

CB - CB SOUTH MULTIMODAL TRAIL PLANNING



Prepared by

DESIGNWORKSHOP

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ACKNOWLEDGEMENTS

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Stakeholder Organizations

Crested Butte Land Trust

Crested Butte Mountain Bike Association

Crested Butte South Property Owners Association

East River Ranches Homeowners Association

Hidden River Homeowners Association

Sustainable Tourism and Outdoor Recreation (STOR) Committee

Town of Crested Butte – Community Development

Town of Crested Butte – Parks and Recreation

Consultant Team

Design Workshop

Collins Engineering, Inc.

Colorado Wildlife Science

True North Survey

EXECUTIVE SUMMARY

PURPOSE

The purpose of the Crested Butte to Crested Butte South Trail Plan is to create an initial framework for a connecting legacy trail that will promote the County's goals surrounding sustainable infrastructure, climate action, and healthy vibrant lifestyles. This trail connection has been identified as a key project by the County for over a decade, and in 2022 it was included in the County's Capital Improvement Plan and Strategic Plan. A key goal of this multimodal trail is to create a safe alternative means of transportation between the two population centers of the Town of Crested Butte and Crested Butte South through infrastructure for bikes and pedestrians, that creates connection to services and communities, while also supporting community goals around reduced vehicular trips and greenhouse gas emissions.

The plan considers various aspects, including land use, transportation, infrastructure, ecologic ranges and conditions, and community engagement. Developed over a 9-month planning period that included technical study and a community engagement process, the plan focuses on establishing community goals and values for a proposed trail alignment.

PROCESS

In the spring of 2023, Gunnison County hired Design Workshop to support community engagement and trail design. Design Workshop was supported by Collins Engineering, Colorado Wildlife Sciences, and True North Surveying to complete technical aspects of the proposed design including the following:

- Surveying of existing conditions
- Environment assessment
- Ecological impact of a proposed trail alignment
- Environmental mitigation strategies
- Horizontal and vertical trail alignment
- Preliminary grading

In addition, the team completed a series of community engagement activities to understand overall goals and vision for the trail. This included meetings with the Sustainable Tourism and Outdoor Recreation (STOR) Committee, a community survey, focus group meetings, stakeholder conversations, and a community open house.

The plan process has resulted in a vision for the corridor between the communities of Crested Butte and Crested Butte South that reflects the shared values and goals established during engagement sessions with community members and local officials. It identifies strategies for implementation and phasing, as well as provides materials to be used in pursuit of funding opportunities. The plan is funded through a grant from CDOT, which limited the overall design in this initial study to 10%.

NEXT STEPS

Gunnison County staff, Board of County Commissioners, and the STOR Committee will continue to evaluate the connection between Crested Butte and Crested Butte South to determine if the alignment fits with the community needs and desires. Based on that determination the County can create a prioritization and implementation plan based on the recommendations in this document.

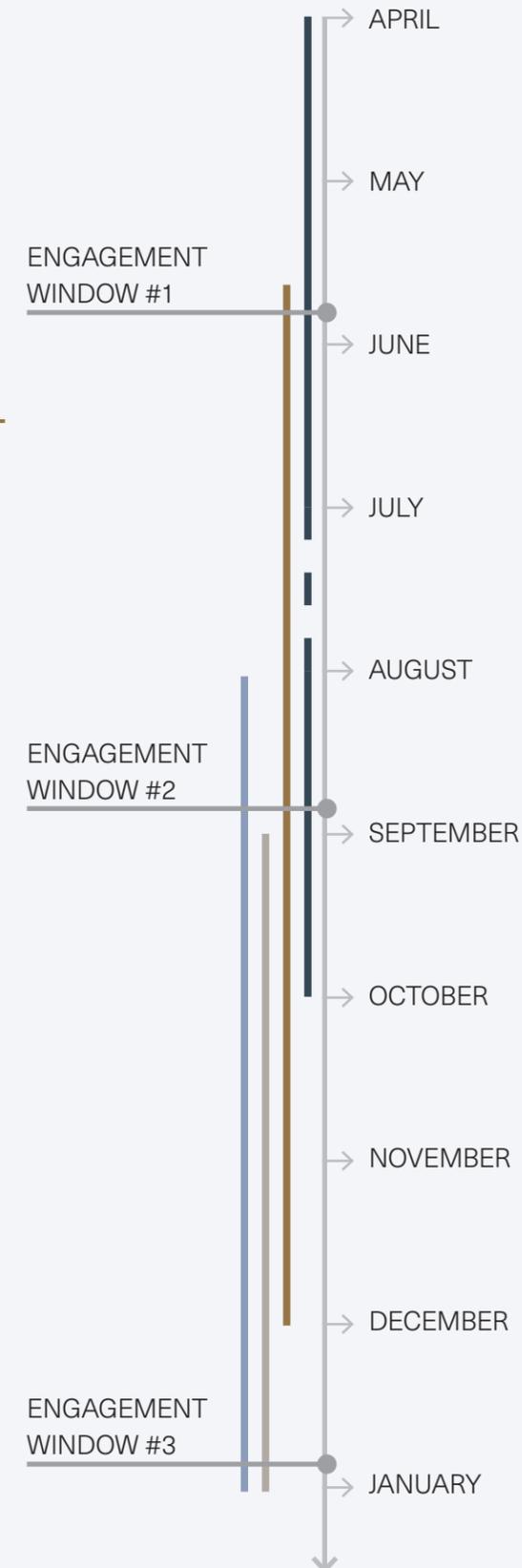
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**PHASE 1: PROJECT
VISIONING +
ALIGNMENT**

**PHASE 2:
CONCEPTUAL TRAIL
ALIGNMENT**

**PHASE 3: ACTION
PLAN FOR
IMPLEMENTATION**

**PHASE 4:
DOCUMENT
PREPARATION**



PLAN ORGANIZATION

The plan is organized into four chapters. The first chapter is an introduction to the project. This includes background information on previous planning efforts and the current planning and engagement processes. Chapter 2, Corridor Inventory and Analysis summarizes the existing conditions of the Crested Butte to Crested Butte South corridor and comparable trail trends and community analysis. Chapter 3, Conceptual Trail Design, introduces three potential trail alternatives and compares their key statistics. Lastly, Chapter 4, Trail Plan, identifies the preferred trail alignment, action plan for trail implementation and opinion of probable cost, the ecological impact assessment trail construction, and next steps needed to implement the proposed trail design.

PROJECT INTRODUCTION

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1



PROJECT HISTORY

PAST PLANNING EFFORTS

The development of a trail connecting Crested Butte and Crested Butte South has long been a priority within the East River Valley. The following is a summary of the past conversations and meetings surrounding the development of this trail:

- 1999 – The trail was identified as a priority in the County’s Capital Improvements Plan (CIP).
- 2002 – The trail alignment was discussed by the Trails Commission and Board of County Commissioners.

“The Board has expressed some concern with the impact of a trail on private property owners along the route.... The Trails Commission does not intend to condemn property for the construction of a trail and agrees that it is important to discuss the feasibility with private property owners. Joellen Fonken of the Trails Commission feels it is important to obtain professional assistance to figure out location scenarios. Maureen Hall feels that it would be a disservice to the community if options other than locating the trail in the highway right-of-way are not considered, while also being sensitive to private property rights. Public Works Director Crosby added that the intent of the trail would be not only for recreation, but also as a transportation corridor.” (BOCC, Oct 1, 2002)

- 2010 – The trail was identified as a priority in the Gunnison County trails Master Plan.
- 2016 – The trail was identified as a priority in the Gunnison County trails Master Plan.
- 2017 – Trails Commission was disbanded, and the STOR Committee was established.
- 2021 – In a STOR Subcommittee meeting, a right-of-way alignment vs private alignment was discussed.

“The committee came to a general agreement about alignment – they will pursue the CDOT Right of Way highway alignment – and look for opportunities to include ‘branches’ for both summer and winter

access.” CBMBA disagreed with this direction but was part of the discussion.

The subcommittee identified challenges related to winter access, removing the trail from highway as much as possible, funding, and maintenance.

The subcommittee agreed to apply for grant funding for an alignment study.

- 2022 – The trail alignment was discussed in relation to the grant funding for initial trail design. Board of County Commissioners Staff Memo:

“The County and STOR Committee have not predetermined the placement of the trail and will instead look to the design process to identify a feasible alignment that meets the community interests while still being implementable on a timeline of the next 5-10 years. However, given the many challenges associated with building a multimodal trail through a string of private land parcels, the County will direct the contracted consultant to prioritize working with CDOT to identify an alignment within the Highway-135 right-of-way.”

- 2022 – CDOT awarded MMOF funding (\$150,000) for the development of a multimodal trail from CB to CB South.
- STOR submitted an application and received letters of support from Town of CB, CB South POA, CBMBA, TAPP, and Met Rec along with match funding commitments (\$16,000) for the project. The County contributed \$31,250.
- CBMBA noted in their letter of support their desire for an alignment on private property and not on the highway ROW.
- Gunnison County, with support from the Town of Crested Butte and CBMBA completed an RFP and interview process and hired Design Workshop to complete an initial study and 10% design.



CONTEXT

Crested Butte and Crested Butte South, located on the western slope of Colorado, surrounded by the Gunnison National Forest in the East River Valley, are renowned destinations for recreation and tourism. The area was originally inhabited by the Ute people, followed by miners seeking silver and coal. While other mining towns in the area failed as unproductive for silver mining, Crested Butte established itself as a supply town for coal mining and gateway into the more remote Elk Mountains. Incorporated in 1880, mining remained the economic driver of the region until 1952. In 1962, the Crested Butte ski area opened and welcomed in recreation as the economic driver of the region. Today, year-round recreation and outdoor tourism for all bring visitors from around the world to the valley.

As the popularity of Crested Butte has grown, many of its residents have found adjacent subdivisions and neighborhoods to be more affordable places to live. As a result Crested Butte South is now the second largest population center in Gunnison County. However, many jobs and the local school are located in Crested Butte, making the potential to connect these communities through a multimodal trail system a valuable alternative to vehicular trips for commuters and recreationalists. The potential to connect these communities through a multimodal trail system provides a valuable alternative to vehicular trips for commuters and recreationalists.

DEMOGRAPHICS



Gunnison County Population
17,281 (2012)



Crested Butte Population
1,681 (2021)



Annual Growth 0.88%



Crested Butte South Population
2,600 anticipated at build out



Annual Growth 15%

Projected Development:

Whetstone, 6th and Butte, and North Village affordable housing development anticipated within the next 1-3 years.

VISION AND GOALS

As stated by the County, this project is so much more than a trail. It is intended to provide a hard-surface path for bicycle and pedestrian use, increase multimodal transportation options between Crested Butte and Crested Butte South to decrease reliance on the automobile and reduce greenhouse gas emissions, and improve the safety of all users in the Colorado 135 corridor.

The trail is intended to support commuting between Crested Butte and Crested Butte South, enhancing transportation options for residents and reducing traffic along Colorado 135. While the alignment may provide connection to recreation trails in the area, its main focus is to increase safety for all users in the corridor and reduce the number of vehicle miles traveled by providing a dedicated bicycle connection, increase access to bus stop and transit hubs, and curb greenhouse gas emissions. The valley is fortunate to have robust recreational trails that will not be duplicated by this effort.

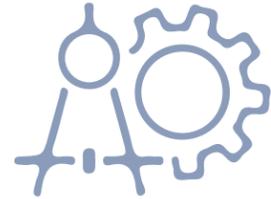
According to recent data from Colorado Department of Transportation (CDOT), the stretch of Colorado 135 from Crested Butte South to Crested Butte sees an average of 7,000 vehicles a day. Currently the only safe and effective way to travel the 7.5-miles between the Town of Crested Butte and Crested Butte South is in a motor vehicle. The main artery that runs north-south along the valley floor offers little opportunity for locals or visitors to do much of anything but rush through at 55 miles per hour. Some intrepid cyclists brave the highway, but it is not a safe or pleasant experience, to say nothing of walkers and hikers.

Crested Butte South, the second largest population center in Gunnison County, and the Town of Crested Butte are community centers within the upper East River Valley - most people that live in the upper East River Valley live in a 10-mile radius of the town limits of Crested Butte. A CB-CB South Multimodal Trail will provide a critical asset for local workforce transit and provide a safer way for locals and visitors to travel between these areas.

KEY GOALS OF THE PROCESS:



Understand the desires, needs, and vision of the community for a multimodal trail from the Town of Crested Butte to Crested Butte South.



Create design and engineering plans for the multimodal trail.



Create an actionable plan for project implementation.



Assess ecological impacts of trail construction.



STAKEHOLDER ENGAGEMENT PROCESS

Community engagement is a key part in developing the framework that will guide the Crested Butte to Crested Butte South Trail Planning effort to develop a plan that is reflective of the needs and wants of the surrounding communities. The plan was designed to approach engagement in “windows”, where multiple methods were used at key moments in the trail planning process to gather community input. A full summary of the engagement process and findings can be found in the Appendix D and E.

ENGAGEMENT WINDOW #1: SETTING THE STAGE

Objective: Inform + Consult

Methods: Website Update, STOR Committee Presentation, Stakeholder Interviews, Focus Group Meetings

Timing: May - August

ENGAGEMENT WINDOW #2: EVALUATING OPTIONS

Objective: Consult + Engage

Methods: Website Update, Community Open House, Online Survey, STOR Committee Presentation

Timing: August - November

ENGAGEMENT WINDOW #3: FINAL PLAN SHARING

Objective: Inform + Empower

Methods: BoCC Presentation, STOR Committee Presentation, Public Plan Sharing

Timing: November – December

ENGAGEMENT SUMMARY

ENGAGEMENT WINDOW #1

The first window of engagement included focus group and stakeholder meetings and a presentation of initial findings to the STOR Committee. The objectives of these strategies were to hear from and understand the existing conditions, previous plan studies, and preferences of local organizations and landowners within the proposed trail connection study area.

FOCUS GROUP / STAKEHOLDER INTERVIEWS

A series of three in person meetings were held with community members representing the Crested Butte Land Trust, Crested Butte Mountain Bike Association, Crested Butte South POA, Town of Crested Butte staff including the Community Development Director, Parks and Recreation Director and Coordinator, Hidden River HOA, East River Ranches HOA, the Spann family, and other private landowners, to better understand their goals and needs in the plan.

SUSTAINABLE TOURISM AND OUTDOOR RECREATION (STOR) COMMITTEE MEETING

The project team shared initial information from a base map analysis with the STOR Committee. Using an online engagement tool, the STOR Committee provided comments on the potential direction and location of the multimodal trail.

WHAT WE LEARNED

There were several themes heard from community feedback around the desire for a recreational trail, and a desire for completing a trail to connect CB to CB South. Most of the feedback focused on a trail along the highway that could be completed now rather than waiting for a separate alignment that utilized private property. Focus group participants shared a preference for a trail alignment that did not utilize private property. The STOR Committee indicated that getting a trail connection completed is the main goal.



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ENGAGEMENT WINDOW #2

The second window of engagement consisted of a community open house and associated online survey. The objectives of these strategies were to share initial alignment alternatives and understand community values related to programming and trail character. Three highway alignments were shown in these engagement opportunities.

COMMUNITY OPEN HOUSE

The County hosted a Community Open House on September 12, 2023. Participants were asked to engage with a series of interactive boards and activities to understand their preference for the proposed trail alignments and level of agreement with potential trail programming. The community open house was advertised in the local newspaper and email blasts distributed by Gunnison County.

ONLINE SURVEY

A 13-question open community survey was available from September 12, 2023, through October 9, 2023. A total of 1,070 people visited the survey link, with 587 providing a response to at least one question. Questions in the online survey focused on understanding the physical condition of the proposed trail alignments as well as the amenities and programming elements that community members would like to see in a trail connection. The online survey was linked through the project website and in email blasts to community stakeholders and meeting participants by Gunnison County and stakeholder organizations.

WHAT WE LEARNED

Participants at the Community Open House and Online Survey identified the trail alignment with the lowest number of highway crossings as their preferred alignment (Alignment A). The most commonly cited reason was related to overall safety (46%), followed by overall simplicity of the alignment (15%).

Importantly, some participants at the open house and in the survey indicated that they did not prefer a highway alignment. When looking at the feedback,

a majority of participants selected one of the three proposed highway alignments rather than an off-highway alignment. For the survey, 31.52% of respondents left the question about a preferred alignment blank (185), and 68.48% (402) identified Alignments A, B, or C as a preferred option. This indicates that the majority of survey respondents have a preference for one of the Alignments shown.

The participants at the open house and in the online survey are diverse and represents a mix of residents from both Crested Butte and Crested Butte South, employees of Crested Butte and Crested Butte South, with respondents of all ages.

ENGAGEMENT WINDOW #3

The third window of engagement consisted of sharing the draft plan with the community online and through work sessions with the STOR Committee and BOCC.



Community Open House participant engaging with the Scenario Data String activity, linking trail preference with work and residency locations.



Crested Butte to Crested Butte South Trail Planning Community Open House held September 12, 2023 at the Center for the Arts Crested Butte.



Community Open House participant engaging with the Framing Objectives activity sharing preference for programming along the proposed trail alignment.

50

Public Open House Participants

587

Online Survey Participants

78

Post It Note Comments

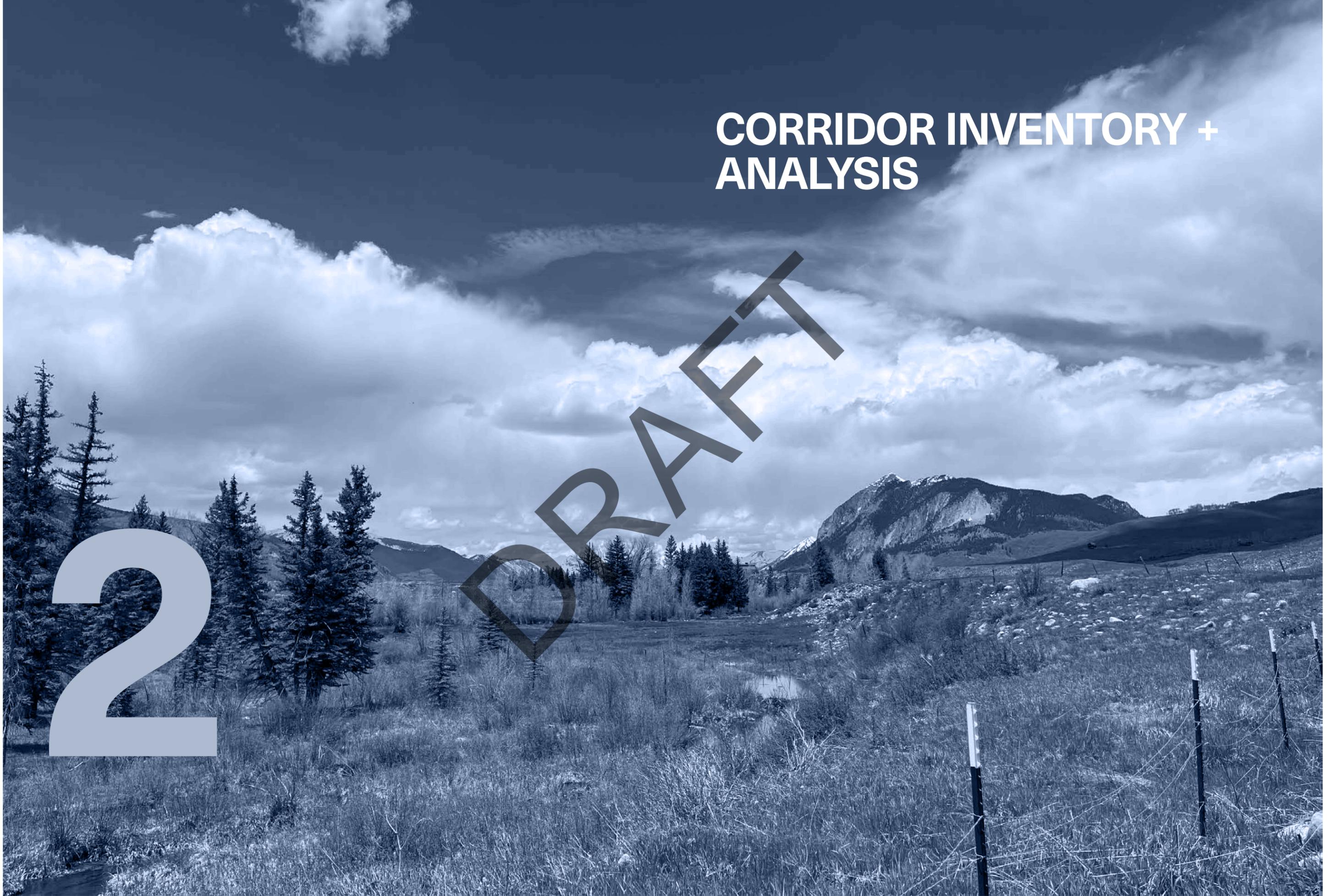
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Sticker Dots

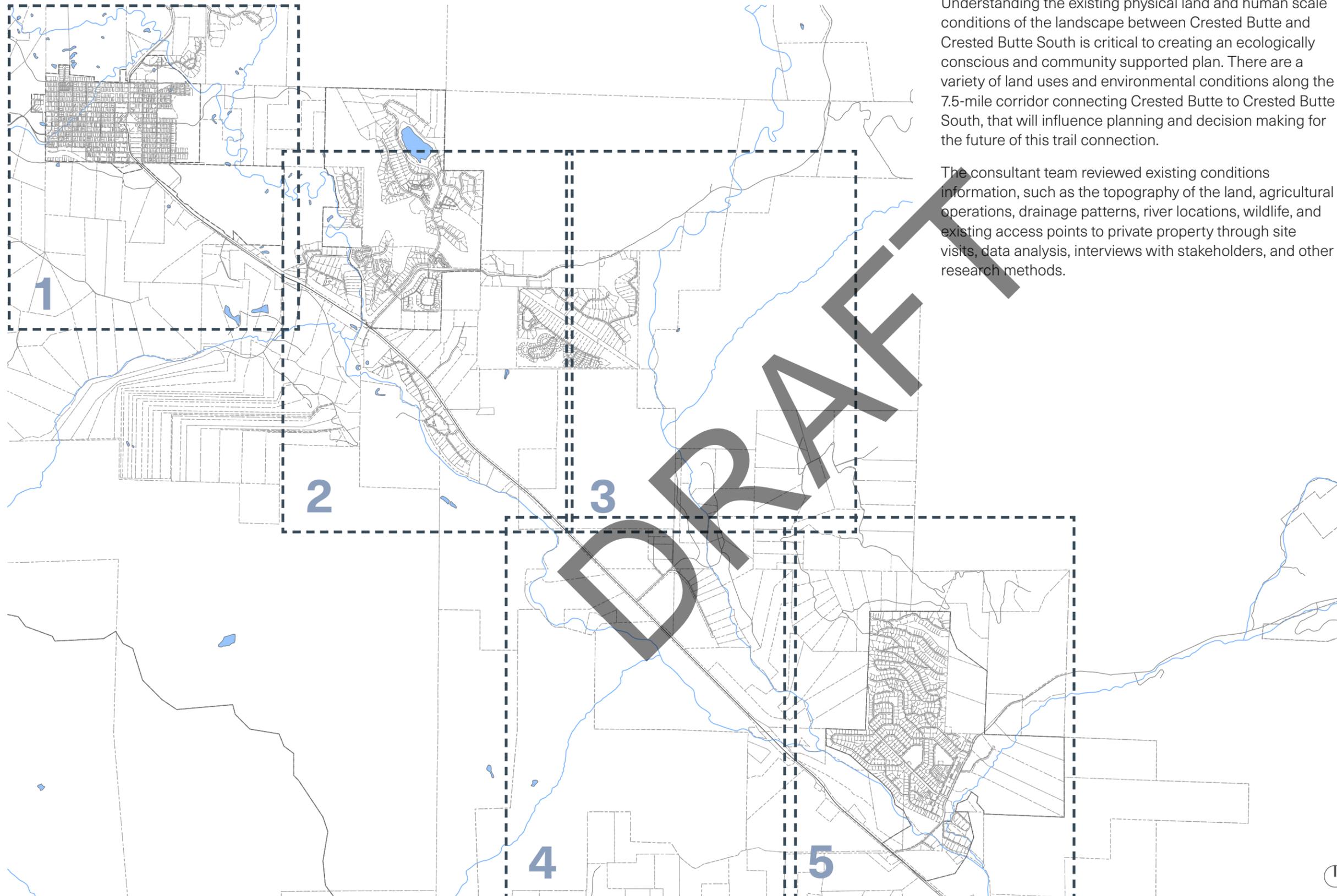
CORRIDOR INVENTORY + ANALYSIS

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CORRIDOR KEY PLAN



EXISTING CONDITIONS

Understanding the existing physical land and human scale conditions of the landscape between Crested Butte and Crested Butte South is critical to creating an ecologically conscious and community supported plan. There are a variety of land uses and environmental conditions along the 7.5-mile corridor connecting Crested Butte to Crested Butte South, that will influence planning and decision making for the future of this trail connection.

