

IBM TRAIL CONNECTOR

**COMMUNITY AND ENVIRONMENTAL ASSESSMENT
PROCESS (CEAP) REPORT**

August 2008

“The purpose of the proposed IBM Trail Connector is to improve connectivity and safety for bicycle and pedestrian travel between the residential neighborhoods and commercial centers in the Gunbarrel community and the city of Boulder parks and trails system. The project will complete an important off-street trail connection between these destinations and facilitate access for bicyclists and pedestrians of all ages and abilities.”

Prepared by:

ERO Resources Corp.
The Architerra Group

Prepared for:

City of Boulder Open Space and Mountain Parks
Boulder County Transportation

Contents

Executive Summary	iii
Section 1. Introduction, Background, and Alternatives.....	1
Description and Location of the Project.....	1
Background, Purpose, and Need for the Project	1
Project Background	1
Purpose and Need for the Project	2
Existing Plans and Documents	5
Existing Natural Resource Conditions.....	7
Description of Project Alternatives.....	8
Project Alternatives	8
Summary of Major Issues.....	11
Proposed Capital and Ongoing Operating Costs	12
Property Acquisition.....	12
Anticipated Permits	12
Preferred Project Alternatives.....	13
Preferred Trail Alignment.....	13
Preferred Interim Alternative.....	13
Long-term Underpass Option (C2).....	13
Summary of Other Trail Alignments.....	16
Other Alternatives Considered.....	16
Public Input to Date	17
Public Open House #1	17
Public Open House #2	18
Transportation Advisory Board	18
Parks and Recreation Advisory Board.....	18
OSMP Board of Trustees.....	18
Staff Project Manager and Relevant Contacts.....	19
Staff Project Manager	19
Project Partners/Planning Team.....	19
Consultants	19
Section 2. Goals Assessment	21
1. Using the BVCP and department master plans, describe the primary city goals and benefits that the project will help to achieve.....	21
BVCP Community Sustainability.....	21
Other BVCP Goals	21
Department Master Plans.....	23
Regional Goals.....	24
2. Is this project referenced in a master plan, subcommunity or area plan? If so, what is the context in terms of goals, objectives, larger system plans, etc.?.....	25
3. Will this project be in conflict with the goals or policies in any departmental master plan? What are the trade-offs among city policies and goals in the proposed project alternative?.....	25
Water Quality Protection	25
Parks and Recreation Priorities.....	26
Environmental Trade-offs.....	26

IBM TRAIL CONNECTOR CEAP
AUGUST 2008

4. List other city projects in the project area that are listed in a departmental master plan or the CIP.....	26
Gunbarrel Community Center Plan	26
Longmont to Boulder Trail Connection.....	26
Boulder Feeder Canal Trail	27
Carter Lake Pipeline	27
State Highway 119 and 63 rd Street Transportation Improvements Project.....	27
5. What are the major city, state, and federal standards that will apply to the proposed project? How will the project exceed city, state, or federal standards or regulations?	27
Trail and Infrastructure Development.....	27
Wetlands	28
Prairie Dogs	28
Migratory Birds	28
6. Are there cumulative impacts to any resources from this and other projects that need to be recognized and mitigated?	28
Park and Trail Facilities.....	28
Water Quality Protection	28
Section 3. Impact Assessment.....	29
CEAP Checklist	29
Checklist Questions.....	31
A. Natural Areas and Features	31
B. Riparian Areas and Floodplains	36
C. Wetlands.....	38
E. Water Quality	38
F. Air Quality	40
J. Safety	40
L. Services	41
M. Passive Recreation	44
Trail Implementation Considerations.....	45
Summary of Proposed Mitigation	46
References	48

Figures

Figure 1. Regional Context.....	3
Figure 2. Land Ownership and Management	4
Figure 3. Existing Plans.....	6
Figure 4. Potential Trails.	10
Figure 5. Proposed Trail Plan.....	15
Figure 6. Wildlife Habitat.....	34
Figure 7. Environmental Constraints.....	37
Figure 8. Wetlands	39

Appendices

Appendix A – Study Area Photos
Appendix B – Natural Resources Overview
Appendix C – Public Meeting Summaries

EXECUTIVE SUMMARY

This report documents the Community and Environmental Assessment Process (CEAP) for the IBM Trail Connector - a proposed multi-use trail within the City of Boulder that will connect the existing Cottontail Trail on the east side of Highway 119 (Diagonal Highway) to the existing Boulder Reservoir trail system on the west side of 63rd Street. The proposed trail would be about one mile in length, and would provide a regional trail connection between the Gunbarrel area and Boulder Reservoir.

The IBM trail connection has been a priority for the city and county for over two decades, and is documented in numerous city, county, and state plans. This proposed trail provides a key east-west regional connection as part of the Longmont-to-Boulder (LOBO) trails system. In 2005, the county applied for and received \$920,000 in federal transportation funding for improvements to the LOBO trails system, including the IBM Trail Connector.

The purpose of this Community and Environmental Assessment Process (CEAP) is to identify impacts of the potential project alignment alternatives to determine the most viable and environmentally sound alternative for completing the IBM Trail Connector and to propose mitigation measures to address impacts of the preferred trail alignment. An interdepartmental team led by city OSMP, and including representatives from Planning, Parks & Recreation, Water Utilities and Transportation collaborated on the CEAP analysis and report. Boulder County Transportation also participated to ensure adequate coordination between the CEAP process and subsequent timeline for design and construction.

Primary issues identified during the CEAP process include:

- Improved alternative modes access to city recreational trails and facilities
- Identification of a viable, cost-effective trail alignment
- Tom Watson Park ownership and management
- Bald eagle habitat
- 63rd Street crossing safety
- Water quality protection in Boulder Reservoir and Boulder Feeder Canal
- Other natural resource concerns (prairie dogs, wetlands, burrowing owl)

The project alternatives have been separated into three sections for evaluation purposes. Zone A includes city open space land east of Highway 119. Zone B consists of a city conservation easement/trail easement between Highway 119 and Tom Watson Park, while Zone C encompasses Tom Watson Park, 63rd Street, and Coot Lake. A total of nine trail segments and four road crossing configurations were identified and analyzed.

The staff recommendation is to pursue options A1, B3 and C4 as the preferred alignment. Option C3 is presented as an interim alignment if property issues with Tom Watson Park prevent C4 from being constructed as part of the federally-funded trail project. Retaining this option in the final CEAP report will allow city Transportation, OSMP, and Boulder County to move forward with design and possible construction of the trail connection and will enable the County to secure federal funding currently available for trail design.

SECTION 1. INTRODUCTION, BACKGROUND, AND ALTERNATIVES

Description and Location of the Project

The City of Boulder Open Space and Mountain Parks (OSMP), City of Boulder Transportation, and the Boulder County Transportation Departments propose to construct a multi-use trail across land owned by the City of Boulder, and land owned by the IBM Corporation, that would connect the existing Cottontail Trail on the east side of Highway 119 to the existing Boulder Reservoir trail system on the west side of 63rd Street. This proposed project is referred to as the IBM Trail Connector. The proposed trail is about one mile in length, and would provide a regional trail connection between the Gunbarrel area and Boulder Reservoir.

The intent of this Community and Environmental Assessment Process (CEAP) is to identify impacts of the potential project alignment alternatives to determine the most viable and environmentally sound alternative for completing the IBM Trail Connector and to propose mitigation measures to address impacts of the preferred trail alignment. An interdepartmental team led by city OSMP, and including representatives from Planning, Parks & Recreation, Water Utilities and Transportation collaborated on the CEAP analysis and report. Boulder County Transportation also participated to ensure adequate coordination between the CEAP process and subsequent timeline for design and construction of their federally-funded project.

The study area for this CEAP is south and west of the IBM facility (at 6300 Diagonal Highway), in the City of Boulder. The study area extends from the current terminus of the Cottontail Trail near the Gunbarrel Estates subdivision, to the eastern edge of the Boulder Reservoir along North 63rd Street near Coot Lake. The study area is bisected by the Longmont Diagonal Highway (Highway 119) and the Burlington Northern – Santa Fe (BNSF) railroad, and it includes Tom Watson Park. With the exception of the right-of-way for Highway 119 and the BNSF railroad, the entire study area is within Boulder's city limits.

The location of the study area, along with the regional context of open space and trails, is shown in Figure 1.

Background, Purpose, and Need for the Project

Project Background

The IBM trail connection has been a priority for the city and county for over two decades. The project is documented in numerous city, county, and state planning documents (see *Existing Plans and Documents and Figure 3 – Existing Plans*). In 1997, the City of Boulder obtained an acquisition agreement from IBM that included language establishing a moveable but permanent easement for a trail connection. The four parts of the agreement relating to a potential trail alignment are:

- Acquisition of open space land in fee on the east side of Highway 119 to include the Cottontail Trail.

IBM TRAIL CONNECTOR CEAP
AUGUST 2008

- Acquisition of an open space easement on the west side of Highway 119.
- Acquisition of a trails easement across both the Open Space fee land and Open Space easement. Easement was purchased by Transportation for \$250,000.
- Obtained a parks and recreational easement for what is now Tom Watson Park, to be operated by the City of Boulder Parks and Recreation Department.

Land ownership and management is shown in Figure 2.

In 2003, a prioritization process by Boulder County identified regional trail improvements countywide. The process identified the completion of the Gunbarrel-Niwot trail connections, including the IBM Trail Connector, as a first-priority project. The regional trail recommendations were developed in cooperation with the cities and towns and approved by the Board of County Commissioners in May 2003. In 2005, the County applied for and received \$920,000 in federal transportation funding for design and construction of the Longmont-to-Boulder (LOBO) trail connections which includes funding for the IBM trail connection. The City of Boulder was not requested to participate in funding the trail project, however, additional funding may be required to construct either a new crosswalk or an underpass of 63rd Street, neither of which were included in the 2005 funding request.

Purpose and Need for the Project

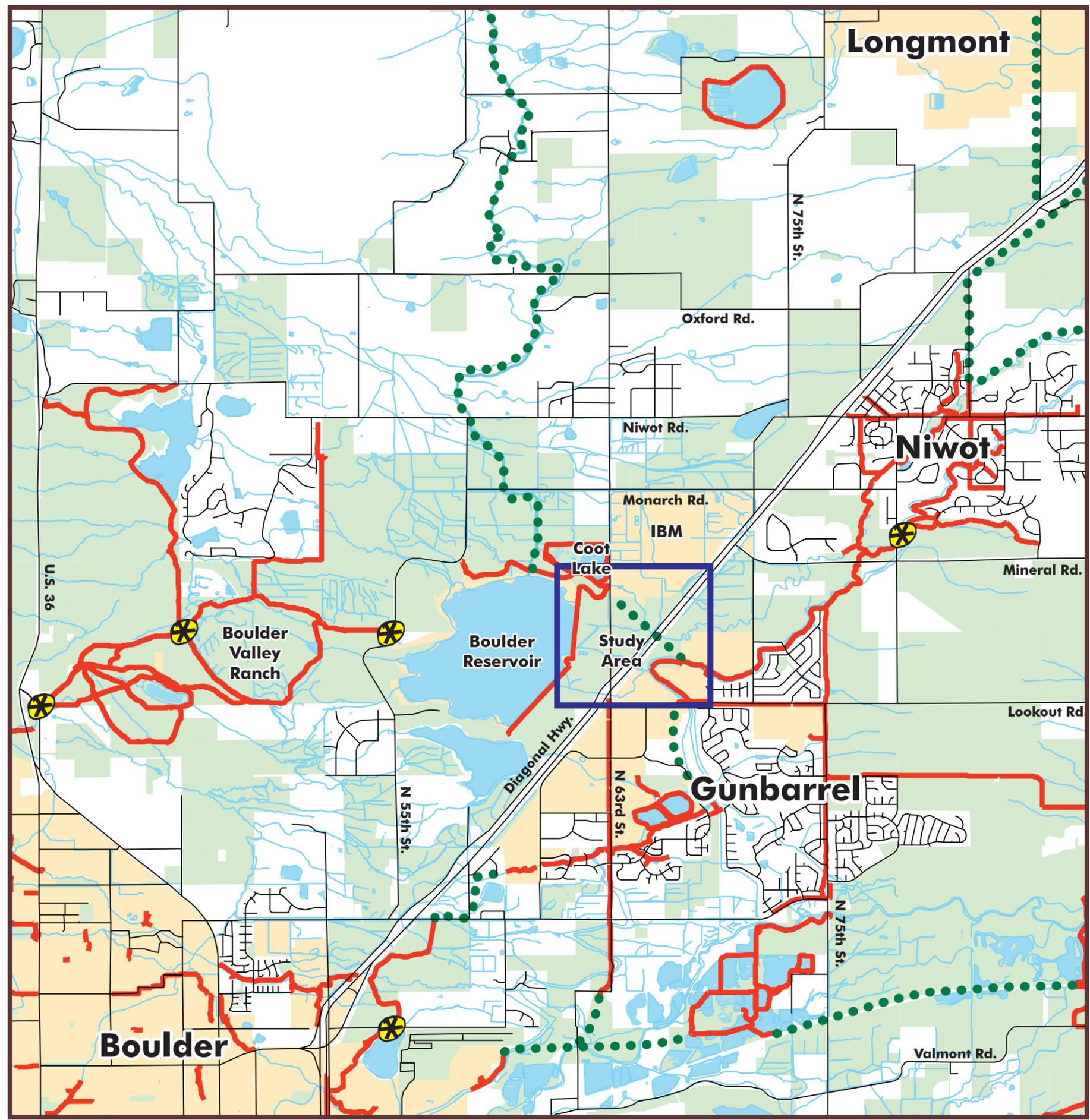
The purpose of the proposed IBM Trail Connector is to improve connectivity and safety for bicycle and pedestrian travel between the residential neighborhoods and commercial centers in the Gunbarrel community and the City of Boulder parks and trails system. The project will complete an important off-street trail connection between these destinations and facilitate access for bicyclists and pedestrians of all ages and abilities.

The key element of this project is the potential completion of a grade-separated trail crossing of State Highway 119 and the BNSF railroad. Without this connection, access to the recreation amenities in and around Tom Watson Park, Coot Lake, and Boulder Reservoir is limited. Cyclists and pedestrians need to use the shoulders along 63rd Street and use the unprotected crossing of SH119 to get to the park or reservoir. This lack of separate trail facilities discourages the use of alternative modes to access the city facilities, and limits the amount of direct access Gunbarrel residents and businesses have to the facilities. (During the first open house for this project, some members of the public expressed concerns about the safety of the existing situation - no trail - as they attempt to make the proposed connection by walking or running along the 63rd Street shoulder).

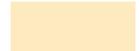
This proposed trail connection also provides a key east-west regional trail connection along the Longmont-to-Boulder (LOBO) trails system which is planned as a continuous off-street trail network connecting Longmont, Niwot, Gunbarrel and the city of Boulder trail system. The proposed trail also provides non-motorized trail access from nearby communities to the proposed Boulder Feeder Canal Trail, which would begin about ½ mile to the west (a CEAP for the proposed Boulder Feeder Canal Trail was completed in 2006).

IBM Trail Connector CEAP

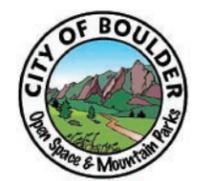
Figure 1 Regional Context



Legend

-  Open Space
-  Existing Trails
-  Proposed Trails
-  Existing Trailheads
-  Incorporated Areas

 0 4000 8000 Feet 3/27/2008

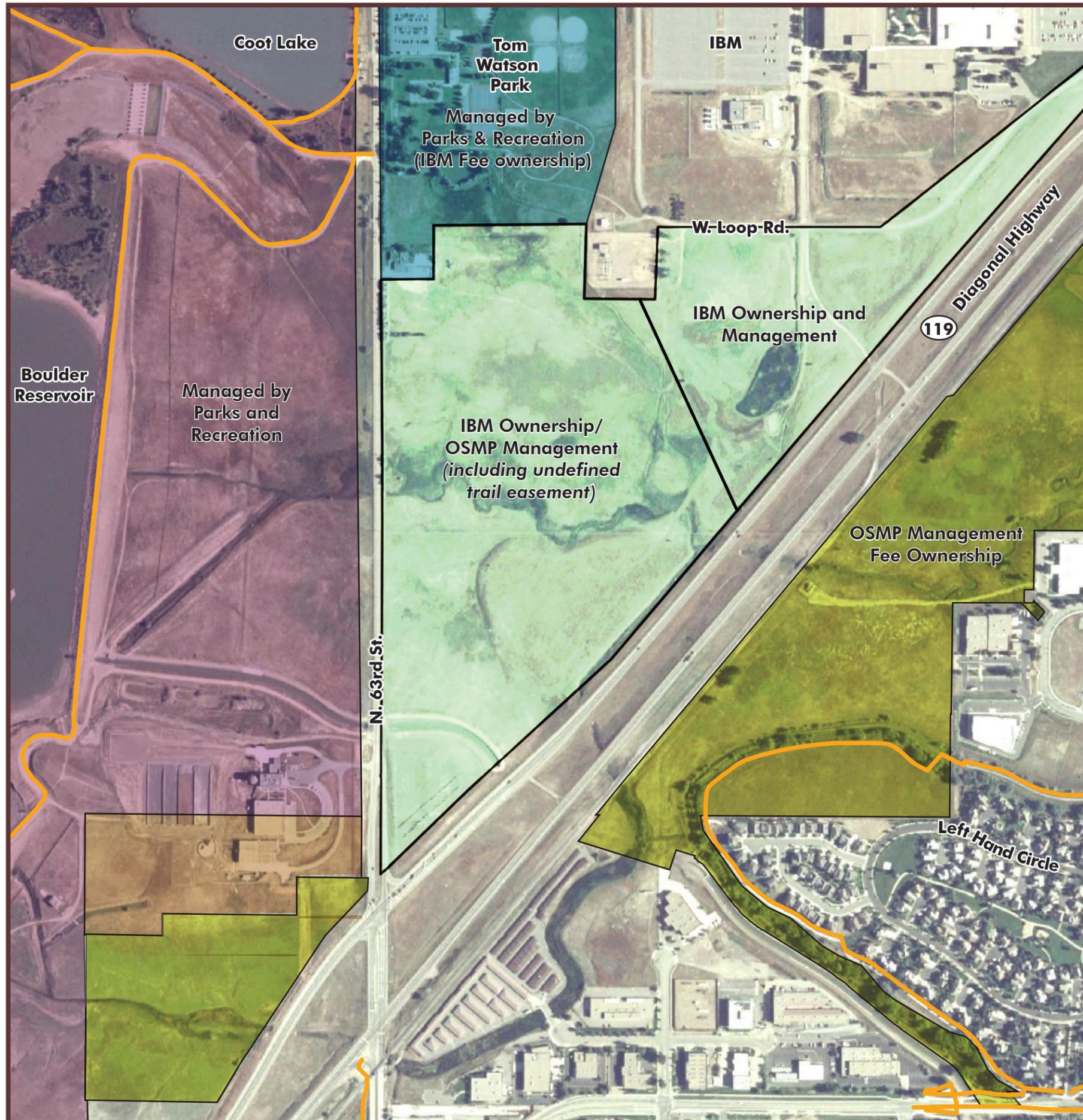


IBM Trail Connector CEAP

Figure 2 Land Ownership and Management

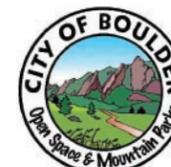
Legend

- Parks and Recreation
- Boulder Public Works
- Open Space & Mountain Parks
- Conservation Easement
- Other Government Lands
- Open Space Property Boundaries
- Existing Trails



N

N
0 500 1000 Feet 4/8/2008



Existing Plans and Documents

The IBM Trail Connector has been identified, either as a specific trail alignment or a conceptual connection in numerous city, county, and state planning documents. All of these documents are summarized below while a few key plans are shown in Figure 3.

