing the property to the City of Boulder including:

- Findings on differential suitability across the site for development and conservation, and
- A framework, specific to CU South, for future annexation and agreements between the city and the University of Colorado (CU).

Biohabitats’ scope of work for the current effort included: attending a kick-off meeting on June 3, 2016, with city staff; reviewing available background information provided by the city; conducting a desktop analysis; completing a field assessment; meeting with city staff from Public Works and Open Space and Mountain Parks (OSMP) to gather additional information on pending flood control planning and sensitive species; selecting primary criteria for conservation suitability and preparing a Geographic Information Systems (GIS) analysis; developing conceptual diagrams for secondary criteria associated with views and connectivity to offsite areas associated with conservation suitability, and; participation in a public meeting in September 2016. The current effort does not include an evaluation of potential mitigation and restoration strategies.

### 1.2 Site Background

The subject property is owned by the University of Colorado (“CU”) and consists of a 316-acre parcel located immediately south of the juncture of U.S. Highway 36, Table Mesa Dr./South Boulder Road, and Foothills Parkway (Figure 1). The parcel was historically farmed and grazed

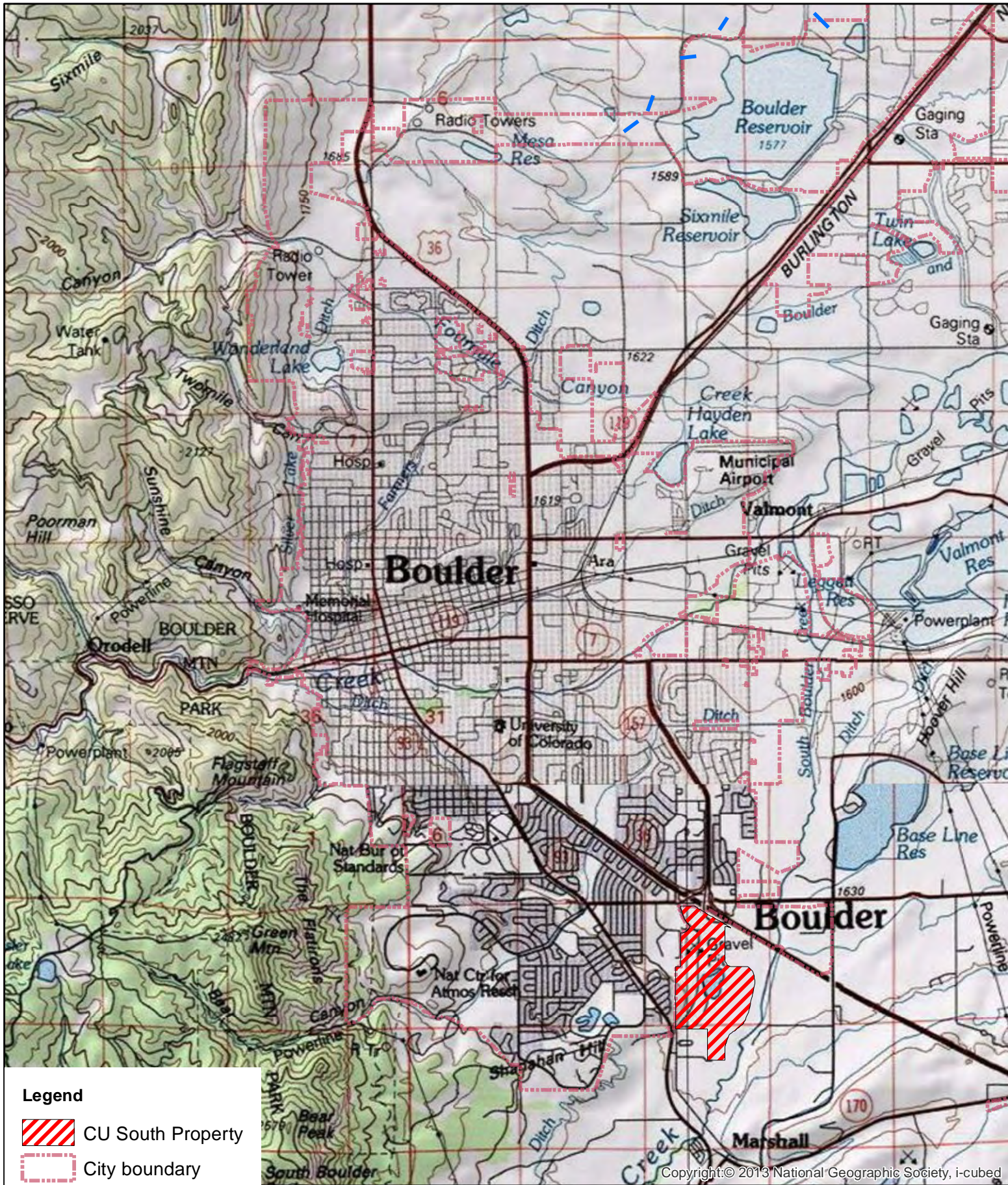


Figure 1  
Site Location  
CU South Property

until sand and gravel mining replaced agricultural uses, removing aggregate material from the majority of the property. In 1996, Flatiron Companies sold the property to CU.

Major features of CU South include a flood control berm that parallels the eastern boundary and northern edge of the southern “panhandle” (refer to Figure 3). The western portion of the property is characterized by a steep topographic gradient that forms a terrace. The northern half of the property has 4 ponds interspersed with development, including tennis courts, maintenance buildings, parking lots, and roads. The interior of the property is could be characterized as a basin dominated by non-native grasslands.

### **Current Land Uses**

Currently the site is used by the CU tennis and cross-country programs with 12 tennis courts and upgraded running courses. The public also makes regular use of the trails for exercise, off-leash opportunities for dogs, and wildlife viewing. These uses align with the 2001-2008 Campus Master Plan, which originally mandated that the South Campus be used only for athletic and recreational pursuits. Future uses by CU are uncertain.

Primary vehicular access to the property is at the northwest corner via South Loop Drive off of Table Mesa Drive. A less direct approach is at the southwest corner from Marshall Road. Pedestrian users can also access the property from a dirt road on the west side that leads onto the property from the intersection of Tantra Drive and East Moorhead Circle.

To the north of the property, there is a Regional Transportation District transit station and parking garage at Table Mesa as well as the intersection of three major roads. Low- and medium-density residential development borders the west side. City of Boulder Open Space lies to the south and east of the property and includes South Boulder Creek.

Under the current BVCP, the majority of CU South is designated as Open Space-Other (193.25 acres) and other portions of the property are designated for Medium-Density Residential (66.75 acres) (MR, 6-14 dwelling units/acre) and Low-Density Residential (49.36 acres) (LR, 2-6 dwelling units/acre) (Figure 2).

## 2 Methods

The overall approach for this suitability analysis was to map ecologically functional zones of the site as determined by biotic communities and hydrology and, using a GIS-based scoring system, overlay these with other natural features to create a base map showing a range of sensitive natural resource areas. The primary criteria include existing native plant communities, wetlands and buffers, aquatic habitat, and identified habitat zones for rare species. Ecological connectivity to offsite properties and views within and beyond the property are secondary criteria addressed separately. Utilities, roads, and planned flood improvements were not evaluated in the base map; however, future updates to the sensitivity analyses are expected to be needed to incorporate these constraints and considerations. Additional details about methods are described below.

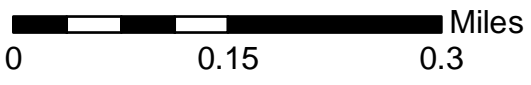
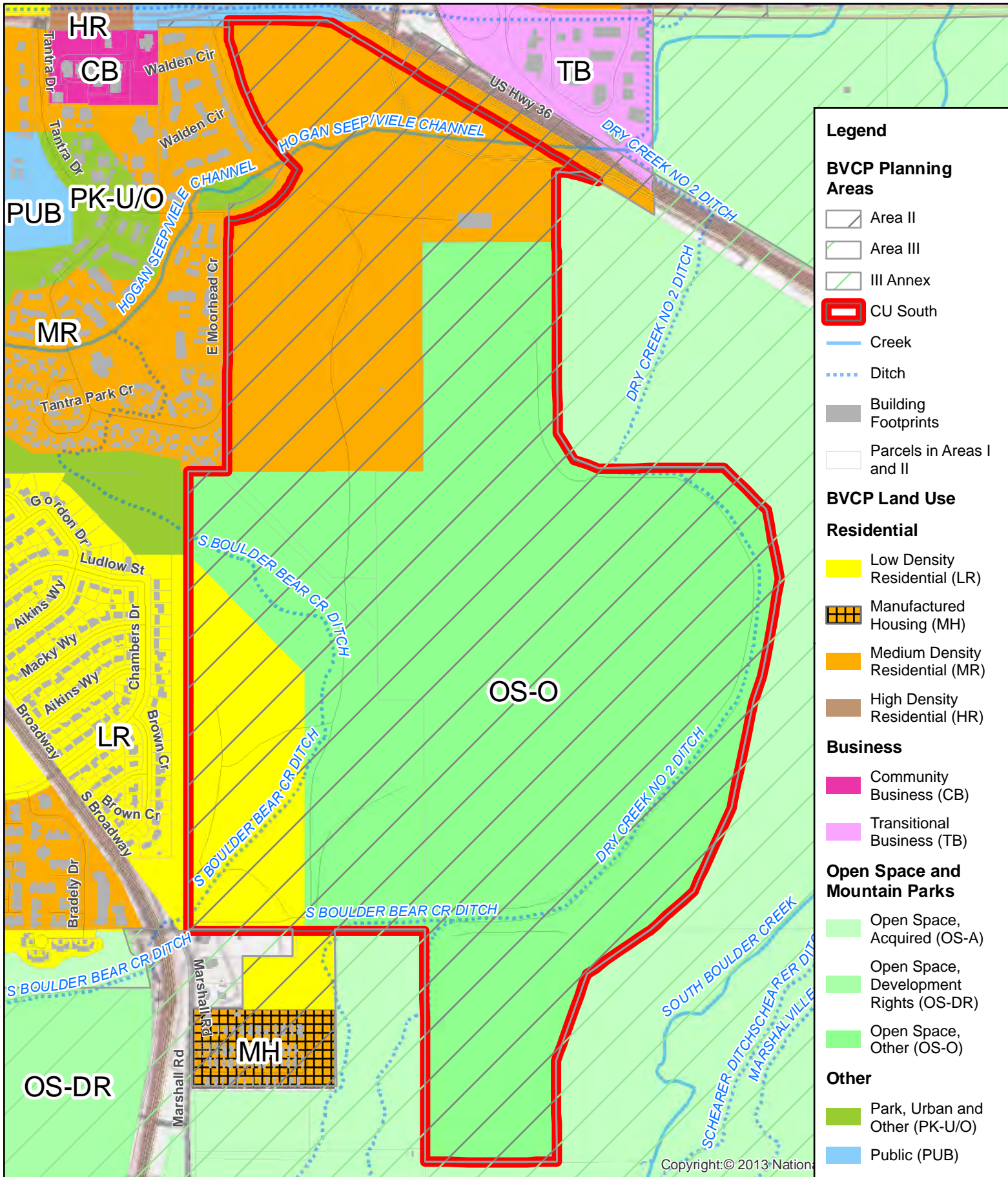


Figure 2  
Land Uses  
CU South Property



## 2.1 Data Collection and Field Assessment

Prior to field work, available site data and background information were collected and reviewed. These included but were not limited to GIS data provided by the city, the South Boulder Creek Flood Mitigation Study, previous evaluations of the site, zoning designations, transportation studies, and information on sensitive species such as Preble's meadow jumping mouse (*Zapus hudsonius preblei*).

### Previous Studies

CU South has been the subject of numerous prior studies. These include the Boulder Valley Comprehensive Plan parcel report (1995), a Conceptual Land Use Assessment (Shapins Associates, Inc., 2002), a wetland delineation report (ERO Resources, 2013), the South Boulder Creek Major Drainageway and Flood Mitigation Plan (2015), and a transportation analysis (Fox Tuttle Hernandez Transportation Group, 2016). The property was also part of the U.S. 36 Mobility Project analysis (OSMP, undated).

Noteworthy among these studies is the 2002 Conceptual Land Use Assessment, which organized its findings into themes of transportation, potential building areas, flood storage, and natural areas. The Land Use Assessment also documented utility lines and transportation opportunities, thus providing a baseline for the current site suitability analysis.

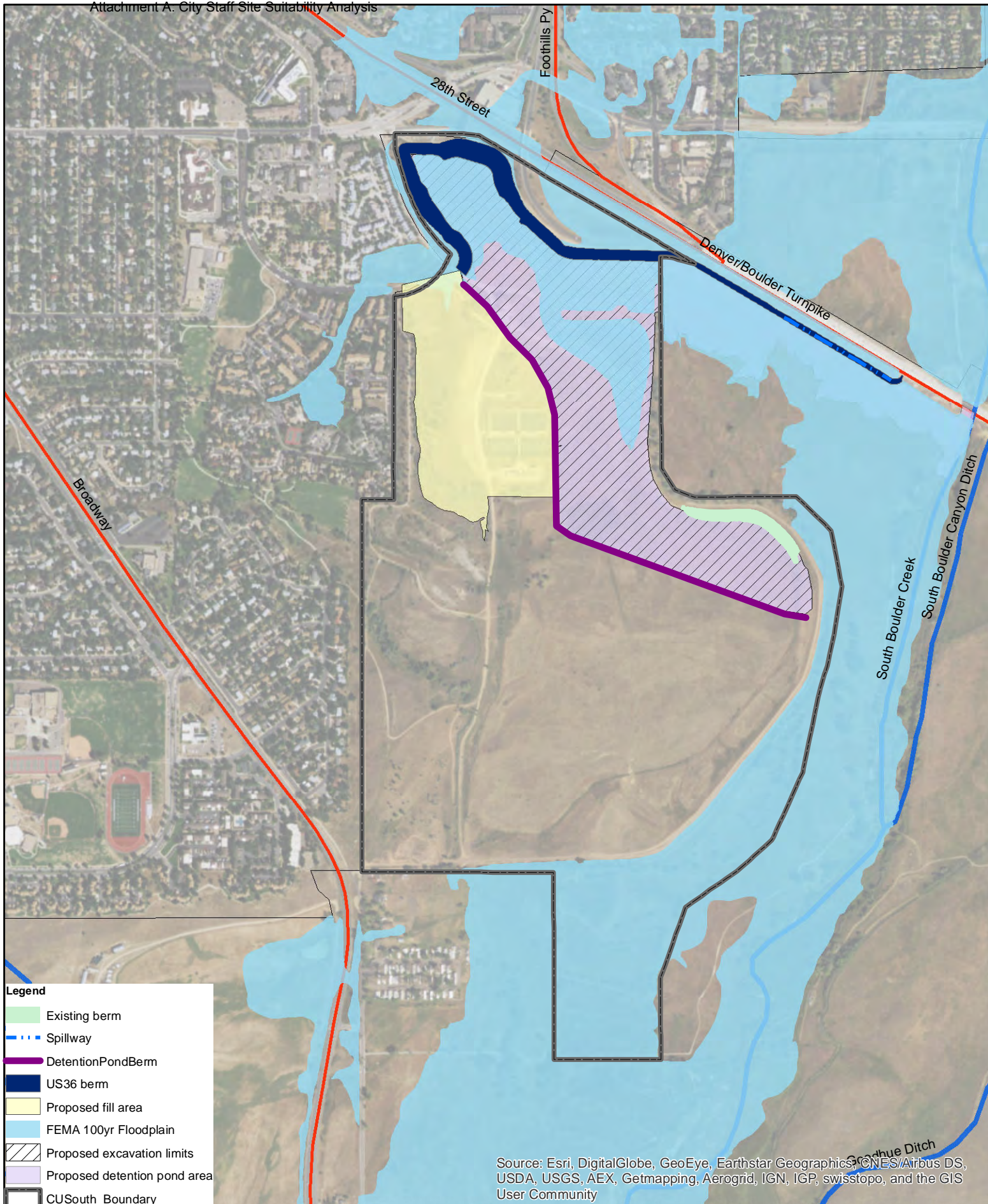
A memorandum prepared by city staff for City Council in September 2014 summarized environmental considerations during the review of the South Boulder Creek Major Drainageway Mitigation Plan. The memorandum provided context on ecological values relevant to the project area including:

- Wetlands
- Preble's meadow jumping mouse (*Zapus hudsonius preblei*)
- Ute ladies'-tresses orchid (*Spiranthes diluvialis*)
- Northern leopard frog (*Rana pipiens*)
- Native fish and ground-nesting birds, and
- The South Boulder Creek State Natural Area (SBCSNA)

Additionally, the 2015 South Boulder Creek Major Drainageway and Flood Mitigation Plan will be highly influential on future development scenarios of the property. The preferred Alternative D will entail construction of a berm along US 36, excavation of 81 acres in the northeast portion of the CU South property to create a detention pond, and fill of approximately 31 acres of the northwestern portion of the CU South property to 5370 feet a.s.l. (Figure 3). Of the seven alternatives considered, Alternative D minimized impacts to sensitive species from nearby OSMP properties and minimized impacts to sensitive environmental resources.

### Field Assessment

Field base maps were prepared using aerial photographs and available geospatial information. The purpose of the field assessment was to verify and supplement the available information to reflect existing water resources; plant communities (0.25-acre minimum) and their conditions as reflected by dominant species; connectivity to adjoining habitat; elements of concern such as hazards, erosion, waste, and/or disturbance; landscape features and character; and uses and impacts of adjoining properties. The site visit was conducted on June 21, 2016 by Claudia Browne, Water Resources Specialist and Conservation Planner, and Susan Sherrod, Ph.D., Certified Ecologist. Dr. Sherrod returned for a second visit on June 27, 2016. In August 2016, OSMP staff also conducted a high-level review of site conditions to evaluate potential habitat for



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Figure 3  
 Flood Mitigation  
 Alternative D Features  
 CU South Campus

0 500 1,000 Feet



the Northern leopard frog and other native amphibians, Ute ladies'-tresses orchid, and native neotropical migratory and grassland-breeding bird species.

In addition to observing the above-noted features, viewshed observations were collected by Biohabitats, and photographs were taken at locations across the site to document scenic features on-site as well as views outward from the property. In a follow-up effort, City of Boulder planning staff collected additional panoramic photographs from the eastern boundary to address views from off-site across the property.

## 2.2 Conservation Suitability Analysis

A range of possible information sources and data layers were considered for inclusion in GIS the conservation suitability analysis including the items listed below:

- Water resources (floodplains, drainageways, lakes)
- Wetlands and buffers
- Plant communities
- Species of concern
- Habitat connectivity to adjoining properties
- Wildlife observations
- Landscape features in topography & geology

(Note that other factors such as transportation, access, and utilities are being considered separately.)

Biohabitats considered and tested a range of possible ways to group the data layers into primary or secondary criteria, to aggregate information into potential “neighborhoods” for views, to include offsite data, and to weight layers. Consistent use of data layers from previous evaluations conducted by the city for the floodplain study was also a consideration. Table 1 and the model diagram in Figure 4 show the layers that were included as primary criteria in the analysis.

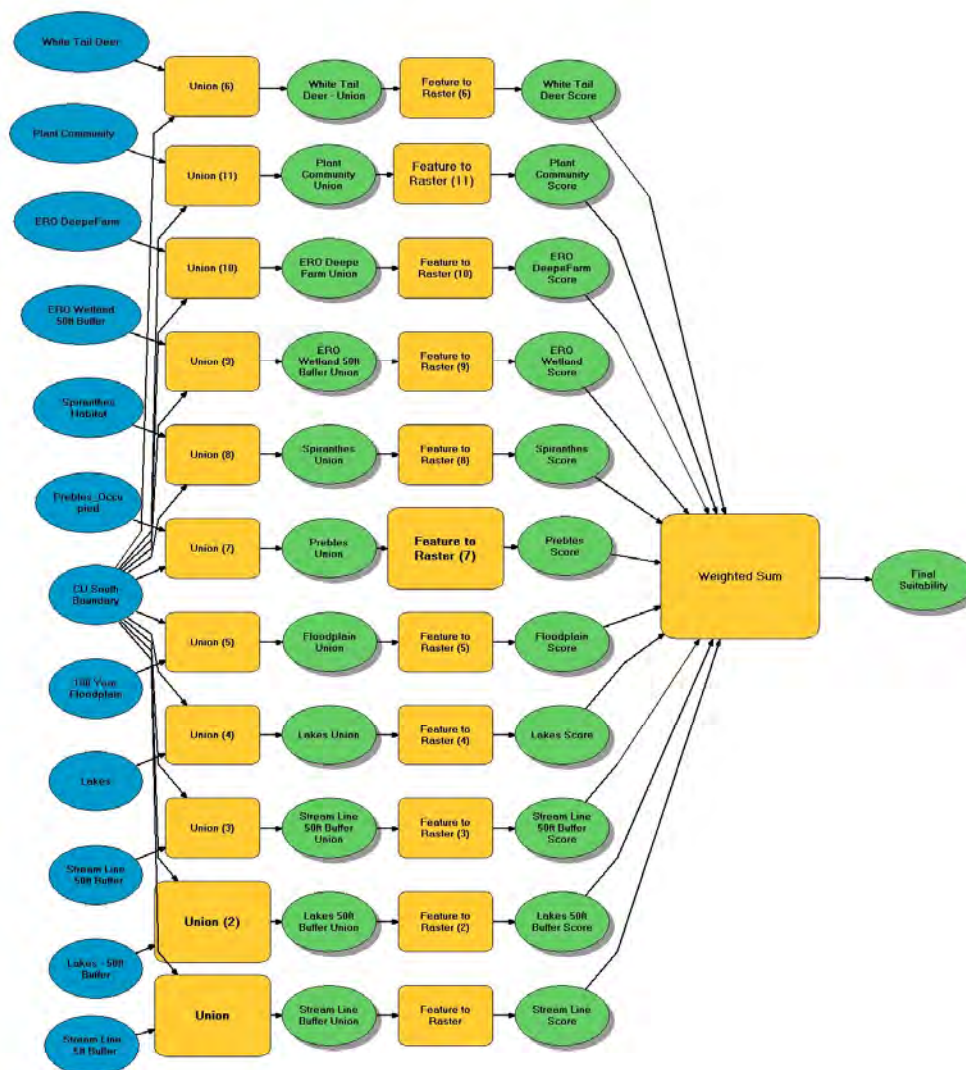
To complete the GIS analysis, the layers of primary criteria (Table 1, Fig. 4) were compiled into a geodatabase and organized into feature datasets by analysis step. The first step of analysis required clipping data to the property extents to ensure each feature represented the same area of interest. All data were assigned the same projected coordinate system, NAD 1983 HARN State Plane Colorado North FIPS 0501, to ensure spatial accuracy and alignment.

The second step of analysis involved the creation of buffers for hydrology features such as streams, lakes and wetlands. A 50-foot buffer was created around the previously delineated wetlands (ERO, 2013). This distance was selected to be conservative in the absence of wetland functional assessments, which are used by the city to determine if a 25- or 50 foot buffer is appropriate. A 5-foot buffer was also applied to stream centerlines to convert the GIS polyline to a polygon and to mimic estimated stream width. After applying buffers, “Score” fields were created in all the files in short integer format and assigned a value of 1 (for present), with the exception of the plant community layer where non-native plant communities received a 1 but native plant communities were assigned 2 to reflect their higher habitat value. Before converting data from vector to raster format, a union between each individual feature and the site boundary was required to create a cohesive layer representing all potential values throughout the site. When converted to raster format, areas where features do not exist were scored as 0 (and where features were present were a 1 or 2 as described above).

**Table 1 Conservation Layers and Data Sources**

| Layer Category                | File Name                         | Data Source   |
|-------------------------------|-----------------------------------|---|
| Lakes                         | Hydrology_Lakes                   | City data   |
| Streams                       | Stream line 5 ft buffer           | Created from City Hydrology (to allow 50 ft buffer creation ) |
| Wetlands                      | ERO_Wetland                       | ERO   |
| Lake buffer                   | Lake_50ft_Buffer                  | Created by Biohabitats  |
| Stream buffer                 | Stream line_50ft_Buffer           | Created by Biohabitats  |
| Wetland buffer                | ERO_Wetland_50ft_Buffer           | Created by Biohabitats  |
| Floodplain                    | City_100Year_Floodplain           | City data   |
| Plant community               | Community_Plant_Types_8-1         | Created by city from Biohabitats field data                   |
| Preble's meadow jumping mouse | PreblesMouseOccupiedRange02222016 | CPWPublicSAMData  |
| White-tailed deer             | WTDeerConcentrationArea02222016   | CPWPublicSAMData  |
| Rare plant                    | Spiranthes_Habitat_Field_Review   | Created by city from OSMP field data                          |
| CU boundary                   | Project boundary                  | City data   |

**Figure 4 Model of GIS Analysis for CU South Property**



The final step of the process was the execution of a weighted sum overlay using ArcGIS Spatial Analyst tools. This step combines all raster datasets that were created and scored previously by overlaying each feature and summing areas of overlap. The goal of the analysis is to highlight areas with the highest density of sensitive ecological features that will be less suitable for development (see Section 3, Summary of Findings).

## 2.3 Secondary Analysis

Beyond the primary ecological considerations included in the GIS analysis, secondary considerations that encompass the human experience and user relationships with the ecological features on site may also be used in the analysis. These, too, have a role in determining conservation suitability, as they aim to address the relationship between a user's sense of place and the value of a site as a destination for active and passive recreation. Put another way, the secondary considerations account for ecological value through the lens of aesthetics and experience.

The first part of this secondary analysis was a landscape character viewshed analysis, a rapid assessment of quality of landscape character at a series of viewpoints throughout the site. This was based in part on the USFS Landscape Aesthetics Handbook for Scenery Management (USDA FS 1995). The key elements taken from that guidance document were a general understanding of landscape character (considering ecological systems, existing land use patterns and uses, and scenic integrity), attractiveness, and views of natural resources within different distance zones (immediate foreground: 0-300', foreground: 300'-1/2 mile, middle ground: 1-4 miles, and background: 4 miles to the horizon)<sup>1</sup>. The landscape character viewshed analysis examined locations within the site and also considered views outward from and across the site toward the west.

One of the basic premises of this viewshed analysis of landscape character is that "scenery contributes to a 'sense of place,' a mutually shared image" (USDA FS 1995). Some of the specific landscape characteristics that define the site's sense of place directly associated with ecological resources include: a sense of isolation from development based on the presence or absence of structures or roads, natural character reflecting native and diverse ecosystems, wide and open views to the mountains, views across open water and wetlands, access via trails, and other sensory experiences such as natural versus man-made sounds and availability of shade along trails. Each viewpoint was scored for the presence of these landscape characteristics and then total scores were determined across the site, as well as within each of the 4 distance zones to get a sense of the highest scoring points of view on the site (see Table A-1, attached).

Other secondary suitability criteria that may be integrated include availability and location of trails and recreation opportunities directly associated with the ecological resources on site, restoration potential, presence of other ecological resources associated with geology, steep slope areas that may be sensitive to erosion with future development, and social path connections.

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<sup>1</sup> Due to topography and other existing conditions the site is limited in terms of middle ground characteristics.

### 3 Summary of Findings

The primary outcomes of the site conservation suitability analysis are an ecological characterization, suitability mapping, and preliminary sketches of viewshed and connectivity considerations. The purpose of these findings is to understand high-value ecological areas to help guide future planning decisions. The ecological characterization summarized in Section 3.1 describes how the elements of the site work together to support the natural systems included in the suitability analysis, and the results of the suitability analysis follow in Section 3.2.

#### 3.1 Ecological Characterization

Ecological resources of the CU South property are related to physical resources of the site and landscape context. Key factors such as topography, geology, and water resources interact to control ecosystem characteristics such as plant community type, wildlife use, and the occurrences of sensitive species. Human activities such as water diversions, development, and transportation further influence habitat features via disturbance and management practices.

##### **Geology**

Geologic characteristics of the site were considered during this suitability analysis primarily as they relate to hydrology (described in the following subsection). As shown in Figure 5, there are 5 major surficial geologic units mapped on the property. The main portion of the site is underlain by Post Piney Creek and Piney Creek Alluvium (Qp) and Broadway Alluvium (Qb). The Piney Creek alluvium (Holocene, less than 4,000 yrs ago) occurs in a band along the South Boulder Creek corridor, and to the west is the slightly older Broadway alluvium in the northwest and central portion of the site. A small area of Louviers Alluvium (Upper Pleistocene) also occurs in the southwest corner of the property.

