Boulder to Erie Regional Trail (BERT) Plan DRAFT

September 2024

BOULDER COUNTY
COMMUNITY PLANNING & PERMITTING

Otak CDR ASSOCIATES ERO

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

ACKNOWLEDGEMENTS

Boulder County Community Planning & Permitting would like to thank the Board of County Commissioners and the numerous community members who have shared their voices and shaped this plan.

Boulder County Community Planning & Permitting would also like to thank the following contributors to this plan:

Consultants:

Otak, Inc.
CDR Associates
ERO Resources Corporation

BERT Steering Committee:

Boulder County Community Planning & Permitting
Boulder County Public Works (BOCO PW)
Boulder County Parks & Open Space (BOCO POS)
City of Boulder Transportation & Mobility
City of Boulder Open Space and Mountain Parks (OSMP)
Colorado Parks & Wildlife (CPW)
Town of Erie
Regional Transportation Distrcit (RTD)
Colorado Department of Transportation (CDOT)

BERT Community Working Group

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

TABLE OF CONTENTS

EXECUTIVE SUMMARY

The Boulder to Erie Regional Trail (BERT) Plan aims to establish a multi-use trail connecting Boulder and Erie. This effort, led by Boulder County's Community Planning & Permitting Department, involves collaboration with various stakeholders, including Boulder County Public Works (BOCO PW), Boulder County Parks & Open Space (BOCO POS), City of Boulder Transportation & Mobility, City of Boulder Open Space and Mountain Parks (OSMP), Colorado Parks & Wildlife (CPW), Town of Erie, Regional Transportation District (RTD), and Colorado Department of Transportation (CDOT).

Project Overview:

- **Key Plans:** The trail connection is identified in the Boulder County Comprehensive Plan, Boulder County Transportation Master Plan, Boulder Valley Comprehensive Plan, and OSMP Visitor Master Plan.
- **Timeline:** The project began in 2019 and initially focused on the RTD-owned right-of-way but was later expanded to included additional alignments in the hopes of minimizing environmental impacts. The planning process included seven phases, from initial data collection to the final plan.

Stakeholder and Public Engagement: Extensive stakeholder and community input went into the creation of the BERT plan.

- **Engagement Opportunities:** Three public meetings and two online surveys, one that was statistically valid, were conducted to gather input.
- **Steering Committee:** The steering committee for the BERT plan consisted of Boulder County Community Planning & Permitting, Boulder County Public Works (BOCO PW), Boulder County Parks & Open Space (BOCO POS), City of Boulder Transportation & Mobility, City of Boulder Open Space and Mountain Parks (OSMP), Colorado Parks & Wildlife (CPW), Town of Erie, Regional Transportation District (RTD), and Colorado Department of Transportation (CDOT).
- **Community Working Group:** Community members volunteered to contribute their time and input to the development of the BERT Plan.

Initial Conceptual Alignments & Alignment Evaluation: Conceptual alignments were developed within the RTD ROW, along with additional routes along Valmont/Isabelle Road and on OSMP lands, as well as two crossing options for Hwy 287. Evaluation criteria were also developed through extensive stakeholder collaboration to serve as a foundation for the evaluation of the alignments and for the selection of a preferred alignment for further consideration.

- **Preferred Alignment for Further Consideration:** Alignment 1b, located within the RTD Right of Way (ROW), was selected for its safety, user experience, and minimal impact on adjacent properties. However, there are still environmental concerns as high-value ecological resources adjacent to the alignment require careful consideration and protection.

Next Steps:

- **Implementation:** Following the planning phase, funding sources will be identified, and detailed engineering design will begin. The trail may be constructed in sections as funding allows.

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

REGIONAL TRAILS PROGRAM OVERVIEW

The Boulder County Regional Trails program is a multi-year effort to plan, design, and construct a series of largely soft-surface multi-use trails that connect communities within Boulder County. The Community Planning & Permitting (CP&P) Department focuses its trail planning and development on regional trails that are multi-use and serve as both transportation and recreational corridors.

Regional trails in Boulder County have historically been built through the partnership and cooperation of multiple agencies and communities with the goal of improving multi-modal connectivity in the county.

The Regional Trails Program formally began in 2001 when the Countywide Transportation Sales Tax was approved by voters, which included funding for regional trails. The Transportation Sales Tax has continued to be supported by voters and was renewed in 2022, when voters elected to continue the sales tax in perpetuity.

Priority trail projects were evaluated by staff from East Boulder County communities and Boulder County with input from the public in 2002-2003. This resulted in recommendations for 5 first priority and 5 second priority trail projects to the Board of County Commissioners, who adopted the priorities on April 15, 2003. The Boulder to Erie Regional Trail was recommended as a first priority project.

Priority Criteria:

- **Transportation Value:** missing links, populations served, safety improvements, connecting resources, and alternative modes benefit
- **Feasibility:** estimated costs, funding availability, environmental impacts, constructibility
- **Equability:** serve multiple jurisdictions and multiple user types

[This page intentionally left blank]

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

INTRODUCTION & PROJECT PROCESS

INTRODUCTION

Project Background

Boulder County, in partnership with the City of Boulder and the Town of Erie, is seeking options for a safe east-west multi-use trail between Boulder and Erie in eastern Boulder County. Developing a trail along the currently unused Union Pacific Railroad (UPRR) right-of-way, now an RTD-owned right-of-way, has been under consideration by Boulder County for many years. The trail would travel along a quiet, mostly rural portion of the county, and would provide a significant and efficient route from East Boulder County and Weld County to the city of Boulder. This planning process searched for multi-use connectivity options, selected viable alternatives, and evaluated them based on criteria developed with stakeholder and community input. This project expanded on the knowledge, relationships, and planning work by Boulder County, the City of Boulder, the Town of Erie, CPW, CDOT, RTD, MHFD, numerous community members, and the consultant team to evaluate and select alignments that best meet the needs of all.

PROJECT OVERVIEW

This connection was identified in the county's regional trails prioritization process in 2003 and is one of the regional trails that is eligible for funding through the county-wide sales tax ballot measure passed by voters. The Boulder Valley Comprehensive Plan and Boulder County Transportation Master Plan identify this trail connection as an important link in the Boulder Valley and regional trails systems. Currently, safe, non-motorized east-west connectivity between eastern Boulder County and the City of Boulder is extremely limited or non-existent.

When the Boulder to Erie Trail (BERT) project started, it looked exclusively at locating a trail within the existing unused RTD-owned right-of-way between 61st St. in the city of Boulder and East County Line Rd in Erie. Through exploration of this area and its ecological context, it was decided to expand the study area outside of the rail corridor and evaluate additional conceptual alignments that could provide the desired trail connection. Some of the early project meetings and outreach occurred before this decision and as such, only reflect discussion of the RTD right-of-way. After this decision, additional alignments were developed, discussed, and evaluated.

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

Purpose and Need Statement

The goal of this planning effort is to identify and evaluate conceptual alignment(s) and identify a preferred alignment for further consideration for an east-west multi-use trail connection between Boulder and Erie in Eastern Boulder County for both transportation and recreation. This alignment shall be reasonably implementable while providing increased safety for both transportation and recreation, and striving to minimizing impacts to environmental and cultural resources as well as adjacent properties. It will also provide an opportunity to advance Boulder County's Strategic Priority of greenhouse gas emissions reductions by providing a desired connection in eastern Boulder County that has been identified in both the Boulder Valley Comprehensive Plan and the Boulder County Transportation Master Plan.

Objectives

This project will provide an east-west multi-use trail connection between Boulder and Erie in Eastern Boulder County. The trail alignment will be safe, feasible, efficient, convenient, and enjoyable, taking into consideration the following goals:

TRANSPORTATION & RECREATION

Provide an east-west multi-use trail for both transportation and recreation uses

INCREASED SAFETY

Provide a safe, low-stress connection between Erie and Boulder

MULTI-USE

Provide opportunities for bicyclists, pedestrians, equestrians, as well as snowshoers and cross-country skiers in the winter months

ENVIRONMENTAL & CULTURAL CONSIDERATIONS

The trail strives to minimize impacts on environmental and cultural resources







BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

IMPLEMENTABLE

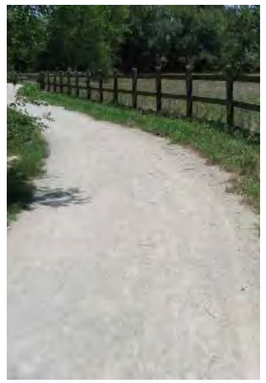
Develop a trail alignment that is feasible for both funding and construction

ADJACENT PROPERTY CONSIDERATIONS

Impact of the trail on adjacent properties will be minimized to the extent possible

TRAIL USER EXPERIENCE

Provide opportunity to experience nature and the beauty of Boulder County, as well as connections to other trail systems in the area






HOW TO READ THIS PLAN

The BERT project team identified seven equally important key objectives to guide the development and selection of conceptual alignments for the BERT trail (left). These objectives were used to develop and evaluate the alignments against the project's goals.

The plan walks through:

Introduction & Project Process
Overview of the project itself, project area, and project process.

Alignment Development
Initial conceptual alignments and feedback contributing to their refinement

Alignment Evaluation
Evaluation of alignments and process for selection of preferred alignment for further consideration

Preferred Alignment for Further Consideration
Details specific to the selected alignment, including preliminary phasing plan and opinion of cost

Recommendations & Next Steps
Key recommendations and next steps

Appendix
Further details to support plan materials

PROJECT PROCESS

The success of the Boulder to Erie Regional Trail Project (BERT) (Project) is characterized by a stakeholder and community supported search for multi-use connectivity options, evaluation of those alternatives, and identification of conceptual alignment(s) for further consideration. The identification of conceptual alignment(s) for further consideration provides the necessary information to establish the remaining steps required for full implementation and construction of the trail.

All phases of the planning project incorporate input from subject matter experts in ecology, cultural resources, trails, and planning/design. Input from stakeholders, Tribal Nations, and the community were solicited and addressed during the planning process.

BERT Project Schedule

The Boulder to Erie Regional Trail planning process includes seven phases. The overall project began in the Spring of 2019 with an initial goal to complete the planning process in 2021. The seven phases of the project include:

1. Project Kick Off & Initial Data Collection
2. Potential Alignments Study
3. Additional Data Collection & Project Partnerships
4. Evaluation Criteria
5. Conceptual Alignments Development
6. Alignments for Further Consideration Evaluation, Selection, & Refinement; and
7. Final Plan

The project timeline was expanded in June 2021 to address the need for additional analysis of environmental and wildlife impacts, consideration of additional route options outside the RTD rail corridor, and engagement with Native American Tribes and community members.

In late 2022, since the additional route options for consideration outside the RTD rail corridor use City of Boulder-owned lands, the County and City of Boulder Open Space and Mountain Parks (OSMP) developed a Memorandum of Understanding (MOU) to gain agreement on the process and additional route options.

BOUDLER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

After the BERT Final Plan

The BERT Plan project is an important step in creating a trail between Boulder and Erie. However, it is not the only step or the last step. There are additional phases in the process that will be required before a trail is completed and ready to enjoy.

This project represents the BERT planning phase, and this report is the BERT Plan. Following completion of this project, funding sources and potential phasing will be identified, and engineering design will begin with environmental, cultural, topographic, and geotechnical survey. Throughout this process, Boulder County will work on obtaining all the necessary approvals and permitting. It is possible that the trail will be built in sections as funding allows.

BERT Plan Project Process

PROJECT ENGAGEMENT

Stakeholders and Community Advocacy Groups

This includes Boulder County Public Works (BOCO PW), Boulder County Parks and Open Space (BOCO POS), City of Boulder Open Space and Mountain Parks (OSMP), Steering Committee Members and other Stakeholders, Community Working Group (CWG), Right Relationship Boulder, and more via the Project Website.

BOULDER COUNTY PUBLIC WORKS (BOCO PW): coordination regarding road right-of-way outside of the RTD rail corridor

BOULDER COUNTY PARKS AND OPEN SPACE (BOCO POS): coordination regarding East Boulder Creek Site Management Plan for Prairie Run Open Space

CITY OF BOULDER OPEN SPACE AND MOUNTAIN PARKS (OSMP): coordination (via MOU) regarding consideration of lands managed by OSMP outside the RTD rail corridor

STEERING COMMITTEE:

- **Role:** (1) Provide technical and political input during the trail planning process; and (2) provide input to inform the selection of a preferred trail alignment for further consideration
- **Member Organizations:** Boulder County Community Planning & Permitting, Boulder County Public Works (BOCO PW), Boulder County Parks & Open Space (BOCO POS), City of Boulder Transportation & Mobility, City of Boulder Open Space and Mountain Parks (OSMP), Colorado Parks & Wildlife (CPW), Town of Erie, Regional Transportation Distrcit (RTD), Colorado Department of Transportation (CDOT)
- **Number of Meetings:** 5

COMMUNITY WORKING GROUP (CWG): meetings include CWG members selected following an application process in Summer 2019.

- **Role:** (1) Identify critical issues and core community values that the Plan must address; (2) Provide feedback to the project team throughout the BERT planning process; (3) Support public meeting promotion and attendance; and (4) Direct community questions to the project team for answers and assistance
- **Member Organizations & Types:** Boulder Area Trails Coalition, Boulder County Horse Association, Boulder County Nature Association, Boulder Trail Runners, Adjacent Property Owners, Boulder and Erie residents, Town of Erie Open Space & Trails Advisory Board, Valmont Presbyterian Church, Boulder County Audubon Society
- **Number of Meetings:** 5

ADJACENT PROPERTY OWNERS: meetings include neighborhood workshops and interviews with property owners adjacent to any new alignments.

- **Neighborhood Workshops Role:** Ensure impacted communities had adequate opportunity to receive information specific to their neighborhood and participate in public involvement processes in smaller group settings
- **Neighborhood Workshops:** 4 workshops; 67 participants

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

- **Individual Interviews Role:** Share respective interests, goals, issues, and desired outcomes for the plan
- **Number of Interviews:** 6; Boulder County Parks & Open Space, City of Boulder Open Space and Mountain Parks, Colorado Railbike Adventures, Ertl Family, Keeter Family, Tiefel/Blackwelder Family

NATIVE AMERICAN CONSULTATION: includes consultation letters to tribal nations with known interest in the project area, as well as outreach to Native American groups in Boulder County

- **Role:** Provide feedback on cultural resources
- **Federally Recognized Tribes:** Southern Ute Indian Tribe, Ute Mountain Ute Tribe, Jicarilla Apache Tribe, Kiowa Tribe of Oklahoma, Comanche Nation of Oklahoma, Cheyenne and Arapaho Tribes of Oklahoma, Pawnee Nation of Oklahoma , Eastern Shoshone Tribe (Wind River Reservation), Northern Cheyenne Tribe, Northern Arapaho, Oglala Sioux Tribe, Rosebud Sioux Tribe, Ute Indian Tribe (Uintah & Ouray Reservation)
- **Letters & Meetings:** Formal Letter and Cultural Resource review sent to tribes, 1 meeting with Colorado Commission of Indian Affairs, 1 meeting with Right Relationship Boulder

ADVISORY BOARDS: meetings include Parks and Open Space Advisory Committee, Boulder Open Space Board of Trustees, the Erie Open Space and Trails Advisory Board, and the Board of County Commissioners (BOCC)

Public Engagement

Ongoing public engagement has occurred during each phase of the BERT planning process, primarily seeking input through the the project website and public meetings. A variety of groups have provided input to the project team to assist with the development and evaluation of conceptual trail alignments.

PROJECT WEBSITE:

- **Role:** (1) Provide information on the project to the community; (2) Notify the public of upcoming meetings and events; and (3) Collect feedback from community members

NEIGHBORHOOD WORKSHOPS, BLOCK BY BLOCK: *Full summaries of all public meetings can be found in Appendix*

- Dates: May 13, 2019 (Valmont Presbyterian Church) & May 15, 2019 (Erie Middle School)
- Objectives:
  1. Inform community about project
  2. Gather initial community opinions and feedback on trail

PUBLIC MEETINGS: *Full summaries of all public meetings can be found in Appendix*

Public Meeting 1

- Date: Online from August 17 - August 31, 2020

- Objectives:
    1. Inform public and stakeholders of project status
    2. Inform public and stakeholders of alignment and crossing options
    3. Obtain public input on alignment and crossing options
    4. Obtain public input on various project issues
    5. Build relationships with public and stakeholders
    6. Present RTD Rail Trail alignment options to corridor neighbors and the community

Public Meeting 2

- Date: September 13, 2023, In Person
- Objectives:
    1. Provide progress updates on the BERT Plan to the public
    2. Share the outcomes of previous processes, notify the public of next steps for the BERT Plan, and clarify the scope of future processes
    3. Share the current conceptual alignments for further evaluation
    4. Collect public feedback and input on alignment concepts
- Participation: Approximately 130 community members attended; 48 written comments

Public Meeting 3

- Date: August 29, 2024, In Person
- Objectives:
    1. TO BE UPDATED AFTER MEETING
- Participation:

ONLINE SURVEY OF LOCAL POPULATION: includes an online survey of a representative sample of households in Boulder and Erie. A sample drawn using address-based sampling; a postcard invitation to participate in the online survey sent to approximately 10% of Boulder and Erie households.

The diagram on the pages 18-19 notes the various meetings and outreach that have occurred at the various stages throughout the BERT project process.

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

BERT Plan Engagement & Coordination Overview

	Project Kick Off and Initial Data Collection	Potential Alignments Study	Additional Data Collection & Project Partnerships	Evaluation Criteria	Conceptual Alignments	Alignments for Consideration	Final BERT Plan
Steering Committee	●	●	Pause for MOU development	●	●	●	
Community Working Group •Cycling groups •Environmental groups •Corridor landowners •Trails organizations •Equestrian users	●	●	Pause for MOU development	●	●	●	
Individual Partner Meetings	———		MOU Development ———	———	———	———	
Public & Landowner Engagement •Four Neighborhood Workshops •Three Landowner Interviews •Three Public Meetings •Two Surveys •Public Comment on Draft Plan	———		Pause for MOU development		●	●	———
Native American Outreach •Consulted CCIA for advice •14 Formal Tribal L etters about the project			●	●			

DATA COLLECTION

Study Area

The proposed trail follows a 8.5-mile segment along the former Union Pacific Railroad which is now owned by RTD in Boulder County, Colorado. The analysis area includes a 0.5-mile buffer of the proposed trail corridor to account for potential alignment variations. The entire analysis area is approximately 6,288 acres. The legal locations are Section 13, 14, 21 to 24, and 26 to 28 in Township 1 North, Range 70 West of the 6th Principal Meridian; Sections 10 to 22 and 24 in Township 1 North, Range 69 West of the 6th Principal Meridian; and Sections 18 and 19 in Township 1 North, Range 69 West of the 6th Principal Meridian.

Plan Review

BOULDER COUNTY COMPREHENSIVE PLAN

The Boulder County Comprehensive Plan guides future land use and planning decisions. The Plan includes numerous maps that illustrate Boulder County Sensitive Resources or planned facilities within the County (Boulder County, 2017). The table below provides a summary of the sensitive resources and facilities within the analysis area and the Environmental Resources Element maps are located in the Appendix of this plan.

Boulder County Comp Plan Maps	Feature in Analysis Area (.5 mile buffer of proposed trail corridor)	Summary of Resource in Analysis Area
Archaeologically Sensitive Areas	Yes	An archaeologically sensitive area located in analysis area as well as a Travel Route.
County Trails	Yes	The proposed project is considered as a conceptual trail alignment.
Critical Wildlife Habitats & Migration Corridors	Yes	The areas surrounding the Sawhill and Walden ponds as well as the Gunbarrel Ranch CE is designated as a Boulder County Critical Wildlife Habitat. Critical Wildlife Habitats serve a crucial role in sustaining populations of native wildlife and perpetuate and encourage a diversity of native species.
Environmental Conservation Areas	Yes	The area located between 75th Street and 95th Street is designated as a Boulder County Environmental Conservation Area (ECA), called Gunbarrel Hill Agricultural Open Space. ECAs are areas that possess relatively low amounts of fragmentation, contain high quality natural resources or habitats, are designated at a sufficient size to provide ecological benefit, and/or have significant potential for restoration. Boulder Creek is designated as a Riparian Habitat Connector, which is defined as an area of wildlife movement adjacent to relatively unfragmented waterways which provides connectivity among Environmental Conservation Areas.
Geologic Hazards and Constrains Areas	Yes	The analysis area includes areas designated as minor Geologic Constraint Areas, and moderate Geologic Hazard Areas due to the presence of expansive soils and potential for flooding.

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

Boulder County Comp Plan Maps	Feature in Analysis Area (.5 mile buffer of proposed trail corridor)	Summary of Resource in Analysis Area
High Biodiversity Areas	Yes	The analysis area is located in the Boulder Creek “High” Biodiversity area, defined as having a concentration of several biodiversity elements that are common globally but are important for the ecoregion. Areas are rated as “High”, “Very High,” and “Outstanding.”
Intergovernmental Agreements	Yes	The analysis area is located in the Boulder Valley Comprehensive Plan and the East Central Boulder County Comprehensive Development Plan.
Mineral Resource Areas	Yes	Several pockets of aggregate and coal resource areas are located in the analysis area.
Natural Areas & Natural Landmarks	Yes	The White Rocks Natural Area (located on Gunbarrel Ranch CE, between 75th Street and 95th Street) is located in the analysis area. Boulder County Natural Areas are defined as having unique and important natural heritage that typifies native vegetation and associated biological and geological features and provides habitat for rare or endangered animal or plant species; or includes geological or other natural features of scientific or educational value.
Niwot Community Service Area	N/A	N/A
On-Street Bikeways Plan	N/A	N/A
Open Space and Public Lands	Yes	The analysis area includes Boulder County Open Space and Conservation Easement lands.
PMJM Conservation Areas	Yes	Boulder Creek and South Boulder Creek are designated as Zone 4 (Potential Restoration, Contiguous) PMJM Habitat Conservation Areas.
Rare Plant Areas & Significant Natural Communities	Yes	Gunbarrel Ranch CE, located between N. 75th Street and N. 95th Street, is considered a Rare Plant Area, which is defined as having a high likelihood of having occurrences of plant species of Special Concern.
Significant Agricultural Lands	Yes	Lands located south of the proposed trail alignment are considered agricultural lands of national and local importance.
View Protection Corridors	Yes	63rd Street, 75th Street, 95th Street, Hwy 287, 109th, Jasper Road, Isabelle Road, and Valmont Road within the analysis area have a Boulder County View Protection Corridor score of 1 or greater.
Wetlands & Riparian Areas	Yes	Numerous Boulder County identified wetlands and riparian areas are located in the analysis area.

OPEN SPACE AND MOUNTAIN PARK'S VISITOR MASTER PLAN

The City of Boulder Open Space and Mountain Park's Visitor Master Plan's purpose is to provide a framework for decisions that will ensure a continued high-quality visitor experience, while at the same time ensuring that the lands are protected and preserved for future generations. The VMP identifies a portion of the Union Pacific aka RTD ROW as an area to collaboratively study and evaluate for a possible trail connection. The VMP also provides an area management framework for decisions with four different management area designations (MADs) to encourage visitor use in areas that can best accommodate it to provide for high-quality visitor experiences in ways that protect the ecological, cultural, and agricultural values of OSMP lands. The predominant MAD within the BERT study area is Habitat Conservation Area (HCA) and Agricultural Areas and Natural Areas are also within this study area. All of OSMP's charter purposes can occur across the MADs (e.g. recreation and agriculture can occur in all MADs) and none of the designations preclude trails or visitation.

BOULDER COUNTY TRANSPORTATION MASTER PLAN

Boulder County's transportation vision, goals, and policies provide a framework to help meet and manage the demands on the county's multimodal transportation system, recognizing tranportation's important role in creating sustainable ways of living. The regional trail vision of the Boulder County Transportation Master Plan identifies the locations of 13 recommended regional trail projects, including filling gaps for missing links of existing regional trails. The BERT (formerly called the RTD Rail Trail) was identified as one of these projects seen on the chart below.

Map ID	Project Name	Project Description	Project Status	Funding Status	Potential Funding Source	Cost
P8	RTD Rail Trail - Erie to Boulder	Trail between Erie and Boulder	Planned	Funded	CST, Fed, Muni	$$$$

BOULDER VALLEY COMPREHENSIVE PLAN

The Boulder Valley Comprehensive Plan seeks to protect the natural environment of the Boulder Valley while fostering a liveable, vibrant and sustainable community. It provides an overview of the community's desires for future development and preservation of the Boulder Valley. The connection now referred to as the BERT is identified in this plan as a "conceptual alignment."

Existing Data Review and Base Mapping

The study area was defined as a 0.5-mile buffer of the proposed trail corridor to account for potential alignment variations. The project team reviewed existing publicly available data, obtained additional data, and sought expertise from BERT project partners to develop basemaps and complete a desktop review to identify environmental and cultural resources within the project area. No additional data or survey was generated. A summary of the environmental and cultural resources findings can be seen below.

Environmental Resources

VEGETATION:

Vegetation within the analysis area includes upland grasses, shrubland, woodlands, wetlands, and riparian areas. According to data from the Colorado Natural Heritage Program (CNHP), the following natural communities are located within the analysis area:

- Foothills Ponderosa Pine Scrub Woodlands
- Lower Montane Forests
- Intermountain Greasewood Wet Shrubland
- Great Plains Mixed Grass Prairie
- Montane Riparian Forest
- Great Plains Mixed Grass Prairie
- Foothills Ponderosa Pine Savannas
- Narrow-leaf Cattail Marsh

According to the City of Boulder OSMP vegetation data, the following vegetation subclasses are located within the analysis area:

- Annual graminoid or forb vegetation
- Boulder, gravel, cobble, or talus/sparse vegetation
- Consolidated rock, sparse vegetation
- Deciduous shrubland
- Deciduous woodland
- Perennial graminoid vegetation

According to the Boulder County Comprehensive Plan, the Gunbarrel Ranch Conservation Easement, located between 75th Street and 95th Street, is considered a City of Boulder Rare Plant Area, which is defined as having a high likelihood of having occurrences of plant species of Special Concern.

WETLANDS AND WATERS:

Numerous ponds, including the Sawhill and Walden ponds are located in the western portion of the analysis area, north of the proposed trail alignment between 61st Street and 75th Street. A small portion of Valmont Lake is located south of the corridor, between 63rd Street and 75th Street. Large swaths of wetlands are located in the central portion of the analysis area, both north and south of the corridor between 75th Street and 95th Street. Several wetlands are located directly along the RTD right of way on City of Boulder OSMP

properties in this area. Wetlands are located north of the corridor between Hwy 287 and 119th Street. After the OSMP site visit on July 24th, 2024, it is apparent there are more moist meadows along the RTD ROW than shown in OSMP data. According to conversation with OSMP staff, this is largely due to agricultural ditch flows and water table levels in the area (Riedel 2023).

Numerous streams, creeks, ditches and water pipelines are located in the analysis area; however, the western portion of the analysis area has a higher concentration of water conveyances. Approximately seven water conveyances cross the proposed trail corridor, and their approximate location and names are included below.

Between 55th Street and 75th Street

- South Boulder Creek
- Jones Donnelly Ditch
- Butte Mill Ditch

Between 75th and 95th Street

- Green Ditch
- Dry Creek

Between 95th Street and 107th Street/Main Street

- Lower Boulder Ditch

Between Hwy 287 and 119th Street

- Unnamed Lateral Ditch
- Lower Boulder Ditch

RARE PLANT SPECIES:

Rare plant species found in the corridor (between 75th and 95th):

- Showy prairie gentian (*Eustoma grandiflorum*)

  The Showy Prairie Gentian is present particularly along the RTD right of way on OSMP lands in wetlands and moist meadows near agricultural ditches. Based on conversations with OSMP staff, this plant's presence is largely dependent on moisture levels and has seen a decline on the OSMP agricultural properties over the years due to changes in ditch structures and moisture.

- Ute Ladies'-tresses (*Spiranthes diluvialis*)

  The Ute ladies'-tresses have also been found in one location on the north side of the RTD right of way on OSMP agricultural lands. Similar to the Showy prairie gentian, it requires moist meadows to grow. Conversations with OSMP staff did not indicate recent surveying of Ute ladies'-tresses.

Rare plant species found adjacent to the corridor (north of corridor between 75th and 95th)

- Black spleenwort (*Asplenium adiantum-nigrum*)

The Boulder County Comprehensive Plan characterizes the Gunbarrel Ranch Conservation Easement, located between 75th Street and 95th Street, as a City of Boulder Rare Plant Area, which is defined as having a high likelihood of having occurrences of plant species of Special Concern.

WILDLIFE:

The analysis area provides habitat for a variety of wildlife species. Key species and habitats are described below.

Federally Listed Species

The analysis area contains, or is located near, potential habitat for the federally-listed species in the table to the right.

Common Name	Scientific Name	Status	Habitat	Habitat/ Potential Habitat Present
Mammals				
Preble's Meadow Jumping Mouse (PMJM)	*Zapus hudsonius preblei*	Threatened	Shrub riparian/wet meadows	Yes

Birds				
Least tern	*Sterna antillarum*	Endangered	Sandy/pebble beaches on lakes, reservoirs, and rivers	Potential
Piping plover	*Charadrium melodus*	Threatened	Sandy lakeshore beaches and river sandbars	Potential
Whooping crane	*Grus americana*	Endangered	Mudflats around reservoirs and in agricultural areas	Potential
Plants				
Colorado butterfly plant	*Gaura neomexicana var. coloradensis*	Threatened	Subirrigated alluvial soils on level floodplains and drainage bottoms between 5,000 and 6,400 feet in elevation	Yes
Ute ladies'-tresses orchid	*Spiranthes dilluvialis*	Threatened	Moist to wet alluvial meadows, floodplains of perennial streams, and around springs and lakes below 6,500 feet in elevation	Yes
Western prairie fringed orchid	*Plantanthera praeclara*	Threatened	Tall grass prairie, most often found on unplowed, calcareous prairies and sedge meadows	Potential

- ***Preble's meadow jumping mouse:*** The Boulder Creek floodplain is known to support populations of Preble's meadow jumping mouse (PMJM). Designated critical habitat for PMJM is located within the analysis area, along South Boulder Creek, in the Southwestern portion of the analysis area. CPW data shows that much of the Boulder Creek floodplain within the analysis area has been evaluated for the presence of PMJM. Within the analysis area, approximately 17 trap sites have been set and another eight sights have been evaluated for PMJM but not trapped.

  Boulder County has identified Boulder Creek and South Boulder Creek as a Zone 4 (Potential Restoration, Contiguous) Habitat Conservation Area (HCA) for PMJM. Zone 4 HCA for PMJM is defined as "[a]reas not known to be occupied but contiguous with known populations where restoration of unsuitable or degraded habitat could result in a significant increase in a PMJM population." (Boulder County, 2015).

- ***Least tern, piping plover, whooping crane:*** The interior least tern, piping plover, and whooping crane may migrate through Colorado or may occasionally nest on wide sandy shores of reservoirs, typically in eastern Colorado. Critical habitat for all three species is not located in the analysis area.

- ***Colorado butterfly plant:*** The Colorado butterfly plant has historically been found in Boulder, Douglas, Jefferson, Weld and Larimer Counties. The Boulder Creek corridor meets the broad habitat criteria for Colorado butterfly plant and CNHP data indicates that known populations of the species occur within the analysis area (CHNP, 2018).

- ***Ute ladies'-tresses orchid:*** Ute ladies'-tresses orchid has historically been found in Boulder, El Paso, Garfield, Jefferson, Larimer, Moffat, and Weld Counties. The Boulder Creek corridor meets the borad habitat criteria for the species and CNHP data indicates that known populations occur within the analysis area (CNHP, 2018).

Raptors

The analysis are for this trail provides habitat for numerous nesting raptors, include osprey, red-tailed hawk, and bald eagles. The majority of the nests are located north of the corridor along the Green Ditch or Boulder Creek between 75th Street and Highway 287. The analysis area is also located within bald eagle winter range, and summer and winter forage areas. No winter concentration areas are located in the analysis area.

CPW Tracked Wildlife Species

Colorado Parks and Wildlife (CPW) tracks a number of species that are regionally important for big game hunting and overall conservation, including sensitive or seasonal activity areas for several species. The analysis area contains activity areas mapped by CPW for the following species (CPW, 2016). These approximate areas are described below.

Black-tailed Prairie Dog colony
- Potential Occurance (entire analysis area)

Black Bear
- Overall Range (entire analysis area)
- Human Conflict Area (western edge of analysis area to east of Hwy 287)

Canada Geese
- Winter Range (entire analysis area)
- Foraging Range (entire analysis area)
- Winter Concentration Area and Production Area (several pockets between South Boulder Creek and 95th Street)
- Brood Concentration Area (southern portions of analysis area between South Boulder Creek to 75th Street)

Great Blue Heron
- Nesting Area (two pockets north of the potential trail corridor on Boulder Creek near 75th Street and west of Hwy 287)
- Foraging Area (along Boulder Creek)
- Historic Nest Area (western edge of analysis area)

Mountain Lion
- Peripheral and Overall Range (western edge of analysis area to Hwy 287)

Mule Deer
- Overall Range (entire analysis area)
- Winter Range (along Boulder Creek to Hwy 287)
- Resident Population Area (western edge of analysis area to 95th Street)
- Limited Use Area (75th Street to eastern edge of analysis area)

Preble's Meadow Jumping Mouse
- Overall Range (entire analysis area)

Ring-Necked Pheasant
- Overall Range (95th Street to eastern edge of analysis are)

White Pelican
- Overall Range and Foraging Area (Boulder Creek corridor from western edge of analysis are to Hwy 287

White Tailed Deer
- Overall Range (entire analysis area)
- Concentration Area (western edge of analysis area to Hwy 287)
- Deer Highway Crossing (95th Street)

Boulder OSMP Tracked Species

Based on data shared with ERO, OSMP tracks habitat blocks or the Northern Leopard Frog and buffers for Northern Harrier nest sties. The largest concentration of Northern leopard frog habitat and all tracked Northern Harrier nests are located between 75th and 95th. The Northern Harrier is a ground nesting bird which is extremely sensitive to disturbances (Keeley 2023). The Northern Harrier has a quarter mile buffer around nesting sites, which intersects the RTD right of way on the western side of OSMP agricultural property.

The Northern Leopard Frog is listed as a CPW Tier 1 Species of Greatest Conservation Need (CPW 2020). They are found in wetland areas and prefer at least five inches of water depth to maintain adequate breeding habitat. Generally, the Northern Leopard Frog is managed by removing livestock from its vicinity to minimize vegetation loss. CPW recommends maintaining a 300-foot buffer around northern leopard frog breeding sites.

Cultural Resources

OVERVIEW

A "cultural resource" is defined as an archaeological site, structure, or building constructed 50 or more years ago. A cultural resource listed on or eligible for listing on the National Register of Historic Places (NRHP) or State Register of Historic Places (SRHP) is a "historic property." To assist with project planning and potential consultation obligations under Section 106 of the National Historic Preservation Act (NHPA) (36 CFR 800), the State Register Act (SRA) (CRS 34-80.1-104), and/or Boulder County planning requirements, ERO, a cultural and environmental resources consulting firm on the project team, reviewed the previous cultural resource surveys and resource documentation completed in the analysis area by conducting a file review with the Office of Archaeology and Historic Preservation (OAHP).

The OAHP records identified 136 previously documented cultural resources in the study area, which is a .5 mile buffer of the rail right-of-way. The resources include prehistoric and historical archaeological sites, historical structures, and historical buildings, although most of the resources are associated with the early settlement and dry land agriculture of the region. Of these, 36 historical buildings and structures are individually edible for listing in or are listed in the SRHP and/or NRHP, including the Union Pacific Railroad (5BL469). Any alterations to the physical characteristics of 5BL469 would be considered an adverse effect and would require consultation with the State Historic Preservation Office (SHPO).