City of Boulder

- ***Boulder Valley Comprehensive Plan, Trails Map, 2006*** – Identifies a conceptual trail alignment through the study area.
- ***OSMP Trail Assessment and Prioritization Report, 2003*** – The IBM trail connection is identified as a “Priority New Trail.”
- ***Transportation Master Plan, 2003*** – Depicts a proposed multi-use path through the study area, a proposed underpass at Highway 119, and a proposed crossing of Dry Creek.

Boulder County

- ***Boulder County Comprehensive Plan, 1999*** – County Trails Map identifies a trail alignment through the study area.
- ***Regional Trails Needs, 2006*** – IBM Connection under Hwy. 119 is identified as a funded trail project need.
- ***Longmont-to-Boulder (LOBO) Trail Project, 2006*** – The IBM Trail is identified as a planned trail connection between the main LOBO trail and the proposed Boulder Feeder Canal trail.

State of Colorado

- ***Colorado State Parks, Colorado Front Range Trail Corridor Plan, 2003*** – IBM Trail connection is illustrated as a “planned trail,” and is a key link to the greater Front Range Trail system.
- ***Colorado State Parks, Colorado Front Range Trail Implementation Plan, 2007*** – IBM Trail connection is identified as a “Priority Segment,” defined as a missing link that is “critical to complete.”

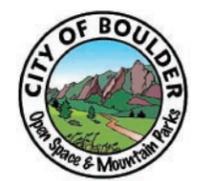
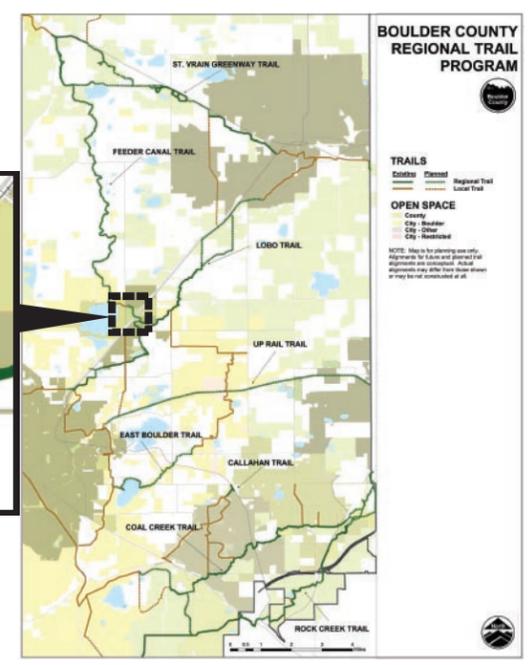
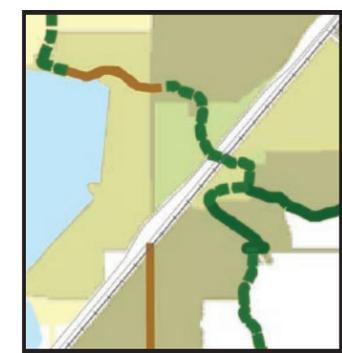
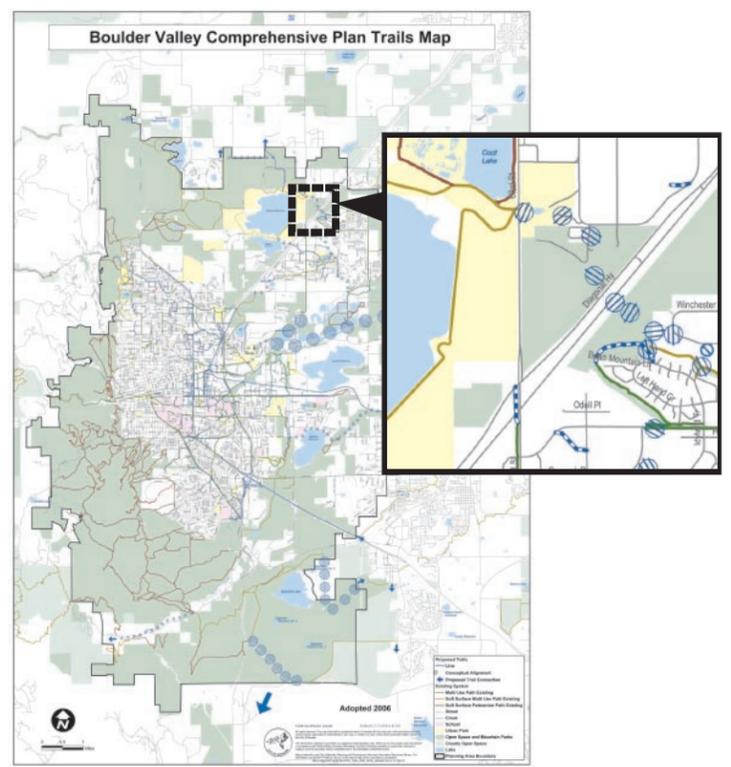
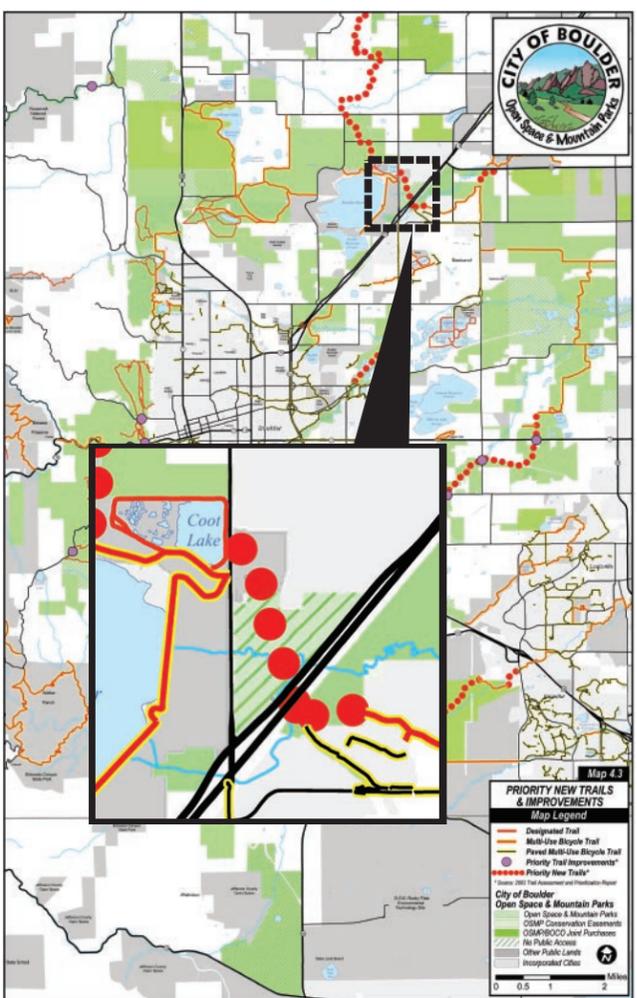
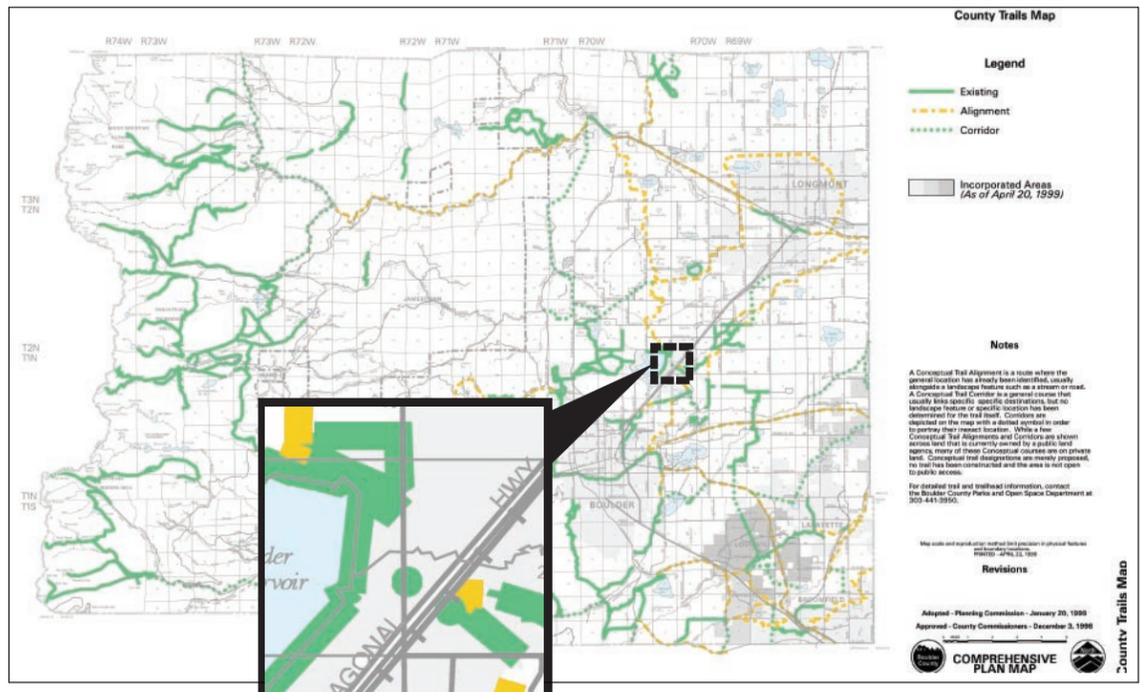
Other Plans and Documents

Other relevant plans that may affect community and environmental resources in the study area include the following:

- ***City of Boulder Pedestrian Crossing Treatment Installation Guidelines, 2006*** – Establishes standards and policies for crosswalks and other pedestrian crossing treatments.
- ***City of Boulder Parks and Recreation Master Plan, 2006*** – Directs the department to coordinate with IBM to develop sustainable management options for the park, including prairie dog management.

IBM Trail Connector CEAP

Figure 3 Existing Plans



- ***Boulder Feeder Canal CEAP, 2006*** – Analyzed the proposed regional trail along the Boulder Feeder Canal, extending north from the Boulder Reservoir.
- ***State Highway 119 and 63rd Street Transportation Improvements Project, 2007*** – Proposed multi-modal improvements to the major intersection south of the study area. Would not affect trails or other resources in the study area.
- ***State Highway 119 and State Highway 52 Interchange Improvement Project, 2003*** – Proposed improvements to the major intersection to the northeast of the study area. Would not affect trails or other resources in the study area.

In 2005, a Trail Feasibility Report was completed for the IBM Connector Trail. The 2005 study identified and evaluated potential trail alternatives, and provided information on the technical feasibility of a trail underpass crossing of Highway 119 alongside Dry Creek.

Existing Natural Resource Conditions

The study area is dominated by non-native grasslands interspersed with wetland communities along Dry Creek and its tributary drainages. Natural resources in the study area are described in detail in Appendix B. Key resources are summarized as follows:

- ***Riparian habitat:*** Riparian tree and shrub habitat is found along the large irrigation ditches in the southeast corner of the study area, in addition to the four mature cottonwood trees on the north-central edge of the study area. The Dry Creek corridor supports only limited riparian tree and shrub growth.
- ***Wetlands:*** A total of about 18 acres of wetlands, as mapped by the City of Boulder, exist in the overall study area. Most wetlands are associated with Dry Creek and its tributary drainages.
- ***Prairie dogs:*** A plague outbreak in early 2007 killed most of the prairie dogs in the study area, reducing active colonies from 43 acres to 1.6 acres. The remaining active prairie dog colonies are small and scattered throughout the study area.
- ***Bald eagle habitat:*** The greater Boulder Reservoir area is known to support winter foraging habitat for bald eagles. A bald eagle perch has been documented in the study area, located adjacent to the IBM access road on the north-central edge. This perch was most likely used primarily for hunting prairie dogs (prior to the recent die-off) and would likely continue to be used for this purpose as the prairie dog populations recover.
- ***Migratory birds/raptors:*** The study area provides foraging habitat for other raptors including red-tailed hawk and ferruginous hawk, and nesting habitat for burrowing owl (found in prairie dog colonies). There are currently numerous cliff swallow nests within the existing culverts under Highway 119.

Description of Project Alternatives

Project Alternatives

The proposed trail alternatives identified have been separated into three sections for evaluation purposes. The planning team developed and considered a total of nine trail alignments dispersed across zones A, B, and C.

- **Zone A** – This segment begins at the south east end of the trail, where the project alignment would connect to the existing Cottonwood Trail. Zone A extends northwest to the box culvert crossing under Hwy 119. Two trail alignments were identified and analyzed.
- **Zone B** – This segment begins on the western end of the box culvert crossing under Hwy 119 and extends northwest to the edge of Tom Watson Park. Three trail alignments were identified and analyzed.
- **Zone C** – This segment begins at the southern edge of Tom Watson Park and extends across 63rd Street to the northwest end of the trail where the project alignment would connect to the existing Boulder Reservoir and Coot Lake trail system. Four trail alignments were identified and analyzed.

These alignments are shown in Figure 4 and are detailed in Table 1.

IBM TRAIL CONNECTOR CEAP
AUGUST 2008

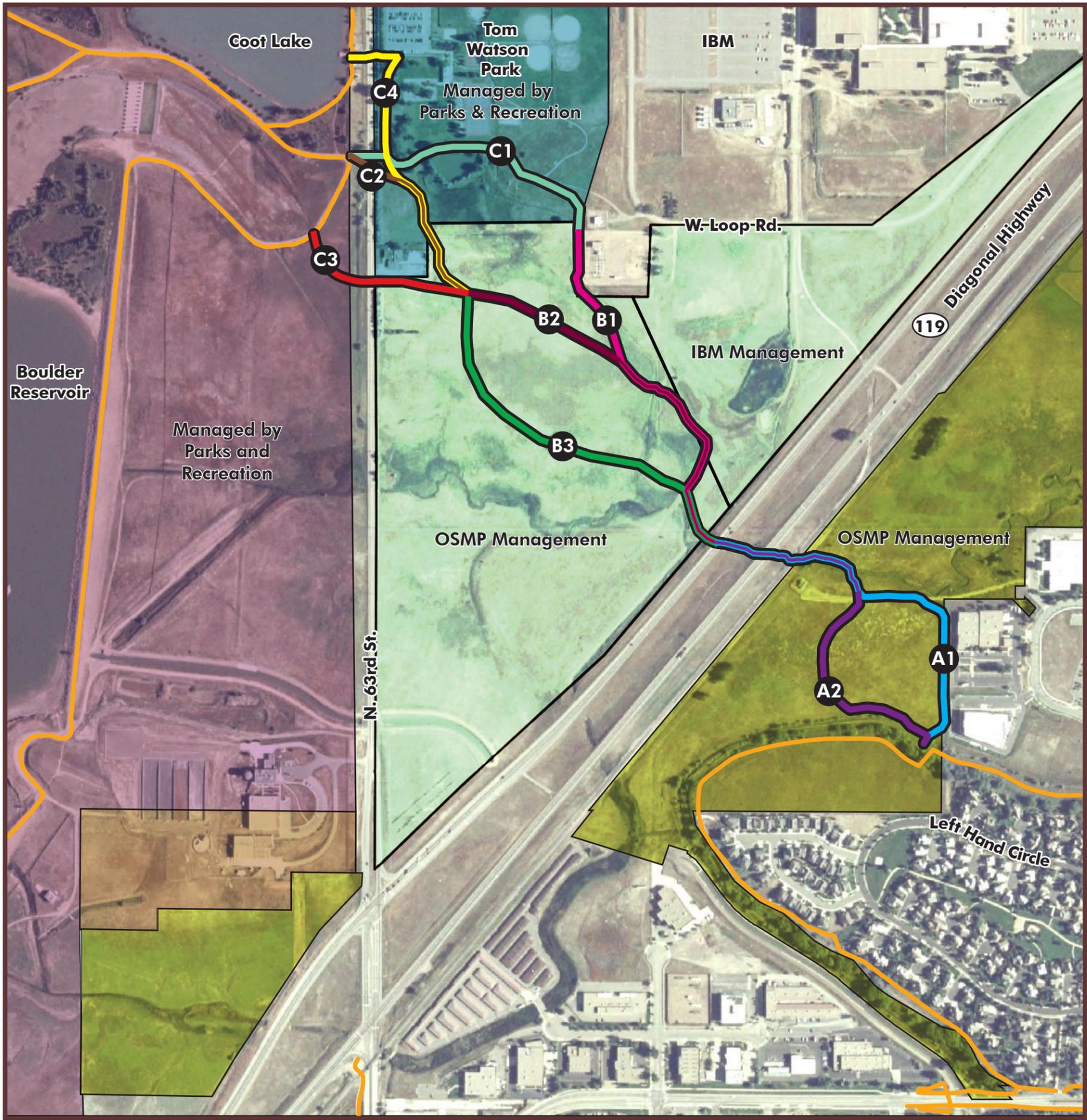
Table 1. Comparison of Trail Alignments Considered.