The consultant team reviewed existing conditions information, such as the topography of the land, agricultural operations, drainage patterns, river locations, wildlife, and existing access points to private property through site visits, data analysis, interviews with stakeholders, and other research methods.

INVENTORY

1 Land Use



2 Land Ownership + Subdivision



3 Hydrology



4 Recreation Infrastructure



5 Habitat Range + Migration Corridors

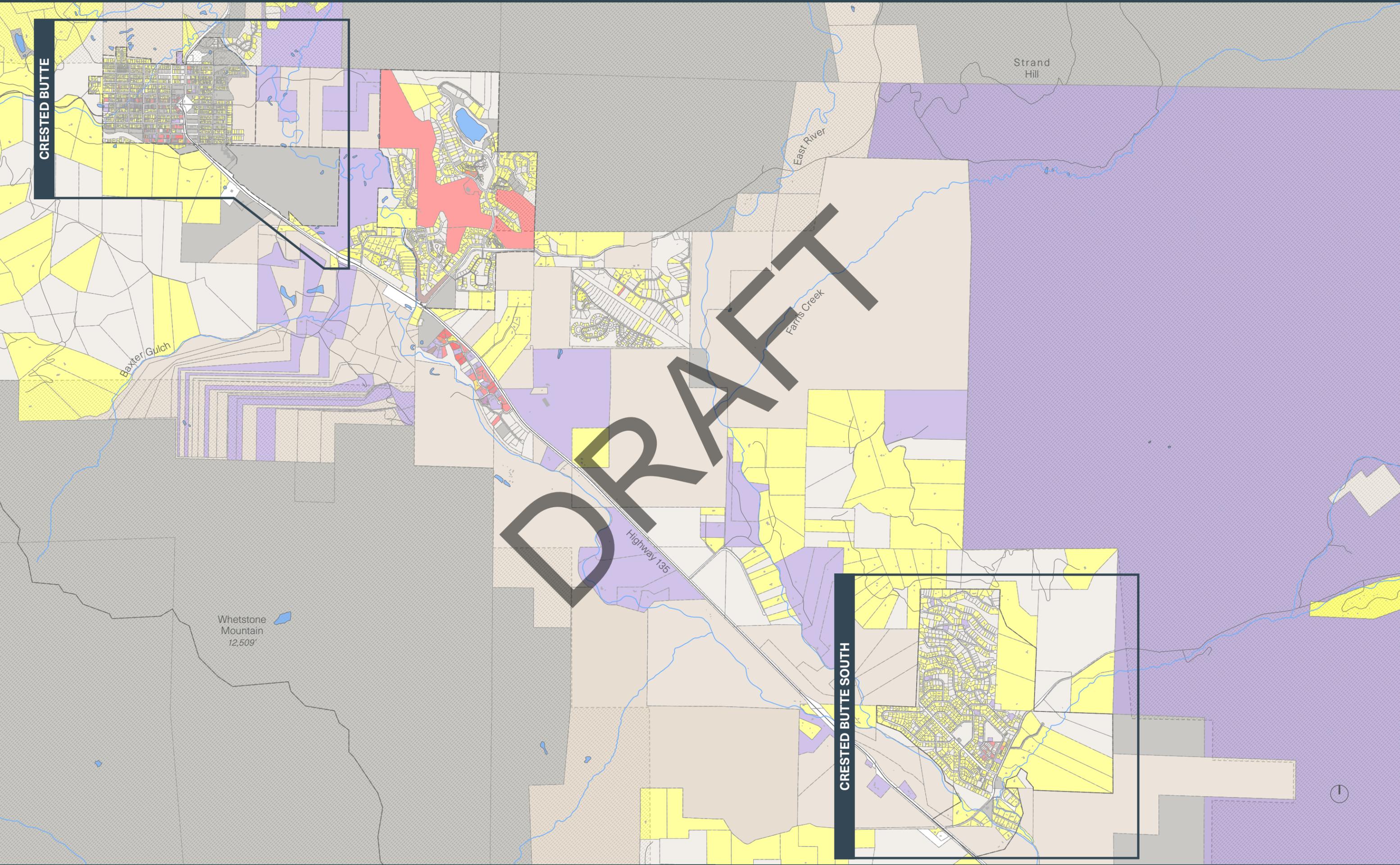


6 Transportation Infrastructure





CRESTED BUTTE



Strand Hill

East River

Farris Creek

Highway 135

Baxter Gulch

Whetstone Mountain
12,509'

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CRESTED BUTTE SOUTH



LAND USE

The predominant uses in the Crested Butte to Crested Butte South corridor include agricultural, residential, commercial, mixed use, industrial, and natural resource areas.

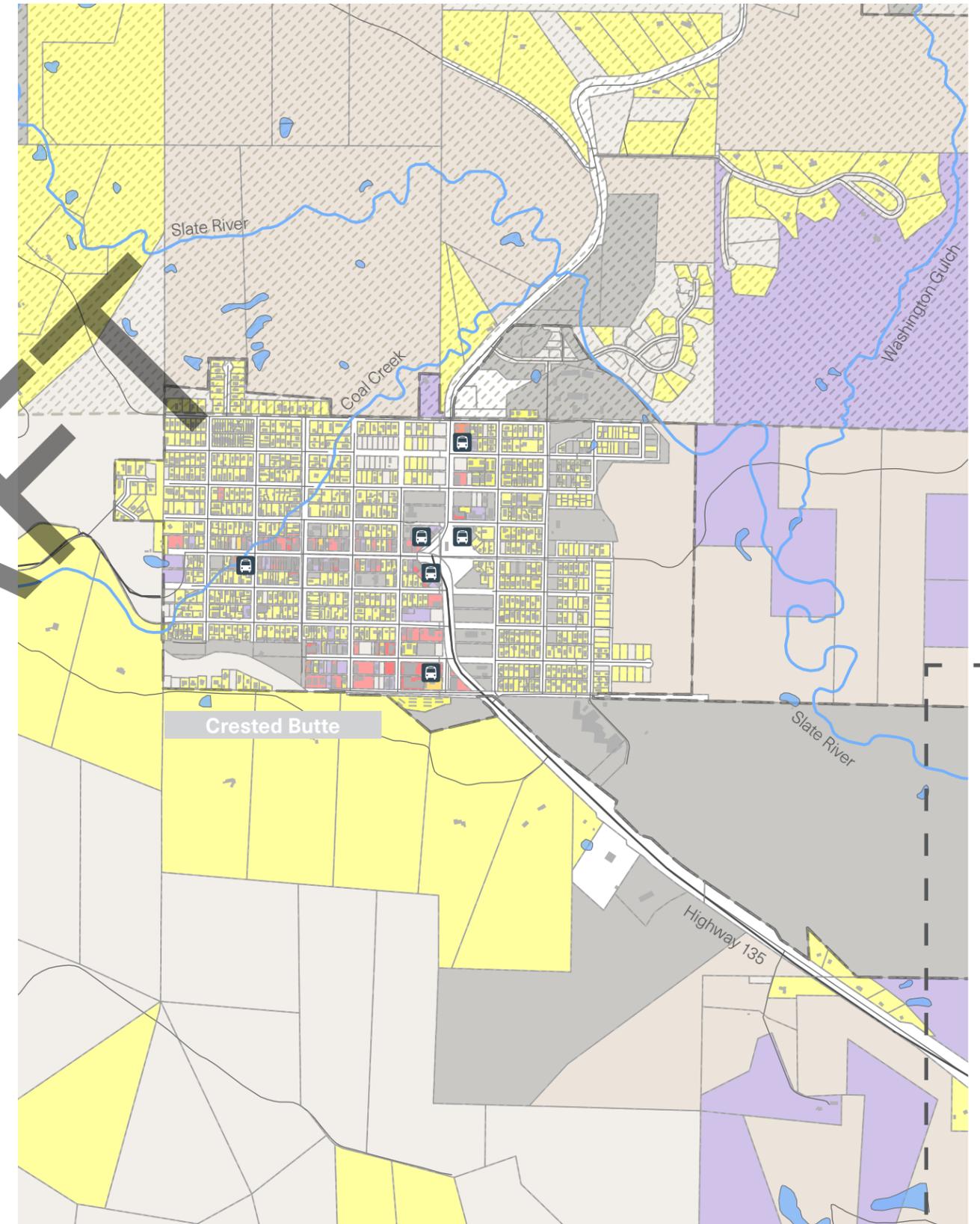
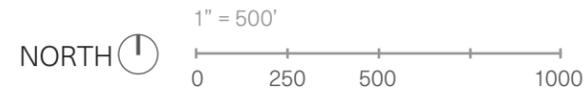
There is a significant amount of agricultural lands with active cattle operations. These operators own and actively use parcels on either side of Colorado 135 that requires crossing the highway at certain times throughout the year.

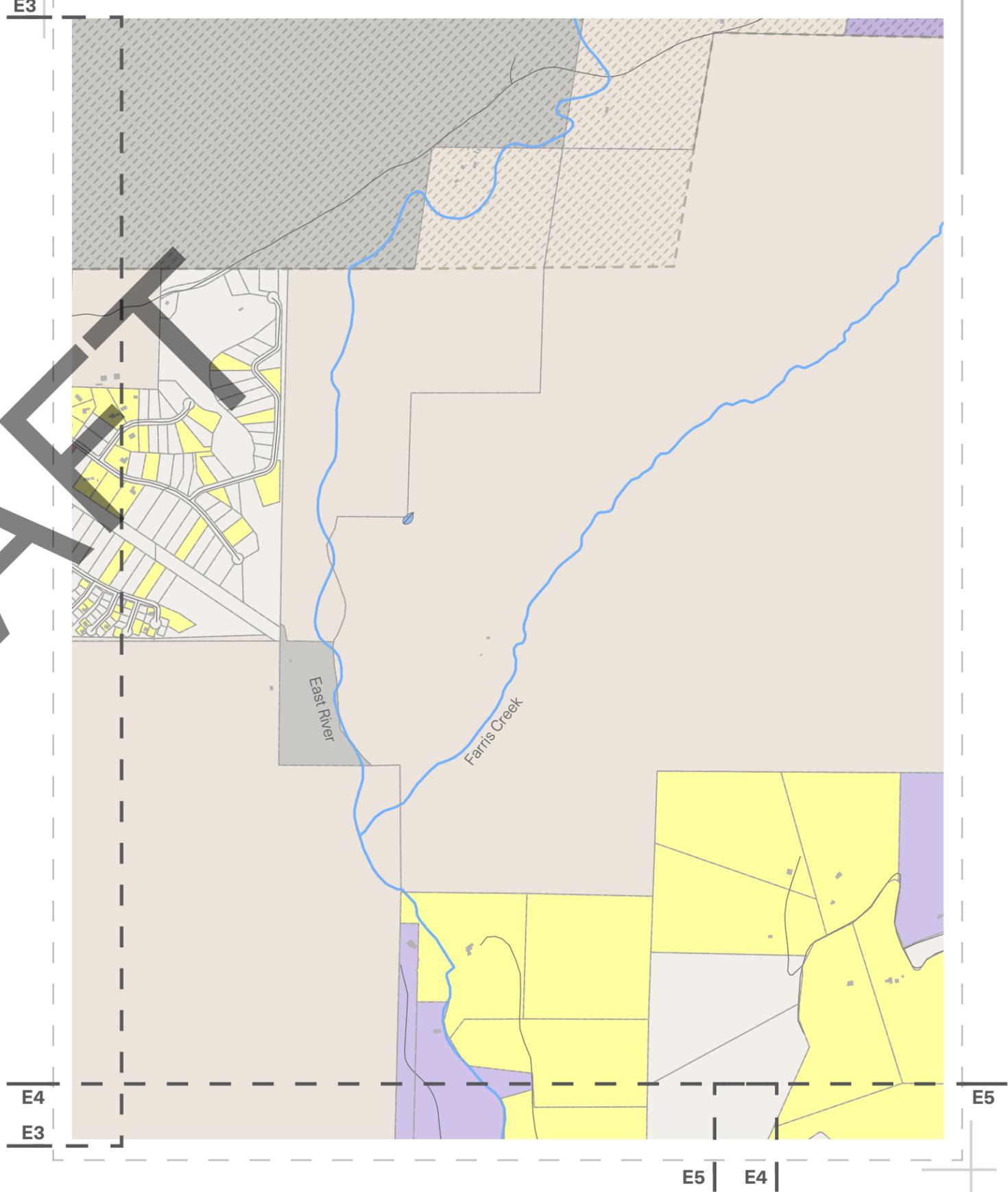
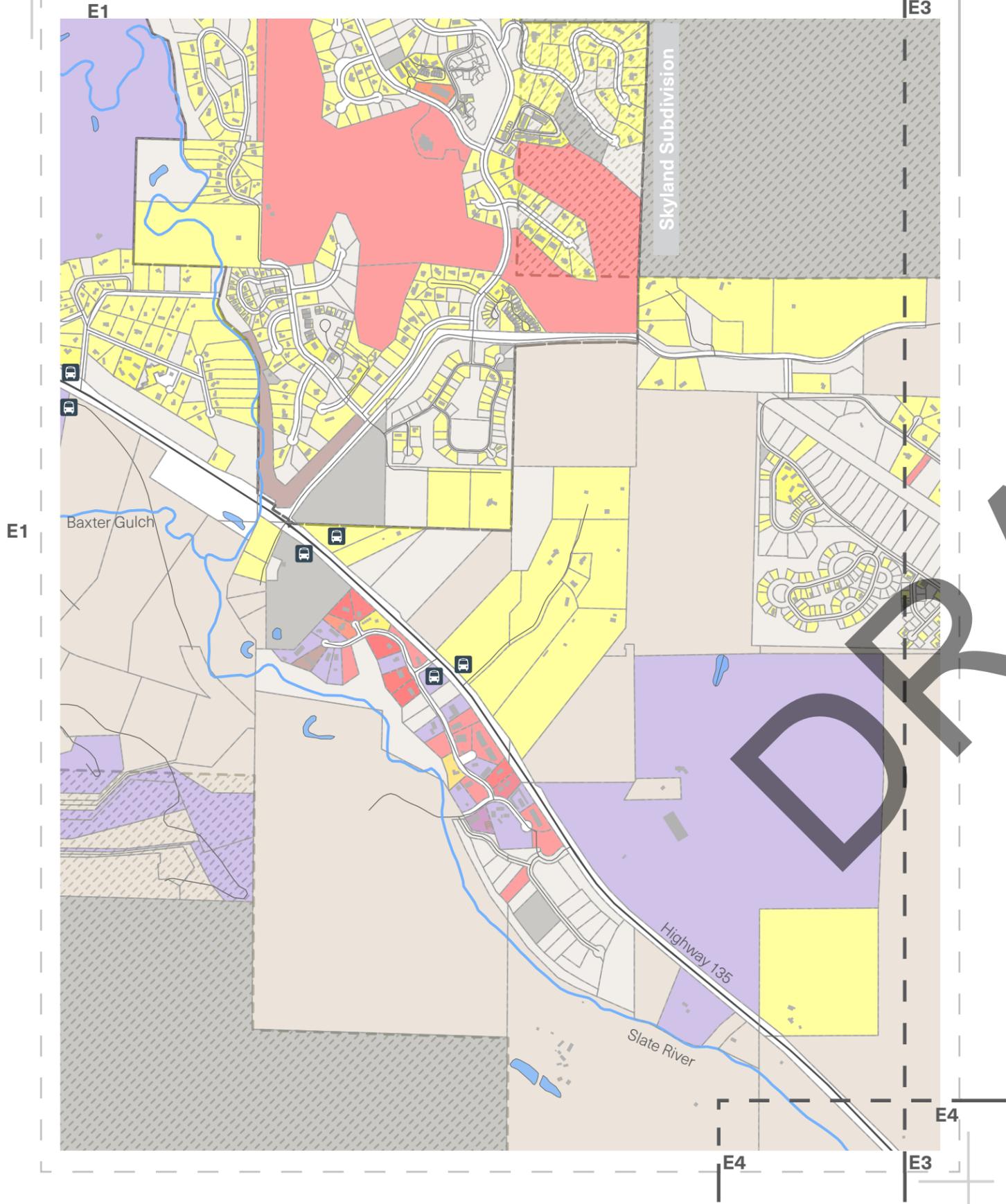


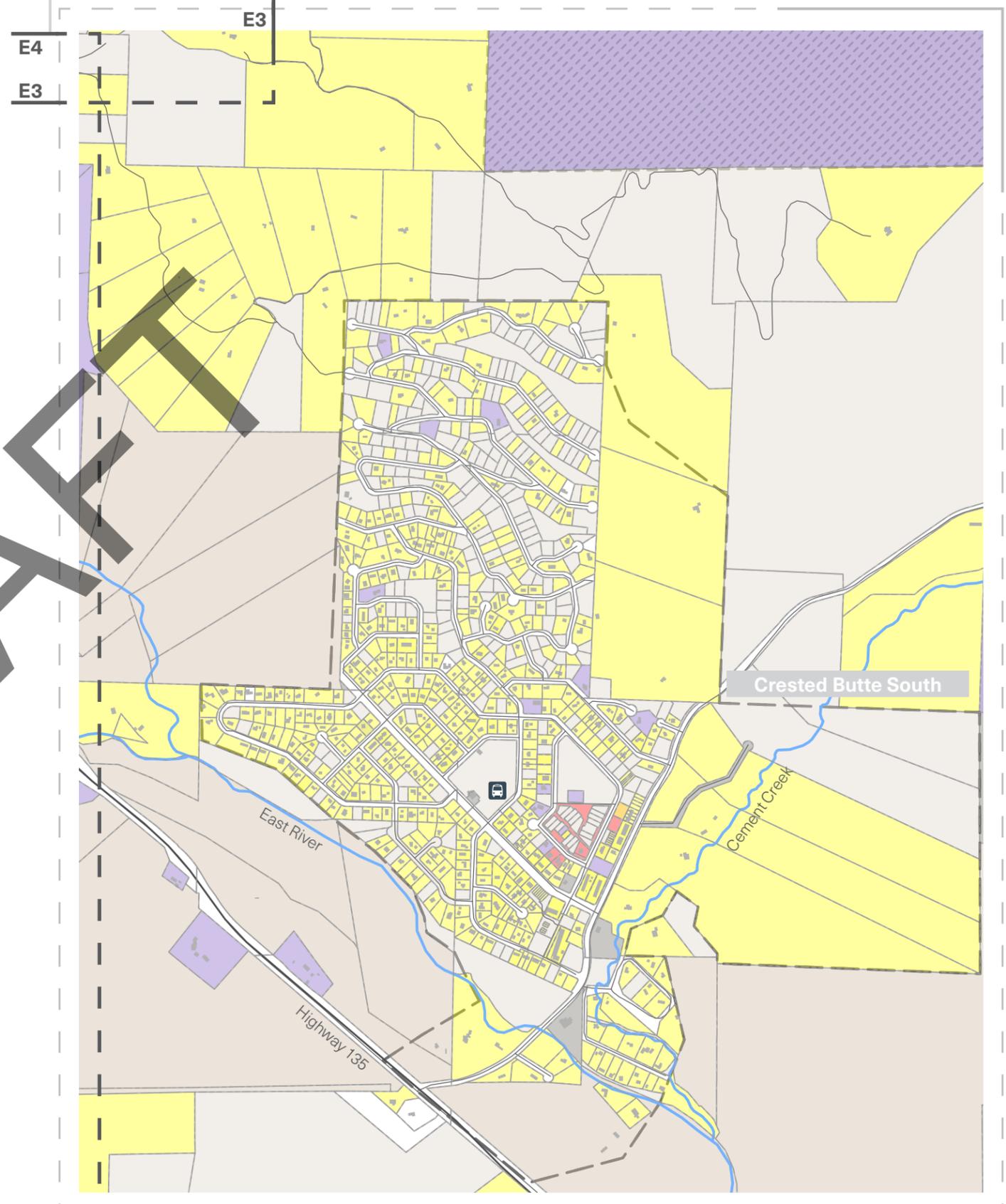
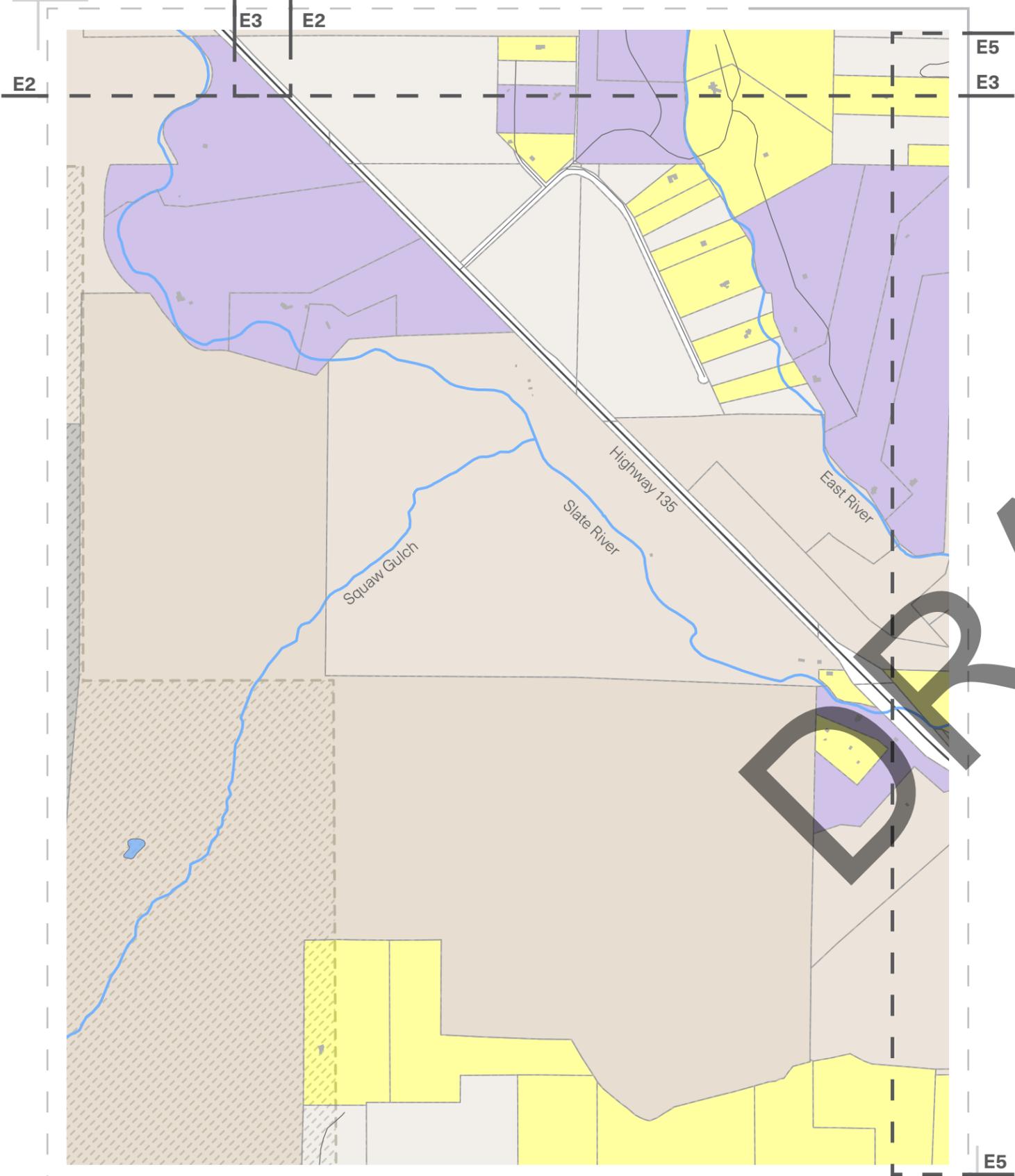
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Legend

- Agricultural
- Commercial
- Exempt
- Mixed Used
- Residential
- Vacant









CRESTED BUTTE

Strand Hill

East River

Farris Creek

Baxter Gulch

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Highway 135

Whetstone Mountain
12,509'

CRESTED BUTTE SOUTH

LAND OWNERSHIP AND SUBDIVISION

Notably, south of Crested Butte, are the subdivision communities of Skyland, Buckhorn Ranch, Riverbend, Riverland Industrial Park, Whetstone Industrial Park, and the planned future development of the Whetstone community housing neighborhood. To the north of Crested Butte South are the communities of Crested Butte Meadows, East River Ranches, and Hidden River Ranch. Many residents of these communities are dependent on vehicular use to travel between the areas in which they live and work. The area between these subdivision communities is primarily privately owned agricultural land without public access. This means that an off-highway alignment is not possible without approval from numerous individual property owners.