Pursuant to Boulder County Land Use Code and Historic Preservation Program (CR 1.03), the Colorado SRA (CRS34-80.1-104), or the NHPA (36 CFR 800), any agency involved in the project may require consultation with the SHPO or additional work to identify unknown cultural resources and assess known cultural resources identified during the literature review, prior to construction. Based on the results of this file and literature review, an agency may require that a cultural resource specialist that meets Secretary of Interior professional qualification standards conducts additional work (e.g., a pedestrian survey and resource documentation on OAHP forms) to evaluate the effects of trail construction on cultural resources.

METHODOLOGY

The purpose of the cultural resource file and literature review is to determine whether any previously documented cultural resources listed on or eligible for listing on the National Register of Historic Places (NRHP) or State Register of Historic Places (SRHP) could be impacted by the proposed project. A "cultural resource" is defined as an archaeological site, structure, or building constructed 50 or more years ago. A cultural resource listed on or eligible for listing on the NRHP/SRHP is a "historic property." To assist with project planning and potential consultation obligations under Section 106 of the national Historic Preservation Act (NHPA) (36 CFR 800), the State Register Act (SRA) (CRS 34-80.1-104), and/or Boulder County planning requirements, ERO reviewed the previous cultural resource surveys and resource documentation completed in the study area by conducting a file review with the Office of Archaeology and Historic Preservation (OAHP). The OAHP provided the results to ERO on June 26, 2018 (File Search No. 21214). The file search are included the entirety of study area as defined (.5 mile buffer of RTD right-of-way.

RESULTS

The OAHP file search identified 29 previous cultural resource surveys that intersect the study area. Of these surveys, nine are intensive cultural resource surveys that encompass approximately 20 percent of the study area. Of these, only one of these occurred in the past 10 years. This survey was conducted in 2008 by Foothill Engineering Consultants, Inc. on behalf of the Department of Energy. The State Historic Preservation Office (SHPO) does not consider the results of surveys older than 20 years to be current or valid for consultation.

In addition to the OAHP file search, ERO did a preliminary review of existing literature, historical maps, and public records to determine if historical buildings or structures are located in the study area. Historic aerials and assessor records demonstrate that the area has been used for agriculture and ranching throughout the 20th century (Boulder County Tax Assessor 2018; Nationwide Environmental Title Research LLC 2018). Cultural resources associated with the early settlement and dry land agriculture in the area include ditches, railroad grades, and historical buildings. Additionally, portions of Boulder Creek flow through the study area and the presence of an alluvial depositional environment provides favorable conditions for the presence of buried archaeological deposits.

Site Reconnaissance

Throughout Summer 2020 - Spring 2021 the project team conducted a series of site visits covering the entirety of the RTD corridor, including a site visit with Boulder County Parks and Open Space for the route up to Boulder Creek, under Hwy 287, and back to the RTD right-of-way along 109th.

Another site visit was conducted for the segment adjacent to Valmont Road between 75th St. and 95th St. as well as a site walk with OSMP staff for the specific sections of OSMP property agreed upon for consideration. The purpose of these site visits was for the project team to get an understanding of the project area and start to identify conditions and factors that could impact its suitability for a trail alignment.

Detailed corridor walk notes and pictures can be found in the Appendix of this document.

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

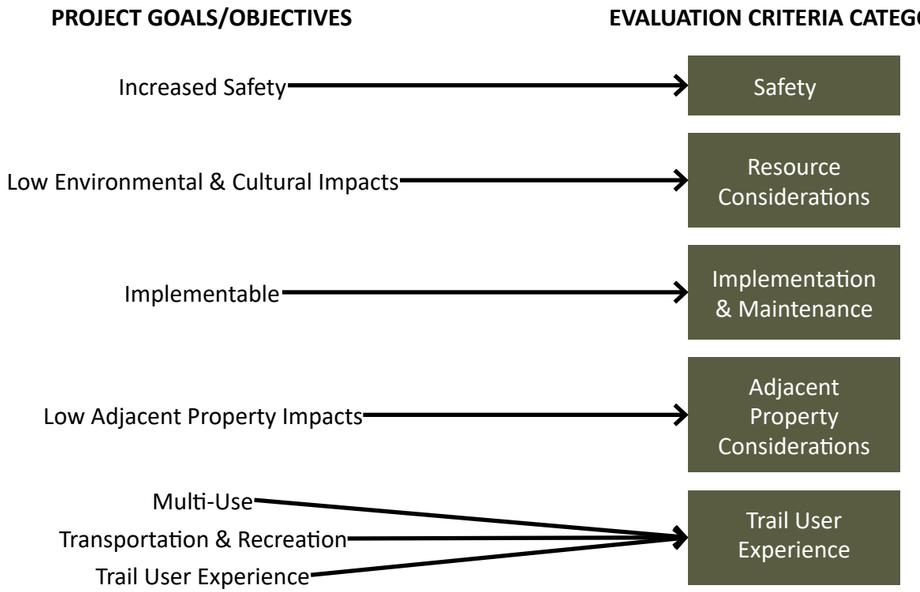
ALIGNMENT DEVELOPMENT

INITIAL CONCEPTUAL ALIGNMENTS

The initial evaluation of conceptual alignments for the BERT started by looking at conceptual alignments located between 61st Street in Boulder and East County Line Road in Erie within the RTD ROW. Once study of the corridor began, concerns about environmental resources in the ROW were raised by county leadership. As a result, the study area was expanded outside the RTD ROW and additional conceptual alignments were explored. These alignments included the initial alignments in the RTD ROW, as well as alignments along Valmont/Isabelle Road, and certain routes on OSMP lands in the area between 75th and 95th. These initial alignments can be seen in the maps on the following pages.

Evaluation Criteria Development

After initial conceptual alignments were identified, it was necessary to develop evaluation criteria that could be used to comprehensively and consistently evaluate tradeoffs and variations between the alignments as much as possible given existing available information. These evaluation criteria were developed by drawing on the goals and objectives initially identified for the project as seen below:



Once evaluation criteria categories were developed, input was sought from both project partners on the steering committee and members of the public on the community working group so that any gaps could be identified and feedback could be gathered on the specific considerations that should be included in each of these categories. Further details on these criteria can be found in the “Preferred Alignment(s) Development and Selection” section of this plan.

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

SUMMARY OF INPUT ON EVALUATION CRITERIA DEVELOPMENT:

CWG Meeting #3

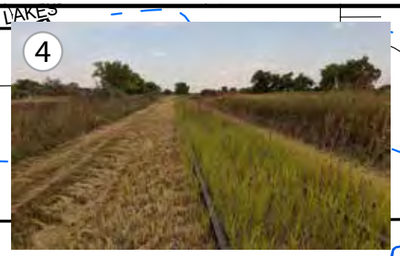
- Date: April 13, 2023
- Key Takeaways:
  1. Evaluate barriers to trail construction (i.e. costs, in compliance with regulations)
  2. Consider safe and enjoyable user experience
  3. Balance recreation and commuter uses in criteria
  4. Evaluate how alignments enhance adjacent properties, both natural and residential

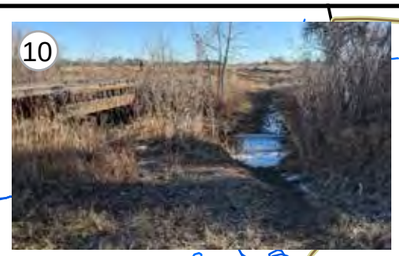
Steering Committee Meeting #3

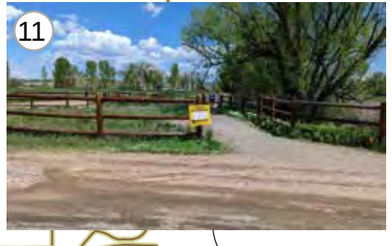
- Date: February 24, 2023
- Key Takeaways:
  1. Ensure clarity on definitions
  2. Participation of stakeholders in the evaluation process
  3. Ensure adequate analysis of safety of crossings

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

INITIAL CONCEPTUAL ALIGNMENTS - 61ST to 95TH







Corridors for Consideration
- Routes on OSMP Land
- RTD Rail Corridor
- Valmont/Isabelle Corridor
- 287 Crossing at Boulder Creek A
- 287 Crossing at Boulder Creek B

Linear Hydrology
- Perennial Stream
- Ephemeral and Intermittent Streams

Trails
- OSMP Hiking Trail
- OSMP Multi-Use Trail
- Erie Trails

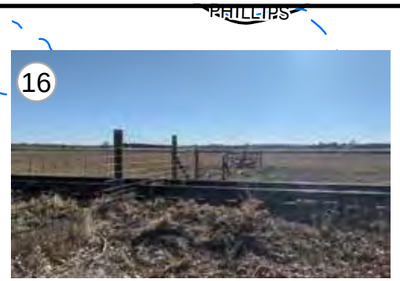
Managed Trail Access Locations
- P — OSMP Trailhead with Designated Parking
- A — Access Point - Parking Along Public Streets Unless Otherwise Posted

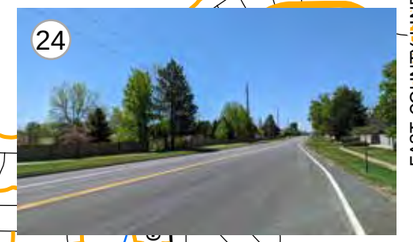
Corridor Photo Tour
- (#)

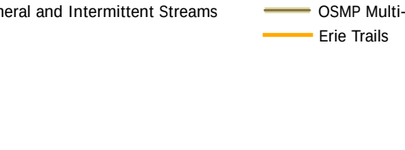
Note: The corridors for consideration on these maps represent general corridors and could contain multiple conceptual trail alignments for further consideration.

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

INITIAL CONCEPTUAL ALIGNMENTS - 95TH to ERIE







Boulder Creek

Cross under existing 287 bridge at Boulder Creek

Underpass at 287

PHILLIPS

JASPER

JAY

124TH

EVANS

GHEESMAN

MAIN

WELLS

HIGH

MOFFAT

BALCOLM

GARR

HOLBROOK

EAST COUNTY LINE

POWERS

95TH

109TH

119TH

VALMONT

ISABELLE

BRENNAN

MELLER

HOME

MARFELL

287

*Photos shown on previous page (61st to 95th)

Corridors for Consideration
- Routes on OSMP
- RTD Rail Corridor
- Valmont/Isabelle Corridor
- 287 Crossing at Boulder Creek A
- 287 Crossing at Boulder Creek B

Linear Hydrology
- Perennial Stream
- Ephemeral and Intermittent Streams

Trails
- OSMP Hiking Trail
- OSMP Multi-Use Trail
- Erie Trails

Managed Trail Access Locations
- P OSMP Trailhead with Designated Parking
- A Access Point - Parking Along Public Streets Unless Otherwise Posted

Corridor Photo Tour
- (#)

Note: The corridors for consideration on these maps represent general corridors and could contain multiple conceptual trail alignments for further consideration.

Initial Conceptual Alignments Refinement

SUMMARY OF INPUT ON INITIAL CONCEPTUAL ALIGNMENTS:

Steering Committee Meeting

- Date: May 1, 2020
- Key Takeaways:
    1. Allow for the trail to connect with other city trails
    2. Verify open space ownership in the area and include this information on project maps
    3. Consider that out-of-direction 287 Crossings will likely be disregarded, leading to unsafe crossings
    4. Prefer to stay within RTD ROW

CWG Meeting

- Date: June 16, 2020
- Key Takeaways:
    1. General support for a meandering trail that crosses at Boulder Creek
    2. Consider alternative Hwy 287 crossings at Isabelle Road, Erie Parkway, and Jasper Road
    3. Concerns of an overpass or underpass along the rail line include expense, time to construct, and potential to obscure viewshed (overpass)
    4. Support for a design/alignment that is most easily funded and quickly built
    5. Work with landowners to ensure alignment options reflect previous plans and easements
    6. Consider impacts of existing irrigation ditches along corridor on alignment options
    7. Ensure all groups (commuters and recreational users) are able to access and use the trail

Adjacent Landowner Feedback (3 Interviews - Tiefel, Ertl, Keeter & 4 Neighborhood Workshops)

- *Note: These discussions happened early in the project, before alternatives outside of the RTD right-of-way were being explored so discussion revolved around the right-of-way options*
- Key Takeaways:
    1. Seek to mitigate trespassing
    2. Recommend 287 crossing at Boulder Creek
    3. Consider options that protect the environment, such as alignment on north side of tracks, a potential habitat conservation area, and restricting dogs

BOUDLER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

Tribal Consultation Letters

- Key Takeaways:
    1. No concerns for cultural resources at this time
    2. Request for re-engagement in future BERT phases when cultural survey is updated

Public Open House (Virtual)

- Date: August 17 - 31, 2020
- Key Takeaways:
    1. Prioritize safety for trail crossing locations on the trail
    2. Prefer signalized crosswalks
    3. Prefer crossing Hwy 287 at the RTD ROW, with an underpass as the first choice
    4. Consider most likely access points, which are other trails, including Coal Creek Trail, Boulder Creek Path, Teller Farm/Trail System, and White Rocks Trail
    5. Design the trail to be used in a variety of ways by users, with most common uses including biking, hiking, running, wildlife viewing, family recreation, dog walking, and birding

CONNECTIVITY WORKSHOP:

The project team, along with experts from Boulder County and the BERT Steering Committee, met to brainstorm potential corridor concepts and alternatives. These conceptual alignments were then taken through full evaluation and development to select final conceptual alignment(s) for further consideration.

- **Purpose:** To review critical work completed and key findings from all site reconnaissance in order to collaboratively develop two to three conceptual alignments in addition to the alignment already developed within the RTD right-of-way. The conceptual trail alignments utilized the RTD ROW, defined corridors on OSMP property, and BOCO ROW primarily.

- **Corridor Overview:** To begin the workshop, the project team presented photos of the existing conditions along the RTD ROW and Valmont-Isabelle ROW that make up the conceptual BERT corridors for further consideration and evaluation. The presentation is available in the appendix of this document.

- **Typical Trail Conditions:** The project team also presented the typical trail conditions based on Boulder County's Regional Trails Program standards. It is anticipated that the trail surface will be compact crusher fines, 10-feet-wide with a 1-2 foot shoulder width, and possible side trail for equestrian use. Expected trail user types include bikes, equestrians, runners, walkers, rollers, cross-country skiers, and snowshoers. Road crossings are anticipated to be on-street, with the exception of a potential underpass at US-287. Example photos and some additional details can be found in the presentation available at the end of this summary. Discussion and questions regarding trail surface type are summarized in the table below.

- **Connectivity Activity:** Attendees separated into two corridor groups (61st - 95th, 95th - Erie) to identify any important conditions or challenges in the section, draw out 1-4 potential alignment concepts, and discuss the pros and cons specific to each. Following small group discussion, each group reported out their ideas and gained feedback from others. Discussion and takeaways are summarized below.

DISCUSSION SUMMARY:

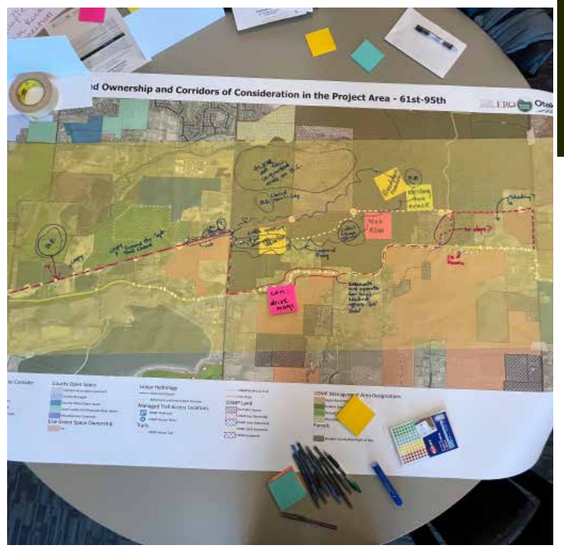
- **61st - 75th:** RTD ROW preferred by group to move forward for further evaluation, Sawhill Ponds access road also move forward for further evaluation

- **75th - 95th:** All conceptual corridors (Valmont, RTD ROW, OSMP MOU alignments) should move forward for further evaluation

- **95th - E County Line Rd:** The RTD ROW is strongly preferred for the entire 95th-E County Line and it is suggested that concepts for further evaluation remain on the South side of rail for the majority of the segment

- **US 287 Crossing:** An underpass at US-287 along the RTD ROW is preferred and it is suggested that concepts for further evaluation consider including loop options to the East Boulder Creek area

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024



BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

INITIAL CONCEPTUAL ALIGNMENTS REFINEMENT

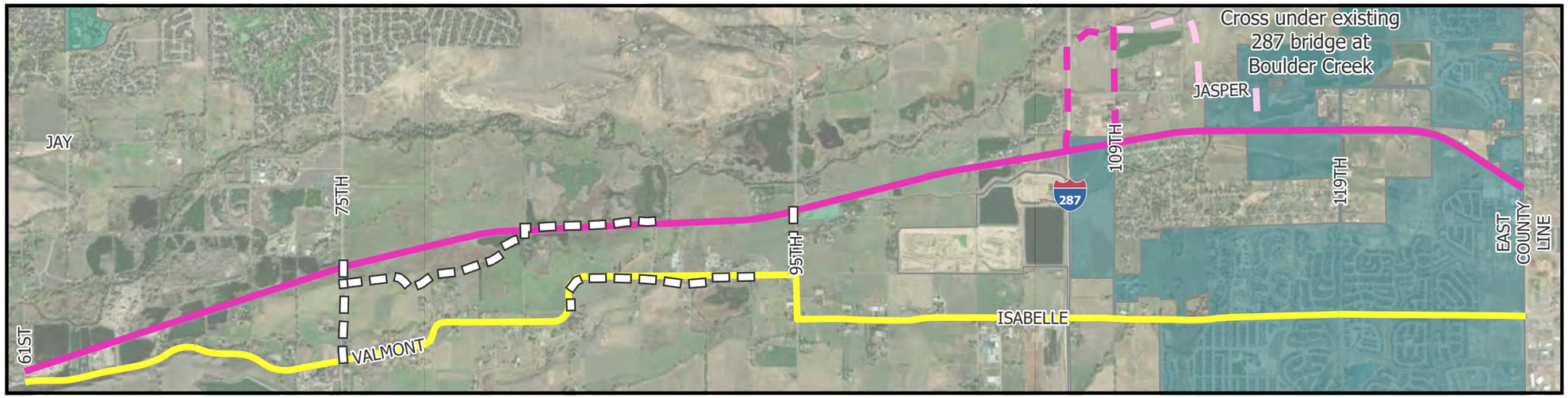
Going into the connectivity workshop all of the corridors seen below in the top diagram were on the table for discussion: the RTD ROW (pink line), Valmont/Isabelle roads (yellow line), and the additional routes agreed upon for inclusion on OSMP property (white dashed lines). Based on discussion during the workshop, those corridors were narrowed down into the three conceptual alignments (green, purple, and teal lines) and two Hwy 287 crossing options (black dashed line) shown in the bottom diagram below.

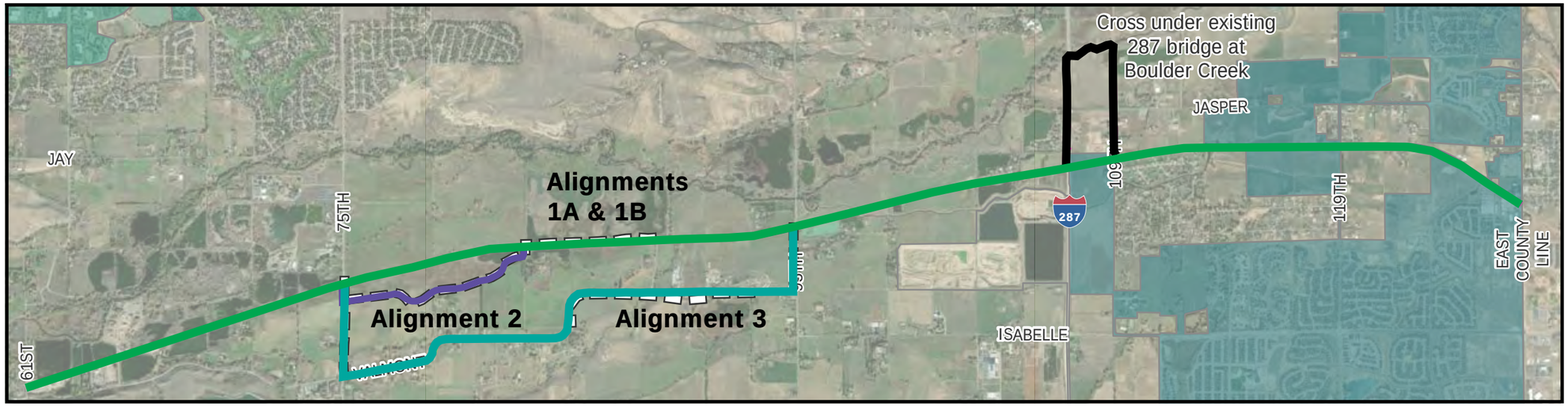
These three conceptual alignments can be seen in more detail on the follwing pages.

Alignments for Further Consideration Based on Connectivity Workshop

All Corridors

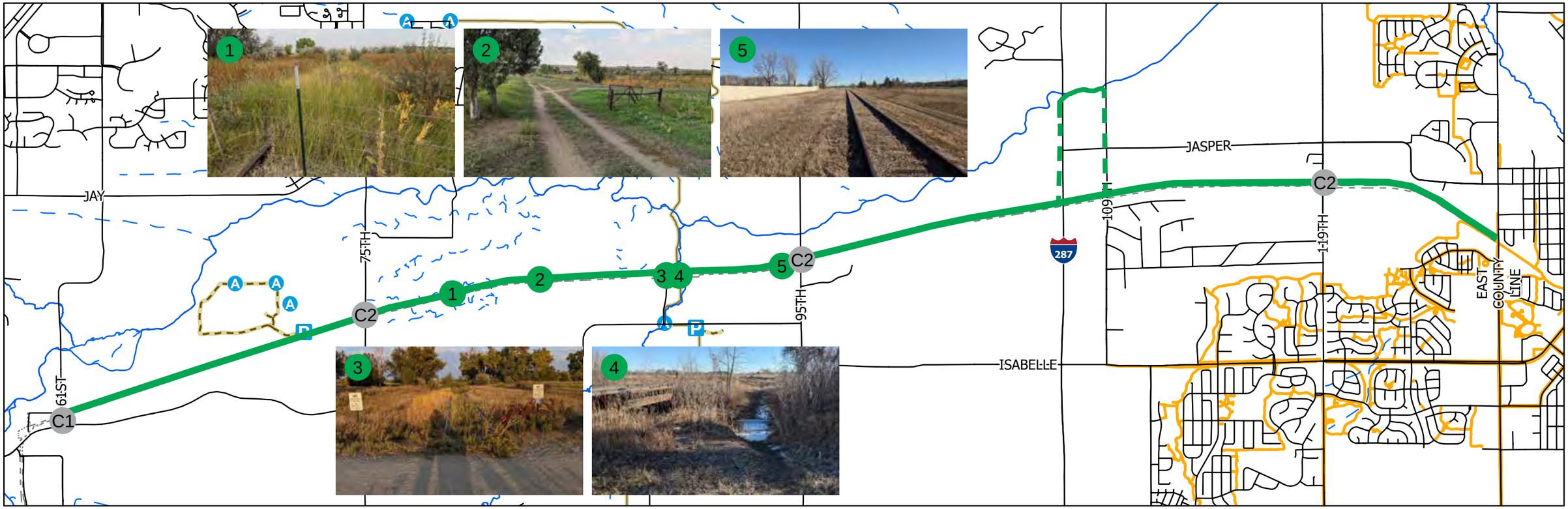
3 Conceptual Alignments & **2** Hwy 287 Crossing Options





BOUDLER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

RTD ROW ALIGNMENTS (1A & 1B)

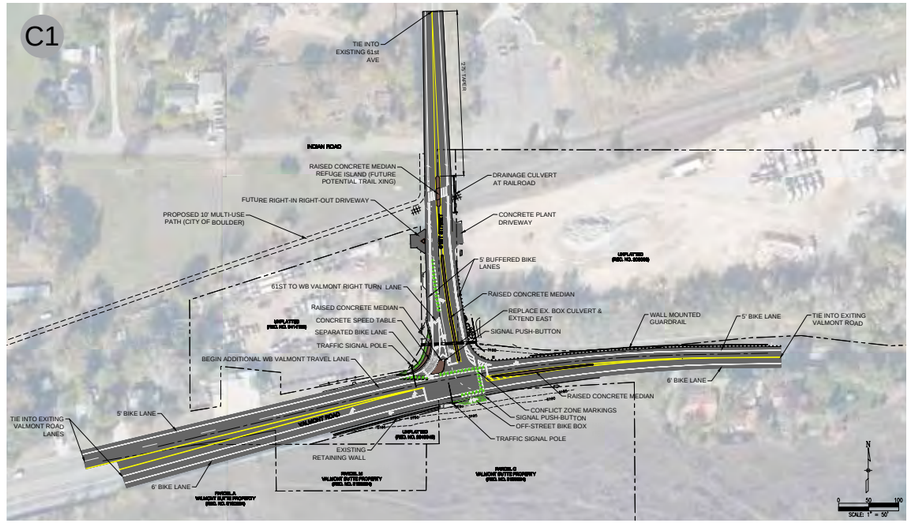


Notes:

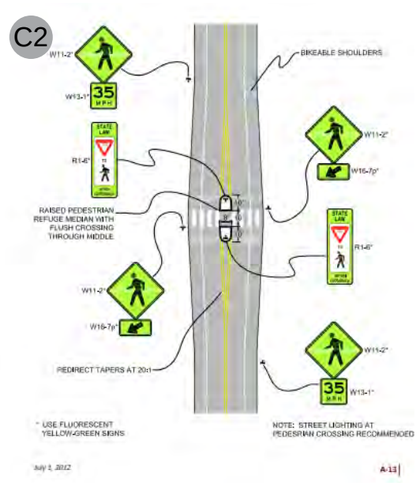
- These alignments are fully in the RTD ROW
- There are 2 alignment variations:
  - (1A) - trail in the ROW, not on the rail bed itself, but with crossings of the rail bed as needed
  - (1B) - trail in the ROW with potential for trail on top the existing rail bed in areas as needed
- Crossings locations are noted on the diagram above (C1, C2) and corresponding diagrams of these crossing types can be seen to the right

Crossings:

C1

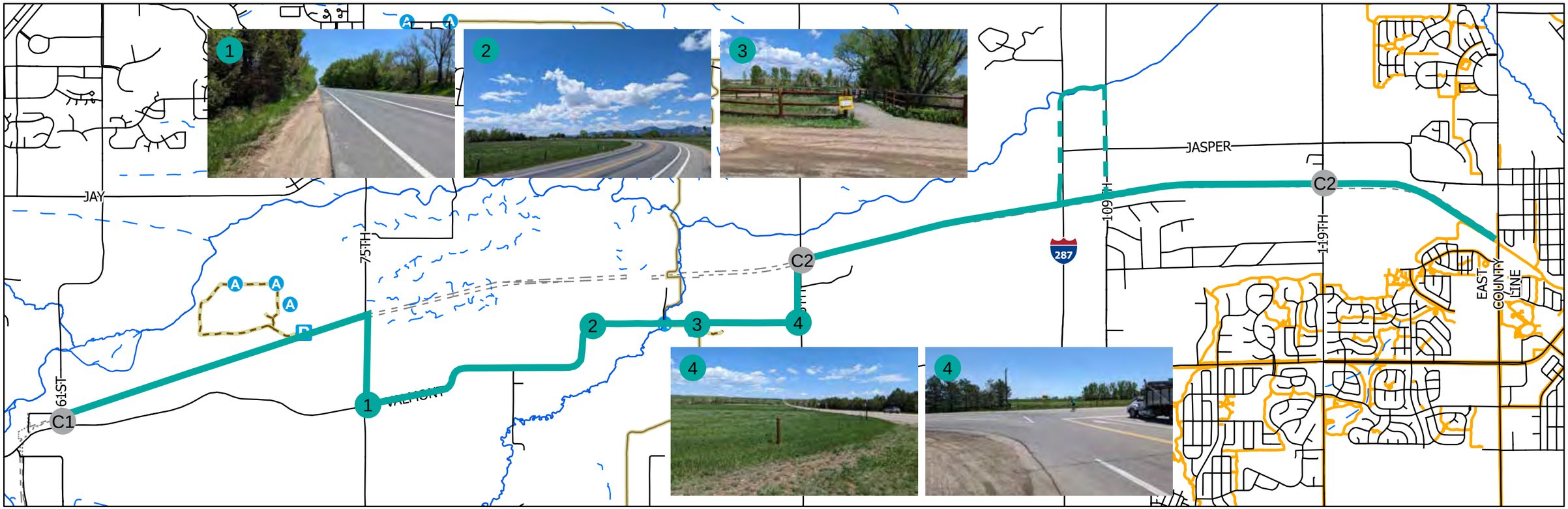


C2



BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

RTD ROW/VALMONT/OSMP/BOCO ROW ALIGNMENT (2)



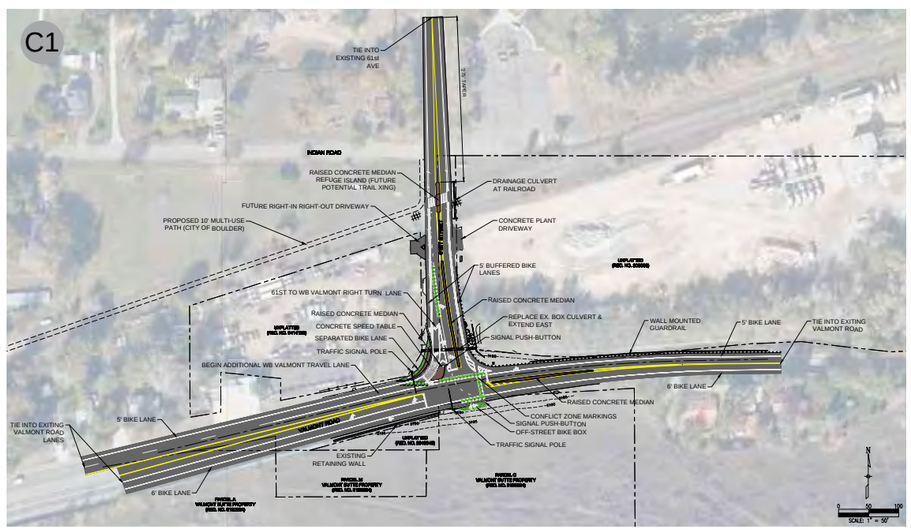
Notes:

- (2) - alignment is a combination of RTD ROW, OSMP, and BOCO ROW/Valmont around the 75th to 95th section:
  - **61st to 75th** - RTD ROW & CPW/OSMP Access Road to Sawhill Ponds
  - **RTD ROW to Valmont** - OSMP/BOCO ROW
  - **75th to 95th** - BOCO ROW/OSMP
  - **Valmont to RTD ROW** - BOCO Road ROW
  - **95th to Erie** - RTD ROW

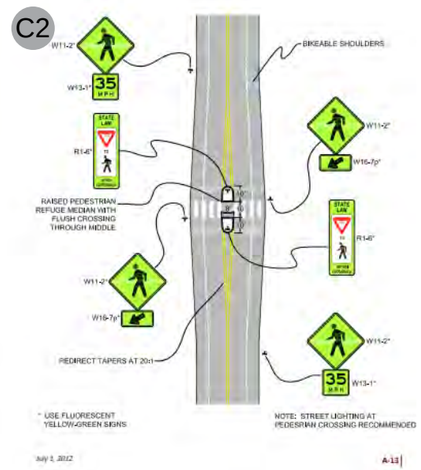
- Crossings locations are noted on the diagram above (C1, C2) and corresponding diagrams of these crossing types can be seen to the right

Crossings:

C1

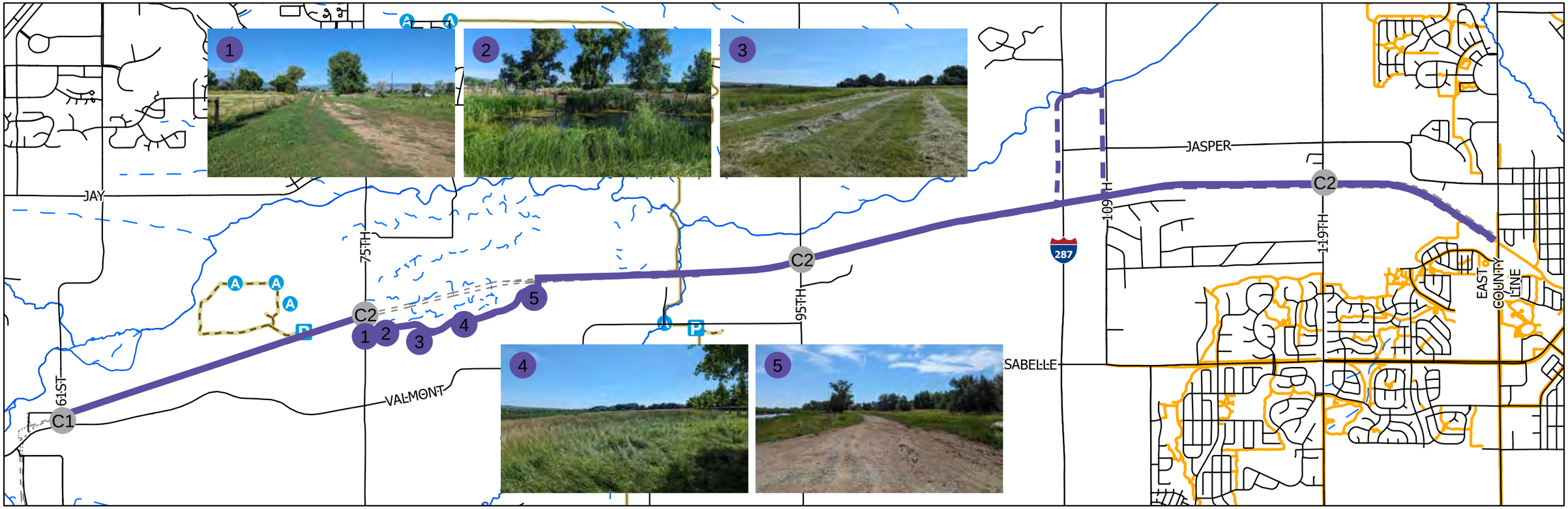


C2



BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

RTD ROW/OSMP ALIGNMENT (3)

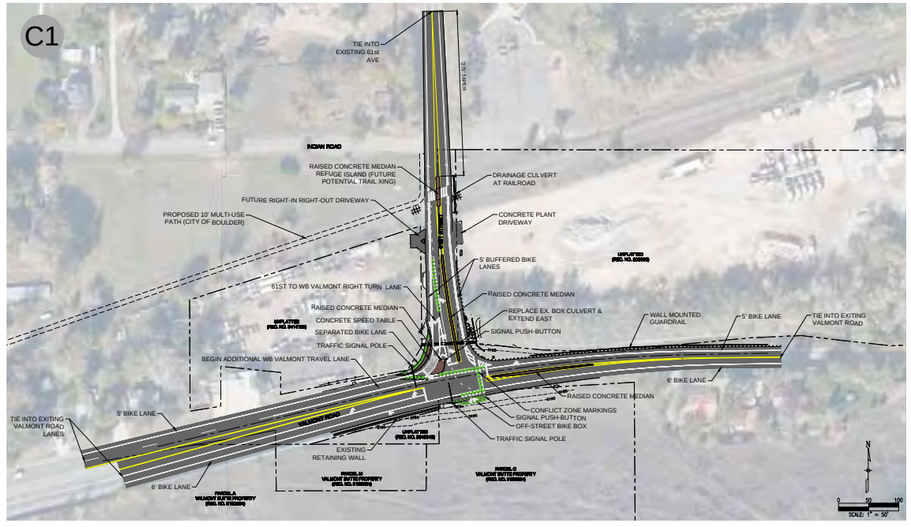


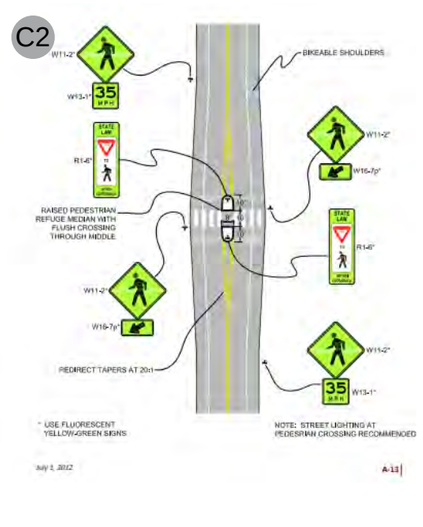
Notes:

- (3) - alignment is a combination of RTD ROW and OSMP:
  - **61st to 75th** - RTD ROW & CPW/OSMP road to Sawhill Ponds
  - **RTD ROW to OSMP Route (along 75th)** - BOCO Road ROW/OSMP property
  - **75th to 95th** - OSMP property & RTD ROW
  - **95th to Erie** - RTD ROW

- Crossings locations are noted on the diagram above (C1, C2) and corresponding diagrams of these crossing types can be seen to the right

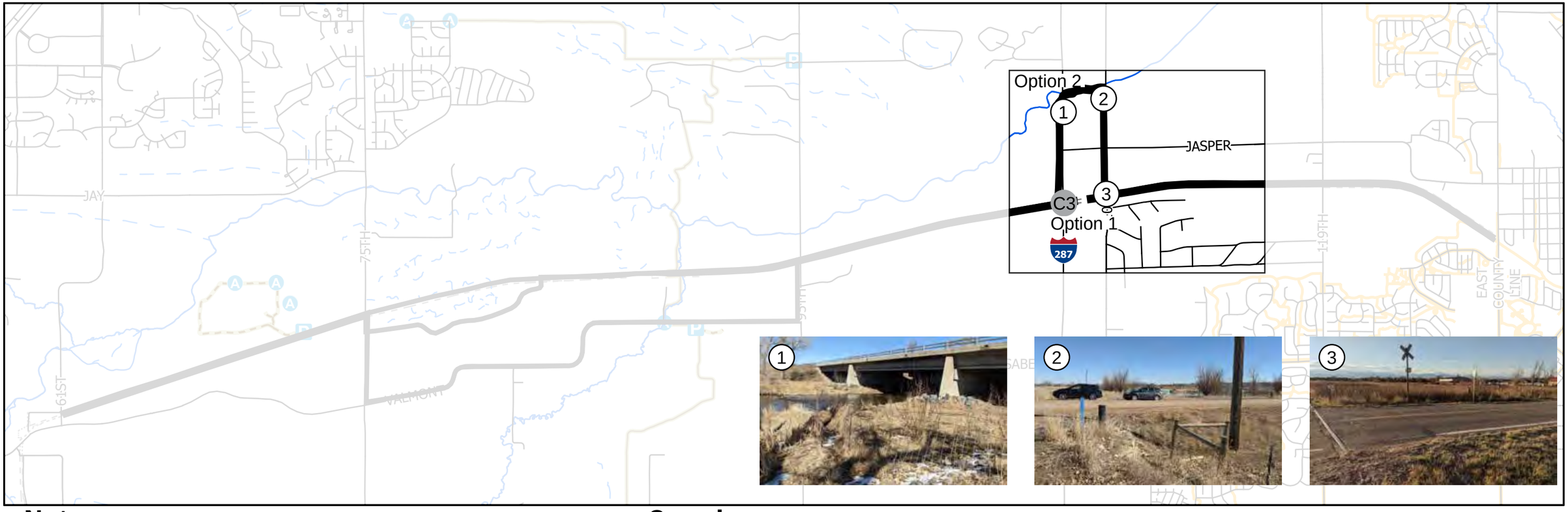
Crossings:





BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

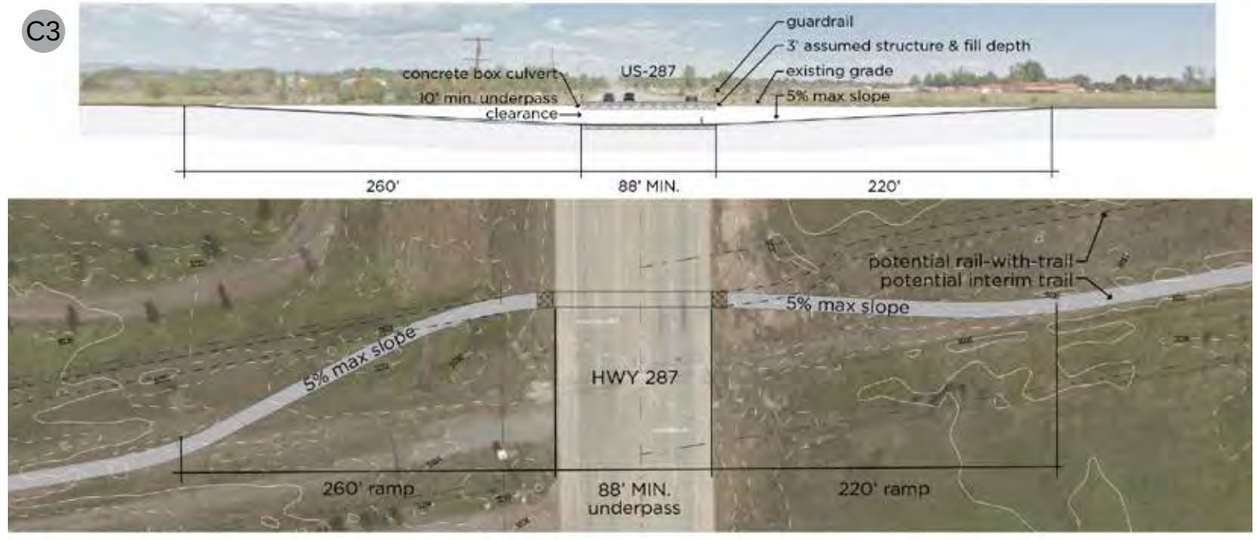
HWY 287 CROSSING (2 OPTIONS)



Notes:

- Two options are being considered for crossing Hwy 287:
  - Option 1 - an underpass in line with the RTD ROW under the road
  - Option 2 - a route that goes along Hwy 287 up to the existing Boulder Creek crossing under 287 and uses that to get the trail under 287
    - This route would then go along Boulder Creek until it reached 109th and then take 109th back to the RTD ROW.

Crossings:



SUMMARY OF INPUT ON REFINED INITIAL CONCEPTUAL ALIGNMENTS:

RTD Meeting - Plan Discussion

- Date: February 2, 2024
- Key Takeaways:
  1. The rails must remain intact
  2. In future phases a license agreement and lease will be necessary to use the RTD right-of-way
  3. RTD is generally in favor of the project and do not have any major concerns at this time

Steering Committee Meeting

- Date: February 26, 2024
- Key Takeaways:
  1. Support evaluation of refined concepts as an accurate reflection of the strengths and weaknesses of each alignment

RTD Meeting 1 - Alignment Discussion

- Date: March 1, 2021
- Key Takeaways:
  1. Support for preliminary cross sections
  2. Consider engaging Colorado Public Utility Commission for crossings
  3. Include a “Revert Clause” so if RTD chooses to operate trains on the ROW, the trails would need to be returned to their current condition

Field Walk with OSMP

- Date: July 24, 2023
- Key Takeaways:
  1. Significant environmental resources located on OSMP lands
  2. There are many properties with ongoing agricultural operations in the areas visited, many gates would be needed to ensure trail user access in restricted to trail and does not interfere with agricultural operations.
  3. Current agricultural practices involving movement of cattle across areas considered for trail and efforts would be needed to ensure operations could continue

CWG Meeting

- Date: August 17, 2023
- Key Takeaways:
  1. Consider flooding that exists amongst many trails and can be accommodated by user habits (e.g. dismounting bicycles and horses, sharing safe temporary alternatives)
  2. Support trail safety by staying in the RTD right-of-way and separating from vehicular traffic
  3. Improve visitor experience by staying in the RTD right-of-way
  4. Use existing infrastructure of the RTD right-of-way for cost-efficiency, time-efficiency, and sustainability
  5. Consider recreational and nature viewing in detours from the RTD right-of-way

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

Public Open House (In-Person)

- Date: September 13, 2023
- Key Takeaways:
  1. Prefer Alignments 1 and 3 due to route directness, the safety of being removed from road traffic, and an anticipated enjoyable viewshed in the RTD right-of-way
  2. Concern around sensitive ecosystems, wildlife, and/or culturally significant sites near the RTD right-of-way between 61st St. and 75th St.
  3. Support for the Boulder Creek and Hwy 287 Underpass alignments

Corridor Walk With CWG/Public

- Date: November 9, 2023
- Key Takeaways:
  1. Consider how to mitigate conflicts between user types, particularly the safety implications given the speed differential between people walking and people on bikes/e-bikes
  2. Support adjacent neighbors, for example by designating access areas, providing natural screening, reducing disturbances to wildlife
  3. Use crosswalks over industrial roads
  4. Design for access to other trail connections
  5. Seek opportunities to reduce delays in advancing the project

Online Survey of Local Populations (full survey found in Appendix)

- **Introduction:** The purpose of this survey was to provide public input into the selection of conceptual trail alignment(s) for further consideration and understand how members of the public who live near the proposed trail alignments feel about the proposed trail. An online survey was developed to gather the following information:
  1. Current activity participation and frequency of activities that would align with the proposed trail;
  2. Current commuting behavior using transportation options that could be accommodated on the proposed trail;
  3. Support for or opposition to the trail in the proposed corridor;
  4. Preferred trail alignment(s) for further consideration from three proposed alignments;
  5. Preferred US 287 crossing option;
  6. Intent to use the trail, and intended use and use frequency;
  7. Proximity of residence to the proposed trail corridor
  8. Participation in public outreach opportunities about the trail’s development; and
  9. Respondent characteristics

- **Methods:**

Survey Methods:
An online survey was offered to residents and landowners near the proposed trail corridor. The survey was administered online using the Qualtrics survey platform. The survey was self-administered on respondents' personal internet connected devices

Sampling Effort:
The visitor survey was available for completion online during a 13-day sampling period, from October 31, 2023 through November 12, 2023.

Survey Instrument Design:
The Survey instrument was designed by the project team in coordination with Boulder County community planners. Questions included in the questionnaire were designed using best practices for standard survey design. The majority of the questions included in the survey instrument asked visitors to choose answers from a list of response options, providing an open-ended option, where appropriate, to ensure that question prompts allowed for inclusive answers.

Sampling Procedures:
As mentioned above, the online survey was administered to residents and landowners near the proposed trail corridor. A list of 2,823 nearby properties, and associated mailing addresses was obtained from the Boulder County land records office. Each address on the list was mailed a postcard inviting an adult at each address to respond to the online survey, using a unique survey URL provided on the postcard. The postcard invitation also briefly explained why the household was chosen for the survey. If an individual at an address completed and submitted a survey response, no other submissions were accepted from that URL, that is, only one response from each address was allowed.

The online survey contained a brief introduction to the purpose of the study and the BERT proposal. Respondents were then asked questions about current activities and commuting behavior that might align with trail use, their level of support or opposition to the trail, their preferred trail alignment(s) for further consideration, their intended type of use and frequency of use of the trail if constructed, their participation in the trail planning process, and relevant demographic questions.

Sampling Results:
During the 13-day sampling period, 482 respondents participated in the online survey, with a total of 452 respondents completing the survey, meaning survey estimates have a margin of error of +/- 5%. The sampling frame contained 2,823 addresses, meaning the survey achieved a response rate of 16%.

Limitations:
This study has limitations to consider when interpreting the results.

1. The sample was drawn from landowners and residents proximate to the proposed trail corridor. Therefore, the responses represent that group of residents, and don't necessarily represent othr residents outside the sample area.
2. The response rate for the survey was 16%, meaning 84% of the sampling frame chose not to respond to the survey. There is a possibility of non-response bias, that is the members of the sampling frame who chose not to respond to the survey, may differ in meaningful ways from those who chose to respond.
3. Sample size may vary for some questions due to item non-response (i.e., one or more questions skipped by a respondent or based on skip logic programmed into the questionnaire), or as a result of data cleaning procedures. Therefore, refer to both the percentage and sample values when interpreting the results.
4. The survey was administered prior to the completion of the alignments evaluated before impacts of each of the alignments was clearly understood. The description of Alignment C inaccurately represented the level of impacts to natural resources associated with this alignment making it unclear whether support for this alignment would be as strong if the extent of the impacts had been understood and communicated at the time of the survey.

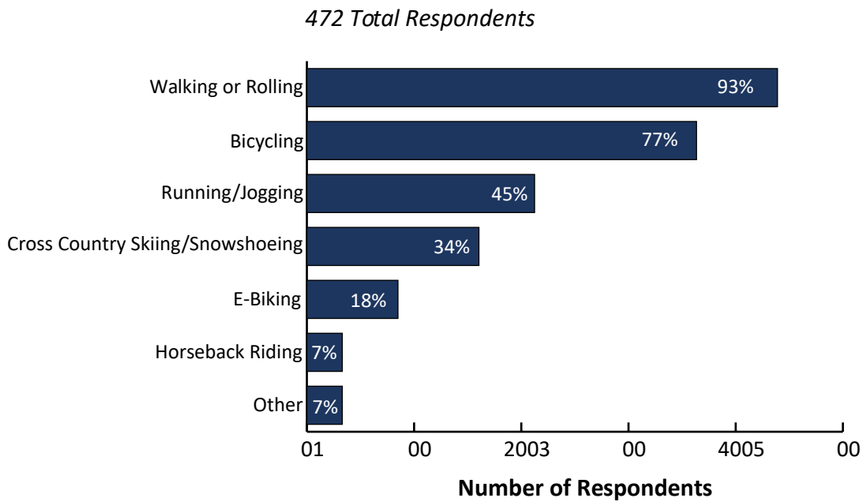
BOUDLER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

- **Results:**
  The following online survey results are generally presented in questionnaire order and include the question number, the question sub-sample, the question text, select bulleted information, and data figures and tables.

  It should be noted, due to rounding, the percentages summarized in the bulleted information may not exactly match manual summation of the percentages presented in the tables. The percentages in figures and table may not sum to 100 percent due to rounding, or in cases where survey respondents were instructed to select all response options that apply.

Q1: ***Do you currently enjoy any of the following activities? (Select all that apply)***
Question 1 was asked of all respondents.

Current Activities

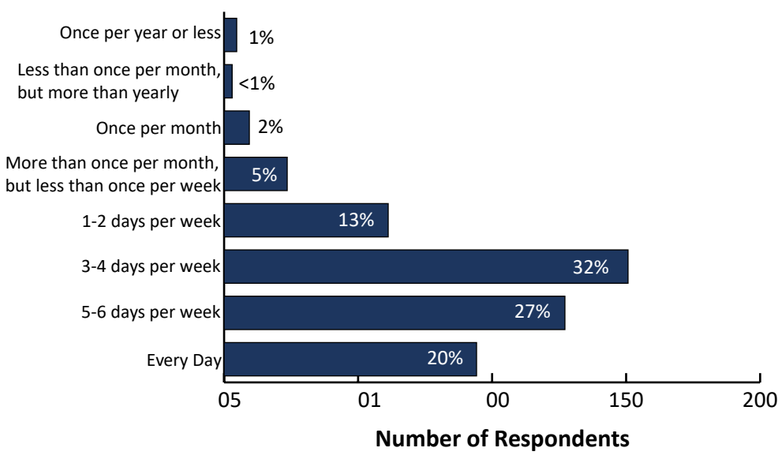


- A majority of respondents currently enjoy walking or rolling (93%) and bicycling (77%), while more than one-third of respondents reported running or jogging (45%) and cross-country skiing or snowshoeing (34%).
- Less than one in five respondents reported E-biking (18%), and an even smaller percentage reported horseback riding as an activity in which they participate.
- The table below lists other activities respondents mentioned. Notably, nine respondents mentioned running or walking with their dogs.
- Respondents tend to be active in the activities in which they participate. Nearly half of respondents (47%) reported participating in the activities listed above five or more days per week, while about eight out of ten respondents (79%) indicated they participated in activities three or more days per week.

BOUDLER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

Q1a: ***How often do you typically participate in any of these activities? (Select one)***
Question 1a was asked of respondents who indicated they participated in an activity in Question 1.

Frequency of Participation

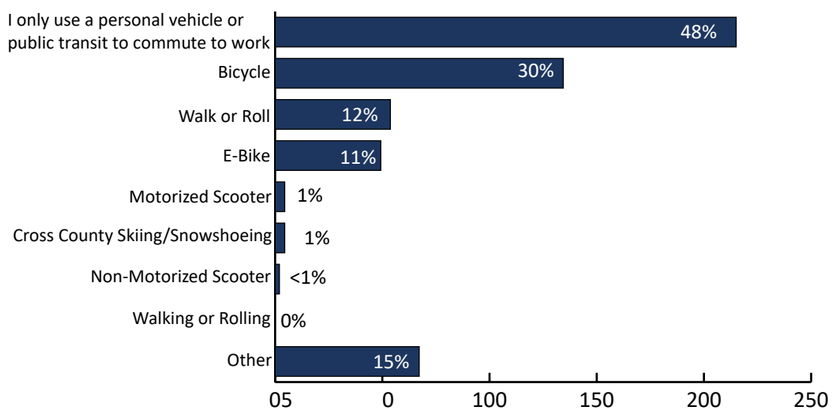


Q2: ***Please select the forms of transportation other than a personal vehicle or public transit that you use to commute to work. (Select all that apply)***

Question 2 was asked of all respondents.

Transportation Used to Commute

448 Total Respondents



Number of Respondents

- Respondents were asked about their commuting behavior. Nearly half of all respondents (48%) indicated that they only commute to work either in a personal vehicle (car, truck, or SUV), or using public transit. However, nearly one-third of respondents (30%) indicated they use a bicycle to commute to work, while 12% walk or roll, and 11% use an E-bike.
- The table on the following page lists other responses about commuting behavior. Roughly 12% of respondents indicated they don't commute to work. Notably, 33 respondents indicated that they are retired and therefore no longer commute to work, while 16 respondents indicated they work from home and therefore don't commute to work.

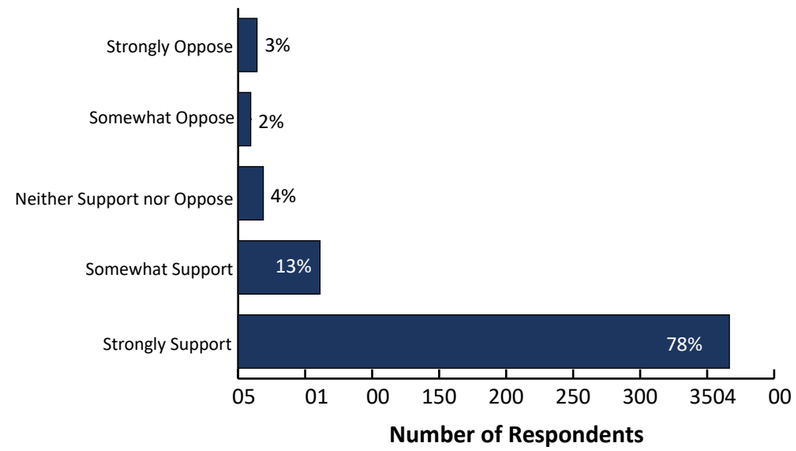
BOUDLER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

Q3: ***In concept, do you suppot a trail in the general corridor described above? (Select one)***

Question 3 was asked of all respondents.

Support for Trail Concept

470 Total Respondents

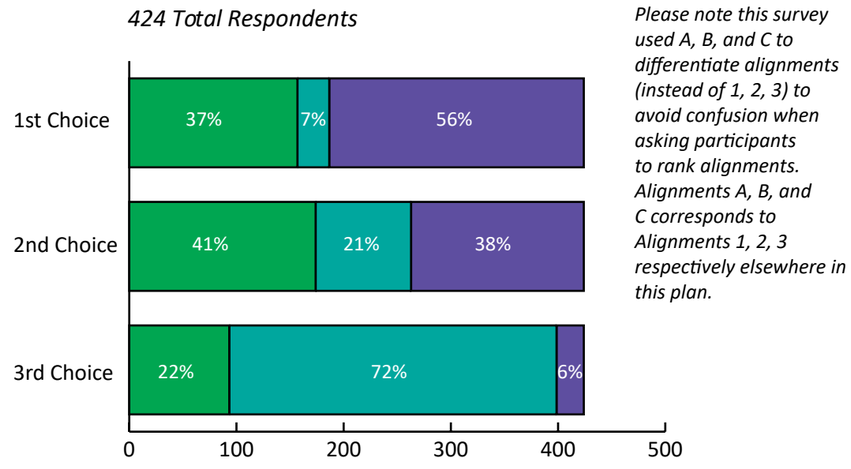


Number of Respondents

- Nine out of ten respondents support the BERT in concept, with 78% strongly supporting it, and an additional 13% somewhat supporting the trail.

Q4: ***Please rank the trail alignment options from most preferred to least preferred.***
Question 4 was asked of all respondents.

Alignment Preferences



Please note this survey used A, B, and C to differentiate alignments (instead of 1, 2, 3) to avoid confusion when asking participants to rank alignments. Alignments A, B, and C corresponds to Alignments 1, 2, 3 respectively elsewhere in this plan.

- Trail Alignment C (alignment partially on OSMP lands between 75th and 95th) was ranked the highest with a majority of respondents (56%) ranking it as their top choice.
- Trail Alignment A (alignment entirely within RTD right-of-way) was the second most highly ranked proposed trail alignments, with 37% ranking it as their top choice.
- Trail Alignment B (alignment on Valmont between 75th and 95th) was the least preferred of the three trail alignments with only 7% of respondents ranking it as their top choice, and 72% ranking it as their third choice.
- Trail Alignment C was preferred by respondents with the lowest mean and median ranking score, demonstrating a higher percentage of respondents ranked it as their number one choice, followed by Trail Alignment A which respondents ranked as their second choice, followed Trail Alignment B which respondents ranked as their third choice.

Note: it is important to note that the description of Alignment C (alignment partially on OSMP lands between 75th and 95th) overstated the benefits to ecological resources in the area and makes it seem like it is more environmentally/habitat friendly than Alignment A. When proposing the routes outside of the RTD ROW (Alignment A), the primary goal was to explore other potential options in the hope of finding a less ecologically impactful way to connect Erie and Boulder with a regional trail. Because Alignment C avoided areas of ecological concern in the RTD ROW, it was initially believed that Alignment C could be less ecologically impactful option. After studying the alignments with project parters, it was determined that Alignment C likely has the greatest ecological impact based on existing data.

- While it is clear from the survey that Alignment B was the least preferred (considering on-trail safety and visitor experience), it is less clear that Alignment C would still be the most preferred considering its impacts to natural resources because two of the four top factors respondents indicated influenced their choice of the preferred alignment(s) for further consideration were: protection of wildlife habitat (40%) and protection of the environment (35%).

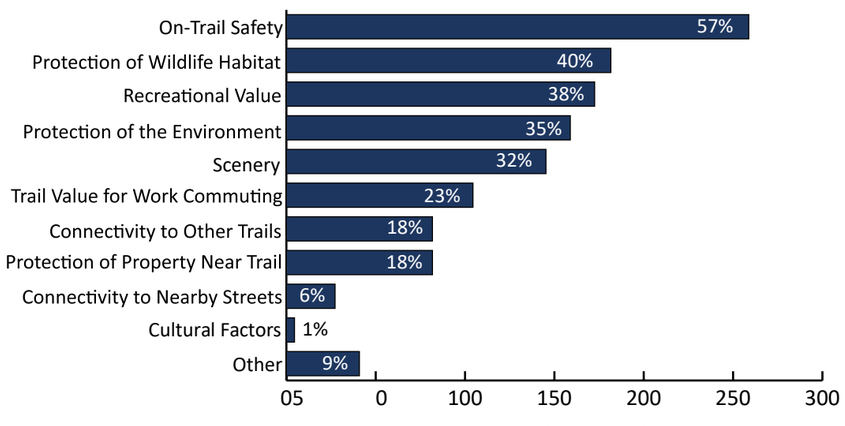
BOUDLER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

Q5: ***Please choose no more than three of the factors from the list below that influenced your decision about your preferred trail alignment option (your top choice in the previous question). (Select up to three factors)***

Question 5 was asked of all respondents.

Alignment Preference - Decision Factors

454 Total Respondents



- Respondents were asked to indicate up to three decision factors that influenced their choice of top trail alignments in the previous question. A majority of respondents (57%) indicated that on-trail safety influenced their choice of preferred trail alignment(s) for further consideration. More than one-third of respondents also indicated that protection of wildlife habitat (40%), recreational value (38%), and protection of the environment (35%) influenced their choice of preferred trail alignment(s) for further consideration.
- Other decision factors that influenced some respondents' choice of preferred trail alignment(s) for further consideration can be found in the Appendix

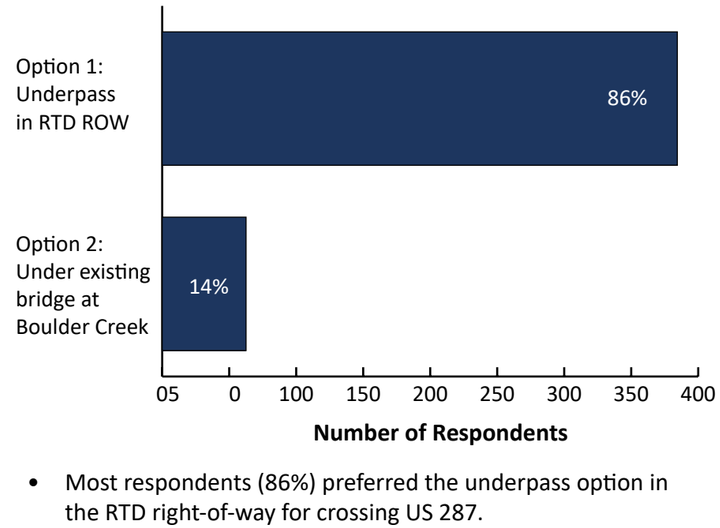
BOUDLER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

Q6: ***Which of the two options for crossing US 287 do you prefer? (Select one)***

Question 6 was asked of all respondents.

Preferred US 287 Crossing Option

447 Total Respondents



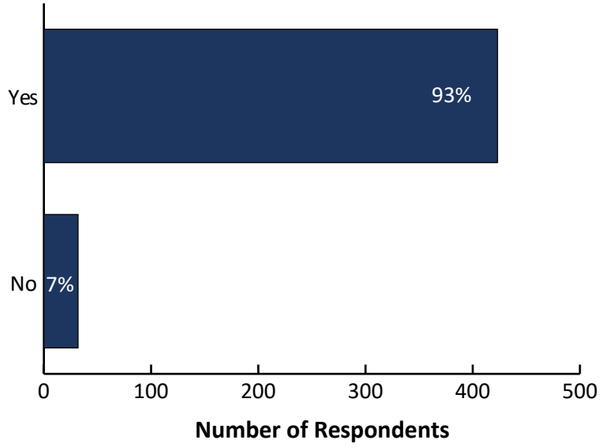
- Most respondents (86%) preferred the underpass option in the RTD right-of-way for crossing US 287.

Q7: ***Would you use the trail if built? (Select one)***

Question 7 was asked of all respondents.

Intent to Use BERT

455 Total Respondents

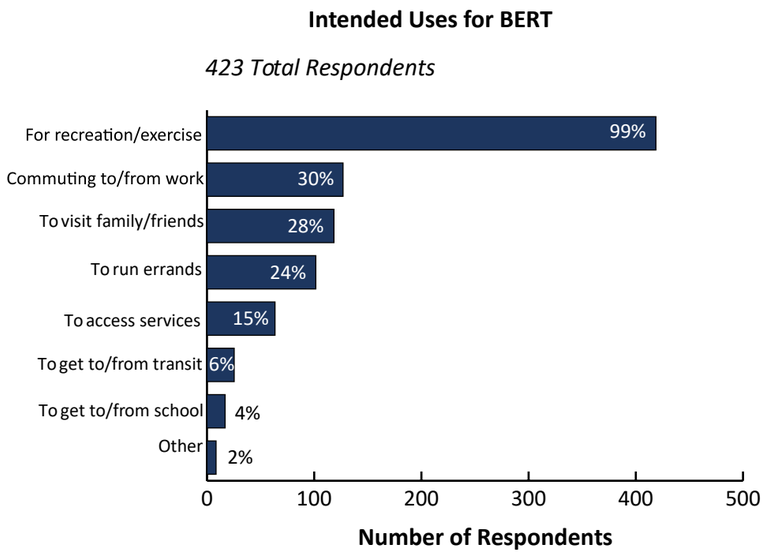


- Most respondents (93%) indicated that they intended to use the BERT if it is built.
- Nearly all respondents who indicated they intended to use the BERT (99%) indicated that they intended to use the trail for recreation/exercise.
- Smaller percentages of respondents indicated that they intended to use the trail for commuting to/from work (30%), to visit family/friends (28%), to run errands (24%), and to access services (15%). Less than 10% of respondents indicated any other intended used of the trail.
- Other potential uses for the BERT that respondents listed can be found in the full survey report in the Appendix.
- A majority of respondents (79%) indicated they would use the BERT primarily for recreation/exercise, with 33% indicating they would use the trail exclusively for recreation/exercise, while 46% indicated they would use the trail mostly for recreation/exercise, but might also use the trail for transportation purposes.
- A majority of respondents (52%) indicated that they expect to use the BERT between one and four days per week, with 26% indicating 1-2 days per week, and 26% indicating 3-4 days per week. An additional 24% of respondents indicated they expect to use the trail more than once per month, but less than once per week. In all, 90% of respondents expect to use the trail more than once per month.
- The small number of respondents who indicated they do not intend to use the BERT were asked to indicate some of their reasons for not using it. Nearly a quarter of respondents who do not intend to use the trail (22%) indicated that they would not feel safe on the trail.
- A majority of respondents who indicated they do not intend to use the BERT (62%) listed another reason for not using the trail. These reasons are shown in the full survey report in the Appendix.

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

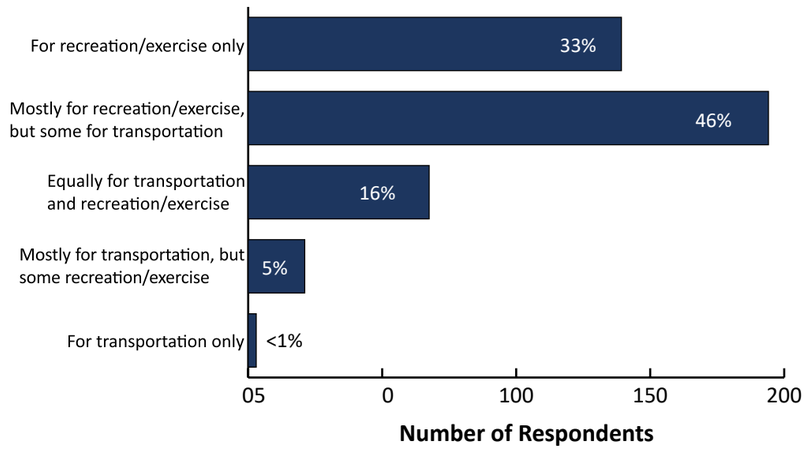
Q7a: ***How would you use the trail? (Select all that apply)***

Question 7a was asked of respondents who indicated they intended to use the trail in Question 7.



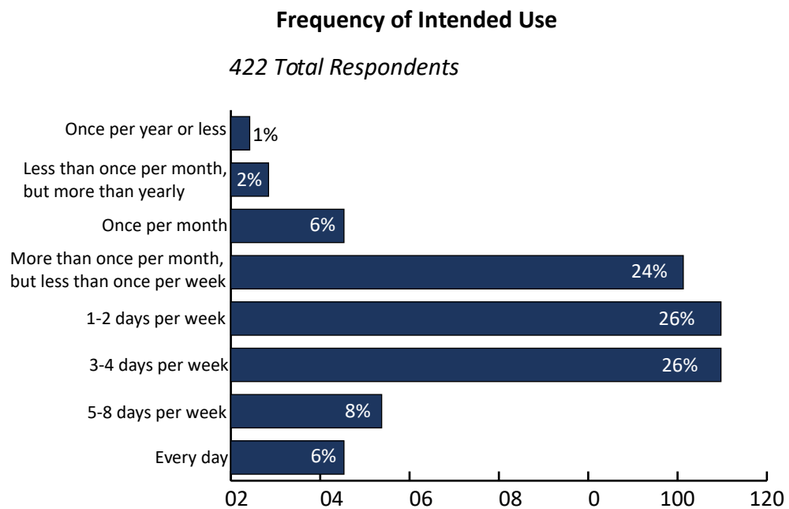
Q7b: ***Do you intend to use the trail more for transportation or for recreation/exercise? (Select one)***

Question 7b was asked of respondents who indicated they intended to use the trail in Question 7.



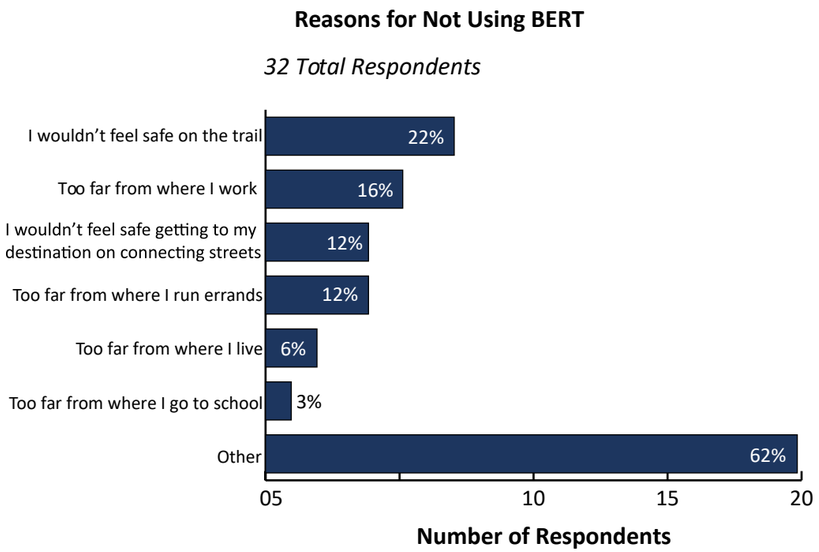
Q7c: *About how often would you use the trail if it were built? (Select one)*

Question 7c was asked of respondents who indicated they intended to use the trail in Question 7.



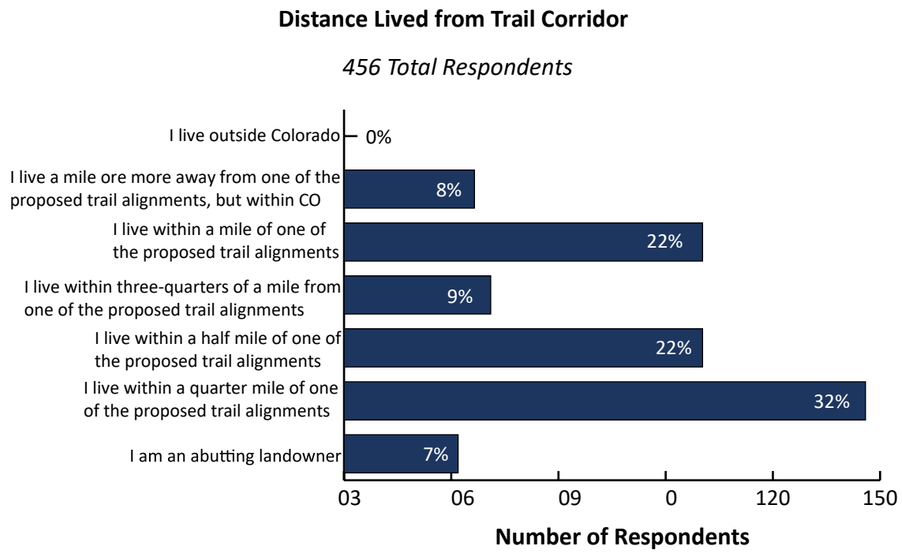
Q7d: *Why would you choose not to use the trail? (Select all that apply)*

Question 7d was asked of respondents who indicated they did not intend to use the trail in Question 7.