Alignment	Length (feet)	Infrastructure	Wetland Impacts (acres)	Bald Eagle Perch Proximity (feet)	Estimated Cost	Positives	Negatives
Zone A							
1	1,828	<ul style="list-style-type: none"> • 2 bridges • SH 119 underpass 	0.07	—	\$998,000*	<ul style="list-style-type: none"> • Minimal habitat fragmentation 	<ul style="list-style-type: none"> • Slope • Trail user experience
2	1,856	<ul style="list-style-type: none"> • 2 bridges • SH 119 underpass 	0.07	—	\$998,000*	<ul style="list-style-type: none"> • User experience/view 	<ul style="list-style-type: none"> • Habitat fragmentation
Zone B							
1	1,686	<ul style="list-style-type: none"> • 1 culvert 	0.03	385	\$48,000	<ul style="list-style-type: none"> • Direct park access • Few wetland impacts 	<ul style="list-style-type: none"> • Nearest to BE perch • Requires park access
2	2,049	<ul style="list-style-type: none"> • None 	0.03	525	\$50,000	<ul style="list-style-type: none"> • Existing road throughout • Few wetland impacts 	<ul style="list-style-type: none"> • Proximity to BE perch • IBM property
3	2,218	<ul style="list-style-type: none"> • 1 bridge • 1 culvert 	0.06	915	\$123,000	<ul style="list-style-type: none"> • Farthest from BE perch 	<ul style="list-style-type: none"> • Greater wetland impacts • Habitat impacts • Cost
Zone C							
1	1,292	<ul style="list-style-type: none"> • Underpass 	—	400	\$526,000	<ul style="list-style-type: none"> • Park access • Direct connection to Boulder Reservoir 	<ul style="list-style-type: none"> • Impacts to park
2	1,250	<ul style="list-style-type: none"> • Underpass 	—	—	\$526,000	<ul style="list-style-type: none"> • Direct connection to Boulder Reservoir trails • Good underpass location • Potential spur to access park 	<ul style="list-style-type: none"> • Close to active p-dogs • No direct park access
3	641	<ul style="list-style-type: none"> • At-grade x-ing 	0.01	—	\$74,000	<ul style="list-style-type: none"> • Avoids park issues • Direct connection to Boulder Reservoir trails 	<ul style="list-style-type: none"> • Wetlands • Redundant crossing location – short-term only
4	1,340	<ul style="list-style-type: none"> • At-grade x-ing 	—	400	\$27,000	<ul style="list-style-type: none"> • Crosswalk enhancement • Ties trails into park facilities 	<ul style="list-style-type: none"> • Impacts to park • Potential safety issues • Indirect trail route

* Includes about \$890,000 in County Transportation and federal funds for construction of underpasses, bridge, and trail.

IBM Trail Connector CEAP

Figure 4 Potential Trails



Legend

- Parks and Recreation
- Boulder Public Works
- Open Space & Mountain Parks
- Conservation Easement
- Other Government Lands
- Open Space Property Boundaries
- Existing Trails
- Potential Trail Alignments



Summary of Major Issues

Some of the major issues that were raised during the CEAP process are summarized below. Major environmental issues are summarized in Figure 7. The potential impacts of the proposed alternatives on these and other issues are discussed in Section 3 – *Impact Assessment*.

- ***Park Facilities and Management*** – Tom Watson Park is currently managed by the Parks and Recreation Department through an easement agreement with IBM. While the Parks and Recreation Master Plan recommends developing sustainable management options for Tom Watson Park, the long-term fee ownership and management arrangement for the park is uncertain.
- ***Trail Management*** – Several other trails converge in this area, including trails around Coot Lake, Boulder Reservoir and the proposed Boulder Feeder Canal Trail. A comprehensive and coordinated management plan needs to be formulated, which would include annual costs.
- ***Bald eagle habitat*** – The greater Boulder Reservoir area is known to support winter foraging habitat for bald eagles. Of the 17 bald eagle perch sites that have been documented in the area, one is located within close proximity to the study area. The proposed trail connection has the potential to impact the future bald eagle use of the perch by fragmenting the nearby foraging habitat (prairie dog colonies). While hunting perches are not subject to any federal, state, or local regulations, the conservation of bald eagle habitat is a priority for OSMP and other partner agencies.
- ***63rd Street crossing safety*** – Several concerns have been expressed about the adequacy and safety of the existing at-grade crossing of 63rd Street between Tom Watson Park and Coot Lake. While this crossing meets city standards from an engineering standpoint, staff has expressed both real and perceived concerns about its safety, particularly if the crossing were used for a regional trail connection.
- ***Water Quality Protection*** – The proposed trail connection has raised concerns about potential impacts to water quality in the Boulder Feeder Canal and Boulder Reservoir. These potential indirect impacts from the proposed trail connection could potentially occur because it would facilitate increased public use of existing trails and facilities around Boulder Reservoir. Although the proposed trail is downstream of the reservoir, there is concern that increased public use of the overall system may result in a greater potential for drinking water contamination due to human or animal waste, the accidental introduction of pathogens, garbage, or chemicals to the water supply, or purposeful contamination.
- ***Prairie dog colonies*** – A sylvatic plague outbreak in the spring of 2007 killed most of the prairie dogs in the study area, reducing current active colonies to about 1.6 acres. While the prairie dog populations are expected to recover over time, there is currently a unique opportunity to construct this regional trail connection without harming any prairie dogs or violating the City’s Wildlife Protection Ordinance. Both the preferred and interim alternative trail alignments

would impact about 1 acre of *inactive* prairie dog colonies, with no impacts to active colonies.

- **Burrowing Owl Habitat** – Historic nesting activity of burrowing owls exist in the area west of 63rd Street, adjacent to one of the potential trail alignments. A state listed threatened species and county species of concern, burrowing owls were last observed with a successful nest in 2004 in this location. As a migratory species, burrowing owls are subject to local, state and federal regulations.
- **Wetlands** – The study area contains about 18 acres of wetlands associated with Dry Creek and several other ditches and drainages. Most of the wetland impacts for both the preferred and interim alternative alignments (about 0.13 acres) would be associated with the re-configuration of the existing Highway 119 culvert to accommodate Dry Creek and a trail underpass. Wetland impacts would be subject to both city Wetland Protection Ordinance and federal Section 404 permitting and mitigation requirements.

Proposed Capital and Ongoing Operating Costs

Proposed capital costs for the preferred alignment and preferred interim alternative are described above in Table 2. Ongoing operating costs, including trash pick-up, facility maintenance, signing, patrol/enforcement, and resource management are not known at this time.

Property Acquisition

No new property acquisition is anticipated as part of this project. The new trail underpass under Highway 119 and the BNSF railroad may require a trail easement or access agreement. The potential acquisition of the fee interest in Tom Watson Park by the city is related to this project, but is outside the scope of the immediate IBM Trail Connector proposal. As summarized above under *Summary of Major Issues* and described in detail in the CEAP analysis (*Section 3*), the outcome of discussions regarding the long-term ownership and management of Tom Watson Park may determine which trail alignment alternative is ultimately constructed.

Anticipated Permits

The following additional permits and approvals are anticipated as this project moves forward:

- Federal and City of Boulder wetlands permits
- Stormwater discharge permits
- Floodplain development permit
- Construction permits from CDOT and BNSF railroad

Other guidelines that apply to this project (but do not require a permit) include the city's Wildlife Protection Ordinance, the federal Migratory Bird Treaty Act, the city's Pedestrian Crossing Treatment Installation Guidelines, the Colorado Division of Wildlife raptor protection guidelines.

Preferred Project Alternatives

The proposed trail will be a soft-surface (crusher fine) multi-use trail. It will be 10 feet wide and will meet all federal and OSMP standards for ADA accessibility. The preferred alignment and interim preferred alignment are shown in Figure 5 and are summarized in Table 2.

Preferred Trail Alignment

Preferred Route – A1, B3, C4

The staff recommendation is to pursue segments A1, B3 and C4 as the preferred alignment. Implementation of the preferred trail alignment C4 requires resolution of long term management and ownership of Tom Watson Park and approval from the IBM Corporation for any trail alignment across park land (which is currently owned by IBM).

Table 2. Preferred and Alternative Alignment Details.

Alignment	Length (feet)	Infrastructure	Estimated Cost	Notes
Preferred Trail Alignment				
A1	1,828	<ul style="list-style-type: none"> • 2 bridges • SH 119 underpass 	\$1,070,000	Underpass cost based on 2005 Feasibility Study – specific design and wetland impacts TBD.
B3	2,218	<ul style="list-style-type: none"> • 1 bridge • 1 culvert 	\$123,000	Avoids bald eagle perch and buffer.
C4	1,340	<ul style="list-style-type: none"> • None 	\$27,000	Provides direct access to Tom Watson Park
TOTAL	5,386		\$1,220,000	
Preferred Interim Alternative				
A1-B3	<i>Same as above</i>			
C3	641	<ul style="list-style-type: none"> • At-grade crossing 	\$74,000	Underpass may be complicated. Will need to minimize potential burrowing owl impacts.
TOTAL	4,687		\$1,267,000	

Preferred Interim Alternative

Alternative Route – A1, B3, C3

Because of discussions that are in process about the long-term ownership and management of Tom Watson Park, an interim alignment (C3) is being considered. The planning team views this alignment as a workable alternative to the preferred route that could be completed without crossing Tom Watson Park and would avoid crossing the fee-owned IBM property. Advancing this alignment as an interim option would allow OSMP, Parks and Recreation, Boulder County, and city Transportation to move forward with the design of the trail and secure federal funding currently available for this project.

Long-term Underpass Option (C2)

The preferred trail alignment retains the long-term possibility of a trail underpass below 63rd Street near the southwest corner of the park. If constructed, this underpass would

become the primary regional trail access to Boulder Reservoir trails, while the near-term route would become a spur connection to Tom Watson Park.

Similar to the preferred trail alignments, this option would result in minor impacts to vegetation and wildlife in the immediate vicinity of the trail corridor. Other potential impacts include the following:

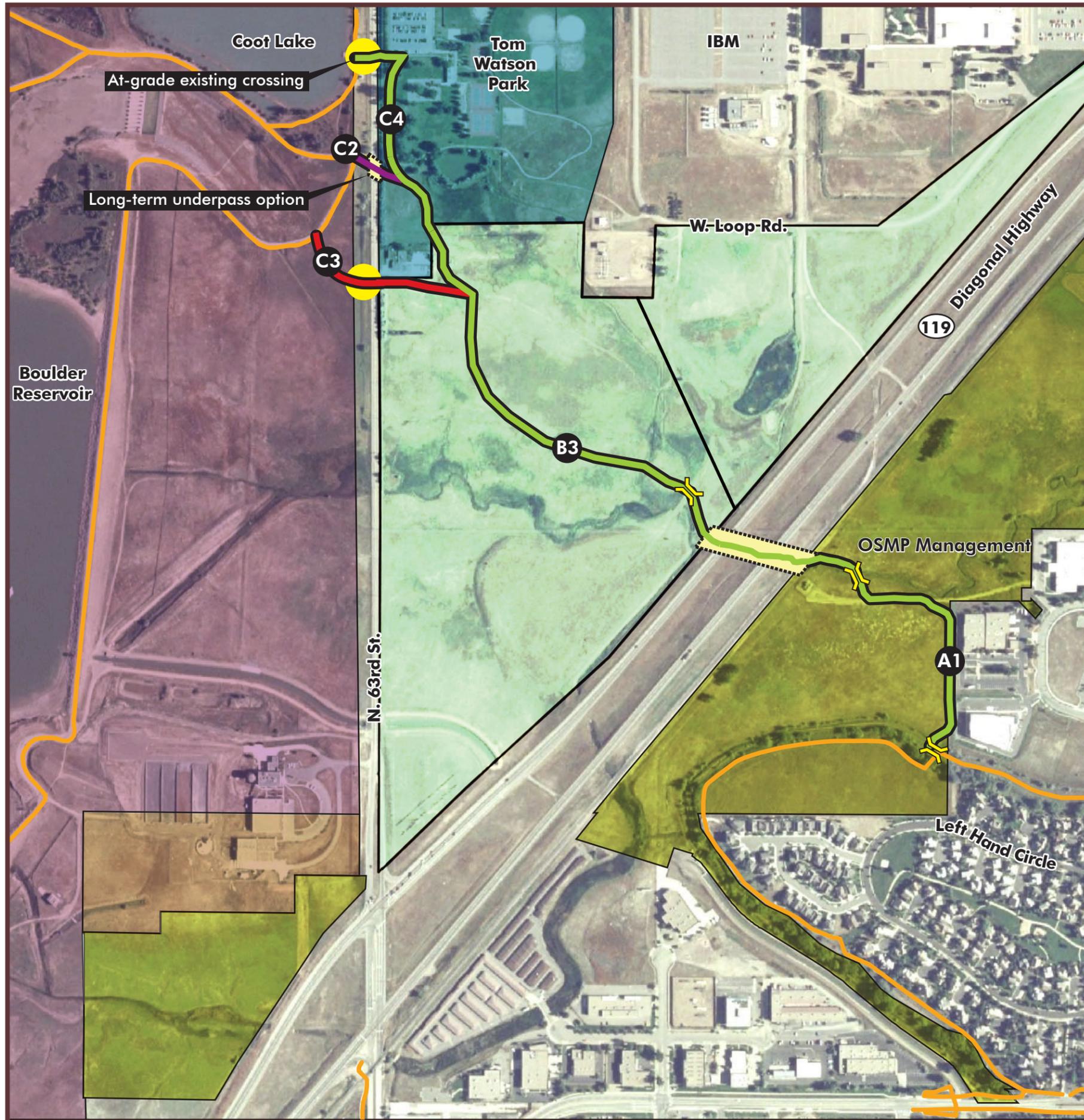
- Potential impacts to existing prairie dog colony
- Short-term closures or delays for traffic along 63rd Street during construction
- Additional capital costs for construction and implementation (no funding currently exists for this project option)

The primary benefits of this long-term trail option include:

- Provides a direct and safe regional trail connection crossing under 63rd Street
- Allows access to Tom Watson Park without directing regional trail users through the park

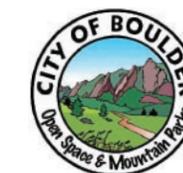
IBM Trail Connector CEAP

Figure 5 Proposed Trail Plan



Legend

- Parks and Recreation
- Boulder Public Works
- Open Space & Mountain Parks
- Conservation Easement
- Other Government Lands
- Open Space Property Boundaries
- Existing Trails
- A1 Preferred Alignment
- C3 Preferred Interim Alternative
- C2 Long-term Option
- Bridge
- Underpass
- At-grade Crossing



Summary of Other Trail Alignments

The following potential trail alignments were not selected as “preferred” and are not analyzed further in the CEAP. These alignments are shown in Figure 4.

- **Alignment A2** – Not selected because it would fragment grassland and prairie dog habitat, and would not accommodate future connections from the adjacent business park.
- **Alignment B1** – Not selected because it would have crossed onto the IBM property for a short distance, is nearest to the bald eagle perch, and would have required Tom Watson Park access (reducing flexibility).
- **Alignment B2** – Not selected because it would have crossed onto the IBM property for a short distance and is within the 200-meter bald eagle perch buffer.
- **Alignment C1** – Not selected because it requires park access (reducing flexibility) and would have negative impacts to the park due to underpass construction.

Other Alternatives Considered

Several other project and alignment alternatives were considered during the planning process and were dismissed from further analysis. These other alternatives considered are briefly described below and are not discussed further.

A) No Action

The planning team considered the effects of not constructing any trail connection through the study area. Under this No Action scenario, the regional trail connection would not be established, and funding that is currently allocated to this project by Boulder County would potentially be shifted to other regional trial priorities. No other trail connections linking the Gunbarrel community to the Boulder Reservoir area have been proposed.

The “No Action” alternative would result in the following:

- A safe, off-road link between neighborhoods and recreation amenities in and around Boulder Reservoir would remain incomplete, and Boulder’s network of multi-modal transportation options would not be enhanced.
- Existing opportunities to leverage outside funding sources and partnerships with Boulder County for design and construction would be jeopardized.
- Ability to meet long-term goals of various city, county, and state planning documents to complete this regional trail connection would be postponed.
- Current opportunities to complete a regional trail connection through this area with minimal prairie dog impacts (and subsequent permitting requirements and expenses) would be delayed.
- The study area would remain in its current state and no new environmental impacts would occur.

The No Action alternative is not analyzed further in the CEAP because it would a) not complete an important trail connection included in a number of adopted plans, b) potentially jeopardize \$2.2 million in federal funds that are currently allocated to the

entire LOBO trail system, of which the IBM Trail connection is a part, and c) would not add new information or analysis to inform the decision-making process.

B) Feasibility Study Options

In addition to describing the proposed Highway 119 culvert re-construction and re-use, the 2005 Trail Feasibility Study also explored two trail connection options between the highway and Tom Watson Park. Both trail options circled the northeast side of the electrical substation on the IBM property. These options were not selected for further analysis because they are located on IBM property.

C) Southwest Loop Alignment

The planning team considered a trail alignment on the west side of Highway 119 that crossed Dry Creek to the south using an existing crossing, then headed west to 63rd Street before crossing Dry Creek again while following 63rd Street to the north. This alignment alternative was not selected because of, a) lack of public support (open house #1), b) excessive wetland impacts, c) indirect approach to destination, d) expense of an additional creek crossing, and e) excessive length and cost.

D) Boulder Reservoir Dam Connection

Based on public input, the planning team considered a proposed alignment on the west side of Highway 119 that would have headed directly west and south across 63rd Street towards the south end of the Boulder Reservoir Dam (north dam). This alignment alternative was not selected because a) safety and security issues related to the nearby water treatment plant and canal, b) potential impacts to wildlife habitat west of 63rd Street, and c) would not connect to the existing trails and facilities near Tom Watson Park/Coot Lake.

Public Input to Date

As outlined above, the IBM Trail Connector is documented in several City and County master plans, which have been developed with extensive opportunity for public review and comment. Public input opportunities during this CEAP are summarized below. More detailed meeting summaries are found in Appendix C.

Public Open House #1

The public process for this CEAP began on November 8, 2007, with a public open house held at the United Methodist Church near the study area at 75th Street and Lookout Road. The open house included displays of existing conditions, planning context, natural resources, and preliminary trail alignment alternatives. About 20 members of the public attended the open house. Comments received included the following:

- General support for the trail connection
- Consider equestrian needs (underpass clearance, trailer parking)
- Avoid routes along 63rd Street
- Direct connections to Boulder Reservoir
- Concern about trail user conflicts within Tom Watson Park

- Suggestion to not close the crosswalk between Tom Watson Park and Coot Lake
- Concern about insufficient parking at Coot Lake
- Potential impacts to Boulder Feeder Canal water quality
- Other trail connections in the Gunbarrel area

Public Open House #2

On May 5, 2008, a second open house provided opportunities for the public to review and provide comment on the Draft CEAP and proposed trail alternatives. The open house was also held at the United Methodist Church on Lookout Road. The open house included displays of existing conditions, planning context, natural resources, trail options considered, and the proposed trail alternatives. About 15 members of the public attended the open house. Public comment received included support for the trail connection and suggested environmental enhancements to be considered during the implementation process.

Transportation Advisory Board

On April 14 and May 12, 2008, the Draft CEAP and proposed trail alternatives were presented to the City of Boulder Transportation Advisory Board. Issues raised at these meetings included prairie dog colony recovery, burrowing owl nest impacts, wetland mitigation requirements, North 63rd Street crossing options and costs, potential water quality impacts, concerns about the timely resolution of Tom Watson Park ownership issues, and compatibility with the planned regional commuter rail expansion. No public input was received at this meeting.