Pierre Shale bedrock (Cretaceous Period, 65-144 Mya) outcrops on the southwest side of the site, on the edge of the terrace formation. In the upland areas to the west of the shale, the Slocum Alluvium (Quaternary Period, mid-late Pleistocene, 1.8-2 Mya) is characterized as “10 to 90 ft of moderate reddish-brown, well-stratified, clayey coarse sand with lenticular beds of pebbles and silt” (Moore et al, 2001).<sup>2</sup>

##### **Water Resources**

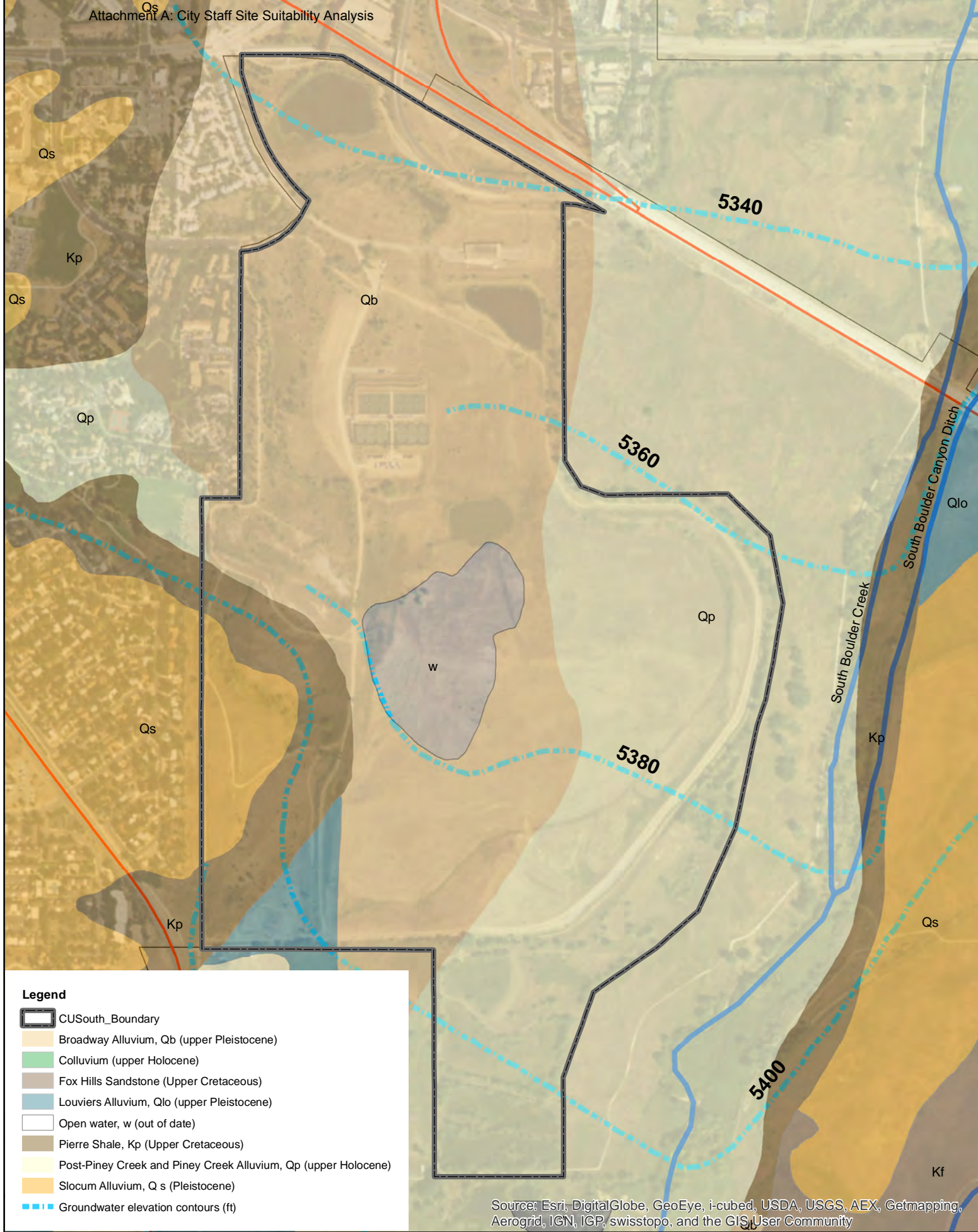
The property is located within about 500 feet of South Boulder Creek, and a portion of the 100-year floodplain is on the property. Dry Creek Ditch No. 2 runs along the interior of the eastern border and Bear Creek Ditch is in the western portion of the property (Figure 6).

Four former gravel pits, now ponds, occur in the northern half of the site. The ponds appear to be fed primarily by groundwater with relatively stable water levels (based on vegetation). Detailed flow information was not reviewed for the ditches; however, wetland communities are supported along most of the channels, indicating sufficient hydrology for this habitat type.

Shallow groundwater occurs beneath most of the property in an unconfined sand and gravel aquifer (sometimes called a water table aquifer). Because groundwater may support baseflow and vegetation in the riparian areas along the creeks, understanding and maintaining groundwater hydrology can be important for long-term viability in these ecosystems. In

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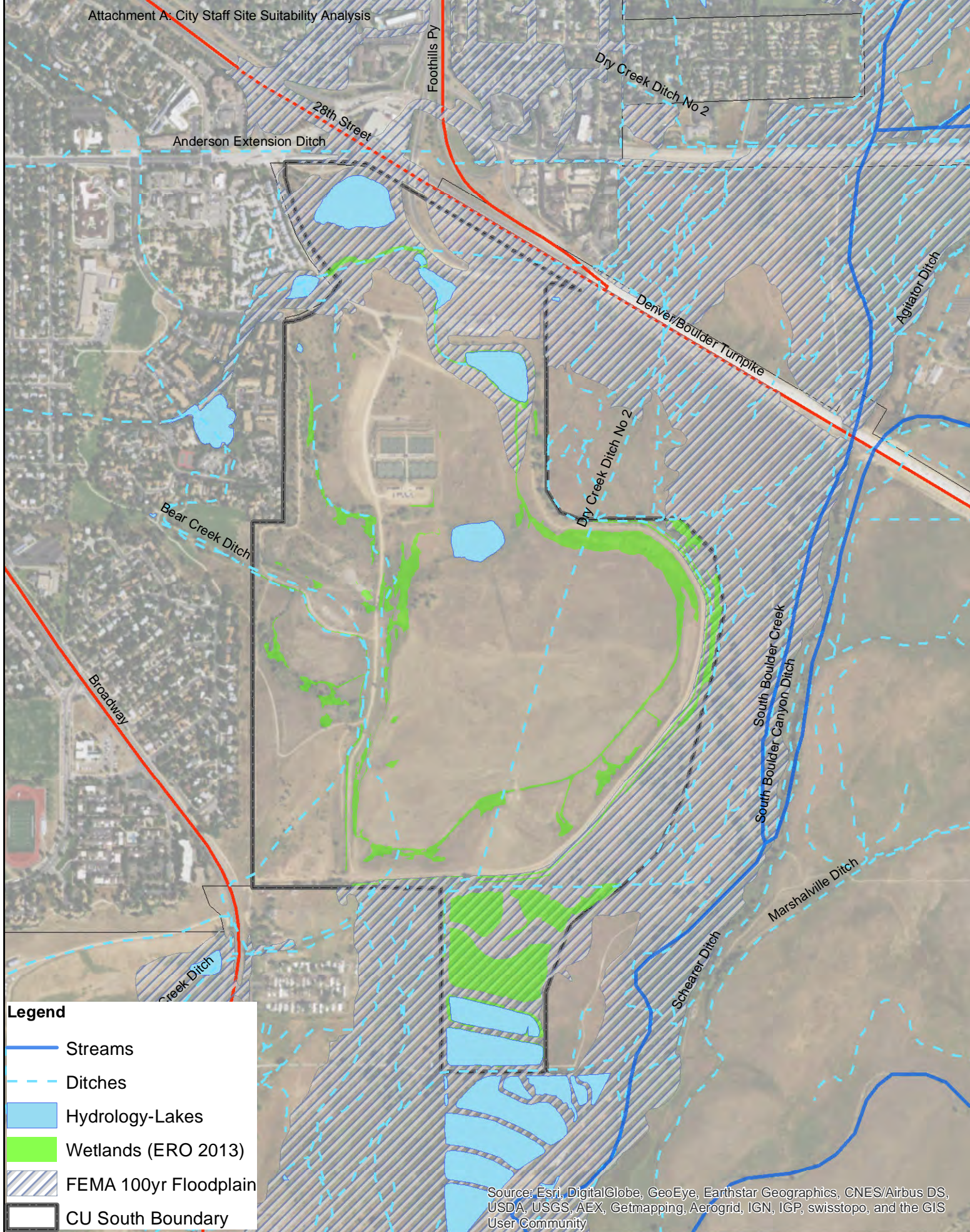
<sup>2</sup> Note: an evaluation of soil distribution was not included in the current analysis. The majority of the property has been mined and undergone earthwork and agricultural uses, such that soil descriptions are not expected to be pertinent to the current conditions on the property. Should restoration of portions of the site be desired, historic soil mapping could be viewed for possible insights into opportunity areas based on pre-mining conditions (depending on the date and accuracy of the mapping).



0 500 1,000 Feet



Figure 5  
Geology and Regional Groundwater  
CU South



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

0 500 1000 Feet



Figure 6 Water Resources of the Property CU South



unconfined systems, precipitation infiltrates in upland areas to recharge groundwater, and the groundwater moves through the subsurface generally following topography until it reaches discharge points. Groundwater discharge occurs where the aquifer intersects the ground surface, and water is released into lakes, seeps, or springs that feed streams and wetlands. Water table aquifers will fluctuate up and down with seasonal and annual climate variations. In the Front Range, the water table generally rises in the winter, peaks after spring snowmelt, and decreases steadily throughout the growing season. Droughts and human water management practices associated with new development (e.g., diversion ditches, wells, sump pumps, and storm sewers) can cause significant long-term changes in the water table.

Currently there are limited data on groundwater characteristics on the property. CU is planning to conduct a detailed groundwater investigation in the upcoming year, however, and its study results can help confirm some of the following initial observations of groundwater flow patterns.

- On the CU South property, groundwater generally flows from the southwest to the northeast, with water draining off of the foothill fans and discharging into the alluvial sand and gravel deposits along the creeks.
- As shown on Figure 6, regional groundwater contours in the eastern Piney Creek alluvial deposits depict the direction of flow to be generally perpendicular to South Boulder Creek. This pattern shows that the groundwater and creek interact, exchanging water depending on local differences in water elevations. In other words, there will be periods when groundwater will discharge to the creek and periods when the creek will recharge the nearby alluvial aquifer.
- Groundwater flowing from the uplands in the central and western portions of the property is recharged offsite in the foothills to the west.
- Site observations indicate a small zone of potential groundwater seepage/discharge at the base of the terrace on the western side where the surface deposits meet the underlying Pierre Shale bedrock which is relatively impermeable and acts as a lower boundary to the aquifer.

Note that the presence of perennial (i.e., year-round) water features and areas of shallow/exposed groundwater that can support wetlands and riparian vegetation is generally considered a valuable ecological asset in the semi-arid west where such features are not common.

### **Plant Communities**

Plant community mapping was completed on June 21 and 27, 2016, to evaluate the vegetative component of conservation suitability at CU South (Figure 7). Key objectives of the mapping were to identify boundaries of major community types (at a ¼-acre scale) and to note the condition of each community based on whether dominant species were native or non-native. The OSMP Grassland Ecosystem Management Plan (2010) was used as a reference for defining the CU South plant communities. As shown in Table 2, four native communities were identified: Mixed Grass Prairie Mosaic, Native Riparian, Herbaceous Wetland, and Woody Wetland.<sup>3</sup> In addition, there were non-native communities labeled Non-Native Riparian, Non-Native Upland, and an “Other” category for development, large patches of bare ground, salt flats, and living fences.

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<sup>3</sup> Note that ERO Resources (2013) report mapped jurisdictional wetlands in accordance with the 1987 U.S. Army Corps of Engineers Wetlands Delineation Manual. The plant community mapping conducted for this report was based on vegetation only and did not include evaluations of hydric soils or wetland hydrology. Moreover, the current mapping exercise was at a scale of ¼ acre minimum patch size. Thus, the wetlands presented in this report are not an update to the jurisdictional wetland mapping performed in 2013 nor are they intended for regulatory purposes.



Note: 2016 wetland plant community mapping is based on rapid assessment and did not include delineations for regulatory purposes.

Figure 7  
Plant Communities of the Property  
CU South

**Table 2.** Plant communities at CU South and observed dominant species

| Plant Community                      | Plant Community Classification Criteria   | Basis in OSMP Grassland Ecosystem Management Plan (2010) | Dominant Species Observed in 2016   | Major Differences Between Expected and Observed Plant Community Characteristics                         | Acreage at CU South (% of plant comms.) |
|--------------------------------------|---|--|---|---|---|
| <b>Native Riparian</b>               | Cottonwoods (plains, lanceleaf, narrowleaf) > 50%; box elder; shrubs, <i>e.g.</i> , snowberry, hawthorn, Woods' rose, plum, and grape; native herbaceous understories.                | Riparian areas   | Plains cottonwood most common, but frequently observed significant cover of Russian-olive. Peach-leaved willow and ash were also observed.                                    | Plains cottonwood more prevalent than other native species. Native understory often not well-developed. | 16 ac. (5%)                             |
| <b>Herbaceous Wetland</b>            | Narrow-leaved cattail, bulrush, sedges, rushes, swamp bluegrass, milkweed, sedges, and grasses (foxtail barley, switchgrass, alkali muhly). Dominant species may include non-natives. | Wetlands (emergent and wet meadows)                      | Cattails most common site-wide. Also observed American threesquare, sedges, rushes, milkweed, and minor occurrences of teasel, sandbar willow and plains cottonwood saplings. | Extensive monocultures of cattail.  | 30 ac. (5%)                             |
| <b>Woody Wetland</b>                 | Sandbar willow, peach-leaved willow, leadplant, cattail, arctic rush. Could include minor tamarisk (non-native).  | Wetlands (woody)   | Native sandbar willow most common; often interspersed with cattail. Sedges, rushes, and occasional peach-leaved willow also observed.   | Observations consistent with expectations (note no tamarisk found).                                     | 8 ac (3%)                               |
| <b>Non-native upland (grassland)</b> | Any of prairie types with >40% non-native pasture grasses, <i>e.g.</i> , smooth brome, orchardgrass, quackgrass, bluegrass, non-native wheatgrasses, upland weeds & forbs.            | (none)   | Dominant species observed were cheatgrass and alfalfa. Smooth brome, bindweed, and yellow salsify also very common, and western wheatgrass was observed.                      | Observations consistent with expectations.  | 233 ac (80%)                            |
| <b>Non-native Riparian</b>           | Non-natives Russian-olive, crack willow   | (none)   | Russian-olive most common, but Siberian elm and crack willow dominant in some communities. Sandbar willow a frequent associate. Ash also observed.                            | Native associates were observed.  | 2 ac (1%)                               |
| <b>Mixed Grass Prairie Mosaic</b>    | Native species relative cover >60%. Most prevalent native species to include western wheatgrass, blue grama, silver sage, Junegrass, buffalograss, snakeweed, scurfpea.               | Mixedgrass Prairie Mosaic                                | Western wheatgrass, golden banner, yarrow, milkweed. Also Canada thistle.   | Grasses not dominant, but rather co-dominant with forbs.  | 1 ac (<1 %)                             |

High-resolution aerial photographs were used in the field to draw plant communities, and the polygons were then digitized using GIS. The smallest mapping unit for a polygon was approximately ~0.1 acre (~4,000 sq ft). Two or three dominant species were recorded for each polygon, "dominant" determined as covering at least 25% of area within the plant community.

Of the approximately 316 acres mapped at CU South, roughly 20% is comprised of native plant communities. Herbaceous wetland is the largest native plant community with most of these areas occurring in the southern part of the site and around the existing ponds and ditches. Descriptions of each of the plant communities are provided in the following subsections.

### ***Native Riparian***

Native riparian communities, comprising 16 acres (5%) of the survey area, are wooded areas with sufficient soil moisture to support trees and shrubs, and at CU South they are most commonly located near a water source such as a ditch or a wetland. Native riparian communities were observed forming a mosaic with the herbaceous wetlands in the southernmost leg of the property (Photograph 1), in the South Boulder Creek floodplain along the eastern boundary, and along the western terrace. Plains cottonwood (*Populus deltoides*) is the dominant species in all native riparian communities of the study area. The most commonly observed associate was non-native Russian-olive (*Elaeagnus angustifolia*). Ash (*Fraxinus pensylvanica*) and peach-leaved willow (*Salix amygdaloides*) are also typical.



**Photograph 1.** Mosaic of native riparian/herbaceous wetland communities in southernmost portion of CU South property. Native riparian patches are dominated by plains cottonwood.

**Herbaceous Wetlands**

Herbaceous wetlands cover 30 acres, or approximately 10%, of the survey area. The largest patches are located in the southernmost portion of the property, but they are also characteristic of the inner slope of the berm (Photograph 2) and occur sparsely around the ponds.

Cattail (*Typha* sp.) was the most common dominant species in the herbaceous wetlands, but we also observed both native and non-native rushes (*Juncus* sp.), sedges (*Carex* sp.), milkweed (*Asclepias* sp.), and American threesquare (*Schoenoplectus pungens*). Additionally, there were minor occurrences of teasel (*Dipsacus* sp.), sandbar willow (*Salix exigua*), and plains cottonwood saplings.



**Photograph 2.** Herbaceous wetland on the inside of the berm; photograph faces east-southeast. Dominant species in this patch are rushes, sedges, and cattail.

**Woody wetlands**

Woody wetlands comprise 8 acres (3%) of the survey area. Woody wetlands are found predominantly in the western portion of the property and typically abut native riparian communities.

Similar to other woody wetlands of the Boulder County area, the woody wetlands in the survey area are dominated by sandbar willow. Associates commonly include cattail, sedges, and rushes (Photograph 3). Peach-leaved willow was also observed.



**Photograph 3.** Woody wetland complexed with cattails on the west side of CU South. Photograph faces south.

**Mixed Grass Prairie Mosaic**

One patch of Mixed Grass Prairie Mosaic was observed at CU South, on the eastern boundary of the property. This patch was 0.9 acres and located between a patch of native riparian to the west and open space (beyond the property boundary) to the east.

In this sole native-dominated prairie patch observed at CU South, western wheatgrass (*Pascopyrum smithii*) is dominant, yet golden banner (*Thermopsis rhomboidea*), yarrow

(*Achillea* sp.), and milkweed were prevalent. Non-native Canada thistle (*Cirsium arvense*) was also noteworthy.

### **Non-Native Grassland**

Non-native grassland comprises 233 acres (80%) of the property. The magnitude and features of this community reflect its history of disturbance including mining. Dominant species are cheatgrass (*Anisantha tectorum*) and alfalfa (*Medicago sativa*), and associates include bindweed (*Convolvulus arvensis*), yellow salsify (*Tragopogon dubius*), and smooth brome (*Bromopsis inermis*; Photograph 4). Patches of western wheatgrass were also observed.

### **Non-Native Riparian**

Non-native riparian communities were relatively small at CU South covering only 2 acres (1% of survey area). These isolated patches occurred around one of the ponds in the northern portion of the site (Photograph 5), and along the eastern and western boundaries. Russian-olive was the typical dominant, but Siberian elm (*Ulmus pumila*) and crack willow (*Salix fragilis*) were dominant in some of these patches. Sandbar willow is a frequent associate and ash was also observed.



**Photograph 5.** Non-native riparian community around the shoreline of a pond in the northern portion of CU South. Non-native upland is in the foreground.

### **Open Water and Other**

The remainder of the property consists of open water ponds (see previous water resources description), developed areas including tennis courts and roads, living fences (i.e., rows of non-native trees), and salt flats characterized by narrowleafed trefoil (*Lotus tenuis*). A waste pile of riprap and soil is also found in the southwest corner.



**Photograph 4.** Non-native grassland at CU South. Dominant species are cheatgrass and alfalfa. White tufts are yellow salsify.

**Threatened Species' Habitat**

On August 30, 2016, OSMP staff conducted a rapid assessment of CU South for potential habitat for Ute ladies'-tresses orchid (*Spiranthes diluvialis*), a threatened species, as well as actively growing individual *Spiranthes*. Potential habitat was observed primarily in areas that were classified as non-native upland but always adjacent to herbaceous and/or woody wetland Blue lobelia (*Lobelia siphilitica*), a common floral associate of *Spiranthes*, was also observed in onsite wetland. Due to the location of most wetlands on-site, the eastern and southern portions of the property were emphasized for the survey.

Figure 7 shows the areas identified as potential Ute ladies' tress orchid habitat at CU South based on OSMP's rapid assessment. Four individual *Spiranthes* plants were observed in association with a patch of herbaceous wetland adjacent to the berm close to the southeast edge. As shown on Figure 7, most of the potential habitat is identified in the eastern portion of the property, with additional patches located around the cattail wetlands in the southernmost "panhandle" as well as smaller areas adjacent to the ponds in the northern portion.

Note that this rapid assessment for *Spiranthes* habitat was not intended to meet the qualifications of a full survey for clearance from the Fish and Wildlife Service. For regulatory purpose, a more intensive survey prior to planning and development would be required. Similarly, careful surveys should be conducted for the Colorado butterfly plant (*Gaura neomexicana* ssp. *coloradensis*) prior to site development. The Colorado butterfly plant is also listed as threatened and its habitat requirements are similar to those of *Spiranthes*.

**Wildlife Habitat**

According to the Species Range Mapping for select mammals by Colorado Parks and Wildlife Department (CPW), most or all of the property is within the overall ranges of mule deer (*Odocoileus hemionus*), white-tailed deer (*Odocoileus virginianus*), bobcat (*Lynx rufus*), and mountain lion (*Puma concolor*), and contains potential Preble's meadow jumping mouse (*Zapus hudsonius preblei*) habitat. Figure 8a shows select ranges for bear and deer and Preble's. Detailed wildlife surveys have not been conducted on the CU South property; however, residents in the area report seeing abundant birds and wildlife such as coyote, fox, and small mammals (and even a moose recently). Other common urban wildlife including a variety of breeding grassland and wetland birds, fish, amphibians, and reptiles are known or are likely to occur on the property, particularly given its location adjacent to OSMP-protected areas and the types of plant communities found on-site.

City OSMP staff provided further input on wildlife habitat features to include in the suitability analysis. Figure 8b shows the designated conservation areas for the Preble's meadow jumping mouse used by OSMP. In August 2016, OSMP staff conducted a high-level rapid survey of aquatic, wetland, and grassland areas to ascertain the presence of suitable habitat for breeding birds, Ute ladies'-tresses orchid, native fish, amphibians, and reptiles. Site observations included:

- Open water habitat provided habitat for native amphibians and reptiles. A single snapping turtle was observed in one pond and woodhouse toad tadpoles in another (the pond close to the tennis courts). OSMP notes from prior knowledge that native western chorus frog and woodhouse toad populations breed in the ditch on the western boundary (northern portion) as well as the herbaceous wetland communities south of the tennis courts.

The shallow depth of the lakes is a primary factor of their general low quality for wildlife as indicated by algal blooms and prevalence of non-native species such as bullfrog,



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

**Legend**

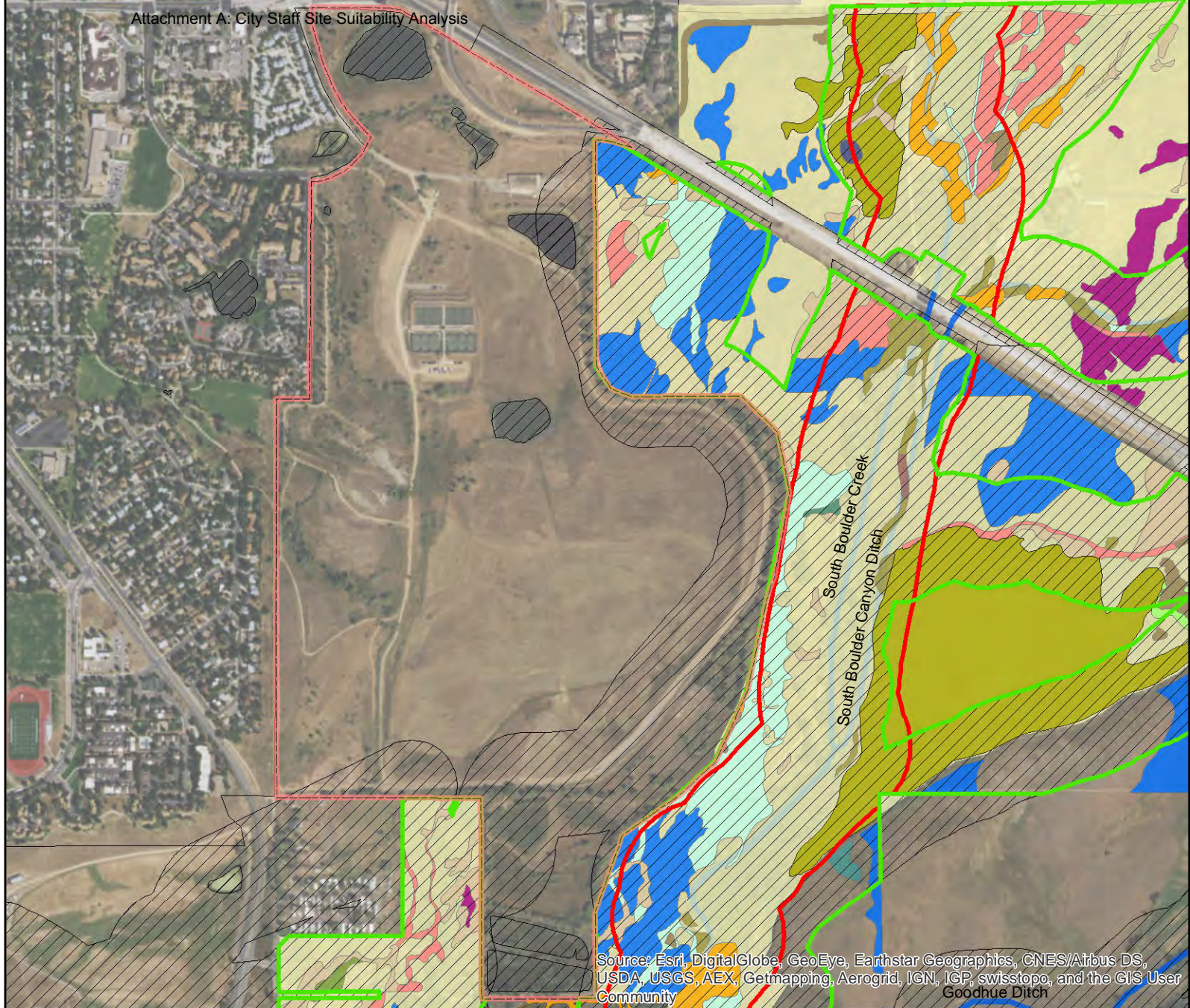
- Black Bear Fall Concentration
- Black Bear Human Conflict Area
- Mule Deer Highway Crossing
- Mule Deer Concentration Area
- White-tailed Deer Concentration Area
- CUSouth\_Boundary
- Creeks and Ditches
- HIGHWAYS

The entire site is within the overall habitat ranges for black bear, black-tailed prairie dog, mountain lion, white-tailed deer, mule deer (also summer and winter range), Preble's meadow jumping bouse, reptiles and white tailed deer.

**Figure 8a**  
 Select Wildlife Ranges (regional data)  
 CU Property  
 Source :Colorado Parks and Wildlife







Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

**Legend**

- CUSouth\_Boundary
- South Boulder Creek State Natural Area
- Prebles Conservation Zones
- Prebles Critical Habitat
- Prebles Conservation Zones regional

**OSMP\_TrackedVegAssociations\_S1\_S3**

**Associations**

- American Mannagrass Herbaceous Vegetation
- Big Bluestem - Prairie Dropseed Western Foothills Herbaceous Vegetation
- Big Bluestem - Yellow Indiangrass Western Great Plains Herbaceous Vegetation
- Big Bluestem Colorado Front Range Xeric Tallgrass Herbaceous Vegetation
- Clustered Field Sedge Herbaceous Vegetation
- Eastern Cottonwood - (Peachleaf Willow) / (Coyote Willow, Sandbar Willow) Woodland
- Nebraska Sedge Herbaceous Vegetation
- Prairie Cordgrass Herbaceous Vegetation
- Threesquare Wet Meadow Herbaceous Vegetation
- Woolly Sedge Herbaceous Vegetation

**CNHP\_TrackedVegAssociations\_S1\_S5**

**Associations**

- (Broadleaf / Narrowleaf) Cattail Western Herbaceous Vegetation
- American Mannagrass Herbaceous Vegetation
- Big Bluestem - Prairie Dropseed Western Foothills Herbaceous Vegetation
- Big Bluestem - Yellow Indiangrass Western Great Plains Herbaceous Vegetation
- Clustered Field Sedge Herbaceous Vegetation
- Coyote Willow / Mesic Graminoids Shrubland
- Eastern Cottonwood - (Peachleaf Willow) / (Coyote Willow, Sandbar Willow) Woodland
- Marsh Spikerush Herbaceous Vegetation
- Narrowleaf Cottonwood / Coyote Willow Woodland
- Nebraska Sedge Herbaceous Vegetation
- Prairie Cordgrass Herbaceous Vegetation
- Threesquare Wet Meadow Herbaceous Vegetation
- Western Wheatgrass - Blue Grama Herbaceous Vegetation
- Woolly Sedge Herbaceous Vegetation

0 500 Feet  
May 17, 2007

Note: Local Preble's data shown here provided by city was used in suitability analysis.