Q8: *Approximately how close do you live to any of the proposed trail alignments? (Select one)*

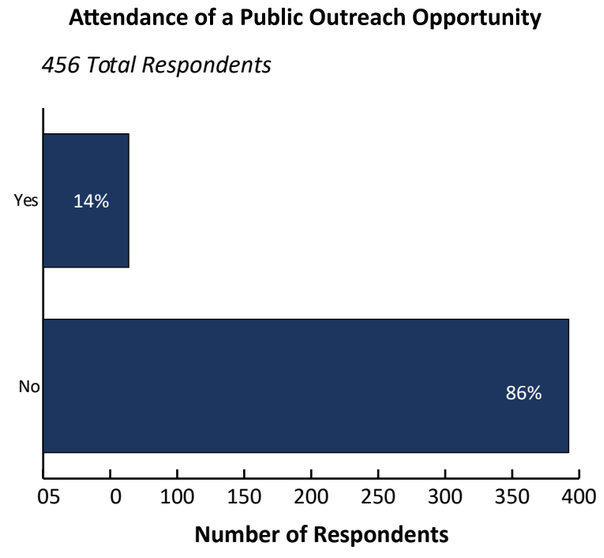
Question 8 was asked of all respondents.



- A majority of respondents (61%) live within a half mile of one of the proposed trail alignments.

Q9: ***Have you participated in any of the public outreach opportunities about the development of this trail? (Select one)***

Question 9 was asked of all respondents.



- A relatively small percentage of respondents (14%) have previously participated in any of the public outreach opportunities about the development and planning of the BERT trail.

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

ALIGNMENT EVALUATION

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

EVALUATION CRITERIA

In order to evaluate the conceptual alignments and best understand the trade-offs between them, evaluation criteria were developed through coordination with project partners to serve as the foundation for the analysis and its outcomes. These evaluation categories and considerations can be seen below.

EVALUATION CATEGORIES	Safety	Ecological Resources	Cultural Resources	Agricultural Resources	Implementation	Maintenance	Adjacent Property Considerations	Trail User Experience
EVALUATION CONSIDERATIONS	1. Roadway Crossings 2. Hwy 287 Crossing 3. Driveways and Other Access Crossings 4. User Sight Distances	1. Fragmentation of Designated Habitat caused by BERT 2. Wetlands 3. T&E or Species of Management Interest Habitat 4. Introduction of Invasive Species 5. Floodplains/Floodplain Resource Management	1. Proximity to Cultural Sites	1. Agricultural Use, Productivity, and Management 2. Ditch and Lateral Access, Operations, and Maintenance	1. Uses Existing Facilities/Rights of Way 2. Compatibility with Future Development/ Redevelopment 3. Constructions Costs 4. Mitigation Costs 5. Permitting 6. Ease/Speed of Implementation 7. Construction Impacts	1. Maintenance Costs	1. Availability of property owned by either Boulder County or RTD, as the primary project partners, to complete the project 2. Need for Use of Other Public Lands 3. Need for Use of Private Property 4. Adjacent Land Use	1. Directness of Alignment 2. Recreation Value 3. Connectivity to Existing or Potential Trailheads, Trails, and other Routes 4. Connectivity to User Starting Points and/or Destinations 5. Trailheads 6. Interpretive Opportunities

These considerations were reviewed and discussed amongst the project team and participating project partners to ensure that they represent a complete list of factors relevant to the assessment of trail alignments through this corridor. Definitions of each consideration were also developed and reviewed in coordination with project partners so there was a shared understanding and consistency in the way that each conceptual alignment was to be evaluated with respect to each consideration based on the information available at this stage in the project process. Further information generated in future phases will augment this evaluation and provide further necessary detail for actual design and construction. A full Evaluation Criteria Definitions document can be found in Appendix X of this report.

Once these considerations and the corresponding definitions were in place, the four alignments were evaluated accordingly by the project team initially and then reviewed by project partners and further refined. Due to the conceptual nature of the alignments and the data available at this stage, alignments received rankings of “Highly Favorable,” “Favorable,” “Neutral,” “Unfavorable,” or “Highly Unfavorable,” for each consideration, as shown in the Key diagram to the right. The following pages break the evaluation down by evaluation category - Safety, Resource Considerations, Implementation and Maintenance, Adjacent Property Considerations, and Trail User Experience - and show how each alignment or crossing was ranked for each consideration. They also include a chart with a definition summary for each consideration giving some context to how a rank was determined for each along with associated comments explaining the reasoning for and factors relevant to the ranking each received.

KEY
Highly Favorable
Favorable
Neutral
Unfavorable
Highly Unfavorable

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

SAFETY

The safety category includes considerations focused primarily on the various crossings that would be required and the likely sight distances for each alignment and crossing option.

The chart below shows how all the conceptual alignments and 287 crossing options were ranked for each of the considerations in the safety category. Conceptual Alignments 1A and 1B ranked the same across the safety category with Conceptual Alignment 3 being very similar as well except for the sight distances category as it is an alignment with more curves. Conceptual Alignment 2, scored mostly "Unfavorable" in this safety category due to its proximity to a busy road, and its many driveway crossings, and potential sight impediments.

Both of the 287 crossing options also ranked the same with regard to roadway crossings since they both cross under 287 in similar manners, just different locations. Option 2 ranks "Unfavorable" for the driveway and user sight considerations since that option is longer and more curved requiring more crossings and reduced sight distances.

Additional details on these rankings can be seen in the chart below.

EVALUATION CATEGORIES	**EVALUATION CONSIDERATIONS**	**CONCEPTUAL ALIGNMENT 1A** *RTD ROW with minimal railbed crossovers*	**CONCEPTUAL ALIGNMENT 1B** *RTD ROW with railbed potential*	**CONCEPTUAL ALIGNMENT 2** *Valmont*	**CONCEPTUAL ALIGNMENT 3** *OSMP Property*	**287 CROSSING OPTION 1** *Underpass*	**287 CROSSING OPTION 2** *Boulder Creek*
Safety	Roadway Crossings						
	Hwy 287 Crossing						
	Driveways and Other Access Crossings						
	User Sight Distances						

EVALUATION CONSIDERATIONS	**DEFINITION SUMMARY**	**NOTES**					
		CONCEPTUAL ALIGNMENT 1A *RTD ROW with minimal railbed crossovers*	**CONCEPTUAL ALIGNMENT 1B** *RTD ROW with railbed potential*	**CONCEPTUAL ALIGNMENT 2** *Valmont*	**CONCEPTUAL ALIGNMENT 3** *OSMP Property*	**287 CROSSING OPTION 1** *Underpass*	**287 CROSSING OPTION 2** *Boulder Creek*
Roadway Crossings	***Alignments/crossings with fewer crossings of busy roads, especially at un-signalized intersections, ranked higher.***	5 crossings - 4 crossings with county standard for 2-lane rural roadway with speed limit >/= 35mph and 1 of low enough traffic volume/speed to not have set standard	5 crossings - 4 crossings with county standard for 2-lane rural roadway with speed limit >/= 35mph and 1 of low enough traffic volume/speed to not have set standard	Potential need for additional crossings across Valmont depending on which side of 75th and Valmont the trail is located on; further study on preference for crossings at ROW or at 95th intersection required during design	5 crossings - 4 crossings with county standard for 2-lane rural roadway with speed limit >/= 35mph and 1 of low enough traffic volume/speed to not have set standard	No roadway crossings as 287 is crossed under the road	No roadway crossings, 287 is crossed under existing bridge and route back to RTD ROW along 109th anticipated to be on west side of 109th so no crossing of 109th would be required.
Hwy 287 Crossing	***All alignments cross 287 in the same location, details of crossing options evaluated separately***	*See separate evaluation of 287 crossing*	*See separate evaluation of 287 crossing*	*See separate evaluation of 287 crossing*	*See separate evaluation of 287 crossing*	287 crossing is under the road, and is therefore protected from vehicle interaction and related accidents	287 crossing is under the road, and is therefore protected from vehicle interaction and related accidents
Driveways and Other Access Crossings	***Alignments/crossings with fewer crossings of driveways or access crossings, especially those that are heavily used or particularly frequented by large vehicles ranked higher.***	Approximately 24 potential crossings of alignment depending on use patterns, at least one of which is a heavily used private industrial access point	Approximately 24 potential crossings of alignment depending on use patterns, at least one of which is a heavily used private industrial access point	Approximately 61 potential crossings depending on use patterns, at least one of which is a heavily used private industrial access point and many of which are private driveways along Valmont	Approximately 23 potential crossings of the alignment depending on use patterns, at least one of which is a heavily used private industrial access point	Crossing goes under 287 within the RTD ROW so additional driveways or other access crossings are not present.	Due to route along 287 up to Boulder Creek and down along 109th there are additional road and access point crossings
User Sight Distances	***Straighter alignments/ crossings with large radius turns as opposed to right angles and fewer potential sight line obstructions like structures, trees, and topography rank higher.***	Route is straight with minimal obstructions	Route is straight with minimal obstructions	Route contains curves adjacent to high speed traffic and ROW adjacent to Valmont contains significant private trees/ landscaping along the route as well.	Route has more curves but is still overall straight and unobstructed.	Crossing is straight with significant approaches required so sight distances should be good despite grade change to go under 287	More curves/turns in the route that could decrease sight distances

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

ECOLOGICAL RESOURCES

The ecological resources category focuses on fragmentation of designated habitat, impacts to wetlands, floodplains, species of management interest, and introduction of invasive species.

The chart below shows how all the conceptual alignments and 287 crossing options were ranked for each of the considerations in the category. Overall alignments 1A, 1B and 3 all ranked similarly with 1B having one less “Highly Unfavorable” ranked consideration. Alignment 2 contained more “Favorable” ranked categories than the rest due to its location in an already disturbed and generally less environmentally sensitive area.

287 crossing option 2 is also contained more “Unfavorable” ranked categories for ecological resources since it would be directly adjacent to Boulder Creek with more potential for impact of environmentally sensitive areas. Recent restoration work has also occurred in this area that would potentially be impacted. Taking additional trail through these areas could cause increased fragmentation of designated habitat, impacts to wetlands, species habitat, and floodplains in the areas closer to Boulder Creek. Such impacts are less if the crossing goes straight under Hwy 287 while remaining in the RTD ROW.

Additional details on these rankings can be seen in the chart below.

EVALUATION CATEGORIES	**EVALUATION CONSIDERATIONS**	**CONCEPTUAL ALIGNMENT 1A** *RTD ROW with minimal railbed crossovers*	**CONCEPTUAL ALIGNMENT 1B** *RTD ROW with railbed potential*	**CONCEPTUAL ALIGNMENT 2** *Valmont*	**CONCEPTUAL ALIGNMENT 3** *OSMP Property*	**287 CROSSING OPTION 1** *Underpass*	**287 CROSSING OPTION 2** *Boulder Creek*
Ecological Resources	Fragmentation of Designated Habitat cause by BERT						
	Wetlands						
	T&E or Species of Management Interest Habitat						
	Introduction of Invasive Species						
	Floodplains/Floodplain Resource Management						

EVALUATION CONSIDERATIONS	**DEFINITION SUMMARY**	**NOTES**					
		CONCEPTUAL ALIGNMENT 1A *RTD ROW with minimal railbed crossovers*	**CONCEPTUAL ALIGNMENT 1B** *RTD ROW with railbed potential*	**CONCEPTUAL ALIGNMENT 2** *Valmont*	**CONCEPTUAL ALIGNMENT 3** *OSMP Property*	**287 CROSSING OPTION 1** *Underpass*	**287 CROSSING OPTION 2** *Boulder Creek*
Fragmentation of Designated Habitat caused by BERT	***Alignments/crossings with less fragmentation and lower likelihood of adverse impacts in areas previously/currently designated as significant from future trail use ranked higher.***	ROW runs through same HCA and this is the case regardless of whether the trail is on either side of the rail bed or on top of it. Though the impacts from this alignment would be slightly fewer than those from Alignment 3, the impacts would still be highly unfavorable. The introduction of additional activity in the area increases the fragmentation effect from the existing sole physical effects of an unused railbed.	ROW runs through same HCA and this is the case regardless of whether the trail is on either side of the rail bed or on top of it. Though the impacts from this alignment would be slightly fewer than those from Alignment 3, the impacts would still be highly unfavorable. The introduction of additional activity in the area increases the fragmentation effect from the existing sole physical effects of an unused railbed.	Route passes at the edge of areas designated as “Natural Areas, Habitat Conservation Areas, and through areas designated as “Conservation Easements.” Since route is at the edges fragmentation is reduced.	Route through OSMP land runs through the HCA in a different location than the RTD ROW. There is still significant fragmentation of ag and habitat, and the operations are not distinct on either side. It also cuts through northern harrier marsh The ROW is a fenced corridor and it is different than a cut through the OSMP HCA. The introduction of additional activity in the area along the ROW and on OSMP lands increases the fragmentation effect from the existing sole physical effects of an unused railbed.	RTD ROW has County Conservation Easement land with agricultural uses on either side, with underpass crossing under 287 this is little disturbed	The diversion up from the RTD ROW to Boulder Creek and then back down to the RTD ROW on the other side bring the trail through more area designated as a County Conservation Easement

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

ECOLOGICAL RESOURCES

EVALUATION CONSIDERATIONS	DEFINITION SUMMARY	NOTES					
		CONCEPTUAL ALIGNMENT 1A *RTD ROW with minimal railbed crossovers*	**CONCEPTUAL ALIGNMENT 1B** *RTD ROW with railbed potential*	**CONCEPTUAL ALIGNMENT 2** *Valmont*	**CONCEPTUAL ALIGNMENT 3** *OSMP Property*	**287 CROSSING OPTION 1** *Underpass*	**287 CROSSING OPTION 2** *Boulder Creek*
Wetlands	***Alignments/crossings with less interaction and fewer likely challenges related to wetland areas ranked higher.***	Given that this route runs on either side of the existing rail bed, which has been observed to be wet, it is assumed that there would be wetlands in the area, the details of which will be surveyed during the design phase.	The option to be on the rail bed in particularly wet areas provides additional land to work with and more options to avoid wetlands where possible. However, retaining walls/footings, etc. on either side of tracks would still be required and these would likely still create wetland impacts.	While this route avoids some areas observed to be particularly wet between 75th and 95th, there would still be impacts in the areas around Sawhill and along the segments of the alignment that are common to all alignments.	Based on OSMP data on Wetlands Derived from Vegetation on OSMP land, there are significant wetlands impacts on this route.	No additional known wetlands in this area beyond impacts in the areas around Sawhill and along the segments of the alignment that are common to all alignments.	Possibility of wetlands closer to Boulder Creek in addition to the areas around Sawhill and along the segments of the alignment that are common to all alignments.
T&E or Species of Management Interest Habitat	***Alignments/crossings with less likely impacts to species of management interest and their associated habitats ranked higher.***	While environmental survey has not been conducted in the RTD ROW corridor, there is known T&E or Species of Management Interest Habitat directly adjacent to the ROW corridor. Impacts to T&E or Species of Management Interest are likely to be similar to those associated with Alignment 3 given the introduction of additional activity into the area. The presence of nesting birds and other species of management interest could result in seasonal trail closures.	While environmental survey has not been conducted in the RTD ROW corridor, there is known T&E or Species of Management Interest Habitat directly adjacent to the ROW corridor. Impacts to T&E or Species of Management Interest are likely to be similar to those associated with Alignment 3 given the introduction of additional activity into the area. The presence of nesting birds and other species of management interest could result in seasonal trail closures.	This route is at the edge of known T&E or Species of Management Interest Habitat so the impact is reduced. Though seasonal closure due to nesting birds and other species of management interest could result in portions of the trail being closed this alignment would be the least impacted from seasonal closures.	This route runs through areas of the HCA that are currently less disturbed relative to the RTD ROW and contain known T&E or Species of Management Interest Habitat. “Impacts to T&E or Species of Management Interest will be most significant in this alignment given the introduction of additional activity into the area. The presence of nesting birds and other species of management interest could result in seasonal trail closures.	No known species in the area “though same considerations for seasonal closure due to nesting birds and other species of management interest as noted in other alignments.”	No known species in the area, greater potential for such species closer to Boulder Creek “in addition to considerations for seasonal closure due to nesting birds and other species of management interest as noted in other alignments.”
Introduction of Invasive Species	***Alignments/crossings less likely to introduce invasive species into areas of management concern ranked higher.***	The RTD ROW runs through habitat areas that could be impacted by any additional invasive species in the area. Impacts are likely to be similar to those associated with Alignment 3 with the introduction of additional activity into the area.	The RTD ROW runs through habitat areas that could be impacted by any additional invasive species in the area. Impacts are likely to be similar to those associated with Alignment 3 with the introduction of additional activity into the area.	The Valmont ROW runs at the edge of habitat areas that could be impacted by any additional invasive species in the area, therefore impacts are likely to be fewer than other alignments.	The land in this area is currently used for ag and is adjacent to a roadway which presents an existing opportunity for invasive species introduction. This trail route itself runs through habitat areas that are currently less disturbed that could be impacted by any further invasive species introduction to the area.	General area has a large highway running through it, therefore it is unlikely that a trail would introduce any additional invasive species.	General area has a large highway running through it, therefore it is unlikely that a trail would introduce any additional invasive species.
Floodplains/ Floodplain Resource Management	***Alignments/crossings with less anticipated interaction with the mapped 100 yr floodplain ranked higher.***	Route has minimal interaction with the mapped 100 yr. floodplain.	Route has minimal interaction with the mapped 100 yr. floodplain.	Route has minimal interaction with the mapped 100 yr. floodplain.	Route has minimal interaction with the mapped 100 yr. floodplain.	Area is in existing floodplain.	Area is in existing floodplain, and may have impacts to floodplain.

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

CULTURAL RESOURCES

“Cultural Resources” focuses on the proximity of the BERT alignments to known cultural sites.

The chart below shows that all the conceptual alignments and 287 crossing options were ranked the same for this consideration. All of the trail alignments were ranked “Favorable” in this category and there were not significant differences between the alignments or crossing options.

Additional details on these rankings can be seen in the chart below.

EVALUATION CATEGORIES	**EVALUATION CONSIDERATIONS**	**CONCEPTUAL ALIGNMENT 1A** *RTD ROW with minimal railbed crossovers*	**CONCEPTUAL ALIGNMENT 1B** *RTD ROW with railbed potential*	**CONCEPTUAL ALIGNMENT 2** *Valmont*	**CONCEPTUAL ALIGNMENT 3** *OSMP Property*	**287 CROSSING OPTION 1** *Underpass*	**287 CROSSING OPTION 2** *Boulder Creek*
Cultural Resources	Proximity to Cultural Sites						

EVALUATION CONSIDERATIONS	**DEFINITION SUMMARY**	**NOTES**					
		CONCEPTUAL ALIGNMENT 1A *RTD ROW with minimal railbed crossovers*	**CONCEPTUAL ALIGNMENT 1B** *RTD ROW with railbed potential*	**CONCEPTUAL ALIGNMENT 2** *Valmont*	**CONCEPTUAL ALIGNMENT 3** *OSMP Property*	**287 CROSSING OPTION 1** *Underpass*	**287 CROSSING OPTION 2** *Boulder Creek*
Proximity to Cultural Sites	***Alignments/crossings further away from known important cultural sites or areas ranked higher.***	Rail bed and tracks are historic but no known presence of other cultural resources that would preclude the feasibility of this alignment are known at this time.	Rail bed and tracks are historic but no known presence of other cultural resources that would preclude the feasibility of this alignment are known at this time.	Rail bed and tracks are historic but no known presence of other cultural resources that would preclude the feasibility of this alignment are known at this time.	Rail bed and tracks are historic but no known presence of other cultural resources that would preclude the feasibility of this alignment are known at this time.	Rail bed and tracks are historic but no known presence of other cultural resources that would preclude the feasibility of this alignment are known at this time.	Rail bed and tracks are historic but no known presence of other cultural resources that would preclude the feasibility of this alignment are known at this time.

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

AGRICULTURAL RESOURCES

Agricultural resources evaluate agricultural use, productivity and management, as well as ditch access, operations, and management.

The chart below shows how all the conceptual alignments and 287 crossing options were ranked for each of the considerations. Overall alignments 1A, 1B both ranked “Neutral” for their impacts on these considerations. Alignments 2 and 3 ranked similarly, with Alignment 2 having “Unfavorable” impacts to agricultural uses and “Highly Unfavorable” impacts to ditch and lateral access, while Alignment 3 was the opposite with “Highly Unfavorable”impacts to agricultural operations and “Unfavorable” impacts to ditch and lateral access.

Both 287 crossing options also ranked similarly in this category but option 2 had greater impacts to agricultural operations as this route along Boulder Creek would go through existing agricultural areas while the underpass would better avoid interaction with these areas.

Additional details on these rankings can be seen in the chart below.

EVALUATION CATEGORIES	**EVALUATION CONSIDERATIONS**	**CONCEPTUAL ALIGNMENT 1A** *RTD ROW with minimal railbed crossovers*	**CONCEPTUAL ALIGNMENT 1B** *RTD ROW with railbed potential*	**CONCEPTUAL ALIGNMENT 2** *Valmont*	**CONCEPTUAL ALIGNMENT 3** *OSMP Property*	**287 CROSSING OPTION 1** *Underpass*	**287 CROSSING OPTION 2** *Boulder Creek*
Agricultural Resources	Agricultural Use, Productivity and Management						
	Ditch and Lateral Access, Operations, and Maintenance						

EVALUATION CONSIDERATIONS	**DEFINITION SUMMARY**	**NOTES**					
		CONCEPTUAL ALIGNMENT 1A *RTD ROW with minimal railbed crossovers*	**CONCEPTUAL ALIGNMENT 1B** *RTD ROW with railbed potential*	**CONCEPTUAL ALIGNMENT 2** *Valmont*	**CONCEPTUAL ALIGNMENT 3** *OSMP Property*	**287 CROSSING OPTION 1** *Underpass*	**287 CROSSING OPTION 2** *Boulder Creek*
Agricultural Use, Productivity and Management	***Alignments/crossings with less anticipated impacts to existing agricultural areas and operations in the corridor, including the anticipated gates and related infrastructure required for trail use ranked higher.***	Route has minimal interaction with agricultural land. There are adjacent property owners who currently move across the ROW (cattle, etc.) which could be impacted by a trail. It is assumed they would still have the ability to do that but additional coordination would be required.	Route has minimal interaction with agricultural land. There are adjacent property owners who currently move across the ROW (cattle, etc.) which could be impacted by a trail. It is assumed they would still have the ability to do that but additional coordination would be required.	The route needed to get from the RTD ROW to Valmont is adjacent to agricultural land causing more potential for impact.	This route through OSMP ag land causes more direct impact and disruption to agricultural operations.	No agriculture in the vicinity.	Trail would cause a small reduction in the amount of land BOCO can lease to agricultural operations on both sides of 287.
Ditch and Lateral Access, Operations, and Maintenance	***Alignments/crossings with less anticipated impacts to ditches, ditch access roads, culverts, irrigation water application/ conveyance, and storm drainages/laterals access points in the corridor ranked higher.***	There are ditches and laterals that run across the ROW, many of which have some form of crossing infrastructure in place. The trail would cause minimal additional impact to these operations. Detailed survey of ditch locations would be completed during the design phase.	There are ditches and laterals that run across the ROW, many of which have some form of crossing infrastructure in place. The trail would cause minimal additional impact to these operations. Detailed survey of ditch locations would be completed during the design phase.	There are ditches running along Valmont that would represent significant challenges for this route, particularly given the constrained nature of the Valmont ROW. The fact that this ditch/these ditches run parallel to the proposed trail alignment presents more difficulties than if the ditch was perpendicular and could be handled with a crossing.	This route runs through irrigated agricultural lands with known ditches, laterals and ongoing maintenance and operations concerns needing to be addressed for trail design.	No known existing significant ditches, lateral access, operations or maintenance on underpass route.	No known existing significant ditches, lateral access, operations or maintenance on route under Boulder Creek.

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

IMPLEMENTATION

Implementation focus on anticipated ease or difficulty associated with building the BERT in each of the alignments under consideration.

The chart below shows how all the conceptual alignments and 287 crossing options were ranked for each of the considerations. Alignments 2 and 3 contained the most “Highly Unfavorable” ranked categories, with alignment 3 having one more than alignment 2. Alignments 1A and 1B scored more similar to each other with alignment 1A having two “Highly Unfavorable” considerations and alignment 1B having only one.

While both 287 crossing options present implementation challenges, Option 1 contained more “Highly Unfavorable” consideration. Option 1 ranks “Highly Favorable” its use of existing ROW while Option 2 is “Neutral” and both options rank the same for compatibility with future development, and permitting. However, Option 1 ranks “Highly Unfavorable” for its likely construction costs, as underpass construction is very expensive and this leads to more difficult/slow implementation and greater anticipated construction impacts making this option lower overall in this category.

Additional details on these rankings can be seen in the chart below.

EVALUATION CATEGORIES	**EVALUATION CONSIDERATIONS**	**CONCEPTUAL ALIGNMENT 1A** *RTD ROW with minimal railbed crossovers*	**CONCEPTUAL ALIGNMENT 1B** *RTD ROW with railbed potential*	**CONCEPTUAL ALIGNMENT 2** *Valmont*	**CONCEPTUAL ALIGNMENT 3** *OSMP Property*	**287 CROSSING OPTION 1** *Underpass*	**287 CROSSING OPTION 2** *Boulder Creek*
Implementation	Uses Existing Facilities/Rights of Way						
	Compatibility with Future Development/Redevelopment						
	Construction Costs						
	Mitigation Costs						
	Permitting						
	Ease/Speed of Implementation						
	Construction Impacts						

EVALUATION CONSIDERATIONS	**DEFINITION SUMMARY**	**NOTES**					
		CONCEPTUAL ALIGNMENT 1A *RTD ROW with minimal railbed crossovers*	**CONCEPTUAL ALIGNMENT 1B** *RTD ROW with railbed potential*	**CONCEPTUAL ALIGNMENT 2** *Valmont*	**CONCEPTUAL ALIGNMENT 3** *OSMP Property*	**287 CROSSING OPTION 1** *Underpass*	**287 CROSSING OPTION 2** *Boulder Creek*
Uses Existing Facilities/Rights of Way	***Alignments/crossings with greater ability to utilize existing facilities or rights of way for easier implementation ranked higher.***	This route completely utilizes the existing RTD ROW	This route completely utilizes the existing RTD ROW	There is an existing ROW along Valmont that is utilized for this route but most of the ROW is already utilized by roadway and associated infrastructure (swales, etc.) and/or property owner improvement. This makes the addition of a trail to this ROW difficult.	This route runs through OSMP lands with no ROW or existing facilities	Uses existing RTD ROW / US 287 ROW	Easement through Goose Haven is in place, public land or ROW is available for entire route, 109th ROW is narrow but may have to be used between Jasper and the RTD ROW
Compatibility with Future Development/ Redevelopment	***Alignments/crossings with greater consistency and potential for connection to future developments/plans ranked higher.***	All routes are compatible with known future development and redevelopment, particularly with known developments at the Erie end of the trail	All routes are compatible with known future development and redevelopment, particularly with known developments at the Erie end of the trail	All routes are compatible with known future development and redevelopment, particularly with known developments at the Erie end of the trail	All routes are compatible with known future development and redevelopment, particularly with known developments at the Erie end of the trail	No significant impact on future development or redevelopment	No significant impact on future development or redevelopment

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

IMPLEMENTATION

EVALUATION CONSIDERATIONS	DEFINITION SUMMARY	NOTES					
		CONCEPTUAL ALIGNMENT 1A *RTD ROW with minimal railbed crossovers*	**CONCEPTUAL ALIGNMENT 1B** *RTD ROW with railbed potential*	**CONCEPTUAL ALIGNMENT 2** *Valmont*	**CONCEPTUAL ALIGNMENT 3** *OSMP Property*	**287 CROSSING OPTION 1** *Underpass*	**287 CROSSING OPTION 2** *Boulder Creek*
Construction Costs	***Alignments/crossings with lower anticipated construction costs ranked higher.***	In most areas of the RTD ROW construction on either side of the rail bed is fairly straightforward from a construction standpoint. There are areas where water in the areas will require different construction methods and mitigation in the event of wetlands.	In areas where the trail would be on top of the rail bed there are significant additional construction requirements. The rails themselves would either need to be removed in small segments, or the rails would need to be removed, the base restabilized and then the rails put back in place. Both of which add time and cost to the construction effort.	Construction of this route is significantly complicated by the extremely constrained nature of the Valmont ROW and the buffer needed between the trail and the road.	This area is wet and the design required to deal with this will increase cost.	Underpass construction is very expensive.	Utilizing existing bridge under 287 reduces costs but additional infrastructure is still needed for trail.
Mitigation Costs	***Alignments/crossings with lower anticipated mitigation costs ranked higher.***	If the trail alignment is limited to either side of the rail bed in areas observed to be wet, there would likely be wetland impacts that would require mitigation. Required mitigation would be determined in design.	The ability to use the rail bed in segments where it is advantageous for wetland avoidance would reduce necessary mitigation in the trail alignment. However, there is still likely mitigation required for footings on either side of the rail bed as well as areas where the rail bed itself is also observed to be wet. Required mitigation would be determined in design.	The Valmont ROW is observed to be relatively dry, likely requiring less mitigation in that segment, however other segments of the trail alignment have wet areas where mitigation is likely. Required mitigation would be determined in design.	This route utilizes known wet areas and ag land so higher mitigation needs are anticipated.	Floodplain mitigation costs likely.	Floodplain mitigation costs likely.
Permitting	***Alignments/crossings likely to have easier permitting and compliance processes ranked higher.***	Significant permitting necessary.	Wetland permitting likely.	Some permitting likely, but anticipated to be less with this alignment option due to already disturbed nature of areas along road.	Significant permitting necessary.	Floodplain permitting likely.	Floodplain and wetland permitting likely.
Ease/Speed of Implementation	***Alignments/crossings with greater anticipated ease and speed of implementation ranked higher.***	The available open ROW space utilized in the route make for relatively straightforward implementation.	This alignment also utilizes available open ROW for the trail but implementation is slightly less straightforward due to the added need to deal with the rails and rail ties themselves in the sections where the trail is on top of the rail bed.	The actual construction of a trail in this alignment is fairly straightforward but the need for crossings of private properties and the need to remove tress and other obstructions in the ROW would cause this route to be considerably slower and more difficult to implement.	Trail construction in this alignment is also straightforward but is complicated by necessary coordination between multiple landowners on trail alignment and ongoing agricultural leasing operations.	Significant cost of underpass and required design and engineering likely to take longer for implementation.	Lower costs and use of existing facilities reduce the cost and design effort, but permitting may reduce the speed and ease of implementation.
Construction Impacts	***Alignments/crossings with lower anticipated construction impacts ranked higher.***	Construction impacts to wet areas and sensitive habitat areas in the vicinity are likely.	The ability to move onto the rail ROW in sections allows for trail construction to move away from adjacent habitat areas helping to reduce construction impacts.	This route involves significant impacts to Valmont and private property along the Valmont ROW during construction.	This route involves significant impacts to existing ag operations during construction.	Impacts likely to 287 as a result of underpass construction.	Significant impacts near Boulder Creek, and impacts to existing ag operations on BOCO land on both sides of 287.

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

MAINTENANCE

Maintenance Considerations focus on anticipated costs to maintain the BERT after construction in each of the alignments under consideration.

The chart below shows how all the conceptual alignments and 287 crossing options were ranked for the category. Alignment 2 ranked “Highly Unfavorable,” Alignment 3 was “Unfavorable,” and Alignments 1A and 1B both ranked “Neutral.”

Both 287 crossing options present significant maintenance challenges both options were ranked “Highly Unfavorable” in this category. This is due to maintenance associated with groundwater/stormwater removal and management required for both of these crossing options.

Additional details on these rankings can be seen in the chart below.

EVALUATION CATEGORIES	**EVALUATION CONSIDERATIONS**	**CONCEPTUAL ALIGNMENT 1A** *RTD ROW with minimal railbed crossovers*	**CONCEPTUAL ALIGNMENT 1B** *RTD ROW with railbed potential*	**CONCEPTUAL ALIGNMENT 2** *Valmont*	**CONCEPTUAL ALIGNMENT 3** *OSMP Property*	**287 CROSSING OPTION 1** *Underpass*	**287 CROSSING OPTION 2** *Boulder Creek*
	Maintenance Cost						

EVALUATION CONSIDERATIONS	**DEFINITION SUMMARY**	**NOTES**					
		CONCEPTUAL ALIGNMENT 1A *RTD ROW with minimal railbed crossovers*	**CONCEPTUAL ALIGNMENT 1B** *RTD ROW with railbed potential*	**CONCEPTUAL ALIGNMENT 2** *Valmont*	**CONCEPTUAL ALIGNMENT 3** *OSMP Property*	**287 CROSSING OPTION 1** *Underpass*	**287 CROSSING OPTION 2** *Boulder Creek*
Maintenance Cost	***Alignments/crossings with lower anticipated maintenance costs ranked higher.***	This route would require unique construction methods and ongoing maintenance due to existing wet areas.	This route would require unique construction methods and ongoing maintenance due to existing wet areas. It is also possible that the rails would create additional maintenance in areas where they are present in or under the trail, the details of which to be explored in design.	Maintenance of a trail along a roadway like Valmont is significantly complicated due to factors like more required markings and details related to private driveway crossings, difference in materials between trail and any crossings, roadway debris, and different drainage patterns along a road. A trail in this section would also need to consider paving to accommodate maintenance concerns.	This area is wet and the design and maintenance required to deal with this will increase the on-going maintenance cost.	Significant maintenance costs associated with groundwater and stormwater removal / management.	Significant maintenance costs associated with seasonal flooding and debris on trail.

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

ADJACENT PROPERTY CONSIDERATIONS

Adjacent Property Considerations look at differences in the land uses adjacent to and surrounding the proposed trail alignments, as well as the lands required for the trail alignments themselves.

The chart below shows how all the conceptual alignments and 287 crossing options were ranked for each of the considerations in the Adjacent Property Considerations category. Alignments 1A and 1B rank the same in this category with three “Highly Favorable” and one “Neutral” considerations. Alignments 2 and 3 rank less favorable due to their need of additional private and/or public lands beyond those owned by Boulder County and/or RTD.

Option 1 overall ranks more favorable in all of the considerations in the adjacent property category. The underpass option would stay in the RTD ROW without requiring additional public or private lands and is less likely to have impacts on adjacent land uses.