Along the Colorado 135 alignment, there are a number of easements and parcels that are designated as appropriate for trail uses, meaning these properties can be used for the trail. The Crested Butte Land Trust owns the parcel at the intersection of Colorado 135 and Cement Creek Road. There is an existing 20' trail easement on this land. The land on either side of Hidden River Road is part of the Hidden River Ranch Subdivision, which includes a 20' trail easement. These trail easements provide an opportunity for larger separation from Colorado 135.



13 Subdivisions Along the CO 135 Corridor

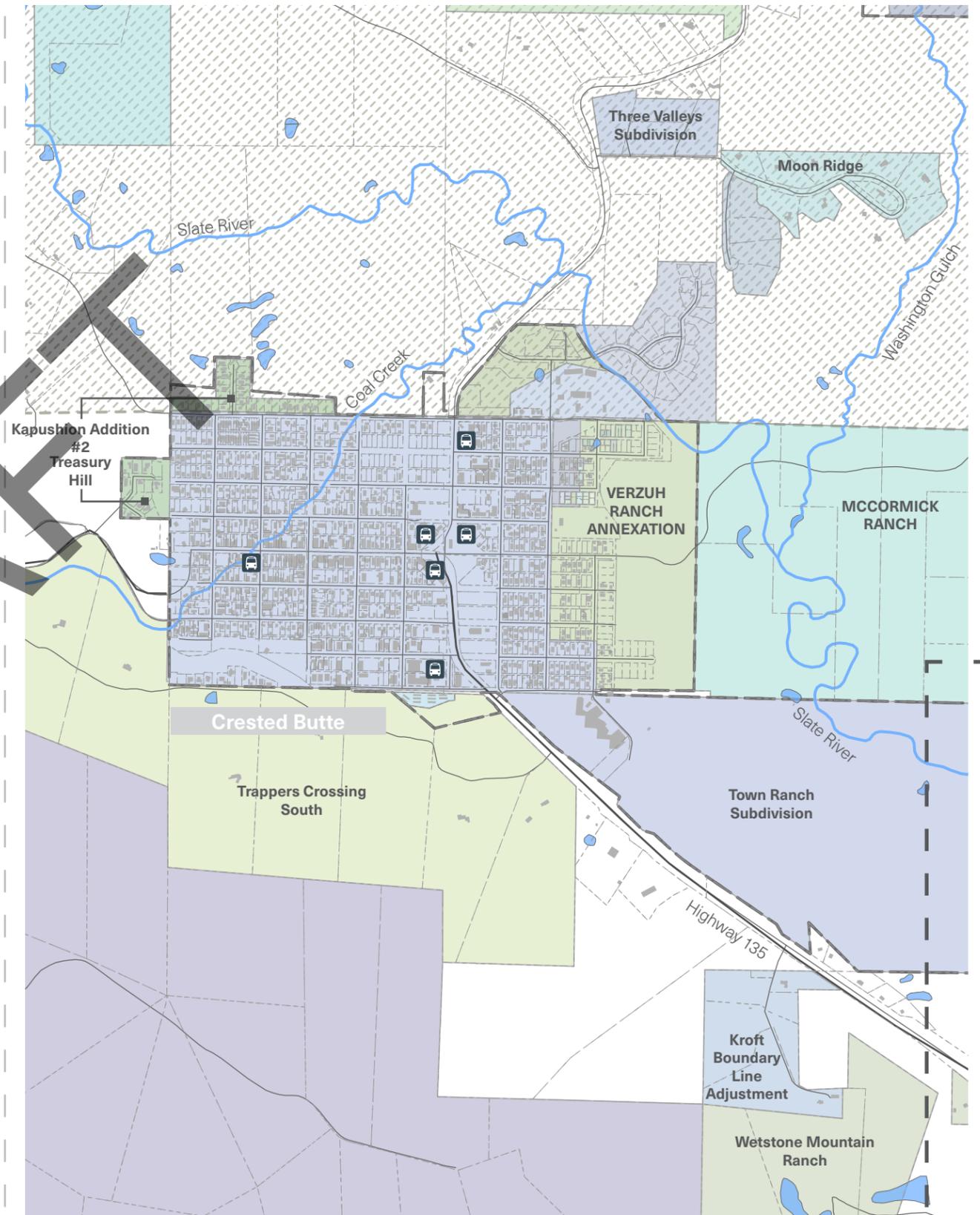
7 Subdivisions in Crested Butte

9 Subdivisions in Crested Butte South

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E
1



E2

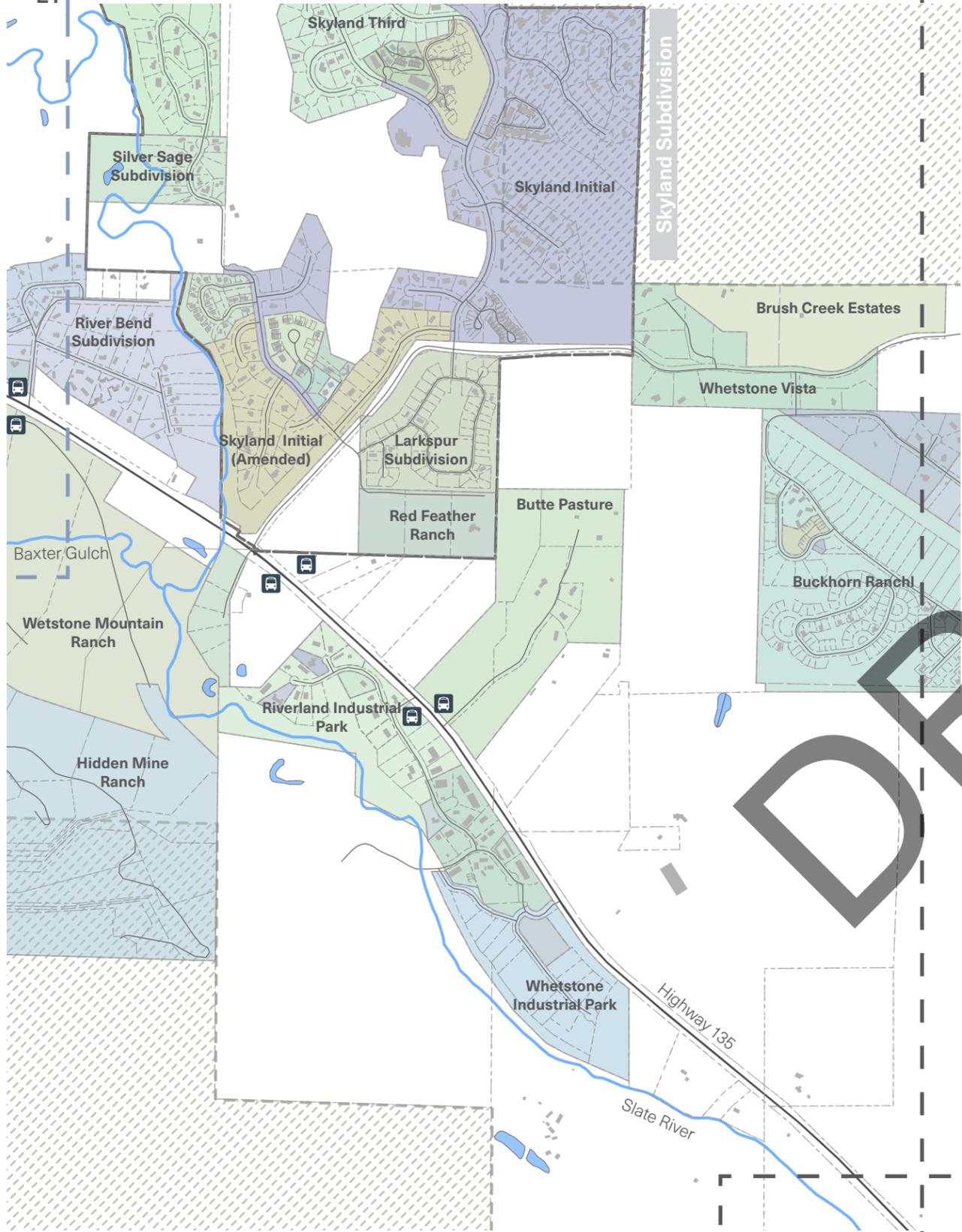
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E
2



E3

E1



E1

E4

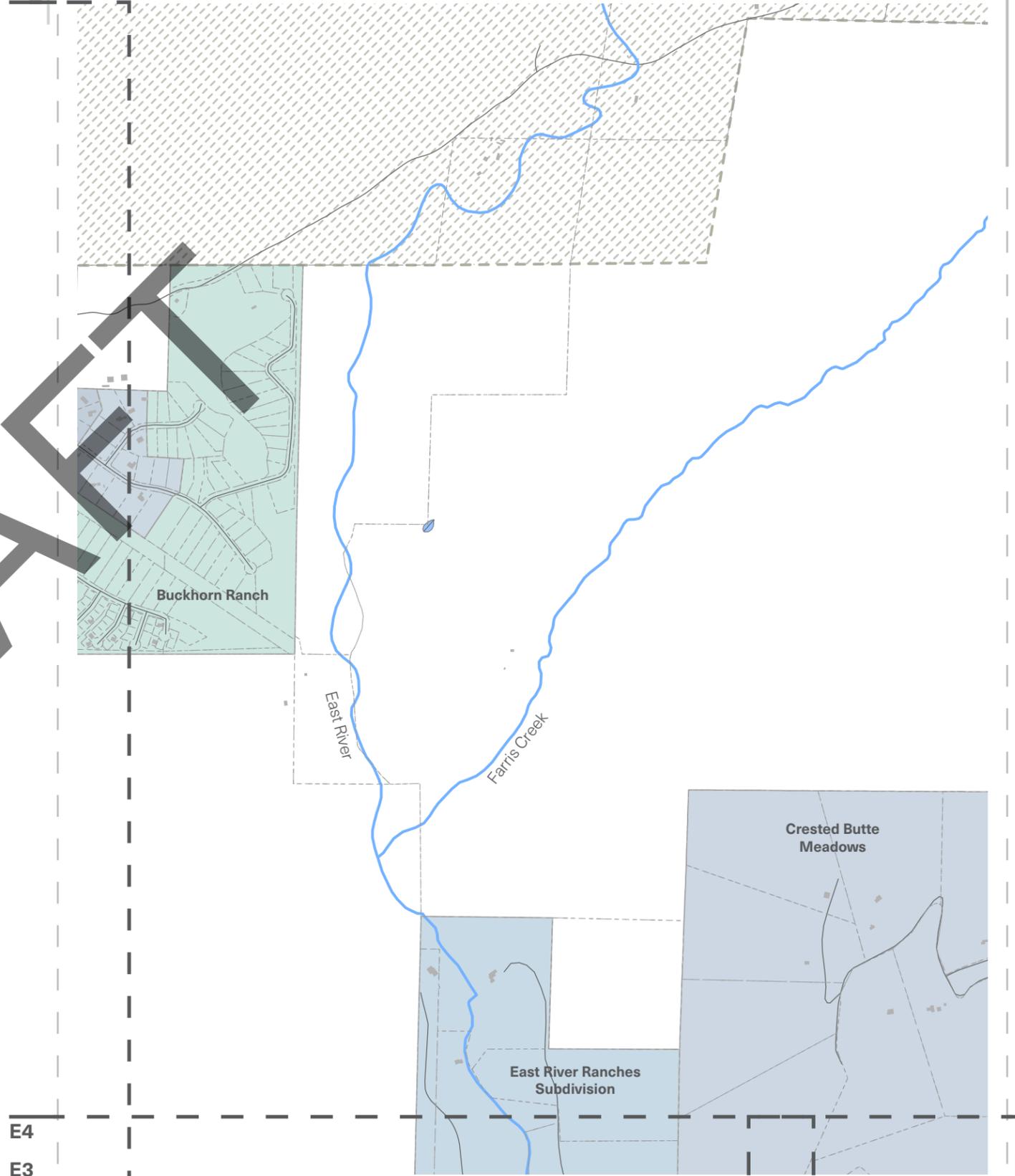
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E
3



E3



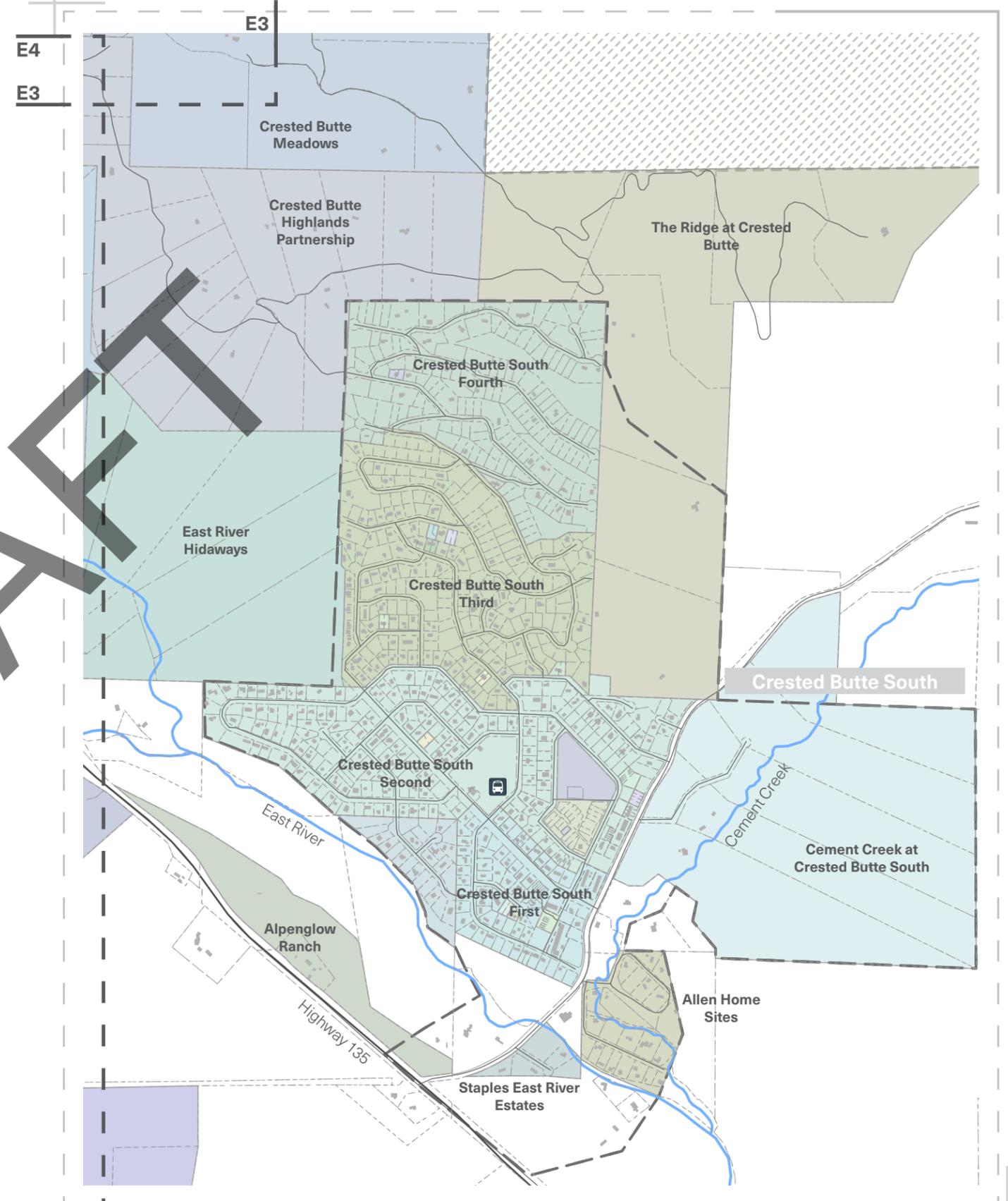
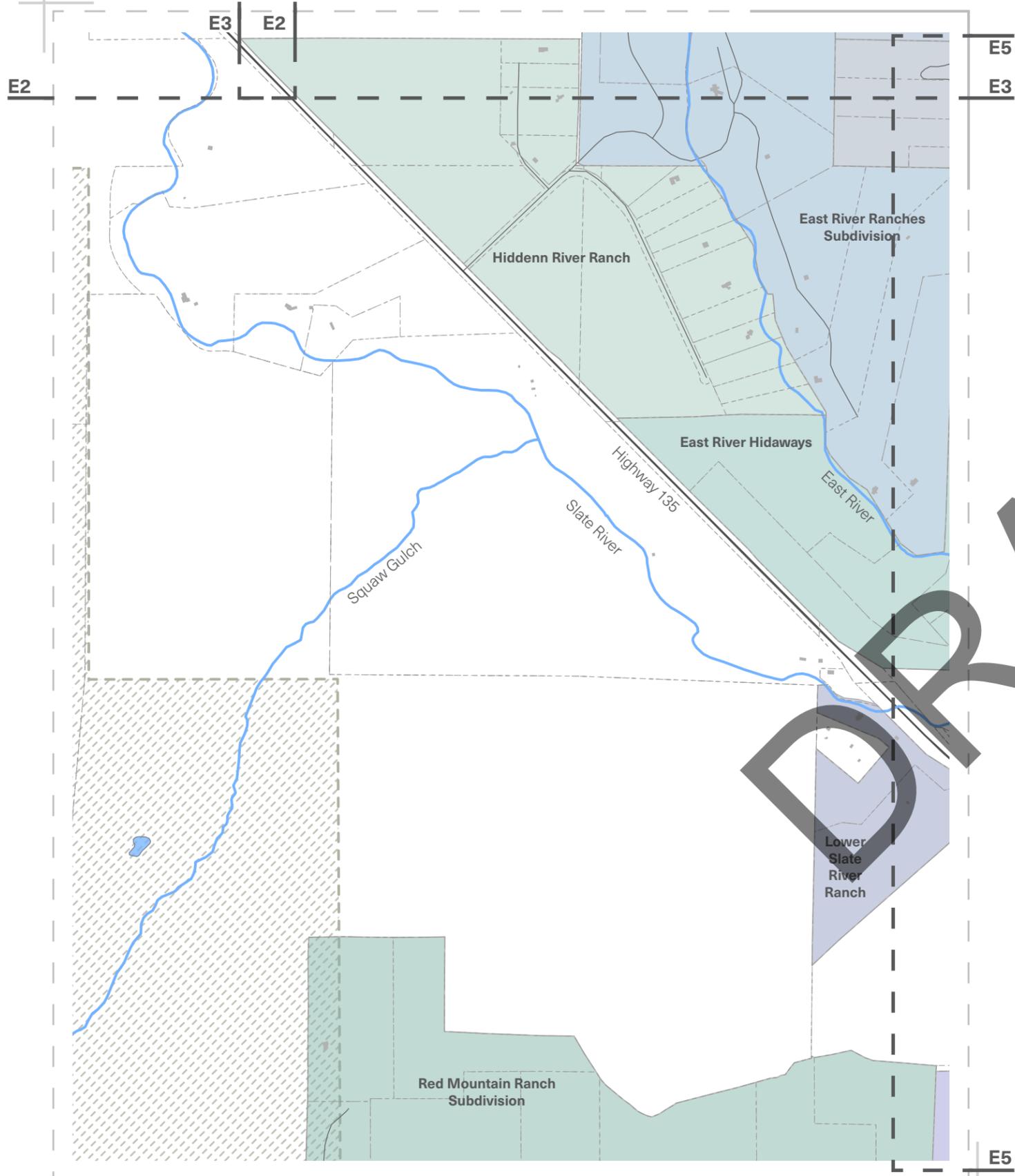
E4

E3

E5

E4

E5





CRESTED BUTTE

Strand Hill

East River

Farris Creek

Bexter Gulch

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Highway 135

Whetstone Mountain
12,509'

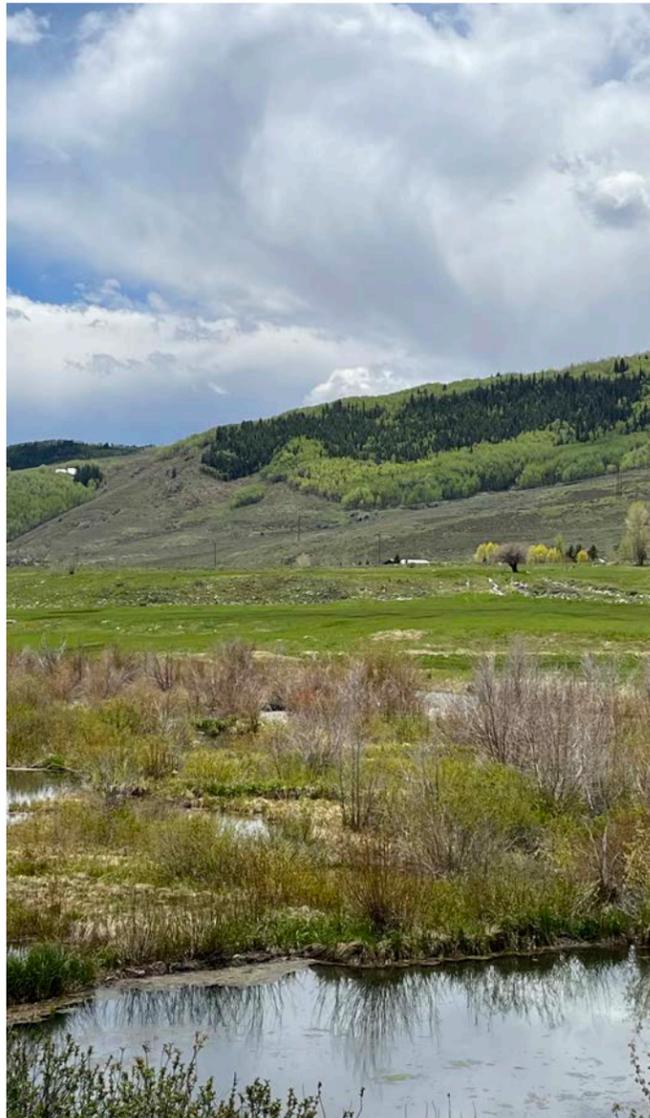
CRESTED BUTTE SOUTH



HYDROLOGY

The Colorado 135 corridor is characterized by the East and Slate Rivers. Leaving Crested Butte South, commuters to Crested Butte and adjacent industrial areas cross the Cement Creek Bridge before turning onto the highway. Once there, the highway crosses the Slate River at two significant points – one mile north of the Cement Creek intersection and at the Brush Creek Intersection.