**Figure 8b**  
**Habitat Connectivity Considerations**  
**CU Property** A39 of 75

which were present in multiple locations, in large numbers, and with a diverse age structure. Such robust bullfrog populations would likely prevent the success of native frogs in those areas.

- Potential for the northern leopard frog (*Rana pipiens*), a species of concern, to breed within the CU South property would be highest in years of high water. Such conditions would create open water on the edges of ponds and wetlands, where larvae are deposited. The current year (2016) did not foster these conditions. More intensive surveys may be needed to confirm their presence on the CU South property.
- South Boulder Creek is a known corridor for northern leopard frog migration, and adjacent OSMP property to the south (Fancher Ponds) has supported northern leopard frog breeding for the past four years. Thus, the proximity of the CU South property to known northern leopard frog habitat increases the likelihood of CU South being used for some behaviors and/or life stages.
- Over 100 bird species have been observed at CU South since 2011, over half of which were confirmed to be breeding (a comprehensive list is attached as Table A-2). Many of these, including the American kestrel, western meadowlark, common nighthawk, dickcissel, horned lark, lark sparrow, loggerhead shrike, vesper sparrow, grasshopper sparrow, and blue grosbeak, are included in OSMP's grassland conservation targets. These observations indicate that the available habitat at CU South is of sufficient size and condition to support a diverse assemblage of native species. A subset of examples is:
  - Dickcissel is a sensitive breeding bird whose presence indicates breeding habitat (OSMP 2010).
  - Blue grosbeak indicates breeding habitat effectiveness and diversity (OSMP 2010).
  - Horned lark is a common prairie dog associate whose presence indicates prey (i.e., insect and seed) availability (OSMP 2010).

The above examples focus on grassland species as a basis for including grassland in the suitability analysis. Numerous wetland bird species have also been observed at CU South, but are not discussed in detail here as their habitat was incorporated into the GIS suitability analysis and was already valued as high-quality for the purposes of the assessment.

### **Habitat Connectivity**

As noted previously, sensitive plant and animal habitat areas have been identified on the protected OSMP lands to the east and south of the property by both the Colorado Natural Heritage Program (CNHP), the Colorado State Natural Areas Program, and OSMP. On the adjacent OSMP property, OSMP has identified ecologically significant wetlands as well as habitat for sensitive species including Preble's meadow jumping mouse (*Zapus hudsonius preblei*), Ute ladies' tresses orchid (*Spiranthes diluvialis*), northern leopard frog (*Rana pipiens*), bobolink (*Dolichonyx oryzivorus*), plains topminnow (*Fundulus sciadicus*), and orangespotted sunfish (*Lepomis humilis*).

Preble's meadow jumping mouse and Ute ladies'-tresses orchid are federally threatened under the Endangered Species Act, and the northern leopard frog is considered a Tier 1 species (i.e., of greatest conservation need) by Colorado Parks and Wildlife. In addition, these OSMP properties support the majority of the city's mesic tallgrass prairie, a globally threatened plant community.

Figure 8b shows the designated conservation areas for the Preble's meadow jumping mouse along with the plant communities that are tracked by CNHP and OSMP. Preble's was positively located within ca. 300 meters of the property as recently as 2014. Preble's meadow jumping mouse (Preble's) habitat is a riparian ecosystem characterized by a high cover of shrubs, grasses, and forbs, and adjacent uplands that are used for foraging and hibernation. Typical habitat is found in the foothills of the Front Range ranging from southeastern Wyoming to Colorado Springs. Preble's is primarily nocturnal and a true hibernator, entering hibernation in early fall (Sept-Oct) and emerging in May. Its diet, comprised of insects, seeds, fungus, moss, pollen, and fruit, changes seasonally according to the availabilities of different foods.

For larger mammals and birds, the proximity of the property to adjacent OSMP land provides important habitat connectivity opportunities to the east and south. A potential linkage was noted by one resident who suggested the property serves as a potential connector for the southeast portion of the City between the foothills to South Boulder Creek and the Baseline Reservoir.

### 3.2 Conservation Suitability Mapping

The preliminary results of the weighted-sum GIS conservation suitability (sensitivity) analysis (described in Section 2.2) are presented in Figure 9. Darker areas reflect a higher number of good quality attributes for conservation. Lighter areas suggest areas that may be better suited for potential restoration, mitigation, or development compatibility. The mapping suggests that the eastern perimeter and southern wetlands have the largest contiguous, higher ranked areas of sensitivity to disturbance or development. The water resources and the wetlands, as well as a mosaic area in the northwest, also are higher value areas based on the GIS analysis. The central portion of the property and western edge have lower rankings for conservation values as indicated by their lighter color.

### 3.3 Secondary Considerations

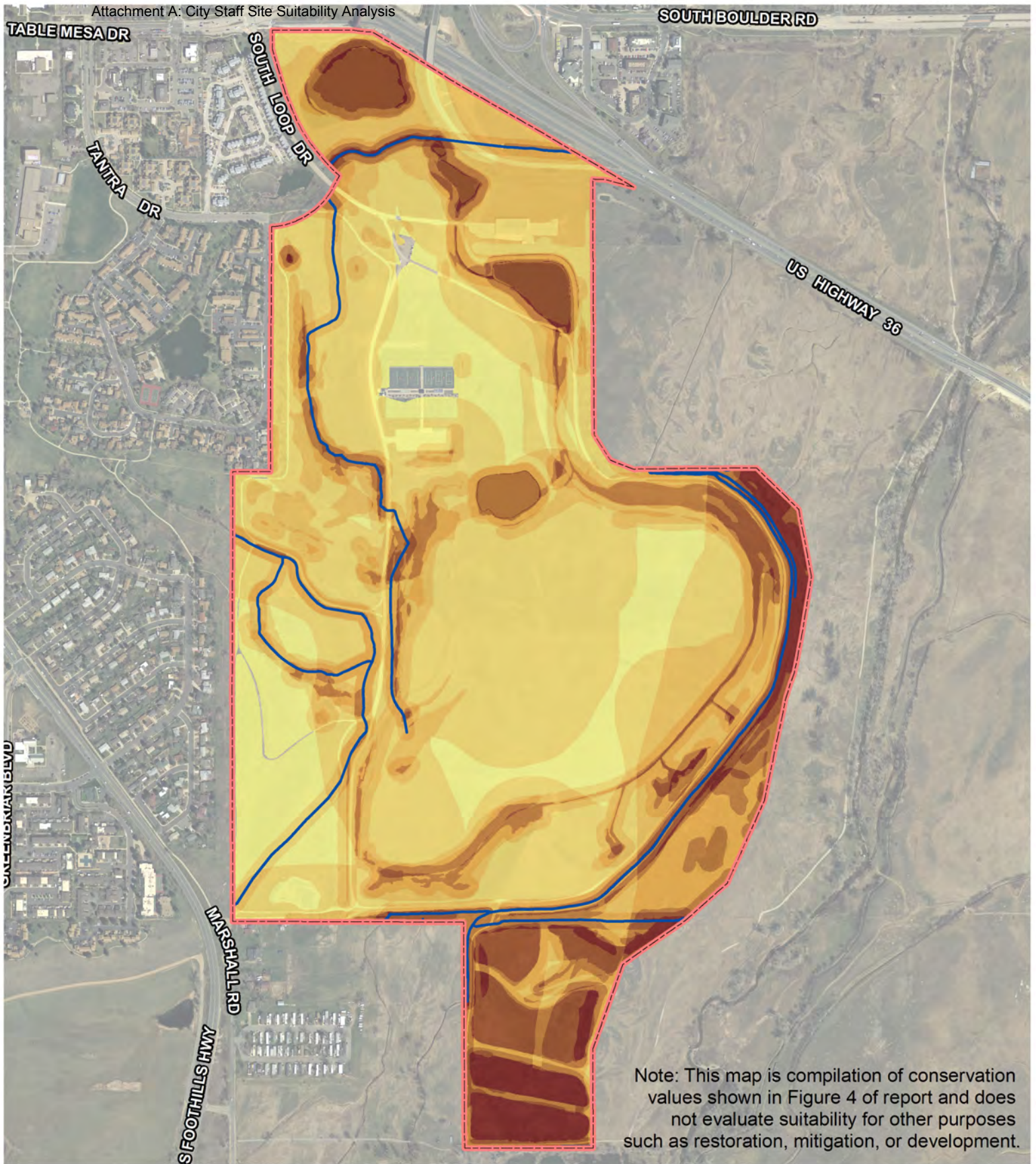
Secondary suitability criteria were evaluated including landscape character views and potential habitat connectivity.

#### **Habitat connectivity to adjoining properties**

Figure 10 is a sketch depicting connectivity potential between the CU South property and nearby areas containing native plant associations and Preble's meadow jumping mouse habitat. Connectivity potential was based generally on proximity, potential for seed dispersal, and wildlife usage. As indicated in the figure, the highest potential areas for connectivity are to the south and east of the CU property where OSMP-protected areas adjoin the property.

#### **Landscape character viewshed features**

Figure 11 presents a conceptual sketch of photopoint values, depicting the areas of the site with view features based on the assessment detailed in Section 2.3 above (further detail in Table A-1, attached). The outline of the point and the color reflect an initial value of key landscape characteristics at these points. This is a preliminary exercise which may need refinement once stakeholder input is gathered.



**Figure 9**  
**Site Conservation**  
**Suitability Analysis**  
**CU South**

**Legend**

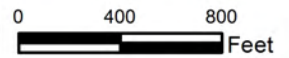
- CU South Boundary
- Streams
- Street\_Centerlines

**Suitability Rating**

Score

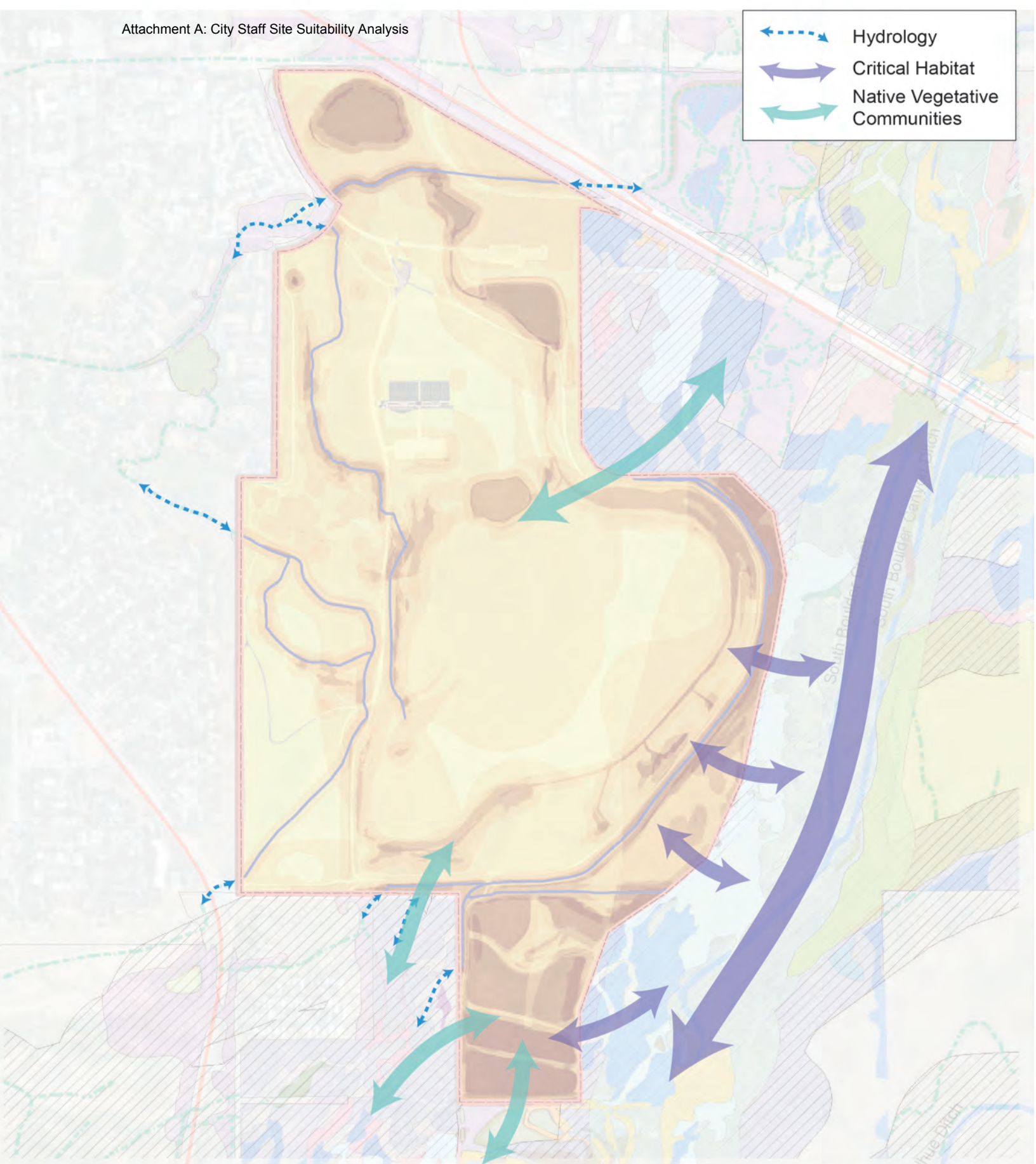


High : 10 Note: High=greater conservation value, and Low=less conservation value  
 Low : 1



**November 2016**

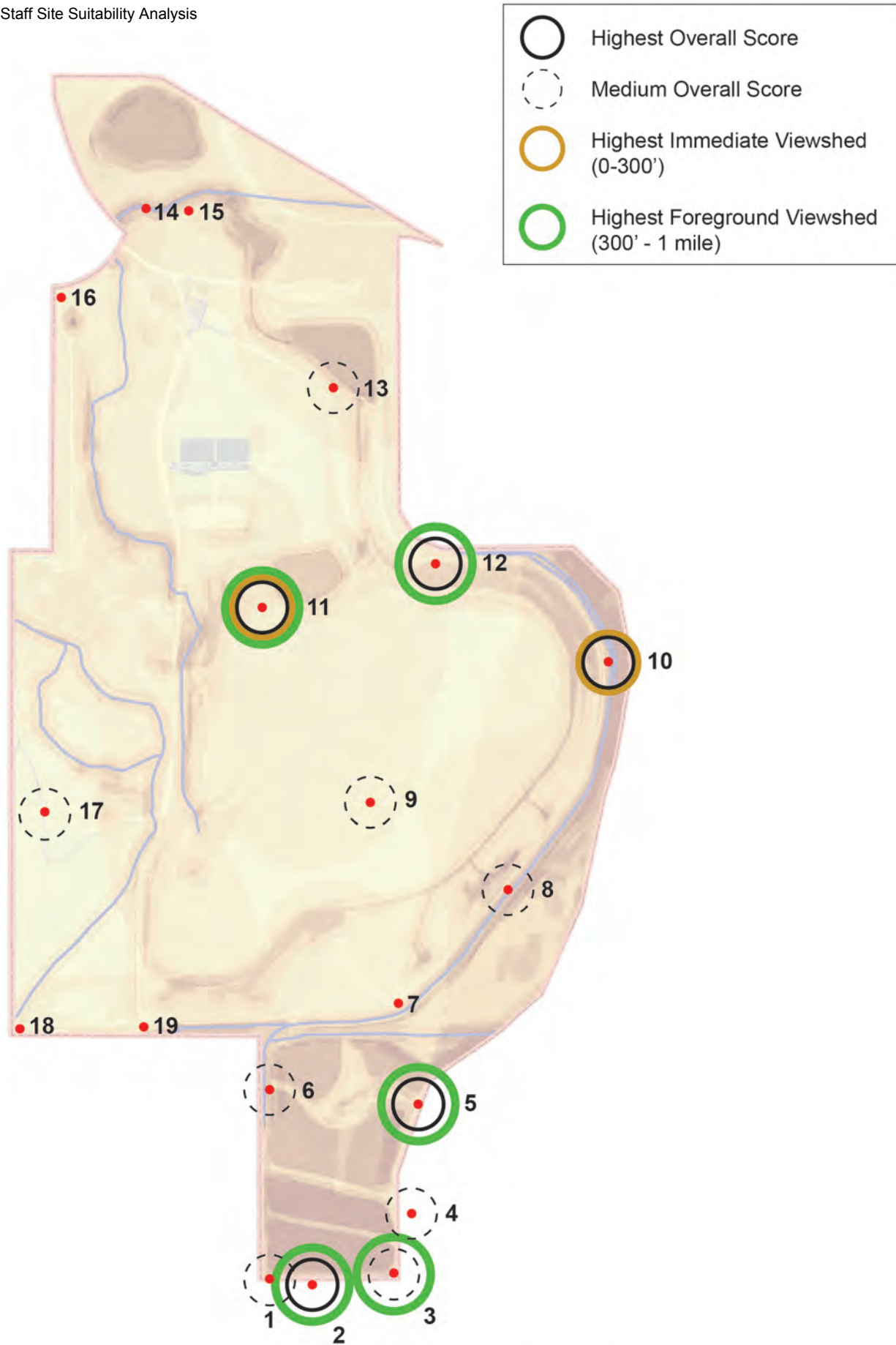
- Hydrology
- Critical Habitat
- Native Vegetative Communities



**Figure 10**  
**Connectivity: Critical Habitat, Native Vegetative Communities, & Hydrology**  
November 2016  
CU Property

0 400 800 feet





0 400 800 feet



**Figure 11**  
**Preliminary Viewshed Analysis**  
November 2016  
CU Property

## 4 Next steps

The following potential action items are suggested as next steps to refine and finalize this conservation suitability analysis and incorporate the findings into the decision-making process.

### **Collect and Synthesize Stakeholder Comments**

The public and city and Boulder County boards and commissions will have opportunities to review and comment in September. Additionally, city and CU staff may have additional comments and questions for consideration in future analyses.

### **Revise Conservation Suitability Mapping**

Depending on the nature of design alternatives and input from outreach efforts, it may be desirable to re-run the GIS analysis to adjust certain inputs and compare to the original output. For example, adding new criteria such as the potential for wetland mitigation or restoration potential could be useful. Additionally, the current qualitative analyses of habitat connectivity could be made quantitative, for example, by incorporating a layer showing buffers around tracked plant community resources found on adjoining properties (monitored by the Colorado Natural Heritage Program and OSMP). Finally, additional qualitative analyses based on viewsheds may be developed based on stakeholder input.

### **Integrate Comments and Additional Suitability Analyses for Transportation and Services**

Environmental considerations for conservation are only a subset of the issues that the city and CU are evaluating. Other suitability analyses of transportation and city services are being conducted separately.

### **Collaborate with Flood Control Design Process**

The current analysis of the property allows the quantification of acres of the site with various ranking values (1-8) to be tallied. By overlaying the proposed floodplain mitigation features (berm, fill, detention basin), it would be possible to quantify the areas of various ranked areas that will be impacted. Similarly, as the design engineers consider variations of the layout, it will be possible to compare the impacts to select a layout that maintains the most ecological function.

### **Inform Land Use Changes and Agreements**

As noted in the introduction of this report, while the BVCP was updated multiple times between 200-2015, land use designations of CU South did not change during either of those updates. The BVCP is currently being updated and land use designations of the parcel are expected to change in part to accommodate the mitigation for South Boulder Creek flood earthwork on the site and to address CU's long term planning needs and other community goals. This update will be done with input from the City of Boulder, CU, and the public to determine the most appropriate updates to land use designations, and this suitability study can help inform agreements between the city and CU about future development and conservation of the site.

## References

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Moore, DA, AW Straub, ME Berry, ML Baker, and TR Brandt. 2001. Geologic map of the Denver 1x2 degree quadrangle, northeast Colorado. US Geological Survey, Denver CO.

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## Attachments

**Table A-1.** List of viewshed features

| Immediate View (0-300')  | Foreground View (300'-1 mi)   | Middle Ground (1-4 mi)   | Background (4 mi-horizon)   |
|--|---|--|---|
| <ul style="list-style-type: none"> <li>• Sounds of water</li> <li>• View in shady spot across open sunny area</li> <li>• Accessibility over wetland, e.g., boardwalk crossing</li> <li>• No dirt road visible</li> </ul> | <ul style="list-style-type: none"> <li>• Mixed grassland with shrubs</li> <li>• Two-track road/trail</li> <li>• Native plants/meadow fields</li> <li>• Diverse plant palette</li> <li>• Rural/agricultural fields</li> <li>• Trees line long views</li> <li>• Mature trees</li> <li>• Unimpeded view across open water</li> <li>• Unimpeded view across wetland/seep</li> </ul> | <ul style="list-style-type: none"> <li>• Some distant views visible</li> </ul> | <ul style="list-style-type: none"> <li>• Mountains partially visible on horizon</li> <li>• Unimpeded view of mountains</li> <li>• Wide Views</li> </ul> |

November 21, 2016

**Table A-2.** Bird species observed on the CU South property, 2011-2016.

| Species                   | Status           |         |                     |            | Habitat Associate |           |          | Where observed |                          |                          |           |                 |                 |             | Status Notes |   |
|---------------------------|------------------|---------|---------------------|------------|-------------------|-----------|----------|----------------|--------------------------|--------------------------|-----------|-----------------|-----------------|-------------|--------------|---|
|                           | Resident Breeder | Migrant | Neotropical Migrant | Generalist | Wetland           | Grassland | Riparian | N. Ponds       | Non-Native Grassland (N) | Non-Native Grassland (S) | W. Mosaic | Inner Perimeter | Outer Perimeter | S. Wetlands |              |   |
| American Bittern          | X                | X       |                     |            | X                 |           |          |                |                          |                          |           |                 |                 |             | X            | The Southern Wetlands cattail marshes are a well-known location for American Bitterns if the water level is appropriate |
| American Crow             |                  |         |                     | X          |                   |           |          |                |                          |                          |           |                 |                 |             |              |   |
| American Goldfinch        | X                |         |                     | X          |                   |           | X        | X              | X                        | X                        | X         | X               | X               | X           | X            |   |
| American Kestrel          | X                | X       |                     |            |                   | X         | X        | X              | X                        | X                        | X         | X               | X               | X           | X            |   |
| American Pipit            |                  | X       |                     |            |                   |           |          |                |                          |                          |           |                 |                 |             |              |   |
| American Robin            | X                |         |                     | X          |                   |           | X        | X              | X                        | X                        | X         | X               | X               | X           | X            |   |
| American White Pelican    |                  | X       |                     |            |                   |           |          |                |                          |                          |           |                 |                 |             |              |   |
| American Wigeon           |                  | X       |                     |            | X                 |           |          | X              |                          |                          |           |                 |                 |             |              |   |
| Bank Swallow              |                  | X       | X                   |            | X                 |           |          |                |                          |                          |           |                 |                 |             |              |   |
| Barn Swallow              | X                | X       | X                   | X          | X                 | X         |          | X              | X                        | X                        | X         | X               | X               | X           | X            |   |
| Belted Kingfisher         |                  |         |                     |            | X                 |           |          | X              |                          |                          |           |                 |                 |             |              |   |
| Black-billed Magpie       | X                |         |                     | X          |                   |           |          |                |                          |                          |           |                 |                 |             |              |   |
| Black-capped Chickadee    | X                |         |                     | X          |                   |           | X        |                |                          |                          | X         | X               | X               | X           |              |   |
| Black-chinned Hummingbird | X                | X       | X                   |            |                   |           | X        |                |                          |                          | X         | X               | X               | X           |              |   |
| Black-throated Sparrow    |                  | X       |                     |            |                   |           |          |                | X                        |                          |           |                 |                 |             |              | One sighting 4-22-11  |
| Blue Grosbeak             | X                | X       | X                   |            |                   | X         |          |                | X                        | X                        | X         | X               | X               |             |              |   |
| Blue Jay                  | X                |         |                     | X          |                   |           | X        |                |                          |                          | X         |                 | X               |             |              |   |
| Blue-gray Gnatcatcher     |                  | X       | X                   |            |                   |           | X        |                |                          |                          | X         |                 |                 |             |              |   |
| Brewer's Sparrow          |                  | X       |                     |            |                   | X         |          |                |                          | X                        | X         |                 |                 |             |              |   |
| Broad-tailed Hummingbird  |                  | X       | X                   |            |                   |           |          |                |                          |                          | X         |                 |                 |             |              |   |
| Brown-headed Cowbird      | X                | X       |                     | X          |                   |           |          |                |                          |                          | X         |                 | X               |             |              |   |
| Bufflehead                |                  | X       |                     |            | X                 |           |          | X              |                          |                          |           |                 |                 |             |              |   |

November 21, 2016

| Species                | Status           |         |                     |            | Habitat Associate |           |          | Where observed |                          |                          |           |                 |                 |             | Status Notes                                       |
|------------------------|------------------|---------|---------------------|------------|-------------------|-----------|----------|----------------|--------------------------|--------------------------|-----------|-----------------|-----------------|-------------|--|
|                        | Resident Breeder | Migrant | Neotropical Migrant | Generalist | Wetland           | Grassland | Riparian | N. Ponds       | Non-Native Grassland (N) | Non-Native Grassland (S) | W. Mosaic | Inner Perimeter | Outer Perimeter | S. Wetlands |  |
| Bullock's Oriole       | X                | X       | X                   |            | X                 |           | X        | X              |                          |                          | X         |                 | X               | X           |  |
| Canada Goose           | X                | X       |                     | X          | X                 |           |          | X              |                          |                          |           |                 |                 |             |  |
| Cassin's Kingbird      |                  | X       | X                   |            |                   |           |          |                |                          | X                        |           |                 |                 |             |  |
| Cedar Waxwing          | X                | X       |                     |            |                   |           | X        |                |                          |                          | X         |                 | X               | X           |  |
| Chipping Sparrow       |                  | X       |                     | X          |                   |           |          |                | X                        | X                        | X         |                 | X               |             |  |
| Cliff Swallow          |                  | X       |                     | X          |                   |           |          |                | X                        | X                        | X         |                 |                 |             |  |
| Common Grackle         | X                | X       |                     | X          |                   |           |          | X              | X                        | X                        | X         | X               | X               | X           |  |
| Common Nighthawk       | X                | X       | X                   |            |                   | X         |          |                | X                        | X                        |           |                 | X               |             |  |
| Common Raven           |                  |         |                     | X          |                   |           |          |                |                          |                          |           |                 |                 |             |  |
| Common Yellowthroat    | X                | X       | X                   |            | X                 |           |          |                |                          |                          |           | X               | X               | X           | nest in cattail stands in ditches and ponds        |
| Cooper's Hawk          |                  |         |                     | X          |                   |           | X        |                |                          | X                        | X         |                 | X               |             |  |
| Dark-eyed Junco        |                  | X       |                     | X          |                   |           |          | X              | X                        | X                        | X         |                 |                 |             |  |
| Dickcissel             | X                | X       | X                   |            |                   | X         |          |                |                          | X                        |           | X               |                 |             | several singing males in the area in 2012          |
| Downy Woodpecker       | X                |         |                     | X          |                   |           |          |                |                          |                          | X         |                 | X               |             |  |
| Eastern Kingbird       | X                | X       | X                   |            |                   |           |          | X              | X                        |                          |           | X               | X               |             |  |
| Eurasian Collared-Dove | X                |         |                     | X          |                   |           |          |                |                          |                          |           |                 |                 |             |  |
| European Starling      | X                |         |                     | X          |                   |           |          |                |                          |                          |           |                 |                 |             |  |
| Gadwall                |                  | X       |                     |            | X                 |           |          | X              |                          |                          |           |                 |                 |             |  |
| Grasshopper Sparrow    | X                | X       | X                   |            |                   | X         |          |                |                          | X                        |           |                 |                 |             | singing males in the southern grassland one summer |
| Gray Catbird           |                  | X       | X                   |            |                   |           | X        |                |                          |                          | X         |                 |                 |             |  |
| Gray Flycatcher        |                  | X       | X                   |            |                   |           |          |                |                          |                          | X         |                 |                 |             | one individual in April 2011                       |
| Great Blue Heron       |                  | X       |                     |            | X                 |           |          | X              |                          |                          |           |                 |                 |             |  |
| Greater Yellowlegs     |                  | X       | X                   |            | X                 |           |          | X              |                          |                          |           |                 |                 |             |  |
| Green-tailed Towhee    |                  | X       | X                   |            |                   |           |          |                |                          |                          | X         |                 |                 |             |  |