EVALUATION CATEGORIES	**EVALUATION CONSIDERATIONS**	**CONCEPTUAL ALIGNMENT 1A** *RTD ROW with minimal railbed crossovers*	**CONCEPTUAL ALIGNMENT 1B** *RTD ROW with railbed potential*	**CONCEPTUAL ALIGNMENT 2** *Valmont*	**CONCEPTUAL ALIGNMENT 3** *OSMP Property*	**287 CROSSING OPTION 1** *Underpass*	**287 CROSSING OPTION 2** *Boulder Creek*
Adjacent Property Considerations	Availability of BOCO or RTD ROW and property to complete the project						
	Need for Use of Other Public Lands						
	Need for Use of Private Property						
	Adjacent Land Use						

EVALUATION CONSIDERATIONS	**DEFINITION SUMMARY**	**NOTES**					
		CONCEPTUAL ALIGNMENT 1A *RTD ROW with minimal railbed crossovers*	**CONCEPTUAL ALIGNMENT 1B** *RTD ROW with railbed potential*	**CONCEPTUAL ALIGNMENT 2** *Valmont*	**CONCEPTUAL ALIGNMENT 3** *OSMP Property*	**287 CROSSING OPTION 1** *Underpass*	**287 CROSSING OPTION 2** *Boulder Creek*
Availability of BOCO or RTD ROW and property to complete the project	***Alignments/crossings with greater ability to utilize available BOCO or RTD ROW and property ranked higher.***	The entirety of this trail alignment is in RTD ROW, which is wide and largely unobstructed.	The entirety of this trail alignment is in RTD ROW, which is wide and largely unobstructed.	Most of this alignment is in a ROW but the Valmont ROW is extremely constrained and further limited by obstructions.	This route involves non BOCO or RTD ROW.	Route stays within RTD ROW, but also involved ROW around 287 that could cause additional complication.	Most of the land involved in the route is county owned except for a segment between the RTD ROW and Jasper (Goose Haven) on the west side.
Need for Use of Other Public Lands	***Alignments/crossings with less need for the use of additional other public lands (beyond BOCO or RTD ROW) ranked higher.***	No need for use of other public lands.	No need for use of other public lands.	This alignment has no need for additional public lands if it is constructed on north side of Valmont. If it is constructed on the south side there is potential use of OSMP land. The details of trail location to be refined in design.	Additional public lands required for this route. Additional disposal/ purchase of easement, etc. might also be required.	No use of additional public lands.	Goose Haven Property would be required, and new BOCO POS or CDOT easements north of Goose Haven to get up to the creek. Also POS easement along the creek and POS easement along 109th between creek and Jasper Rd if ROW on 109th is too narrow.
Need for Use of Private Property	***Alignments/crossings with less need for use of private property ranked higher.***	No need for use of private property.	No need for use of private property.	Significant private property easements/negotiations needed.	Minimal need for use of private property.	No need for use of private property.	Existing Goose Haven easement avoids some private property. If 109th ROW is too narrow, additional private property easement might be needed along 109th between Jasper and RTD ROW.
Adjacent Land Uses	***Alignments/crossings with greater compatibility and less anticipated potential for conflict with adjacent land uses ranked higher.***	Adjacent land use considerations along the RTD ROW are consistent regardless of whether trail is located adjacent to rail bed or on top of it in sections.	Adjacent land use considerations along the RTD ROW are consistent regardless of whether trail is located adjacent to rail bed or on top of it in sections.	Valmont ROW segment has significant impacts from adjacent road and private property.	Impacts to adjacent ag uses and irrigation; likely easier to mitigate due to single landowner relative to many negotiations with individual private property owners.	Minimal impacts to adjacent land uses.	Impact to Goose Haven and residences on along 109th, as well as agricultural operations on both sides of 287.

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

TRAIL USER EXPERIENCE

Trail User Experience considerations evaluate the difference between the alignments related to their value for transportation vs. recreation and their connections to additional trails and trailheads in the area.

The chart below shows how all the conceptual alignments and 287 crossing options were ranked for each of the considerations in the Trail User Experience considerations category. Alignments 1A, 1B, and 3 would all offer a similar and enjoyable experience for potential trail users. Alignments 1A and 1B are likely to be the same in this regard and both offer a slightly more direct path than Alignment 3 making them more favorable for those hoping to use the trail for commuting. Alignment 2 offers the least favorable experience for trail users due to its location as a trail directly adjacent to a busy road.

From the perspective of trail user experience, 287 crossing option 2 is more highly ranked. The option 1 underpass is a much more direct route but it is less desirable for recreational use. The less direct route up to Boulder Creek is a more scenic route that also gives additional opportunities for connection to additional proposed trails and/or trailheads, and presents greater opportunities for interpretive signage along the greater length of the trail diversion up to the river. This proximity to the Boulder Creek and natural resources also offers the opportunity to interpret these features.

EVALUATION CATEGORIES	**EVALUATION CONSIDERATIONS**	**CONCEPTUAL ALIGNMENT 1A** *RTD ROW with minimal railbed crossovers*	**CONCEPTUAL ALIGNMENT 1B** *RTD ROW with railbed potential*	**CONCEPTUAL ALIGNMENT 2** *Valmont*	**CONCEPTUAL ALIGNMENT 3** *OSMP Property*	**287 CROSSING OPTION 1** *Underpass*	**287 CROSSING OPTION 2** *Boulder Creek*
Trail User Experience	Directness of Alignment						
	Recreational Value						
	Connectivity to existing or potential Trailheads, Trails, and other Routes						
	Connectivity to Origins and/or Destinations						
	Trailheads						
	Interpretive Opportunities						

EVALUATION CONSIDERATIONS	**DEFINITION SUMMARY**	**NOTES**					
		CONCEPTUAL ALIGNMENT 1A *RTD ROW with minimal railbed crossovers*	**CONCEPTUAL ALIGNMENT 1B** *RTD ROW with railbed potential*	**CONCEPTUAL ALIGNMENT 2** *Valmont*	**CONCEPTUAL ALIGNMENT 3** *OSMP Property*	**287 CROSSING OPTION 1** *Underpass*	**287 CROSSING OPTION 2** *Boulder Creek*
Directness of Alignment	***Alignments/crossings with shorter, straighter routes ranked higher.***	This alignment is relatively straight and direct.	This alignment is relatively straight and direct.	This alignment has the most significant deflection and distance out of the way from a direct route.	This route has minimal deflection from most direct route for only a small section.	Underpass is most direct route.	Route up to Boulder Creek is significantly more meandering route, approximately 3.5 miles in distance.
Recreational Value	***Alignments/crossings with more scenic routes, including loops/spurs, and improved views ranked higher.***	This alignment is a beautiful, straightforward route through open ag land/rural areas.	This alignment is a beautiful, straightforward route through open ag land/rural areas.	This alignment is a buffer separated trail along a busy road so recreational value is decreased by this proximity.	This alignment is a beautiful, straightforward route through ag land/rural areas but ongoing ag operations in the area might impact trail recreation.	Route is direct, underpass is not a scenic option but it is not a significant detriment to recreation.	Route up to Boulder Creek is significantly more scenic for users and the greater length is not an issue for recreational users in most cases.
Connectivity to Existing or Potential Trailheads, Trails, and other Routes	***Alignments/crossings with greater opportunities for connectivity to existing and potential trailheads, trails, and other routes ranked higher.***	Alignments in the RTD ROW offer similar connectivity to trailheads, trails, and routes. These connect to Teller White Rocks, trails in Erie, Sawhill, and Valmont Multi-Use Trail.	Alignments in the RTD ROW offer similar connectivity to trailheads, trails, and routes. These connect to Teller White Rocks, trails in Erie, Sawhill, and Valmont Multi-Use Trail.	This alignment offers many of the same connections as the routes in the RTD ROW but has more straightforward access to White Rocks Trail and Teller North Trailhead.	This route also offers the same connections as trails in the RTD ROW, Teller White Rocks, trails in Erie, Sawhill, and Valmont Multi-Use Trail.	No significant impact one way or another to connectivity to existing or proposed trailheads, trails and routes.	Boulder Creek route could offer more direct potential connections to proposed trails in the East Boulder Creek Site Management Plan for Prairie Run Open Space.

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

TRAIL USER EXPERIENCE

EVALUATION CONSIDERATIONS	DEFINITION SUMMARY	NOTES					
		CONCEPTUAL ALIGNMENT 1A *RTD ROW with minimal railbed crossovers*	**CONCEPTUAL ALIGNMENT 1B** *RTD ROW with railbed potential*	**CONCEPTUAL ALIGNMENT 2** *Valmont*	**CONCEPTUAL ALIGNMENT 3** *OSMP Property*	**287 CROSSING OPTION 1** *Underpass*	**287 CROSSING OPTION 2** *Boulder Creek*
Connectivity to User Starting Points and/or Destinations	***Alignments/crossings more likely to provide connections between origins and destinations ranked higher.***	Alignments in the RTD ROW offer similar connectivity origins and destinations in Boulder and Erie as a primary purpose for a proposed trail.	Alignments in the RTD ROW offer similar connectivity origins and destinations in Boulder and Erie as a primary purpose for a proposed trail.	This alignment offers slightly better access for properties and neighborhoods along Valmont as there is a direct connection. The RTD ROW has no direct connections to surrounding neighborhoods currently.	This route also offers similar connections to origins and destinations as the alignments in the RTD ROW.	No significant impact on connections to origins and destinations.	Potentially slightly closer to residences that could be origins for trail users.
Trailheads	***Alignments/crossings with greater ability to provide locations for trailheads of adequate size for desired user facilities ranked higher.***	The wide RTD ROW offers greater potential opportunities for additional trailhead locations. These would be determined as appropriate based on final alignment decisions. However due to the sensitivity of the area, no additional trailheads likely between 75th and 95th.	The wide RTD ROW offers greater potential opportunities for additional trailhead locations. These would be determined as appropriate based on final alignment decisions. However due to the sensitivity of the area, no additional trailheads likely between 75th and 95th.	The more constrained ROW and built up area along Valmont offers less trailhead opportunities. There is an existing trailhead directly on this alignment that could be considered for expansion if desired as opposed to constructing new trailheads.	The majority of this alignment is in the RTD ROW which is wide and offers potential trailhead opportunities, however there would be no trailhead placement on OSMP property.	Potential opportunities for trailheads in RTD ROW but no other opportunities for that unique to this crossing option.	Longer length of this route and reroute near East Boulder Creek presents additionla opportunities to connect to a trailhead proposed as part of the East Boulder Creek Site Management Plan for Prairie Run Open Space.
Interpretive Opportunities	***Alignments/crossings with greater opportunities to provide interpretive information for trail users ranked higher.***	Significant interpretive opportunities.	Significant interpretive opportunities.	Significant interpretive opportunities but slightly less due to more constrained ROW on Valmont. It is likely additional obstructions in the ROW would be difficult.	Significant interpretive opportunities.	An underpass specifically does not usually offer significant interpretive opportunities as people are passing through and not generally looking to linger and view interpretive signage.	Longer trail route and route up to Boulder Creek offer additional opportunities for interpretive signage and potentially additional features to interpret.

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

The chart below shows the complete conceptual alignment grading matrix with all categories, considerations, and associated rankings combined in one chart showing how the alignments stack up against each other.

EVALUATION CATEGORIES	EVALUATION CONSIDERATIONS	Conceptual Alignment 1a - RTD ROW with minimal railbed crossovers	Conceptual Alignment 1b - RTD ROW with railbed potential	Conceptual Alignment 2 - Valmont	Conceptual Alignment 3 - OSMP Property	287 Crossing - Option 1 - Underpass	287 Crossing - Option 2 - Boulder Creek
Safety	Roadway Crossings						
	Hwy 287 Crossing						
	Driveways and Other Access Crossings						
	User Sight Distances						
Ecological Resources	Fragmentation of Designated Habitat cause by BERT						
	Wetlands						
	T&E or Species of Management Interest Habitat						
	Introduction of Invasive Species						
	Floodplains/Floodplain Resource Management						
Cultural Resources	Proximity to Cultural Sites						
Agricultural Resources	Agricultural Use, Productivity and Management						
	Ditch and Lateral Access, Operations, and Maintenance						
Implementation	Uses Existing Facilities/Right of Ways						
	Compatibility with Future Development/Redevelopment						
	Construction Costs						
	Mitigation Costs						
	Permitting						
	Ease/Speed of Implementation						
	Construction Impacts						
Maintenance	Maintenance Cost						
Adjacent Property Considerations	Availability of BOCO or RTD ROW and property to complete the project						
	Need for Use of Other Public Lands						
	Need for Use of Private Property						
	Adjacent Land Use						
Trail User Experience	Directness of Alignment						
	Recreational Value						
	Connectivity to existing or potential Trailheads, Trails, and other Routes						
	Connectivity to User Starting Points and/or Destinations						
	Trailheads						
	Interpretive Opportunities						

After evaluation of all the conceptual alignments and crossing options, the project team selected a preferred alignment for further consider. This selection was made through a review of various project elements, including:

- **PUBLIC INPUT:** results from two community surveys and notes/input from public meetings, CWG meetings, emails, and written feedback
- **STEERING COMMITTEE AND STAKEHOLDER INPUT:** comments, notes, and written feedback from steering committee meetings and additional partner reviews and discussion
- **TECHNICAL EVALUATION:** evaluation of conceptual alignments 1A, 1B, 2, and 3 as well as Hwy 287 crossing options 1 and 2

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

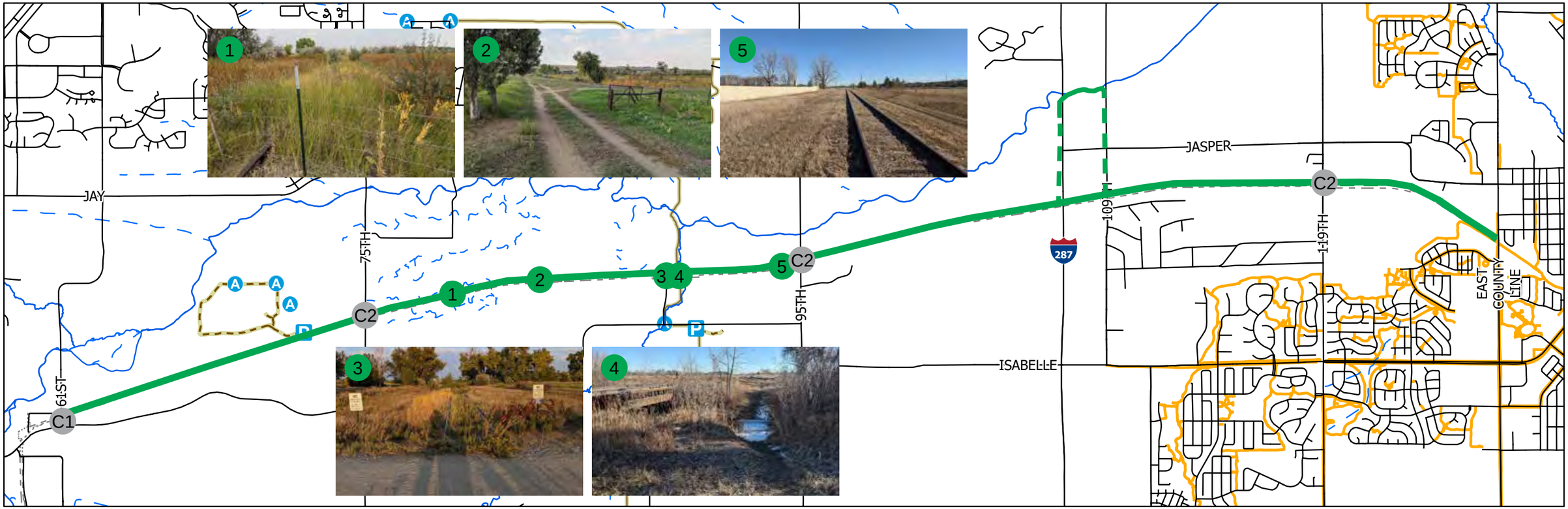
CONCEPTUAL ALIGNMENTS - PROS AND CONS

RTD ROW Alignments (1A & 1B) - *Alignments 1A & 1B are subtle variations on an alignment fully within the existing RTD ROW between 61st Street in Boulder and East County Line Road in Erie.*

ALIGNMENT 1A is an alignment that is in the ROW but is not on top of the rail bed itself unless absolutely necessary. This alignment is on either the north or the south side of the actual rail bed and the only time it lies atop the rail bed is if a cross over is needed to bring the trail from the north side to the south or vice versa. In which case the cross over would be as minimal as possible.

ALIGNMENT 1B offers greater flexibility to utilize the existing rail bed for extended distances if justified. Since the rails and rail ties must remain intact, any trail constructed in this scenario would need to be built atop the existing infrastructure, presenting constructibility challenges. This approach would only be pursued if placement of the trail on either the north or south side of the rail bed is deemed undesirable, likely due to adjacent wetlands. The determination would be made following a wetland delineation survey in future project phases.

Crossing diagrams (C1, C2) for this alignment can be found on p. 44-45



PROS OF ALIGNMENTS 1A & 1B:

- Availability of RTD ROW with adequate width for trail and no additional easement or acquisition needs
- Safe route separated from roads which have significant vehicular traffic and exhaust
- Distance from roads makes the route more comfortable for various users, whether for transportation or recreation
- Most direct route from Boulder to Erie
- Scenic route adjacent to agricultural and open space lands

CONS OF ALIGNMENTS 1A & 1B:

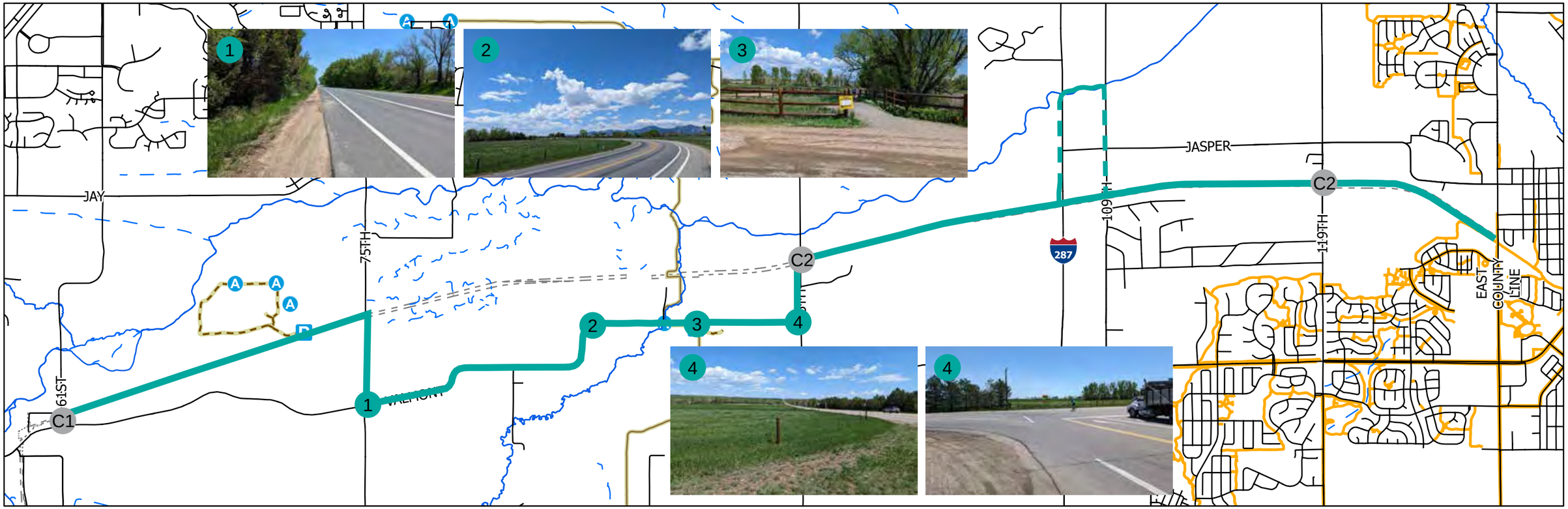
- Corridor passes adjacent to areas of environmental significance, such as habitat conservation areas and habitat of both plant and animal species that are threatened, endangered or of management interest, and active agricultural operations
- Although seasonal wildlife closures are not required by Federal regulations on this alignment, CPW and OSMP recommended seasonal closures and this topic is under discussion.
- Existing rail bed infrastructure presents constructibility challenges
- Wet areas in the corridor require further evaluation and potential design challenges to be further explored in future project phases

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

CONCEPTUAL ALIGNMENTS - PROS AND CONS

RTD ROW/Valmont/BOCO ROW Alignment (2)

ALIGNMENT 2 uses a combination of the RTD right-of-way, and the Boulder County road rights-of-way of 75th, 95th, and Valmont Rd between 75th and 95th streets. This alignment generally follows the RTD ROW from 61st to 75th Street, although the possibility of locating the trail adjacent to the existing Colorado Parks and Wildlife (CPW) road to Sawhill Ponds should be explored for the stretch from the Sawhill Ponds trailhead to 75th. The RTD ROW is wet in this area so using the existing road area would be an opportunity to utilize existing infrastructure to avoid impacts to wet areas, while also avoiding two parallel paths through the landscape as would result from adding the trail in the RTD ROW within sight of the existing road in virtually the same location. At 75th the trail would divert south to Valmont using Boulder County road right-of-way and follow adjacent to Valmont, also using Boulder County road right-of-way to 95th. The alignment would proceed from Valmont Rd north adjacent to the Boulder County 95th St right-of-way, connecting back to the RTD right-of-way. The remaining trail alignment would stay within the RTD ROW for the rest of the way to East County Line Road in Erie. *Crossing diagrams (C1, C2) for this alignment can be found on p. 46-47*



PROS OF ALIGNMENTS 2:

- This alignment circumvents the 75th to 95th section of the RTD ROW, thereby avoiding adjacent environmentally sensitive areas, including habitat conservation areas, and habitat of plant and animal species that are threatened, endangered or of management interest, active agricultural operations and CPW designated raptor buffers.

CONS OF ALIGNMENTS 2:

- The trail segment along Valmont is less safe due to the close proximity to the busy road, therefore potentially reducing the numbers of trail users willing/able to use the trail
- Existing ROW width along Valmont is limited and there are many private driveway crossings in this section, all of which will require additional easement, ROW acquisition, and/or negotiation. This combined with the safety concerns of the driveway crossings presents significant feasibility challenges for this option.
- This route is a less direct connection since it avoids going straight thought the 75th - 95th section
- There are also ditches adjacent to Valmont that present trail challenges, as well as road curves that reduce sight lines

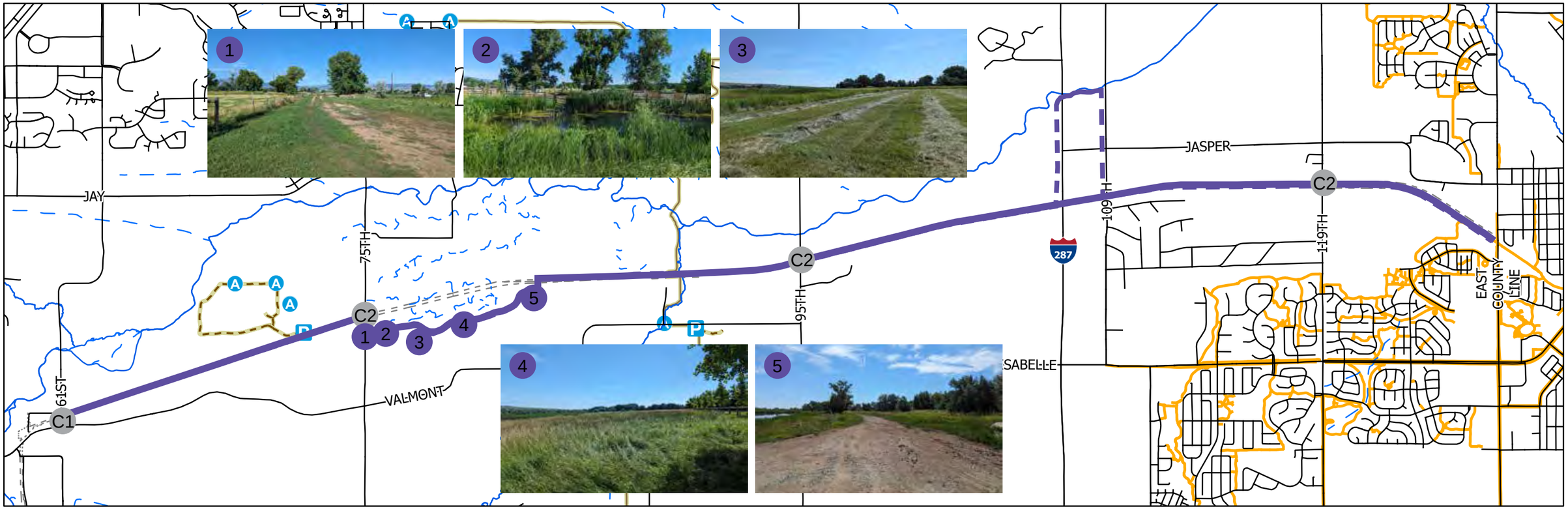
BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

CONCEPTUAL ALIGNMENTS - PROS AND CONS

RTD ROW/OSMP Alignment (3)

ALIGNMENT 3 explores a combination of the RTD ROW and Boulder Open Space and Mountain Parks (OSMP) land to make the Boulder to Erie connection. Same as all of the alignments, the 61st to 75th segment is in the RTD ROW with the exploration of possible use of the Sawhill Ponds road section. Then at 75th the trail travels south on the edge of OSMP property before cutting across on OSMP land for a small section before resuming north and joining the RTD ROW. The remaining alignment from 95th to East County Line Road continues in the RTD ROW as in all alignment.

Crossing diagrams (C1, C2) for this alignment can be found on p. 48-49



PROS OF ALIGNMENTS 3:

- Avoids a particularly wet segment of the RTD ROW
- A fairly direct route (not quite as direct as 1A and 1B)
- Safe route separated from busy roads

CONS OF ALIGNMENTS 3:

- While avoiding a wet section of the RTD ROW, this route runs through areas of even greater environmental sensitivity and active agricultural operations resulting in a significant environmental impact, the most of all the alternatives.
- Per CPW and OSMP guidelines and best practices for the protection of nesting raptors, this trail segment would be subject to seasonal wildlife closures.
- Due to the use of OSMP land and therefore an additional property owner, additional coordination and formal agreements would be required between organizations for both implementation and maintenance.
- Construction costs and impacts are also high.

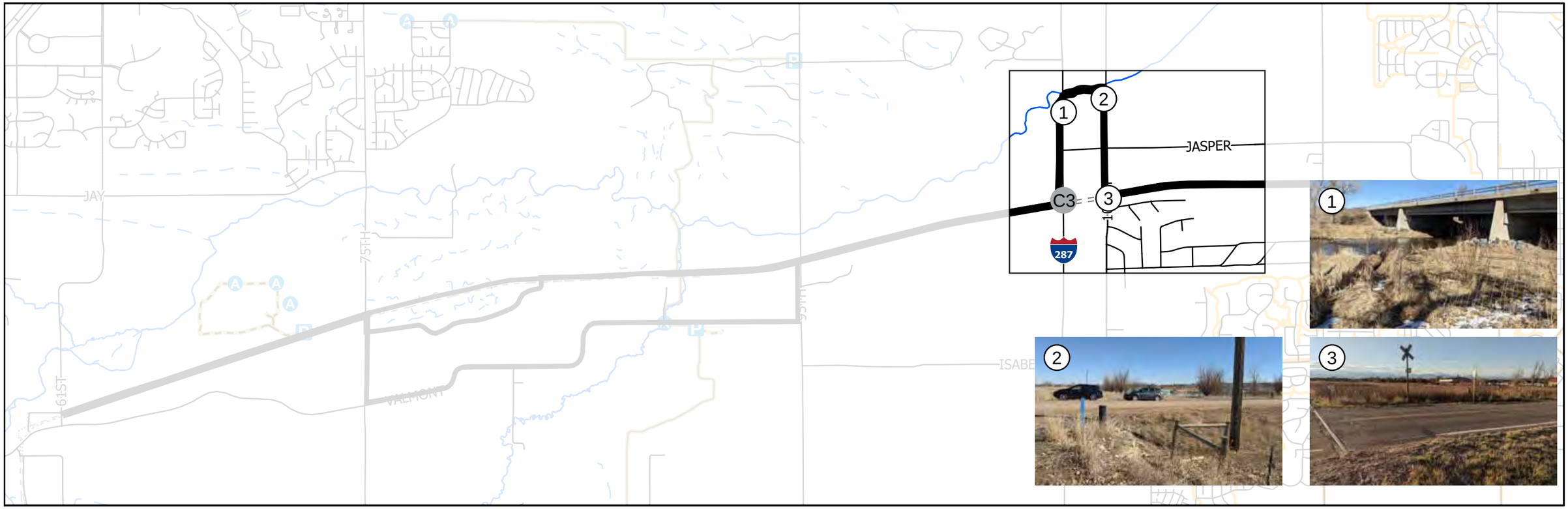
BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

HWY 287 CROSSING OPTIONS - PROS AND CONS

Crossing Options (1 & 2)

OPTION 1 is an underpass in line with the RTD right-of-way crossing under Hwy 287

OPTION 2 follows Highway 287 to the current Boulder Creek crossing beneath 287, utilizing this existing point to pass the trail under the highway, mostly within a trail easement on the west side of Hwy 287 and on either Boulder County Parks & Open Space property or CDOT Hwy 287 road ROW. It continues alongside Boulder Creek until reaching 109th Street, then runs adjacent to 109th to reconnect the trail within the RTD ROW.



PROS OF OPTION 1:

- Safer, more direct route with minimal interaction with the busy Hwy 287
- Minimal impacts to environment or land outside of RTD ROW corridor

CONS OF OPTION 1:

- Even though it is a much shorter distance, the cost of construction and maintenance on an underpass would likely be much higher
- Due to proximity to Boulder Creek it is likely that pumping would be necessary to keep water out of underpass
- Underpass is undesirable for equestrian users due to height restriction and enclosed space
- Maintenance considerations to make sure lighting is functional and path is clear

PROS OF OPTION 2:

- Less costly to construct as it utilizes an existing crossing point
- Would provide a connection point to the proposed East Boulder Creek trail system

CONS OF OPTION 2:

- Existing crossing point under bridge is tight, space is sufficient but extremely minimal both in terms of height and width
- Longer crossing option as it jogs up and around, adding approximately 1.5 miles of extra distance to route
- Additional ROW and easement considerations for sections of route to and from RTD ROW to Boulder Creek
- Greater environmental impacts to area around Boulder Creek
- 109th is a rural residential road likely without the road right-of-way needed for a separated trail along it

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

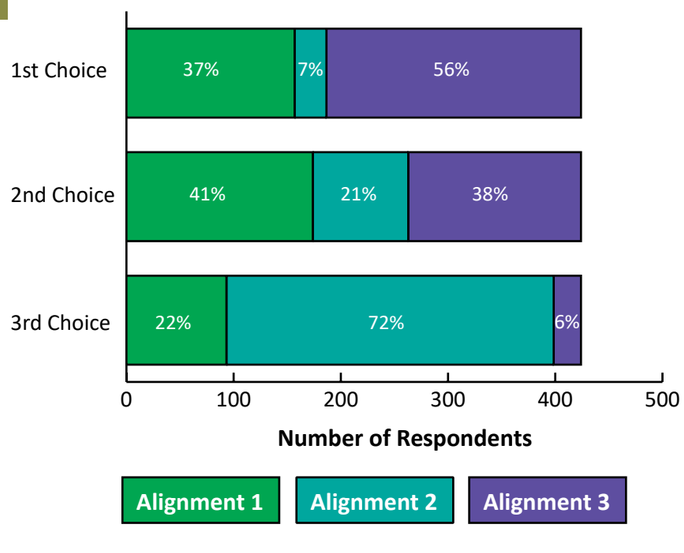
PUBLIC INPUT

Engagement Type	Summary of Public Input	Alignment 1	Alignment 2	Alignment 3	US 287 Preference
Community Working Group *(4 Meetings and 1 Site Walk)*	• Environmental interest at a broader scale to reduce greenhouse gas emissions from car traffic • Advocates for trail concept and construction, desire for implementation as quickly as possible • Repeated importance of safety, direct connectivity, and inclusive recreation opportunities • Concerns about dangerous intersections/interface with cars • Desire for trails that preserve scenic views and promote accessibility • Balance trail development with habitat preservation and minimize impacts on wildlife	**Pros:** • Safe option • Scenic opportunities • Most direct route **Cons:** • Wildlife/environmental impacts	**Pros:** • Avoids most wildlife and most wetland concerns **Cons:** • Least perceived safety • Least scenic opportunities • Least direct route • Numerous property/driveways slowing administration	**Pros:** • Safe option • Scenic opportunities **Cons:** • Slightly less direct • Greatest wildlife/ environmental impacts	***NO CLEAR PREFERENCE*** OPTION 1, UNDERPASS**:** • Longer perceived implementation but safer and more direct OPTION 2, BOULDER CREEK**:** • Percieved best alignment option for timely trail construction but less direct
Public Open Houses *(1 Virtual and 1 In-Person)*	• Highly engaged community that supports trail concept • Desire for a safe alignment that does not require any interaction with the road at all • Comments cards expressing concern for sensitive ecosystems, wildlife, and/or culturally significant sites near the RTD right of way between 61st and 75th. • Urgency/anticipation to get the trail to construction/ implementation while carefully considering cost effectiveness	**Pros:** • Safe option • Scenic opportunities • Most direct route **Cons:** • Wildlife/environmental impacts	**Pros:** • Avoids most wildlife and most wetland concerns **Cons:** • Least perceived safety • Least scenic opportunities • Least direct route • Numerous property/driveways slowing implementation	**Pros:** • Safe option • Scenic opportunities **Cons:** • Greatest wildlife/ environmental impacts	***UNDERPASS PREFERRED*** OPTION 1, UNDERPASS**:** • Generally, interests for either option were safety-related. There was a slight preference for an underpass due to the directness of the route and lack of interruption to car traffic on US 287
Landowner Interviews *(3 Interviews)*	• Interest in barriers to minimize trespassing onto adjacent property • Environmental concerns between 75th and 95th, consider approaches to minimize impacts and to prohibit dogs in this area • Majority in favor of trail	**Pros:** • Options along north side of the RTD ROW from 95th-109th and 61st to 75th. **Cons:** • Wildlife/environmental impacts.	**Pros:** • Options along north side of the RTD ROW from 95th-109th and 61st to 75th. • Majority in favor of trail • Least wildlife/environmental impacts **Cons:** • Greater adjacent property impacts	**Pros:** • Options along north side of the RTD ROW from 95th-109th and 61st to 75th. • Majority in favor of trail **Cons:** • Greatest impacts to wildlife/environmental	***BOULDER CREEK PREFERRED*** OPTION 2, BOULDER CREEK**:** • Preferred due to perceived ease of implementation with existing structure
Neighborhood Workshops *(4 Workshops)* *Note: These workshops only involved discussion of alignments within RTD ROW.*	• Interest in barriers to minimize both wildlife and adjacent property impacts • Value safety • Mention of environmental impacts (Boulder to 75th) • Interest in connections to other trails • Excitement for a safer alternative route than the shoulder of Valmont/Isabelle Rd.	**Pros:** • All groups were in favor of the trail • Minimizes impacts to adjacent properties • Promote safety **Cons:** • Impacts to wildlife/environment			***UNDERPASS PREFERRED*** OPTION 1, UNDERPASS**:** • Safer and fewer property impacts
Emails from Community Members *(Approximately 250 emails)*	• The majority of comments reflected support and high anticipation for construction/implementation • Support highlights potential benefits for recreation access, safe transportation options, community connectivity, and economic development • Environmental concerns regarding wetlands, wildlife, and sensitive habitats • Environmental interest at a broader scale to reduce greenhouse gas emissions from car traffic	**Pros:** • Removed from cars (safety) • Scenic value • Wider right-of-way provides flexibility for environmental considerations **Cons:** • Impacts to wildlife/environment	**Pros:** • Avoids most wildlife and most wetland concerns **Cons:** • Greatest interface with cars degrades safety • Least scenic value • Narrow right-of-way limits implementation	**Pros:** • Removed from cars (safety) • Scenic value **Cons:** • Greatest impacts to wildlife/environmental	***UNDERPASS*** OPTION 1, UNDERPASS**:** • Prioritize safety while maintaining the continuity and quality of the trail

PUBLIC INPUT

Survey - Alignment Preferences

424 Total Respondents

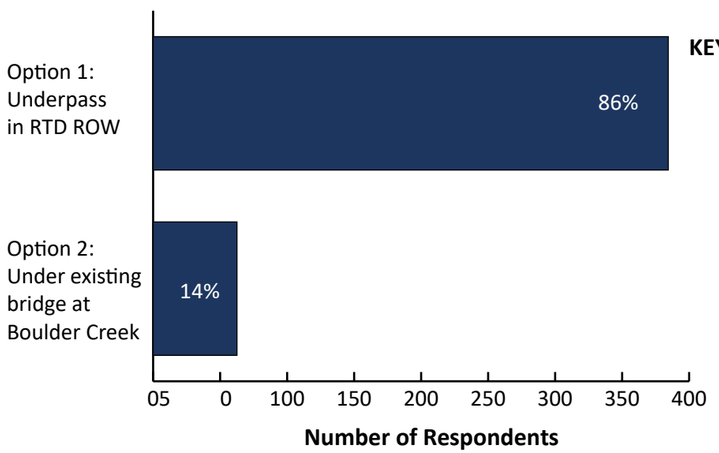


KEY POINT(S):

- 72% of respondents ranked Alignment 2 (Valmont) as least preferred
- The majority of respondents preferred an alignment off of Valmont Road
- 78% of respondents ranked Alignment 1 as either their 1st or 2nd Choice

Survey - Preferred US 287 Crossing Option

447 Total Respondents



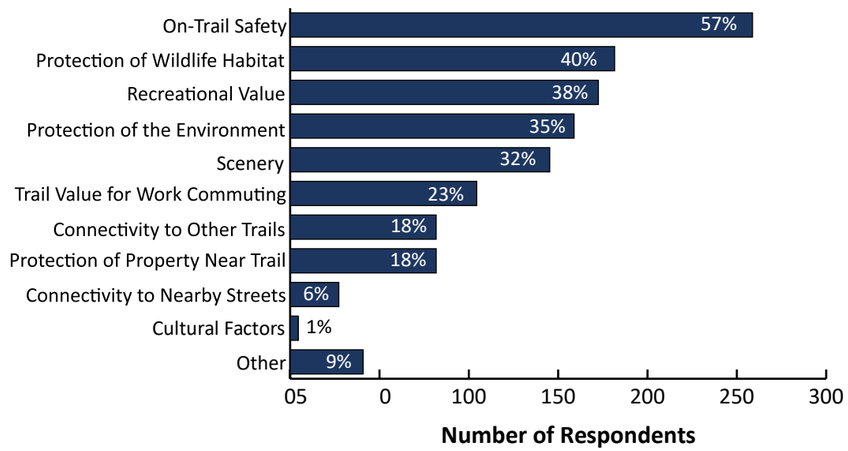
KEY POINT(S):

- The vast majority of respondents preferred an underpass crossing of US 287

BOUDLER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

Survey - Decision Factors

454 Total Respondents



KEY POINT(S):

- Survey respondents were asked to indicate up to three decision factors that influenced their choice of top trail alignments.
- While safety was the top decision factor, more than one-third of respondents also indicated that protection of wildlife habitat, recreational value, and protection of the environment influenced their choice.
- It is important to note that the survey description of Alignment 3 overstated the benefits to ecological resources in the area and makes it seem like it is more environmentally/habitat friendly than Alignment 1. When proposing the routes outside of the RTD ROW (Alignment 1), the primary goal was to explore other potential options in the hope of finding a less ecologically impactful way to connect Erie and Boulder with a regional trail. Because Alignment 3 avoided areas of ecological concern in the RTD ROW, it was initially believed that Alignment 3 could be a less ecologically impactful option. After studying the alignments further with project partners, it was determined that Alignment 3 likely has the greatest ecological impact based on existing data.