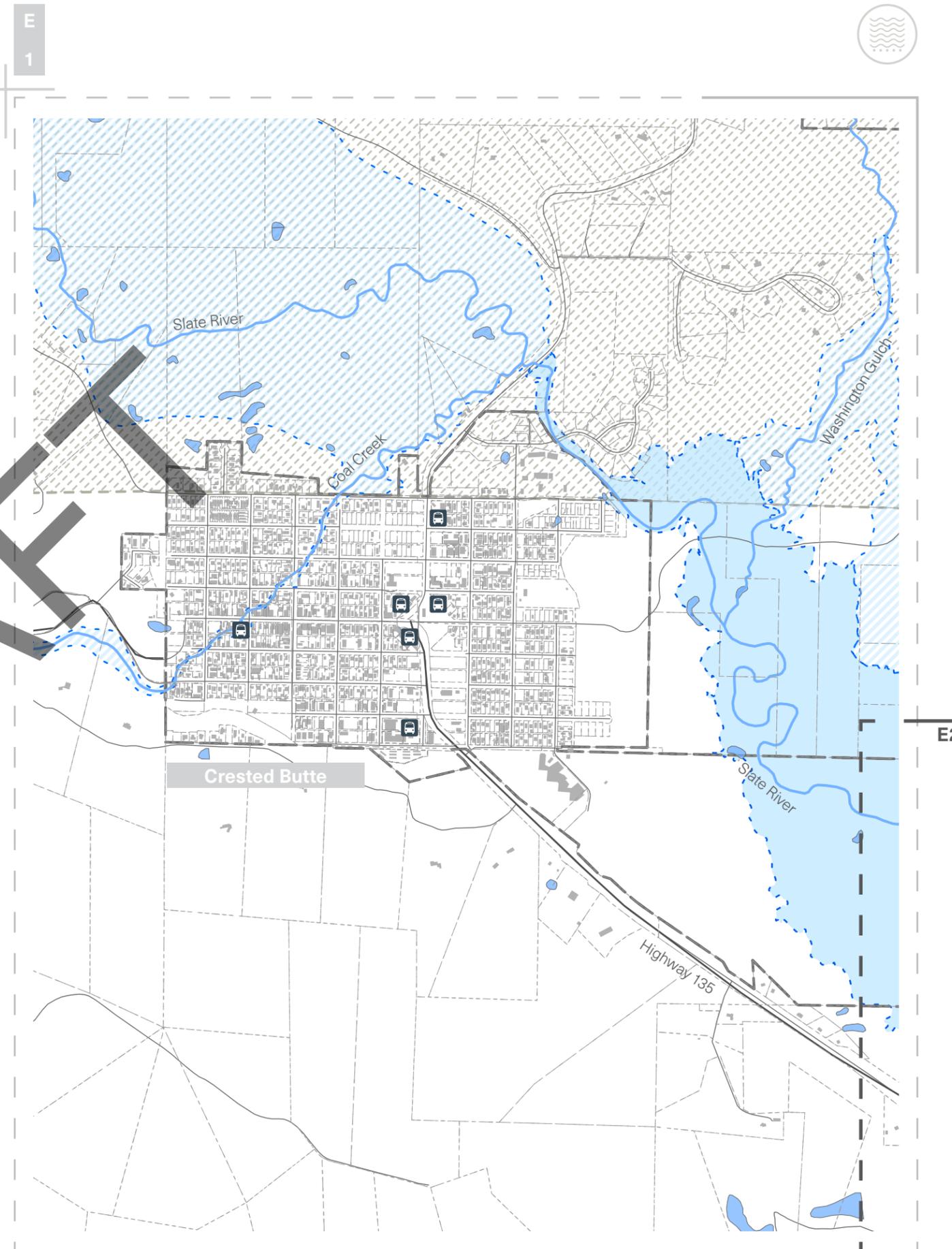
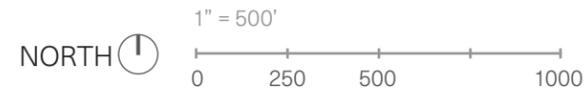
Additionally, there are several existing drainage ways and culverts that were not captured in the survey to the level of detail required for final planning. Surveying of these areas will be required as the project moves into future phases of work.

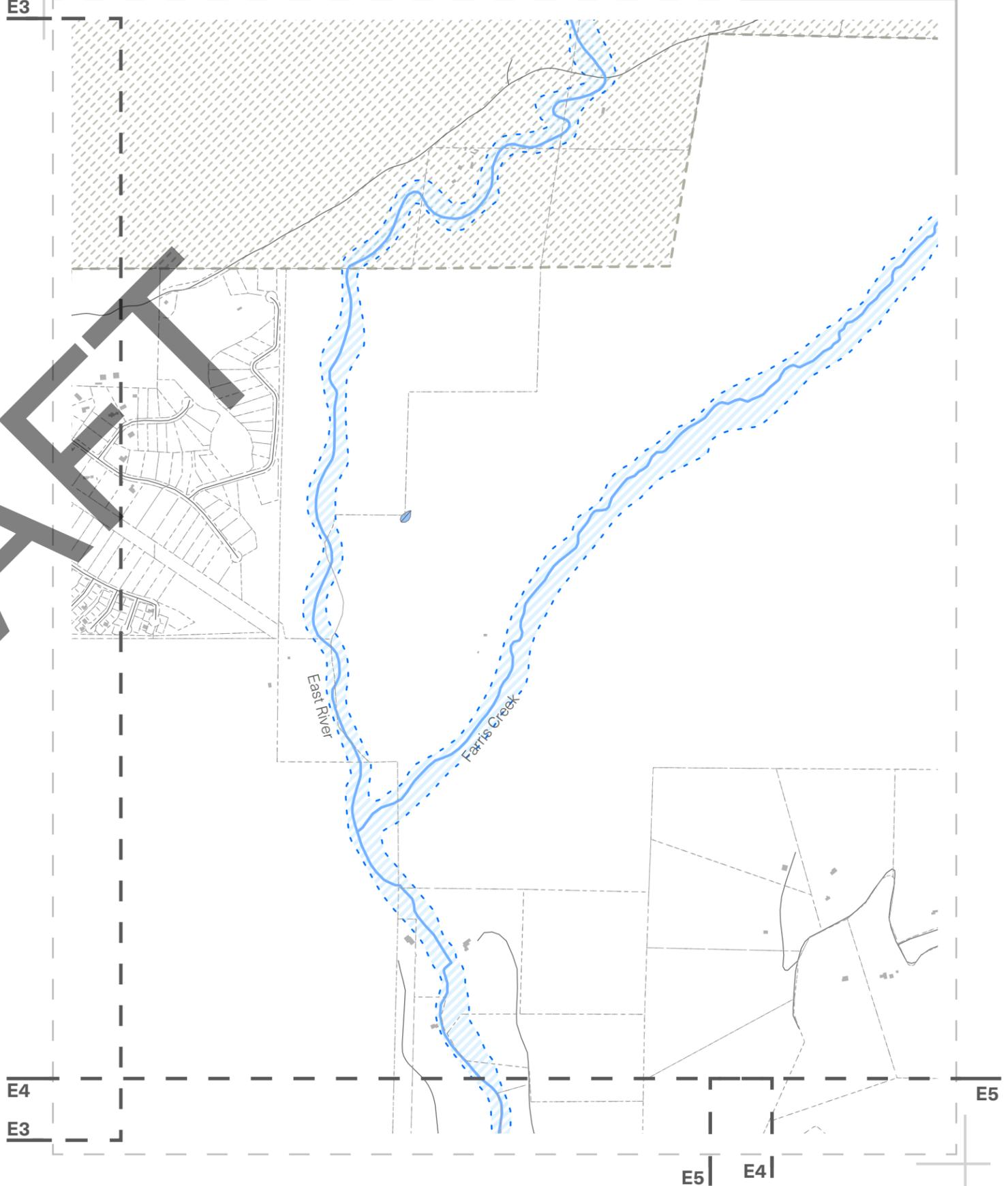
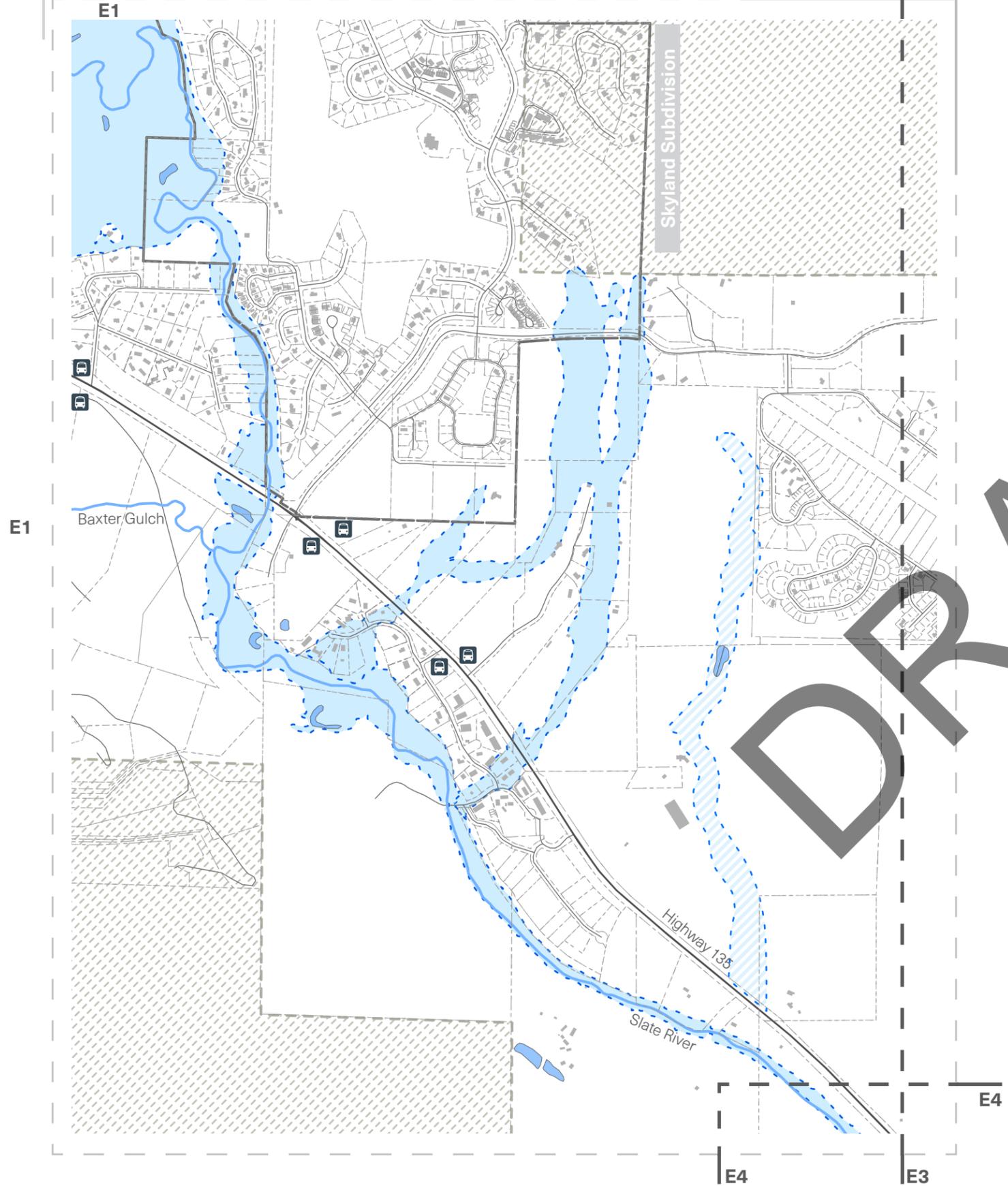


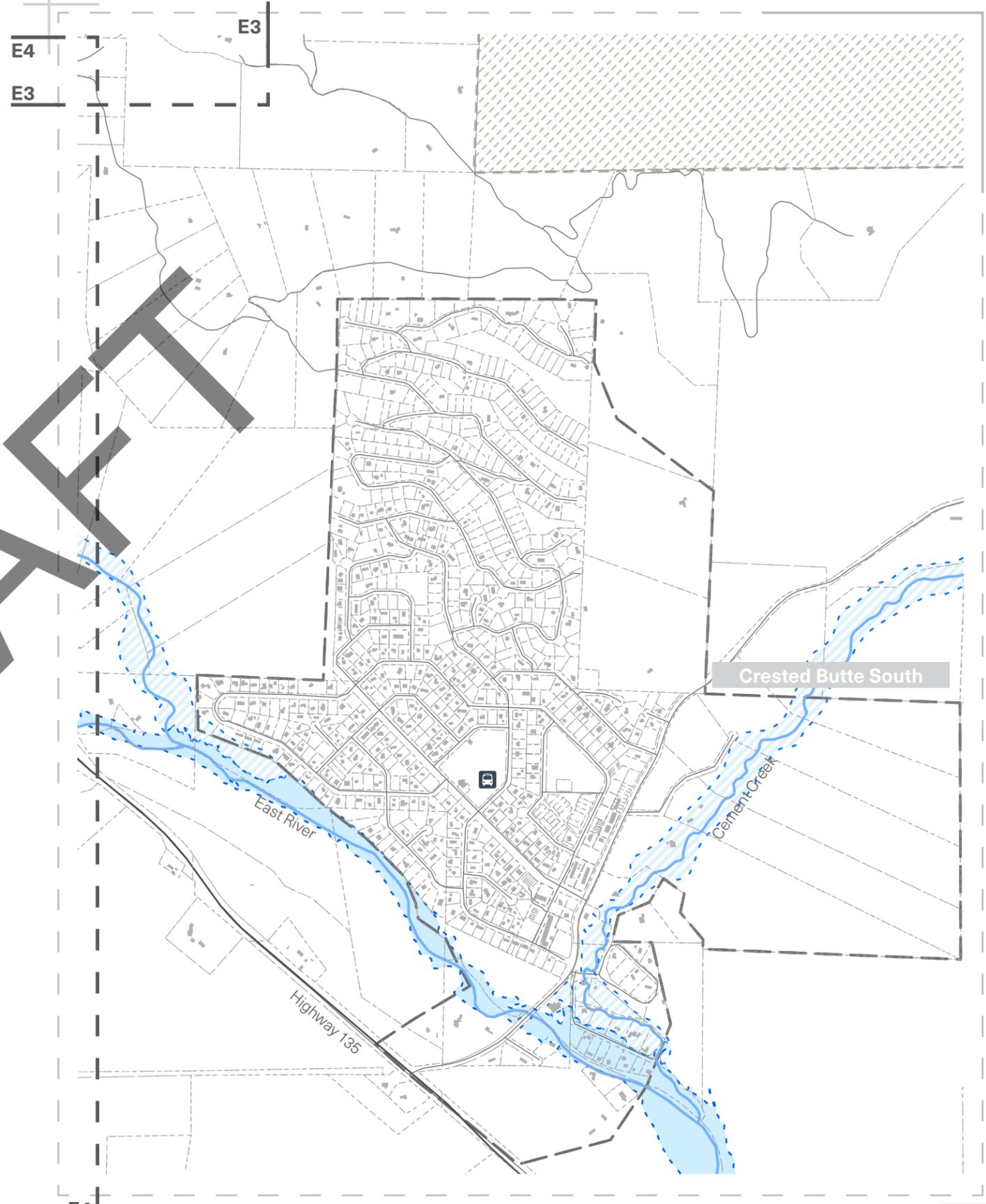
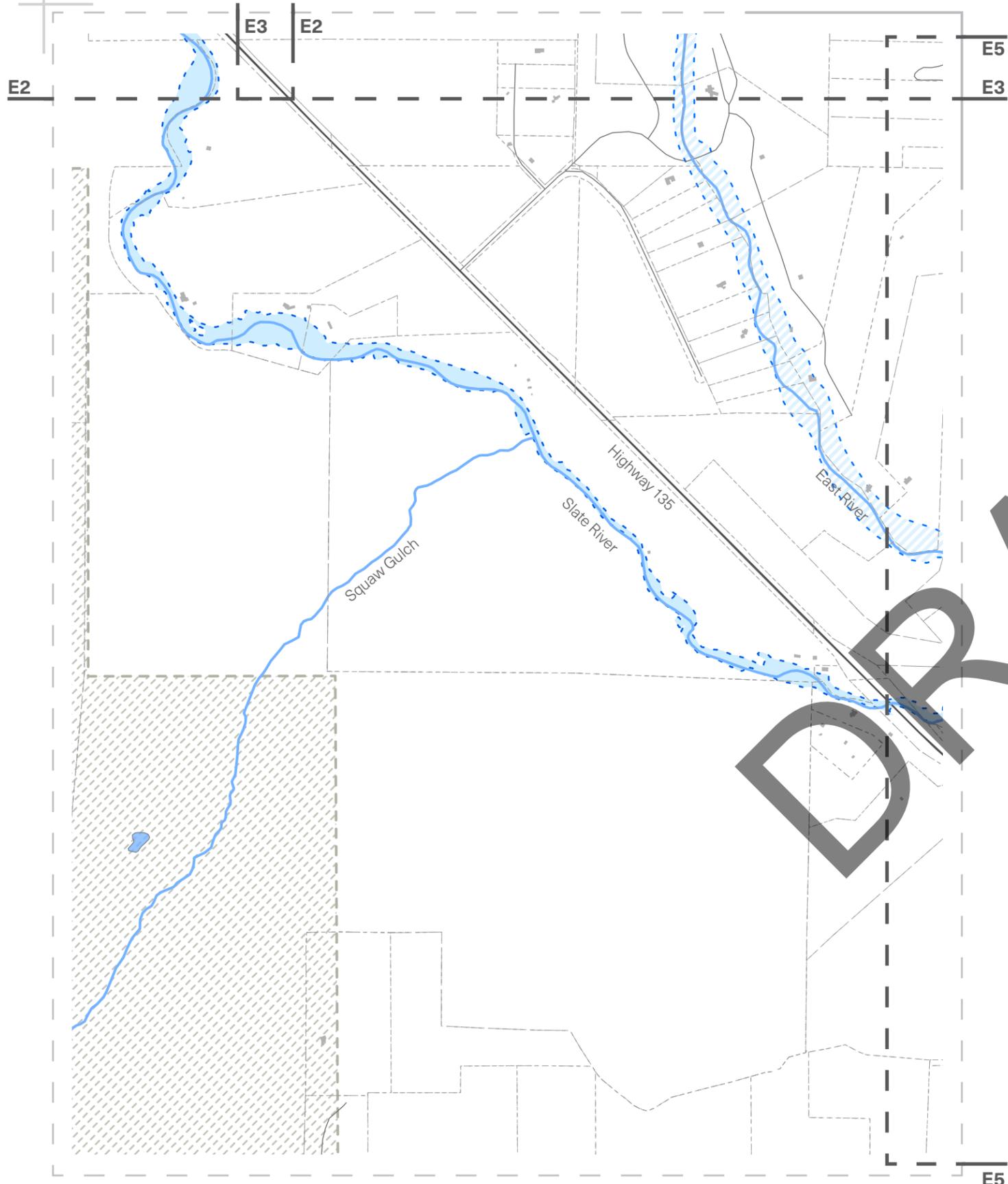
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Legend

- Rivers
- Lakes
- Flood Plain - Boundary
- Flood Plain - AE
- Flood Plain - A









CRESTED BUTTE

Strand Hill

East River

Farris Creek

Baxter Gulch

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Highway 135

Whetstone Mountain
12,509'

CRESTED BUTTE SOUTH



RECREATION INFRASTRUCTURE

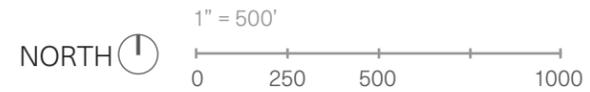
Completely surrounded by the Gunnison National Forest, there are endless opportunities for recreation within the upper East River Valley, with ample opportunities for hiking and mountain biking. Winter recreation, downhill and cross-country skiing, are supported by Crested Butte Mountain Resort and Crested Butte Nordic Center.



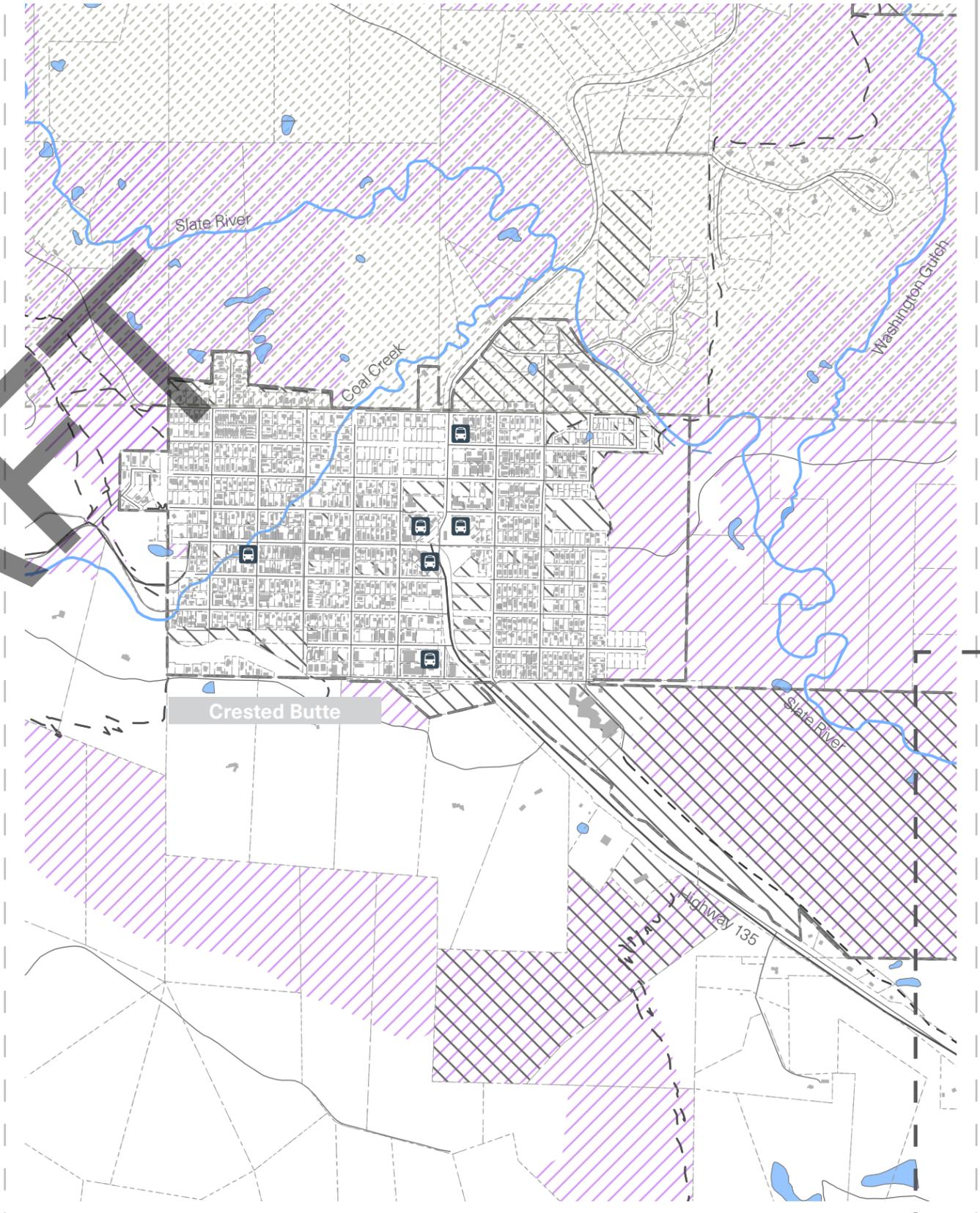
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Legend

- Ski Lift
- Snow Trail
- Hard Surface Trail
- Soft Surface Trail
- Conservation Easement
- Open Space