November 21, 2016

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|-------------------------------|------------------|---------|---------------------|------------|-------------------|-----------|----------|----------------|--------------------------|--------------------------|-----------|-----------------|-----------------|-------------|--------------|
|                               | Resident Breeder | Migrant | Neotropical Migrant | Generalist | Wetland           | Grassland | Riparian | N. Ponds       | Non-Native Grassland (N) | Non-Native Grassland (S) | W. Mosaic | Inner Perimeter | Outer Perimeter | S. Wetlands |              |
| Harris's Sparrow              |                  | X       |                     |            |                   |           |          |                |                          |                          | X         |                 |                 |             |              |
| Hermit Thrush                 |                  | X       | X                   |            |                   |           |          |                |                          |                          |           |                 | X               |             |              |
| Horned Lark                   |                  | X       |                     |            |                   | X         |          |                |                          | X                        |           |                 |                 |             |              |
| House Finch                   | X                |         |                     | X          |                   |           |          | X              | X                        | X                        | X         | X               | X               |             |              |
| House Sparrow                 | X                |         |                     | X          |                   |           |          |                |                          |                          |           |                 |                 |             |              |
| House Wren                    | X                | X       | X                   |            |                   |           |          |                |                          |                          | X         |                 | X               |             |              |
| Killdeer                      | X                | X       | X                   |            | X                 |           |          | X              | X                        | X                        |           |                 |                 |             |              |
| Lark Sparrow                  | X                | X       |                     |            |                   | X         |          |                | X                        | X                        | X         |                 |                 |             |              |
| Lazuli Bunting                |                  | X       | X                   |            |                   |           |          |                |                          |                          |           | X               | X               |             |              |
| Least Flycatcher              |                  | X       | X                   |            |                   |           |          |                |                          |                          | X         |                 |                 |             |              |
| Lesser Goldfinch              | X                | X       | X                   | X          |                   |           |          | X              | X                        | X                        | X         |                 | X               | X           |              |
| Lesser Yellowlegs             |                  | X       | X                   |            | X                 |           |          | X              |                          |                          |           |                 |                 |             |              |
| Lincoln's Sparrow             |                  | X       | X                   |            |                   |           |          |                |                          |                          | X         | X               | X               | X           |              |
| Loggerhead Shrike             |                  | X       |                     |            |                   | X         |          |                |                          | X                        |           |                 |                 |             |              |
| Mallard                       | X                | X       |                     |            | X                 |           |          | X              |                          |                          |           |                 |                 |             |              |
| Merlin                        |                  | X       |                     |            |                   |           |          |                |                          |                          | X         |                 |                 |             |              |
| Mountain Bluebird             |                  | X       |                     |            |                   |           |          |                | X                        | X                        |           |                 |                 |             |              |
| Mountain Chickadee            |                  | X       |                     |            |                   |           |          |                |                          |                          | X         |                 |                 |             |              |
| Mourning Dove                 | X                | X       |                     | X          |                   |           |          | X              | X                        | X                        | X         | X               | X               | X           |              |
| Northern Flicker              | X                |         |                     | X          |                   |           |          | X              |                          |                          | X         |                 | X               |             |              |
| Northern Rough-winged Swallow |                  |         |                     |            |                   |           |          |                |                          |                          |           |                 |                 |             |              |
| Northern Shrike               |                  | X       |                     |            |                   |           |          |                |                          |                          | X         |                 |                 |             |              |
| Orange-crowned Warbler        |                  | X       |                     |            |                   |           |          |                |                          |                          | X         |                 |                 |             |              |
| Osprey                        |                  | X       |                     |            |                   |           |          | X              |                          |                          |           |                 |                 |             |              |

November 21, 2016

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|-------------------------|------------------|---------|---------------------|------------|-------------------|-----------|----------|----------------|--------------------------|--------------------------|-----------|-----------------|-----------------|-------------|--------------|
|                         | Resident Breeder | Migrant | Neotropical Migrant | Generalist | Wetland           | Grassland | Riparian | N. Ponds       | Non-Native Grassland (N) | Non-Native Grassland (S) | W. Mosaic | Inner Perimeter | Outer Perimeter | S. Wetlands |              |
| Red-tailed Hawk         | X                | X       |                     | X          |                   |           | X        | X              | X                        | X                        | X         |                 | X               |             |              |
| Red-winged Blackbird    | X                | X       |                     |            | X                 |           |          | X              |                          |                          | X         |                 |                 | X           |              |
| Ring-billed Gull        |                  | X       |                     |            |                   |           |          | X              |                          |                          |           |                 |                 |             |              |
| Ring-necked Duck        |                  | X       |                     |            | X                 |           |          | X              |                          |                          |           |                 |                 |             |              |
| Rock Pigeon             | X                |         |                     | X          |                   |           |          |                |                          |                          |           |                 |                 |             |              |
| Ruby-crowned Kinglet    |                  | X       |                     |            |                   |           |          |                |                          |                          | X         |                 |                 |             |              |
| Savannah Sparrow        | X                | X       | X                   |            |                   | X         |          | X              |                          | X                        |           | X               | X               | X           |              |
| Say's Phoebe            | X                | X       | X                   |            |                   |           |          | X              | X                        | X                        | X         |                 |                 |             |              |
| Sharp-shinned Hawk      |                  | X       |                     |            |                   |           |          |                |                          |                          | X         |                 |                 |             |              |
| Solitary Sandpiper      |                  | X       |                     |            | X                 |           |          | X              |                          |                          |           |                 |                 |             |              |
| Song Sparrow            | X                | X       |                     |            | X                 |           |          | X              |                          | X                        | X         |                 |                 | X           |              |
| Sora                    | X                | X       |                     |            | X                 |           |          |                |                          |                          |           |                 |                 | X           |              |
| Spotted Towhee          |                  | X       |                     |            |                   |           |          |                |                          |                          | X         |                 |                 |             |              |
| Swainson's Thrush       |                  | X       | X                   |            |                   |           |          |                |                          |                          |           |                 | X               |             |              |
| Tree Swallow            |                  | X       | X                   |            |                   |           |          | X              |                          |                          |           |                 |                 |             |              |
| Turkey Vulture          |                  | X       | X                   |            |                   |           |          |                | X                        | X                        |           |                 |                 |             |              |
| Vesper Sparrow          | X                | X       |                     |            |                   | X         |          | X              | X                        | X                        | X         | X               | X               |             |              |
| Virginia Rail           | X                | X       |                     |            | X                 |           |          |                |                          |                          |           |                 |                 | X           |              |
| Warbling Vireo          | X                | X       | X                   |            |                   |           | X        |                |                          |                          |           |                 | X               | X           |              |
| Western Kingbird        | X                | X       | X                   |            |                   |           |          | X              | X                        | X                        | X         | X               | X               | X           |              |
| Western Meadowlark      | X                | X       |                     |            |                   | X         |          |                | X                        | X                        |           | X               |                 |             |              |
| Western Tanager         |                  | X       | X                   |            |                   |           |          |                |                          |                          | X         |                 | X               |             |              |
| Western Wood-Pewee      |                  | X       | X                   |            |                   |           |          |                |                          |                          | X         |                 | X               |             |              |
| White-breasted Nuthatch | X                |         |                     |            |                   |           | X        |                |                          |                          | X         |                 | X               |             |              |

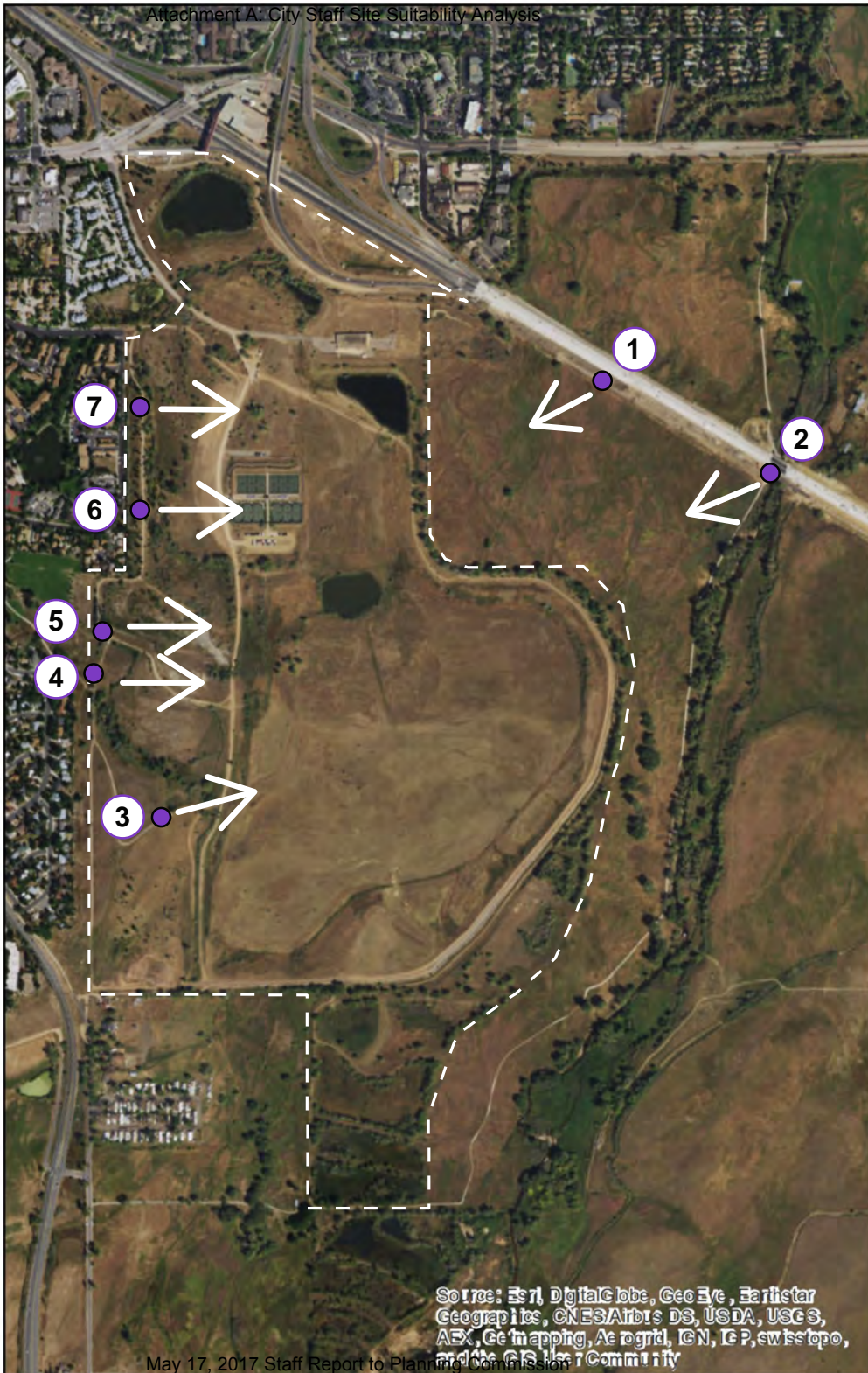
November 21, 2016

| Species               | Status           |         |                     |            | Habitat Associate |           |          | Where observed |                          |                          |           |                 |                 |             | Status Notes |
|-----------------------|------------------|---------|---------------------|------------|-------------------|-----------|----------|----------------|--------------------------|--------------------------|-----------|-----------------|-----------------|-------------|--------------|
|                       | Resident Breeder | Migrant | Neotropical Migrant | Generalist | Wetland           | Grassland | Riparian | N. Ponds       | Non-Native Grassland (N) | Non-Native Grassland (S) | W. Mosaic | Inner Perimeter | Outer Perimeter | S. Wetlands |              |
| White-crowned Sparrow |                  | X       |                     |            |                   |           |          |                |                          |                          | X         |                 |                 |             |              |
| White-throated Swift  |                  | X       |                     |            |                   |           |          |                | X                        | X                        |           |                 |                 |             |              |
| Wilson's Snipe        | X                | X       |                     |            | X                 |           |          | X              |                          |                          | X         | X               |                 | X           |              |
| Wilson's Warbler      |                  | X       | X                   |            |                   |           |          |                |                          |                          | X         |                 |                 |             |              |
| Wood Duck             |                  | X       |                     |            | X                 |           |          | X              |                          |                          |           |                 |                 |             |              |
| Yellow Warbler        | X                | X       | X                   |            |                   |           | X        |                |                          |                          | X         |                 | X               | X           |              |
| Yellow-rumped Warbler |                  | X       | X                   |            |                   |           |          | X              |                          |                          | X         |                 | X               |             |              |

# CU South

## Landscape character viewsheds

### Viewpoints from US 36

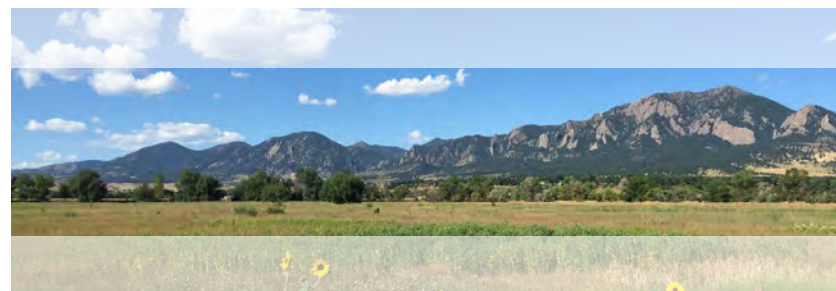


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, IGP, swisstopo, and the GIS User Community

1.



2.



Majority of the foreground that's visible from US 36 is city-owned open space. The CU South property is located behind the tree line which outlines the property boundary. The residential neighborhood directly west of the site is partially visible from US 36, and is located approximately .6 miles away and elevated 100 ft. higher. Currently, the view of CU South is screened by the existing tree line, as shown in the picture above.

### Viewpoint from the western edge

4.



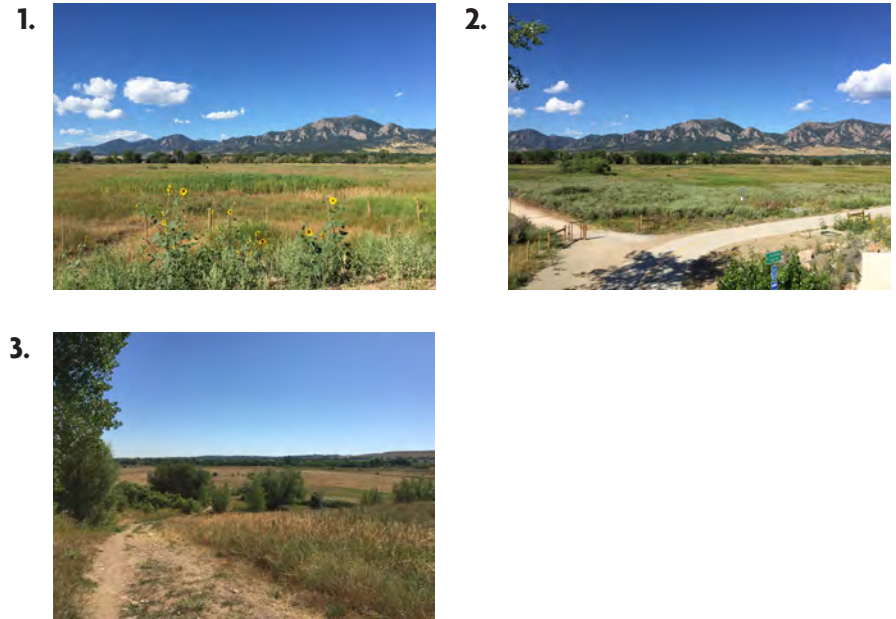
5.



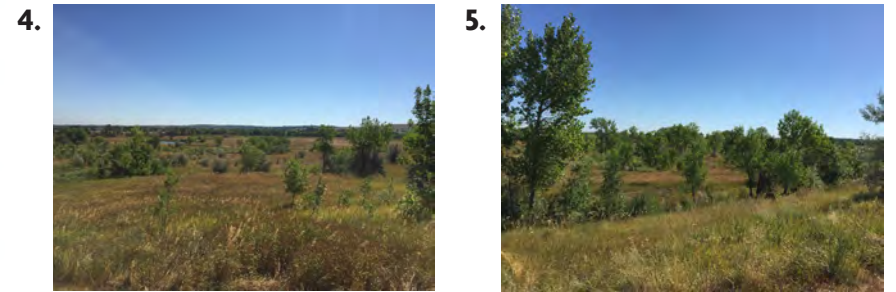
The quality of the views from the western edge of the site are consistent with one another. Wider views and exposure to open space is found on the most elevated parts of the site, located south-east of Tantra Park.

# CU South Landscape character viewsheds

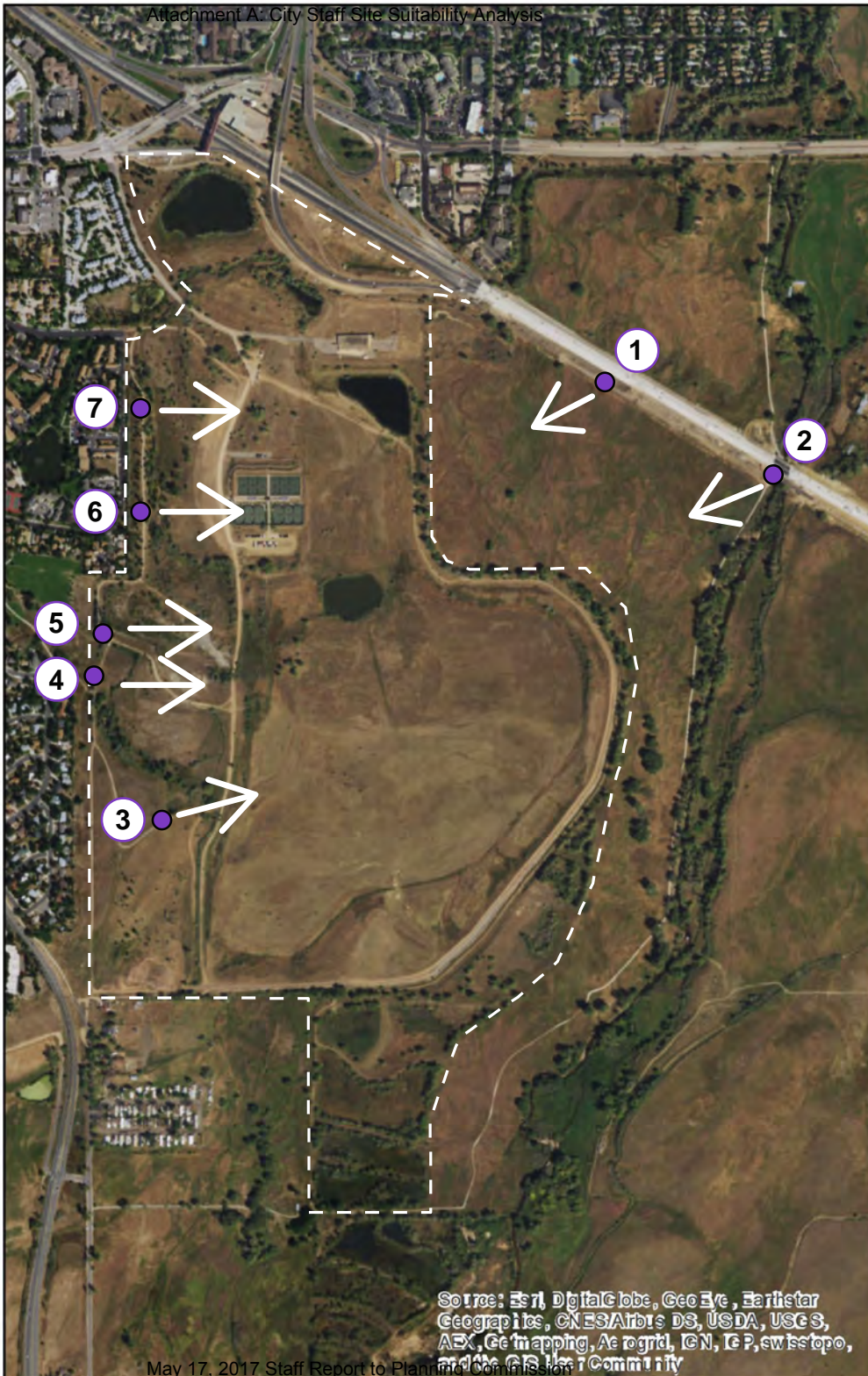
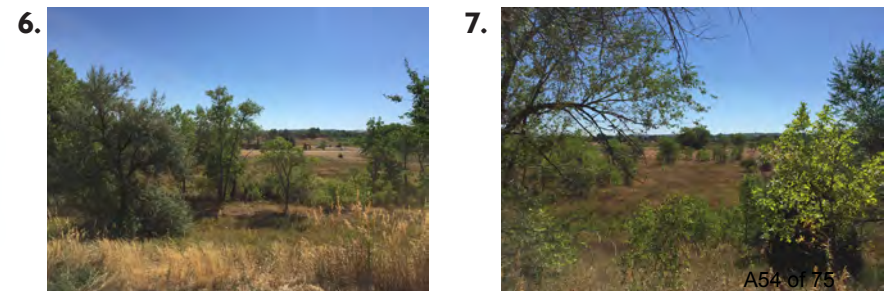
## High Value



## Mid Value



## Low Value







## MEMORANDUM

**To:** Lesli Ellis

**From:** Bill Fox, PE

**Date:** September 12, 2016

**Project:** CU South Site Suitability Analysis - Transportation

**Subject:** **Multi-modal Access Opportunities and Constraints - DRAFT**

Multi-modal accessibility is an important consideration when evaluating future land uses on the CU South parcel as part of the Boulder Valley Comprehensive Plan Update process. The ability to efficiently access the 316-acre parcel at the southeastern edge of the City of Boulder will help determine appropriate land use type, intensity and location within the property. Figure 1 includes an aerial view of the entire CU South site.

In this context, the Fox Tuttle Hernandez Transportation Group has completed an initial review of multi-modal access potential for the CU South property. In making this review we have:

- Reviewed the site and surrounding land uses;
- Conducted a site inspection of existing roadways, bikeways, and pathways that currently access the site;
- Identified potential for additional roadway, bikeway, and pathway access around the perimeter of the site;
- Reviewed the multi-modal facility plans contained in the City of Boulder’s Transportation Master Plan, with a focus on the CU South property;
- Reviewed the US 36 Environmental Impact Statement, with a focus on the Table Mesa Drive/US 36 interchange alternatives that, when implemented, will affect access to the CU parcel;
- Met with City of Boulder Transportation Division staff to review site access issues; and
- Prepared a set of transportation opportunity and constraint sketches on aerial photo base maps.

**CU South Site Suitability Analysis – Transportation Access Opportunities and Constraints**

September 12, 2016

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The results of this multi-modal access evaluation are summarized by topic as follows:

**Existing and Potential Roadway Access:****S. Loop Drive**

Currently, the only paved roadway access to the CU South property is provided by S. Loop Drive. It accesses the site from the Table Mesa Drive/S. Loop Drive/US36 Eastbound Ramp intersection. This 5-leg signalized intersection is included on **Figure 3** and illustrated in the attached **Photos 1 and 2**. S. Loop Drive is a narrow 2-lane roadway that extends approximately 1/3 mile into the property before terminating at a gravel parking area and an old industrial building (**Photos 3 and 4**). The parking area serves as access to 12 tennis courts and a gravel trail that loops through the property.

In the future, S. Loop Drive should continue as the primary vehicular access to the CU South property. As the area develops, the roadway should be reconstructed as a “complete street” with multi-modal facilities to accommodate bus, bicycle, pedestrian, and automobile traffic. It is recommended that the northern end of S. Loop Drive be incorporated into a “mobility hub” that connects all modes of travel and provides efficient circulation for RTD and CU buses, with bus, pedestrian and bicycle connectivity to the transit station along US 36 (see discussion below related to the potential US 36 interchange reconfiguration that was identified in the US 36 EIS). The future configuration of the Table Mesa Drive/Loop Drive/US 36 Ramp intersection and adjacent interchange will need to be carefully considered so as to provide safe and efficient access to CU South.

The extent of future storm water detention upstream of US 36 that is implemented will also have a significant impact on the land uses and access roadways in this northwest end of the CU South site. See the discussion below on this topic.

**Tantra Drive**

Tantra Drive is a 50-foot wide 2-lane street with on-street parking that extends from Table Mesa Drive south and then east to the western edge of the CU property (**see Figure 3, and Photos 5 and 6**). It currently carries less than 4,000 vehicle trips per day just south of Table Mesa Drive. It provides access to the commercial area south of Table Mesa Drive, abuts the Summit Middle School property where there is a pick-up and drop-off zone, and then provides access to multi-family residential housing. The eastern terminus of Tantra Drive was constructed as if it were intended extend east into the CU site.

The easterly extension of Tantra Drive into the CU property would make a logical secondary roadway access to CU South. Tantra Drive has a cross-section that can comfortably accommodate additional automobile traffic, and it connects to Table Mesa Drive at a signalized intersection.

## CU South Site Suitability Analysis – Transportation Access Opportunities and Constraints

September 12, 2016

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However, speed mitigation through the school access area will be important, and the adjacent residents along Tantra Drive will likely object to the additional traffic.

### **Moorhead Circle**

At the eastern end of Tantra Drive there is a 90 degree “T” intersection with Moorhead Circle, which extends south along the western edge of the CU property (**see Figures 3 and 4**). There is multi-family housing along the west edge of Moorhead Circle, and a raised, vegetated berm on the CU property along the east edge of the roadway (**see Photo 8**). Moorhead Circle is 32 feet wide with on-street parking along both sides.

While it would be physically possible to construct a roadway connection from the CU site directly onto Moorhead Circle, the narrow width and residential character on this area would make any new roadway connection undesirable.

### **Marshall Road**

Marshall Road is a narrow paved 2-lane road in Boulder County that parallels CO 93 south of the CU property (**see Figure 5**). The northern terminus of Marshall Road is located at the southwest corner of the CU site, where it reaches the Boulder city limits (**see Photo 11**). There is a short connection (approximately 140 feet) between Marshall Road and CO 93, located approximately 700 feet south of the northern end of Marshall Road (**see Photo 12**).

While Marshall Road does nearly connect to the CU property, it is not recommended as a future extension into the site as the property develops due to the narrow width, the adjacent residential properties in Boulder County, and the substandard spacing between Marshall Road and CO 93.

### **Southwestern Access Onto CO 93 (Broadway)**

The only other existing vehicular access to the CU property is located at the extreme southwestern corner of the site where there is a dirt roadway that extends east from the northern terminus of Marshall Road and runs along the south edge of the property (**see Photo 10**). It is not clear if this dirt roadway is on or off of the CU site, but eventually it does connect to the looping gravel roadway (cross-country course) within the CU property.

In the future, there is the potential to extend a new roadway access from the CU property and connect directly onto CO 93 (Broadway) as illustrated on **Figure 5**. CDOT has classified CO 93 as a non-rural arterial (NR-A), and the State Highway Access Code defines the geometric access requirements based on access category. A new roadway connection to CO 93 in this location would require a State Highway Access Permit, and it would also likely require a number of variances from Access Code geometric requirements related to intersection spacing and the design of auxiliary turn lanes, etc. A new access in this location would also need to be designed to overcome the existing topography that slopes downward to the east of the highway.

**CU South Site Suitability Analysis – Transportation Access Opportunities and Constraints**

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The amount of traffic that would utilize this new roadway connection will depend on the magnitude and placement of new land uses within CU South. The amount of future traffic using this access will determine the necessary intersection configuration and traffic control (stop sign or signal for example). That said, it is recommended that any internal roadway connection or connections between this new access at the south end of the property, and the Loop Drive access at the north end of the property, be constructed in a circuitous or non-direct alignment to discourage any outside traffic from cutting through the CU South property to avoid the Table Mesa Drive/Broadway connection.

**Existing and Potential Bikeway and Pathway Access:**

There are a number of gravel or dirt pathways that exist on, around, and through the CU South parcel as illustrated on **Figure 1**. A number of “social path” connections have been created between the CU site and the adjacent residential neighborhoods to the west (**see Photos 7 and 9**). The site also fronts on the US 36 Bikeway to the north, the Broadway path to the southwest (**see Photo 11**), and nearly reaches the South Boulder Creek Trail to the east.

In this context the CU property has excellent pathway and trail access, but there is room for improvement. **Figure 2** is a portion of the City’s Bicycle System Plan from the Transportation Plan, and it illustrates a number of pathway connections that have been identified. **Figures 3 – 5** provide a more detailed look at trail connections that could be enhanced to become multi-use paths, and a number of new connections to adjacent neighborhoods and pathways as the site is developed. These connections will help support bicycle and pedestrian access to and through the site, and also provide access to the transit network as it evolves.

**Existing and Potential Transit Access:**

Existing local and regional RTD buses pass through the adjacent bus stops along Table Mesa Drive and US 36 in close proximity to CU South, including the 206, 209, DASH, AB, and Flatiron Flyer routes. Eventually, as the property develops, there will likely be CU bus service to the site. The challenge will be coordinating the design of the CU site in the Mobility Hub area as it develops, in concert with future modifications to the adjacent US 36 interchange and its ramps, to accommodate the circulation of buses and the connectivity between bus routes to maximize bus transit service to the CU South parcel.

It is anticipated that the design of the internal multi-modal grid within the CU property will facilitate CU and/or local RTD bus circulation as appropriate given land uses and development intensity.

## CU South Site Suitability Analysis – Transportation Access Opportunities and Constraints

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### Potential Future Reconfiguration of the Adjacent US 36 Interchange:

The US 36 Environmental Impact Statement (EIS) considered alternatives for reconstructing the US 36/Table Mesa Drive/Foothills Parkway interchange. The Combined Alternative Package (Preferred Alternative) of the EIS describes two interchange reconfiguration “options” that provided distinctly different access to the CU South parcel (**see Figure 6**). The “Local Streets Option” would close the intersection of Table Mesa Drive and Loop Drive, and access to CU South would be provided by an extension of Tantra Drive into the CU site. The other option would maintain the intersection of Loop Drive onto Table Mesa Drive. These two options would have distinctly different impacts on the accessibility of the CU site and on the adjacent neighborhood as well.