Parks and Recreation Advisory Board

On March 31 and May 19, 2008, the Draft CEAP and proposed trail alternatives were presented to the City of Boulder Parks and Recreation Advisory Board. Issues mentioned in the discussion included the use of Tom Watson Park as a regional trailhead, long-term ownership and management of the park and Boulder Reservoir area, funding for visitor management, North 63rd Street crossing options and costs, construction during bald eagle perching use, prairie dogs, and the overall importance of the trail connection. No public input was received at this meeting.

OSMP Board of Trustees

On April 8 and July 9, 2008, the Draft CEAP and proposed trail alternatives were presented to the City of Boulder Open Space and Mountain Parks Board of Trustees. Issues raised at the April 8 meeting included the ownership of Tom Watson Park, use of the park drawing more people to the trail, North 63rd Street crossing options and issues, prairie dog management, use of OSMP staff time on the project, and the relatively tight project timeframe. The July 9 meeting included a brief discussion of these and other issues, including revegetation and wetland mitigation plans, prairie dog conservation, and air quality impact evaluation. The Board approved the draft CEAP. No public input was received at this meeting.

Staff Project Manager and Relevant Contacts

Staff Project Manager

The overall project manager for the IBM Trail Connector is:

Matt Jones
Environmental Planner
City of Boulder
Open Space and Mountain Parks Department
Phone: 720-564-2048
Email: jonesm@bouldercolorado.gov

The Boulder County project manager for the County's Regional Trails Program is:

Tim Swope
Alternative Transportation Coordinator
Boulder County Transportation Department
Phone: 720-564-2658
Email: tswope@co.boulder.co.us

Project Partners/Planning Team

Representatives from other city departments and stakeholder organizations provided important information and feedback during this process:

Chris Meschuk – Planning
Matt Claussen – Parks and Recreation
Perry Brooks – Parks and Recreation
Marni Ratzel – Transportation
Bret Linenfelser – Public Works/Utilities
Will Keeley – OSMP
Whit Johnson – OSMP

Consultants

Bill Mangle, Natural Resource Planner/Project Manager
ERO Resources Corporation
1842 Clarkson St.
Denver, CO 80218
Phone: 303-830-1188
Email: bmangle@eroresources.com
Other key staff: Andy Cole, Cindy Trujillo

Dean Pearson
Landscape Architect
The Architerra Group, Inc.
5881 South Deframe St.
Littleton, CO 80127
Phone: 303-948-0766
Email: dpearson@architerragroup.com

IBM TRAIL CONNECTOR CEAP
AUGUST 2008

SECTION 2. GOALS ASSESSMENT

1. Using the BVCP and department master plans, describe the primary city goals and benefits that the project will help to achieve.

Each of these goals/policies are summarized below (emphasis added where appropriate), followed by a description of how the proposed trail connection is consistent with that goal or policy.

Construction of the proposed IBM Trail Connector would implement several Boulder Valley Comprehensive Plan (BVCP) and departmental master plan goals and policies, including:

BVCP Community Sustainability

The city and county seek to maintain and enhance the livability, health and vitality of the Boulder Valley and the natural systems of which it is a part, now and in the long-term future. The city and county seek to preserve choices for future generations and to anticipate and adapt to changing community needs and external influences.

Environmental Sustainability

The proposed trail would provide an opportunity for improved non-motorized access to outdoor recreation facilities and a decreased need for automobiles to access those facilities. Reducing vehicle miles traveled helps meet the goals of the Transportation Master Plan and Climate Action Plan.

The trail alignment avoids and minimizes potential environmental impacts. By adapting existing facilities (such as the existing Highway 119 culvert and the existing at-grade crossing of 63rd Street) the proposed trail will minimize the consumption of renewable and non-renewable resources during its construction and operation.

Economic Sustainability

The proposed trail would enhance the city and county's transportation and recreation infrastructure, which is consistent with several elements of economic sustainability, including the provision of high levels of services and amenities and a highly desirable quality of life which contribute to the development of diverse and sustainable economic base.

Social Sustainability

The proposed trail project would improve individual mobility and health by providing transportation and recreation infrastructure that is free and equally accessible to all members of the community.

Other BVCP Goals

Community Design

Community Design Vision: The comprehensive plan promotes an urban development pattern that is compact and efficient and that permits the most effective and cost-efficient provision of city facilities and services. Such a development pattern enhances the

livability of the community for its residents by increasing accessibility to employment, recreation, shopping and other amenities and by reducing auto travel and air pollution...

Policy 2.32 – Trail Corridors/Linkages: The city and county will encourage the development of trails and trail linkages for appropriate uses such as hiking, bicycling, or horseback riding, so as to provide a variety of alternative recreation and transportation opportunities.

The proposed trail would support the City’s vision for community design and structure by improving non-motorized access between the Gunbarrel community and existing and proposed trail corridors with recreation amenities. It would help reduce auto travel and air pollution by providing a safe and direct route for both commuters and recreationists. As described previously under *Existing Plans and Documents*, this trail connection has been envisioned for many years as an important component of Boulder’s overall trail and transportation system.

Facilities and Services

Policy 3.13 – Trail Functions and Locations: Trails serve a variety of functions such as recreation, transportation, education and/or environmental protection... Trail and trailhead locations and alignments should avoid environmentally sensitive areas and minimize environmental impacts.

Policy 3.14 – Trails Network: The city and county will coordinate with other trail providers and private landowners in trail system planning, construction, management and maintenance. Where compatible with environmental protection goals and conservation easement agreements, trail connections will be developed to enhance the overall functioning of the trails network.

The proposed trail connection is compatible with the above policies. While enhancing the City’s recreation and transportation infrastructure and the overall function of the trails network, it would do so in a manner that minimizes impacts to environmentally sensitive areas and capitalizes on collaborations between OSMP, the Parks and Recreation Department, the County Transportation Department, and IBM.

Environment

Policy 4.09 – Wetland Protection: Natural and human-made wetlands are valuable for their ecological and, where appropriate, recreational functions, including their ability to enhance water and air quality. Wetlands also function as important wildlife habitat, especially for rare, threatened and endangered plants and wildlife... The city will discourage the destruction of wetlands, but in the rare cases when development is permitted and the filling of wetlands cannot be avoided, new wetlands will be created or degraded wetlands will be restored.

Policy 4.10 – Invasive Species Management: The city and county will promote efforts, both public and private, that prevent the introduction or culture of invasive plant and animal species and seek to control their spread. High priority will be given to managing invasive species that have, or potentially could have, a substantial impact on city and county resources, or that can reasonably be expected to be successfully controlled.

The proposed trail alignment was carefully developed to minimize wetland impacts by avoiding unnecessary wetland and water body crossings as much as possible. Wetland impacts associated with the proposed Highway 119 underpass/culvert will be mitigated in accordance with City and federal permitting requirements. All trail construction activities will use standard best management practices, including revegetation and

monitoring, to prevent the introduction or spread of noxious weeds or other invasive species (or reduce the extent of existing invasive species in the area).

Transportation

6.03 – System Completion: The city and county will strive to make bicycling, walking and transit convenient and safe by completing the systems for these modes and providing seamless connections between the systems developed in the city and county. The city will provide a combination of on-street and off-street bicycle and pedestrian facilities to accommodate a variety of user types and to provide users with a choice of the type of environment in which to walk or bike.

The proposed trail connection would enhance the city’s multimodal transportation system by providing a convenient and safe connection between existing communities, regional connections, and recreation amenities.

Department Master Plans

Open Space & Mountain Parks Visitor Master Plan

Priority New Trails and Improvements Map – IBM Trail Connector is identified as a “priority trail connection.”

Goal 2: Improve Access – Provide and maintain highly functional and sustainable visitor facilities that support visitor access to appropriate destinations and add to the quality of their experience.

- Link trails to create an interconnected trail system.
- Build trails and facilities that are both physically and environmentally sustainable.

Goal 3: Enjoy and Protect – Ensure that passive recreational activities and facilities are compatible with long-term protection of natural, agricultural, and cultural resources.

- Avoid or minimize negative impacts of visitor activities on natural, cultural, and agricultural resources.
- Preserve and restore higher quality natural areas by directing visitor use to appropriate areas and away from sensitive areas.
- Locate, design, and maintain trails and facilities in ways that make visitor activities and protection of resources mutually compatible.

The proposed trail connection satisfies both of these goals by enhancing the function and quality of the trails system while minimizing potential impacts to sensitive natural resources.

Parks and Recreation Master Plan

Goal 5 – Be a communitywide leader in environmental sustainability.

Goal 5A – Collaborate with other city departments and the community to improve multi-modal transportation (pedestrian, bicycle, transit) connections to park and recreation facilities.

Financial Sustainability Program: Evaluate Alternative Management or Disposition of Properties –

Recommendation/discussion-- Develop sustainable management options for Tom Watson Park. The department manages Tom Watson Park through a recreation lease from IBM. Management challenges include prairie dogs in the surrounding landscape. The department is researching sustainable management options for the park, which

IBM TRAIL CONNECTOR CEAP
AUGUST 2008

features a playground, shelter, and tennis and volleyball courts. The department will coordinate with IBM to develop management recommendations for PRAB and City Council. *[This discussion is nested within a larger overview of financial sustainability strategies for the entire parks system].*

The proposed trail connection is the result of a collaborative planning process involving staff from the Parks and Recreation, OSMP, Transportation/Utilities, Planning, and County Transportation departments. Parks and Recreation staff provided valuable input regarding issues related to the management of Tom Watson Park, Coot Lake, existing Boulder Reservoir trails, and wildlife resources in the study area. The resulting proposal is a trail connection that would improve multi-modal connections to those facilities.

The preferred and alternative trail alignments were developed recognizing the existing challenges and uncertainties related to Tom Watson Park and the need to allow long-term flexibility as the Parks and Recreation Department develops financially sustainable ownership and management options for the park.

Transportation Master Plan

Existing and Proposed Bicycle Facilities Map – IBM Trail Connector is identified as a “proposed multi-use path.”

Bicycle Element – The bicycle element is based on developing a continuous bicycle network of cross-town corridors allowing for safe and convenient bicycle travel throughout the community. While these corridors may be composed of a variety of facility types, continuous corridors avoid the missing links that disrupt bicycle travel and put bicyclists in unexpected, difficult, and potentially dangerous situations. The bicycle element also recognizes that bicycle users range from the experienced commuter who is comfortable in traffic to children who cannot safely use a busy street. Consequently, a system of off street multi-use paths is included as an option to the street system. The long-range bicycle network for the city of Boulder is comprehensive and will provide both on- and off-street connections throughout the city.

Bicycle Policy – The city will complete a grid-based system of primary and secondary bicycle corridors to provide bicycle access to all major destinations and all parts of the community.

The proposed trail connection would complete a significant “missing link” in the city’s bicycle network by providing a safe and convenient connection between the Gunbarrel area, Boulder Reservoir, and north Boulder communities and recreation amenities. From a regional perspective, this key trail connection would provide a link between the Longmont-Boulder (LOBO) regional trail and the proposed Boulder Feeder Canal regional trail. This short connection would make a significant contribution to the development of the city’s long-range vision for a comprehensive bicycle network.

Regional Goals

As described above in *Section 1 – Existing Plans and Documents*, the proposed project is consistent with the trail connection goals of the Boulder County Comprehensive Plan, the Boulder Valley Comprehensive Plan and several other city, county, and state-level planning documents. The proposed trail underpass of Highway 119 and the BNSF railroad would require coordination with the proposed regional commuter rail (FasTracks) along that corridor. This project is not expected to conflict with the goals or

construction of that regional transportation system. No other regional systems or plans would be affected by this project.

2. Is this project referenced in a master plan, subcommunity or area plan? If so, what is the context in terms of goals, objectives, larger system plans, etc.?

The proposed IBM Trail Connector is referenced in several city, county, and state plans (see Section 1, *Existing Plans and Documents*). The Boulder County Comprehensive Plan and Boulder Valley Comprehensive Plan trails maps identify conceptual trail alignments through this corridor, while OSMP's Trails Assessment and Prioritization Report identifies the IBM connection as a "Priority New Trail." The Transportation Master Plan depicts general trail connections through the study area. The Boulder County Transportation Department has included this trail connection in several regional trail plans, as part of the greater Longmont-to-Boulder (LOBO) regional trails system. This project is also related to the proposed Boulder Feeder Canal trail, which completed a CEAP process in 2006. This trail connection has also been identified as a "priority segment" for the completion of the Colorado Front Range Trail system.

All of these plans and documents illustrate the need for an east-west multi-use trail connection in the northeast Boulder area. This connection is fundamental to the establishment of regional linkages between existing trail systems, residential areas, commercial areas, and recreational destinations.

3. Will this project be in conflict with the goals or policies in any departmental master plan? What are the trade-offs among city policies and goals in the proposed project alternative?

Water Quality Protection

While there is no single, specific departmental master plan outlining this issue, there are concerns about the compatibility of the proposed trail connection with general efforts to protect water supplies in the Boulder Reservoir/Boulder Feeder Canal area. In general, it is standard practice for the Utility Department to reduce or eliminate any sources of potential contamination from drinking water supplies.

While there are no drinking water supplies or facilities within the study area, the proposed trail connection could potentially increase public use of existing trails and facilities around Boulder Reservoir and the Boulder Feeder Canal. Increased public use may result in a greater potential for drinking water contamination due to human or animal waste, the accidental introduction of pathogens, garbage, or chemicals. The Utilities Department is currently evaluating the feasibility of a pipeline from Carter Lake to the Boulder Reservoir Water Treatment Plant. If completed, this pipeline would reduce or alleviate this concern for the Boulder Feeder Canal but not for Boulder Reservoir. If the pipeline were in place it is likely that Boulder Reservoir would be used as a raw water source only in the event water could not be delivered through the pipeline.

Parks and Recreation Priorities

Tom Watson Park is discussed in the 2006 Park and Recreation Master Plan in the context of the need to develop long term management sustainability for the park. Trail development opportunities were not specifically mentioned. As a recreational facility that is not owned in fee by Parks and Recreation (easement only), the future of continued improvements and management of Tom Watson Park is weighed against other department priorities.

The development of additional trails in the area, including the proposed IBM Trail Connector and the Boulder Feeder Canal trail, may lead to an increase in use of Tom Watson Park as a trailhead or destination point. Trailhead location and management is not addressed in the Parks and Recreation Master Plan. As trail design and trailheads are determined, staff from various city and county agencies will need to develop agreements for the proposed trail and potential trailhead and determine management responsibility, as well as capital investment estimates.

Environmental Trade-offs

The selection of the preferred and interim alternative trail alignments required trade-offs related to wetland, wildlife, and community resource impacts. For example, the preferred trail alignment B3 will result in greater infrastructure costs (bridge/culvert) and slightly greater wetland impacts than B2, but it reduces potential impacts to bald eagles and other raptors within the 200 meter perch buffer. In another example, the preferred interim alternative C3 would avoid impacts to or issues related to Tom Watson Park, but would result in additional impacts to wetlands, prairie dog habitat, and potentially burrowing owl.

4. List other city projects in the project area that are listed in a departmental master plan or the CIP.

Gunbarrel Community Center Plan

In 2006, the City of Boulder completed an area plan for the Gunbarrel community to provide a blueprint that that will result in a viable and vibrant, easily accessible, pedestrian-oriented center to serve the Gunbarrel subcommunity. The primary objective of the planning process is to develop an area plan for the Gunbarrel community center that addresses land use and local and regional transportation issues. The plan's recommendations include transportation improvements to improve pedestrian and bicycle access to the retail core, and to encourage walking and biking as viable transportation options.

Longmont to Boulder Trail Connection

The Longmont-to-Boulder (LOBO) trail is a six-mile planned trail to connect the city of Boulder with the city of Longmont by connecting existing trails in Gunbarrel, Niwot, and County Open Space properties. Completion of the LOBO trail is one of the top priority projects that came out of a series of public open houses in 2003. These priorities were

adopted by the Boulder County Commissioners. The IBM Trail Connector is considered to be part of the overall LOBO trail system.

Boulder Feeder Canal Trail

The Boulder Feeder Canal Trail, as currently proposed, extends north from Boulder Reservoir to Lyons, along or adjacent to the Boulder Feeder Canal. This trail is identified in County and City comprehensive plans, the County regional trail priorities, and OSMP's priority trails. A CEAP was completed for this trail in January 2006. Major issues identified in the CEAP process were potential impacts on the city's drinking water supply (due to potential contamination from trail users and pets), user safety, and wildlife habitat impacts.

Carter Lake Pipeline

The city is working with the Northern Colorado Water Conservancy District to develop preliminary designs for a new water supply pipeline from Carter Lake to the Boulder Reservoir Water Treatment Plant. This project is part of the City's overall efforts to rehabilitate the city's water system to assure the safe and reliable delivery of water to the community. The 63rd Street corridor is one of the pipeline alignments being considered for this project. Trail crossing designs associated with the proposed IBM Trail Connector would need to be coordinated with this project.

State Highway 119 and 63rd Street Transportation Improvements Project

The City of Boulder is working with Boulder County, the Colorado Department of Transportation, and the Federal Highways Administration to improve automobile, bus, bicycle and pedestrian facilities, mobility, and accessibility to and through the intersection. This project is not expected to significantly affect the need for, management of, or impacts from the proposed IBM Trail Connector.

5. What are the major city, state, and federal standards that will apply to the proposed project? How will the project exceed city, state, or federal standards or regulations?

City, county, state, and federal standards that are applicable to the proposed IBM Trail Connector project, and ways that the project will exceed these standards, are summarized below.

Trail and Infrastructure Development

The proposed IBM Trail Connector would be a multi-use, soft-surface, regional trail that meets Federal ADA and OSMP trail standards for design, construction, materials, and accessibility. The proposed reconfiguration of the Dry Creek crossing under Highway 119 and the BNSF to accommodate the trail would be constructed to comply with appropriate engineering, safety and drainage standards. The proposed at-grade crossing of 63rd Street would exceed city standards outlined in the City's Pedestrian Crossing Treatment Installation Guidelines (City of Boulder 2006).

Wetlands

The proposed project will meet city and federal requirements for unavoidable wetland impacts. These requirements include the city's Wetland Protection Ordinance, and federal requirements under Section 404 of the Clean Water Act, both of which will require permitting and mitigation. All necessary permits, including wetland and floodplain permits will be obtained for the project.

Prairie Dogs

The proposed project will result in unavoidable impacts to inactive prairie dog colonies. Impacts to inactive burrows prior to trail construction will exceed OSMP standards and requirements set forth by the city's Wildlife Protection Ordinance. Where active prairie dog burrows do exist, trail design and construction will conform to city ordinances and the policy as outline in the Urban Wildlife Management Plan.