Note: While it is clear from the survey that Alignment 2 was the least preferred (considering on-trail safety and visitor experience), it is less clear that Alignment 3 would have been ranked as highly as it was considering its impacts to natural resources because two of the four top factors respondents indicated influenced their choice of the preferred alignment(s) for further consideration were: protection of wildlife habitat (40%) and protection of the environment (35%).

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

STEERING COMMITTEE AND STAKEHOLDER INPUT

The BERT Steering Committee consists of: Boulder County Community Planning & Permitting, Boulder County Public Works, Boulder County Parks & Open Space, City of Boulder Transportation & Mobility, City of Boulder Open Space and Mountain Parks (OSMP), Town of Erie, Regional Transportation District (RTD), Colorado Parks & Wildlife (CPW), and Colorado Department of Transportation (CDOT).

Engagement Type	Summary of Stakeholder Input	Alignment 1	Alignment 2	Alignment 3	US 287 Preference
Steering Committee *(4 Meetings)* *Also note that in addition to meetings, all Steering Committee members contributed individually to creating and filling out the technical evaluation seen on the following pages.*	• Consider various land use regulations, property rights, and potential conflicts with existing developments in the project area to keep trail implementable • Desires for safe, off-street connection • Interest in balancing safety measures, environmental conservation, and community connectivity • Funding and budgetary constraints for construction and maintenance • Concern for environmental impact and wildlife conservation, particularly in sensitive areas such as wetlands and habitats • Seasonal closures for nesting raptors near the RTD ROW are recommended by CPW and OSMP, and adjustments to construction schedules will be necessary	**Pros:** • Safe option • Scenic opportunities • Most direct route **Cons:** • Wildlife/environmental impacts. CPW and OSMP recommend seasonal closures for nesting raptors.	**Pros:** • Avoids most wildlife and most wetland concerns **Cons:** • Greatest interface with cars degrades safety • Least scenic value • Narrow right-of-way limits implementation	**Pros:** • Safe option • Scenic opportunities **Cons:** • Slightly less direct • Greatest wildlife/environmental impacts and agricultural operations impacts	***NO CLEAR PREFERENCE*** OPTION 1, UNDERPASS: • More challenging implementation, but safer and more direct OPTION 2, BOULDER CREEK: • Less costly, connected to other trails, but greater environmental impacts
Connectivity Workshop *(1 design/alignment focused meeting with the steering committee and jurisdictional landowners)*	• Wet areas along RTD ROW between 75-95th impact implementation cost • Wildlife and sensitive habitat impacts along RTD and OSMP alignments • In Valmont-Isabelle ROW driveways, roadway traffic, and areas with narrow ROW present safety and implementation challenges as well as a dampened user experience • Existing plans and support along RTD ROW east of 95th • Sensitive species habitat present near the RTD ROW (eg. raptor nests) may require seasonal closure or adjustment to construction schedules - coordinate with CPW regarding regulations/recommendations	**Pros:** • Removed from cars (safety) • Scenic value • Wider right-of-way provides flexibility for environmental considerations **Cons:** • Impacts to wildlife/environment	**Pros:** • Avoids most wildlife and most wetland concerns **Cons:** • Safety concerns on the Valmont corridor due to a narrow ROW and steep adjacent slopes • Driveway impacts on implementation	**Pros:** • Safe option • Scenic opportunities **Cons:** • Greatest wildlife/environmental impacts and agricultural operations impacts	***UNDERPASS*** OPTION 1, UNDERPASS: • Avoids sensitive species habitat, safer option, although more expensive

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

TECHNICAL EVALUATION OF ALTERNATIVES

The project team and participating partners have reviewed and discussed these considerations to ensure they comprehensively cover factors relevant to assessing trail alignments in this corridor. Definitions for each consideration have been developed and reviewed in coordination with project partners to establish a shared understanding and ensure consistency in evaluating each conceptual alignment based on current project information. Additional information generated in future phases will enhance this evaluation and provide necessary details for the actual design and construction phases.

Once these considerations and the corresponding definitions were in place, the four alignments were evaluated accordingly by the project team initially and then reviewed by project partners and further refined. Due to the conceptual nature of the alignments and the data available at this stage, alignments received rankings of “Highly Favorable,” “Favorable,” “Neutral,” “Unfavorable,” or “Highly Unfavorable,” for each consideration, as shown in the key diagram below.

4	3	2	1	0
Highly Favorable	*Favorable*	*Neutral*	*Unfavorable*	*Highly Unfavorable*

The tables on the following pages show the full conceptual alignment grading matrix, and summary charts of it with totals by category and the ranking associated with that total combined in one chart for the conceptual alignments and one chart for the Hwy 287 crossing options, making it easier to see how the alignments compare to one another.

These totals by category have also been adjusted to account for the fact that the categories have differing numbers of considerations within them, as listed in the chart above. While the number of considerations per category is reflective of the complexity of the particular category and is not at all intended to represent any intentional weighting of categories based on level of importance, this difference does in effect weight different categories unequally making it more difficult to compare the scores between categories and alignments. In order to balance this out multipliers have been applied to the various categories as seen in the table below to ensure that the maximum number of “points” possible for each category is the same.

EVALUATION CATEGORIES	MAXIMUM POINTS POSSIBLE/ CONSIDERATION	NUMBER OF CONSIDERATIONS	MAXIMUM POINTS POSSIBLE/ CATEGORY	MULTIPLIER	ADJUSTED MAXIMUM POINTS POSSIBLE/ CATEGORY
Safety	4	4	16	1.75	28
Ecological Resources	4	5	20	1.4	28
Cultural Resources	4	1	4	7	28
Agricultural Resources	4	2	8	3.5	28
Implementation	4	7	28	1	28
Maintenance	4	1	4	7	28
Adjacent Property Considerations	4	4	16	1.75	28
Trail User Experience	4	6	24	1.17	28

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

EVALUATION CATEGORIES	EVALUATION CONSIDERATIONS	Conceptual Alignment 1a - RTD ROW with minimal railbed crossovers	Conceptual Alignment 1b - RTD ROW with railbed potential	Conceptual Alignment 2 - Valmont	Conceptual Alignment 3 - OSMP Property	287 Crossing - Option 1 - Underpass	287 Crossing - Option 2 - Boulder Creek
Safety	Roadway Crossings						
	Hwy 287 Crossing						
	Driveways and Other Access Crossings						
	User Sight Distances						
	[Multiplier =1.75] Total out of 28:	*19*	*19*	*9*	*18*	*18*	*11*
Ecological Resources	Fragmentation of Designated Habitat cause by BERT						
	Wetlands						
	T&E or Species of Management Interest Habitat						
	Introduction of Invasive Species						
	Floodplains/Floodplain Resource Management						
	[Multiplier =1.4] Total out of 28:	*3*	*4*	*18*	*3*	*14*	*7*
Cultural Resources	Proximity to Cultural Sites						
	[Multiplier =7] Total out of 28:	*21*	*21*	*21*	*21*	*21*	*21*
Agricultural Resources	Agricultural Use, Productivity and Management						
	Ditch and Lateral Access, Operations, and Maintenance						
	[Multiplier =3.5] Total out of 28:	*14*	*14*	*4*	*4*	*14*	*11*
Implementation	Uses Existing Facilities/Right of Ways						
	Compatibility with Future Development/Redevelopment						
	Construction Costs						
	Mitigation Costs						
	Permitting						
	Ease/Speed of Implementation						
	Construction Impacts						
	[Multiplier =1] Total out of 28:	*13*	*13*	*10*	*5*	*9*	*13*
Maintenance	Maintenance Cost						
	[Multiplier =7] Total out of 28:	*14*	*14*	*0*	*7*	*0*	*0*
Adjacent Property Considerations	Ability of BOCO or RTD ROW and property to complete the project						
	Need for Use of Other Public Lands						
	Need for Use of Private Property						
	Adjacent Land Use						
	[Multiplier =1.75] Total out of 28:	*25*	*25*	*7*	*9*	*21*	*12*
Trail User Experience	Directness of Alignment						
	Recreational Value						
	Connectivity to existing or potential Trailheads, Trails, and other Routes						
	Connectivity to Origins and/or Destinations						
	Trailheads						
	Interpretive Opportunities						
	[Multiplier =1.17] Total out of 28:	*25*	*25*	*18*	*22*	*15*	*20*

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

TECHNICAL EVALUATION OF ALTERNATIVES

EVALUATION CATEGORIES	Conceptual Alignment 1a- RTD ROW with minimal railbed crossovers	Conceptual Alignment 1b - RTD ROW with railbed potential	Conceptual Alignment 2 - Valmont	Conceptual Alignment 3 - OSMP Property
Safety				
Ecological Resources				
Cultural Resources				
Agricultural Resources				
Implementation				
Maintenance				
Adjacent Property Considerations				
Trail User Experience				

KEY
Highly Favorable
Favorable
Neutral
Unfavorable
Highly Unfavorable

EVALUATION CATEGORIES	287 Crossing - Option 1 - Underpass	287 Crossing - Option 2 - Boulder Creek
Safety		
Ecological Resources		
Cultural Resources		
Agricultural Resources		
Implementation		
Maintenance		
Adjacent Property Considerations		
Trail User Experience		

ALTERNATIVES TRADE-OFFS:

- All alignments rank “Favorable” in the cultural resource category.
- Seasonal wildlife closures are not required by Federal regulations on any alignment but CPW recommends seasonal closures related to specific nests for all alignments.
- Alignments 1a and 1b are very similar to each other. Both have an average rank of “Favorable” or “Highly Favorable” for safety, adjacent property considerations, and trail user experience while ranking “Neutral” for agricultural resources, implementation, and maintenance. However, both alignments rank “Highly Unfavorable” for ecological resources. Alignment 1b does offer slightly more flexibility in placement than 1a and it is hoped that this could be used to aid in mitigation of some ecological resource concerns, making 1b slightly preferable to 1a in this regard. Further environmental data and discussion is needed in the next phase of the project.
- While Alignment 2 ranks “Unfavorable” for safety, and as such, it does not meet the overall project goal of providing a safe trail due to its close proximity to Valmont Road and the number of driveway crossings. It also ranks “Unfavorable” for implementation because of all the permanent easements that would have to be obtained from private property owners (who may not be willing) to obtain enough right-of-way for the trail and the driveway crossings. It ranks “Favorable” for ecological resources due to the way it diverts around the section between 75th and 95th where a significant number of ecological resources are present. However it ranks “Highly Unfavorable” for agricultural resources and maintenance. Agricultural resource concerns are due largely to the impacts to agricultural land and ditches in the segments getting to and from Valmont from the RTD ROW. Maintenance concerns are due to the challenges associated with all of the various trail crossings that would be present along the Valmont segment.
- Alignment 3 ranks “Favorable” for safety and trail user experience, but it ranks “Highly Unfavorable” for implementation, ecological resources, agricultural resources due to the way it routes through existing agricultural lands in an attempt to avoid areas of ecological concern in the RTD ROW. It also ranks “Unfavorable” for maintenance and adjacent property considerations due to this interface with operations in the area.

HWY 287 CROSSINGS TRADE-OFFS:

- Both options rank “Favorable” for cultural resources and both rank “Highly Unfavorable” for maintenance considerations.
- Option 1 performs ranks “Favorable” for safety and adjacent property considerations due to the fact that it does not interface with Hwy 287 and it generally stays within the RTD ROW. Staying in line with the RTD ROW also contributes to its “Neutral” ranking for ecological resources, agricultural resources, and trail user experience. Implementation is “Unfavorable” due to the high cost of engineering and construction.
- Option 2 performs worse than option 1 for safety, ranking “Unfavorable” due to its greater proximity to US 287. It also ranks “Unfavorable” for ecological and agricultural resources and “Neutral” for adjacent property considerations due to its route adjacent to Boulder Creek and existing agricultural land. It is also more favorable in terms of implementation, due to its lower construction costs, and trail user experience due to its more open route as opposed to the buried underpass.

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

PREFERRED ALIGNMENT FOR FURTHER CONSIDERATION THEMES & PREFERENCES

Public Input

Public input into the selection of the preferred alignment primarily stems from a statistically valid survey and notes and input gathered from public meetings, Community Working Group (CWG) sessions, emails and written feedback.

- Based on our statistically valid survey which received close to 500 responses:
  - 93% of respondents indicated their intent to use the BERT when it is built, and
  - 52% of respondents indicated their intent to use the trail 1-4 days per week when it is built
- Safety, specifically separation of trail and roads, emerged as a top priority
- Other significant considerations included:
  - The desire for a quick implementation timeline
  - A direct route
  - Minimal impacts on private property; and
  - Opportunities to enjoy scenic views
  - Environmental impact reduction was also consistently highlighted as a high priority by the public
- Overall, these values align with a preference for Alignment 1 within the RTD ROW
- At US 287, there is a preference for an underpass, though there is an openness to exploring the Boulder Creek option if it could promise faster construction

Steering Committee And Stakeholder Input

Steering committee and stakeholder input into the preferred alignment for further consideration selection process primarily comes from comments, notes, and written feedback from steering committee meetings and additional partner reviews and discussion.

- The steering committee expressed a strong desire to understand, evaluate, and minimize environmental impacts throughout the planning process and this effort will continue into sequent design phases. Balancing this effort with other trail goals, like safety was, and will continue to be, a key topic of conversation.
- Similar to the public, the safety of a trail facility separated from the road emerged a priority for most stakeholder groups
- Other values included:
  - Feasibility
  - Directness of route; and
  - Connectivity
- These values are consistent with a preference for Alignment 1 within the RTD ROW
- At US287, there is a slight preference for an underpass. CDOT specifically, as the owner of Hwy 287, also expressed a preference for an underpass

Technical Evaluation of Alternatives

Throughout the technical evaluation of alternatives process, the project team and participating partners reviewed and discussed the various considerations to ensure they comprehensively cover factors relevant to assessing trail alignments in this corridor. Definitions for each consideration were developed and reviewed in coordination as were the favorability rating assigned to each consideration. Additional information generated in future phases of the project after the BERT plan is complete will enhance this evaluation and provide further necessary details for the actual design and construction phases.

- All alignments involve tradeoffs between the considerations
- All alignments ranked “Favorable” for cultural resource considerations
- 1a and 1b ranked the most favorable in the **Safety, Adjacent Property Considerations**, and **Trail User Experience** well
- 1a and 1b ranked “Neutral” in **Agricultural Resources, Implementation**, and had the least “Highly Unfavorable” consideration in **Maintenance**
- 1a and 1b ranked mostly “Highly Unfavorable” in the Ecological Resources category, with 1b having one less “Highly Unfavorable” ranking
- Alignment 2 ranks the most favorable for Ecological Resources
- Alignment 2 has mostly “Unfavorable” rankings for safety, “Unfavorable” and “Highly Unfavorable” rankings for agricultural resources, maintenance, and adjacent property considerations
- Alignment 3 ranks mostly favorable for safety and trail user experience
- Alignment 3 has mostly “Highly Unfavorable” rankings for ecological resources and “Unfavorable” and “Highly Unfavorable” rankings for agricultural resources, implementation, maintenance and adjacent property considerations
- At US 287, there was a slight preference for an underpass

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

SUMMARY OF ENGAGEMENT

[This will be summaries of our final Steering Committee, CWG, and Public meetings once all are done]

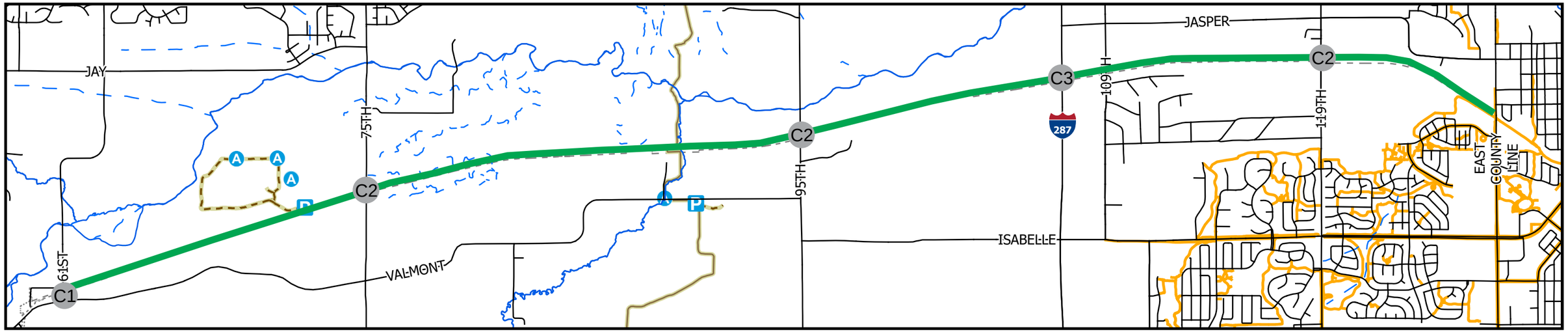
[This page intentionally left blank]

PREFERRED ALIGNMENT FOR FURTHER CONSIDERATION

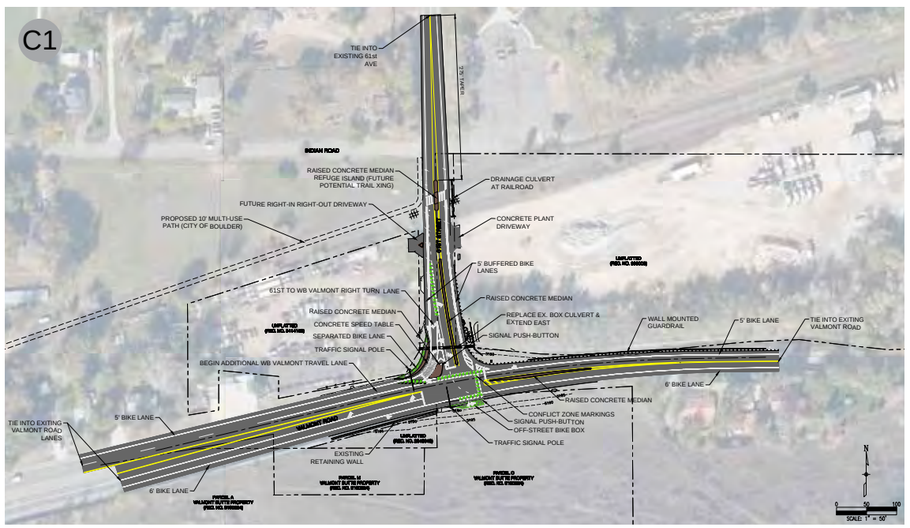
BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

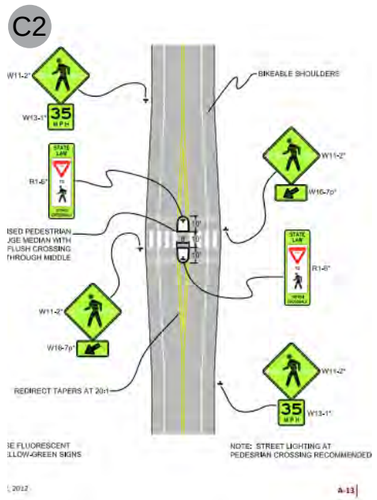
PREFERRED ALIGNMENT FOR FURTHER CONSIDERATION DESCRIPTION

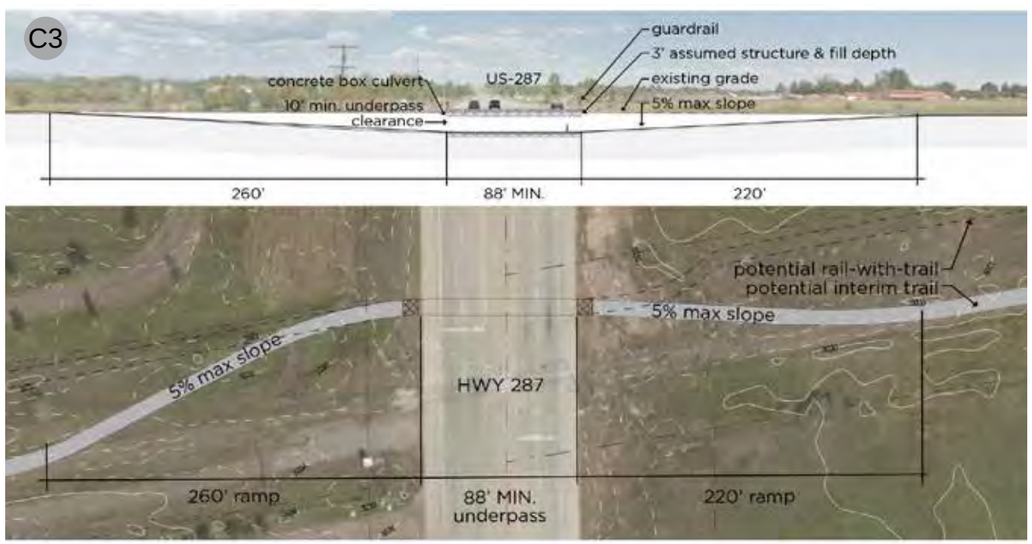
ALIGNMENT 1B - The preferred BERT trail alignment for further consideration is a 10ft wide soft surface trail located in the RTD row off of the rail bed, unless there is a wetland avoidance advantage gained by locating on top of the existing railbed. It crosses 75th, 95th, and 119th with Boulder County multi-modal standards crossing A-13 (crossing C2 below), crosses Hwy 287 with an underpass (crossing C3 below). 109th is crossed with a traditional crosswalk due to lower traffic volumes.



Crossings





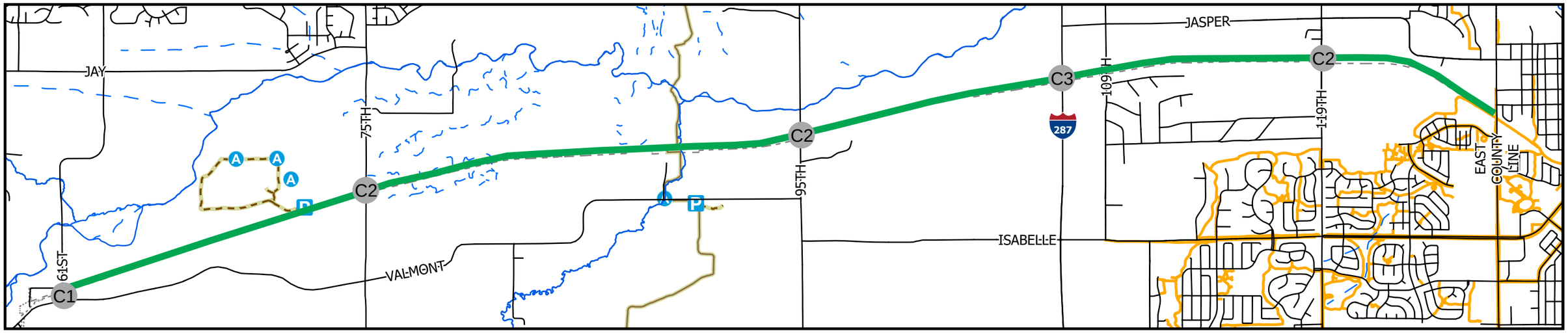


BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

PREFERRED ALIGNMENT - OVERVIEW

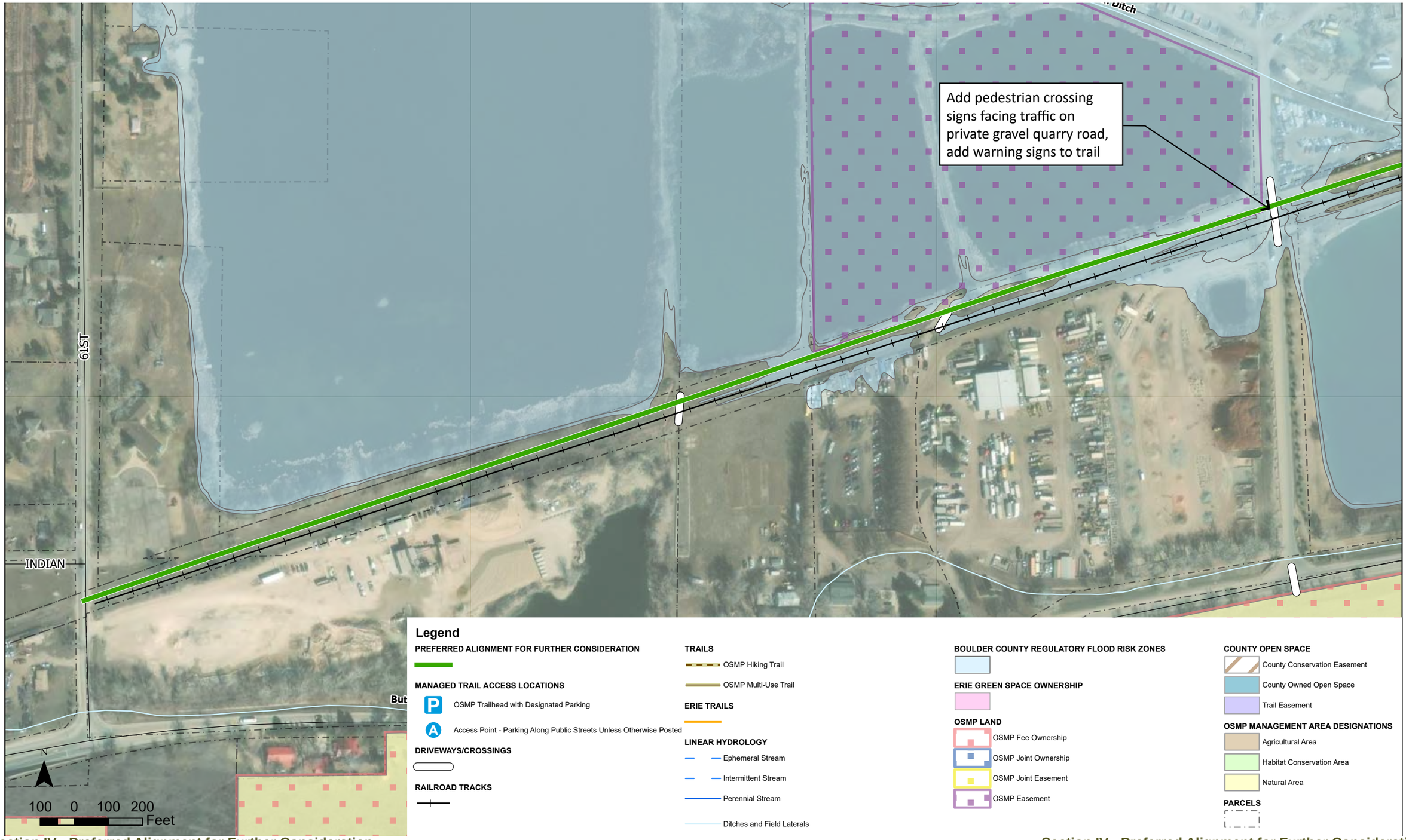
Characteristics of BERT

- The BERT will be a 10’ wide soft surface trail except where crossing the existing tracks, roadways, or proposed bridges and underpasses. Other materials or treatments may be proposed as part of final design.
- The BERT will connect to the City of Boulder and Town of Erie trail systems at each end. The BERT will intersect the White Rocks Trail. Specific signage needs and other considerations will be coordinated with the appropriate agencies.
- The BERT will be adjacent or easily connected to nearby trailheads. Additional discussion and coordination will be part of final design.
- Opportunities for rest areas, benches, interpretive facilities, and additional trailheads will be explored as part of final design.
- Fencing along the corridor will be added or improved as needed based on discussions with adjacent landowners.
- Existing right-of-way access agreements will remain in place, and gates or other access points will be maintained or provided as needed.
- Movement of livestock across the right-of-way where it intersects grazing operations will be accommodated.



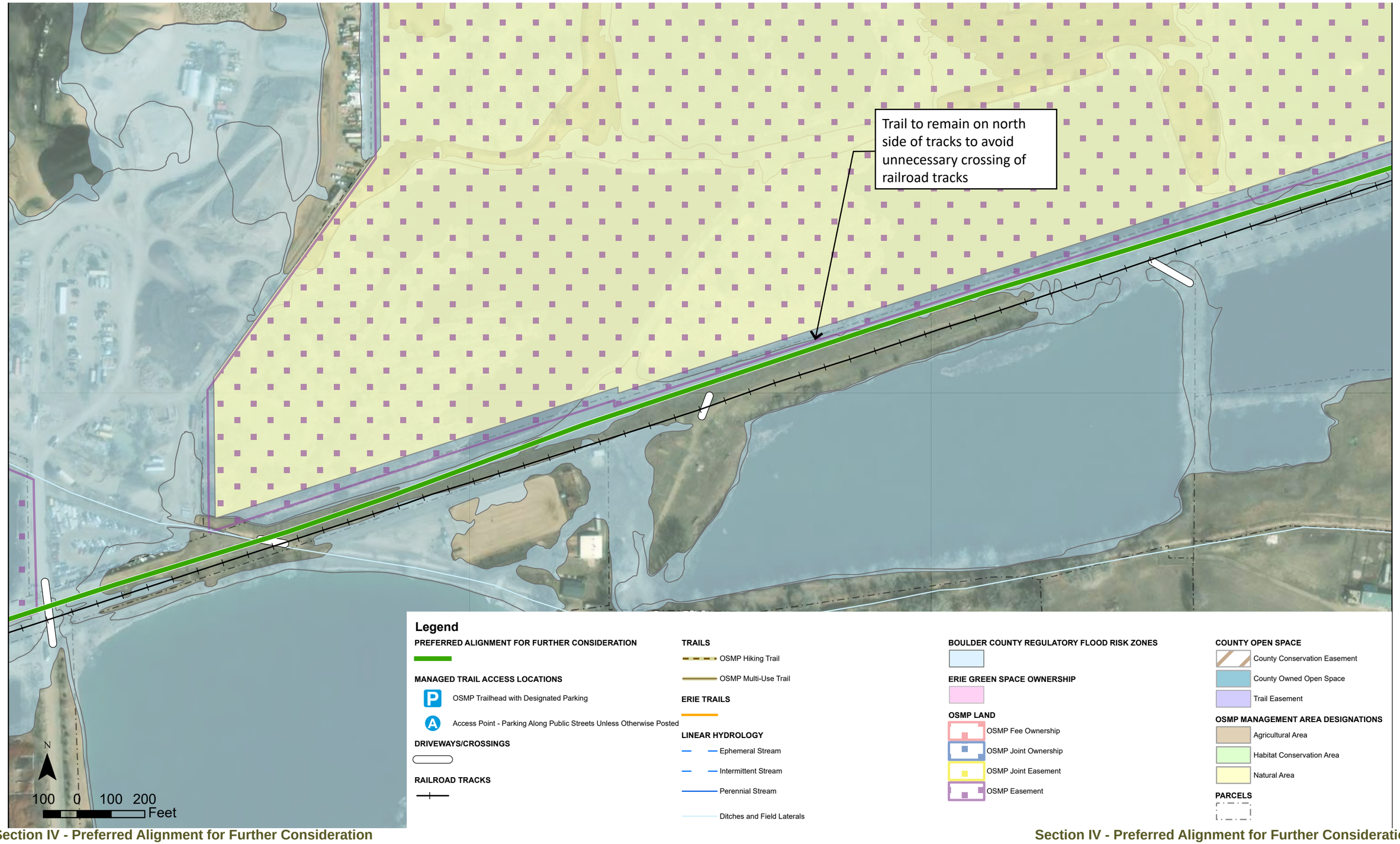
BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