Ultimately, *Section Four, Interchange Design Concepts, Impacts, and Mitigation* of the EIS references a subsequent agreement that was made between CDOT, the University of Colorado, the City of Boulder, and Boulder County that the preferred interchange design at this location will retain the existing intersection of Loop Drive and Table Mesa Drive to provide access to the CU South parcel. That said, the Preferred Alternative would still impact the configuration of the interchange ramps in the area and the relationship between the US 36 ramps, the transit stops along US 36 in this area, and the routes that buses would need to take to access the transit stations.

**Figure 6** illustrates the Preferred Alternative interchange layout. It can be seen that buses on Table Mesa Drive would need to circulate on Loop Drive to access the eastbound US 36 transit stop, but would then be routed onto eastbound US 36. This calls out the need to better define local and regional bus access in this area, and supports the concept of making this northwest corner of the CU South parcel a mobility hub that includes efficient connectivity between local and regional RTD bus routes, future CU bus routes, etc.

### Impacts of the South Boulder Creek Flood Mitigation Project:

The Final South Boulder Creek Major Drainageway Plan – Alternatives Analysis Report, August 2015, contains a number of alternatives related to storm water detention upstream of US 36 in the CU South parcel. The preferred Alternative D, accepted by council in August 2015, will entail construction of a berm along US 36, excavation of 81 acres in the northeast portion of the CU South property to create a detention pond, and fill of approximately 31 acres of the northwestern portion of the CU South property to 5370 feet a.s.l. (See attached Figure 9-5 Option D from Drainageway Plan). Of the seven alternatives considered, Alternative D minimized impacts to sensitive species from nearby Open Space Mountain Parks (OSMP) properties and minimized impacts to sensitive environmental resources.

## CU South Site Suitability Analysis – Transportation Access Opportunities and Constraints

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Ultimately, the South Boulder Creek flood mitigation will influence the configuration of multi-modal transportation access facilities on the site. In this context, it is recommended that the “mobility hub”, referenced above, be located as far north as possible within the CU South parcel to make multimodal travel and connections between modes and to off-site facilities as efficient as possible.

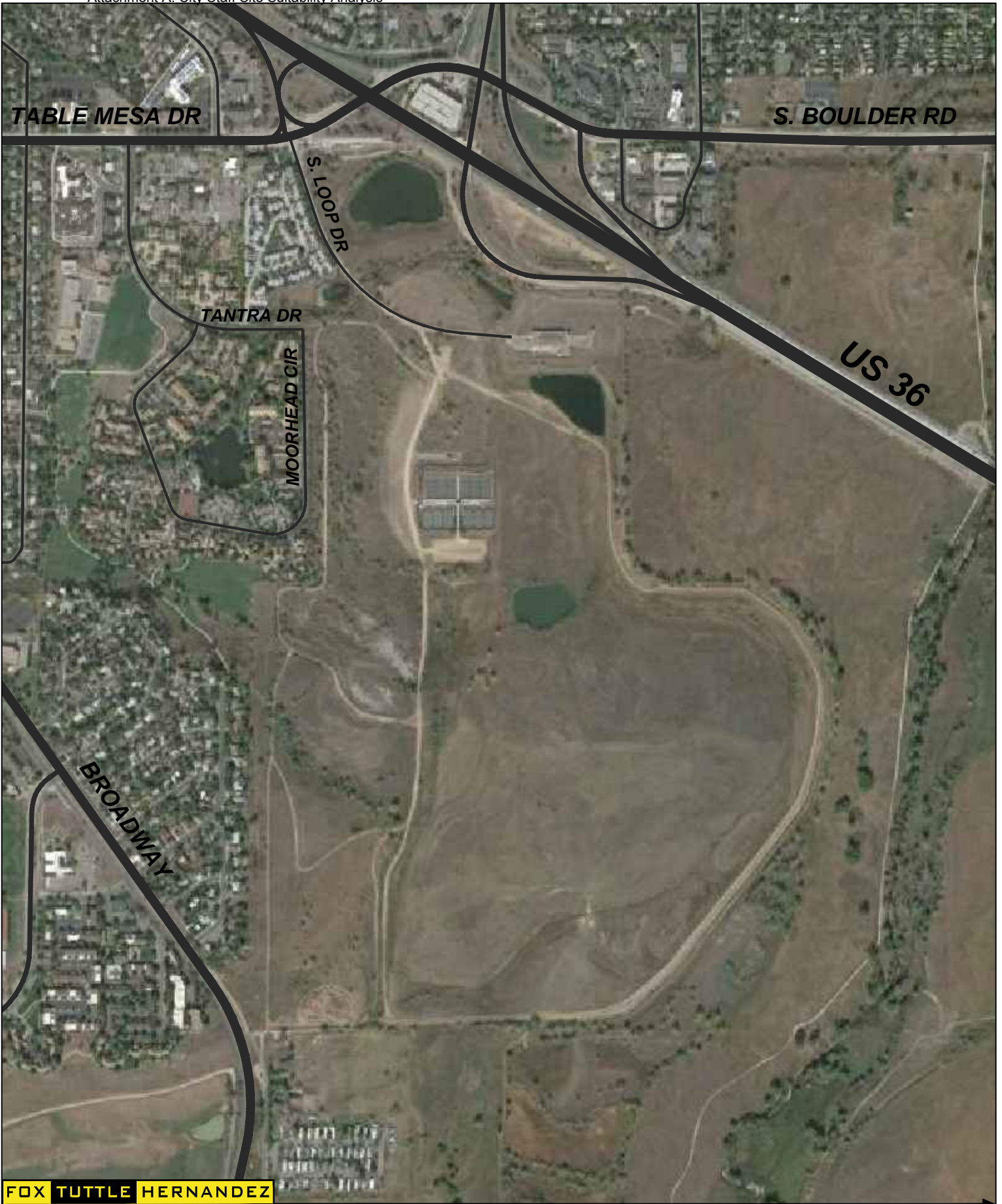
I hope this review of existing and potential multi-modal access to the CU South property is helpful. Please let me know if you have any questions.

In the next phase of this project, as future land use plans are developed for the site, we can assist with quantifying the amount and type of multi-modal transportation demand that may be expected on the various facilities that access the site.

/BF

Attachments:

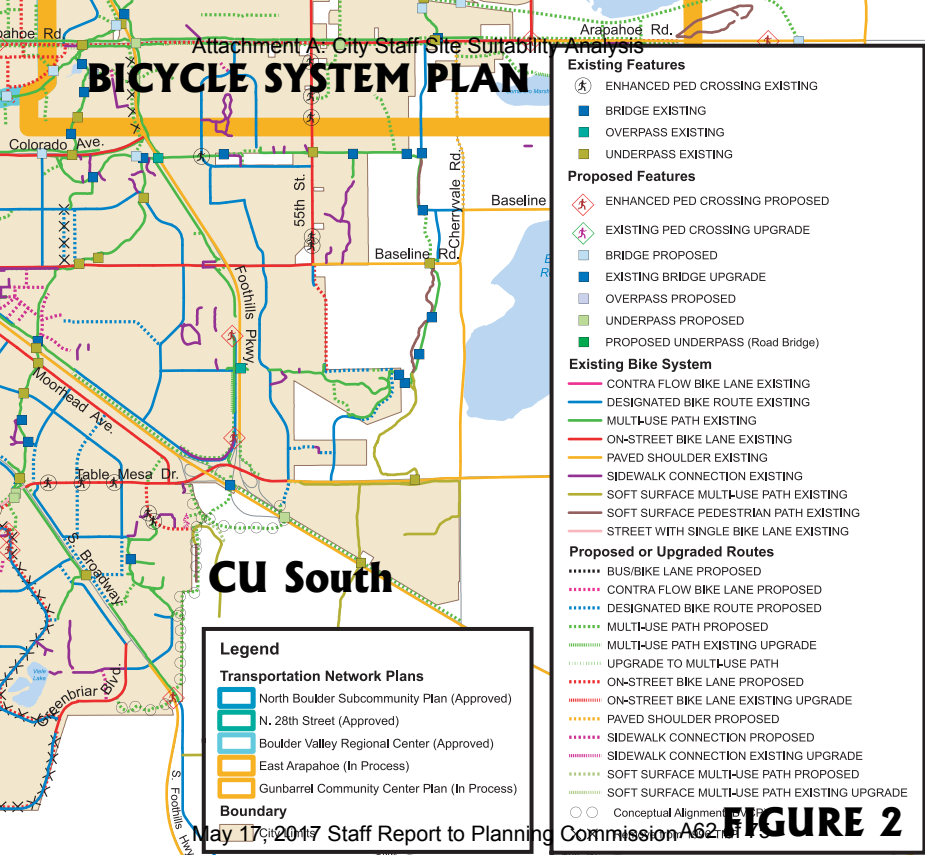
- Figure 1 Study Area Aerial Photo
- Figure 2 Boulder Transportation Master Plan - Bicycle Facility Plan (portion)
- Figure 3 – 5 Potential Multi-modal Access Improvements
- US 36 Interchange Sketch
- Site Photos 1 - 12
- Storm Water Detention Upstream of US 36, Options D



**FOX TUTTLE HERNANDEZ**  
 TRANSPORTATION GROUP

**CU BOULDER SOUTH PARCEL ACCESS STUDY  
 STUDY AREA**

|           |       |                |     |      |         |          |     |          |   |
|-----------|-------|----------------|-----|------|---------|----------|-----|----------|---|
| Project # | 16029 | Original Scale | NTS | Date | 7/27/16 | Drawn by | CRS | Figure # | 1 |
|-----------|-------|----------------|-----|------|---------|----------|-----|----------|---|



# BICYCLE SYSTEM PLAN

## CU South

### Legend

#### Transportation Network Plans

- North Boulder Subcommunity Plan (Approved)
- N. 28th Street (Approved)
- Boulder Valley Regional Center (Approved)
- East Arapahoe (In Process)
- Gunbarrel Community Center Plan (In Process)

#### Boundary



Boundary

#### Existing Features

- ENHANCED PED CROSSING EXISTING
- BRIDGE EXISTING
- OVERPASS EXISTING
- UNDERPASS EXISTING

#### Proposed Features

- ENHANCED PED CROSSING PROPOSED
- EXISTING PED CROSSING UPGRADE
- BRIDGE PROPOSED
- EXISTING BRIDGE UPGRADE
- OVERPASS PROPOSED
- UNDERPASS PROPOSED
- PROPOSED UNDERPASS (Road Bridge)

#### Existing Bike System

- CONTRA FLOW BIKE LANE EXISTING
- DESIGNATED BIKE ROUTE EXISTING
- MULTI-USE PATH EXISTING
- ON-STREET BIKE LANE EXISTING
- PAVED SHOULDER EXISTING
- SIDEWALK CONNECTION EXISTING
- SOFT SURFACE MULTI-USE PATH EXISTING
- SOFT SURFACE PEDESTRIAN PATH EXISTING
- STREET WITH SINGLE BIKE LANE EXISTING

#### Proposed or Upgraded Routes

- BUS/BIKE LANE PROPOSED
- CONTRA FLOW BIKE LANE PROPOSED
- DESIGNATED BIKE ROUTE PROPOSED
- MULTI-USE PATH PROPOSED
- MULTI-USE PATH EXISTING UPGRADE
- UPGRADE TO MULTI-USE PATH
- ON-STREET BIKE LANE PROPOSED
- ON-STREET BIKE LANE EXISTING UPGRADE
- PAVED SHOULDER PROPOSED
- SIDEWALK CONNECTION PROPOSED
- SIDEWALK CONNECTION EXISTING UPGRADE
- SOFT SURFACE MULTI-USE PATH PROPOSED
- SOFT SURFACE MULTI-USE PATH EXISTING UPGRADE
- Conceptual Alignment Proposed

# FIGURE 2





**FOX TUTTLE HERNANDEZ**  
TRANSPORTATION GROUP

CU BOULDER SOUTH PARCEL ACCESS STUDY  
POTENTIAL MULTI-MODAL ACCESS IMPROVEMENTS

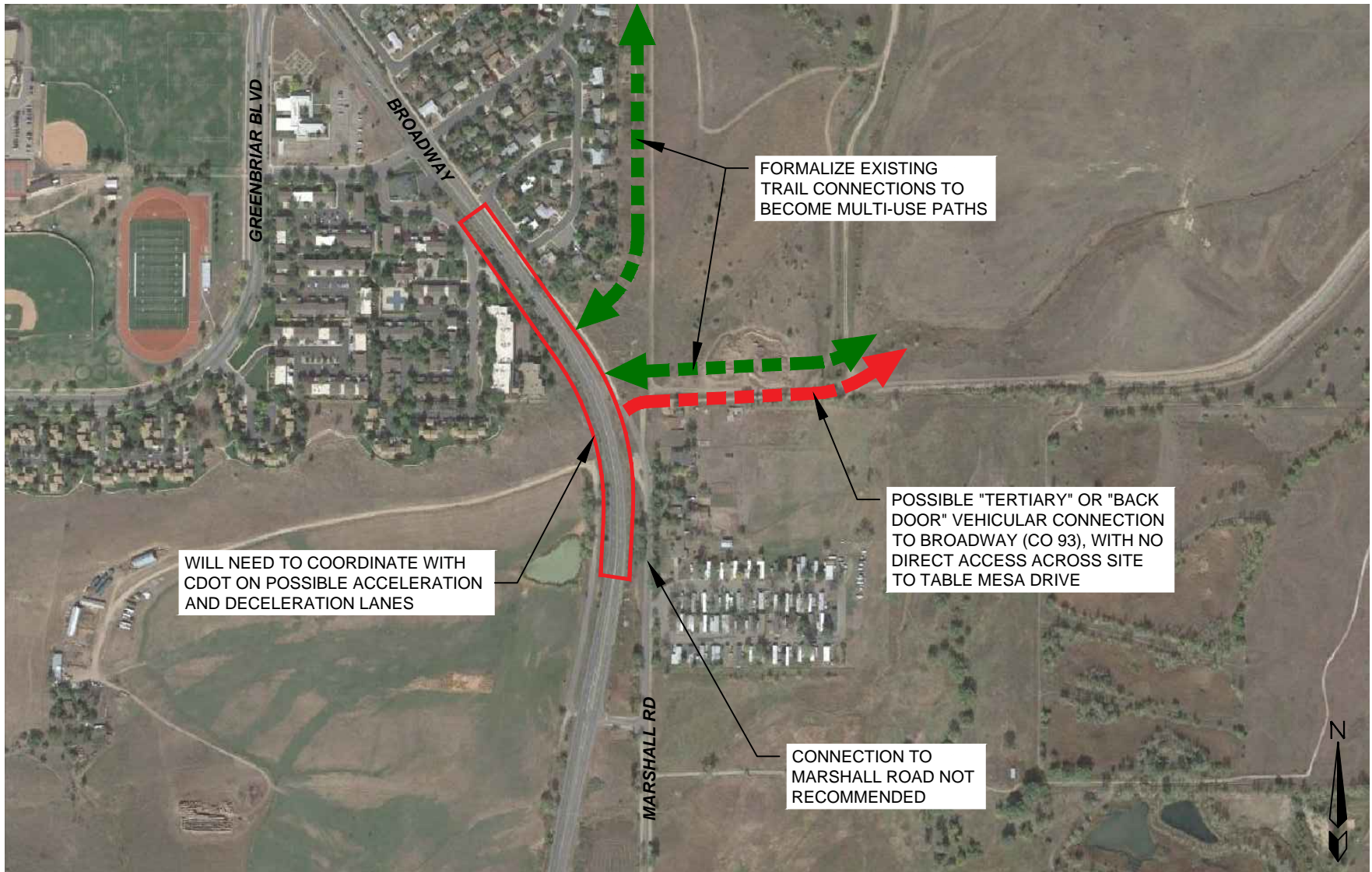
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| FT Project # | 16029 | Original Scale | NTS | Date | 7/27/16 | Drawn by | CRS | Figure # | 3 |
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**FOX TUTTLE HERNANDEZ**  
TRANSPORTATION GROUP

CU BOULDER SOUTH PARCEL ACCESS STUDY  
**POTENTIAL MULTI-MODAL ACCESS IMPROVEMENTS**

|              |       |                |     |      |         |          |     |          |   |
|--------------|-------|----------------|-----|------|---------|----------|-----|----------|---|
| FT Project # | 16029 | Original Scale | NTS | Date | 7/27/16 | Drawn by | CRS | Figure # | 4 |
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**FOX TUTTLE HERNANDEZ**  
TRANSPORTATION GROUP

CU BOULDER SOUTH PARCEL ACCESS STUDY  
POTENTIAL MULTI-MODAL ACCESS IMPROVEMENTS

|              |       |                |     |      |         |          |     |          |   |
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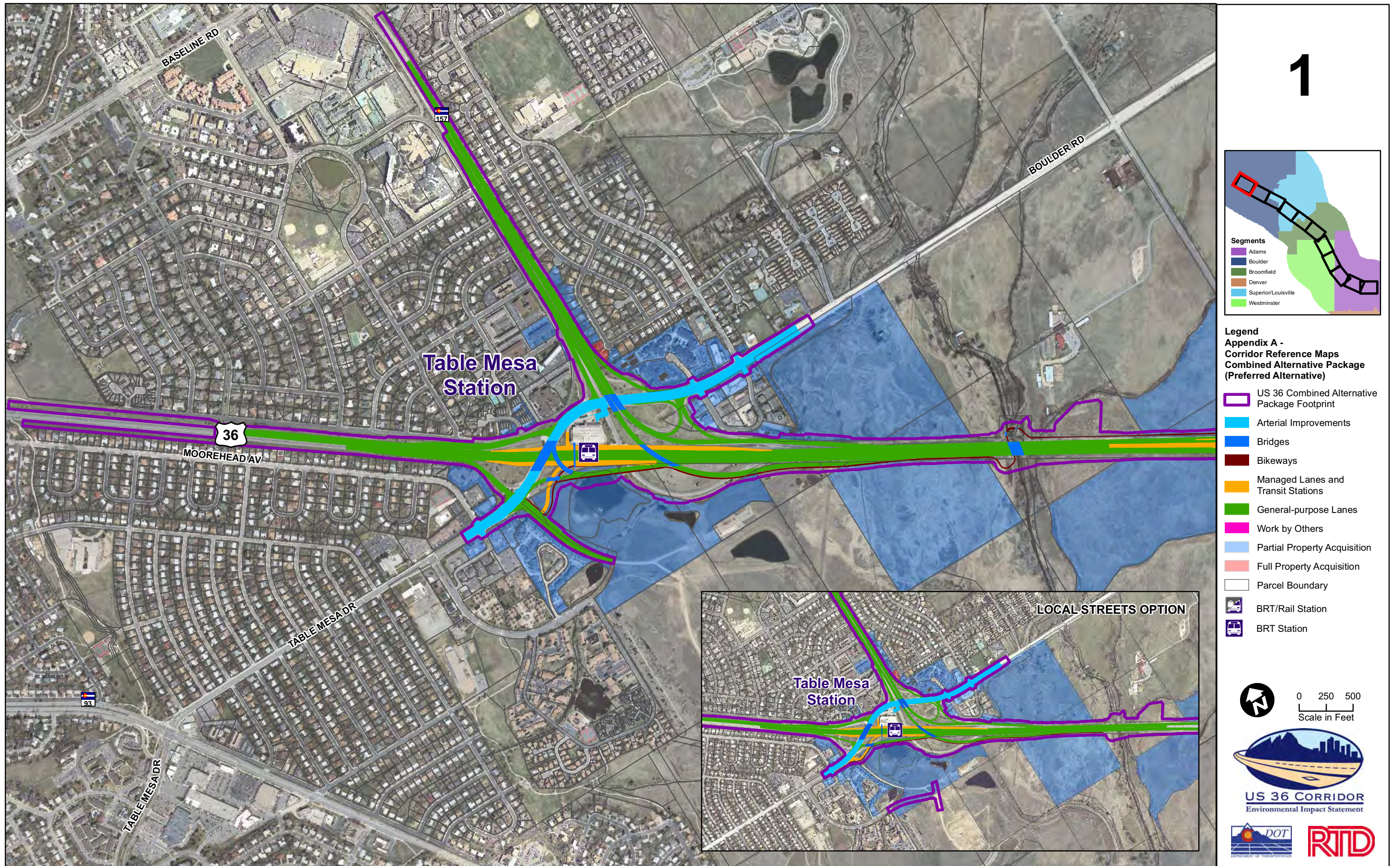


Photo 1 Eastbound Table Mesa Drive at Loop Drive



Photo 2 Northbound Loop Drive at Table Mesa Drive



Photo 3 Southbound Loop Drive south of Table Mesa Dr.



Photo 4 Loop Drive within CU South



Photo 5 Westbound Tantra Drive just west of CU South



Photo 6 Eastbound Tantra Drive approaching CU South



Photo 7 Trail from Tantra Drive into CU South



Photo 8 Southbound on Moorhead Circle





Photo 9 Trail from Moorhead Circle into CU South



Photo 10 South property line looking west toward Broadway



Photo 11 North end of Marshall Road along CO 93 (Broadway)



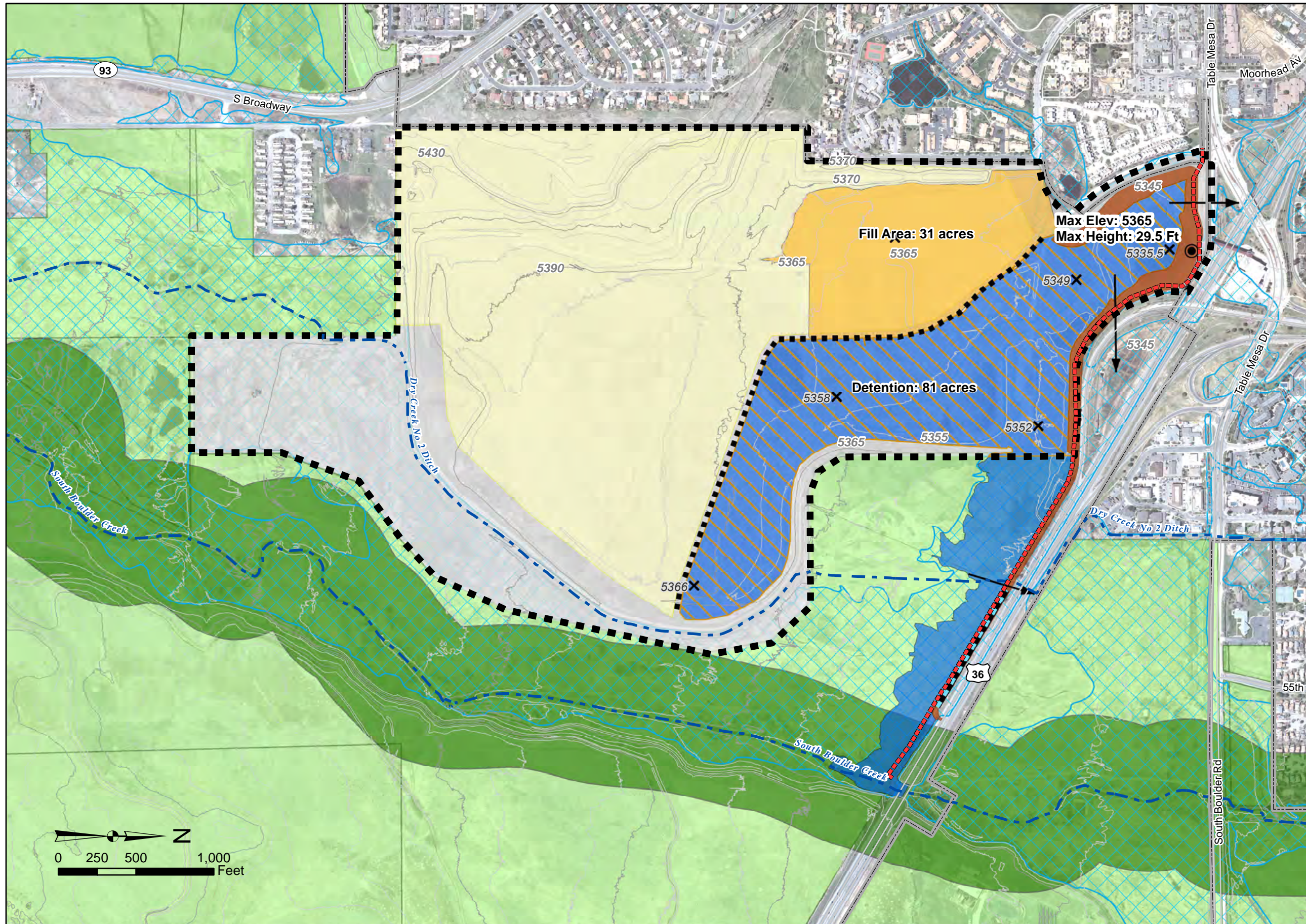
Photo 12 Marshall Road Connection to CO 93



# Stormwater Detention Upstream of US36

South Boulder Creek Flood Mitigation Project

**Figure 9-5**  
**Option D**



Single Berm  
With excavation  
With fill  
On CU and OSMP property  
In CDOT Existing ROW  
Max Berm Height 29.5ft

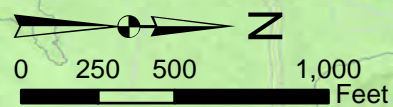
| Description                    | Acres |
|--------------------------------|-------|
| Total CU Property              | 302   |
| CU Property Impacted           | 78    |
| CU Building Potential Impacted | 30    |
| OSMP Property Impacted         | 19    |

**Proposed Conditions**

- New Berm
- Pool Contained By Fill or Cut Slope
- Limits of Excavation
- Detention Pond Area
- Fill Area
- Out of 100yr Inundation
- X Spot Elevation
- Max Berm Elevation
- Discharge Location
- Spillway

**Existing Conditions**

- Boulder City Limits
- CDOT Existing ROW
- CU Site Boundary
- OSMP Property
- Prebles Critical Habitat Area
- Effective 100 Year Floodplain
- 5 Foot Contours
- 10 Foot Contours



## Attachment E Public Comment Summary



Earlier this year the City of Boulder began a public dialogue with the community, stakeholders and University of Colorado Boulder about the future of the CU Boulder site. This process is intended to inform changes to the Boulder Valley Comprehensive Plan land use designations and may help inform future annexation and agreements between the city and the CU Boulder relating to future development.

There is a high degree of community interest in the development of CU South. Two community meetings were held to share information and request feedback. Over 200 residents attended a neighborhood meeting on September 26, 2016. The second meeting was held on the CU Boulder east campus on December 5, 2016 and was also well attended, with approximately 125 participants. This second meeting consisted of small group sessions convened around interests and concerns for the property and its future development. A compilation of public comments are available on the [project webpage](#). Several key issues related to open space have surfaced throughout this project, including:

### Common Themes of Public Input:

#### Flood Mitigation

- Flood mitigation appears to be a top priority for many residents, particularly those impacted by the 2013 flood.
- Many comments focused solely on flood mitigation on the CU South site, primarily concerning the public safety risks of future flooding.
- Residents commented that flood protection measures on the CU South site should be expedited.

#### Open Space Conservation

- There is general agreement that CU Boulder should protect and conserve land for open space on the site.
- Viewsheds and wildlife emerged as important considerations.
- Many residents commented that sensitive environmental areas and portions of the site critical to wildlife habitat should remain undisturbed by future development.

#### Timing

- Some people are concerned about changing land use designations or approving annexation prior to CU's having completed a master plan for the site because of unknown development impacts.
- Community members concerned about the potential impacts of future floods have urged that the city and university take action on flood mitigation as a priority.

#### Recreation and Trails

- Most prefer that existing trails remain available to the public regardless of how the site is developed.
- The CU South site offers one of the only flat hiking opportunities in Boulder, which is particularly helpful for children and elderly residents.
- CU South is one of the few cross-country skiing sites in Boulder.
- Many users enjoy allowing dogs to roam off leash and lack of enforcement.

### **Traffic and Congestion**

- A common concern among nearby residents in the Table Mesa area is traffic congestion. Numerous comments describe nearby streets as becoming increasingly congested over the years and therefore may be unable to accommodate more traffic from the CU South site.
- Some residents think that access to the site may be problematic.

### **Site Uses**

- Some residents commented that any level of development on the CU Boulder site is not appropriate and would negatively impact surrounding neighborhoods. Others prefer to have a better understanding of development intentions prior to changing a land use designation.
- Some commented that CU Boulder should consider workforce or faculty housing on the site.
- Because this is a gateway property, there is a general concern about development impacting critical views when entering the city.

## **Attachment B: City Staff Draft Principles to Guide Land Use Designation for CU South**

The following principles and site suitability diagram were developed by city staff in early April following site suitability analyses and consideration of public comments. The principles are intended to facilitate discussion among decision makers and the community about future uses of CU South. The principles are subject to further revision.