Migratory Birds

The proposed Highway 119 underpass may require the removal of swallow nests. Any nest removal will be conducted when the nests are inactive, in accordance with the requirements of the federal Migratory Bird Treaty Act and the city's Wildlife Protection Ordinance. Potential construction impacts to raptors will be minimized through monitoring prior to construction, and will adhere to the requirements of the Migratory Bird Treaty Act, and raptor protection guidelines set forth by the Colorado Division of Wildlife and OSMP staff.

6. Are there cumulative impacts to any resources from this and other projects that need to be recognized and mitigated?

Park and Trail Facilities

The IBM Trail Connector, when combined with the proposed Boulder Feeder Canal trail, could result in cumulative impacts to the management of trails and facilities in the Tom Watson Park/Coot Lake/Boulder Reservoir area. These impacts and potential mitigation measures are described in detail below in Section 3, Checklist Question L – *Services; Recreation or parks facilities*.

Implementation of these two separate trail projects, along with the completion of the LOBO trail to the east, would also result cumulative *benefits* by improving the city's network of regional trails for recreation and alternative mode transportation.

Water Quality Protection

The IBM Trail Connector, when combined with the proposed Boulder Feeder Canal trail, could result in cumulative impacts to water quality protection efforts along the Boulder Feeder Canal Trail and in Boulder Reservoir. These potential impacts, and proposed measures to mitigate those impacts, are described in detail below in Section 3, Checklist Question E – *Water Quality*. The proposed Carter Lake Pipeline would further reduce the impacts of trail use on city water supplies.

SECTION 3. IMPACT ASSESSMENT

CEAP Checklist

Resources with positive or negative effects are described in detail below under *Checklist Questions*. Most resources with no effect are not discussed further.

Resource/Issue	Preferred Alignment	Alternate Alignment
+ Positive effect or improved condition - Negative effect or impact 0 No effect		
A. Natural Areas or Features		
1. Disturbance to species, communities, habitat or ecosystems due to:		
a. Construction activities	-	-
b. Native vegetation removal	-	-
c. Human or domestic animal encroachment	-	-
d. Chemicals (including petroleum products, fertilizers, pesticides, herbicides)	-	-
e. Behavioral displacement of wildlife species (due to noise)	-	-
f. Habitat removal	0	0
g. Introduction of non-native plant species in the site landscaping	0	0
h. Changes to groundwater or surface runoff	0	0
h. Discharge of sediment to any body of water	-	-
i. Wind erosion	0	0
2. Loss of mature trees or significant plants?	0	0
B. Riparian Areas/Floodplains		
1. Encroachment upon the 100-year, conveyance or high hazard flood zones?	+	+
2. Disturbance to or fragmentation of a riparian corridor?	0	0
C. Wetlands		
1. Disturbance to or loss of a wetland on site?	-	-
D. Geology and Soils		
1. a. Impacts to unique geologic or physical features?	0	0
b. Geologic development constraints?	0	0
c. Substantial changes in topography?	0	0
d. Changes in soil or fill material on the site?	0	0
e. Phasing of earth work?	0	0
E. Water Quality		
1. Impacts to water quality from any of the following?		
a. Clearing, excavation, grading or other construction activities	-	-
b. Change in hardscape	0	0
c. Change in site ground features	0	0

IBM TRAIL CONNECTOR CEAP
AUGUST 2008

Resource/Issue	Preferred Alignment	Alternate Alignment
	+ Positive effect or improved condition - Negative effect or impact 0 No effect	
d. Change in storm drainage from the site	0	0
e. Change in vegetation	0	0
f. Change in pedestrian and vehicle traffic	0	0
g. Potential pollution sources during and after construction	0	0
h. Drinking water supplies	-	-
2. Exposure of groundwater contamination from excavation or pumping?	0	0
F. Air Quality		
1. Short or long term impacts to air quality (CO2 emissions, pollutants)?	0	0
a. From mobile sources?	-	-
b. From stationary sources?	0	0
G. Resource Conservation		
1. Changes in water use?	0	0
2. Increases or decreases in energy use?	0	0
3. Generation of excess waste?	0	0
H. Cultural/Historic Resources		
1. a. Impacts to a prehistoric or archaeological site?	0	0
b. Impacts to a building or structure over fifty years of age?	0	0
c. Impacts to a historic feature of the site?	0	0
d. Impacts to a significant agricultural land?	0	0
I. Visual Quality		
1. a. Effects on scenic vistas or public views?	0	0
b. Effects on the aesthetics of a site open to public view?	0	0
c. Effects on views to unique geological or physical features?		
e. Changes in lighting?	0	0
J. Safety		
1. Health hazards, odors, or radon?	0	0
2. Disposal of hazardous materials?	0	0
3. Site hazards? – Traffic Safety	+	+
K. Physiological Well-being		
1. Exposure to excessive noise, light or glare?	0	0
2. Increase in vibrations?	0	0
L. Services		
1. Increased need for:		
a. Water or sanitary sewer services	0	0
b. Storm sewer/Flood control features?	0	0
c. Maintenance of pipes, culverts, and manholes?	0	0
d. Police services?	-	-

IBM TRAIL CONNECTOR CEAP
AUGUST 2008

Resource/Issue	Preferred Alignment	Alternate Alignment
	+ Positive effect or improved condition - Negative effect or impact 0 No effect	
e. Fire protection services?	0	0
f. Recreation or parks facilities?	-	0
g. Library services?	0	0
h. Transportation improvements/traffic mitigation?	+	+
i. Parking?	0	0
j. Affordable housing?	0	0
k. Open space/urban open land?	0	0
l. Power or energy use?	0	0
m. Telecommunications?	0	0
n. Health care/social services?	0	0
o. Trash removal or recycling services?	0	0
2. Effects on city services or departmental master plans	-	-
M. Special Populations		
1. Effects on:		
a. Persons with disabilities?	0	0
b. Senior population?	0	0
c. Children or youth?	0	0
d. Restricted income persons?	0	0
e. People of diverse backgrounds?	0	0
f. Sensitive populations located near the project?	0	0
N. Economic Vitality		
1. Effect on economic activity?	0	0
2. Impacts to businesses, employment, retail sales, or city revenue?	0	0
M. Passive Recreation		
1. Describe the effects the project may have on passive recreation.	+	+

Checklist Questions

A. Natural Areas and Features

1. Potential for disturbance to or loss of significant species, plant communities, wildlife habitats, or ecosystems due to:

a. Construction Activities

Implementation of the proposed trail would require minor grading along the trail alignment corridor, and more significant grading and excavation associated with a new underpass at Highway 119. Associated impacts to vegetation and wildlife are described

below. Construction activities will adhere to seasonal restrictions for the protection of bald eagle or other raptors in the project area.

b. Native Vegetation Removal

The proposed trail would result in the removal of existing vegetation (both native and non-native) along the trail corridor. As described in the Natural Resources Overview (Appendix B), most of the study area is dominated by non-native grasses and noxious weeds. Implementation of the proposed trail will result in the removal of existing vegetation along a construction corridor that is about 20 feet wide (for a 10-foot wide trail surface). The temporary disturbance buffer will be re-seeded with native grass species following construction, and will be monitored and managed to ensure restoration success and minimize noxious weed infestations.

c. Human or domestic animal encroachment

The proposed trail corridor would introduce new human activity and domestic animals (including dogs and horses) into the study area. The introduction of a new human activity in the area may impact some wildlife, and could affect the long-term use of the Dry Creek culvert under Highway 119 as a movement corridor for some wildlife species. New human and animal uses could also become vectors for the spread of noxious weeds along this and other trails in the area. The introduction of dogs into this area could disturb prairie dogs and other wildlife species. This trail would be designated for on-leash dog use because it is within Boulder city limits and connects to the on-leash Cottontail Trail and Tom Watson Park.

d. Chemicals

Chemical use associated with the proposed trail corridor would be limited to those chemicals that are commonly associated with open space and trail management throughout the City of Boulder. New chemical uses would be limited to fertilizers, herbicides, and other chemicals that are typically used for vegetation management (i.e., noxious weed control and grassland restoration), or gasoline and oil used in construction and maintenance vehicles.

e. Behavioral displacement of wildlife species

General wildlife. Construction and use of the proposed trail connection will likely displace small mammals, ground-nesting birds, and other species along the immediate trail corridor. Besides the burrowing owl nests described below, there are no known raptor nests within the study area. Other species such as coyotes, foxes, rabbits, and many birds are well adapted to the built environment and are not likely to have long-term impacts due to the proposed trail. The re-configuration of the existing culverts under Highway 119 may disturb or displace wildlife species that currently use those culverts as a movement corridor. These impacts are typical of any trail or other construction project, and are not expected to adversely affect the overall viability of general wildlife populations in and around the study area. The city and county will seek to integrate wildlife use into the new culvert design (such as exclusion of artificial lighting) and will monitor wildlife use of the existing and new culverts.

Habitat for wildlife species that are significant to this project, including bald eagle, prairie dog, burrowing owl, and migratory birds, is shown on Figure 6. Potential impacts to those wildlife species are discussed below.

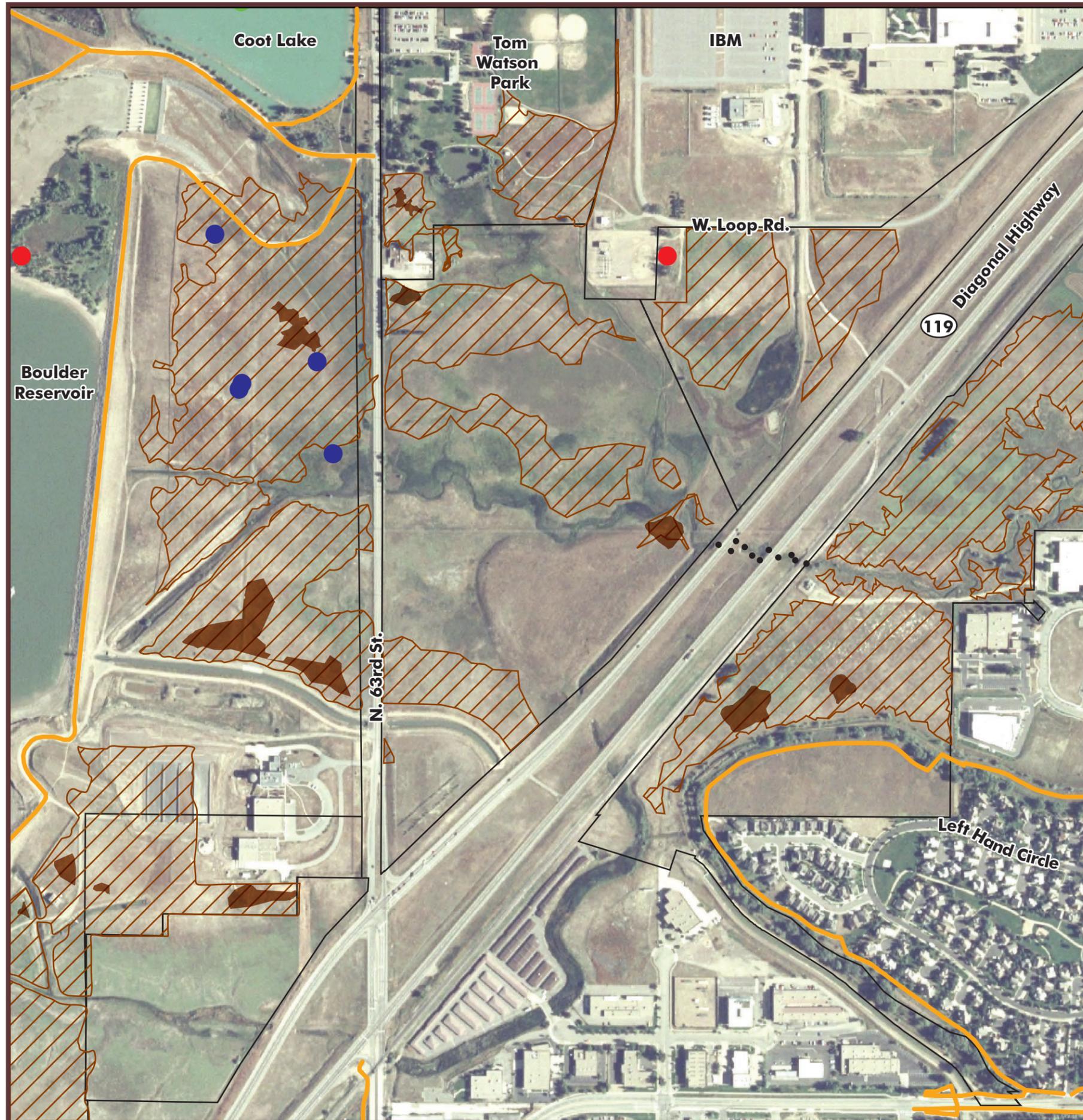
Bald eagle. The four mature cottonwood trees on the northern edge of the study area are known to be used as a perch site for wintering bald eagles (and other raptors). While the type (e.g., hunting, staging, and loafing) and frequency of bald eagle use is not known, the cottonwoods are known to be a hunting perch for foraging in the prairie dog colonies and other small mammals on surrounding lands. The trees are within 100 feet of an existing road and 600 feet from frequently used trails on the IBM property.

The preferred trail alignment would cross about 900 feet (275 meters) from the perch site. While it is outside of the assumed 200 meter buffer, the proposed trail could potentially reduce the habitat value of the area for bald eagles or other raptors by adding a new human disturbance to the area. While some level of impact due to the proposed trail connection is likely, the magnitude and significance of the potential impact on bald eagles is less certain. The following information and guidelines were used to evaluate the potential impacts of the proposed trail on bald eagles:

- Bald eagles in Boulder County are largely dependent on prairie dogs for feeding in winter, and bald eagle population fluctuations generally correlate with prairie dog populations (Boulder County 2003, Jones 1993).
- From a regional perspective, the greater Boulder Reservoir area is known to provide winter foraging habitat for bald eagles, but no roosts or nests are known to occur in the area (CDOW 2007, Jones 2004). Seventeen perch sites have been documented in the Boulder Reservoir area, one of which is located on the northern edge of the study area (Parks and Recreation 2007a).
- The Colorado Division of Wildlife recommends that hunting perches for bald eagle should be protected from human encroachment, but does not recommend specific buffer distances, acknowledging that preferred perches may be at varying distances from human encroachment and buffer areas will vary (CDOW 2008). Previous buffer recommendations for bald eagle perches varied between 200 meters and 400 meters (656 to 1,312 feet) (CDOW 2002). However, bald eagles that occur near existing roads and disturbances are likely to be habituated to human activity (CNHP 2002). One raptor study in northern Boulder County (Dowe Flats) found that 90 percent of the recorded disturbance of raptors due to human (pedestrian) presence in foraging areas occurred within 200 meters (656 feet) of the raptor. Beyond that distance, negative raptor responses quickly diminished (Boulder County 2003). Based on these general data sources, a 200 meter perch buffer has been used for this CEAP.
- The perch site within the study area is most likely associated with prairie dog foraging habitat to the south and east, but is in very close proximity to human disturbances to the north and west (including an electrical substation, Tom Watson Park, the IBM plant, and an existing road and walking path between the IBM plant and the park).

IBM Trail Connector CEAP

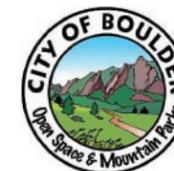
Figure 6 Wildlife Habitat



Legend

- Current active prairie dog colonies
- 2005/2006 prairie dog colonies
- Bald eagle perch
- Burrowing owl nest
- Swallow nests
- Open Space Property Boundaries
- Existing Trails

0 500 1000 Feet 4/11/2007



- Most of the prairie dogs in the study area were decimated in 2007 from a plague outbreak. Over time, populations are expected to recover.
- The cottonwood trees that provide the perch are aging and are likely to fall down (or be removed for safety reasons) within the next 5-10 years.
- No federal, state, or local regulations prohibit disturbance of or impacts to bald eagle (or any raptor) perches.
- The conservation of bald eagles and their habitat is a management priority for the OSMP and Parks and Recreation departments.

The proximity of the proposed trail to the perch site and an assumed 200 meter buffer is shown in Figure 7. The preferred alternative was chosen to minimize potential impacts to bald eagles by avoiding the perch and its surrounding buffer area as much as possible. In doing so, this alternative will result in greater impacts to wetlands and grassland habitat.

Prairie dog. While the study area once supported a large complex of prairie dogs, a sylvatic plague outbreak in early 2007 killed off most of the population. Active prairie dog colonies within the study area were reduced from about 43 acres in 2006 to 1.6 acres in October 2007 (Figure 6). The proposed trail alignment avoids any impacts to active prairie dog colonies and minimizes the fragmentation of inactive colonies in order to preserve their ability to support future populations and to reinforce the buffer between colonies and areas that are not suitable for prairie dogs (i.e., parks, businesses and other human use areas, and wetlands).

Trail construction impacts to inactive burrows (about one acre), as well as long-term conflicts between trail maintenance and prairie dogs will be subject to the requirements of the city's Wildlife Protection Ordinance. Impact avoidance and permitting will become more complicated if the prairie dog colonies recover prior to construction. Any active burrows that may be encountered will be managed in accordance to city ordinances and the Urban Wildlife Management Plan.

Burrowing owl. Burrowing owls are a State-listed threatened species that usually nest in abandoned prairie dog burrows. Burrowing owls have been known to occur in the prairie dog colony to the west of 63rd Street, below the Boulder Reservoir dam (Figure 6) (Jones 2003, Parks and Recreation 2007b). The proposed trail alignment would not impact any known burrowing owl nests.

Impacts to burrowing owls are regulated by the federal Migratory Bird Treaty Act (MBTA). Monitoring of inactive prairie dog colonies should be conducted prior to construction to ensure that burrowing owl nests will not be affected. OSMP's standard best management practices for trail design and construction will be incorporated to avoid, minimize, and mitigate impacts to burrowing owls and surrounding habitat.

Migratory birds. The removal of nests for most migratory bird species are restricted by the federal MBTA and the city's Wildlife Protection Ordinance. The re-use and re-construction of the existing culverts under Highway 119 to accommodate the proposed trail may require the removal of numerous swallow nests. Under the MBTA, the removal of these nests should occur when they are inactive (typically between October and March). These potential impacts are not expected affect the viability of swallow

populations over the long term. Swallows will typically re-colonize the new or re-configured culverts and bridges soon after they are constructed.

Construction of the proposed trail is not expected to impact any other migratory bird nests or populations (see also, *General Wildlife*, above).

h. Discharge of sediment to any body of water

Trail construction activities within the Dry Creek corridor, including bridge construction and the re-alignment of the Highway 119 underpass, may result in minor discharges of sediment into Dry Creek. These discharges are not anticipated to impact species, communities, habitat or ecosystems. Construction Best Management Practices, consistent with standards set forth by the Urban Drainage and Flood Control District (UDFCD 2005) will be used to minimize sediment discharges.