PREFERRED ALIGNMENT - DETAILED



BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

PREFERRED ALIGNMENT - DETAILED

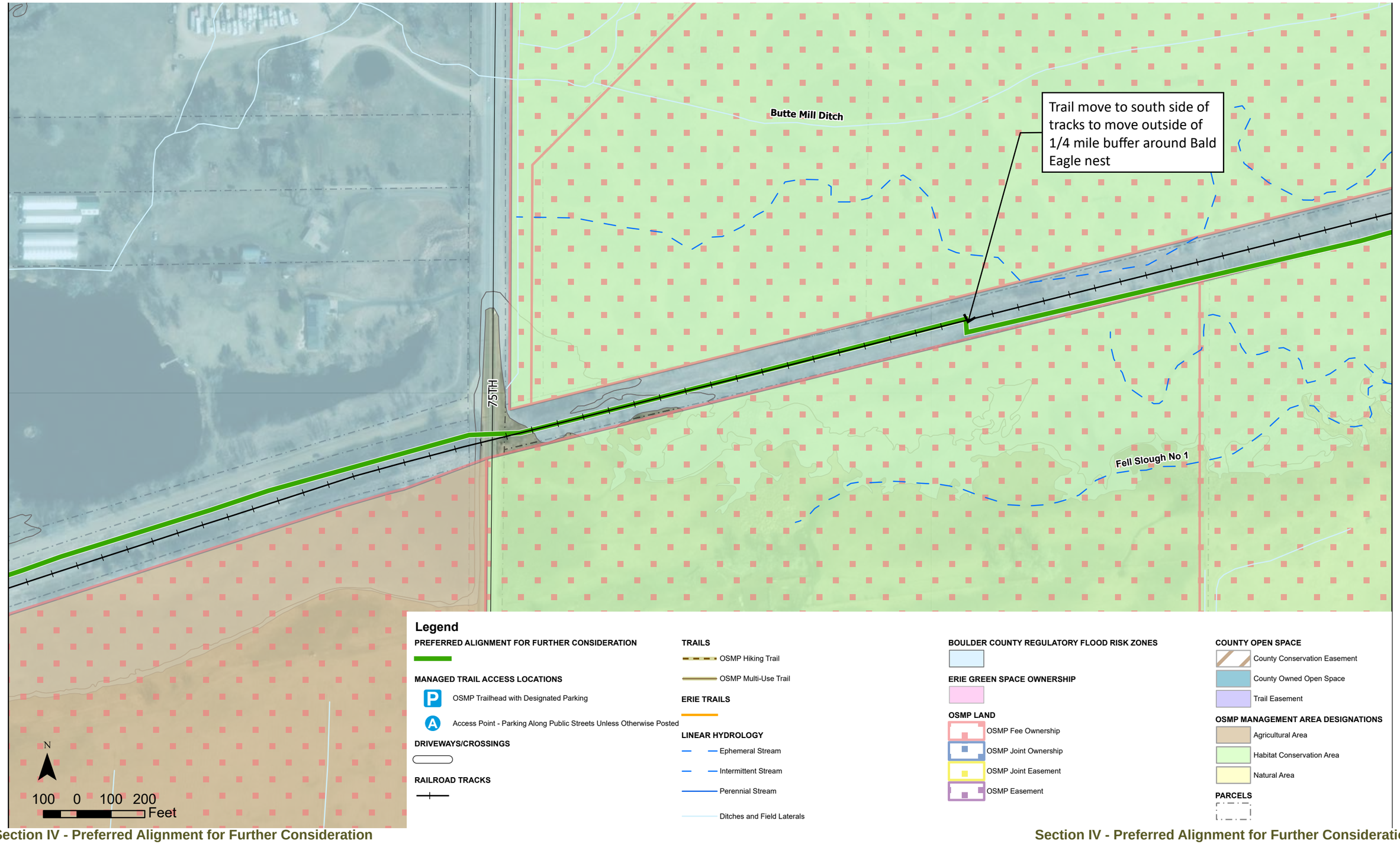


BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

PREFERRED ALIGNMENT - DETAILED

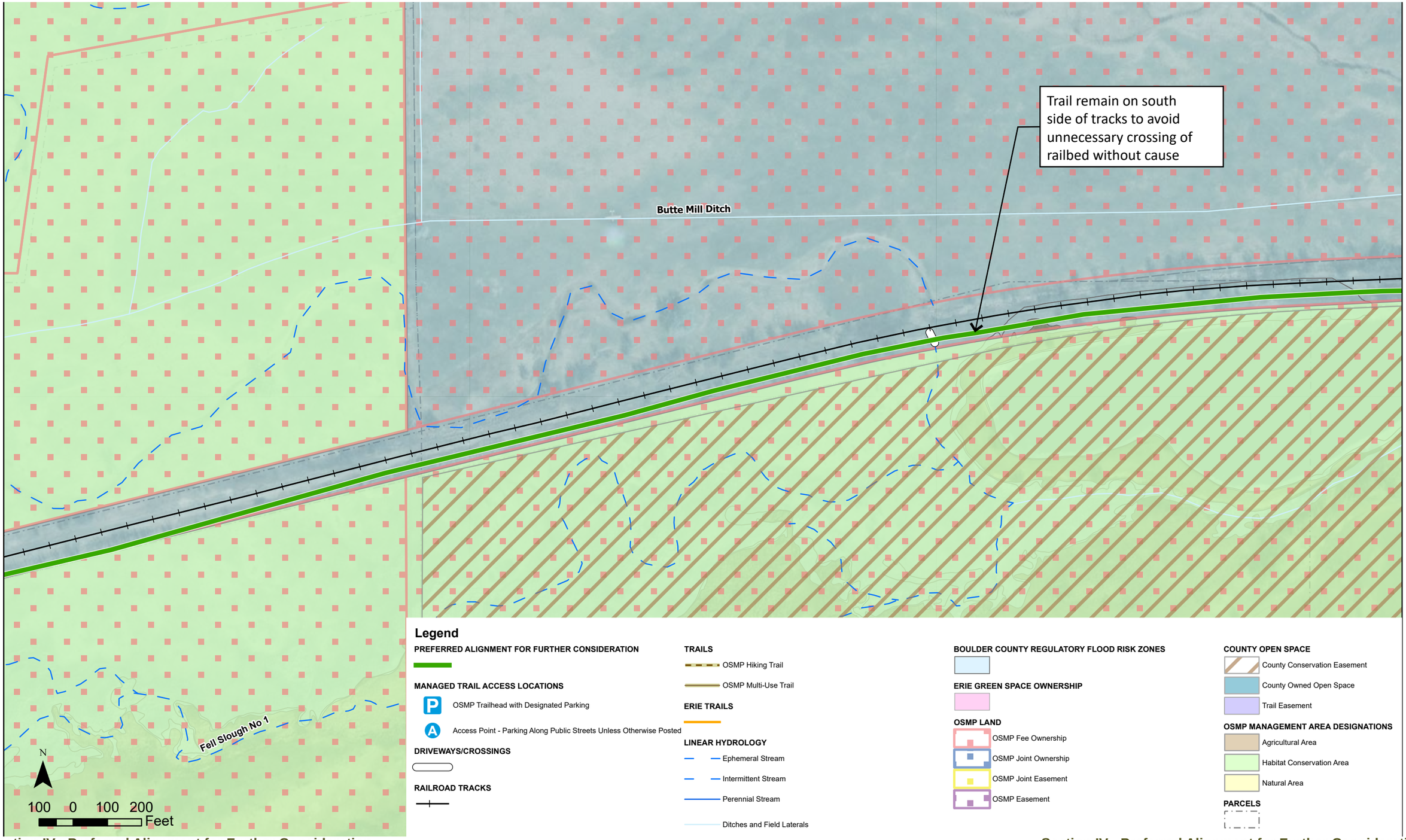
BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

PREFERRED ALIGNMENT - DETAILED



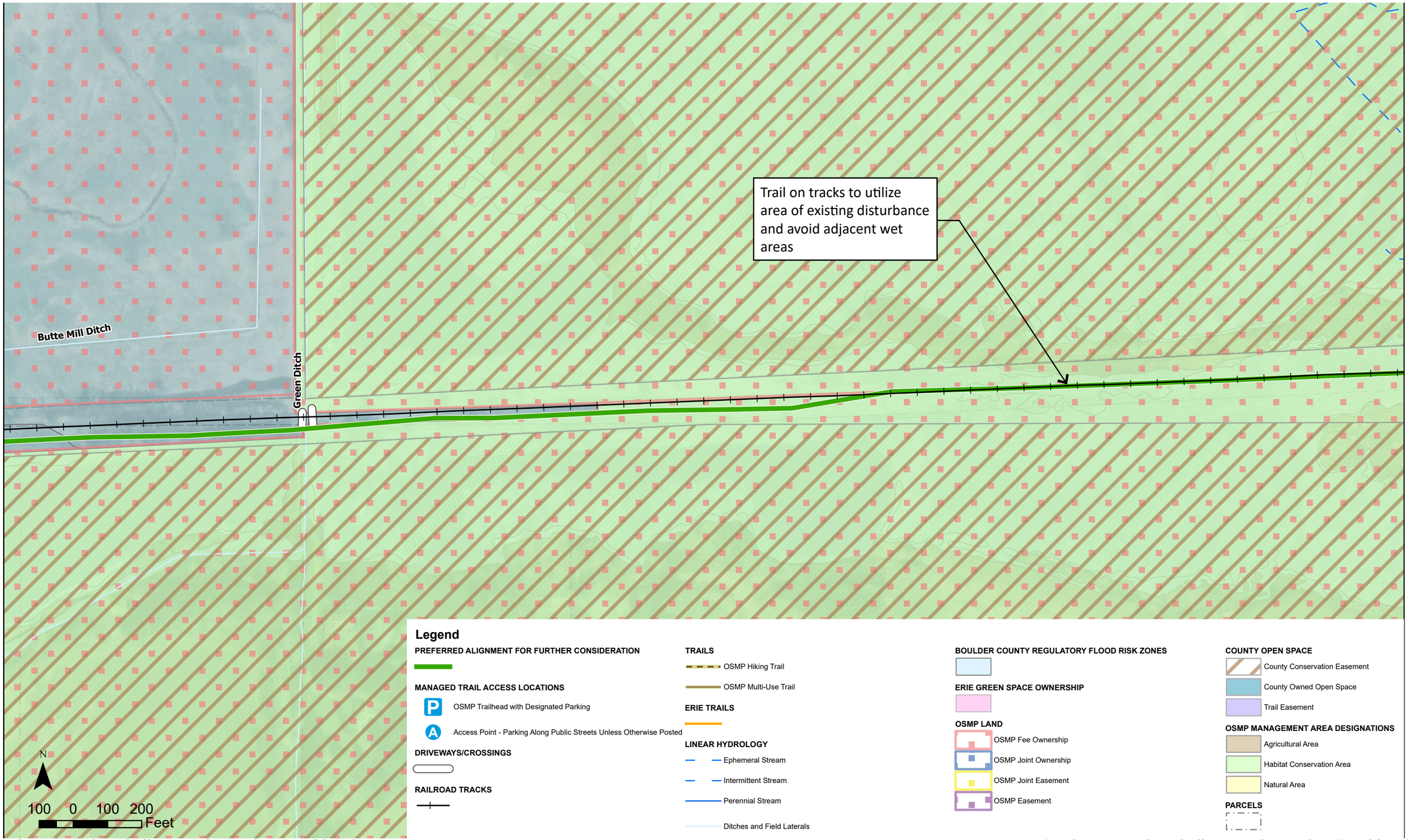
BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

PREFERRED ALIGNMENT - DETAILED



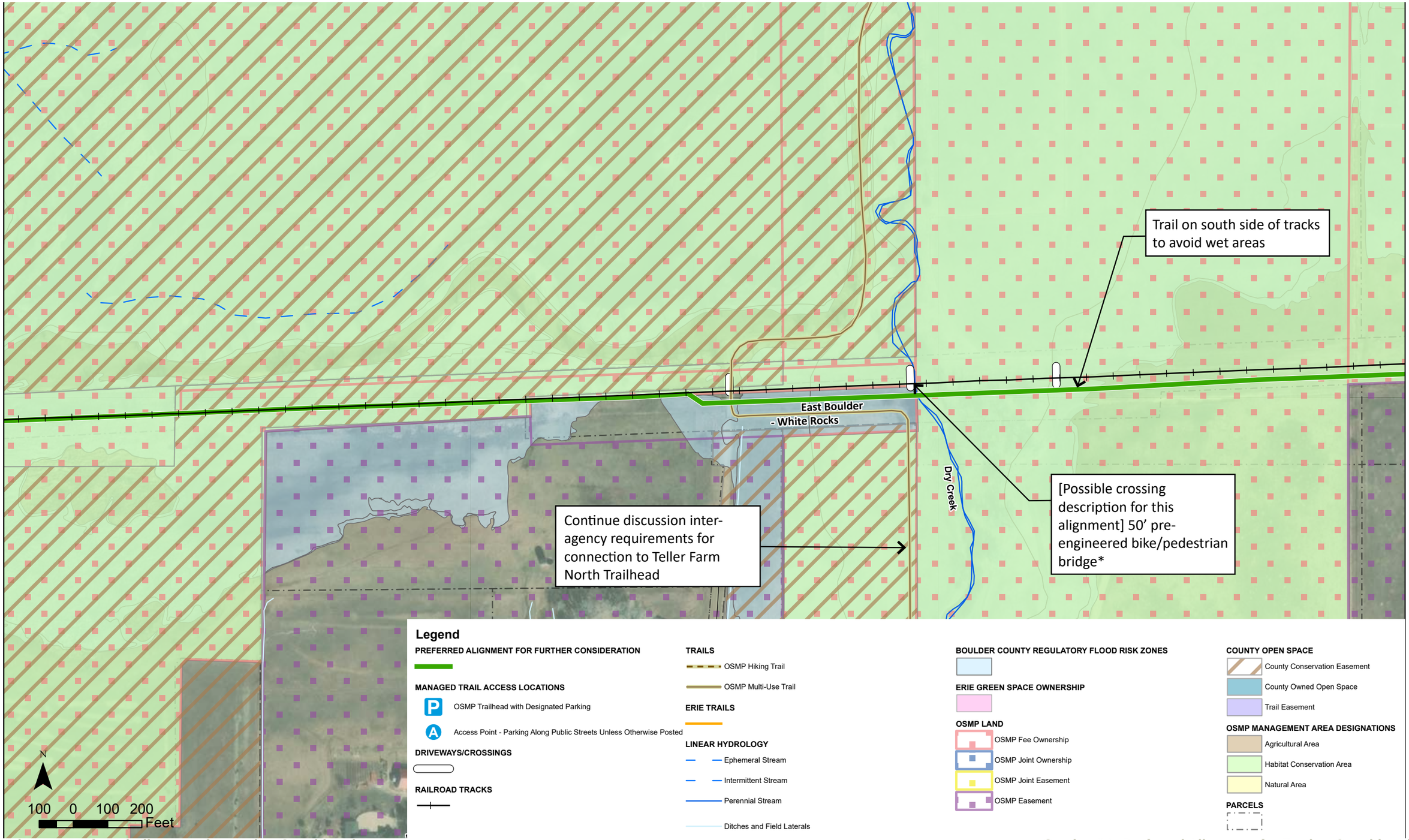
BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

PREFERRED ALIGNMENT - DETAILED



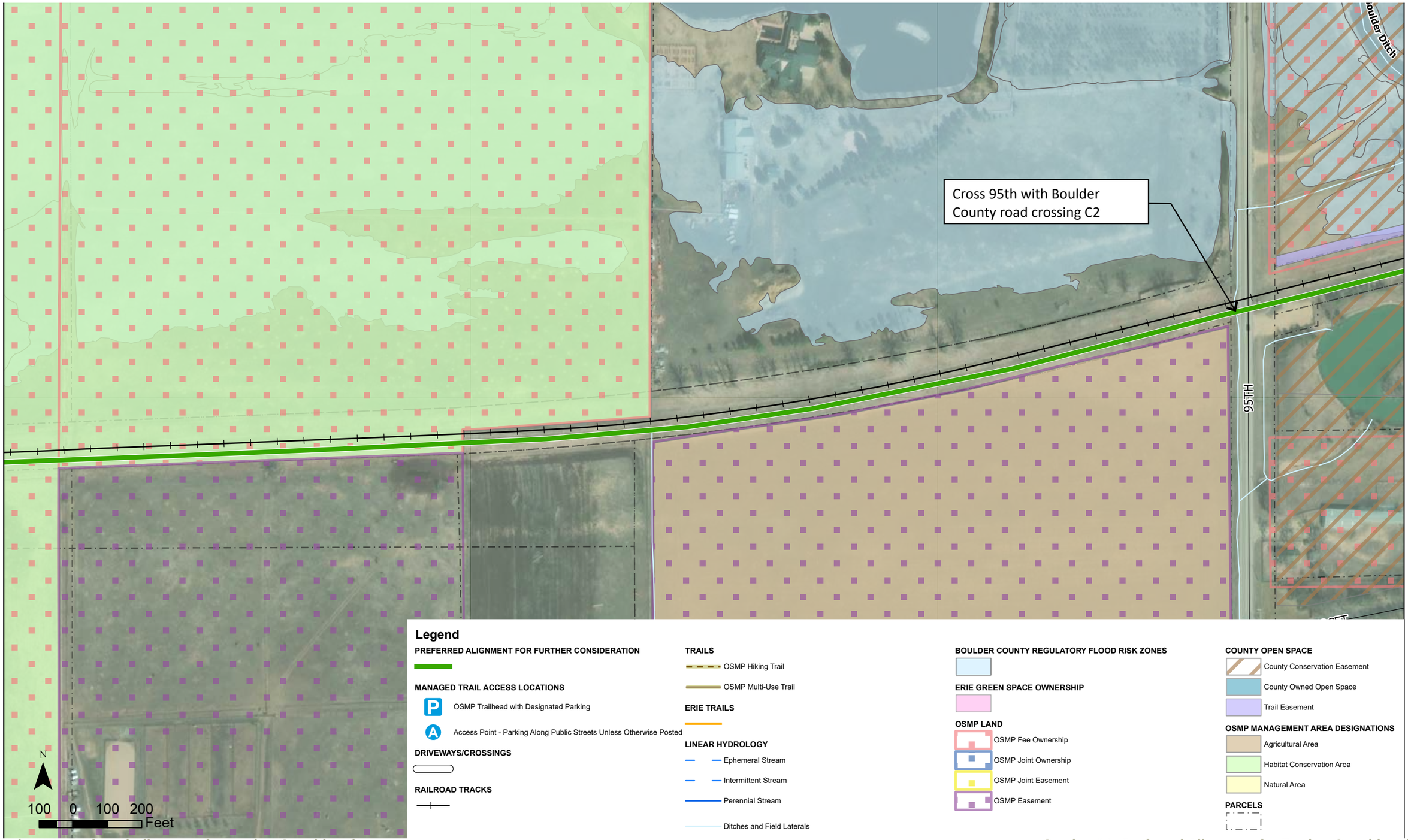
BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

PREFERRED ALIGNMENT - DETAILED



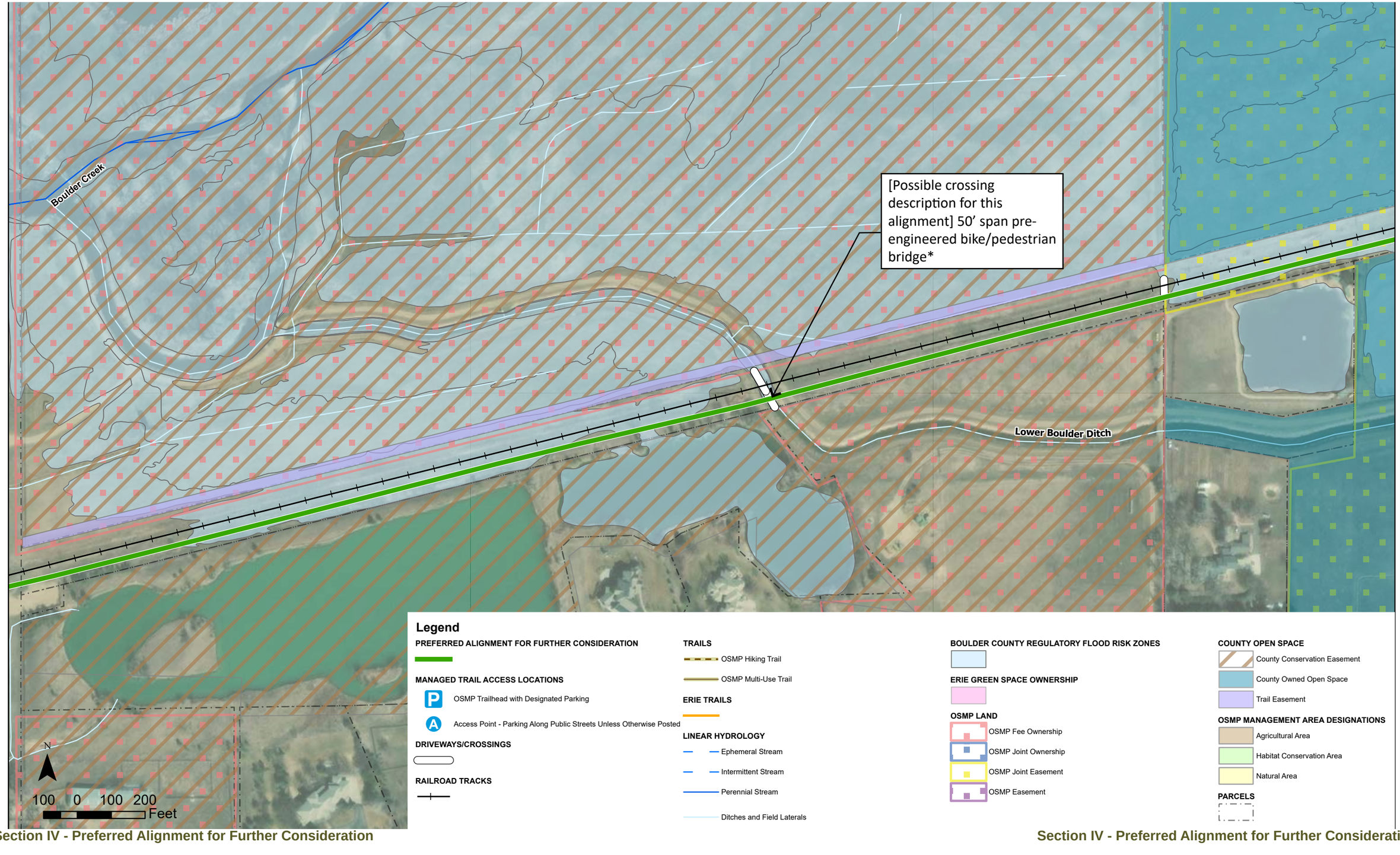
BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

PREFERRED ALIGNMENT - DETAILED



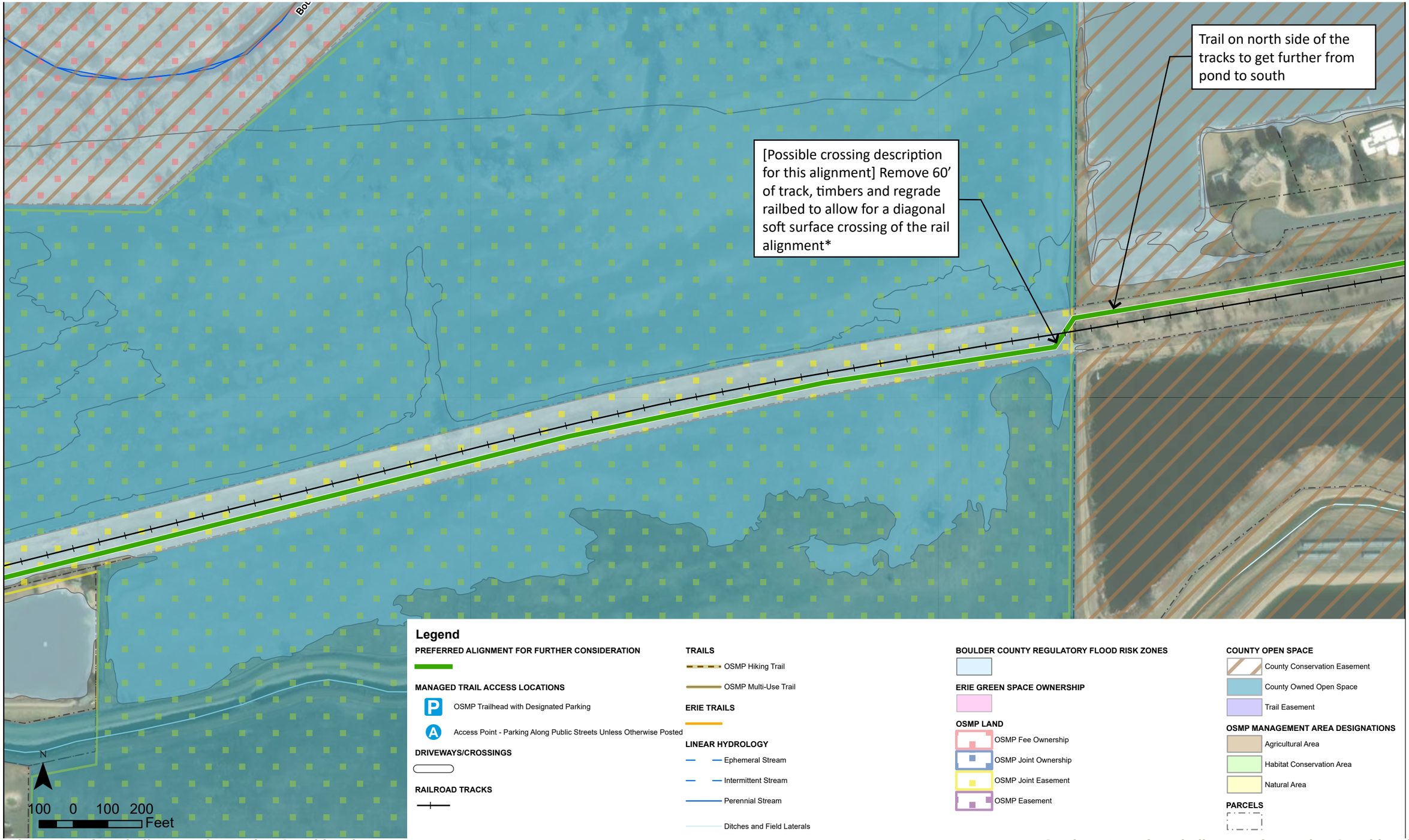
BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

PREFERRED ALIGNMENT - DETAILED



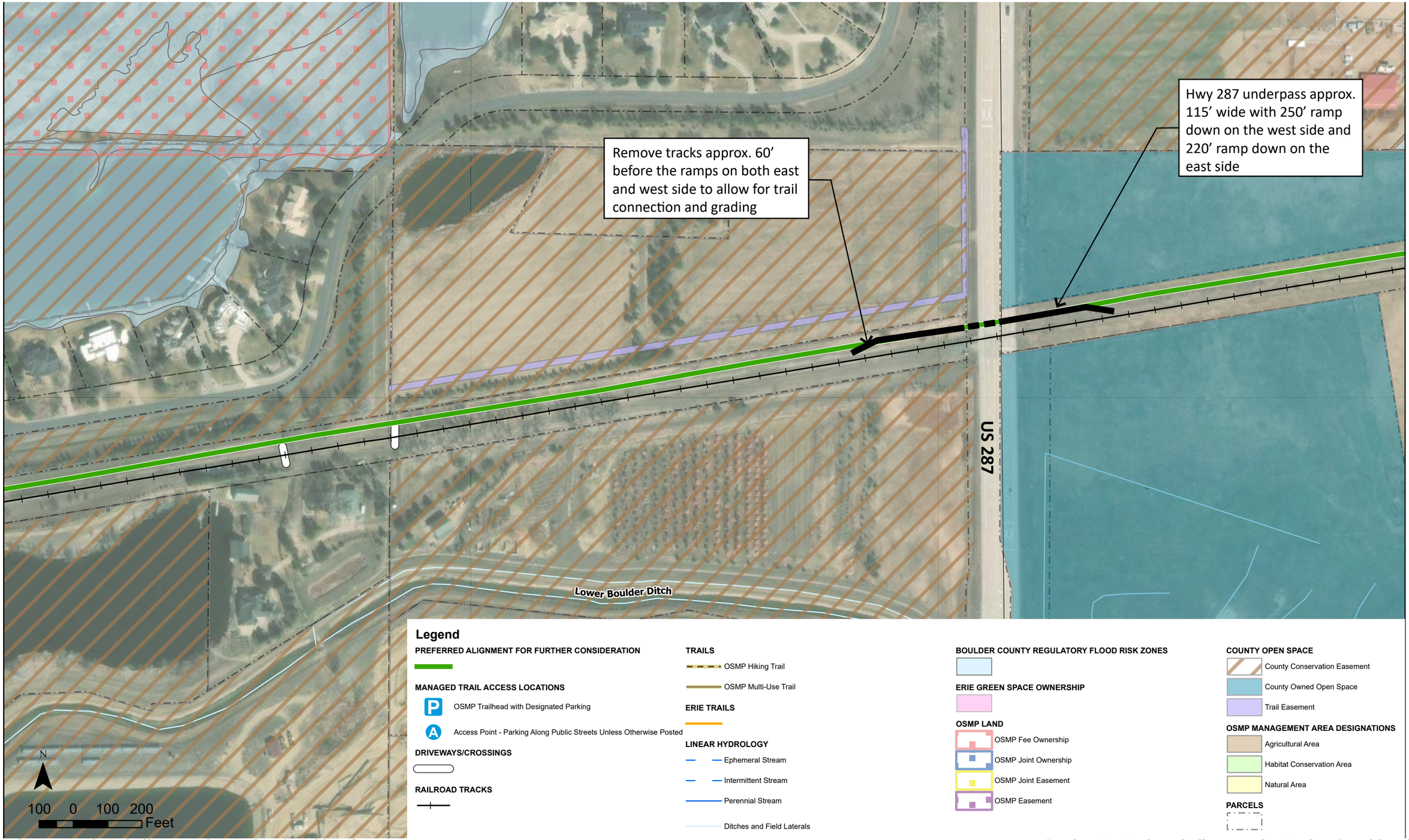
BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

PREFERRED ALIGNMENT - DETAILED



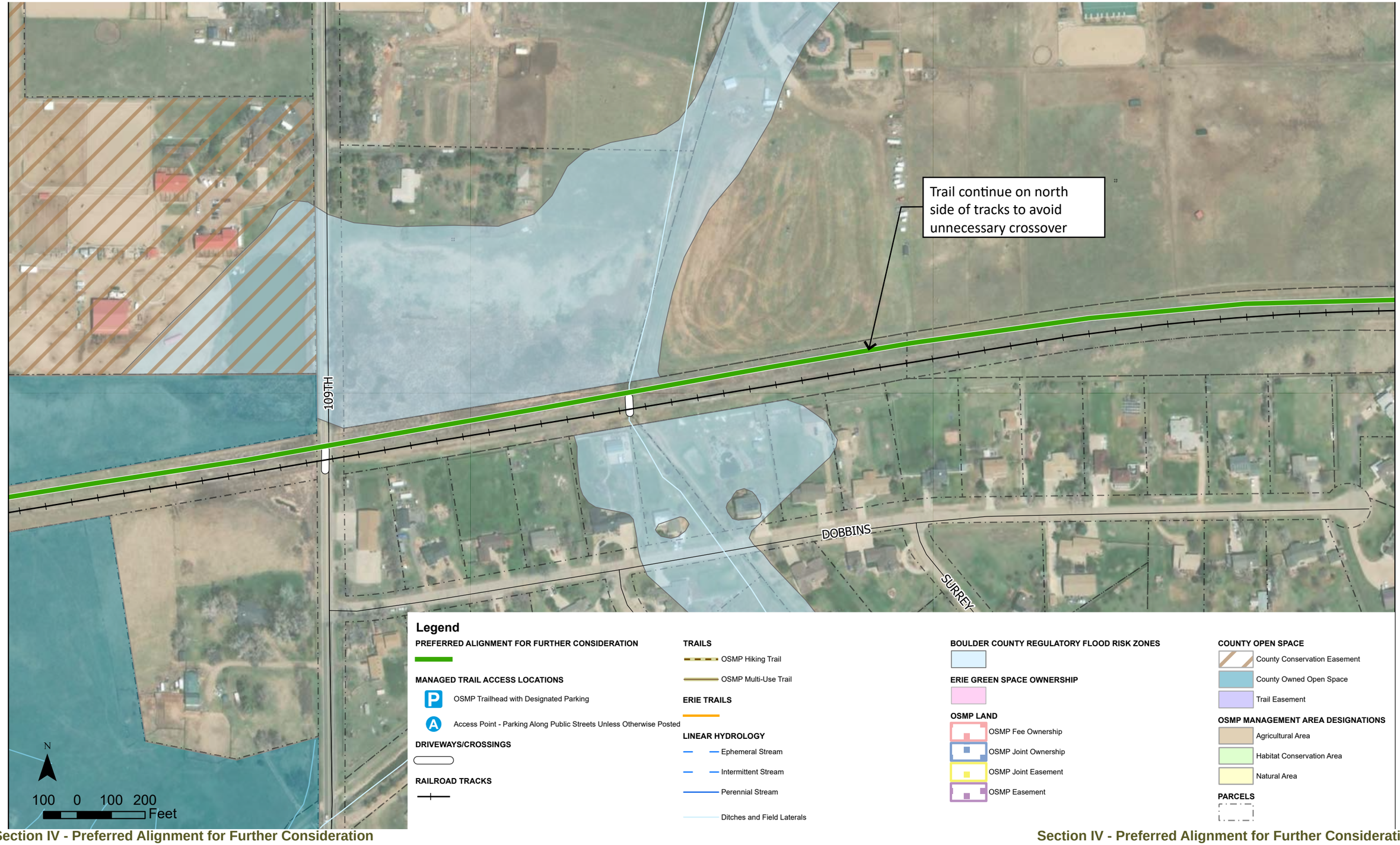
BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

PREFERRED ALIGNMENT - DETAILED



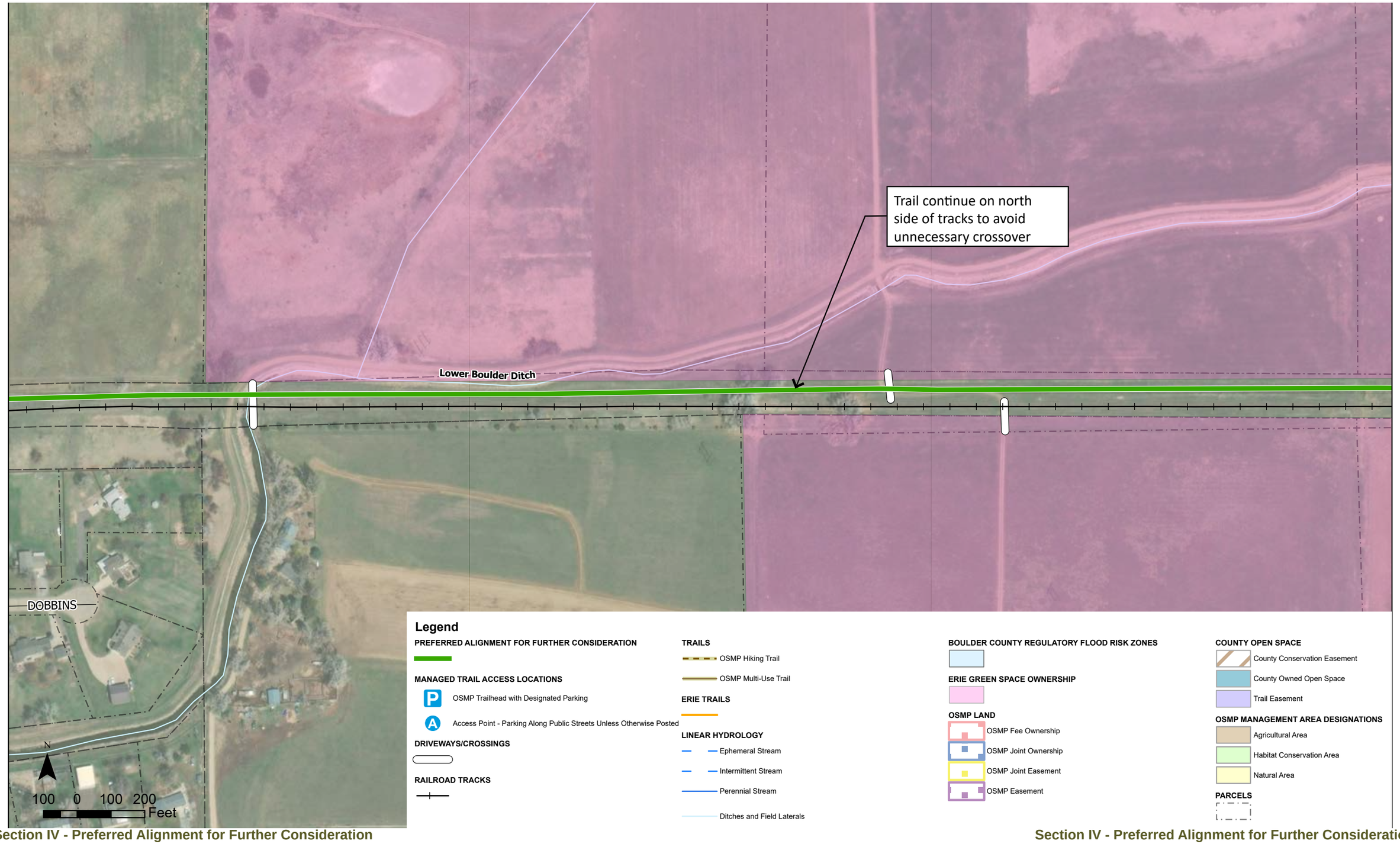
BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