### **General Principles**

- Encourage further collaboration and planning between the city, CU and community engagement to prepare a master plan for CU South.
- Protect sensitive ecosystems and areas with high open space value.
- Protect and where possible restore the South Boulder Creek flood plain including wildlife habitat, grasslands, wetlands and streams.
- Explore opportunities for a multi-modal mobility hub and connections between CU South and other campus locations to manage employee and resident access and mobility. Discourage any outside traffic from cutting through the CU South property to avoid the Table Mesa Drive/Broadway connection.
- Support connected pedestrian, bike and transit systems through CU South, including a trail link to the South Boulder Creek Trail.
- Ensure site planning contributes positively to city's "gateway" character.
- Use Intergovernmental agreements between the city and university to address how to provide opportunities for city input around issues such as site planning and infrastructure planning.

### **Area Based Principles**

#### **Area 1- North**

*Concept: Protect life and property through floodwater mitigation improvements.*

- Coordinate with the University of Colorado to implement South Boulder Creek Flood Mitigation Study (Phase 1) on this part of the property. Design improvements to the highest standard possible with available funding sources.
- Where possible, conserve areas with high ecological value and mitigate any ecological impacts.
- Ensure any development is contextually appropriate to neighboring open space.
- Explore opportunities for passive and active recreation activities, or other uses compatible with floodwater mitigation systems.

#### **Area 2 – West Hillside**

*Concept: Provide buffering, recreation and some limited development that is consistent with a CU master plan for the site.*

- Address transitions to adjacent properties.
- Minimize development on slopes at or exceeding 15 percent.
- Maintain and enhance the trail system and where appropriate, provide connections to adjacent trail systems.
- Ensure any development is contextually appropriate to neighboring properties.

#### **Area 3 – Central West**

*Concept: Allow compact, high quality development that is consistent with a CU master plan for the site.*

- Encourage high quality design and architecture.
- Explore placing more intense development around the existing tennis courts that transitions to less intense development towards the south.

- Encourage buildings to meet the U.S. Green Building Council's Gold or Platinum LEED standards.
- Arrange buildings to fit the landform and protect views from city entryways.

#### **Area 4 – Central East**

*Concept: Balance opportunities for limited development and open space, consistent with a CU master plan for the site.*

- Allow limited development.
- Address potential flood issues for any structures and enclosed buildings.
- Encourage restoration of areas with high ecological or open space values.
- Ensure any development is contextually appropriate to neighboring open space.
- Restore floodplain wetlands as part of compensatory mitigation for impacts elsewhere on site.

#### **Area 5 – East Levee Area**

*Concept: Prohibit development and minimize disturbance.*

- Prohibit development to protect sensitive resources.
- Maintain recreation opportunities where they do not conflict with ecological values.
- Limit new recreation trails.
- Where appropriate, support open space-related educational and research opportunities.
- Seek opportunities for resource restoration.

Figure 1. City staff CU South site suitability map, April 2017





**CU Boulder South  
Draft Concept Plan Assumptions  
May 1, 2017**

**The purpose of these documents**

CU Boulder has been listening closely to the community – to citizens, elected officials and members of boards and commissions – as the BVCP discussion around CU Boulder South has unfolded over the past year. The university is about to begin its regular 10-year planning review for the campus, which will more specifically inform the university and general community of what may be developed on the CU Boulder South property, but culmination of that plan will take several years of effort. However, we have heard clearly that more detail about what might be placed there is a top priority for elected officials and the community. To respond to that priority, we have developed some initial concepts on how CU Boulder envisions the potential use of our property.

In the following concept plan, we outline our assumptions and provide the related concept map to share our best estimates of how we would use CU Boulder South to meet CU Boulder's future needs while simultaneously working to accommodate the community's desires. We are happy to meet with members of the city council, county commission or planning boards to answer questions and receive comments. The community is also invited to review the assumptions and concept map at [www.Colorado.edu/CUBoulderSouth](http://www.Colorado.edu/CUBoulderSouth). ***We invite our campus community and the public at large to provide comment in an online survey found on the website. The survey will remain open through 11:59 p.m. on May 10, 2017.*** Comments may also be submitted by email to [CUB.South@Colorado.edu](mailto:CUB.South@Colorado.edu) through Wednesday, May 10. Additional information about CU Boulder South may be found on the city's website: <https://bouldercolorado.gov/bvcp/cu-south>.

That survey feedback will help us determine adjustments, refinements and clarifications to the draft concept plan assumptions and map so that updated versions can be provided to local governing bodies to inform their deliberations and decisions on the upcoming BVCP adoption.

An approval of the BVCP with a changed land-use designation for CU Boulder South would allow annexation discussions between the university and the city to occur. Even with an approval of the BVCP and an annexation agreement in place, the sites designated for development at CU Boulder South will take many years to complete. The university will remain focused in the near term on developing the main and east campuses, but a finalized annexation agreement would help inform CU Boulder's own visioning process as the University embarks on updating its campus master plan.

**The role of CU Boulder in the community**

CU Boulder has been proud to be integral to the fabric of the Boulder community since its founding; in fact, the university's founding was made possible through the commitment and efforts of Boulder citizens and leaders. Among university towns across the country, the City of Boulder and CU Boulder are recognized as unique in our joint efforts to foster positive relations and for our many collaborations on matters of importance to the community. Continuing this relationship of reciprocal benefit is certainly part of our vision for CU Boulder South.

## **Serving the long-term needs of CU Boulder while addressing the community's needs and interests**

For CU Boulder to fulfill its mission to serve the state and educate current and new generations of students, it must maintain careful stewardship of this and all its properties. There are real and tangible future needs that CU Boulder South can meet for the university.

CU Boulder South is an important future land resource that will help the university meet its long-term needs and its academic mission. The sites designated for development at CU Boulder South will take many years to complete. However, knowing that the land is available for certain uses would allow better planning for further development of our Main Campus, East Campus, and Williams Village. With the ability to relocate certain land uses - such as recreation and athletic fields - to CU Boulder South we can develop more academic buildings and student housing in our core campus areas first, taking advantage of existing transportation and infrastructure.

CU Boulder South can also meet some needs identified by the community. The City of Boulder and our neighbors have immediate needs for flood mitigation, and the city has proposed using part of the CU Boulder South property to address them. To most easily accommodate the city's proposal, the property should be annexed so the city can implement its flood mitigation plan and manage its construction under its jurisdiction.

We also know that availability and affordability of housing is a top priority for both the community at large and the CU Boulder community. Many of our faculty, staff and graduate students cannot afford to live in Boulder, and miss out on the opportunity to be more deeply connected with both the university community and the community at large. We hope to work closely with the city to explore options for housing development that may be mutually beneficial.

We know the community greatly values access to trails, open space and recreational opportunities that has been available under CU Boulder's 20-year history of allowing unrestricted access to the property. We believe we can balance those interests with the university's needs and responsibilities, and believe this balance is reflected in these initial concepts.

### **General Development Concepts:**

- CU Boulder will actively engage the community on its plans for development.
- All structures and buildings will be located outside of the 100-year floodplain.
- Public access will be maintained consistent with other areas of the university.
- CU Boulder South will include robust trail systems, including a formal trail connecting U.S. 36 and the South Boulder Creek Trail.
- Buildings will be developed at pedestrian scale for a walkable community and will provide access to trails, parks and open space.
- Land and buildings will be developed using advanced sustainability and resiliency concepts.
- Protection of natural habitat will be incorporated into the development.
- Site will be designed to ensure water quality, storm water management, and protection of groundwater resources.
- Buildings and land uses will reflect the style of the university and be sensitive to the character of surrounding neighborhoods.

### **Land Use Assumptions:**

Consistent with other CU Boulder property designations, the concept plan assumes a PUBLIC (P) land use designation. The university continues to commit to maintain a significant portion of the property for flood mitigation and open space.

**Flood Storage (81 acres):**

- Flood detention area provided will be consistent with the city's preferred Option D plan.
- Athletic and recreation fields will be incorporated into flood storage areas.
- Limited structural build zones will be established adjacent to the berm. Limited structural build areas could include such uses as community gardens, recreation fields, tree nurseries, and solar gardens.

**Habitat Preservation and Natural Areas (66 acres):**

- Preservation of federally recognized regulatory wetlands.
- Conservation of other natural areas with potential dedications of land to city Open Space.

**Residential Workforce Housing, Graduate and Non-Freshmen Student Housing (68.4 acres):**

➤ **Apartment Development Concepts**

- 750 units in three-story-tall buildings, each with a 55-foot height limit.
- Assumes 35,000-square-foot building floor plates (840,000 total gross square feet) for purposes of a fit test.
- Outdoor area would include pocket parks, playgrounds, and landscaped amenities at 1,600 square feet per unit or a total of 27.5 acres (consistent with city requirements), with small amounts located in other outdoor areas.

➤ **Townhome Development Concepts**

- 375 two-story units.
- Assumes 1,400 gross square feet per unit for purposes of a fit test.
- Outdoor areas including pocket parks, playgrounds, and landscaped amenities at 3,000 square feet per unit or total of 25.8 acres (consistent with city requirements), with small amounts located in other outdoor areas.

**Academic Village and Mixed-Use Area (40 acres):**

- 1.25-million gross square feet of building space.
- 8 buildings at approximately 150,000 gross square feet per building, with a height limit under 55 feet for the purposes of a fit test.
- 3-acre lots (landscaping included for each building).

**Multimodal-Oriented Development:**

- Traffic analysis study was conducted by consulting firm Fox, Tuttle, Hernandez to better understand the traffic and access constraints of the property.
  - Primary access will be from Table Mesa Drive and secondary access will be from Tantra Drive.
  - Highway 93 access will be designed for limited and emergency access only.
  - There will be no connector between Highway 93 and U.S. 36.
  - CU Boulder South would generate approximately 5,800 vehicle trips per day, which could be accommodated by the existing roadways in the area.
- CU Boulder has a lower vehicle trip generation average than typical city neighborhoods. In developing the concept plan that lower trip generation is expected to be maintained.
  - There will be strong use of alternative transit for residents as well as events at recreation and athletic areas.
  - A central transit hub will provide for buses and eventual capacity for 600 structured and 100 surface parking spaces for on-site uses.
  - Narrow roads will help traffic calming through the site.

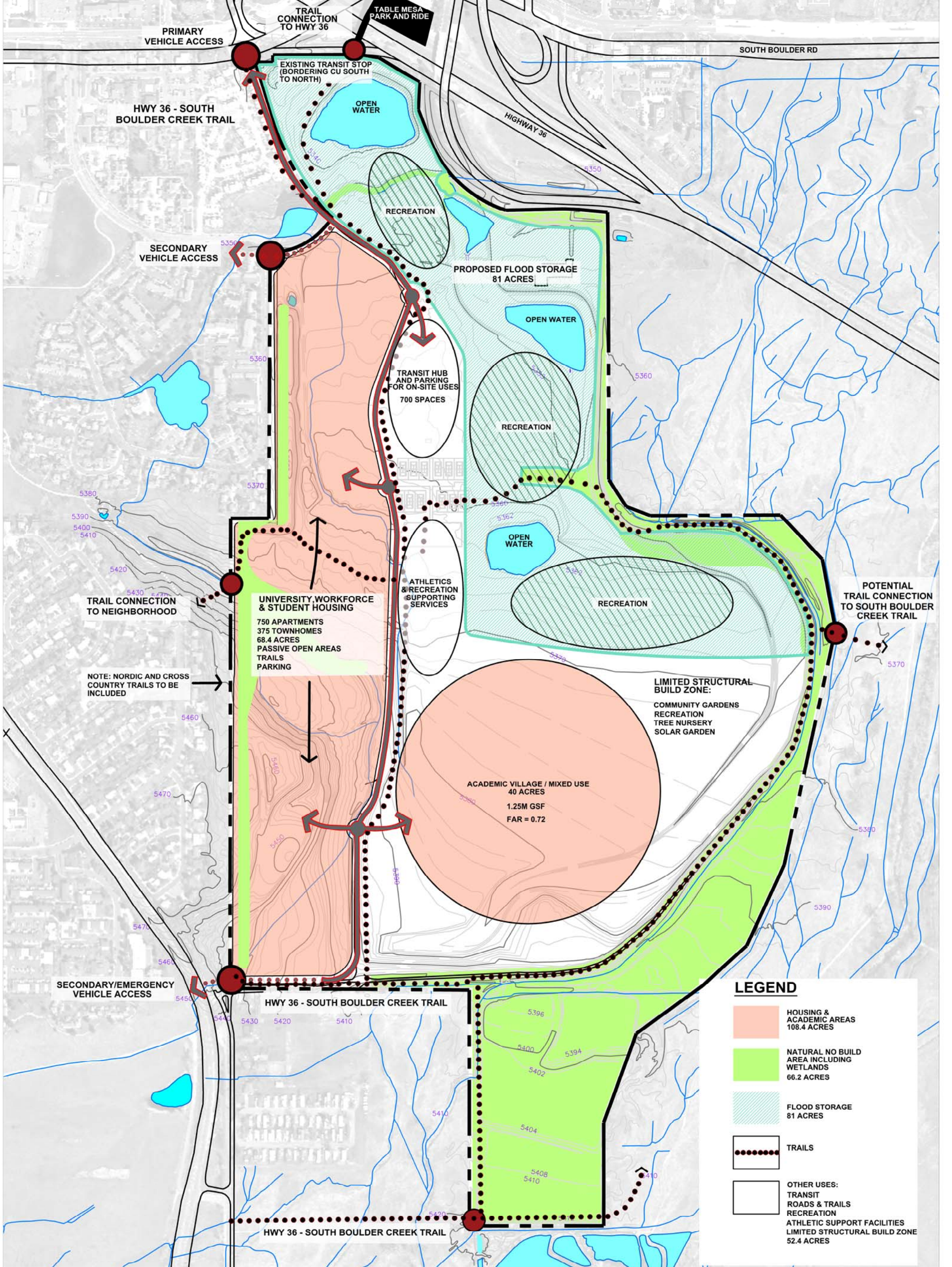
**Public Access and Trails:**

- Public access to the property will be maintained.
- A public trail will be formally established to connect U.S. 36 (RTD Table Mesa bus stop) to the South Boulder Creek Trail.
- Continued access to dog-walkers will be consistent with CU rules and regulations.

**Athletics and Recreation:**

- This will include the existing tennis facility, plus sites for playfields and low-impact athletic uses that can be shared with the community.
- Support service buildings will be developed for locker rooms and restrooms.
- The cross-country track course and Nordic ski access will be maintained.

# CU BOULDER SOUTH DRAFT CONCEPT PLAN MAY 1, 2017



**LEGEND**

- HOUSING & ACADEMIC AREAS  
108.4 ACRES
- NATURAL NO BUILD AREA INCLUDING WETLANDS  
66.2 ACRES
- FLOOD STORAGE  
81 ACRES
- TRAILS
- OTHER USES:  
TRANSIT  
ROADS & TRAILS  
RECREATION  
ATHLETIC SUPPORT FACILITIES  
LIMITED STRUCTURAL BUILD ZONE  
52.4 ACRES



## Commonly Asked Questions about CU Boulder South

### ***Why does CU Boulder want the city to annex the CU Boulder South property?***

For CU Boulder to fulfill its mission to serve the state and educate new generations of students, it must maintain careful stewardship of the property. There are real and tangible future needs that CU Boulder South can meet for the university.

At the same time, we know that the City of Boulder has immediate needs for flood mitigation and has proposed utilizing part of the CU Boulder South property to address them. To most easily accommodate the city's proposal, the property should be annexed so the city can implement its flood mitigation plan and manage construction under its jurisdiction.

During the annexation process, CU and the city will collaborate to develop a clearer picture of what will – and will not – be considered on the CU Boulder South property as well as other parameters for development. CU Boulder looks forward to partnering with the community and the city to develop an annexation plan that includes a cooperative vision for its use within a thoughtful and structured process.

### ***How will CU Boulder determine what kind of development will happen on the property?***

No specific development plans exist for CU Boulder South. In fact, CU Boulder did not initiate the land use designation change under the Boulder Valley Comprehensive Planning update but we stand ready to cooperate. The city identified a need to use a portion of CU Boulder's property as a preferred location for flood detention and protection. The current Boulder Valley Comprehensive Plan (BVCP) update that includes land use designation changes is just one step in a longer process. Application to the city for annexation and the resulting discussions between CU Boulder and the city is another. Then, CU Boulder has a long-range campus master plan that must be updated to examine its future needs.

Drafting that plan will include input by the city and community, and will proceed through a series of reviews. These include reviews by the Chancellor's Executive Committee, the University's Design Review Board, the Board of Regents, the Colorado Commission on Higher Education (CCHE) and the Office of the State Architect (OSA). Once that is done, each individual project and proposed building plans for CU Boulder South would have to follow a very similar regime of input and review, including additional reviews or approvals by the Governor's Office of State Planning and Budgeting and the Capital Development Committee (CDC) of the Colorado State Legislature. Approval by the Joint Budget Committee of the State Legislature and from the full Colorado State Legislature is also required.

We will work with the city to hold community input meetings and we will review plans with the city. While it will be a number of years before we know what specifically will be developed on the land, we will keep the city and community informed at every juncture. And of course, the public has a number of opportunities to provide meaningful input along the way, including to CU Boulder, the Board of Regents, Colorado Commission on Higher Education and the state's Capital Development Committee.

***What kind of development might happen on the property in the next five years?***

Efforts will center on creating floodwater mitigation areas to improve the flood safety of people, residences and buildings downstream, as well as efforts to preserve and enhance undeveloped, natural open areas. We will conduct maintenance and improvements to the trails that are used by our cross-country team and the broader community and will create low-impact recreational and athletic fields that could serve shared community use. Finally, we will create more sustainable investments in the recreation facilities already in existence with features such as restrooms, drinking fountains for visitors and improved locker room facilities for student-athletes.

***What kind of long-term development might happen beyond the next five years?***

Over this longer horizon, it is harder to predict. However, we anticipate that portions of the site could include development like affordable housing (in the style of apartments and/or townhouses) for faculty, staff and graduate students, small-scale academic, instructional or research facilities or other uses that serve the university and the surrounding community.

***Are there types of development that CU Boulder will commit to not including on the site?***

We will not build a football stadium or large-scale sport venues, large research complexes such as some of those located on CU Boulder's East Campus Research Park, towers à la Williams Village or first-year freshman housing. Regarding transportation, a bypass public roadway connecting Highway 93 and Highway 36 is off the table, as is a full build out of all 308 acres of the property.

***What guiding principles will drive CU Boulder's approach to developing portions of CU Boulder South?***

Any development would maintain the same high aesthetic standards of other CU Boulder properties. The design of functionally arranged buildings will complement the existing topography and maintain sensitivity to surrounding neighbors. We will keep the community informed at all junctures and work closely with the city as development plans begin to emerge – again, this is a long and extensive process and one not expected to occur over a short horizon.

***How is CU Boulder willing to help mitigate flooding risks for its downstream neighbors?***

We have worked with the city and are looking at designating approximately one-fourth of CU Boulder South land for floodwater mitigation to keep our community safe from future flooding risks while also minimizing impacts to the city-owned Open Space east of CU Boulder South. Approximately another fourth of the property will not be used for buildings, but for trails, wetlands and open areas. The nearly 80 acres that would be used as floodwater mitigation areas could also double as low-impact playing fields.

***Why not annex only the portion of the property needed for floodwater mitigation?***

Again, our stewardship requires that we plan how best to serve current and future students and how to best serve the state according to our mission. Annexing the entire property allows us to effectively carry out our stewardship responsibilities and to partner with the city to incorporate the community's needs into our planning process.

***Will CU Boulder protect and conserve wetland areas and other natural features and provide some open areas?***

Yes. We too want natural and wetland areas on the property. The university has a long history of working to maintain open areas as well as making significant efforts to preserve the environment. Approximately half of the CU Boulder South land is natural areas, trails, ponds, jurisdictionally designated wetlands or potential floodwater mitigation areas that will not be developed for building sites.

***Will I still be able to use the CU Boulder South property for recreation, outdoor enjoyment and walking my dog when CU develops the property?***

Yes. Since purchasing the site, we have removed barriers to the property and provided the community with access to the area. That will continue when CU develops the property. CU Boulder will maintain public access to the property, including trails and access to the city's adjacent Open Space (where allowed by the city), parks and regional trail systems regardless of what is ultimately developed on the property. In fact, CU Boulder made possible the final connection for the last leg of the city's South Boulder Creek Trail by providing an easement for the city to build a walkway across the wetlands. We are energized by the possibility of forging stronger connections from the CU Boulder South property to the City's Open Space nearby to improve the experience of users. And, of course, all of our campus is open to the public, including to those walking their dogs (we do ask that dogs be on leashes and have their poop scooped!)

***I am concerned that CU Boulder's plans for its property could impact traffic and congestion in the area. Will the university's plans include minimizing that impact?***

Yes. CU Boulder regularly incorporates a variety of strategies to reduce automobile travel to and from all areas of our campus. As any future plans are developed, additional studies will be conducted to ensure appropriate steps are being taken to mitigate traffic impacts. This would include evaluating transit, bicycle and pedestrian connections and methods to encourage the use of lower-impact alternative transportation methods to access the property.

***Where can I get more information?***

CU Boulder has a webpage specific to CU Boulder South at [www.Colorado.edu/CUBoulderSouth](http://www.Colorado.edu/CUBoulderSouth). The webpage includes a survey for providing feedback and comments can be emailed to [CUB.South@Colorado.edu](mailto:CUB.South@Colorado.edu) through May 10, 2017. The city also has a webpage specific to the CU Boulder South property and the BVCP at <https://bouldercolorado.gov/bvcp/cu-south>.

-CU-



## **Attachment D: South Boulder Creek Flood Mitigation Frequently Asked Questions**

(Written by the City of Boulder)

Also available at: <https://bouldercolorado.gov/flood/south-boulder-creek-flood-mitigation-planning-study>

### **Where can I review the South Boulder Creek Flood Mitigation Study?**

The [South Boulder Creek Flood Mitigation Study](#) is available online. You may also wish to review the following attachments to the plan:

- [Appendix A](#)
- [Appendix B](#)
- [Appendix C](#)
- [Appendix D](#)
- [Appendix E](#)
- [Appendix F](#)
- [Appendix G](#)
- [Appendix H](#)
- [Appendix I](#)

### **What is the history of the mitigation study?**

In 1996, the University of Colorado commissioned a flood mapping study as part of its due diligence to purchase the 315-acre site currently referred to as CU-Boulder South Campus. The multi-year study effort resulted in FEMA replacing the 1986 flood insurance rate maps for the area with [new mapping, in 2009](#).

A key finding of the new mapping study was that during a major storm event significant flows would leave the main stem of South Boulder Creek prior to reaching the existing culvert under U.S. 36. These flows would travel west before overtopping the highway and flowing into the Frasier Meadows neighborhood. The 2013 flood confirmed the existence of this “West Valley Overflow.”

A flood mitigation study was initiated in late 2009 and evaluated numerous mitigation options prior to Council acceptance on Aug. 4, 2015. For project milestone, including information about the public process and options considered, please review [the project timeline](#).

The plan accepted by council included three phases of mitigation:

- A regional stormwater detention facility at U.S. 36
- West Valley improvements, including a stormwater detention facility at or near Manhattan Middle School, a small stormwater detention storage area at the intersection of Foothills Parkway and Baseline Road, and enlarging the capacity of Dry Creek No. 2 Ditch
- A stormwater detention facility located at Flatirons Golf Course

Regional stormwater detention at U.S. 36 was identified as the top funding priority for the study and is designated as Phase 1.

### **Who approved the flood mitigation study, and how was the public included in the process?**

This planning effort was vetted through an extensive public process including 15 public meetings. You can review detailed information about the [full public process](#) for this project.

The following provides a summary of the final stages of the approval process:

- The recommended plan was presented to the Open Space Board of Trustees in 2015. The Board motioned 4-0 to support staff's recommendation for City Council to accept the South Boulder Creek Major Drainageway Flood Mitigation Plan, specifically Option D (single berm using Colorado Department of Transportation Right of Way - and requiring no disposal of City of Boulder Open Space and Mountain Parks lands), which significantly lessens environmental impacts to Open Space Lands for Regional Detention at U.S. 36. This was conditioned in the motion that staff return to the Open Space Board of Trustees in the event staff determines construction will involve non-trivial impacts to Open Space.
- The recommended plan was also presented to the Water Resources Advisory Board in 2015. The Board voted 3-0 (two board member were absent) to recommend that City Council accept the South Boulder Creek Major Drainageway Flood Mitigation Plan including Option D (single berm using CDOT Right of Way) for 'Regional Detention at US 36' along with the downstream improvements as the recommended comprehensive alternative to mitigate flood risks associated with South Boulder Creek.

### **Why is the detention upstream at U.S. 36 the top priority, and what are the benefits?**

There are currently 515 structures and over 1,838 dwelling units in the South Boulder Creek Floodplain within city limits. A regional stormwater detention structure at U.S. 36 would provide protection to an estimated 199 structures and 1,273 dwelling units. Mitigation would provide protection for vulnerable populations as well as major transportation and utilities infrastructure.

### **What alternatives were evaluated and considered as part of this process?**

The city initiated the flood mitigation study in 2010. This included a wide range of flood mitigation measures. These were screened based on input received at public and board meetings, hydraulic modeling and field visits. The screening results were used to formulate 15 alternative plans.

Concept-level sizing, configurations and costs were developed for each of the 15 plans, along with an estimate of likely benefits and environmental and social impacts. This work reduced the list to nine "Best Alternative Plans," which were presented at a public meeting and to the Water Resources Advisory Board (WRAB) in 2010. The WRAB recommended moving forward in evaluating the following four alternatives:

- Maintaining the status quo
- High-hazard zone flood mitigation and critical facility protection
- Regional detention at U.S. 36 with downstream improvements
- Distributed regional flood detention

Based on feedback from the 2014 public process, six new conceptual options for stormwater detention at U.S. 36 were developed. The options included variations of single- and dual-berm detention systems, and breaching the existing CU South levee:

- Single berm with excavation
- Single berm with excavation and fill
- Single berm CDOT ROW
- Dual berm no excavation
- Dual berm with excavation
- Dual berm with excavation and fill

The WRAB and City Council accepted the master plan in 2015, including the alternative to create a single berm regional detention with downstream improvements (called "Option D"). Downstream improvements include proposed facilities in the West Valley to capture, and convey locally generated storm flows and stormwater detention at Flatirons Golf Course. Each phase could be constructed separately with regional detention at US36 providing the most flood mitigation.

A comprehensive summary of all alternatives considered since analysis began in 2010 is available as part of the project timeline, located at <https://bouldercolorado.gov/links/fetch/33711>

### **What type of storm would the proposed Phase 1 mitigation protect against?**

The South Boulder Creek mitigation study is based on the runoff resulting from a storm event having a 1 percent probability of occurrence in any given year. This storm is commonly referred to as a “100-year storm.” The proposed mitigation would capture flows into the west valley up to and including that magnitude of event and release them downstream over several days in a controlled manner. Use of a 100-year design storm for floodplain management is standard practice both in the region and nationally.

Due to the location of the proposed facility in relation to occupied dwellings and structures, the facility is required to be designed as a “high hazard dam” under the oversight of the State Engineers Office. High hazard dams include an emergency spillway that routes events larger than the detention design storm up to the Probable Maximum Flood (PMF) without compromising the integrity of the dam. Activation of the emergency spillway would result in flows back to the stream, but these flows would be the incremental difference between the design detention event and the actual event.

The city and FEMA map areas with a 0.2 percent chance of flooding any given year (the 500-year floodplain). A significant portion of the city is in the 500-year floodplain, and the city currently regulates only “critical facilities” in those areas. [Floodplain maps](#) are available on the city’s website, including a map of [100-Year and 500-Year Floodplains](#).