B. Riparian Areas and Floodplains

1. Describe the extent to which the project will encroach upon the 100-year, conveyance, or high hazard flood zones.

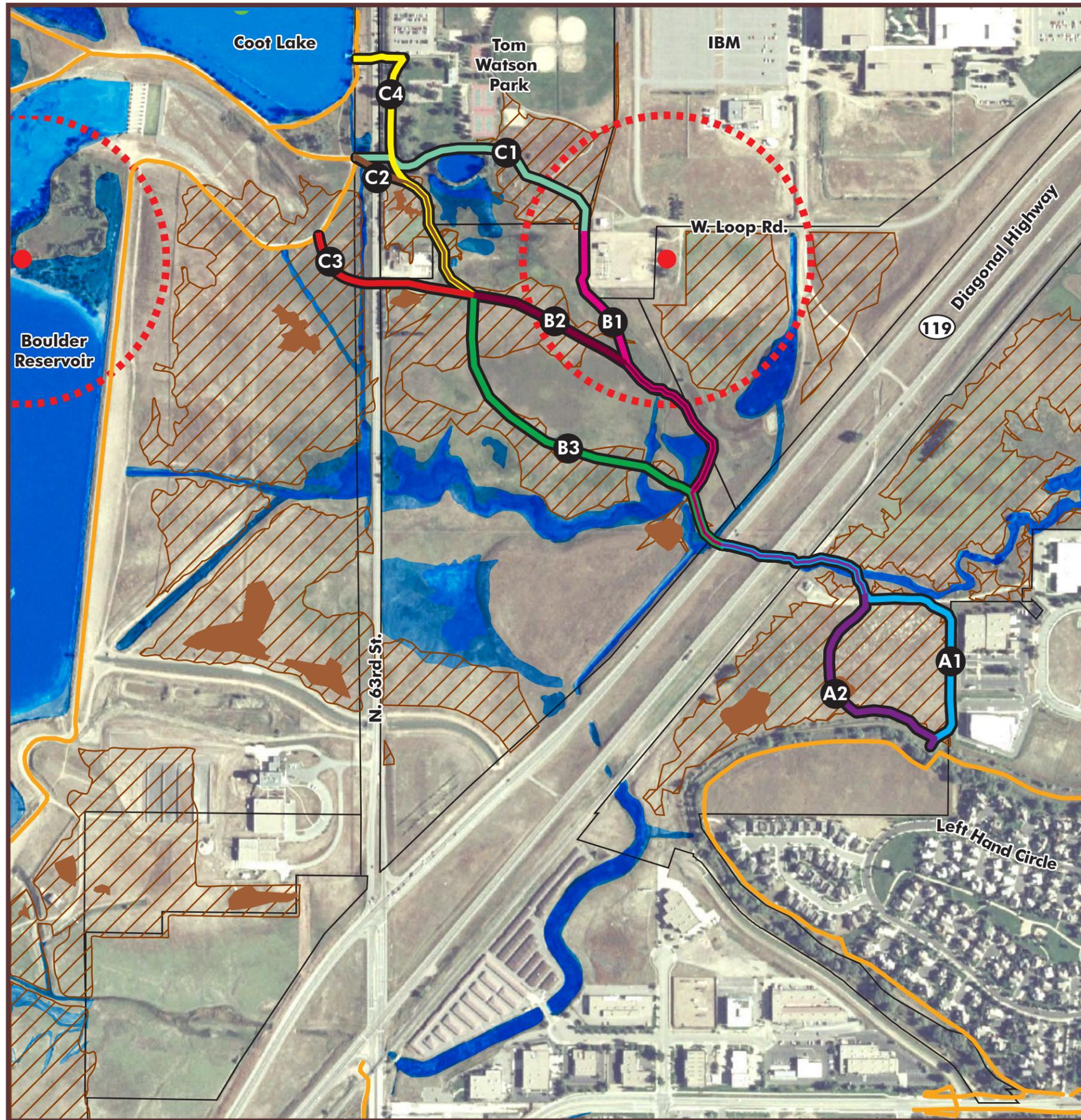
Approximately 1,090 feet of the proposed trail route will be located within the 100-year floodplain of Dry Creek. All trail facilities within the floodplain will be designed to ensure that the ability of the channel to convey flood flows is not adversely affected. The proposed re-configuration of the Highway 119 culvert to accommodate the trail will expand the flood capacity by allowing the trail culvert to serve as a secondary flood conveyance channel (Centennial Engineering 2005). The proposed trail underpass will include standard warning signs and other measures to minimize safety risk during flood events.

2. Describe the extent to which the project will encroach upon, disturb, or fragment a riparian corridor.

Construction of the proposed bridge over the Boulder and Left Hand Ditch (the eastern end of the proposed trail) could impact riparian habitat in the area. However, the disturbance would be minimal and would be consistent with the existing human uses of the area for trails and ditch maintenance. Trail/bridge design and construction will minimize impacts to riparian habitat in the area. The Dry Creek corridor supports only limited riparian shrub and tree structure. No other riparian corridors will be impacted.

IBM Trail Connector CEAP

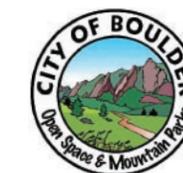
Figure 7 Environmental Constraints



Legend

- Boulder wetland mapping
- Current active prairie dog colonies
- 2005/2006 prairie dog colonies
- Bald eagle perch
- 200m perch buffer
- Open Space Property Boundaries
- Existing trails
- Potential trail alignments

0 500 1000 Feet 4/15/2008



C. Wetlands

1. Describe any disturbance to or loss of a wetland on site.

The study area contains about 17.5 acres of Boulder Regulatory Wetlands associated with Dry Creek and several other ditches and drainages (Figure 8). Wetlands serve several important functions as they provide important wildlife habitat, and protect water quality and floodplain function. Both the preferred and alternative trail alignments are anticipated to impact about 0.14 acre of Boulder Regulatory Wetlands. Most of these impacts would be associated with the re-configuration of the Highway 119 culvert and the construction of a bridge over Dry Creek. Wetland crossings along preferred alignment B3 would result in about 0.06 acres of impacts, while preferred interim alternative alignment C3 would result in an additional 0.01 acres of impacts. These impacts will be subject to the requirements of the city's Wetlands Protection Ordinance, as well as federal requirements under Section 404 of the Clean Water Act.

E. Water Quality

1. Impacts to water quality from any of the following?

a. Clearing, excavation, grading or other construction activities

Trail construction activities within the Dry Creek corridor, including bridge construction and the re-alignment of the Highway 119 underpass, may result in minor discharges of sediment into Dry Creek. (See response to question 1.h).

h. Drinking Water Supplies

The City's Public Works/Utilities Department has expressed concerns that the proposed trail could indirectly impact to drinking water supplies in the Boulder Reservoir and Boulder Feeder Canal. These indirect impacts could potentially occur because the proposed trail connection would increase the public use of existing trails and facilities around Boulder Reservoir and Boulder Feeder Canal. Increased public use may result in a greater potential for drinking water contamination due to human or animal waste, the accidental introduction of pathogens or garbage.

The standard approach for drinking water quality protection is to eliminate or limit potential contamination sources within the watershed. Some of the recommendations for reducing or mitigating potential water quality impacts in the Boulder Feeder Canal CEAP (City of Boulder 2006a) may also apply to the IBM Connector Trail. These include:

- Require that trail visitors leash dogs
- Construct and maintain dispensers for bags for animal excrement
- Construct and maintain restroom and trash facilities
- Implement education programs and install signs at Boulder Reservoir to increase awareness of water supply and appropriate behaviors to protect water quality
- Develop a cooperative visitor management strategy for various city agencies
- Develop a comprehensive approach to visitor management/education.

IBM Trail Connector CEAP

Figure 8 Wetlands

Legend



Alkalai Wetlands

Boulder Regulatory Wetlands



New Wetland Mapping (2007)



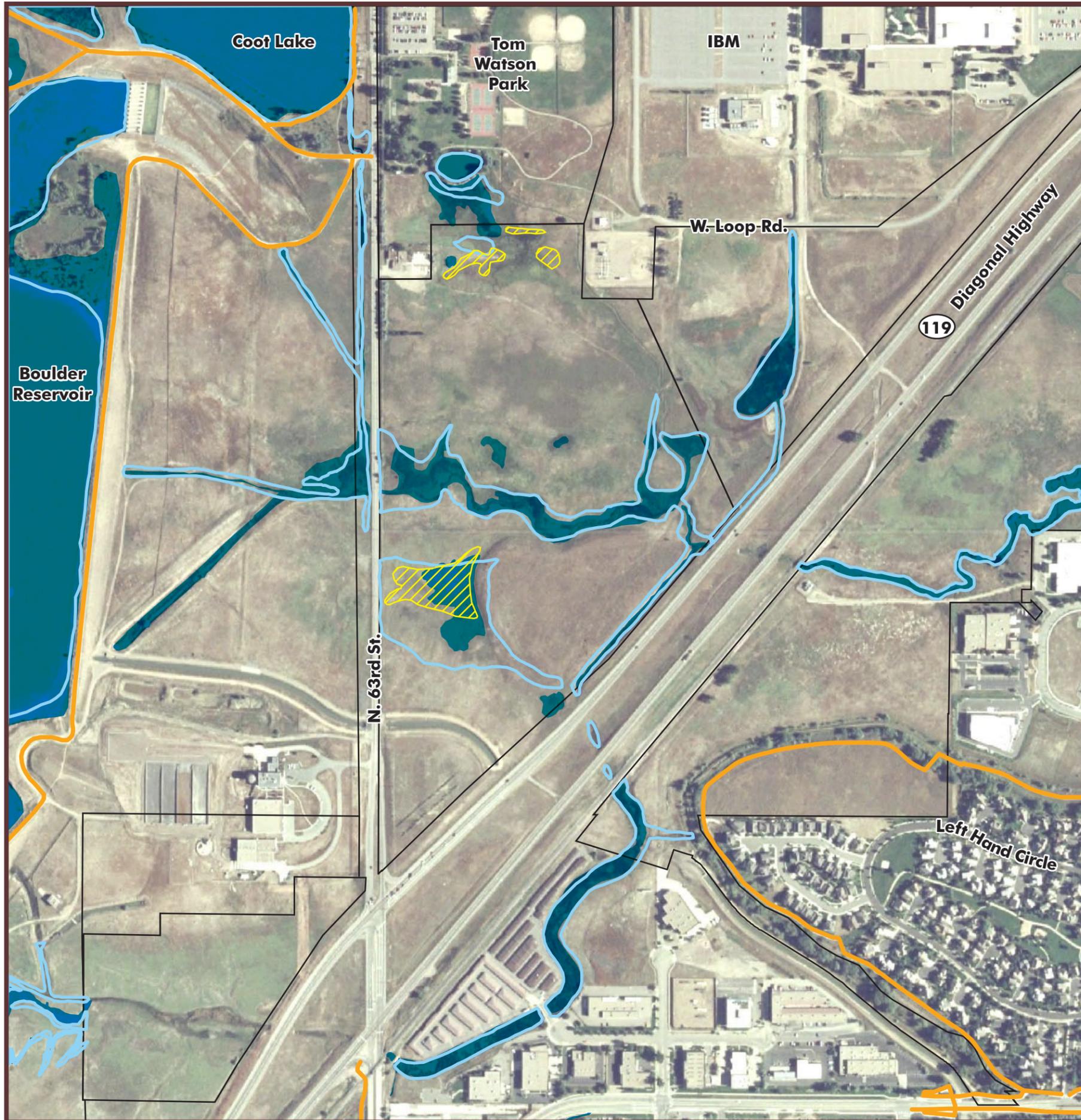
Previous Wetland Mapping



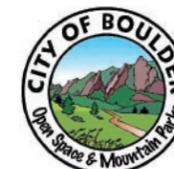
Open Space Property Boundaries



Existing Trails



0 500 1000 Feet 4/8/2008



F. Air Quality

1. Short or long term impacts to air quality (CO2 emissions, pollutants)?

The proposed trail connection would result in short-term impacts to air quality due to the use of construction equipment. These impacts would be minor and are typical of any trail or infrastructure project. Over the long term, the proposed trail will reduce vehicle emissions and subsequent air quality impacts by facilitating non-motorized transportation and recreation opportunities.

J. Safety

3. Describe any additional hazards that may result from the project.

Traffic safety – 63rd St. Crossing

While the long-term underpass option (C2) offers the greatest safety improvement along North 63rd Street, the preferred alignment (C4) also provides a safe crossing of 63rd by using the existing at-grade crossing directly adjacent to the Tom Watson Park parking lot. The interim preferred alternative alignment (C3) would require a new at-grade crossing about 1,000 feet south of the existing at-grade crossing.

The preferred alignment (C4) has raised concerns about the safety of the existing at-grade crossing of 63rd Street between Tom Watson Park and Coot Lake (northwest corner of the study area). These concerns include the speed of traffic on 63rd Street, sight lines, and the abrupt transition between the park and the crosswalk which limits visibility for both motorists and pedestrians. The street is posted with a 45 mph speed limit and the crossing has several recently improved warning signs on either side. Transportation staff have confirmed that there is adequate sight distance and the existing warning signs meet the City's Pedestrian Crossing Treatment Installation Guidelines (PCTIG) for speeds of 40 mph or less (the crossing was installed prior to the city's adoption of the PCTIG).

According to accident records examined by the city Transportation Operations Department, five accidents (all rear-end collisions) were reported at this location between 2002 and 2007, and no accident reports document a pedestrian, bicycle or pet being hit in the crosswalk. From a traffic engineering standpoint, five accidents in five years does not suggest a significant safety issue (Cowern 2008). City staff and volunteers have described several reports of accidents at this location, including rear-end collisions involving cars stopping for pedestrians, "near misses" of pedestrians and/or dogs in the crosswalk, and dogs being struck and killed in the crosswalk (Lyman 2007).

The city Transportation Department analyzed the alternative crossing location (C3) and found that there is sufficient stopping sight distance at that location (based on AASHTO Guidelines) (Sweeney 2008). The Transportation Department has also determined that a second at-grade crossing along alignment C3 is permissible as an interim option to complete the trail connection, but having two at-grade crossings in such close proximity would be undesirable over the long term.

L. Services

1. Describe any additional need for the following services as a result of the project:

a. Water or sanitary sewer services

No new restroom or other water or sanitary services are proposed as part of this project, and it is expected that the existing restroom facilities at Tom Watson Park and Coot Lake will be sufficient to support additional trail use in this area. Greater than expected use of the proposed trail may warrant additional future facilities. This future assurance of services is currently dependent on long term management options of Tom Watson Park by Parks and Recreation (utility services at Tom Watson Park are currently provided by IBM). Long-term needs for a utility easement or other options are currently under consideration.

d. Police services

There will be a need for ranger patrol and enforcement that will be assumed by OSMP and evaluated by Parks and Recreation for their respective properties. Cooperative agreements or contracts may be necessary as the trail planning and approval proceeds.

e. Fire protection services

There will be a limited incremental need for rescue, response to medical or trauma incidents.

f. Recreation or parks facilities

The Boulder Parks and Recreation Department manages recreation facilities on the western edge of the study area at Tom Watson Park, Coot Lake, and Boulder Reservoir. The Boulder Reservoir/Coot Lake area on the west side of 63rd Street is owned by Utilities, while the recreation facilities (primarily trails) and natural areas are managed by Parks and Recreation. Tom Watson Park is owned by IBM, and is currently managed by Parks and Recreation through an easement. IBM has the fee interest.

The primary objective of the IBM Trail Connector is to provide a trail connection between the Gunbarrel Area and the existing trails and facilities in the Boulder Reservoir/Coot Lake/Tom Watson Park area.

Park Ownership. Tom Watson Park is currently managed by Parks and Recreation with a parks and recreational easement agreement with IBM. While city ownership of the park property does not directly impact the viability of the trail connection, it does significantly improve the options available for design and construction of the trail.

Since the city has an easement on the property and IBM must agree to the trail alignment, the CEAP includes two alternate alignments:

- **Preferred alignment (C4)** provides a regional trail connection through Tom Watson Park before reaching Boulder Reservoir, assuming that, regardless of the long-term park management entity, a direct trail connection to the park will be consistent with the needs and desires of the community. This alternative allows for future enhancements (C2 underpass) that would create a direct regional trail connection that complements park access.

- **Alternative alignment (C3)** provides a direct regional trail connection to Boulder Reservoir without entering Tom Watson Park and avoids potential easement issues for the use of federal transportation funds.

The outcome of discussions with IBM, along with the resultant timeline of implementation, may determine which trail alignment is ultimately constructed. Issues surrounding the Tom Watson Park site are complex and may take time to resolve. Parks and Recreation is working to clarify its long term plans for Tom Watson Park – a process that may overlap with the trail design, permitting, contracting, and construction process.

Visitor Use Levels. The development of a regional trail connection may change the levels and dynamics of public access to, and visitor use of, existing facilities at Tom Watson Park, Coot Lake, and Boulder Reservoir. The magnitude of these changes and their effect on the management of facilities, management needs, and budgets are not known. Parks and Recreation is currently collecting visitor use data that will be a baseline for future analysis. Rather than approximate actual changes in visitation numbers, the following discussion characterizes existing conditions and anticipated changes to trail and facility use resulting from the proposed IBM trail connection (based on the experience and professional judgment of planning team members).

Existing visitor use of Tom Watson Park includes the use by the general public as well as workers from IBM. Although use is the greatest on weekends and in evenings in the warmer months, there is also a noticeable amount of use by IBM employees during the noon hour (e.g., walking, tennis). The park is known to be a gathering place for groups (such as running clubs) while the shelter is popular for private party reservations. Coot Lake is a popular destination for trail users and dog owners in the morning and evenings in the warmer months and on weekends year-round. The parking lot at Tom Watson Park serves as a secondary parking area for Coot Lake, and as a “de-facto” trailhead for the greater Boulder Reservoir trails system. The trails around Boulder Reservoir are popular for walkers, runners, and cyclists. Equestrian use is less common. Observations by Parks and Recreation staff indicate that use is highest in the mornings and evenings during the warmer months and on weekends year-round.

Use of the IBM Trail Connector is anticipated to be dominated by individuals who live within the Gunbarrel and Niwot communities, and by those who seek a direct off-street connection to the recreation amenities at Tom Watson Park, Coot Lake, and the Boulder Reservoir.

Based on public feedback, many of the trail users are anticipated to be residents who are already using existing facilities, and will use the proposed trail as an alternate means of access (other than driving) to those facilities. The proposed trail is also expected to attract some new users to the existing facilities, which would result in an increase in use. While some trail users may drive to Tom Watson Park and Coot Lake to use the IBM Trail Connector (east towards Gunbarrel), such use is not expected to be significant.