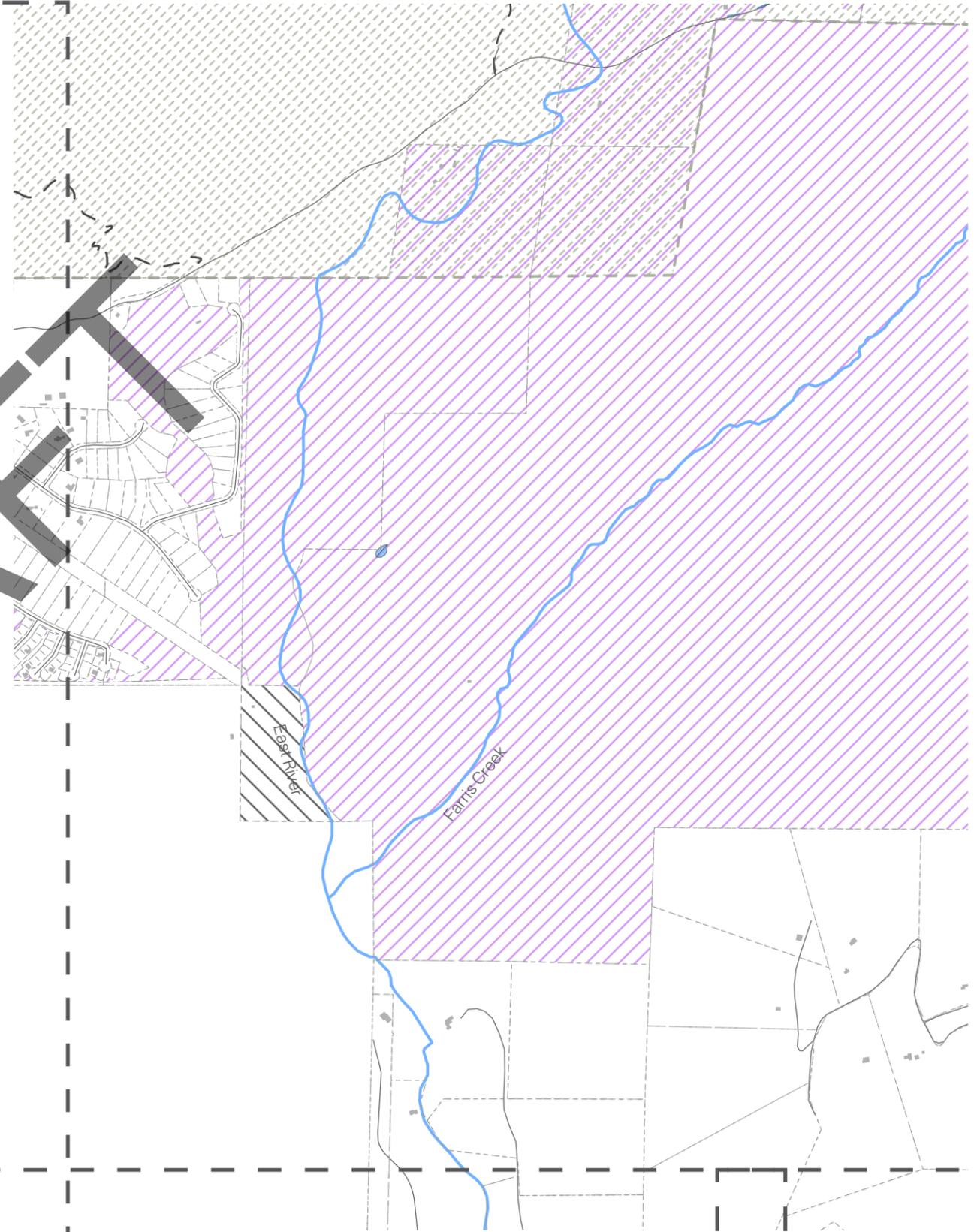
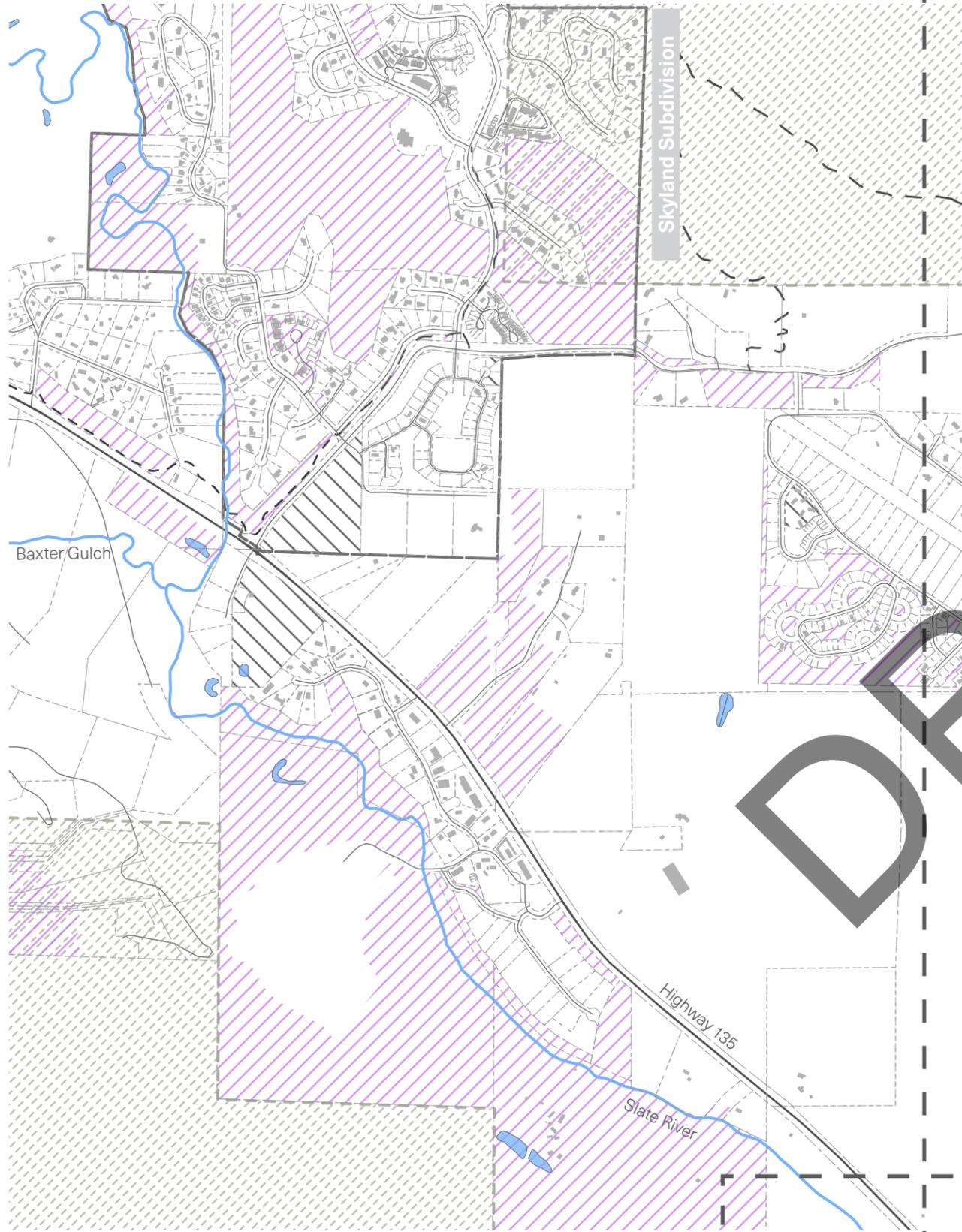


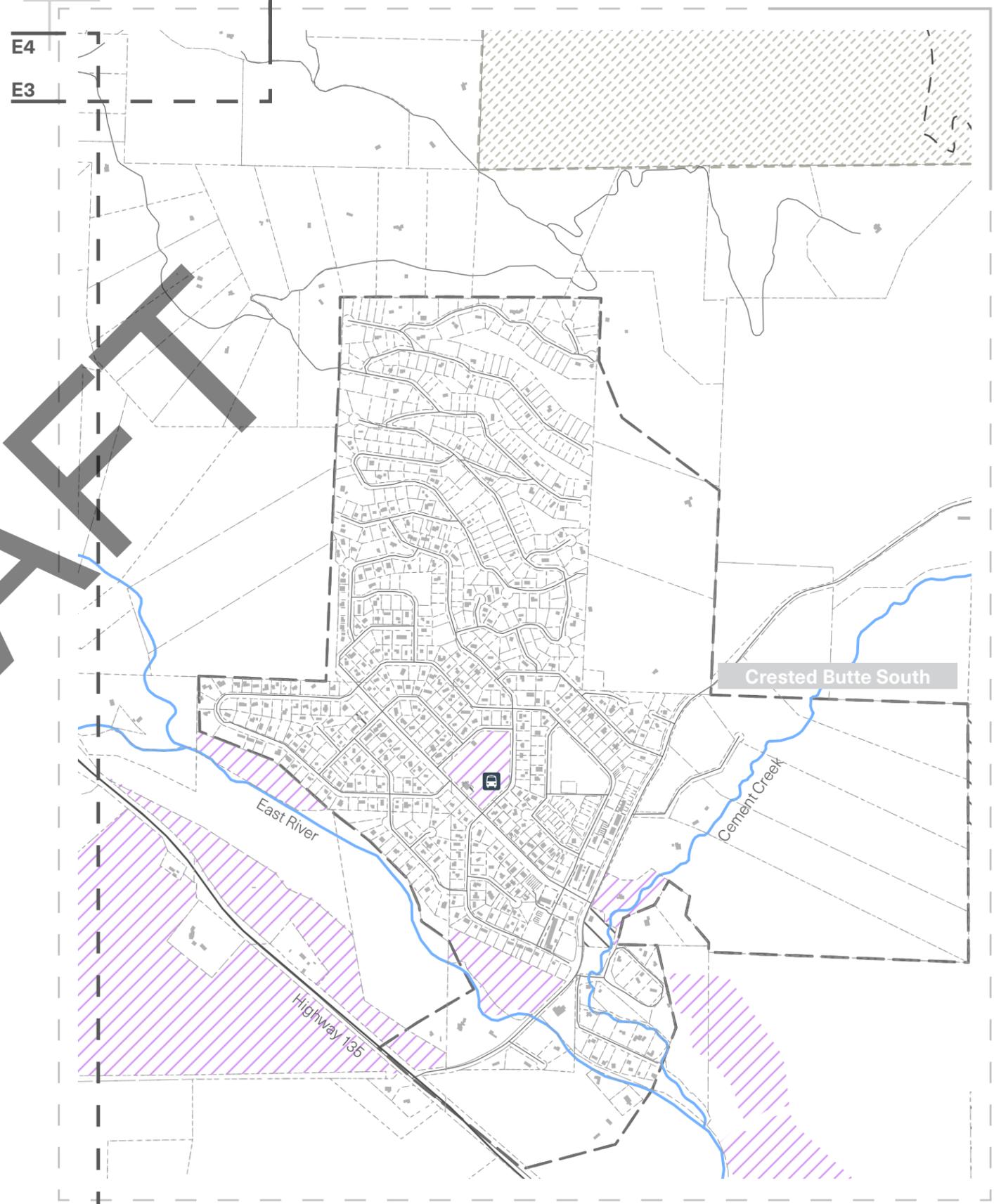
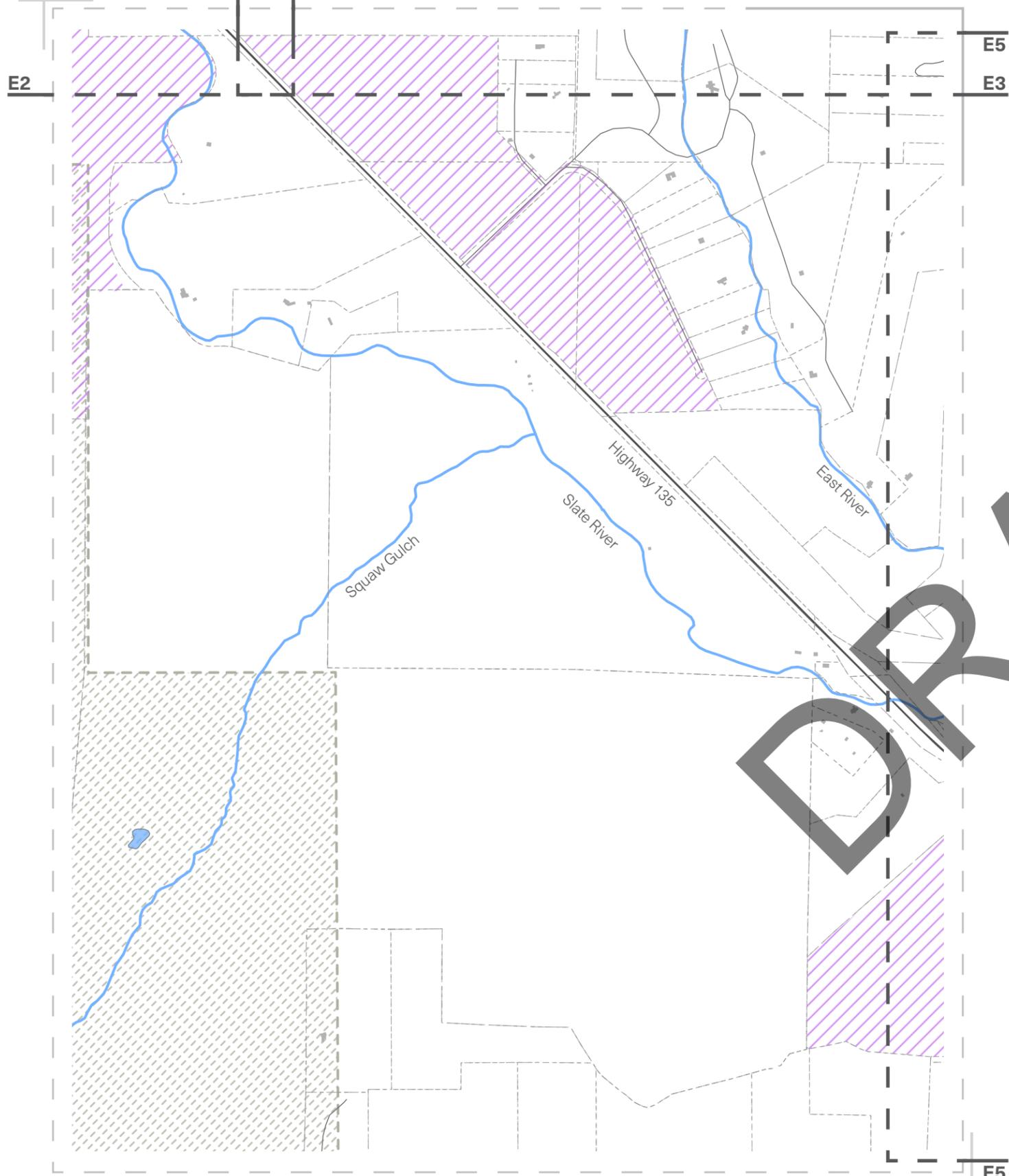
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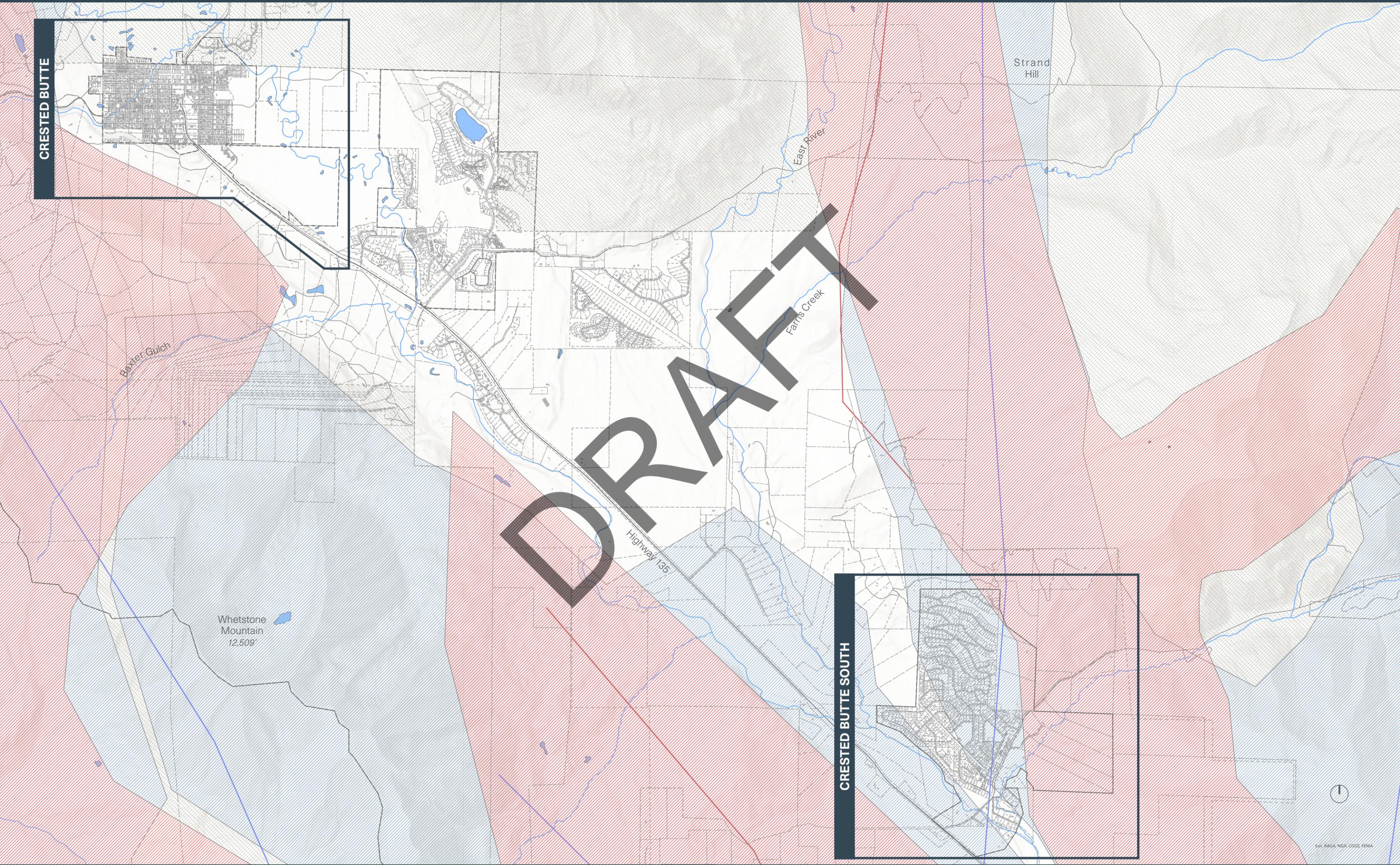
E2







CRESTED BUTTE



Strand Hill

East River

Farris Creek

Baxter Gulch

Whetstone Mountain
12,509'

Highway 135

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CRESTED BUTTE SOUTH

HABITAT RANGE + MIGRATION CORRIDORS

Study of wildlife corridors within the upper East River Valley is crucial to the understanding of ecological connectivity between habitat areas and the typical migration paths between them. These identified routes are used for migration, feeding, and breeding throughout the year. Within the upper East River Valley, the two primary wildlife communities present are elk and mule deer. Adjacent to the Gunnison National Forest, the migration corridors for both species extend north from Crested Butte South on either side of Colorado 135.

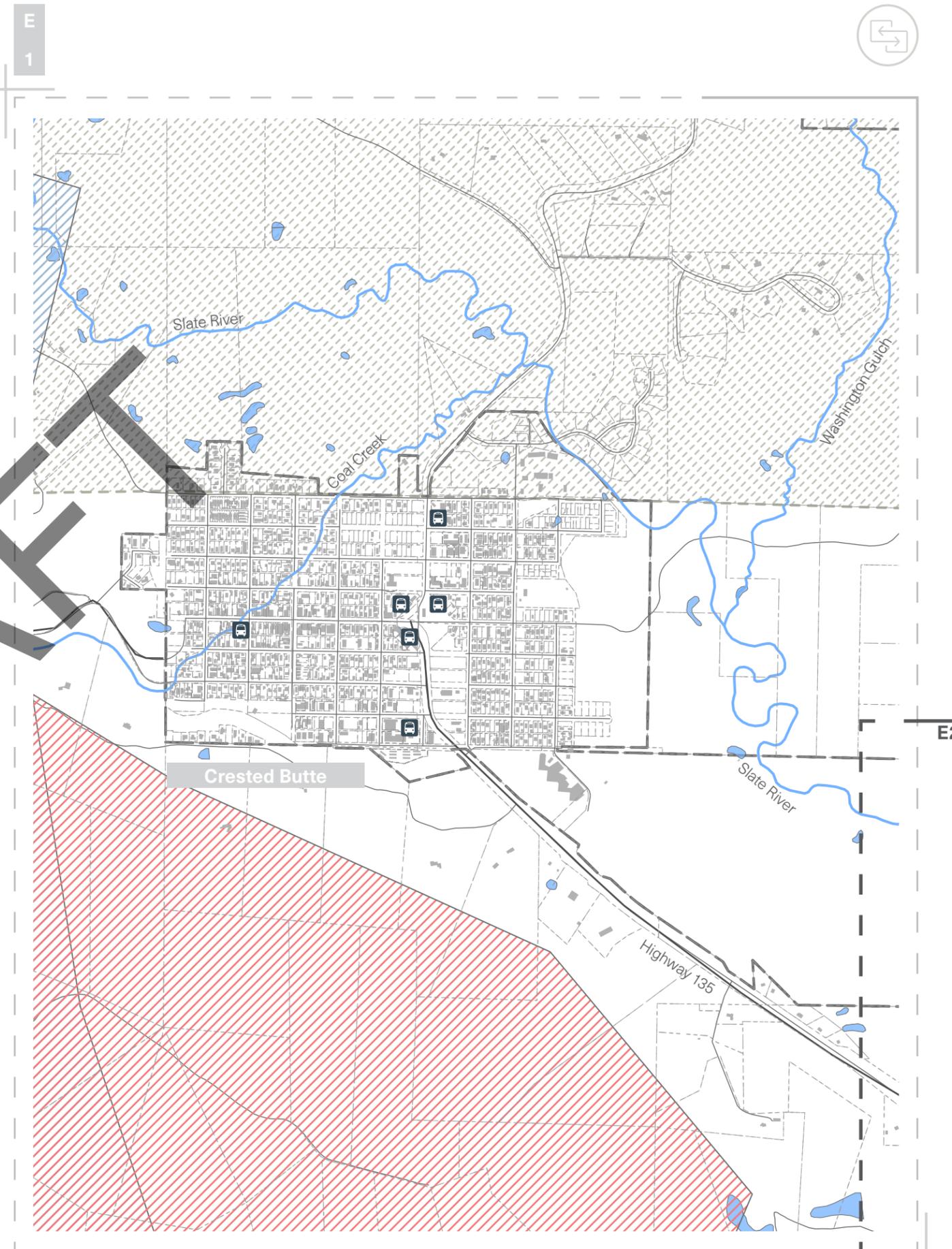
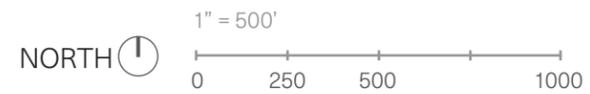
Within migration corridors and habitat areas on either side of the highway, there is a substantial number of reported crossings. Increased development within the surrounding communities and along the corridor pose the risk of increased wildlife and human interactions. Regulations for wildlife safe fencing and trail etiquette consider how best to accommodate and limit impact to the resident wildlife communities.