### **Has climate change been considered?**

The City of Boulder continues to work closely with the Urban Drainage and Flood Control District (UDFCD) to understand and plan for the potential impacts of climate change on flood risk. UDFCD and FEMA are not recommending changes to the hydrologic assumptions used to map floodplains and

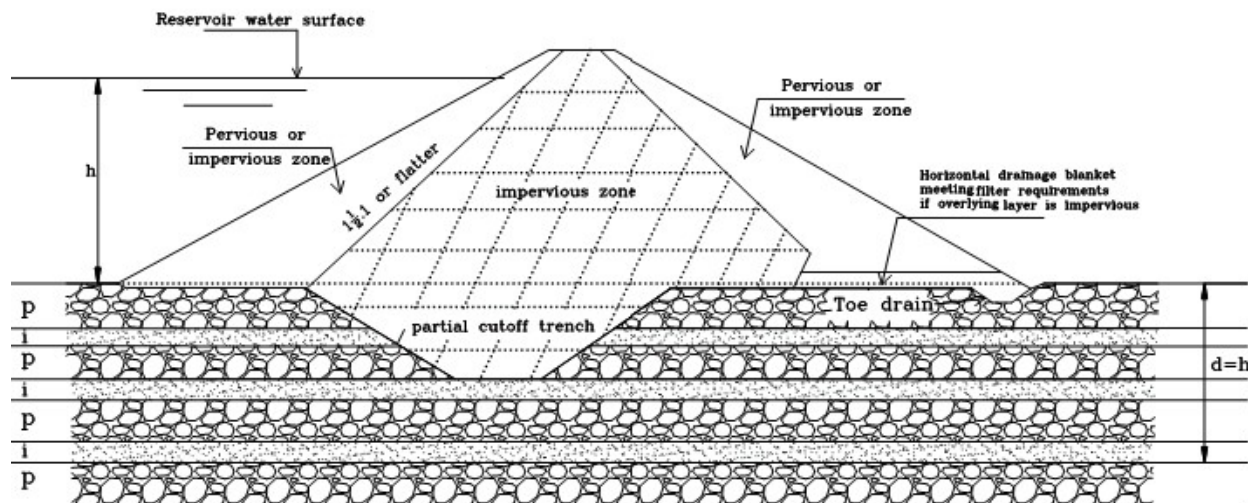
develop corresponding flood mitigation measures for the Front Range, including the Boulder area. This is summarized in the following excerpt from a recently published paper from Wright Water Engineers and UDFCD:

*While global and regional climate models are generally consistent in projections of future increases in average temperatures, hydrologic effects of climate change are far less certain and range from decreases to increases in annual and seasonal precipitation. The natural variability of hydrology and the short period of record of available data make it very difficult to detect trends (if any) in long-term precipitation due to changes in climate. In addition, urban flood events and infrastructure design are usually governed by short-duration rainfall events rather than season or annual averages. At this point in time, there are insufficient data to reliably forecast changes in intensity-duration-frequency estimates used to define design storms, especially for less-frequently occurring events that are of most concern for flooding. [Read the full paper](#) .*

**How does the design of the dam account for groundwater flow?**

Potential groundwater impacts will be evaluated during preliminary design. First, groundwater data will be collected to document existing conditions. Groundwater modeling will then be performed to determine what likely impacts the dam cutoff system will have on normal ground water movement. The design will then include mitigation measures such as filtered drain systems to ensure pre-construction groundwater conditions.

The below image illustrates a partial cut-off trench example that would potentially be used with the Alternative D Preliminary Design Concept, which includes chimney and horizontal drains to control seepage through the flood control dam when it is impounding water. This approach would allow groundwater to flow normally when in the typical empty condition. This water seepage control option would be modeled to determine if pore pressure relief wells, toe drain and drainage channel systems would potentially also be required at maximum flood storage levels. Dam safety requirements would be met on any of the dam alternative designs and groundwater impacts would be fully investigated/ modeled to confirm that the existing conditions would not be adversely impacted.



**Will this project impact existing floodplains or disrupt irrigation ditch flows?**

This project, similar to all of the city’s flood mitigation projects, cannot negatively impact existing floodplains or ditch flows. The specific methods to accomplish this will be developed during preliminary design. Option D included separating Viele Channel from the pond using piping or other means. Ditch flows would be maintained in a similar manner. The attached PDF figure shows the existing drainage and ditch systems in and around CU south parcel.

- [Ditch System](#)

**What will be the impact of project construction, and how long will it last?**

It is anticipated that once the design is completed and all necessary permits are secured, construction of the regional stormwater detention structure will last approximately two years. Construction would include the use of large, heavy equipment to construct the earthen embankment, create an outlet and emergency spillway and complete any necessary excavation. A conceptual rendering of the dam is shown below.



**What will the area look like when the project (Option D) is completed?**

Final design for the flood mitigation is dependent on current and ongoing work. However, the following renderings illustrate what flood mitigation will look like in concept.

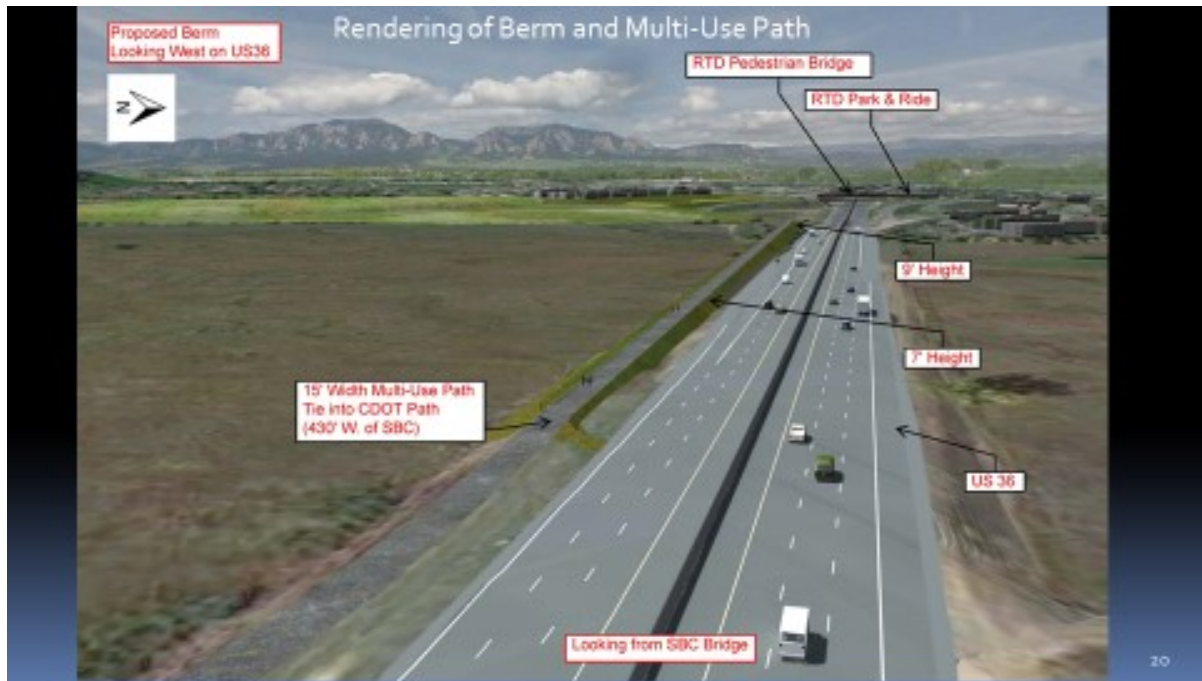


Existing view looking south from Table Mesa Drive over US36 to CU South Parcel



View looking south from Table Mesa Drive over US36 to CU South Parcel with proposed Regional Detention Berm







### **What is the estimated cost, and how will it be funded?**

As conceived, the estimated cost to construct the regional stormwater detention structure at U.S. 36 is \$22 million. The cost estimate was developed based on the UDFCD master planning cost methodology handbook and associated spreadsheets. It includes a 50 percent contingency, as is common for concept-level planning efforts. The U.S. 36 regional stormwater detention structure would be funded by the stormwater and flood management utility enterprise fund through issuance of bonds.

### **How is this project connected to development of CU South?**

A significant portion of the land identified for Phase 1 flood mitigation is owned by the University of Colorado. The proposed city mitigation project would provide protection to neighborhoods downstream of U.S. 36 by flooding portions of the CU property during significant rainfall events. The city will need to acquire land and/or easement rights from the university prior to proceeding with mitigation. CU is seeking an agreement with the city to address the overall future uses of the property prior to conveying land for flood mitigation. Future uses are currently being evaluated as part of the Boulder Valley Comprehensive Plan major update. Visit the city's [CU South webpage](#) to learn more.

### **What is the status of the existing levee on the CU property?**

The existing levee on the CU property is recognized on the existing [FEMA Flood Insurance Rate Map](#) as providing some level of flood protection to an area immediately downstream. While the existing levee is



shown as remaining in place in the proposed “Option D” flood mitigation scenario, it is not necessarily for downstream flood mitigation. CU has not proposed specific uses for the area protected by the levee at this time. Information about the current land use suitability analysis occurring through the Boulder Valley Comprehensive Plan major update is available at the city's [CU South webpage](#).

**Can the city remove the existing levee on CU South and allow "natural" flood mitigation across that property?**

The existing levee on CU South provides flood risk reduction for a limited portion of that property. FEMA does not consider the levee to be able to provide protection to the West Valley Area north of U.S. 36. The area that FEMA does currently consider to be protected is depicted on the adopted [FEMA Flood Insurance Rate Map](#). As depicted on the FEMA map, flood flows travel around the northern end of the levee and into the West Valley under current conditions. If the levee was removed, flood waters would still flow toward the same low point near the Table Mesa Park-n-Ride and into the Frasier Meadows neighborhood.

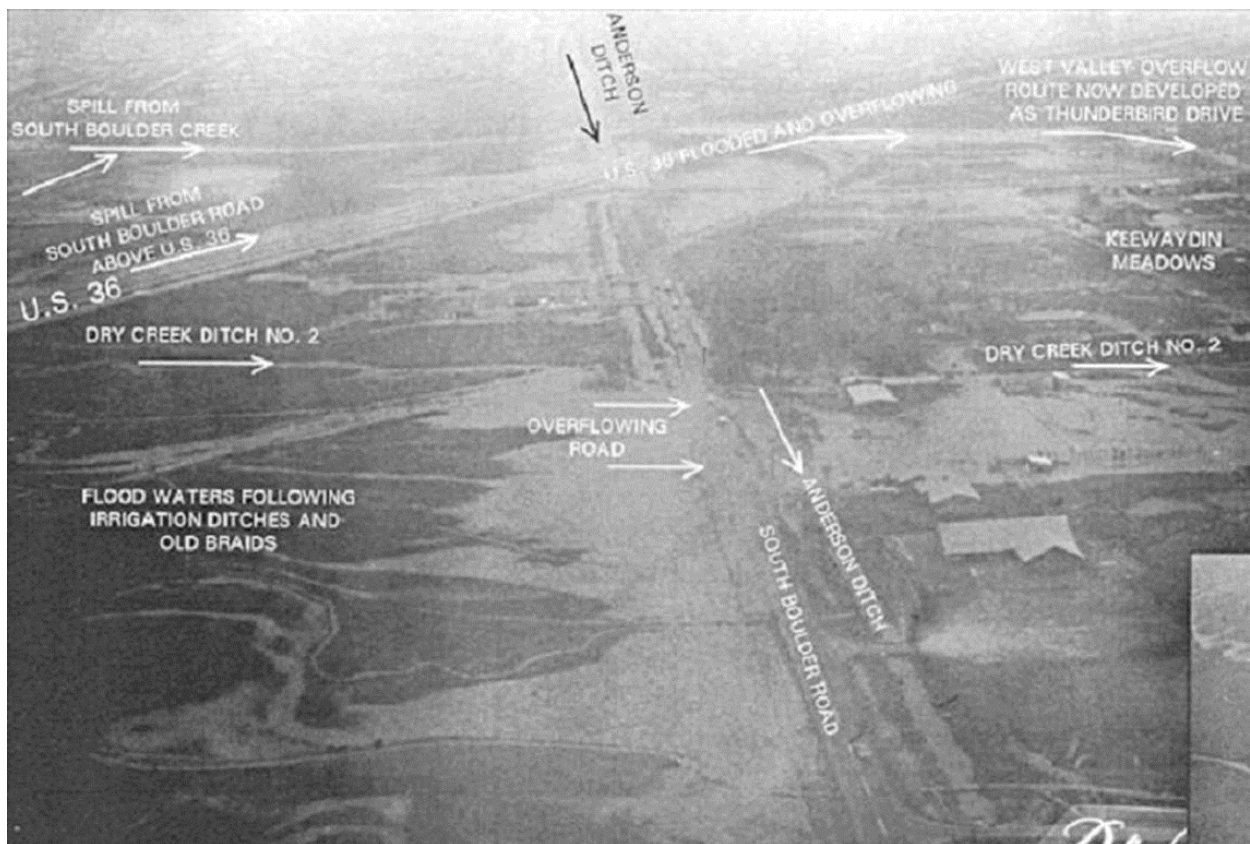
Engineering analysis conducted to date does not support the theory that the area inside the existing levee has the ability to fully absorb, detain or otherwise substantially mitigate the impacts of a 100-year storm event on downstream properties without structural improvements. The final set of Phase 1 mitigation alternatives considered by City Council included three options (E., F., and G.) that incorporated the concept of breaching the existing CU levee. The engineering consultant, CH2M, concluded that a downstream structure adjacent to U.S. 36 would still be needed to mitigate flood risk under all three of the scenarios tested.

Prior to the mitigation study, the impact of the levee was evaluated by HDR Engineering, Inc. during the development of the hydraulic flood model for South Boulder Creek. Hydraulic model runs with the levee removed resulted in greater impacts to the West Valley. The [hydraulic modeling report](#) is also available for review.

Finally, historical documents indicate that the West Valley overflow previously occurred during a May 1969 flood event. The existing CU levee was constructed by the prior owners of the property in 1981, more than a decade later.



Thunderbird Drive, May 1969



South Boulder Creek area during 1969 flood

### **What is the status of the design and construction of the mitigation project?**

The selected mitigation alternative, “Option D,” is highly conceptual and intended to provide a general sense of the scope and extent of the mitigation project. The city has selected an engineering consultant team to prepare preliminary design of the U.S. 36 regional detention facility and an initial scope of work has been negotiated. Work on preliminary design will begin once there is additional clarity regarding the city’s ability to acquire necessary property. Specific design details and permitting would be addressed as part of that process.

### **Can the dam fail?**

Like any structure such as a bridge or a building, a dam can fail. However, that risk is weighed against the consequences of not having the structure in the first place. In the case of the proposed South Boulder Creek mitigation, the consequence of not building the structure is the continued significant risk of future loss of life and property damage during a major precipitation event. South Boulder Creek has experienced flooding multiple times during the city’s relatively short history, including the most recent flood in 2013. There is little doubt that the area will experience flooding again in the future. By comparison, failure of the proposed flood mitigation dam is extremely unlikely, and the risk of failure can largely be mitigated through proper design, which starts with the classification of hazard potential.

Every dam has a hazard potential rating that is based on the consequences of failure. A dam with a “high hazard” potential classification is not an indication that a current or proposed dam is, or is expected, to be in poor condition. While the proposed dam would be relatively small and would only impound a significant amount of water during major storm events, it would be designed based on the assumption that failure could result in the loss of human life. This classification results in a structural design and spillway capacity based on the most theoretically extreme conditions, a “probable maximum” event. This event is significantly beyond predicted 100-year or 500-year storm event. Proceeding with proposed mitigation assumes that reducing the risk of loss of life and property damage during storms that can be anticipated to occur regularly outweighs the incremental difference in impact during an event with an extremely low probability of occurrence.

During more routine storm events, South Boulder Creek stays within its banks and a limited amount of water would flow through the new detention area, a primary outlet structure, and then a culvert under U.S. 36 eventually returning to South Boulder Creek. During storms large enough to exceed the flow capacity of the primary outlet structure, water would begin to back up behind the dam while continuing to be released through the outlet structure in a controlled manner. The dam would be designed to store and release up to a 100-year storm event through the primary outlet structure. Storms exceeding a 100-year event would completely fill the detention area, and excess water would be released through a controlled spillway. This would avoid uncontrolled overtopping of the dam and appropriately direct flows downstream. The specific location and nature of the spillway would be determined through the engineering design process, but would be along U.S. 36. Depending on the final configuration of the detention pond, the existing culvert that conveys the main stem of South Boulder Creek under U.S. 36 could potentially serve as the spillway.

**Are there further mitigation measures proposed for South Boulder Creek?**

The 2015 flood mitigation plan recommends implementing flood mitigation for South Boulder Creek in three phases. All three phases can be done separately with the highest priority phase the U.S. 36 detention. The second phase includes improvements downstream in the West Valley and the third phase includes detention storage in Flatirons Golf Course. These phases are not currently included in the city's six-year capital improvements program due to funding constraints. Future phases would go through additional public process prior to design.

## **Attachment E: Public Comment Summary**

Below are common themes seen through public comments throughout the process. The summary includes comments received by the city and county at open houses, through mail, and through email. Comments received by the city can be accessed on the CU South website (<https://bouldercolorado.gov/bvcp/cu-south>). As the packet of comments received by the county is rather large, comments for this staff report that are considered part of the official record are available at: <https://assets.bouldercounty.org/wp-content/uploads/2017/05/bvcp-15-0001-supplement-to-attachment-e-cu-south-public-comments-through-20170508.pdf>. Comments received after 11:59 p.m. on Monday, May 8 and before 12p.m. on May 17 will be added to the public record at the May 17 Planning Commission Study Session and added to the digital pdf after the meeting.

### **Flood Mitigation**

- Many comments focused solely on flood mitigation on the CU South site, primarily concerning the public safety risks of future flooding.
- Residents commented that flood protection measures on the CU South site should be expedited, and some residents commented on how they are happy that CDOT, the City and CU are ready and in agreement on flood mitigation together.
- Other residents commented that more data (i.e. groundwater studies) should be gathered and additional flood mitigation designs analyzed before moving forward with the land use designation. These comments usually included concern for the ability for “Option D” to handle a storm greater than a 100 year event.

### **Open Space Conservation**

- There is general agreement that CU Boulder should protect and conserve land for open space on the site. Some requested changing the entire area to open space.
- Viewsheds, wildlife, restoration possibilities, and wetlands emerged as important considerations.
- Many residents commented that sensitive environmental areas and portions of the site critical to wildlife habitat should remain undisturbed by future development.

### **Trail Access**

- Most prefer that existing trails remain available to the public regardless of how the site is developed.
- The CU South site offers one of the only flat hiking opportunities in Boulder, which is particularly helpful for children and elderly residents.
- CU South is one of the few cross-country skiing sites in Boulder.
- Many users enjoy the ability to walk their dogs without a leash. However, others expressed concerns about off-leash dogs impacting sensitive areas on CU South and adjacent public trails.

### **Traffic and Congestion**

- A common concern among nearby residents in the Table Mesa area is traffic congestion. Numerous comments describe nearby streets as becoming increasingly congested over the years and therefore may be unable to accommodate more traffic from the CU South site.
- Some residents think that access to the site may be problematic.

### **Site Uses**

- Some residents commented that any level of development on the CU Boulder site is not appropriate and would negatively impact surrounding neighborhoods. Others prefer to have a better understanding of development intentions prior to changing a land use designation.
- Some commented that CU Boulder should consider workforce or faculty housing on the site.
- Residents in the Table Mesa area, particularly those adjacent to the CU South site, are concerned about future development impacting views from their properties.

**Attachment F: Summary Table of Study and Review Discussions**

| Comment Themes   | City Council (4/11/17)   | Planning Board (4/6/17) | OSBT (4/12/17)  | BOCC (1/31/17)   | POSAC (4/27/17)   |
|--|--|-------------------------|---|--|---|
| <b>Staff Approach</b>  | <ul style="list-style-type: none"> <li>Majority agreement about staff's approach moving forward (broad policy, principles, diagram, land use designation) and would like staff to evaluate community flood mitigation concerns during project engineering</li> </ul>   |                         | <ul style="list-style-type: none"> <li>Made a motion in support of OSMP's staff report "...as a guide to protecting and enhancing open space values during the four body review of the BVCP Land Use designations and subsequent deliberations..."</li> </ul>   | <ul style="list-style-type: none"> <li>Some concern with moving forward on land use map changes without answers to flood mitigation questions</li> </ul>   | <ul style="list-style-type: none"> <li>Felt comfortable with OSMP representing open space values on the property going forward, as Boulder County Parks and Open Space staff support OSMP's analysis.</li> <li>Suggest using both OS-O and Public land use designations for the property</li> </ul> |
| <b>Flood Mitigation</b>                                      | <ul style="list-style-type: none"> <li>Emphasized concern for health and safety (add this to the guiding principles)</li> <li>Much of the discussion was centered around flood mitigation, engineering studies to date, and planned engineering analysis</li> <li>Some wanted to expedite process to address flood mitigation sooner, while others had concerns about moving forward without further flood engineering and site analysis</li> <li>Discussed that some areas are suitable for multiple uses (i.e. flood mitigation and recreation)</li> <li>Questions on CU's position regarding removing the current berm and the berms purpose</li> </ul> |                         | <ul style="list-style-type: none"> <li>Some concern about the speed on the BVCP land use change and desire to have more information on flood mitigation plans</li> <li>Question about how floodplains and OS-O overlap - about 1/4 of OS-O is in the 100-year floodplain</li> </ul>   | <ul style="list-style-type: none"> <li>Discussion was focused flood mitigation, engineering studies to date, planned engineering analysis, and requests for more information before deciding on LU changes</li> <li>Discussion about how the 2013 flood was similar to the city's computer modeling</li> </ul> | <ul style="list-style-type: none"> <li>Concerns about flood mitigation impacting views</li> <li>Additional studies for groundwater and soil stability should be pursued</li> </ul>  |
| <b>Process, Intergovernmental Agreement &amp; Annexation</b> | <ul style="list-style-type: none"> <li>Discussed importance of an agreement between the city and CU during the annexation process outline where development will occur and a what intensity</li> <li>Emphasis on the need for housing for students, faculty and staff and locating development in safe areas</li> </ul>  |                         | <ul style="list-style-type: none"> <li>Question about the possibility of CU implementing a land use change at annexation instead- staff explained that CU wanted to move forward with this process and that the BVCP subcommittee provided guidance</li> <li>OSBT's role: convey how the community value's open space while other bodies will weigh the different interests.</li> </ul> | No discussion  | n/a   |

| Comment Themes                   | City Council (4/11/17)   | Planning Board (4/6/17)   | OSBT (4/12/17)   | BOCC (1/31/17) | POSAC (4/27/17)   |
|----------------------------------|--|---|--|----------------|---|
| <b>Open Space</b>                | <ul style="list-style-type: none"> <li>• Appreciation of staff's analysis (CC)</li> </ul>                      |   | <ul style="list-style-type: none"> <li>• Support of Staff Analysis</li> <li>• Don't limit consideration of open space values on areas outside of OS-O designation</li> </ul> | No discussion  | <ul style="list-style-type: none"> <li>• Support of staff analysis and recommendation presented by OSBT</li> <li>• Concerns about development impacts on wetlands</li> <li>• Consider ecological studies and historic use in the land use change decision</li> <li>• Protect areas with higher open space potential</li> <li>• Don't limit consideration of open space values on areas outside of OS-O designation</li> </ul> |
| <b>CU Development Plans</b>      | <ul style="list-style-type: none"> <li>• Would like to know more about CU's development plans</li> </ul>       |   | n/a  | No discussion  | n/a   |
| <b>Transportation</b>            | <ul style="list-style-type: none"> <li>• Opportunities for partnering on transit</li> </ul>                    | <ul style="list-style-type: none"> <li>• Critical to have transportation connections</li> <li>• Add something about transportation to the principles</li> </ul> | n/a  | No discussion  | n/a   |
| <b>Recreation</b>                | No discussion  | <ul style="list-style-type: none"> <li>• Keep a portion accessible to the public for recreation - skiing, dog walkers, etc.</li> </ul>                          | <ul style="list-style-type: none"> <li>• Included in support of staff's analysis</li> </ul>  | No discussion  | <ul style="list-style-type: none"> <li>• Keep a portion of the property accessible for public recreation</li> </ul>   |
| <b>Communication with Public</b> | <ul style="list-style-type: none"> <li>• Continued clear communication with the public is important</li> </ul> |   |  |                |   |



## Land Use

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### BOARD OF COUNTY COMMISSIONERS MEETING SUMMARY

January 31, 2017 – 3:30 PM  
Commissioners Hearing Room, Third Floor  
Boulder County Courthouse

#### **Docket BVCP-15-0001: Boulder Valley Comprehensive Land Use Change Requests**

#### **STAFF PLANNERS:**

Dale Case - Land Use Director, Boulder County; Nicole Wobus - Long Range Planning and Policy Manager, Boulder County Land Use; Pete Fogg - Senior Planner, Boulder County Land Use; Steven Giang - Planner I, Boulder County Land Use; Susan Richstone - Deputy Director for Planning (City of Boulder PH+S); Lesli Ellis - Comprehensive Planning Manager (City of Boulder PH+S); Jay Sugnet - Senior Planner (City of Boulder PH+S); Jean Gatzka - Senior Planner (City of Boulder PH+S); Caitlin Zacharias – Planner I (City of Boulder PH+S)

#### **BACKGROUND**

This document summarizes discussion and outcomes from a Jan. 31, 2017 Board of County Commissioners (BOCC) public meeting at which the following Boulder Valley Comprehensive Plan Major Update (BVCP)-related topics were addressed:<sup>1</sup>

- **Key policy choices related to land use and jobs-housing balance.** Staff provided background and updates on recent analysis on scenarios, results from a second survey, directions toward land use changes, and city decision-makers' input on housing and land use policy alternatives. *Action requested: None. Study session only.* No public testimony was taken.
- **CU South site suitability.** Staff provided background on recent site suitability studies and exploration of appropriate land use for the property and issues to address. *Action requested: None. Study session only.* No public testimony was taken.
- **3261 3<sup>rd</sup> Street land use map change, decision to reconsider.** BOCC was asked to decide whether to proceed with the reconsideration process for a previous land use designation change decision for this property due to a change in circumstances related to the location of

<sup>1</sup> At the start of the meeting Nicole Wobus, Long Range Planning and Policy Manager, noted a clarification and a correction for the staff report. In the discussion of the Natural Environment policy section it should have been noted that the content was reviewed by the Boulder County Parks and Open Space Advisory Committee. Also, 3261 3<sup>rd</sup> Street's land use change request was referenced as Request #29 and should have been referenced as Request #25.

the blue line (Land Use Change Request #25). *Action requested: Decision.* No public testimony was taken.

Please refer to the staff memo submitted in advance of the meeting, [available here](#).<sup>2</sup> All public comments received related to the BVCP Major Update docket are [available here](#).<sup>3</sup>

### **3261 3<sup>rd</sup> STREET – VOTE TO PROCEED WITH RECONSIDERATION PROCESS**

The county decision makers' votes on this land use change took place before the November election when voters approved amendments to the location of the blue line. Due to this change in circumstances, staff amended the recommendation for the land use and area map change request before city decision makers decided on this matter. City decision makers decided on an amended version of the staff recommendation. Therefore, reconsideration of the county bodies' September decision making is necessary, as all four decision bodies' must be in alignment for the land use change to take effect.

Nicole Wobus, Long Range Planning and Policy Manager shared the formal written request from the city to reconsider the 3261 3<sup>rd</sup> Street land use designation change. The BOCC commented that the decision to proceed with the reconsideration process was straightforward, and that the BOCC was already familiar with the property. Cindy Domenico moved to approve the proceeding with the reconsideration process. The motion was seconded by Elise Jones and all three Commissioners voted in favor of proceeding with the reconsideration process.

### **KEY POLICY CHOICES RELATED TO LAND USE AND JOBS:HOUSING BALANCE**

Lesli Ellis provided a brief explanation about the study session city staff held with City Council (CC) and City Planning Board (PB) the previous week (Jan. 24, 2017), where staff requested feedback and direction as they enter the final phase of the BVCP Update process. Lesli summarized the feedback received at the city study session, and provided updates on the following topics: the website, second survey, schedule, community input, land use objectives, scenarios and initial staff recommendations regarding adding residential development capacity in light industrial areas and along corridors, height ordinances, action plan priorities, community benefit policy, jobs:housing balance policy, subcommunity planning, and the built environment chapter. Lesli and Nicole requested feedback from the BOCC on these areas, recognizing that city decision makers have authority over items pertaining only to city (Area I) matters. BOCC feedback and discussion on these topics is summarized below.

#### ***Expanding Opportunities for Housing in Light Industrial Areas and Along Corridors***

*Industrial:* Overall, the BOCC supported the idea of expanding housing thoughtfully in light industrial areas. Commissioner Jones requested clarification on staff's references to how the expansion of housing in light industrial areas would be done "carefully." Staff responded that changes would be limited and conditional. The concept would be explored primarily in business parks and in areas where property owners have expressed an interest. Care would be taken to mitigate potential negative impacts on small businesses. Additional analysis of the concept is underway.

*Commercial Centers:* BOCC supported the idea of adding more housing in the Boulder Valley Regional Center and 28<sup>th</sup> Street, and was in favor of continued exploration of options for reducing non-residential potential.

<sup>2</sup> <http://www.bouldercounty.org/doc/landuse/bvcp150001staffreport20170131.pdf>

<sup>3</sup> <http://www.bouldercounty.org/property/build/pages/lubvcp150001.aspx>

### ***Height Ordinance***

Staff recommends keeping the height ordinance in place, but recognizes further work is needed to avoid possible unintended consequences. Commissioner Jones suggested that increases in height be pursued with caution, and noted that she views height as essentially another planning reserve that could be tapped into 50 years in the future. Commissioner Gardner recognized height as a critical part of the Boulder identity and suggested that height variances be site specific. BOCC also suggested that increases in height be tied to providing community benefits, particularly affordable housing.

### ***Housing Policy***

The BOCC expressed general support for the draft policy language that ties additional density to additional permanently affordable housing. They encouraged creativity in addressing the need to introduce more permanently affordable housing, stating that the county is in a housing crisis. Commissioners noted that the survey outcomes highlight that the community places a high priority on affordable housing. A Commissioner commented on the importance of carefully designing the new policy to ensure that it is structured to achieve the intended outcomes to meet the housing demands for each income group. Another Commissioner suggested potentially tying approval of new accessory dwelling units (ADUs) to housing affordability, a model that has been used elsewhere. This would also support community interests related to aging-in-place. Commissioner Gardner requested clarification on the definitions and targets for housing low, moderate and middle income households.