The Parks and Recreation Department has installed counters to begin collecting baseline visitor use data for the Tom Watson Park/Coot Lake area. While this preliminary data may not fully inform this CEAP process, it will be useful over time to guide the trail

implementation and long-term adaptive management of facilities, natural resources, and budget allocations.

Utilities. As described above under 3.L.1.a. *Water or sanitary sewer services*, it is anticipated that no new restroom or other water or sanitary services will be needed for the proposed IBM Trail Connector. Most of the use of this short trail segment is anticipated to originate from residential areas and existing trailheads elsewhere in the system. Currently, water and sanitary services are provided at Tom Watson Park and Coot Lake (pit toilet only). If increased visitation occurs or the status or capacity of existing facilities changes, utility needs in the area will need to be addressed in cooperative discussions between the involved agencies.

From a regional perspective, the proposed Boulder Feeder Canal Trail may establish the Tom Watson Park/Coot Lake area as a regional trailhead. (The Boulder Feeder Canal CEAP in 2006 identified concerns about an increase in visitors and impacts if the area became a “de-facto” terminus of the trail). The increased connectivity established by the proposed IBM Trail Connector would likely contribute to an increase in use of facilities at a “de-facto” or established trailhead at Tom Watson Park or Coot Lake. The magnitude of this increased use is not known (see *Visitor Use Levels* above).

Lack of Management Plans. Currently, no management plans exist for Tom Watson Park or the Coot Lake/Boulder Reservoir Area to adequately address recreation, wildlife habitat protection, visitor use, water quality protection, and long-term management and budgets. While other city and county departments have included the proposed IBM Trail Connector in their long-term plans (see *Existing Plans and Documents*), the Parks and Recreation Department has not had the opportunity to develop a strategic vision for future management of the area.

A comprehensive management plan for this area could be completed in the future. Such a plan would give Parks and Recreation, OSMP, and other city departments the opportunity to develop a uniform vision and management strategy that incorporates existing uses and facilities, in addition to potential changes to Tom Watson Park management due to development of trail connections such as the IBM Trail Connector, the Boulder Feeder Canal Trail, and other infrastructure and development changes that are likely to occur in the area. (A comprehensive plan for the area was previously recommended in the 2006 CEAP for the Boulder Feeder Canal.)

Recognizing the absence of a comprehensive management plan, implementation of the IBM Trail Connector will be pursued in an adaptive manner that allows short-term land management issues to be resolved, maintains long-term flexibility (e.g., park access and road crossing configuration) while taking advantage of a unique opportunity to establish a regional trail connection.

h. Transportation improvements/traffic mitigation

See the discussion of about the existing 63rd Street crossing above, in item J.2. The proposed Northwest Rail Corridor (FasTracks) commuter rail project may result in a second rail crossing along the southeast side of Highway 119.

2. Describe any impacts to any of the above or existing or planned city services or department master plans as a result of this project.

As described above under *Visitor Use Levels*, the completion of the proposed IBM Trail Connection may result in an increased use of existing trails and facilities at Tom Watson Park, Coot Lake, and Boulder Reservoir. While the level of increased use is not certain, some increased management and infrastructure costs at these facilities is possible over the long term. Management and infrastructure costs include trash pick-up, restroom maintenance, signing, patrol/enforcement, and resource management.

Given the current lack of baseline visitor use data (Parks and Recreation has recently initiated data collection), actual maintenance needs and costs will not be truly known until the trail is constructed and opened to the public. For this reason, the OSMP and Parks and Recreation Departments should employ a cooperative and adaptive approach to the implementation and management of this trail system. This approach should include some of the following key items:

- Continue collecting visitor use data at existing facilities to establish a baseline for comparison during the construction and implementation of the IBM Trail Connector.
- Collect data from the IBM Trail Connector to measure visitor use along the new trail.
- Develop an MOU or other mechanism between OSMP, Parks and Recreation, and other relevant departments to outline responsibilities for trail and facility management and funding.
- Incorporate the above into a long-term comprehensive planning process for city-owned recreation facilities in and around Boulder Reservoir.

M. Passive Recreation

1. Describe any effects the project may have on passive recreation.

The proposed trail connection would benefit passive recreation opportunities in several ways. First, it would provide additional passive recreation opportunities along the trail corridor itself, including walking, bicycling, equestrian use and nature observation. Second, it would enhance connectivity to other passive recreation areas, including the Coot Lake and the Boulder Reservoir trails, by providing a direct, safe, non-motorized connection between these resources and existing neighborhoods and communities in the Gunbarrel area.

Trail Implementation Considerations

Consideration of the proposed IBM Trail Connection in this CEAP process has identified several issues and concerns related to the long-term management of existing and proposed recreation facilities in and around the study area. (These issues are discussed above in item L.2.f *Recreation or parks facilities*). Most of these issues are related to the long-term ownership and management of Tom Watson Park, Coot Lake, and Boulder Reservoir, which are currently managed by the Parks and Recreation Department.

The project partners have developed an adaptive implementation process that will take advantage of short-term funding and partnership opportunities to complete the IBM Trail Connector while also giving the Parks and Recreation department the flexibility they need to resolve long-term issues related to Tom Watson Park and other facilities. Some of the key elements of this adaptive approach include the following:

- ***Design and Construction Phasing*** – The federal funds awarded to Boulder County for design and construction of this project (and the overall LOBO trail system) expire at the end of Fiscal Year 2011 (July 1, 2011). Boulder County estimates a three year timeline to complete the trail design, environmental permitting and compliance with city ordinances, contracting, and construction. Issues with unresolved easements or property issues could add to that timeline. Issues regarding the long-term ownership of the IBM Property at Tom Watson Park must be resolved prior to construction of a trail along the preferred Alignment C4. Otherwise, the alternative alignment (C3) would be used as an interim alignment.
Timeframe: Begin immediately; determine alignment for construction by July, 2009.
- ***Visitor Use Baseline Studies*** – Begin collection of baseline visitor use data for Tom Watson Park/Coot Lake area. Preliminary findings may inform decisions during the trail design/construction process, while long-term findings will be valuable in developing an adaptable approach to visitor use management and facilities in the area.
Timeframe: Started February 2008; collect data through December 2008.
- ***Tom Watson Park Management*** – Initiate discussions between the Parks and Recreation Department and IBM to a) determine the long-term fee ownership and management of Tom Watson Park, and b) determine the suitability of public access and/or a regional trail connection under any ownership/management scenarios.
Timeframe: Started March 2008; seek resolution as soon as possible.
- ***Tom Watson Park Infrastructure*** – As park ownership and management issues are discussed, identify and resolve issues and concerns related to park infrastructure (e.g., water, sewer, and electrical service). Develop a strategy that is consistent with the long-term ownership/management arrangement as well as future demands for the park as a regional destination and/or trailhead.
Timeframe: Begin May 2008.

- ***Trail and Facility Management*** – Initiate discussions between OSMP, Transportation, and Parks and Recreation to develop management responsibilities for the IBM Trail Connector within the context of existing and future land/easement ownership and management responsibilities.
Timeframe: Begin immediately following CEAP completion; seek resolution prior to trail completion.
- ***Prairie Dog Management*** – Work with OSMP biological staff to identify a specific trail alignment on the east side of the Diagonal Highway that avoids active prairie dog burrows and minimizes impacts and fragmentation to future colonies in this area (per the city Wildlife Protection Ordinance). Any construction within Tom Watson Park will need to address short and long-term mitigation to keep prairie dogs out of the park area.
Timeframe: Begin immediately following CEAP completion; implement measures by July 2008.

Summary of Proposed Mitigation

This section provides a summary of proposed mitigation measures, by resource.

General Vegetation

- Disturbed areas will be re-seeded with native grass species following construction.
- Re-seeded areas will be monitored and managed to ensure success and minimize noxious weed infestations.

General Wildlife

- Incorporate wildlife needs into culvert/underpass designs, including potentially restricting the use of artificial lighting. Monitor wildlife use and adaptively manage wildlife crossing needs along with trail and drainage needs.

Bald Eagle

- Cottonwood plantings along the Dry Creek channel would, over the long-term, provide an alternate perch site for bald eagle (and other raptors).

Prairie Dogs

- Mitigate impacts to active prairie dog burrows (if any occur), per the requirements of the Wildlife Protection Ordinance.

Migratory Birds

- Existing swallow nests in the Highway 119 culvert will be removed when they are inactive to ensure that no active nests are destroyed. Design the trail culvert to discourage new nests.
- Impacts to nesting burrowing owls and raptors would be minimized and mitigated through avoidance (route selection), timing construction to occur outside of the

nesting period, and other measures required by local, state, and federal regulations.

Sediment Discharge

- Construction Best Management Practices will be used to minimize sediment discharges into Dry Creek during and after construction.

Wetlands

- Wetland impacts will be mitigated per the requirements of the federal Section 404 and the City of Boulder wetlands permitting processes (including the construction of mitigation wetlands). The County anticipates the city wetland permitting process to begin in summer 2009.

Water Quality (Drinking Water Supply Protection)

- Require that trail visitors leash dogs
- Construct and maintain dispensers for bags for animal excrement
- Construct and maintain restroom and trash facilities
- Implement education programs and install signs at Boulder Reservoir to increase awareness of water supply and appropriate behaviors to protect water quality
- Develop a comprehensive approach to visitor management (education and enforcement) for Boulder Reservoir, Coot Lake, Tom Watson Park, the Boulder Feeder Canal trail, and the IBM Trail Connector.

Services

- Develop a strategy/agreement to address staffing and financial responsibilities for trail development, maintenance, and operations.

REFERENCES

- Boulder County. 2003. Boulder Feeder Canal Resource Inventory and Report. Prepared for Boulder County Parks and Open Space Department. Prepared by Michael Figgs, LREP, Inc., and Alan Carpenter, Land Stewardship Consulting, Inc.
- Centennial Engineering. 2005. IBM Connector Trail, Trail Feasibility Report. Prepared for City of Boulder Transportation Division and the Boulder County Transportation Department. Prepared by Centennial Engineering, Inc., and Love & Associates, Inc. September 23, 2005.
- City of Boulder. 2006a. Boulder Feeder Canal Community and Environmental Assessment Process (CEAP) Report. Prepared by a City of Boulder and Boulder County Staff Team. January, 2006.
- City of Boulder. 2006b. City of Boulder Pedestrian Crossing Treatment Installation Guidelines. Prepared for City of Boulder Transportation Division. Prepared by Fox Higgins Transportation Group.
- Colorado Division of Wildlife (CDOW). 2002. Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptor Nests. Prepared by Gerald R. Craig, Colorado Division of Wildlife.
- Colorado Division of Wildlife (CDOW). 2008. Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors. February, 2008.
- Colorado Natural Heritage Program (CNHP). 2002. Estimating Impacts of Highway Projects on Select Rare, Sensitive, or Declining Species on Colorado's Central Shortgrass Prairie. Prepared for Colorado Department of Transportation. December.
- Cowern, Bill. 2007. Transportation Operations Engineer, City of Boulder Transportation Department. Vehicle accident records on 63rd Street near the existing pedestrian crosswalk. Email communication to Matt Jones, City of Boulder Open Space and Mountain Parks Department. October 25, 2007.
- Jones, Stephen. 1993. Boulder Reservoir Wildlife Habitat Impact Study. December 5, 1993.
- Jones, Stephen. 2004. Field Manual for Monitoring Birds of Special Concern at Boulder Reservoir and Coot Lake. Boulder County Nature Association.
- Lyman. 2007. Boulder Parks and Recreation Department. Observations regarding the pedestrian crossing of 63rd Street at Coot Lake. Memorandum to Matt Claussen, Boulder Parks and Recreation Department. October 29, 2007.
- Parks and Recreation, City of Boulder. 2007a. Volunteer wildlife/raptor monitoring program. GIS data of bald eagle observations.
- Parks and Recreation, City of Boulder. 2007b. GIS data of burrowing owl observations.

IBM TRAIL CONNECTOR CEAP
AUGUST 2008

Sweeney, Michael. 2008. City of Boulder Transportation Department. 63rd Street Ped/Bike Crossing – analysis of stopping sight distance. Email communication to Marni Ratzel, City of Boulder Transportation Department. February 26, 2008.

Urban Drainage and Flood Control District (UDFCD). 2005. Drainage Criteria Manual (Volume 3). Updated September 1, 1999; Latest revision October, 2005.

Appendix A

Study Area Photos

**IBM TRAIL CONNECTOR CEAP
PHOTO LOG**



Photo 1 - Existing Cottontail Trail bridge in southeast corner of study area.



Photo 2 - Location of Alignment A1, looking south.

**IBM TRAIL CONNECTOR CEAP
PHOTO LOG**



Photo 3 - Dry Creek channel east of Highway 119, looking east.



Photo 4 - Existing culvert under Highway 119, looking east.

**IBM TRAIL CONNECTOR CEAP
PHOTO LOG**



Photo 5 - Swallow nests in existing culvert.



Photo 6 - General location of Alignment B3, looking east.

**IBM TRAIL CONNECTOR CEAP
PHOTO LOG**



Photo 7 - Alignment C4 approaching Tom Watson Park, looking north.



Photo 8 - Alignment C4 location through Tom Watson Park, looking north.

**IBM TRAIL CONNECTOR CEAP
PHOTO LOG**



Photo 9 - Existing 63rd Street crossing, looking west.



Photo 10 - Existing 63rd Street crossing, looking east.

**IBM TRAIL CONNECTOR CEAP
PHOTO LOG**



Photo 11 - Existing 63rd Street crossing, looking north.



Photo 12 - Location of alternate alignment C3 crossing.

Appendix B

Natural Resources Overview

CITY OF BOULDER IBM TRAIL CONNECTOR CEAP

Natural Resources Overview

Introduction

This document is intended to provide an overview of the natural resource context of the proposed IBM Trail Connector project and to help identify some of the issues to be evaluated in the Community and Environmental Assessment Process (CEAP) for this project. This overview of existing conditions is based on the following:

- Existing data, plans, and documents provided by the City of Boulder Open Space and Mountain Parks and Parks and Recreation departments
- Field reviews conducted by ERO staff (Andy Cole and Cindy Trujillo)
- Published information from the Natural Resources Conservation Service, Colorado Division of Wildlife, and other general sources.

Soils

The study area is dominated by clay and clay loam soils. Potential limitations to trail development due to clay surface soils can be easily overcome by standard regional trail construction techniques. Soil erosion is not a major concern in this area. Individual soil types within the study area include:

- *VaB – Valmont clay loam, 1 to 3 percent slopes* – moderate erosion hazard; moderate limitations to trails due to clay loam surface
- *VcC – Valmont cobbly clay loam, 1 to 5 percent slopes* – slight to moderate erosion hazard; moderate limitations to trails due to cobbly clay loam surface
- *VaC – Valmont clay loam, 3 to 5 percent slopes* – moderate erosion hazard; moderate limitations to trails due to clay loam surface
- *LoB – Longmont clay, 0 to 3 percent slopes* – slight erosion hazard; severe limitations to trails due to clay surface
- *SeE – Samsil-Shingle complex, 5 to 25 percent slopes* – high erosion hazard; moderate to severe limitations to trails due to clay surface
- *HeC – Heldt clay, 3 to 5 percent slopes* – high erosion hazard; severe limitations to trails due to clay surface

Water Resources

Boulder Reservoir is a regionally-significant water supply reservoir to the west of the study area. Coot Lake is located in the northwest corner of the study area. Dry Creek #2 (hereinafter referred to as “Dry Creek”) crosses the study area from west to east. This perennial stream originates below the Boulder Reservoir dam, and collects runoff from several small, tributary drainages in the study area.

A small pond, located in the north-central portion of the study area immediately south of Tom Watson Park stores irrigation runoff upstream of Dry Creek. The South Branch of

Dry Creek enters the study area from the south, running parallel to the Highway 119 embankment before entering Dry Creek immediately upstream of the existing Dry Creek culvert. The Boulder & White Rock Ditch and the Boulder and Left Hand Ditch run parallel to one another in the southeast corner of the study area. The existing Cottontail Trail follows these ditches.

The 100-year floodplain for Dry Creek generally follows the upper banks of Dry Creek and its associated wetlands.

Vegetation

General Vegetation

Vegetation in the study area is dominated by introduced perennial grasses and introduced annual and perennial forbs. General communities include Introduced Grasses, Introduced Annual and Perennial Forbs, and the Shrub Grassland community.

The introduced grass community is the most common vegetation community in the study area. This community is dominated by grass species such as intermediate wheatgrass (*Thinopyrum intermedium*), crested wheatgrass (*Agropyron desertorum*), and smooth brome (*Bromopsis inermis*). The introduced annual and perennial forb community is present scattered throughout the study area. This community is dominated by plant species such as burning-bush (*Bassia sieversiana*), horehound (*Marrubium vulgare*), field bindweed, redstem stork's bill, prickly Russian thistle (*Salsola australis*), tall tumble mustard (*Sisymbrium altissimum*), and oval-leaf knotweed (*Polygonum arenastrum*).

The shrub grassland community is present on the east side of the Diagonal Highway. This community is dominated by native perennial cool season grasses, introduced forbs, and native shrubs. Dominant plant species include western wheatgrass (*Pascopyrum smithii*), redstem stork's bill (*Erodium cicutarium*), field bindweed (*Convolvulus arvensis*), rubber rabbitbrush (*Chrysothamnus nauseosus*), fourwing saltbush (*Atriplex canescens*), and soapweed yucca (*Yucca glauca*).

Wetlands

Wetlands Regulations

The City of Boulder Wetlands Protection Ordinance requires landowners to obtain a permit for construction, development, and other activities that may impact wetlands or established buffer areas. This ordinance is based on regulatory wetlands mapping that was completed in 1988, and was recently updated. Currently, a transition period between the old mapping and new mapping is in effect, whereby the least restrictive mapping (and subsequent regulation) shall apply to any individual property. Original and new wetlands mapping in the study area is shown in Figure 7 of the CEAP report. All of the regulatory wetlands in the study area, with the exception of the hillside seep wetlands south of Tom Watson Park, are considered "significant" and are subject to a 50-foot buffer area. The wetlands south of the park are "not significant" and are subject to a 25-foot buffer.

Wetland impacts may also be subject to federal wetland permitting requirements, under Section 404 of the Clean Water Act. Federal wetland permits are administered by the U.S. Army Corps of Engineers.

Boulder Regulatory Wetlands

The study area contains 17.5 acres of wetlands, based on City of Boulder Regulatory Wetland mapping (Figure 7). Wetlands found in the study area typically cattail herbaceous wetlands. The dominant plant species is broadleaf cattail (*Typha latifolia*). Other common wetland plants include reed canarygrass (*Phalaroides arundinacea*), silver sedge (*Carex praegracilis*), prairie cordgrass (*Spartina pectinata*), witchgrass (*Panicum capillare*), and common threesquare (*Schoenoplectus pungens*). Most of these wetlands are associated with the Dry Creek corridor and its tributary drainageways.