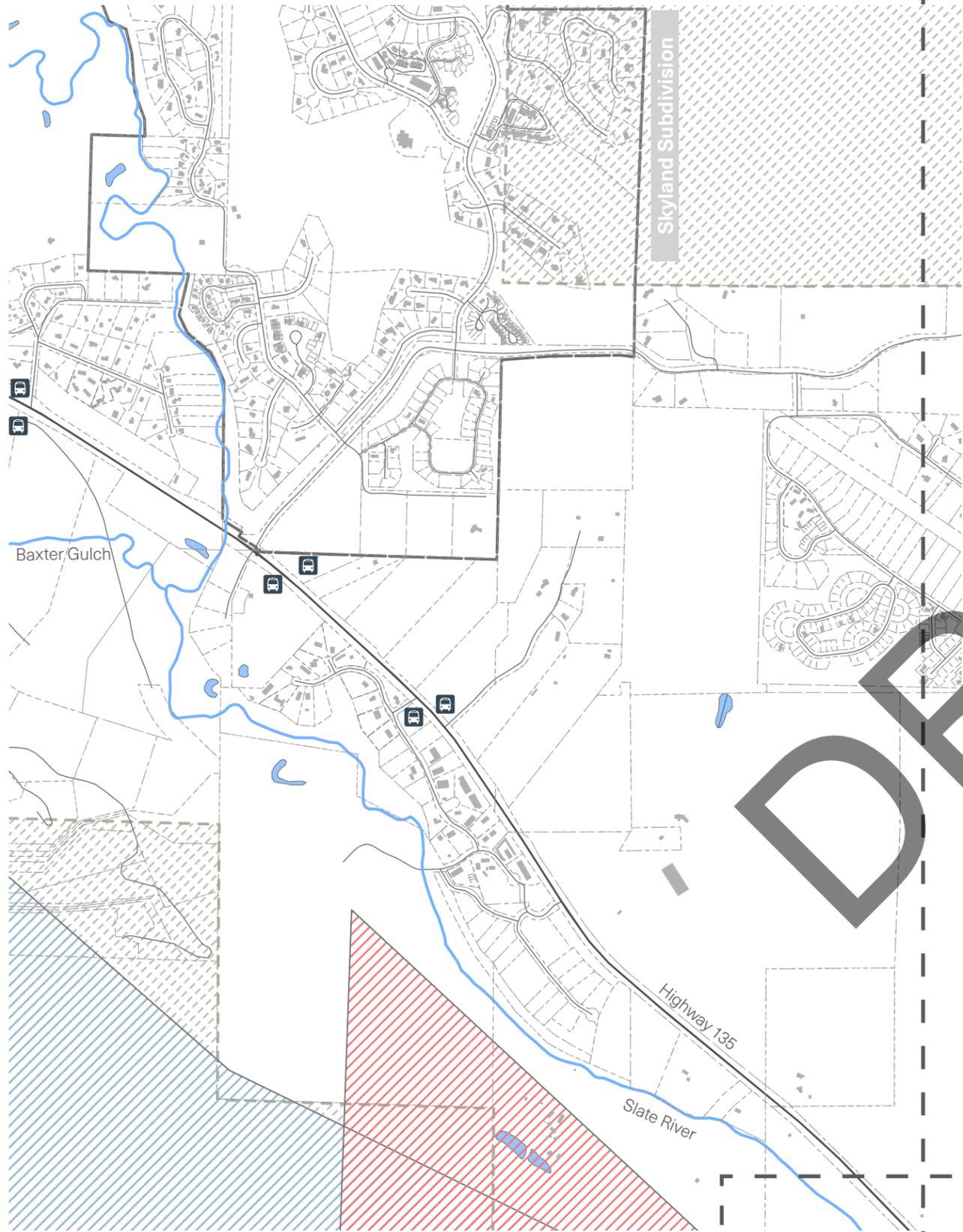


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Legend

-  Elk Migration Corridor
-  Mule Deer Migration Corridor





E1

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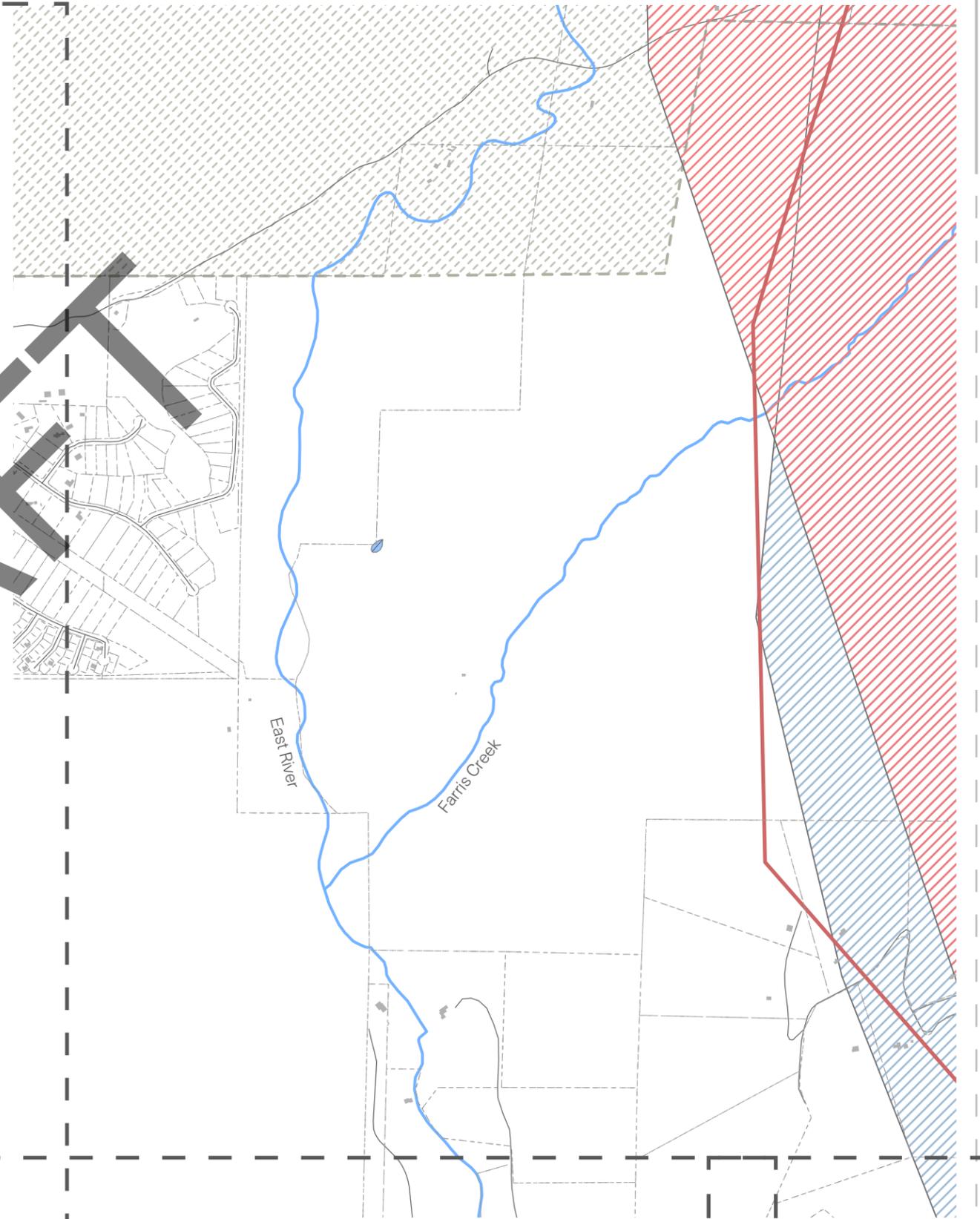
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E3



E4

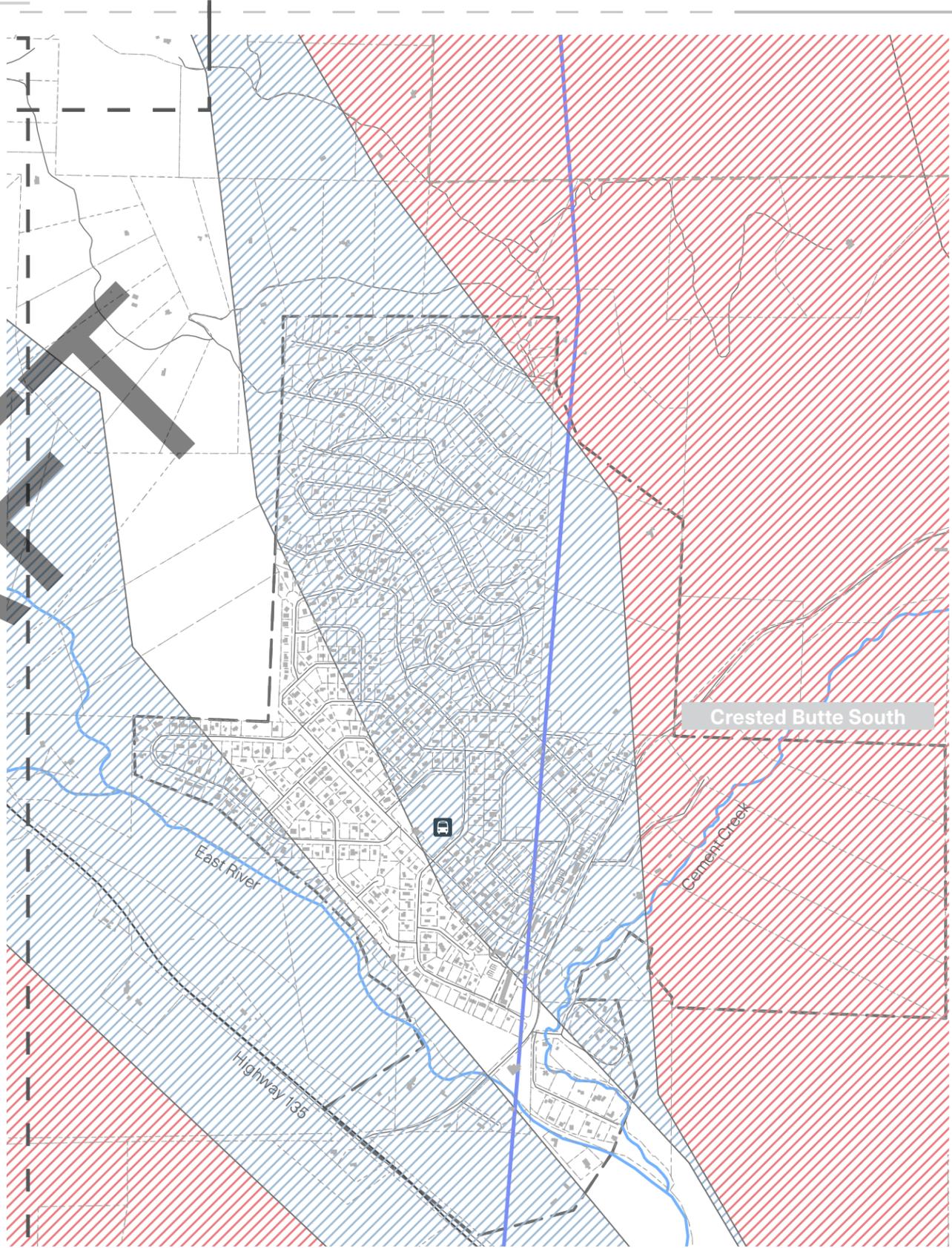
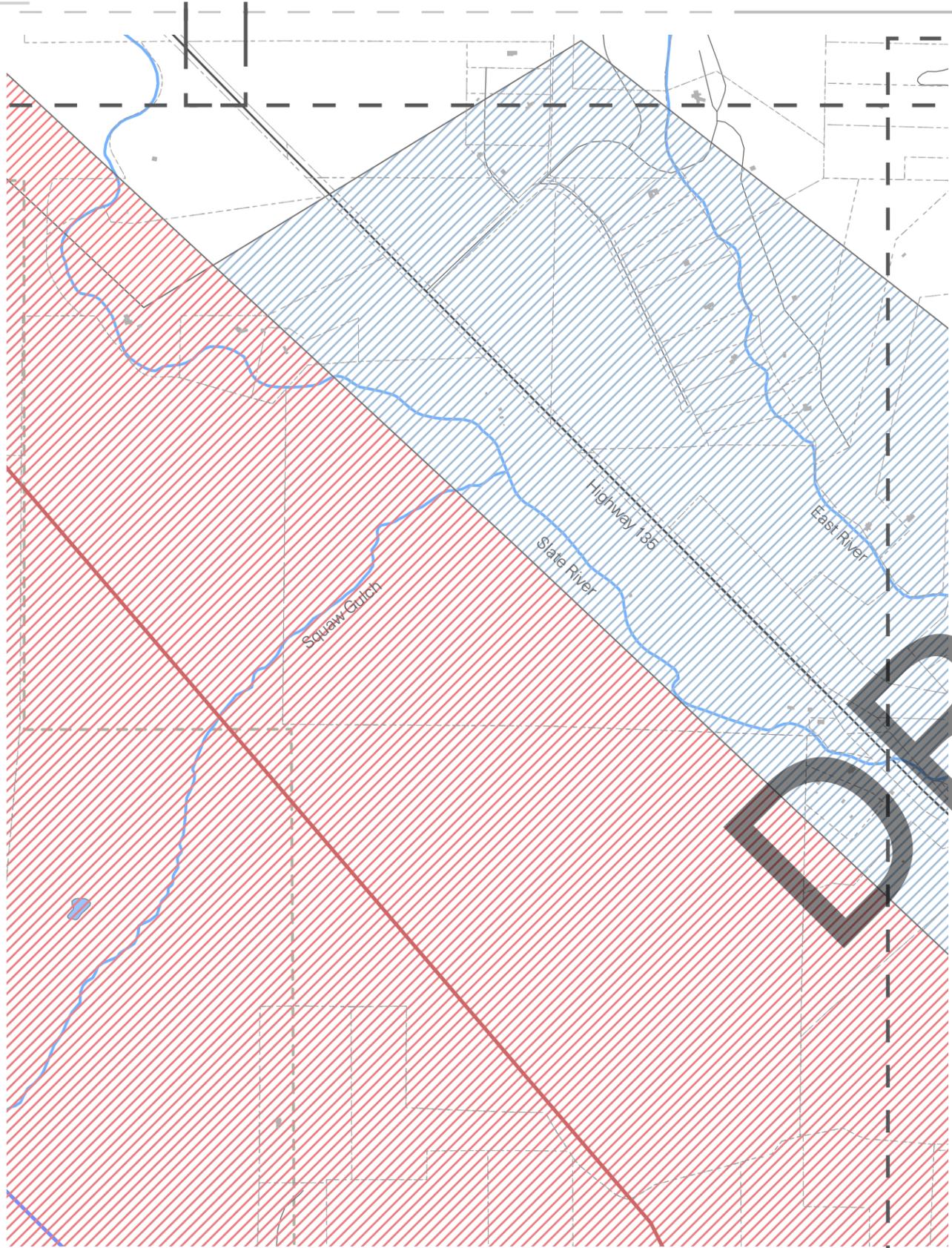
E3



E5

E5

E4





CRESTED BUTTE

Strand Hill

East River

Farris Creek

Baxter Gulch

DRAFT

Highway 135

Whetstone Mountain
12,509'

CRESTED BUTTE SOUTH



TRANSPORTATION INFRASTRUCTURE

The communities of Crested Butte and Crested Butte South are connected along Colorado 135, the only year-round means of accessing Crested Butte. As a destination for tourism and recreation, this stretch of highway is highly trafficked, seeing an average of 7,000 vehicular trips daily, with peaks of over 10,000 trips during the busy summer and winter seasons. These trips account for seasonal tourism and daily commuters who work in the upper East River Valley.

The most common means of transportation for employees in Crested Butte is by vehicle, followed by walking and biking, for a relatively short commute. For residents living in Crested Butte South, there is not a safe means of walking and biking to Crested Butte; there are high speeds and limited shoulders along this stretch of roadway making it not only undesirable from a recreation standpoint but unsafe.

There is a transit stop in Crested Butte South at Cascadilla Street, with service to the Riverland Industrial area, Brush Creek intersection, and downtown Crested Butte. There is an additional transit connection from Crested Butte to Mt. Crested Butte. Limited parking facilities at these transit stations require users to utilize alternative means of accessing these transportation access points.

COLORADO 135 CDOT RIGHT-OF-WAY

The Colorado 135 corridor is owned by the Colorado Department of Transportation (CDOT). A multimodal trail is allowable in the right-of-way and could connect all existing bus stops within the right-of-way

The Colorado 135 right of way width varies in size along the corridor and is encroached upon by existing utilities and topographic limitations including steep drop offs from the road shoulder, drainage ditches, and steep topographic features along the roadway. An underground natural gas pipeline follows the alignment of Colorado 135 within the ROW from the project start to just north of Buckley Drive.

Additionally, there are existing fences along the ROW from project start to project end that serve critical safety and boundary functions for adjacent private property.

400' Maximum Right-of-Way Width

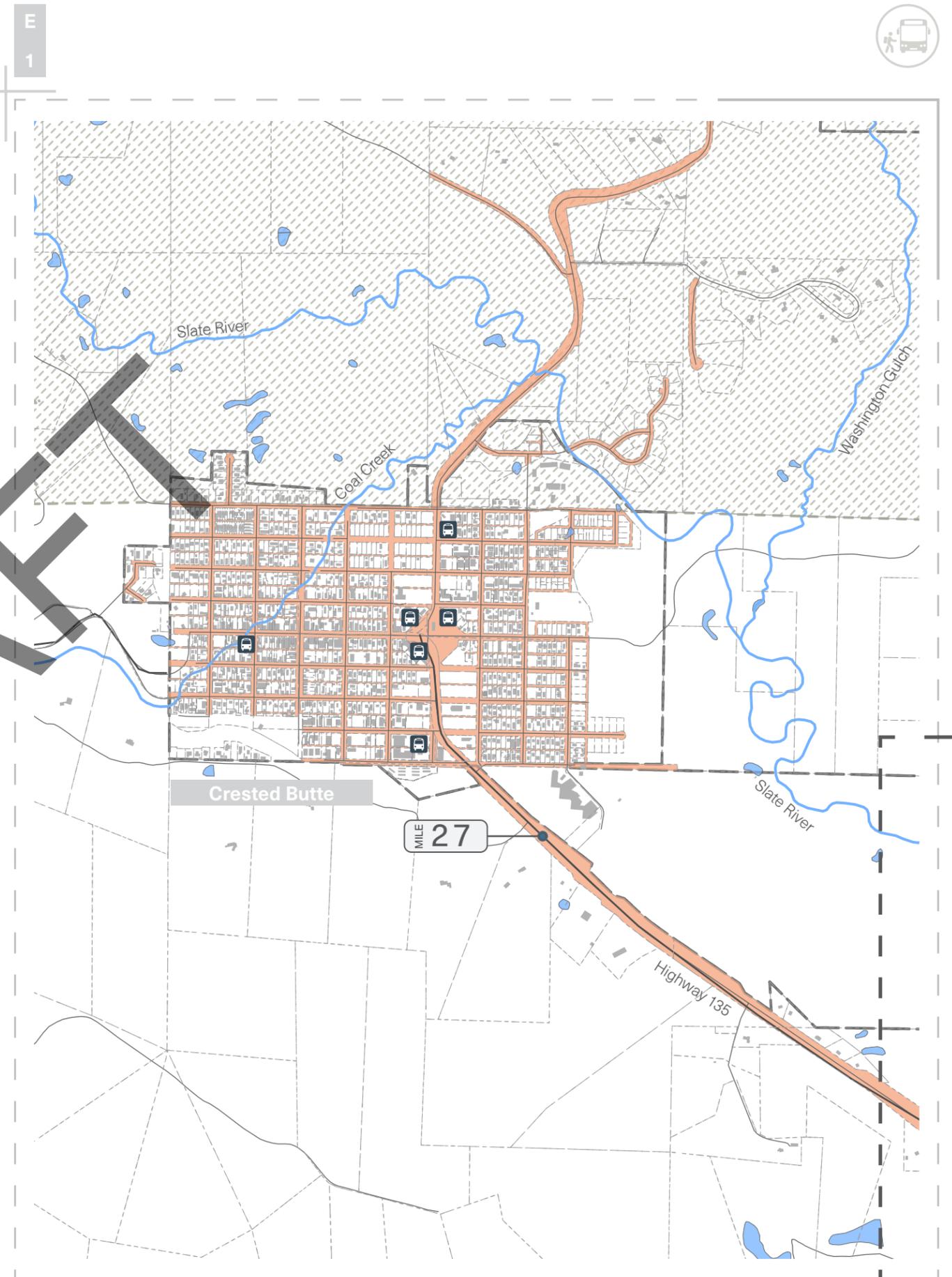
100' Minimum Right-Of-Way Width

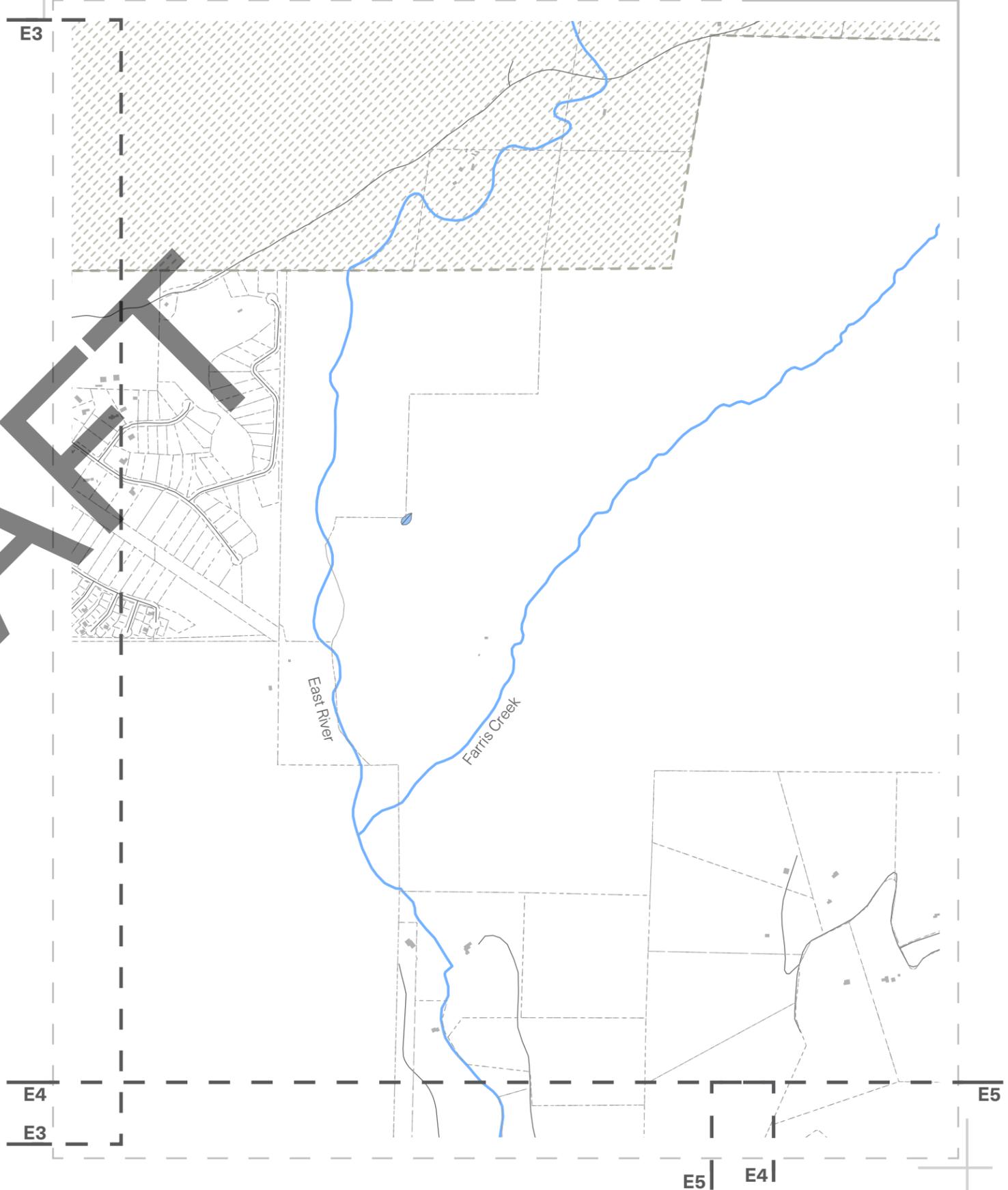
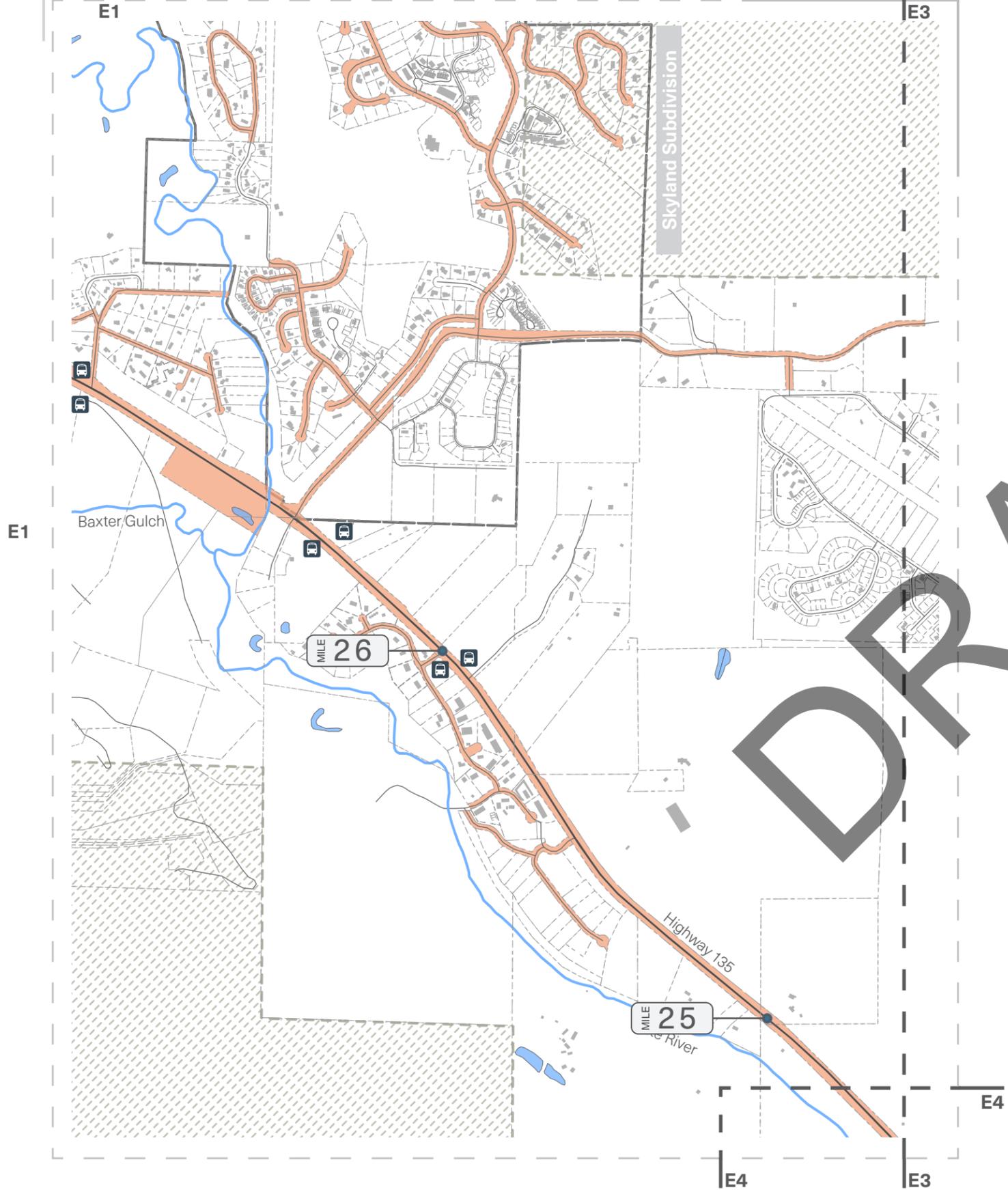
7 Bus Stops Within the CO 135 Corridor in the Study Area