### ***Action Plan Priorities***

BOCC supported the action plan items presented, and agreed that affordable housing and community action plans are important.

### ***Community Benefit Policy***

BOCC supported a new policy for Community Benefit; specifically, Commissioner Jones favored the reference to a variety of community benefits.

### ***Jobs:Housing Balance***

The BOCC indicated that any steps to address non-residential growth management should be data-driven, and expressed that determining which specific approaches to use warrants careful consideration. The BOCC highlighted the close relationship between regional transportation and job growth in the Boulder Valley, and they expressed a recognition of the impacts of job growth on housing affordability. The BOCC supported the concept of having a target metric for the jobs-housing ratio, as well as strategies to work toward achieving greater balance. A Commissioner suggested having a BVCP policy stating that new jobs must pay for the new commuters that will result (i.e., job growth should be coupled with financial support for a community-wide EcoPass program).

### ***Subcommunity and Area Planning***

BOCC emphasized the county's interest in being an active player in area planning for the Broadway Corridor and tying county facilities into that planning process. The county is also interested in being an active partner in any future planning efforts related to the Boulder Community Hospital site.

## **CU SOUTH SITE SUITABILITY**

Staff requested feedback from the BOCC on whether to continue to move forward with the comprehensive plan land use change for the CU South property.

Commissioner Jones asked for more background on the experience of the 2013 Flood and how it relates to the South Boulder Creek Mitigation Study which began before that flood. The City's Director of Public Works Utilities, Jeff Arthur, provided an explanation of the study and the overall assessment of the area. In the study, a set of alternatives was analyzed and the outcome was a plan for pursuing three phases of mitigation efforts. The CU South mitigation work would be Phase 1 of the

broader plan. The basic concept is to build a high hazard dam at this site. It would be built to a more rigorous design standard than a traditional levee due to its high hazard classification. Commissioner Jones asked for clarification on where the spillway is located. Staff stated that the spillway would be in the same general area but noted that is the subject of further geotechnical analysis.

Commissioner Jones stated that the county typically regulates to the 100-year flood and the 2013 Flood exceeded this value in many areas. She expressed concern that designing to the 100-year level may be insufficient and questioned whether the community should consider designing to a higher standard. Mr. Arthur stated that building a dam for higher level storms would require more land, higher costs, and a slower construction/development time. It could take 80-100 years to build out the current mitigation projects that are designed to a 100-year standard, and if the city were to focus more funds on this area, other parts of the city would suffer as a result.

Commissioner Domenico supported the idea of designing to a more stringent standard than the 100-year flood based on past experiences, and wants to ensure that future dam projects do not exacerbate problems if they fail. Commissioner Gardner inquired if staff has made any updates to the study since the 2013 Flood and wondered how the impacts of that flood compared to computer modeling. Mr. Arthur stated that the models for the 2013 Flood and South Boulder Creek were quite similar. The BOCC also had a critical concern regarding whether the spillway would have unintended consequences for the residential neighborhoods to the west. Mr. Arthur explained that efforts to determine the spillway are not yet complete, but staff could follow up with BOCC to provide more information.

The BOCC expressed that more information is needed on the flood issues, and until there is more information and data available, they do not support moving forward with land use designation changes. The BOCC emphasized the need to consider a 500-year design strategy. Commissioners emphasized that the county views flood risk as a high priority.



**CITY OF BOULDER  
CITY COUNCIL AGENDA ITEM**

**MEETING DATE: May 2, 2017**

**AGENDA TITLE:** Consideration of a motion to accept the study session summary from April 11, 2017 regarding the Boulder Valley Comprehensive Plan Major Update (Initial Draft Plan with refined analysis, CU South, and 3303 Broadway Land Use Recommendation) and proposed next steps.

**PRESENTERS**

Jane S. Brautigam, City Manager  
David Gehr, Interim Executive Director, Planning, Housing & Sustainability (PH&S)  
Jeff Arthur, Director of Public Works, Utilities  
Lesli Ellis, Comprehensive Planning Manager, PH&S  
Jean Gatza, Senior Planner, PH&S  
Chris Meschuk, Senior Planner, PH&S  
Philip Kleisler, Planner II, PH&S  
Caitlin Zacharias, Planner I, PH&S

**EXECUTIVE SUMMARY**

This agenda item provides a summary of the April 11, 2017 Study Session for the update to the Boulder Valley Comprehensive Plan (BVCP) and proposed next steps. The purpose of the study session was to provide an update to City Council on the 2015 BVCP Major Update Mar. 24, 2017 initial draft plan and to hear feedback on the draft and two related topics that may result in changes to the Land Use Designation map (CU South and 3303 Broadway). The feedback guides staff with revisions to the draft plan for an adoption hearing in May and on next steps related to the two land use issues. City staff provided information and requested feedback from council on the following:

- 1. Draft BVCP Policies (including Boulder Valley Regional Center and Light Industrial Areas)**
- 2. CU South Approach**
- 3. Draft Land Use Recommendation for 3303 Broadway and Adjacent Properties**

**STAFF RECOMMENDATION**

Staff recommends City Council consideration of this summary and attachments in the form of the following motion:

**Suggested Motion Language:**

Motion to accept the April 11, 2017 study session summary regarding the Boulder Valley Comprehensive Plan Update draft plan.

**PROPOSED NEXT STEPS**

Staff will prepare a revised draft of the plan for the May 23 public hearing and will carry forward proposed changes based on Planning Board and City Council discussions. Additional minor feedback was introduced at the Boulder County Planning Commission and Board of County Commissioners discussion on Apr. 19. Members of the public may suggest revisions through Apr. 21. The following summary suggests changes that City Council generally supported during the study session. **Attachment A** presents a more detailed summary of all the ideas that council discussed.

**Draft Plan Updates**

- **Ch. III - Section 1: Intergovernmental Cooperation and Growth Management**
  - *New Policy CU Coordination:* Add “student housing” back into the policy.
  - *New Policy Enhanced Community Benefit:* Move forward with the community benefit policy as slightly amended by Planning Board that removes “height or the size” from the language and adds “for added height that increases intensity.”
- **Ch. III - Section 2: Built Environment**
  - *New Policy Boulder Valley Regional Center (BVRC) and 28<sup>th</sup> St:* Include the Planning Board recommendations and language that reflects “maintaining retail potential,” and that characterizes the BVRC as a “place of mixed use villages... with intensity that may be higher than neighborhood centers with buildings potentially up to four or five stories, if housing is included.” Clarify the geographic extents of 28<sup>th</sup> Street (as being south of Iris and north of Valmont). Be clear as to intent about intensity and height.
  - *New Policy Light Industrial Area:* Include the Planning Board recommendations for light industrial areas, including emphasis location of housing near transit and emphasizing support for retail.
  - *New Policy Building Height:* Carry forward the policy as suggested to be modified by Planning Board in the addendum (also addressing aesthetics and views).
- **Section 4: Energy, Climate and Waste**
  - *Policy 4.01:* Add 100% renewable goal to be consistent with Climate Commitment.
  - *Policy 4.07:* Clarify county’s waste minimization goal of “Darn Near” zero.
- **Section 6: Transportation**
  - *Introduction:* Emphasize Vehicle Miles Traveled (VMT)
  - *New Policy Complete Missing Links:* Review and add language to addresses sidewalk connections to transit stops.
- **Section 7: Housing**
  - *Policy 7.06 Mixture of Housing Types:* Add “low, moderate and middle households” instead of “full range of...” Replace “The city will encourage developers to provide a mix of housing types

within each development,” with: “The city will encourage developers to provide a mix of housing types as appropriate.”

- *Policy 7.13 Integration of Permanently Affordable Housing:* Change “where possible” to “where appropriate.”

· **Section 8: Community Well-Being and Safety**

- *Introduction:* Address inclusivity by adding: “racially, ethnically, and culturally-diverse people.”
- *Introduction:* Explore how to address affordable child care (affordability around housing + transportation + childcare) as a trend, or as a new policy.
- *New Policy Tolerance and Respect:* Add “mutual respect” to potentially replace “tolerance.”

· **Section 9: Agriculture and Food**

- *New Policy 9.04 Soil Health and Soil Carbon Sequestration:* Encourage the private sector to practice soil sequestration.

· **In Action Plan (or Council Work Plan)**

- Address airport opportunities to be explored at time of next Airport Master Plan in 2022.
- Per Planning Board, add to the BVRC implementation section - Changes to the BVRC Design Guidelines; also, add possibility for form based plans and codes to address future of BVRC.
- Reference supported housing types such as granny flats or lot splits in the action item related to “residential infill/pilot project”.

· **Amendment Procedures – Intergovernmental Agreement**

- Per the staff update, the amendment procedures will be removed from the BVCP and placed into the IGA as with other Boulder County Intergovernmental Planning Agreements.

**3303 Broadway and Adjacent Properties Next Steps**

Based on the split feedback from council, staff will move forward with the initial MXR BVCP land use recommendation to May and June hearings, pending input from the property owner.

**CU South Next Steps**

Based on feedback, staff will continue working toward a land use designation change(s); capture council’s intentions of what should be addressed in future agreements between the city and CU; and, make the following revisions to the guiding principles and policy:

- Amend the draft general principles to reflect feedback about future development complying with certain development standards, such as city floodplain regulations.
- Refine the principles related to diagram Area #4, *Central East* to address feedback about limiting development of certain structures.
- As noted above, amend the proposed new policy, *Coordination with University of Colorado*, to clarify specific housing-related uses (e.g., “student and workforce housing”).

**UPCOMING MEETINGS**

|               |   |
|---------------|---|
| May 23, 2017  | Revised draft plan and proposed Intergovernmental Agreement with amendment procedures; public hearing for plan adoption |
| May 25, 2017  | Planning Board deliberation and action on plan  |
| June 13, 2017 | City Council deliberation and action on plan  |

**ATTACHMENTS**

Attachment A: April 11, 2017 City Council Study Session Summary.



## **Part I – Initial Draft Plan (incl. BVRC and Light Industrial Areas)**

Lesli Ellis and Chris Meschuk provided a brief presentation on an update to the Intergovernmental Agreement and next steps and the March draft BVCP. Ms. Ellis then summarized the changes to the plan sections. Planning Board chair, John Putnam, was present to answer questions. Council members provided the following specific feedback.

### ***Vision, Ch I; Ch II; Ch III, Sec. 1***

#### *New Policy Coordination with University of Colorado*

- Council members generally agreed to include and modify the proposed new policy, *Coordination with University of Colorado*, and including original language about student and workforce housing. (Note: After the study session, CU staff sent a note to clarify that their intent was to keep “student” housing in the policy; they are fully supportive. They wanted to change “faculty” to “workforce” to be more inclusive of all CU employees.)

*New Policy Enhanced Community Benefit.* Council members had several suggestions, including:

- Clarify the applications in the policy (e.g., rezonings, entitlements).
- Add energy efficiency measures above and beyond current code.
- Apply community benefit to permanent physical things vs. energy use that might change.
- Remove “size” but keep height as suggested by Planning Board.
- Several members suggested adding “improved building design.”

Planning Board chair John Putnam provided a summary of the board’s input, namely that the implementation of the ordinance could better define the criteria for enhanced community benefit. He explained that including height in the new policy may be over inclusive and the height-related criteria would be a better for defining that. A further point was that community benefit should be tied to intensity-related issues, and that better criteria are needed to avoid “detrimental effects.”

#### *New Policy Building Height*

- Council generally expressed support of the amended new policy as suggested to be refined by Planning Board.
- Planning Board chair added that the board discussed certain community goals that should accompany redefinition of height criteria (e.g., viewsheds, shadows, etc.)

#### *Policy 1.19 – Jobs-to-Housing Balance*

- One council member suggested that in addition to the proposed change to include “commercial,” the policy should capture other community values such as preserving existing affordable retail, small business, affordable retail and commercial space, and service commercial.

### ***Ch. III, Sec. 2 Built Environment***

#### *New Policy BVRC and 28<sup>th</sup> Street*

- Staff clarified the intent of “feathering density” from the Boulder Valley Regional Center (BVRC) to neighboring areas and that housing in the BVRC would include affordable housing. Council supported adding “or form-based code” to the action plan regarding implementation of the BVRC policies. Planning Board had suggested design guidelines, and the chair clarified the board’s belief of needing a better design vision for the BVRC.
- One member suggested that 28<sup>th</sup> Street geographic extent be defined and that heights not be limited to 3 to 4 stories to provide some flexibility and address future needs. Another member expressed comfort for cascading density.

## Attachment A - April 11, 2017 City Council Study Session Summary

- One member suggested including 30<sup>th</sup> Street in the BVRC because it has a lot of big parking lots and could be a natural extension. Another member responded that this could have tradeoffs, (e.g. implications for community-serving uses on those streets that would have no place to go). (*Note: 30<sup>th</sup> Street between Valmont and Arapahoe is part of the BVRC.*)
- Another member supported the need to maintain spaces for commercial uses and preservation of existing businesses, noting that we want to occupy parking lots with better buildings, and we can do both. Another member added that consideration needs to be given to how qualifications are made for businesses so chains do not replace independent users after a year.
- Council agreed there is a need to clarify the geographic extents of 28<sup>th</sup> Street.
- One member suggested that variation in building heights be incentivized (e.g., 80% 5-story buildings) to avoid a monotony. Another member agreed.
- Council members discussed that modern commercial buildings cannot fit into five stories due to floor heights.
- Clarify where in the plan compact development and infill is appropriate.

*New Policy Light Industrial Area*

- One member expressed that adding supportive retail in light industrial areas should have more emphasis in the policy.
- One member asked staff to follow up noting where the plan will specify higher density.

*Policy 2.37 – Enhanced Design for All Projects*

- Members discussed section (a) One member described that 2.37a seemed “protectionist” of neighborhoods. Another suggested that transition zones (e.g., between Broadway and neighborhoods) enhance quality.
- One council member asked whether the county site on Broadway would be a coherent part of the neighborhood if were to redevelop and mentioned it could meet other goals. Words like “protecting and enhancing” may be too strong but neighborhoods should be taken into consideration.

**Ch. III, Sec. 3***Policy 3.18 – Wildfire Protection and Management*

- Two members suggested clarifying the intent around the prevention of wildfires caused by humans.
- One member suggested the need to mention access solutions for open space versus just parking.

**Ch. III, Secs. 4 and 5***Policy 4.01 – Climate Action...*

- One member suggested adding the 100% renewable electricity goal from the Climate Commitment; council appeared to agree with carrying forward that goal.

**Ch. III, Sec. 6***New Policy Access Management and Parking*

- One member sent in written language

*New Policy Complete Missing Links*

- One member reference written suggestion to add “or if there is a determination of inequitable access” (e.g., access to transit from Boulder Meadows).
- Another member mentioned that missing links around town should not have to wait for redevelopment. Most of council agreed that completing missing links to all transit stops is an important goal.

*Policy 6.02 – Reduction of Single-Occupancy Auto Trips*

- Council agreed that vehicle miles traveled (VMT) should be added and emphasized since single-occupancy vehicle trips are just one piece of the puzzle, in policy and introduction.
- One member suggested adding an ex officio PB to TAB for implementation per written feedback.

*Policy 6.11 – Transportation Facilities in Neighborhoods*

- One member referenced written comments about adding to the end of the policy: "...as well in the Neighborhood Traffic Mitigation Program," but other council members did not discuss.

*Policy 6.14 – Municipal Airport*

- One member sent detailed suggested edits to this policy and explained the airport could help fill the need for housing, a high priority. Could the plan be the place to direct staff to look at that for housing? Several members agreed it was worth looking at but not necessarily through the plan. Another member was in favor of having the plan state that the airport master plan should look at the viability of housing (i.e., during 2022 update). One member asked if staff could bring options for the airport with the final comp plan.
- One member suggested staff look at options for the Area III Planning Reserve if staff would be bringing options for anything based on one council member's request.
- Staff clarified that policy 6.10 was not removed but rather combined with the new access management policy.

**Ch. III, Sec. 7***Introduction and General Comments*

- One member suggested adding bullet points recognizing increasing property taxes and that people should be able to stay in their homes. Another member was concerned about institutionalizing preventing change through such language. After discussion council requested that staff draft some language.
- One member recommended adding homelessness to the section. Another suggested the section was about affordable housing but perhaps should say more about housing supply.

*Policy 7.06 – Mixture of Housing Types*

- Most of council agreed the policy should emphasize low, moderate, and middle and asked to remove "within each development."
- Several other members discussed granny flats and lot splits for more housing; one responded that those could be addressed in the action plan. Another member suggested this could be a place to add language encouraging smaller footprints (e.g., through ADUs and splitting lots).

*New Policy Permanently Affordable Housing for Additional Intensity*

- One member explained that affordable housing needs to be on site and clarification for how it should happen is necessary.

*Policy 7.13 Integration of Permanently Affordable Housing*

- One member suggested changing "where possible" to "where of benefit to the community." Council generally agreed.

**Ch. III, Sec. 8***Introduction*

- Council agreed "inclusivity" should be included.
- One member suggested adding to diversity bullet points: "racially, ethnically, and culturally-diverse people."

*New Policy – Tolerance and Respect*

- One member suggested editing the policy to include “mutual respect.” Another member suggested phrasing the language more positively. Tolerance should include a range of viewpoints and ideas. Another mentioned the difference in concepts between tolerance, mutual respect, welcoming, inclusiveness.
- One member suggested adding a policy (or text) on affordable childcare.

*Policy 8.12 – Trail Functions and Locations*

- One member expressed that a vision of alternate modes of getting to trailheads is needed and another member suggested calling out various modes.

**Ch. III, Sec. 9***New Policy 9.04: Soil Health and Soil Carbon Sequestration*

- One member, with general agreement from others, suggested encouraging the private sector to adopt and address soil carbon sequestration.
- One member expressed the need for a policy that recognizes the farmer’s market as an institution and recognizes the contribution of farmers.

**Ch. III, Sec. 10**

- Two members suggested adding a policy regarding respect for long standing rules and norms in council. Others thought the rules are complete and sought clarification about “unwritten rules.”

**Part II – Draft Land Use Recommendation for 3303 Broadway and Adjacent Properties**

Caitlin Zacharias gave a brief update on Planning Board’s feedback regarding the draft land use recommendation for a Mixed Density Residential (MXR) BVCP land use designation and answered questions about zoning, particularly RMX-1 and RMX-2.

Council’s input on the staff recommendation was split, with five out of nine members in support of staff’s recommendation for MXR land use designation for 3303 Broadway and the three adjacent properties to the north. Planning Board had concurred with that recommendation. Two of the members in support of the staff recommendation emphasized that the property has already been through a lengthy process and it would be not ideal for the community to continue that. Four out of nine members were in favor of maintaining the current Public (PUB) designation for 3303 Broadway and deferring further decisions until after the comprehensive plan update. One member was in favor of deferring, emphasizing the importance of not rushing a decision.

Key observations by council included:

1. *Importance of affordable housing.* Several council members emphasized the importance affordable and/or middle income housing. They expressed concern about a missed opportunity for affordable housing if 3303 Broadway gets developed at the lower range density (i.e., 10 units/acre instead of 20 units/acre with the affordable housing bonus). Two members suggested that housing staff should work with neighbors and the developer to ensure as much affordable housing as possible. One member suggested the potential for contributions from the city to positively influence this outcome. Another member thought that the feasibility of affordable housing was in the hands of the developer.
2. *Land Use and Other Tools.* Members acknowledged current code work on community benefit tools may not be available in time for 3303 Broadway. One member pointed out that a land use designation that allows flexibility to achieve 15-minute neighborhoods does not exist.
3. *Feasibility and cost.* One member explained that a density bonus may not be attractive to the developer given the current Boulder marketplace. Another pointed out that to get 40 percent affordable units on site the market rate units would likely be much higher in price. Another thought units would only be as expensive as the market would tolerate.

4. *Context.* Two members mentioned the importance of considering the context, in particular the county property, which may be part of planning efforts on the Broadway corridor.

### **Part III – CU South**

Lesli Ellis provided a brief presentation outlining the general steps for the CU South project including future annexation requests by the University of Colorado Boulder, intergovernmental agreements, engineering and construction of flood mitigation improvements and CU Boulder's master planning process. Phil Kleisler answered some of the questions about engagement and the analysis. Jeff Arthur, Director of Utilities, answered several flood mitigation related questions. When asked, "does council have feedback on the approach to moving forward with CU South, or input to further refine the diagram, principles, or policy or considerations for the land use designations?" council provided the following feedback:

- One council member commented on the need for strong future agreements between the city and university.
- One council member expressed concern about proceeding with a change in land use designations prior to having a detailed plan for future uses and further engineering on flood mitigation improvements.
- Several council members discussed future negotiations about the property around annexation and CU and city influence.
- Council members generally agree that health and safety related to flood mitigation is the central issue.
- Several council members generally agreed that portions of the site could be developed for housing and that intergovernmental agreements should outline where development will occur and at what intensity. Furthermore, housing should be available to students, staff and facility.
- One council member commented that the university is willing and ready to proceed with annexation, and appears receptive to the city's interests.
- Several council members generally agreed about expanding the city's flood mitigation improvements over a larger area to reduce cost while ensuring the university has sufficient land to meet their needs. Certain areas of the site may be suitable for multiple uses like flood mitigation and recreational facilities.
- One council member expressed the need for further community conversations to address disagreements.
- There was some interest in a future council study session focused solely on flood mitigation. A council member suggested that the university attend this meeting to discuss their willingness to explore alternative strategies for flood mitigation (e.g. altering the existing levee system).
- Several council members agreed with the approach moving forward and would like staff to evaluate community concerns relating to flood mitigation during project engineering.
- One member showed interest in setting developable and non-developable areas through the land use designation process.
- Several council members agreed that clear boundaries are not necessary to change land use designations, though Area #4 appears most appropriate for lower-intensity uses like restrooms and fields so long as the university complies with city floodplain regulations. The land use designations do not guarantee that land is developable, only that certain portions of the site could be developed consistent with future agreements.

**OPEN SPACE BOARD OF TRUSTEES**

Action Minutes

Meeting Date April 12, 2017

*Video recording of this meeting can be found on the [City of Boulder's Channel 8 Website](#). (Video start times are listed below next to each agenda item.)*

**BOARD MEMBERS PRESENT**

Molly Davis      Kevin Bracy Knight      Tom Isaacson      Curt Brown      Andria Bilich

**STAFF MEMBERS PRESENT**

Tracy Winfree      John Potter      Mark Davison      Jim Reeder      Brian Anacker  
Steve Armstead      Dan Burke      Mark Gershman      Keri Davies      Lauren Kilcoyne  
Kacey French      Chelsea Taylor      Steve Armstead      Andy Pelster      Dan Burke  
Bethany Collins      Don D'Amico

**GUESTS**

Lesli Ellis, Comprehensive Planning Manager  
Melanie Sloan, Planner I  
Lindsay Merz, Engineering Project Manager  
Phil Kleisler, Planner II

The meeting was called to order at 6:02 p.m.

**AGENDA ITEM 1 – Swearing in of New Board Member and Election of Officers (16:30)**

The newest Open Space Board of Trustees (OSBT) member, Andria Bilich, read and signed the Oath of Office.

Tom Isaacson move to appoint Molly Davis as the chairperson for the Open Space Board of Trustees. Curt Brown moved to appoint Kevin Bracy Knight as the Vice Chair. Tom Isaacson moved to elect Leah Case as the Board Secretary. All motions passed unanimously by acclamation.

**AGENDA ITEM 2 – Approval of the Minutes (18:30)**

Tom Isaacson said on page one, the spelling of “Ken Beitel” needs to be corrected. On page three, Curt Brown’s name needs to be capitalized. On the same page, correct the spelling of “Bill Cowern” and “Eileen Monyok”.

Kevin Bracy Knight moved that the Open Space Board of Trustees approve the minutes from Mar. 8, 2017 as amended. Curt Brown seconded. This motion passed unanimously.

**AGENDA ITEM 3 – Public Participation for Items not on the Agenda (19:37)**

Alan Delamere, Boulder, said he would like to see an Open Space acquisition on the 311 Mapleton site. Among other issues, parking is already tough. He asked that Board recommend immediate acquisition in order to relieve these parking issues and neighborhood impacts.

Russell Henrickson, Boulder, said in regard to 311 Mapleton, to please make Sanitas more accessible to help relieve the parking issues at Chautauqua. The Open Space designation must be consistent with the site plan and as long as the designation is maintained there is no reason to remove it.

Elizabeth Black, Boulder, did two soil health demonstrations: the slake test and the water infiltration test. Both were intended to show the importance of soil health, and that things underground may not be as we think they are.

**AGENDA ITEM 4 – Matters from the Department (31:30)**

Lauren Kilcoyne, Finance Manager, gave an update on Draft 2018 Work Plan and Budget.

Melanie Sloan, Planner I, gave a presentation on Confluence Area Multi-Use Trails.

Kacey French, Environmental Planner, gave an update on the Agriculture Plan.

**AGENDA ITEM 5 – Matters from the Board (1:05:50)**

Molly Davis gave an update on the 50th Anniversary.

Mark Gershman and Molly Davis gave an update on the Greenways Advisory Committee

**AGENDA ITEM 6 – Boulder Valley Comprehensive Plan – Potential "Open Space– Other" (OS-O) Land Use Designation Changes for University of Colorado Boulder's South Campus Property (1:19:28)**

Mark Gershman and Lesli Ellis, presented this item.

**Public Comment**

Lisa Buchanan, Boulder, asked for the Board to wait until the final design for flood mitigation is absolute before making any decisions. She asked that the Open Space designation to remain as is.

Kathie Joyner, South Boulder Creek Action Group, suggested integration and improvement of high value habitat on this property. She added that improving habitat zones and identifying wildlife corridors should be a priority. She asked for pedestrian access to also be identified.

Mona Tell, Boulder, said please do not change the comprehensive plan designation. She asked that this area allow for flood mitigation.

Ray Bridge, Boulder County Audubon Society, requested the Board remove CU South from the Comprehensive Plan. He said City Council should revisit the flood mitigation plan that was passed in 2015.

Dana Bove, Boulder, said he would not like to see any land use designation changes. There is not a detailed enough study to make any decisions.

Ken Bietel, Boulder, CU South Open Space and Wildlife Preserve, requested this item gets postponed three years in order to purchase CU South to protect it for perpetuity. He said he agrees that a plan needs to be in place before making a decision on anything.

Amy Siemel, Boulder, said large wildlife blocks are the key to wildlife preservation. She asked that this area remain as a natural flood management zone. Please vote to have this land remain as Open Space.

Crif Crawford, Boulder, said the number one criteria in the budget guidelines is safety. This is important and he appreciates the cooperation by all entities involved.

Ben Binder, Boulder, said he would like to see a flood mitigation system in place as quickly as possible. He suggested several options to handle this. He asked for no changes to take place until a design is in place.

Margaret LeCompte, Boulder, asked the Board to please follow the principles of the Open Space guidelines. She would urge the Board to direct City Council to follow the Comprehensive Plan for restoring habitat, protecting native species, and avoiding fragmentation as well as preserving land. She said it is too important of a decision to make without more information.

Gordon McCurry, Boulder, showed a Power point looking at options for flood mitigation.

Edward Smelko, Boulder, said this issue is complicated, however, he would support this issue moving forward.

Tony Heller, Boulder, said he moved to Boulder because of the Open Space. He commutes by bike along Hwy 36 and the idea of a dam idea is very disturbing. He said protecting this area is important.

Katie Wahr, Save South Boulder Now, said mitigation of this land is crucial, but the public is presented with a false choice between preserving land and flood control. Wetlands make up less than 1 percent, but necessary for more than 80 percent of land. She said the CU South parcel provides needed wildlife blocks and it is important to keep this land as Open Space.

Laura Tyler, South Boulder Creek Action Group, said flood situation is dire and fixable and that preservation of Open Space is important.

Jenny Natapow, Save South Boulder Now, said this land is home to many things, and should not be unfragmented. According to the Management Plan large blocks of habitat are important to preservation. She asked the Board to protect this land as Open Space.

Armont Legeudre, Boulder, said CU owns this property but would still like to see the plan before making any decisions. He said he is opposed to the hazard dam as well until more information is provided.

Helen Burnside, Boulder, said to please ensure that we preserve this designation until it is clear what is happening.

Andrew Morton., Boulder, asked that no changes happen until there is a clear plan. Otherwise that puts residents into an unfair situation having to choose between land management and flood mitigation.

### **Motion**

**Curt Brown moved the Open Space Board of Trustees (1) State that it recognizes important Open Space values on the CU South property including, but not limited to, the portion currently designated Open Space Other and (2) Endorse the OSMP staff report, 2015-2017 Boulder Valley Comprehensive Plan Update CU South OS-O Open Space Analysis as a guide to protecting and enhancing open space values during four body review of the BVCP Land Use designations and subsequent deliberations. We believe that a close working partnership between the University and the City, combined with broad community input, can accomplish very significant benefits for OSMP charter purposes, in addition to accomplishing critically important flood mitigation. Kevin Bracy Knight seconded. This motion passed unanimously.**



**ADJOURNMENT** – The meeting adjourned at 9:20 p.m.

These draft minutes were prepared by Leah Case.