Alkali Wetlands

Wetlands with high levels of salt deposits and alkali characteristics were mapped separately in the study area. These wetlands are dominated by Pursh seepweed (*Suaeda calceoliformis*). Other plant species such as foxtail barley (*Hordeum jubatum*), and red swampfire (*Salicornia rubra*) are present in small quantities. The Pursh seepweed wetland community is rated GU/S2 by the Colorado Natural Heritage Program.

Noxious weeds

While noxious weeds occur throughout the study area, several distinct patches of Canada thistle and common teasel were identified in the site review. In addition, several occurrences of purple loosestrife have been found along Dry Creek near the Highway 119 crossing. Table 1 contains a list of noxious weeds identified in the study area.

Table 1. Noxious weeds mapped in the study area.

Common Name	Scientific Name	Boulder County Weed List	State of Colorado Noxious Weed List*
Purple loosestrife	<i>Lythrum salicaria</i>		A
Canada thistle	<i>Cirsium arvense</i>	x	B
Common teasel	<i>Dipsacus follosum</i>	x	B
Russian olive	<i>Elaeagnus angustifolia</i>		B

* List A Species: The Colorado Department of Agriculture has designated List A species for eradication.

List B Species: List B noxious weed species should be managed by property owners and local governing bodies, though they are not required to do so (although other state or local jurisdictions may require such action).

Wildlife

City of Boulder Wildlife Protection Ordinance

On January 18, 2005, City Council adopted the final Wildlife Protection Ordinance, which limits the use of lethal control on prairie dogs or wild birds.

Prairie Dog Protections

The ordinance requires land owners to obtain a permit to kill prairie dogs on a site within the city. In order to receive a permit, the landowner must satisfactorily demonstrate that

all non-lethal options for managing prairie dogs on a site are not feasible, based on the following six-step decision-making process:

- Step 1. Minimize conflicts with the wildlife through non-removal methods.
- Step 2. Remove animals on a portion of the site where conflicts are occurring.
- Step 3. Evaluate potential for relocation.
- Step 4. Consider animal recovery programs (ferret or raptor).
- Step 5. Evaluate trapping and individual euthanasia.
- Step 6. If earlier steps are not feasible and pesticides must be used, landowner must pay into city habitat mitigation fund and post notice on property of pesticide application

Section 6-1-12 of the Wildlife Protection Ordinance prohibits damaging prairie dog burrows. Exceptions to this prohibition include the following:

- The burrow was uninhabited when it was damaged
- The burrow was damaged in connection with temporary disturbances caused by public or utility-related projects where such activities were conducted in conformity with best management practices within and areas containing prairie dog habitat

Wild Bird Protections

The ordinance prohibits the lethal control of wild birds, including poisoning, and prohibits knowingly wounding, killing, capturing, trapping, or injuring any wild bird, or damaging the eggs and nest of any protected bird (i.e., subject to the protections of the federal Migratory Bird Treaty Act).

General Wildlife

The introduced grasslands and wetlands of the study area are likely to support various wildlife species that are typical of disturbed habitat areas on the Front Range. The most prevalent species is the black-tailed prairie dog, which is discussed in greater detail below. Other common mammals include fox, coyote, rabbits, and a variety of mice, voles, and other rodents. While mule deer and white tailed deer may occasionally use this area, they are not likely to be common inhabitants. Common bird species include ground-nesting birds, wetland-dependent species, and occasional raptors (discussed below).

Prairie Dogs

In past years, most of the upland portions of the study area have been occupied by prairie dog colonies. Mapping from 2006 shows about 43 acres of colonies in the study area. In May 2007, bubonic plague was confirmed in the area (City of Boulder 2007, Boulder County 2007). This outbreak is believed to have killed most of the prairie dogs within the study area. Currently, the prairie dog population is limited to four small clusters of active burrows, encompassing about 1.6 acres. These active burrows, along with inactive colonies, are shown in Figure 5 of the CEAP report.

City of Boulder Urban Wildlife Management Plan – Black-Tailed Prairie Dog Management Component

The prairie dog management component of the Urban Wildlife Management Plan was developed to identify prairie dog protection opportunities and outline strategies for resolving short and long-term conflicts in Boulder’s urban service area. This plan provides management recommendations for all of the prairie dog colonies within the urban service area. Recommendations fall into three categories:

- ***Long-term Protection*** – Areas managed by the City and others where the current and projected land uses are compatible with prairie dog occupation, and where land management practices are either directed specifically for prairie dog protection, or where prairie dogs are treated with “benign neglect”.
- ***Interim Protection*** – Areas where there are no *current* significant conflicts; natural lands management decisions have not been made; or development plans are unknown or not anticipated for at least six years.
- ***Near-Term Removal*** – where the presence or activities of prairie dogs are most in conflict with regulations, public services and facilities or landowner preferences.

Most of the prairie dog colonies in and around the study area are recommended as long-term protection areas, while a subset of smaller areas (within Tom Watson Park and adjacent to the Boulder Reservoir dams) are recommended for near-term removal. Specific prairie dog management objectives for the OSMP conservation easement in the study area will be identified in the forthcoming OSMP Grassland Ecosystem Management Plan.

Migratory Birds

A variety of migratory birds are found in the grassland, wetland, and riparian habitats in the study area. Cliff swallow nests are abundant in the existing culvert under Highway 119. Most bird species are protected under the Migratory Bird Treaty Act (MBTA), which protects migratory birds as well as their nests, as well as the City of Boulder’s Wildlife Protection Ordinance. Under the MBTA, removal of these nests must occur when they are inactive (typically between October and March); otherwise, removal would require a federal depredation permit, which is difficult to obtain.

Impacts to swallow nests could be avoided by installing netting under bridges and culverts during the non-breeding season to prevent swallows from constructing nests in the spring. In the long term, swallows will re-colonize new bridges and culverts soon after they are constructed. Recolonization could be encouraged by attaching nesting ledges in the upper corners of bridges and culverts.

Bald Eagle

Bald eagles are considered to be a species of special concern in Boulder County (Jones and Hallock 1999) and are protected by the MBTA and the Bald and Eagle Protection Act. Bald eagles are primarily winter residents in Colorado. The annual Colorado midwinter count shows a stable population of up to 800 eagles (CDOW 2004). Winter populations of bald eagles vary over time and space in response to changes in weather and prey availability (Grubb and Kennedy 1982) with available food being the primary

factor attracting eagles to a particular wintering area (Stalmaster 1987). Eagles feed primarily on fish and waterbirds but also on small mammals (including prairie dogs) and mammal carcasses (CDOW 2004). The Boulder Reservoir area is well-documented as winter foraging habitat for bald eagle (CDOW 2007, Jones 2007, Jones 1993).

The cottonwood trees along the northern edge of the study area, has been documented by volunteers as a perch site for bald eagles (Parks and Recreation 2007b). While the type (e.g., hunting, staging, and loafing) and frequency of bald eagle use is not known, it is assumed to be a hunting perch for foraging in the prairie dog colonies on surrounding lands. (Perch use was documented prior to the 2007 prairie dog die-off; it is also assumed that prairie dog populations will recover over time). The trees are within 100 feet of an existing road and 600 feet from frequently used trails on the IBM property.

The following information and guidelines were used to evaluate the potential impacts of the proposed trail on bald eagles:

- Bald eagles in Boulder County are largely dependent on prairie dogs for feeding, and bald eagle population fluctuations generally correlate with prairie dog populations (Boulder County 2003, Jones 1993).
- From a regional perspective, the greater Boulder Reservoir area is known to provide winter foraging habitat for bald eagles, but no roosts or nests are known to occur in the area (CDOW 2007, Jones 2004). Seventeen perch sites have been documented in the Boulder Reservoir area, one of which is located on the northern edge of the study area (Parks and Recreation 2007a).
- The Colorado Division of Wildlife recommends that hunting perches for bald eagle should be protected from human encroachment, but does not recommend specific buffer distances, acknowledging that preferred perches may be at varying distances from human encroachment and buffer areas will vary (CDOW 2008). Previous buffer recommendations for bald eagle perches varied between 200 meters and 400 meters (656 to 1,312 feet) (CDOW 2002). However, bald eagles that occur near existing roads and disturbances are likely to be habituated to human activity (CNHP 2002). One raptor study in northern Boulder County (Dowe Flats) found that 90 percent of the recorded disturbance of raptors due to human (pedestrian) presence in hunting areas occurred within 200 meters (656 feet) of the raptor. Beyond that distance, negative raptor responses quickly diminished (Boulder County 2003). Based on these general data sources, a 200 meter perch buffer has been used for this CEAP.
- The perch site within the study area is most likely associated with prairie dog foraging habitat to the south and east, but is in very close proximity to human disturbances to the north and west (including an electrical substation, Tom Watson Park, the IBM plant, and an existing road and walking path between the IBM plant and the park).
- Most of the prairie dogs in the study area were decimated in 2007 from a plague outbreak. Over time, populations are expected to recover.
- The cottonwood trees that provide the perch are aging and are likely to fall down (or be removed for safety reasons) within the next 5-10 years.

- No federal, state, or local regulations prohibit disturbance of or impacts to bald eagle (or any raptor) perches.
- The conservation of bald eagles and their habitat is a management priority for the OSMP and Parks and Recreation departments.

Burrowing Owl

Burrowing owls are found in grasslands with vegetation less than four inches high and a relatively large proportion of bare ground (Gillihan and Hutchings 2000). This species nest in burrows in grasslands, grazed pastures, dry shrublands, deserts, and grassy urban areas (Kingery 1998; Haug et al. 1993). In Colorado, burrowing owls were usually associated with black-tailed prairie dog colonies (Kingery 1998; Andrews and Righter 1992). Burrowing owls are listed by the State of Colorado as a threatened species and federally protected under the Migratory Bird Treaty Act (MBTA).

Burrowing owls have been known to occur at the western edge of the study area (west of 63rd Street below the Boulder Reservoir dam) since the 1980s (Jones 2007). Several burrowing owl sightings have been documented in this area in recent years, while the most recent confirmed nest was in 2004 (Jones 2007, Parks and Recreation 2007a). Prairie dog colonies impacted by proposed trail alignment should be surveyed for burrowing owls prior to construction. If burrowing owls are present, construction should be planned to avoid impacting those areas between March 1 and October 31.

Other Raptors

Several other species of raptors, including red-tailed hawk, ferruginous hawk, and bald eagle, are known to use the study area and surrounding open lands for general foraging habitat. The mature cottonwood trees on the west side of the electrical substation provide perches for raptors, including bald eagles. Bald eagles have been observed in this area on an annual basis (Parks and Recreation 2007b). The wetlands on the west side of Coot Lake (outside the study area) have been known to support American bittern, a rare and declining species in Boulder County (Jones 2007). Previous evaluations of sensitive raptor habitat around Boulder Reservoir found that the “current trail alignments function effectively to keep people away from the most sensitive environmental areas while providing easy access to recreational areas. Realignment of existing trails does not seem necessary” (Jones 1993).

No raptor nests have been observed in these locations or anywhere else in the study area. The value of the study area for raptor foraging habitat has likely declined in the past year due to the die-off of prairie dogs. Over time, prairie dog populations are expected to recover.

Preble’s Meadow Jumping Mouse

ERO Resources evaluated the site for Preble’s habitat and determined that the study area does not have suitable habitat because:

- The site lacks the vegetation structure provided by multi-layer tree and shrub or wetland habitat typically associated with Preble’s.

- The site lacks woody debris such as downed logs that provide cover typically associated with Preble's habitat.
- The site is isolated from any known populations of Preble's. The nearest known population of Preble's is approximately 5 miles away on the near Baseline Lake Boulder County, Colorado (USFWS 2003).

For these reasons, it is highly unlikely that the assessment site supports a population of Preble's and the proposed project would not impact any Preble's or Preble's habitat.

References

- Andrews, R.A. and R. Righter. 1992. Colorado Birds. Denver Museum of Natural History, Denver, CO.
- Boulder County. 2007. Press Release: Fleas test positive for plague in Boulder County. May 14, 2007.
- Jones, S. R. and D. Hallock. 1999. Avian Species of Special Concern. Prepared for the Boulder County Nature Association.
- Colorado Division of Wildlife (CDOW). 2004. Species Profile. Bald Eagle. http://wildlife.state.co.us/species_profiles/baldeagle.asp.
- Colorado Division of Wildlife (CDOW). 2007. Natural Diversity Information Source GIS Data – Bald eagle habitat types.
- City of Boulder. 2007. News Release: Tom Watson Park closed as pre-caution against suspected plague. May 7, 2007.
- Gillihan, S.C. and S.W. Hutchings. 2000. Best management practices for shortgrass prairie birds: a landowner's guide. Rocky Mountain Bird Observatory. Brighton, CO.
- Haug, E.A., B.A. Millsap, and M.S. Martell. 1993. Burrowing Owl (*Speotyto cunicularia*). In A. Poole and F. Gills (eds.). The Birds of North America, No. 61. The Academy of Natural Science, Philadelphia, and the American Ornithologists' Union, Washington, DC.
- Jones, Stephen. 1993. Boulder Reservoir Wildlife Habitat Impact Study. December 5, 1993.
- Jones, Stephen. 2007. Boulder Reservoir Avian Species of Special Concern Monitoring Report. September 10, 2007.
- Kingery, H.E. 1998. Colorado Breeding Bird Atlas. Colorado Breeding Bird Atlas Partnership and Colorado Division of Wildlife.
- Parks and Recreation, City of Boulder. 2007a. GIS data of burrowing owl observations.
- Parks and Recreation, City of Boulder. 2007b. Volunteer wildlife/raptor monitoring program. GIS data of bald eagle observations.
- Stalmaster, M.V. 1987. The bald eagle. Universe Books, New York. 227 pp.
- U.S. Fish and Wildlife Service (USFWS). 2003. Trapping Data for the Preble's meadow jumping mouse.

Appendix C

Public Meeting Summaries

IBM TRAIL CONNECTOR CEAP

Summary - Public Open House #1

November 8, 2007

The first public open house for the IBM Trail Connector CEAP was held at the United Methodist Church on Lookout Road, from 4:00 to 7:00 pm. The open house was available for community members to drop in and learn about the proposed trail project, and express their ideas/issues/concerns. A total of 20 people attended.

No formal presentations were given. Instead, several display boards illustrated the 1) the regional and planning context, 2) natural resources, and 3) preliminary trail alignments for consideration. Agency and consultant staff were available to answer questions and discuss the proposed project with attendees.

Written Comments Received

- Keep trail away from 63rd Street as much as possible
- Keep trail away from parking lots, railroad, buildings, etc.
- Avoid straight lines
- Connect around the bend at the two ditches
- Make underpass large enough for horses (> 8')
- Make all trails open to equestrians
- Expand/provide trailhead parking – Coot Lake is too small!!

-
- Please ensure adequate trailhead access for horse trailers so equestrians can access this new trail system
 - To fully use the trail system, the structure under the Diagonal must be tall enough and wide enough to accommodate equestrians. The present proposed 8 foot height is not tall enough and unsafe for equestrian use.
 - Please keep the trail away from 63rd Street. This route is noisy and unpleasant.

-
- We support the path under 119 and any alignment connection to existing trails is fine with us.
 - Thanks for all the work on Cottonwood Trail. We love it!

-
- Fantastic! Super psyched cyclist! Finally an underpass at the Diagonal – great job with Cottontail Trail and bridge. Gunbarrel is becoming a great place to road and mountain bike. Thanks!

-
- Sooner please!
 - IBM underpass: I prefer direct routes. So, I don't like the alignment that goes along 63rd.

- On the south side of the diagonal, I like a fairly straight route between the bridge and underpass.
- Please don't close off the social trail that runs between the irrigation ditches on the west side of Gunbarrel North.
- You probably don't want to reuse any of the trails in Tom Watson Park. Those are full of picnickers and strollers.
- Add a gate from the trail to the industrial area north of Gunbarrel North. There are people that commute on foot to that industrial area.
- Many people (especially dog walkers) park in Tom Watson Park and use the crosswalk to Coot Lake. You'll have trouble getting them to go ¼ mile south to an underpass, so please leave the existing crosswalk.
- Building 13 at IBM is ugly. If you have to run a trail by it, please beautify or hide it.

-
- I think it is a great idea! I like the path that goes through Tom Watson Park on the east side of 63rd rather than the west side of 63rd closer to the reservoir.

-
- Any plans on connecting the trail from the reservoir to 63rd at the water treatment plant?
 - Bike lanes on 63rd and the 119 intersection is great. However, what about the rest of 63rd to IBM? The shoulder is not enough to feel safe riding your bicycle.
 - Can there be a trail that connects IBM directly from the 63rd/119 intersection without having to use the paved road?

-
- After going under the Diagonal Highway, heading north, it would be very desirable to get to Boulder Reservoir on a more direct route (rather than having to go so far north towards Coot Lake).

-
- I would request that a drinking water quality/security assessment for any corridors impacted by this project be incorporated into the CEAP. This would include a detailed 3rd party assessment of potential added risks to the Boulder Feeder Canal corridor (upcoming trail planned for that corridor) as well as Boulder Reservoir.
 - I don't believe the CEAP should proceed further without such an addition, which would include full public process concerning potential drinking water risks.
 - I would request that CEAP guidelines be adjusted to include incorporation of dissenting opinions from CEAP stakeholders should they arise. (I understand that the process is currently set up to be a "consensus" process, but I would like to make sure that potential dissenting opinions would be at least part of the public record.)
 - I would request that Utility Vulnerability Assessment recommendations (as pertaining to drinking water security) be incorporated as an integral part of the CEAP as this potential project definitely could have impacts on drinking water security risks.
-

- I think the plans look great and would love to see this trail connection constructed as quickly as possible.
- Preference for more southerly/westerly route off of the western trails in the Gunbarrel North subdivision.

-
- This will be really valuable as a way to get Gunbarrel/Niwot people to Coot Lake to walk dogs, run, etc. A lot of us run or walk that couple of miles along 63rd and it's a dangerous area for multi-use.
 - Direct routes would be nice, and also a quicker connection to the Powderhorn area in the long run.

-
- This is a great idea.

-
- Please please allow this IBM connector trail to happen!
 - In a time when it seems equine trail access is becoming more limited this east/west connection would be greatly appreciated by those of us who keep and ride horses in Boulder County!!

-
- I ride in this area quite a bit and think this will be a great addition to the network.
 - As a resident of Niwot, I still primarily access the Reservoir area trails by riding to Highway 52, through the light, and into IBM. However, the new trail opens up more options.

Also: One handout received expressing concerns about the proposed Regional Fire Training Center on the south side of Boulder Reservoir, and the potential visual impacts on the study area. The proposed facility is outside the study area for this project.