PREFERRED ALIGNMENT - DETAILED



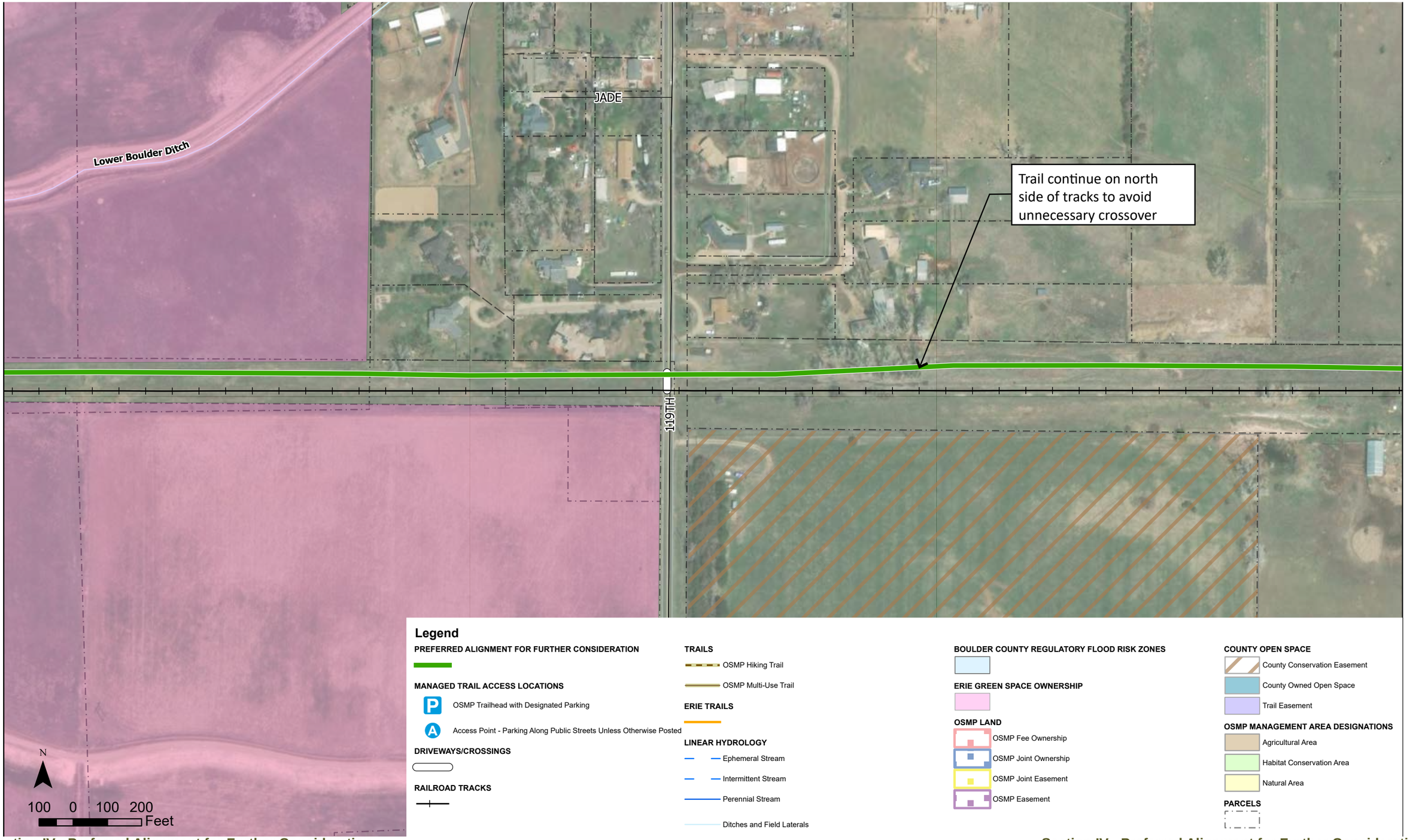
BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

PREFERRED ALIGNMENT - DETAILED



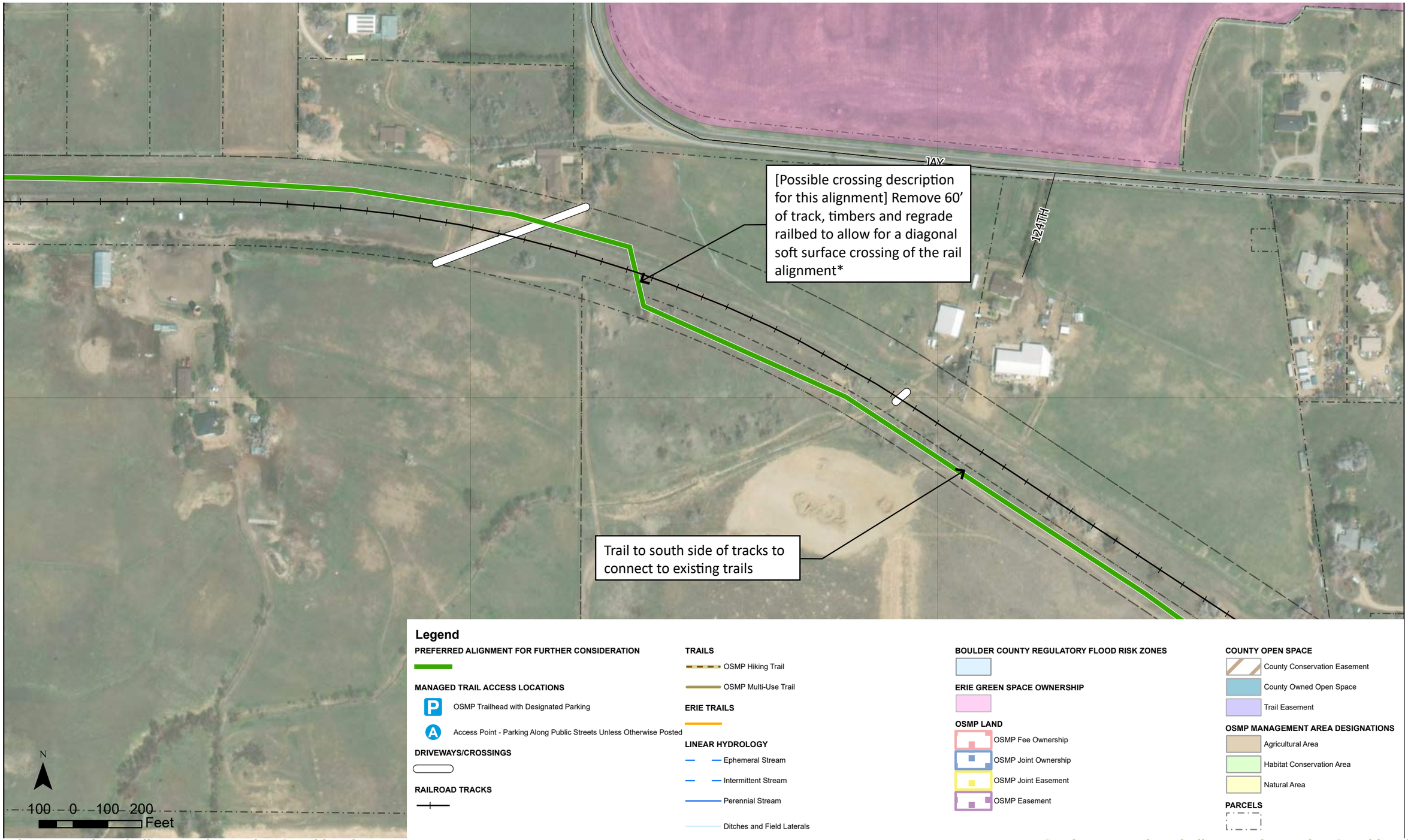
BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

PREFERRED ALIGNMENT - DETAILED



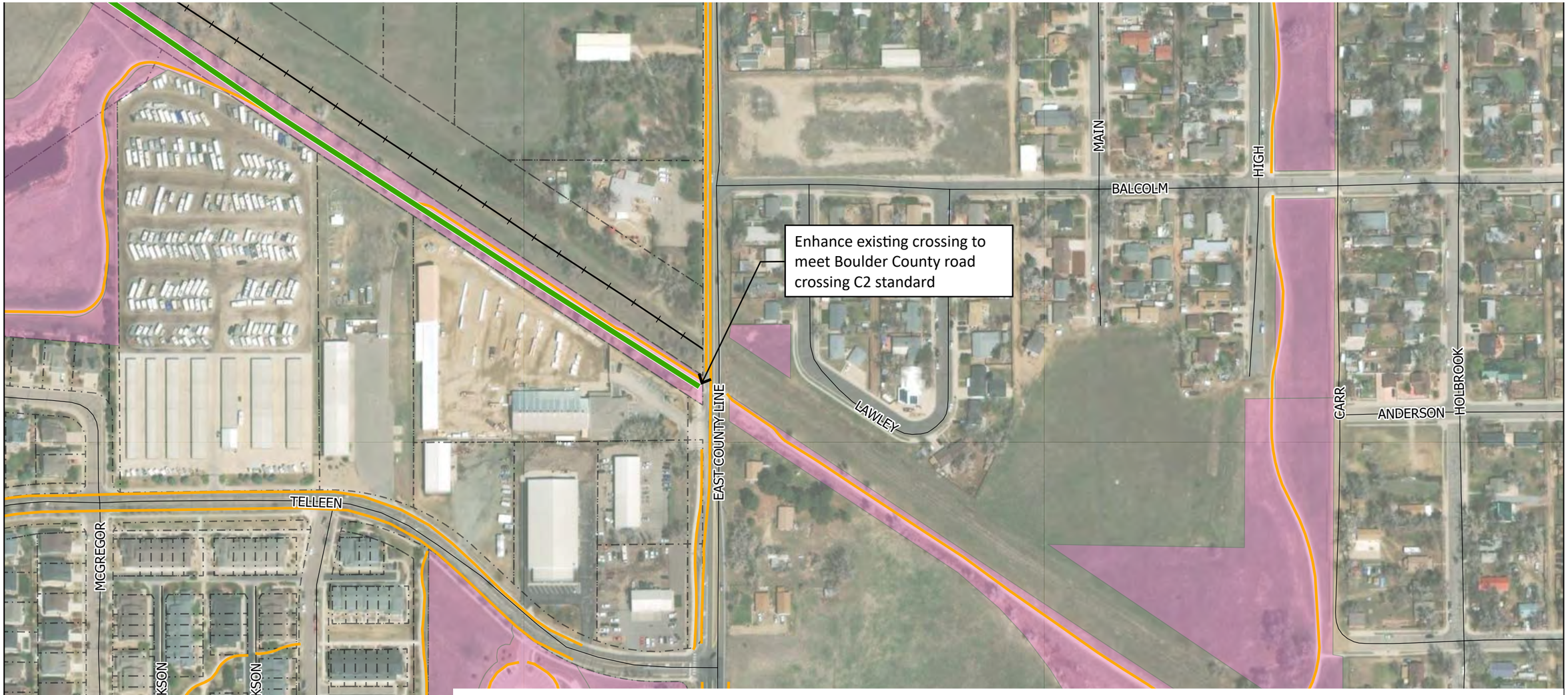
BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

PREFERRED ALIGNMENT - DETAILED



BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

PREFERRED ALIGNMENT - DETAILED



Legend

PREFERRED ALIGNMENT FOR FURTHER CONSIDERATION

MANAGED TRAIL ACCESS LOCATIONS

- OSMP Trailhead with Designated Parking
- Access Point - Parking Along Public Streets Unless Otherwise Posted

DRIVEWAYS/CROSSINGS

RAILROAD TRACKS

TRAILS

- OSMP Hiking Trail
- OSMP Multi-Use Trail

ERIE TRAILS

LINEAR HYDROLOGY

- Ephemeral Stream
- Intermittent Stream
- Perennial Stream
- Ditches and Field Laterals

BOULDER COUNTY REGULATORY FLOOD RISK ZONES

ERIE GREEN SPACE OWNERSHIP

OSMP LAND

- OSMP Fee Ownership
- OSMP Joint Ownership
- OSMP Joint Easement
- OSMP Easement

COUNTY OPEN SPACE

- County Conservation Easement
- County Owned Open Space
- Trail Easement

OSMP MANAGEMENT AREA DESIGNATIONS

- Agricultural Area
- Habitat Conservation Area
- Natural Area

PARCELS

FURTHER DEVELOPMENT & DISCUSSION

Raptor and Great Blue Heron Nests

The areas adjacent to the RTD ROW where the BERT preferred alignment for further consideration is located provides habitat for numerous nesting raptors and two great blue heron rookeries (heron rookeries). CPW and OSMP recommend seasonal trail closures for three osprey nests, one northern harrier nests, two red-tailed hawk nests, two bald eagle nests, and one great blue heron rookery. These are recommendations, not formal requirements, and the final decision will be up to the Boulder County Commissioners. As such, the project team took a closer look at these nests and their relationship to the proposed BERT in order to understand any potential adverse effects and begin the process of minimizing and mitigating these potential effects as much as possible. This is the beginning of this process and it will continue further during the future design phase for BERT.

Following a systematic step-by-step evaluation approach, ERO Resources Corporation (ERO) developed tailored buffer recommendations and other minimization methods for existing raptor nests and heron rookeries based on site-specific conditions. Tailored buffers are buffers specific to each nest and its on the ground context, as opposed to standard buffer recommendations based more generally on only species. The analysis report generated by ERO was reviewed, and discussed by the project team, City of Boulder Open Space and Mountain Parks (OSMP), and Colorado Parks and Wildlife (CPW). The full report, comments, and recommendations and discussion can all be found in the appendix of this document.

BOUDLER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

Approach for the Raptor and Heron Nest Evaluation

Starting with the OSMP nest map data, ERO evaluated each nest site/heron rookery using the following criteria:

1. Surrounding level of human disturbance
2. Distance to the nearest disturbance
3. Adoption of OSMP tailored spatial buffers for osprey nests or distance to nearest disturbance
4. Evaluation of red-tailed hawks and northern harriers on a breeding territory basis
5. Presence of visual screening
6. Applied a tiered buffer approach of great blue heron rookeries buffers

These criteria were calculated for each nest in a step-by-step process and recorded in the table below. The chart below also notes the recommendations offered by Colorado Parks and Wildlife (CPW) for each species present.

Species	Nest #	Nearest Disturbance Element	Disturbance		Distance to Trail (ft) **	Breeding Territory		Visual Buffer	Tailored Buffer	ERO Comments	Colorado Parks and Wildlife (CPW) Recommendations
			Level (H,M,L)*	Distance (Feet)		#	Acres				
Bald Eagle	1	Mine	H*	820	1535	N/A	N/A	Yes	.25 mile	Distance to nearest high or medium disturbance for all eagle nests falls between the USFWS 660- ft. buffer and 0.25-mile buffer	No seasonal closure recommended due to the amount of existing disturbance around the nest
Bald Eagle	2	N 75th St.	H*	1300	1255	N/A	N/A	Partial	.25 mile		No surface occupancy within 1/4 mile buffer around bald eagle nests. Seasonal closures during nesting season (December to August) within 1/2 mile buffer around nests.
Bald Eagle	3	Year-round Trail	M*	954	1640	N/A	N/A	Proposed	.25 mile		No surface occupancy within 1/4 mile buffer around bald eagle nests. Seasonal closures during nesting season (December to August) within 1/2 mile buffer around nests.
Bald Eagle	4	Residential	H*	950	1915	N/A	N/A	Yes	.25 mile		No seasonal closure recommended due to the amount of existing disturbance around the nest
Red-Tailed Hawk	1	Residential	H	0	765	1	460	Proposed	Territory	Territory larger than CPW buffer and provides abundant nesting substrate, food resources and opportunities to select nest sites. No adverse effect.	No seasonal closure recommended
Red-Tailed Hawk	2	Dog Kennel	H	295	1580						No seasonal closure recommended
Red-Tailed Hawk	3	Farm	H	725	940						No seasonal closure recommended
Red-Tailed Hawk	4	Sawmill Ponds	H	80	30	2	223	Proposed			While this nest is in a “highly developed area,” seasonal closure is recommended during nesting season (mid-February to mid-July) given the extreme proximity of the trail alignment to the nest and the documented cases of red-tailed hawks attacking people in defense of their nests

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

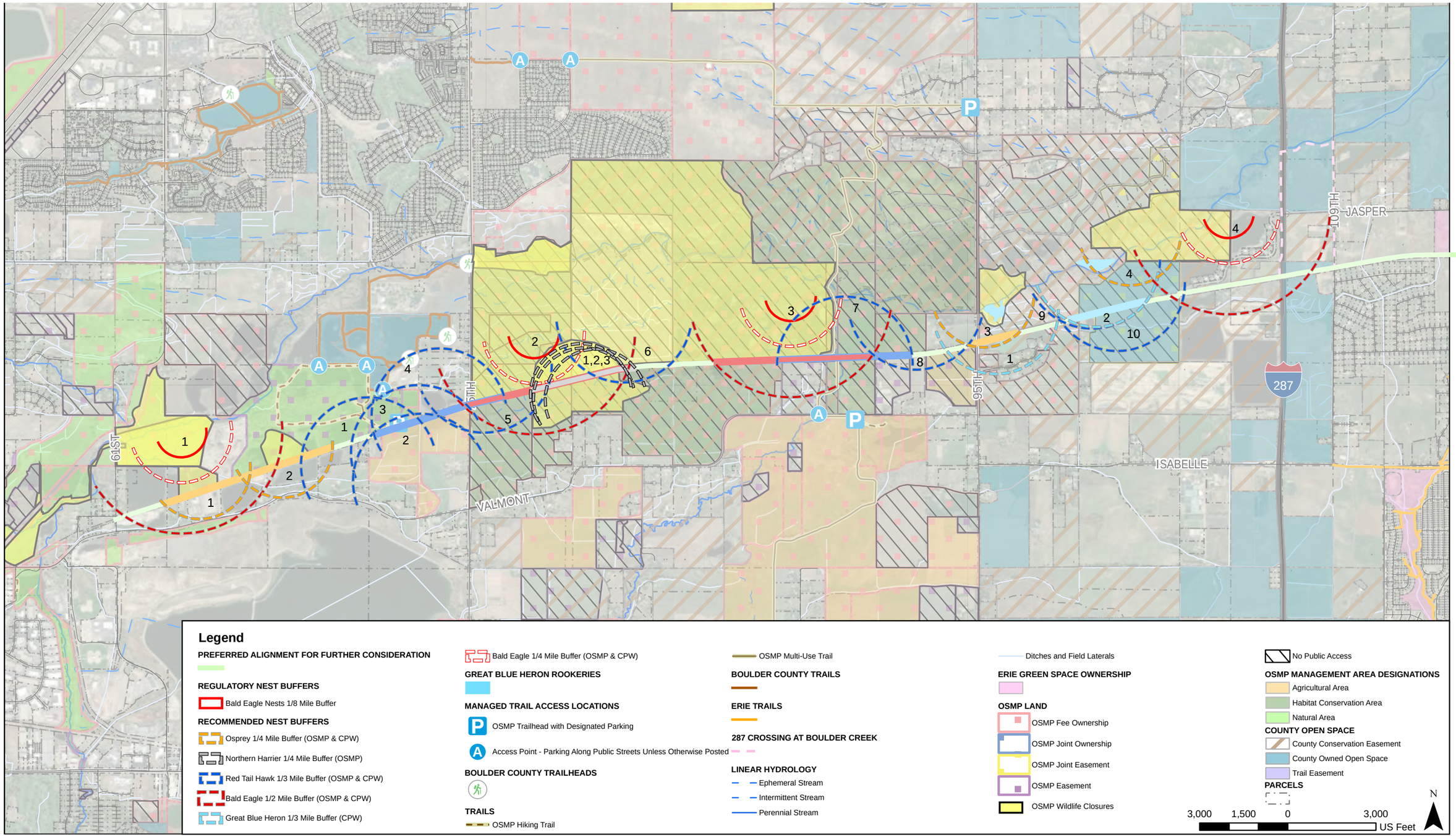
Species	Nest #	Nearest Disturbance Element	Disturbance		Distance to Trail (ft) **	Breeding Territory		Visual Buffer	Tailored Buffer	ERO Comments	Colorado Parks and Wildlife (CPW) Recommendations
			Level (H,M,L)*	Distance (Feet)		#	Acres				
Red-Tailed Hawk	5	N 75th St.	H*	270	970						No seasonal closure recommended
Red-Tailed Hawk	6	Dirt Road	L*	1300	1410	3	223	Yes	Territory	CPW buffer to visual screen	No seasonal closure recommended
Red-Tailed Hawk	7	Year-round Trail	M	<100	<100	4	223	Partial	Territory	Territory larger than CPW buffer. No adverse effect.	While this nest is in a “highly developed area,” seasonal closure is recommended during nesting season (mid-February to mid-July) given the extreme proximity of the trail alignment to the nest and the documented cases of red-tailed hawks attacking people in defence of their nests
Red-Tailed Hawk	8	Residential	H	815	1420	5	223	Partial			No seasonal closure recommended
Red-Tailed Hawk	9	Residential	H	2103	1810	6	293	Proposed	Territory	Territory larger than CPW buffer. No adverse effect.	No seasonal closure recommended
Red-Tailed Hawk	10	Residential	H	1680	585						No seasonal closure recommended
Northern Harrier	1	Residential	H*	586	485	1	151	Yes	Territory	No CPW Buffer. Nests low in dense vegetation that provides security and visual screen - north boundary cut at RR grade	CPW does not make recommendations on this species
Northern Harrier	2										
Northern Harrier	3										
Osprey	1	Mine	H*	69	610	N/A	N/A	Yes	575 FT.	Nest is less than 70 to mine site	Seasonal closures during nesting season (mid March to Mid September) within 1/4 mile buffer around nests.
Osprey	2	Year-round Trail	M*	575	490	N/A	N/A	Partial	575 FT.	New trail is comparable distance to existing trail and will be visually screened	Seasonal closures during nesting season (mid March to Mid September) within 1/4 mile buffer around nests.
Osprey	3	N 95th St.	H*	122	1185	N/A	N/A	Proposed	BCOS	Trail is outside of OSMP closure	Seasonal closures during nesting season (mid March to Mid September) within 1/4 mile buffer around nests.
Osprey	4	None	None*	1727	1610	N/A	N/A	Proposed	BCOS	Trail is outside of CPW buffer	Seasonal closures during nesting season (mid March to Mid September) within 1/4 mile buffer around nests.
Great Blue Heron Rookery	1	N 95th St.	H*	595	575	N/A	N/A	Partial	Tiered	Trail is less than the 595 ft. to N. 95th St. Tiered at CPW buffer (985 ft) and 650 ft.	No seasonal closure recommended as proposed trail is outside of 300m buffer
Great Blue Heron Rookery	2	Residential	H	1390	1210	N/A	N/A	Partial	Tiered	275 feet to access road; 1,390 feet to residence. Tiered at CPW buffer (985 feet) and 650 feet.	Seasonal closure during nesting season (mid-March to mid-August) within 300m buffer of rookery.

Disturbance Level: H = High, M = Medium, L = Low, None = Nest is greater than 1,320 feet from disturbance; Disturbance levels do not include agricultural activities
*Nest is within an existing OSMP & CPW seasonal closure area
**Measured to approximate center of RTD right-of-way

The figure on the following map notes the buffers referenced in this chart.

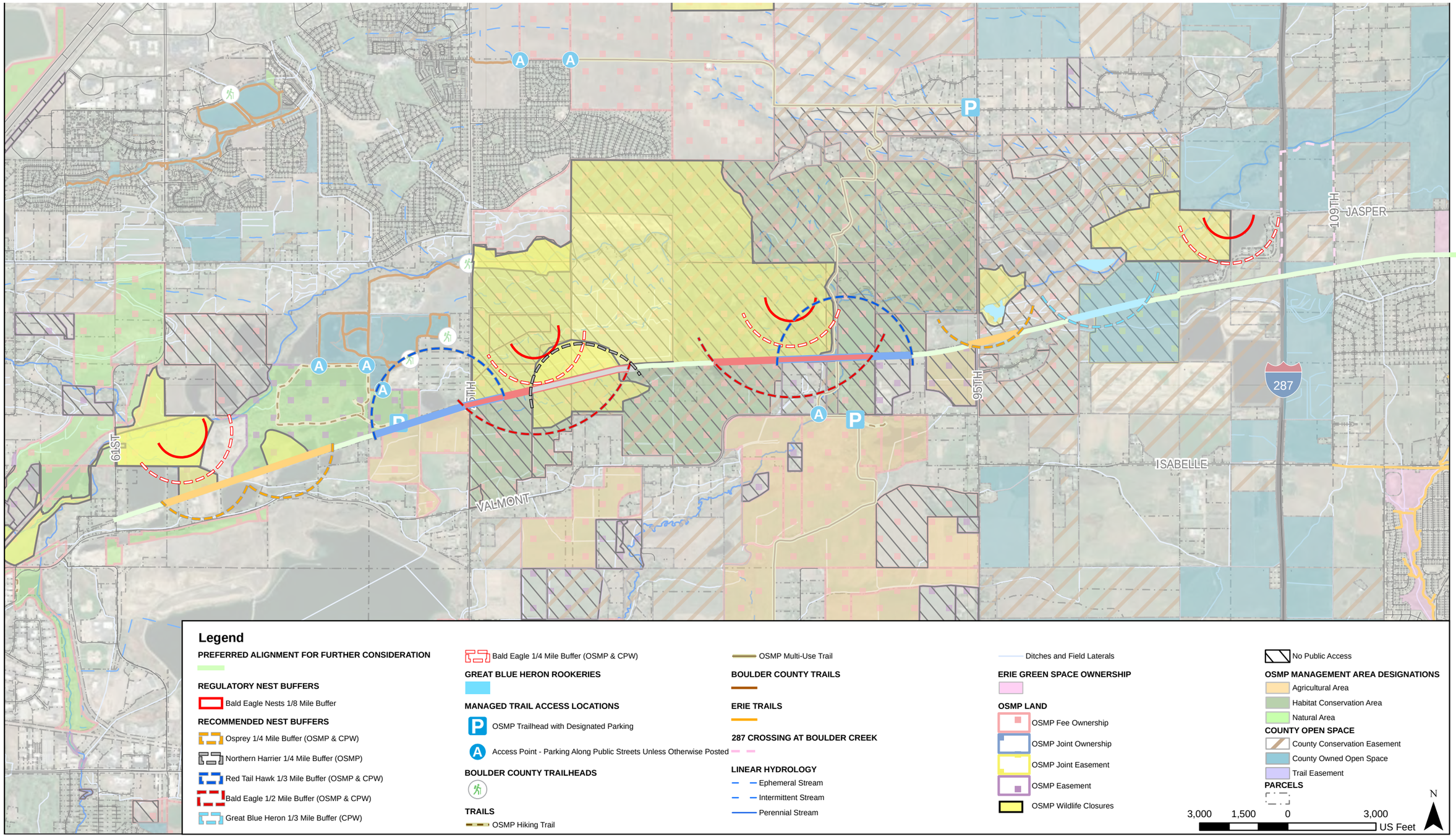
BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

MAP OF ALL BERT CORRIDOR NEST BUFFERS



BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

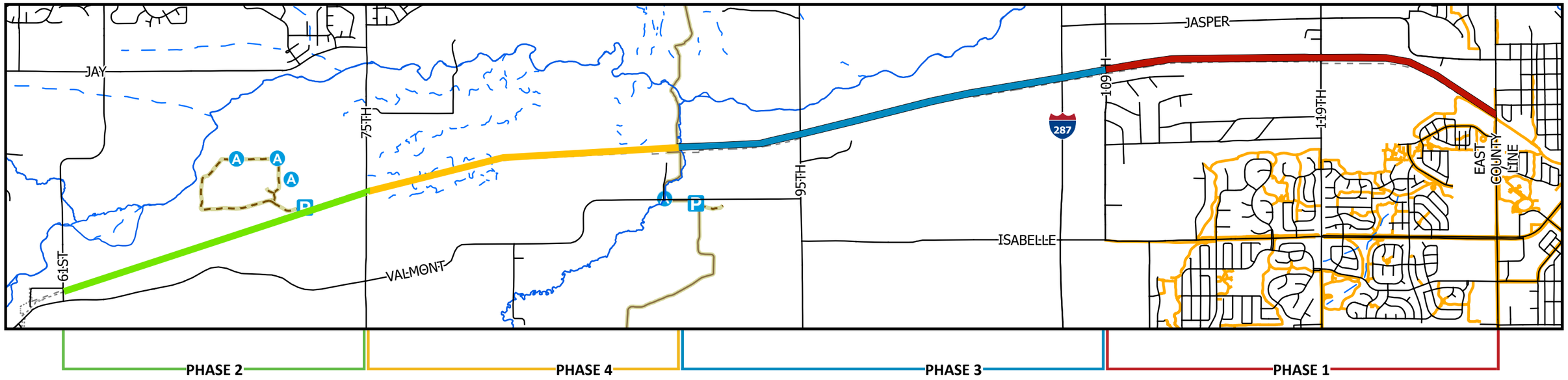
MAP OF NEST BUFFERS FOR WHICH CPW & OSMP RECOMMEND SEASONAL CLOSURES



BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

PHASING PLAN

It is possible that the BERT could be constructed in phases. Survey, 30% design, and construction documents could be completed for the entire corridor with bid packages included in the final construction document set for the four construction phases identified. These proposed phases can be seen below.



DESIGN & CONSTRUCTION DOCUMENTS

SURVEYS FOR ENTIRE CORRIDOR
- Topographic
- Environmental
- Cultural
- Geotechnical

30% DESIGN FOR ENTIRE CORRIDOR

DESIGN FOR EACH PHASE
- Construction documents for entire corridor with bid packages for each construction phase

CONSTRUCTION PHASES

PHASE 1: E COUNTY LINE RD - 109TH
- Fewer resources & technical complications
- Lower cost - not likely to be on rail bed, no wetlands likely, no retaining wall needed
- Some segments already planned

PHASE 2: 61ST - 75TH
- Similarly low level of technical complications
- More resource considerations
- Wet areas present, particularly close to 75th st.
- More costs likely due to wetland mitigation and possibility to locating trail on rail bed
- If wet areas are indeed wetlands, there will also be permitting needs

PHASE 3: TELLER WHITE ROCKS TRAIL - 109TH
- Largely straightforward section for construction
- Underpass to incur significant costs and additional agreements, permitting, design and engineering needs

PHASE 4: 75TH - TELLER WHITE ROCKS TRAIL
- Additional resources considerations, including discussion of nest recommendations and mitigation
- Wetlands likely and mitigation likely needed for water flow
- Higher costs associated with mitigation
- Adjacent agricultural operations and movement to consider

OPINION OF COST

In providing opinions of probable construction cost, the Client understands that Otak has no control over costs of the price of labor, equipment or materials, or over the Contractor's method of pricing, and that the opinions of probably construction costs provided herein are to be made on the basis of our qualifications and experience. Otak makes no warranty, expressed or implied, as to the accuracy of such opinions as compared to bid or actual costs.

Item	Contract Item	Unit	Unit Cost	Quantity	Total
	Major Construction Items				
1	Clearing and Grubbing	SF	$0.25	1,232,694.72	$308,173.68
2	Demo Existing Bridges	EA	$10,000.00	2	$20,000.00
3	Prep railbed for bike trail	LF	$35.00	11,938	$417,830.00
4	Dry & Adjacent to Railbed	LF	$50.00	26,389	$1,319,457.87
4A	Native Seed & Mulch	SF	$0.22	527,783.15	$116,112.29
5	Wet & Adjacent to Railbed	LF	$150.00	6,742	$1,011,300.00
5A	Native Seed & Mulch	SF	$0.22	134,840	$29,664.80
6	On Railbed	LF	$50.00	11,938	$596,900.00
6A	Native Seed & Mulch	SF	$0.22	119,380	$26,263.60
7	Culverts (every 30ft in wet areas)	EA	$3,600.00	623	$2,241,600.00
8	Stripped and signed crossing	EA	$15,000.00	2	$30,000.00
9	BOCO C2 crossing	EA	$60,000.00	3	$180,000.00
10	50' Pre-Engineered Bike/Ped Bridge	EA	$150,000.00	2	$300,000.00
11	Wildlife Friendly Fencing	LF	$2.70	89,638	$242,023.45
12	Gates	EA	$2,500.00	76	$190,000.00
13	Underpass				
13A	Under Highway	LF	$12,500.00	115	$1,437,500.00
13B	Approach West	LF	$7,500.00	310	$2,325,000.00
13C	Approach East	LF	$7,500.00	280	$2,100,000.00
13D	Native Seed & Mulch	SF	$0.22	23600	$5,192.00
14	Trees	EA	$350.00	1,463	$512,026.67
15	Shrubs	EA	$100.00	4,389	$438,880.00
16	Irrigation	LS	$230,000.00	1	$230,000.00
17	Benches	EA	$1,500.00	8	$12,000.00
18	Picnic Tables	EA	$3,000.00	2	$6,000.00
19	Trash Cans	EA	$1,000.00	6	$6,000.00
20	Interpretive Signage	EA	$4,000.00	6	$24,000.00
21	Wayfinding Signage	EA	$1,000.00	10	$10,000.00
22	Trailhead Signage	EA	$2,000.00	5	$10,000.00
	Subtotal of Major Construction Items				**$14,145,924**
	Other Construction Items				
100	Erosion Control		5%		$707,296.22
101	Traffic Control		4%		$565,836.97
102	Mobilization		8%		$1,131,673.95
103	Construction Survey		3%		$424,377.73
104	Community Updates		0.5%		$70,729.62
	Total of Construction Items				**$17,045,839**
	Contingency Items				
201	Contingency		20%		$3,409,167.77
202	Minor Contract Revisions		5%		$852,291.94
203	Utility Relocation		2%		$340,916.78
	Total Construction Cost				**$23,354,921**
	Design and Engineering				
301	Design Engineering / Survey / Geotech / SUE / Environme		15%		$3,503,238.17
302	Construction Engineering		15%		$3,503,238.17
	Total Project Cost				**$30,361,397**

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

RECOMMENDATIONS & NEXT STEPS

RECOMMENDATIONS & NEXT STEPS

Summary of Recommendations

Based on the BERT Planning process, the following key outcomes of the study are:

- The preferred alignment for further consideration is in the RTD ROW
- Sections of the trail will be on the north side of the existing railbed, with other sections on the south side, and short portions of the trail on top of the railbed as needed. This alignment characteristic will to avoid wet areas or other resources
- Environmental minimization and mitigation opportunities will continue to be evaluated in coordination with CPW and open space agencies
- Coordination with adjacent property owners is needed to meet design needs and concerns
- Continued coordination with project partners and adjacent property owners is needed to determine trailhead needs and connection into existing trail facilities
- Interpretive opportunities and other amenities along the trail will continue to be explored during the design phase
- Continued exploration of US 287 underpass constructability is needed
- Continued coordination with RTD on design requirements and a license agreement is needed
- Construction of the BERT can be phased
- Coordination and agreements with ditch companies and shareholders will be needed

Next Steps

Once the Boulder to Erie Regional Trail (BERT) Plan project is completed and if approved by Boulder County Commissioners, there are additional steps required before a trail is completed and ready to enjoy as seen in the diagram below.

The next step towards trail completion after plan adoption is the design phase. This phase would include:

- Initial survey for the entire corridor including topographic, environmental, cultural, and geotechnical survey
- Preliminary (30%) design for the entire corridor
- Final Design (construction documents) for the entire corridor including bid packages for each construction phase

Once the BERT plan is complete, exploration of funding opportunities can begin and will continue throughout the design phase as more details are determined about the specific design of the trail and additional details on necessary funds are finalized. The construction documents resulting from the design phase will also be used to obtain the necessary approvals and permitting so that phased construction of the BERT can begin and proceed as opportunity presents.

Additional public engagement would also be conducted throughout these future phases and continued/ additional engagement, and coordination with project partners and adjacent property owners will be critical to the final realization of a completed BERT.

BOULDER TO ERIE REGIONAL TRAIL (BERT) PLAN - 2024

APPENDICES