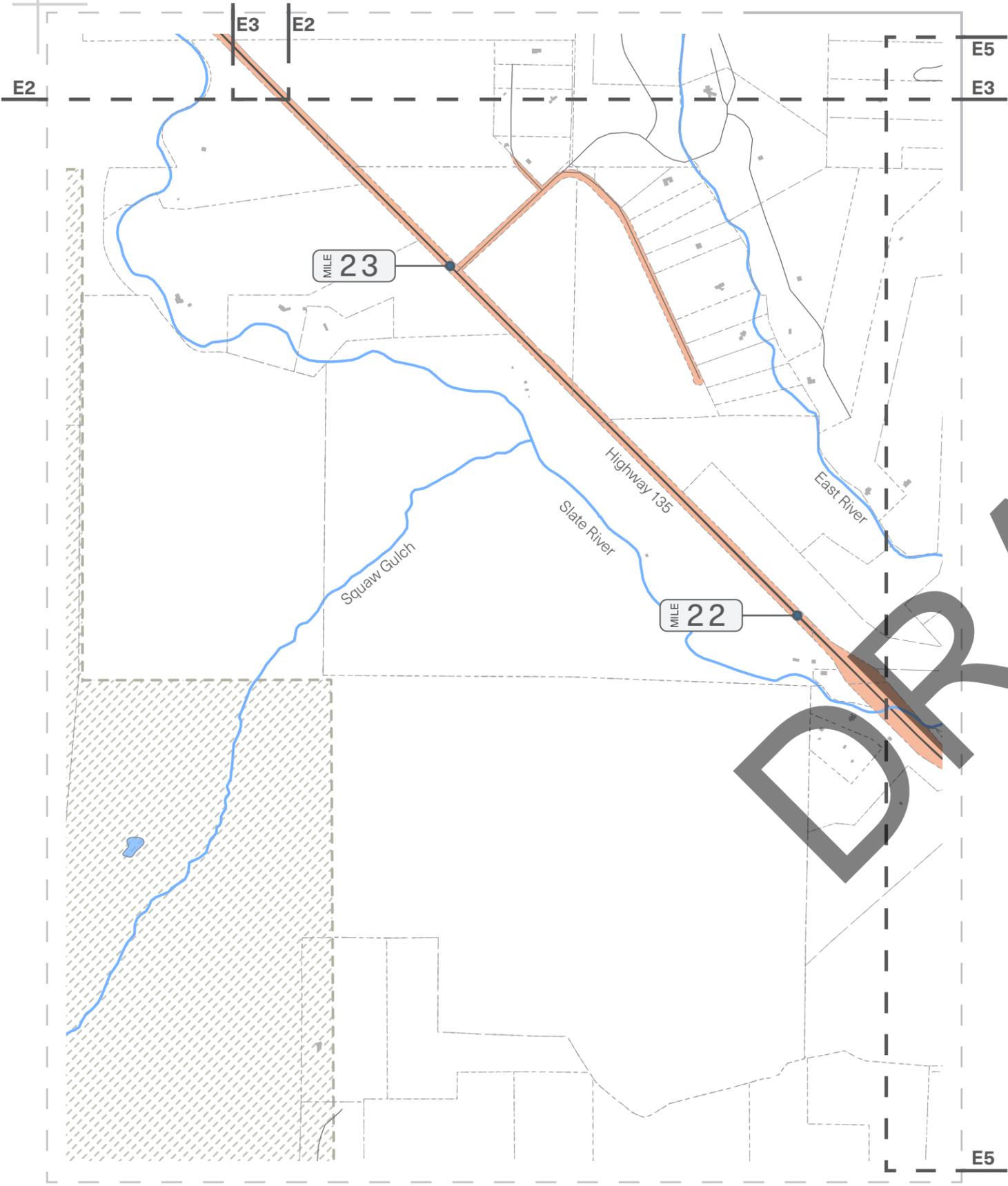
7 Miles of Highway (CO 135) in the Study Area

Legend

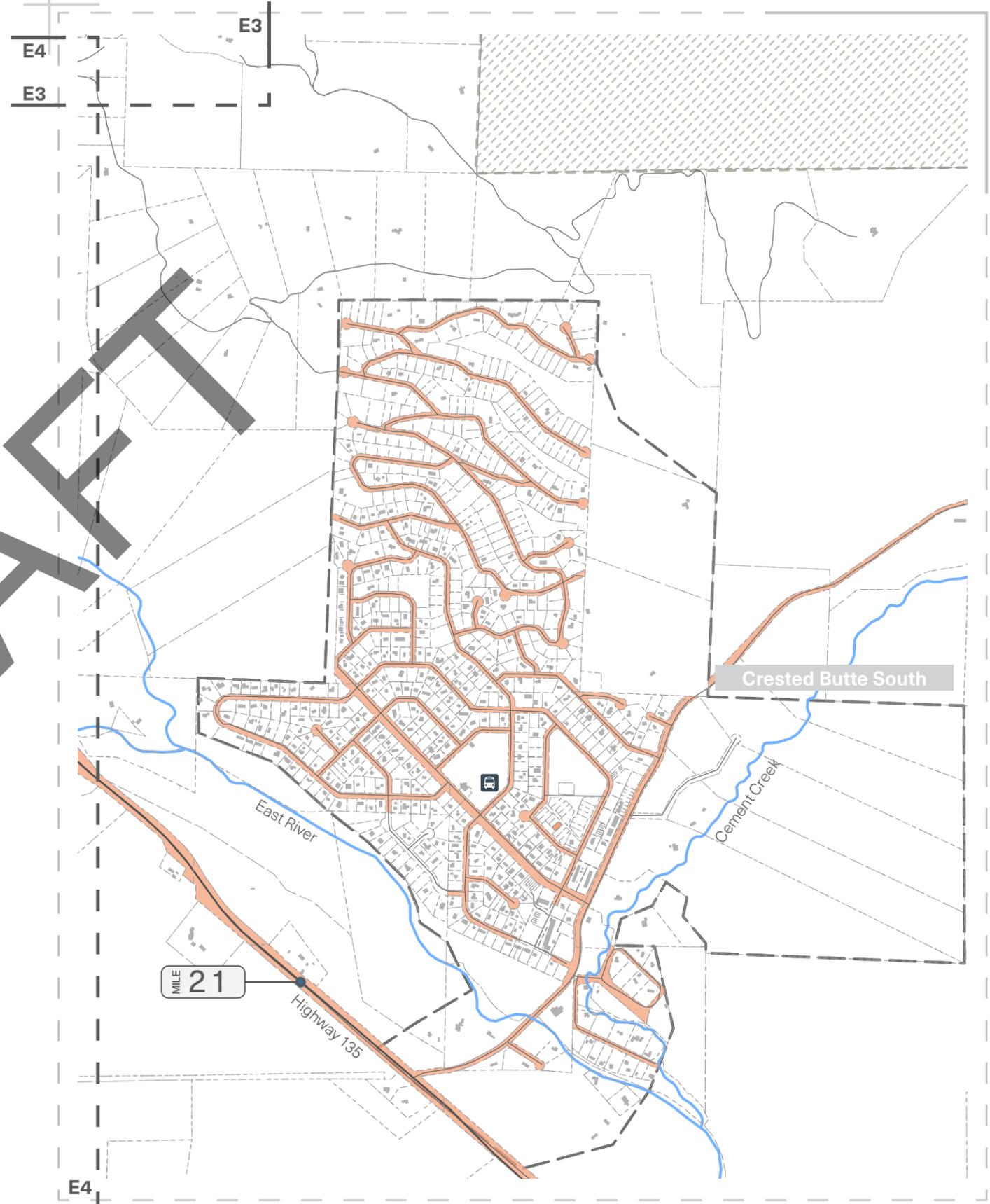
— Colorado 135 Right of Way







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OPPORTUNITIES AND CONSTRAINTS

The design team focused on an analysis of a trail alignment along Colorado 135 within the CDOT right of way.

The main design constraints for the proposed multimodal trail are steep existing grades within the CDOT ROW and areas of constrained ROW width. In locations where the ROW width does not allow for a 17' buffer to be maintained between the proposed trail and the existing highway, the buffer area is widened to the maximum extent practical. At locations with steep existing grades that do not allow for grading tie-ins at a 3:1 maximum slope, retaining walls are proposed.

Additional constraints include locations of existing utilities, irrigation/drainage ditches, bus stops, fences, vegetation, and the crossing of Slate River. An underground natural gas pipeline exists in the project area. The proposed trail alignment has been designed to avoid conflicts with this pipeline, excessive cut has been minimized and the trail alignment has been located away from the assumed location of the gas pipeline. Wherever possible, existing overhead utility poles have been preserved by adjusting the proposed trail alignment to avoid conflicts. Irrigation and drainage ditches are present along most of the proposed trail alignment, these ditches have been preserved where possible and re-aligned or piped where necessary to facilitate the alignment of the multimodal trail. There are two existing bus stops within the project limits, and the trail alignment has been designed to maintain and protect these bus stops.

There are existing fences along the ROW from project start to project end, and these fences have been maintained and protected in all locations except for where an additional trail easement exists. In locations with a trail easement, the fences are to be relocated along the easement extents behind the proposed trail. The trail alignment proposes a crossing of Slate River, this crossing will require the construction of a pedestrian bridge. The alignment of the trail shows the proposed pedestrian bridge at an angle to minimize impacts to existing vegetation and wetlands adjacent to the river.

SUMMARY OF POTENTIAL ENVIRONMENTAL IMPACTS

Colorado Wildlife Science LLC completed a preliminary wildlife resource report as part of the project. There are naturally occurring plant and animals in the area that need to be considered in the design. However, there are no significant habitat lands that will be impacted by the addition of the trail. The complete analysis is available in Appendix C.

There are a variety of naturally occurring plant communities (i.e. wildlife habitat) in the study area, including sagebrush, riparian woodlands, forest, grasslands, and wet meadows. In addition to these naturally occurring types, hayfields and pastures, introduced turf grass lawns and landscaping, recreation areas, urban forest and shrubland types exist, and make up 70% of the area due solely to human introduction and/or development. These are considered "non-habitat" for wildlife. There are significant areas of noxious weeds in the area, located primarily along roads, trails, and disturbed areas.

As identified by US Fish and Wildlife's Threatened or Endangered Species data, there are ten (10) animal species and one (1) plant species that could occur on or within proximity to the study area, however based on available data only the Grey Wolf has a potential habitat in this area (See Appendix C for the complete list and analysis). No federally protected species are expected to occur on or adjacent to the Study Area. No designated critical habitat exists for any listed species within or adjacent to the Study Area. In addition, no State of Colorado Endangered, Threatened or Candidate species are known or suspected to occur in the area. The area is not in the mapped Gunnison Sage-Grouse final critical habitat.

The proposed trail alignment is located within the mapped summer range for Elk and Mule Deer. A portion of the winter range is located in CB South, but does not include the proposed trail area on Colorado 135. An elk migration corridor is located approximately ½ mile to 1 mile north and east of the proposed alignment. The location of the trail along

the Highway 135 corridor minimizes the potential impacts to the wildlife in the area, particularly Elk and Mule Deer. While this location will have less impact on wildlife habitats and migration paths than other non-highway alignment, it will still be important ensure fencing is wildlife compliance and located behind the trail so as to not create an area where wildlife would need to navigate multiple fences.



TRENDS AND COMMUNITY COMPARISONS

Similar mountain communities have undergone studies for trail development that have resulted in successful and utilized trail systems. The following is a summary of conditions and programming of established trails in the communities of Aspen,

Telluride, and Carbondale in Colorado, Jackson, Wyoming, and Moab, Utah.

Similar to the condition of the proposed trail between Crested Butte and Crested Butte South, each of

the following trail alignments are located within or near the highway right of way of their respective corridors. Each of the existing trail systems were studied to understand the programming elements, winter maintenance conditions and proximity to their

adjacent roadways. Additionally, crash data from CDOT and WYDOT was reviewed to understand potential conflicts between trail users and vehicles.

	Jackson Hole Community Pathway System	West 145 Spur Highway Trail
Communities Connected	US Highway 26 and Game Creek Road (Jackson) and Moose Wilson Road (Wilson) and Range Road (Teton Village)	Telluride to Lawson Hill
Community Demographics	Town of Jackson, 10,849 residents	Town of Telluride, 2,595 residents
Trail Surface	Asphalt, dirt	Paved (asphalt, based on photos)
Trail Length	27 miles total – along Highway 89 from Game Creek Road to Flat	3 miles. Can be used to make a loop of the Valley Floor
Landscape Buffer	Mostly 5 ft along highway Up to 20-35 ft in a few key locations	In one section, the trail is attached to the edge of pavement. For most areas, the trail buffer is typically ranges from 5 ft to 20 ft between the trail and edge of pavement.
Management	Jackson Hole Community Pathways (jointly funded program of the Town of Jackson and Teton County)	Town of Telluride, with collaboration (in trail maps) from the U.S. Forest
Trail Programming	Dog stations Education programs and promotional campaigns for transportation shift to walking/biking (part of Pathways Master Plan) Maintained during winter months?: Yes, plowed.	Culvert and road crossings (at-grade and underpass) Dog stations Some boulders and swales as barriers Maintained during winter months?: Likely plowed and/or utilized by fat-tire bikes
Allowed Trail Users	Biking, mountain biking, inline skating, horseback riding, walking, cross country skiing, dogs.	Hikers, bikers, all e-bikes, dogs
Safety Data	107 total crashes (not just from running off the road) on Highway 89 between trail beginning and end, with some potential to intersect trail.	One (1) reported accident in 2022, from running off the road at the Highway 145 roundabout in snowy conditions.

Aspen Business Center Trail	Crystal Valley Trail	Moab Canyon Pathway
Aspen	Carbondale to BRB Campground Resort (KOA). Connection to Rio Grande trail to the north, and connection to the planned 74-mile Carbondale to Crested Butte trail.	From the pedestrian bridge just north of Moab to Highway 128 intersection, where the path forks and continues alongside Highways 128 and 191
City of Aspen, 6,949 residents	Town of Carbondale, 6,434 residents	City of Moab, 5,317 residents
Trail surface: Paved (concrete)	Asphalt	Asphalt
1.38 miles from Aspen to the Aspen Business Center. This trail can be used as a loop in connection with the Rio Grande and Stein Bridge Trails	6.5 miles	12.2 miles
In certain areas, particularly on bridge crossings, the trail is attached to the edge of pavement. Where a landscape buffer is possible, it typically ranges from 12 ft to 20 ft between the trail and edge of pavement.	Mostly 8-18 ft along highway, Up to 75 ft off-highway in a few key locations	Generally along side of highway with curb or physical barrier, completely separated from highway north of Arches National Park entrance
City of Aspen	Friends of the Crystal Valley Trail (unconfirmed) or Carbondale Parks and Recreation Department (unconfirmed)	Grand County and the City of Moab
Bus stops Bridge, underpass, and road crossings Maintained during winter months?: Yes. Plowed for multi-use, not for cross-country skiing	Wheelchair access at parking lot on North end. Maintained during winter months?: Yes	Views, access to Arches National Park Maintained during winter months?: Open year-round, maintenance unconfirmed
Road bikers, mountain bikers, skateboarders, rollerbladers, leashed dogs, class I & II e-bikes only	Biking, mountain biking, inline skating, horseback riding (adjacent, soft-surface track), running, walking, cross country skiing, dogs, cattle drives	Biking, e-bikes (on Moab Canyon and Goose Island Pathways only), mountain biking, cyclocross, walking, running, dogs.
Crash specific data for this stretch of Highway 82 is not available. However, in 2022 along the entire Highway 82 corridor there were 7 vehicular crashes from running off the road. Three of these were in snowy conditions.	Crash specific data for this stretch of Highway 133 is not available. However, in 2022 along the entire Highway 133 corridor there were 11 vehicular crashes from running off the road. Two of these were in snowy conditions.	Not Available

JACKSON HOLE COMMUNITY PATHWAY SYSTEM – JACKSON HOLE, WYOMING

The trail connection provides access primarily for recreational opportunities between Antelope Flats Road (closed seasonally) and downtown Jackson. There is an underpass that provides connection from the trail to the community of Moose, Wyoming. The trail is located entirely within the existing Highway 191 right of way.

Trail length: 27 miles total – along Highway 89 from Game Creek Road to Flat Creek, approximately five (5) miles

Communities connected: US Highway 26 and Game Creek Road (Jackson) and Moose Wilson Road and Range Road (Teton Village)

Management: Jackson Hole Community Pathways (jointly funded program of the Town of Jackson and Teton County)

Programming along trail:

- Dog stations
- Education programs and promotional campaigns for transportation shift to walking/biking (part of Pathways Master Plan)
- Maintained during winter months?: Yes, plowed.

Allowed Trail Users:

Biking, mountain biking, inline skating, horseback riding, walking, cross country skiing, dogs.

Demographics: Town of Jackson, 10,849 residents

Safety data:

- 107 total crashes (not just from running off the road) on Highway 89 between trail beginning and end.

Trail surface: Asphalt, dirt

Distances of landscape buffer:

Mostly 5 ft along highway, up to 20-35 ft in a few key locations



WEST 145 SPUR HIGHWAY TRAIL – TELLURIDE, COLORADO

This trail connection provides access into downtown Telluride from Lawson Hill, the business center located at the west entrance to Telluride along Highway 145. The trail provides access to the neighborhoods along the Highway 145 Spur into town. It also provides a recreational opportunity in the area near the Valley Floor open space. The trail is located within the right of way of Highway 145 and the W 145 Spur Highway.

Trail length: 3 miles. Can be used to make a loop of the Valley Floor.

Communities connected: Telluride to Society Turn

Management: Town of Telluride, with collaboration (in trail maps) from the U.S. Forest Service, San Miguel County, and the Town of Mountain Village

Programming along trail:

- Culvert and road crossings, dog stations
- Some boulders and swales as barriers
- Maintained during winter months?: Likely plowed and/or utilized by fat-tire bikes

Allowed Trail Users:

Hikers, bikers, all e-bikes, dogs.

Demographics: Town of Telluride, 2,595 residents

Safety data:

- One (1) reported accident in 2022, from running off the road at roundabout in snowy conditions. (not trail specific)

Trail surface: Paved (asphalt, based on photos)

Distances of landscape buffer:

5-20 ft along highway, up to 35 ft off-highway



ASPEN BUSINESS CENTER (ABC) TRAIL – ASPEN, COLORADO

This trail connects most of the City of Aspen's affordable housing to downtown Aspen. The trail connection is part of the greater Rio Grande trail system connecting the communities of Glenwood Springs, Carbondale, Basalt and Aspen. It is primarily located within the right of way of Highway 82.

Trail length: 1.38 miles from Aspen to the Aspen Business Center. Can be used as a loop in connection with the Rio Grande and Stein Bridge Trails.

Communities connected: Aspen

Management: City of Aspen

Programming along trail:

- Bus stops
- Bridge, underpass, and road crossings
- Maintained during winter months?: Yes. Plowed for multi-use, not for cross-country skiing.

Allowed Trail Users:

Road bikers, mountain bikers, skateboarders, rollerbladers, leashed dogs, class I & II e-bikes only.

Demographics: City of Aspen, 6,949 residents

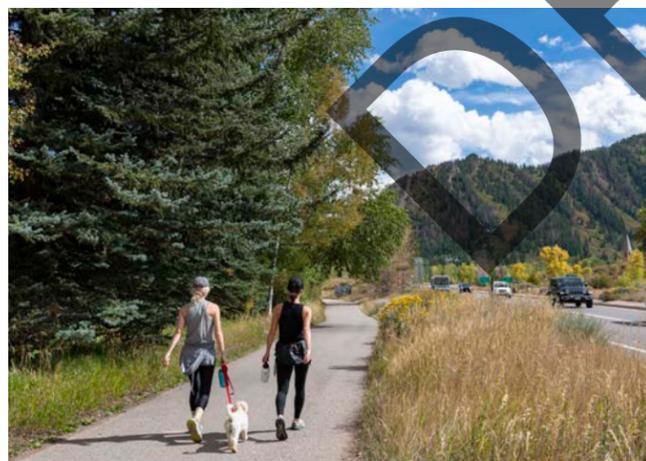
Safety data:

- 7 from running off the road on Highway 82 (not trail specific) in 2022 – potential intersection with trail.
- 3 of these 7 in snowy conditions.

Trail surface: Paved (concrete)

Distances of landscape buffer:

15-20 ft along highway, 65 – 115 ft off-highway



CRYSTAL VALLEY TRAIL – CARBONDALE, COLORADO

The trail connection is located between Carbondale and the Carbondale / Crystal KOA Holiday campground. The majority of the trail is located within the right of way adjacent to Highway 133 paralleling the Crystal River as the trail approaches the KOA, while a section of the trail is offset from the highway by a couple hundred feet. The trail is primarily used for recreational opportunities.

Trail length: 6.5 miles

Communities connected: Carbondale to BRB Campground Resort (KOA). Connection to Rio Grande trail to the north, and connection to the planned 74-mile Carbondale to Crested Butte trail.

Management: Friends of the Crystal Valley Trail (unconfirmed) or Carbondale Parks and Recreation Department (unconfirmed)

Programming along trail:

- Wheelchair access at parking lot on North end.
- Maintained during winter months?: Yes

Allowed Trail Users:

Biking, mountain biking, inline skating, horseback riding (adjacent, soft-surface track), running, walking, cross country skiing, dogs, cattle drives.

Demographics: Town of Carbondale, 6,434 residents

Safety data:

- 11 reported accidents in 2022 on Highway 133 (not trail specific) from running off the road.
- 2 in snowy conditions

Trail surface: Asphalt

Distances of landscape buffer:

Mostly 8-18 ft along highway, up to 75 ft off-highway in a few key locations



MOAB CANYON PATHWAY – MOAB, UTAH

Located 2.5 miles north of downtown Moab, this trail connection provides access north to the intersection of Highway 191 and 313, and east paralleling the Colorado River to the Grandstaff Campground. This trail is located within the right of way adjacent to both Highway 191 and Highway 128 with stretches of trail directly along Highway 128, separated from the roadway with curb and gutter.

Trail length: 9.0 miles plus 2.5 miles along Goose Island Trail at Highway 128, access to 30-40 miles of mountain biking at Arches National Park plus many other trail options. US 191 Side Path continues for 1.2 miles, which has been built for the sole purpose of connecting to the other two paths while avoiding riding on the highway. The Moab Canyon Pathway “is not just a bike lane on the side of the highway, but a path that allows riders/users to avoid the busy four-lane Highway 191 and have safe access to the state and national parks” (discovermoab.com).

Communities connected: From the pedestrian bridge just north of Moab to Highway 128 intersection, where the path forks and continues alongside Highways 128 and 191.

Management: Moab Canyon Pathway: Grand County. Goose Island Trail and US 191 Side Path: City of Moab, with aid from the Moab Trail Mix (local bike club)

Programming along trail:

- Views, access to Arches National Park
- Maintained during winter months?: Open year-round, maintenance unconfirmed

Allowed Trail Users:

Biking, e-bikes (on Moab Canyon and Goose Island Pathways only), mountain biking, cyclocross, walking, running, dogs.

Demographics: City of Moab, 5,317 residents

Safety data:

- Not Available

Trail surface: Asphalt

Distances of landscape buffer:

Generally along side of highway with curb or physical barrier, completely separated from highway north of Arches National Park entrance.



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CONCEPTUAL TRAIL DESIGN

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CONCEPTUAL TRAIL ALTERNATIVES

Three potential alignments along Colorado 135 were studied based on extensive survey information. This information included grading and general utility data, to understand the feasibility and impact of each alignment. Importantly, these alignments were designed to respect existing ranching lands and maintain all existing access points along the corridor to ensure minimal inconvenience to property owners and businesses. The goal is to create a trail that is both functional and respectful of the community and its existing land uses.

County staff and the design team met with a number of private property owners in the area to determine if a private alignment was feasible in the near (1-5 years) future. While there was one property owner that was willing to negotiate an easement across their private property there was not enough support from remaining property owners to create a viable connection across private property. The design team did not develop an alignment option across private lands based on the lack of a feasible option.

LAND SURVEY DATA

The survey conducted for this project by True North Colorado LLC includes surveyed Colorado Department of Transportation (CDOT) ROW along Colorado 135 from project start to project end. All parcel data and ROW along Cement Creek Road has been provided via Gunnison County GIS.

Topographical information provided by True North Colorado LLC was obtained from Equator Studios generated in August and September of 2019 and displays vertical data at 2-foot contour intervals on the North American Vertical Datum of 1988 (NAVD88). Topographical data provided at 2-foot contour intervals limits the vertical design accuracy along the proposed trail.

Existing utilities were not provided as part of the survey for this project. All existing utilities shown on civil plans have been approximated via site visits and orthomosaic photos captured July 5, 6, 8, 10, 11, and 12 2023 provided by True North Colorado LLC.



Because the received survey does not extend along Cement Creek Road to Teocalli Road, a conceptual plan has been made regarding the vertical and horizontal location of the roadway within the existing ROW between Colorado 135 and Teocalli Road.

The survey conducted reported surface data at 2-foot contour intervals, limiting the accuracy of vertical design – all grading information shown on the 10% plans is preliminary. Existing trees and utilities were not located as part of the survey and their locations have been approximated.

Several alignments were analyzed for this multimodal trail including alignments on both the northeast and southwest sides of Colorado 135. Each alignment provides their own sets of opportunities and constraints.

ALIGNMENT A

Alignment A proposed a direct connection from Crested Butte to Crested Butte South. Following the east side of Colorado 135, the right of way is less constrained than an alignment along the west side.

This alignment follows the east side of Colorado 135 from Hidden River Ranch Subdivision to the Brush Creek Intersection. The alignment is primarily in the CDOT right-of-way but uses an existing recreation easement within the Hidden River Ranch Subdivision.

This alignment on the northeast side of Colorado 135 allows for further separation of the trail from the highway. Where possible, the trail edge has been located a minimum distance of 17' from the highway shoulder to allow for snow storage in the winter. This 17' buffer is approximately maintained from station 295+00 to 356+00 (6,100 ft) and 374+00 to 451+00 (7,700 ft) for an approximate total length of 2.6 miles.

Colorado 135 crosses Slate River just north of Crested Butte South, the proposed trail has been designed to include an approximately 105-foot pedestrian bridge across the river. The alignment of the trail has been angled across the river to minimize impacts to existing vegetation and potential wetlands adjacent to the river.

Participants of the Community Open House and online survey favored this alignment alternative for the simplicity and direct route between the two communities.

This alignment posed fewer grading challenges, fewer ROW constraints, and includes two existing trail easements located on Crested Butte Land Trust land and the Hidden River Ranch Subdivision. There are electric poles and underground gas utilities on the north side, but the ROW width allows more flexibility for the trail to avoid these utilities. The alignment containing the multimodal trail on the northeast side of Colorado 135 was ultimately evaluated both horizontally and vertically.

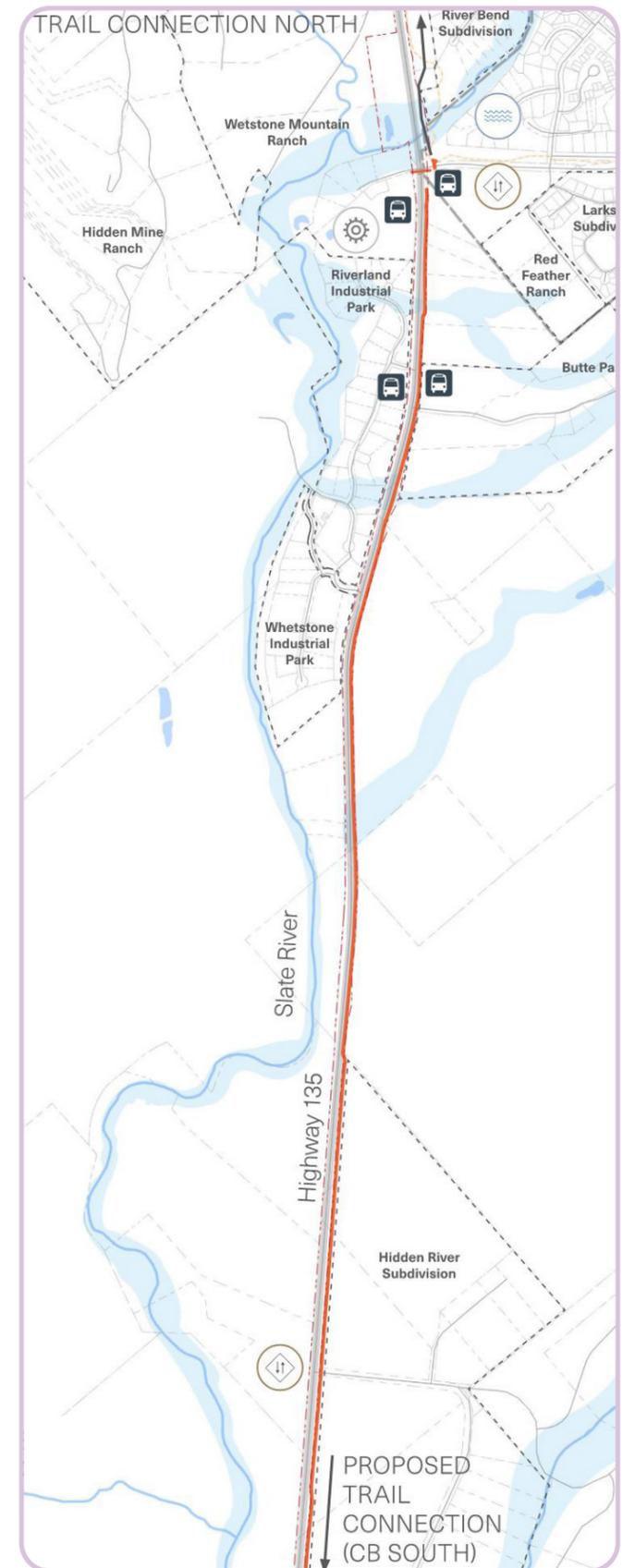
Alignment Key Characteristics

- 21,007 linear feet
- 1 river crossing
- 4 road crossings
- 7 driveway crossings

Legend

- Proposed Trail
- - - Public Right-Of-Way
- - - Existing Trails
- River
- Floodplain

NORTH



ALIGNMENT B

Alignment B proposes creating a connection between the trail and the Whetstone Industrial Park.

This alignment follows the east side of Colorado 135 out of Hidden River Ranch Subdivision and crosses the highway south of the Whetstone Industrial Park. The alignment crosses Colorado 135 at three (3) points. The alignment is primarily in the CDOT right-of-way but uses an existing recreation easement within the Hidden River Ranch Subdivision.

This alignment posed challenges of steep grades within the ROW along Colorado 135 between the highway and the adjacent river, several areas of very narrow ROW widths, and existing electric poles and underground gas utilities. Additionally, one highway crossings or underpasses would be required.

Alignment Key Characteristics

- 23,791 linear feet
- 1 river crossing
- 3 road crossings
- 5 driveway crossings

Legend

- Proposed Trail
- - - Public Right-Of-Way
- - - Existing Trails
- River
- Floodplain



ALIGNMENT C

Alignment C proposed creating a connection between the trail and the existing industrial parks and proposed affordable housing connection to the west of the Brush Creek intersection.

This alignment follows the east side of Colorado 135 out of Hidden River Ranch Subdivision and crosses the highway south of the Whetstone Industrial Park. It remains along the west side of Colorado 135 until the Brush Creek Intersection. The alignment is primarily in the CDOT right-of-way but uses an existing recreation easement within the Hidden River Ranch Subdivision.

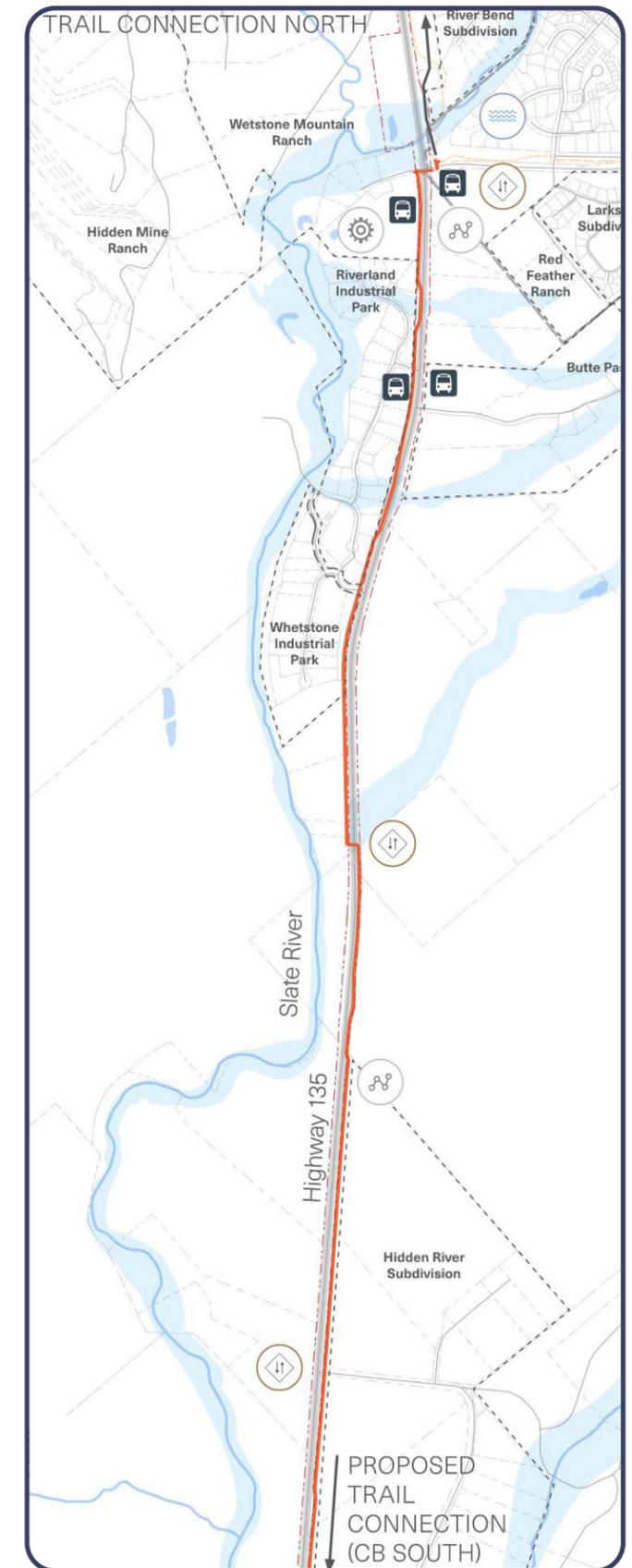
This alignment posed challenges of steep grades within the ROW along Colorado 135 between the highway and the adjacent river, several areas of very narrow ROW widths, and existing electric poles and underground gas utilities. Additionally, two highway crossings or underpasses would be required to connect the trail alignment to the existing trails located at Brush Creek Drive and Cement Creek Road.

Alignment Key Characteristics

- 23,547 linear feet
- 1 river crossing
- 3 road crossings
- 7 driveway crossings

Legend

- Proposed Trail
- - - Public Right-Of-Way
- - - Existing Trails
- River
- Floodplain



PREFERRED TRAIL CHARACTERISTICS

The County has identified transportation connections and a reduction in overall Vehicle Miles Traveled (VMTs) as key goals and characteristics of a trail connection between Crested Butte and Crested Butte South. Recreation and transportation were identified through the community feedback as important goals to be met through this trail connection, followed by stewardship and education.



- Bus Connections
- Parking Access
- Bike Storage



- Pedestrian Use
- Bicycle Use
- Nordic Skiing



- Trail Markers
- Interpretive Signs
- Nodal Experience



- Trail Maintenance
- Wildlife-Safe Fencing
- Respect Agricultural Uses

TRANSPORTATION

In general, participants supported the creation of a non-programmed commuter trail over a programmed trail that creates a unique experience. The general sentiment from the survey and open house related to transportation is that the trail should function as an effective commuting experience. Participants strongly supported connections to bus stops. Some supported parking access and bike storage opportunities along the trail.

RECREATION

Participants identified recreational amenities and goals for the trail, including significant support for bicycle and pedestrian use, followed by Nordic skiing. Benches and other amenities for users of the trail were supported as an amenity for bicycle and pedestrian users.

EDUCATION

While education was identified as a lower priority when compared with transportation and recreation, participant feedback indicated that education is an important component to include in the trail design. Ideas included information about the ranching and agriculture history of the valley and the continued importance of these uses and longtime property owners along the Colorado 135 corridor. Other educational topics that were identified included information about the area's geology, flora and fauna, mining history, and recreation. Trail markers along the trail were supported by the vast majority of participants.

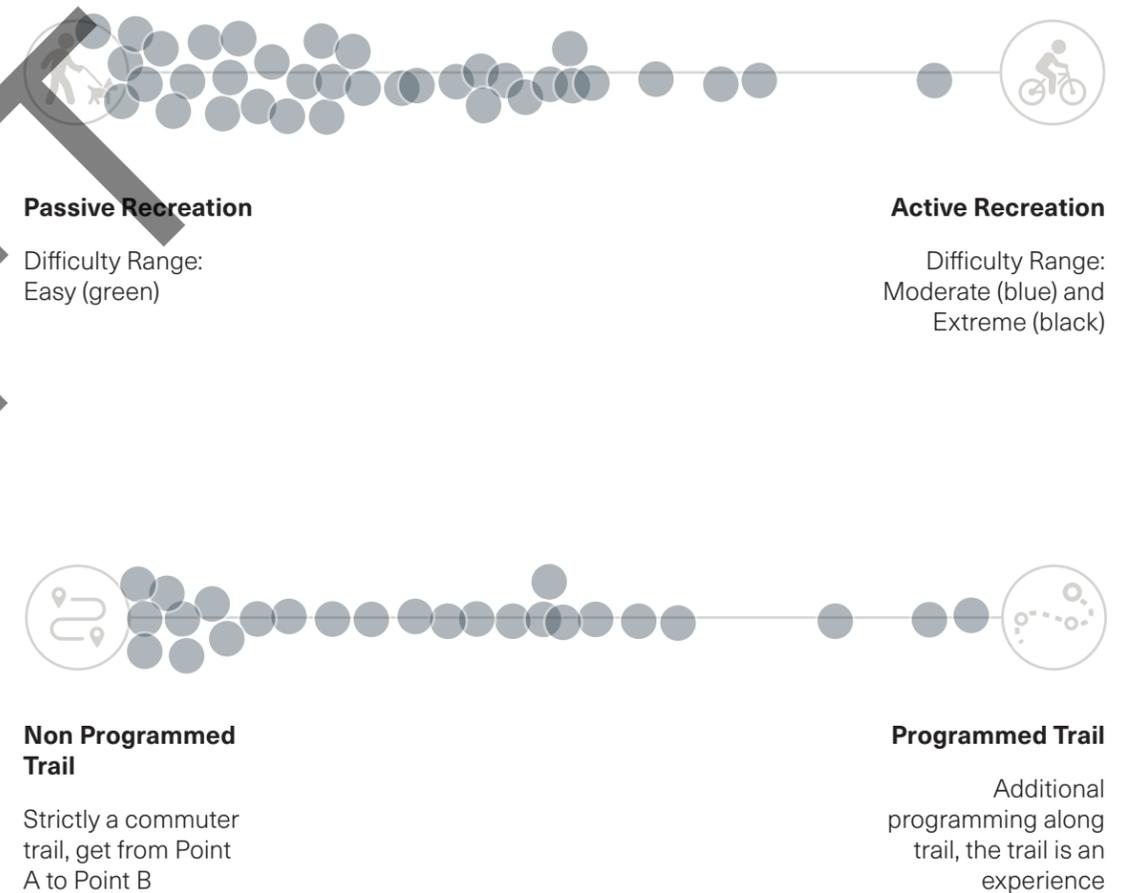
STEWARDSHIP

Stewardship topics focused primarily on ensuring the trail is being well kept and in working order. The vast majority of participants identified trail maintenance as a key trail characteristic. A majority of participants also supported designs that will support adjacent agricultural uses (such as safe crossed or underpasses), trash and recycling, and wildlife safe fencing.

WHAT WE HEARD - COMMUNITY OPEN HOUSE

ENGAGEMENT ACTIVITY - FRAMING OBJECTIVES

Participants were asked to place a sticker on the sliding scale that represented their preference for framing objectives along the proposed trail.



● represents a dot placed on the engagement activity board.

	First Choice		Second Choice		Third Choice		Fourth Choice	
	%	Count	%	Count	%	Count	%	Count
Recreation	62.5%	290	29.31%	136	6.03%	28	2.16%	10
Transportation	29.09%	135	41.16%	191	17.67%	82	12.07%	56
Stewardship	7.11%	33	23.06%	107	43.1%	200	26.72%	124
Recreation	1.29%	6	6.47%	30	33.19%	154	59.05%	274

WHAT WE HEARD - COMMUNITY OPEN HOUSE

ENGAGEMENT ACTIVITY - VOTING: VALUES

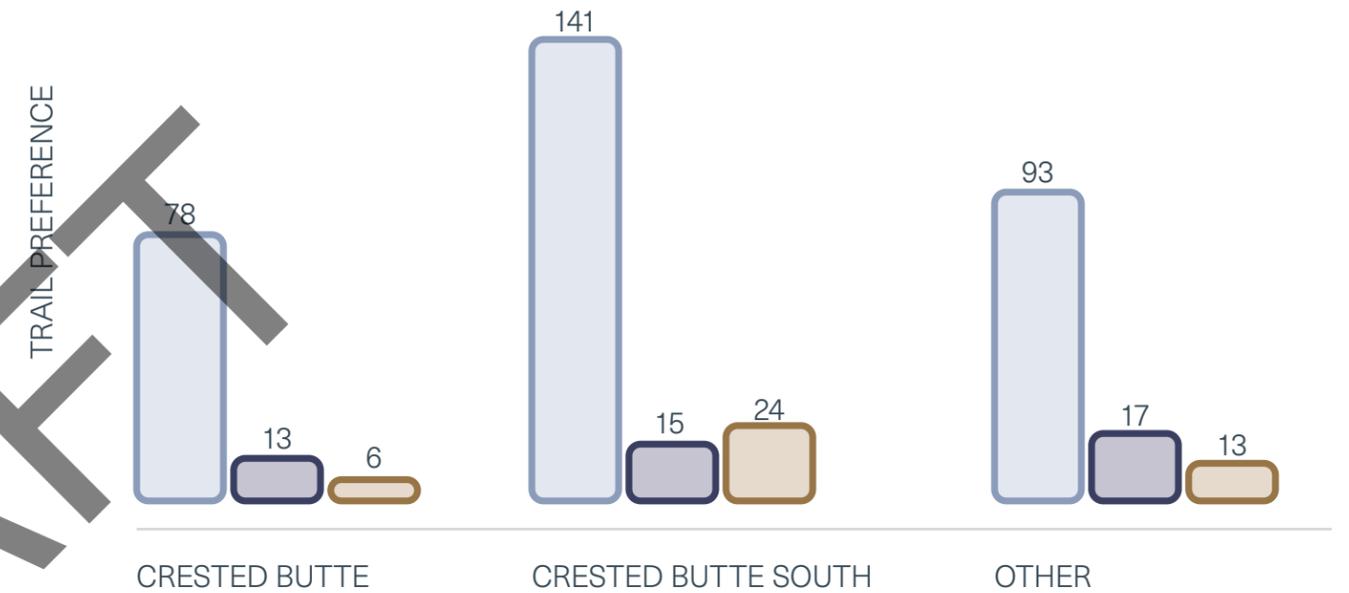
Participants were asked to place a sticker on each of the values that they would like to see incorporated with the proposed trail.



● represents a dot placed on the engagement activity board.

WHAT WE HEARD - COMMUNITY ONLINE SURVEY

WHAT TRAIL ALIGNMENT DO YOU PREFER?

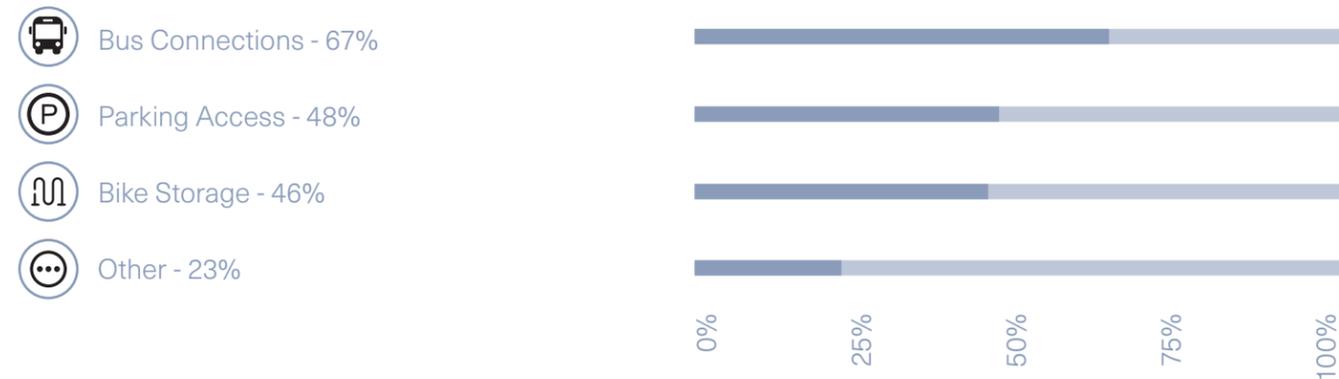


AREA OF RESIDENCY OF SURVEY PARTICIPANT

- Alignment A
- Alignment B
- Alignment C

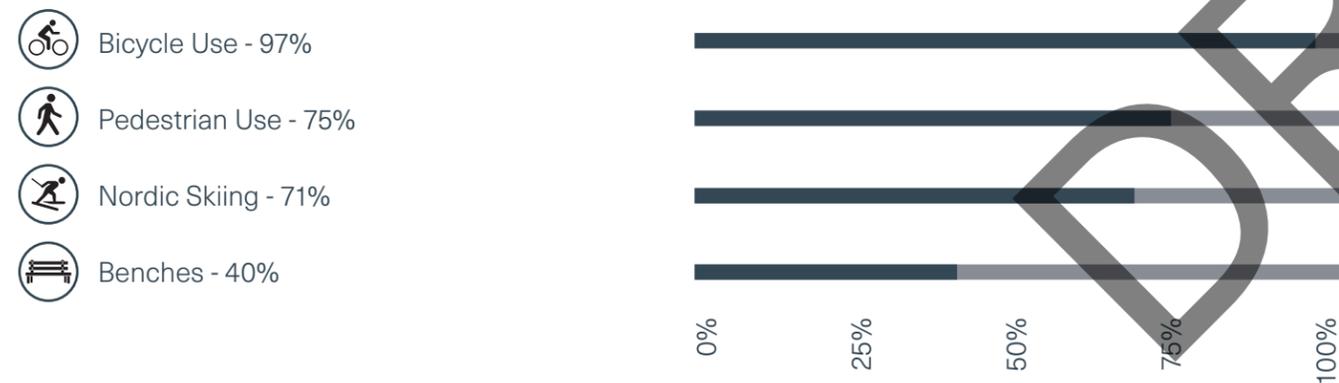
WHAT WE HEARD - COMMUNITY ONLINE SURVEY

TRANSPORTATION



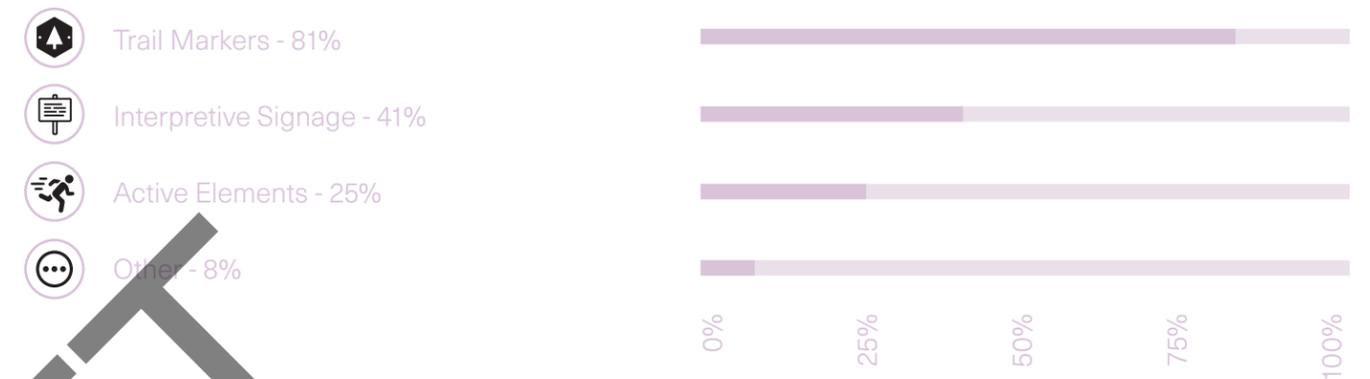
The majority of respondents (67%) indicated their preference for bus connections, followed by parking access (48%) and bike storage (46%). Approximately a quarter of respondents indicated "Other." Common themes for these selections included an alternative alignment away from the highway and safe crossings.

RECREATION



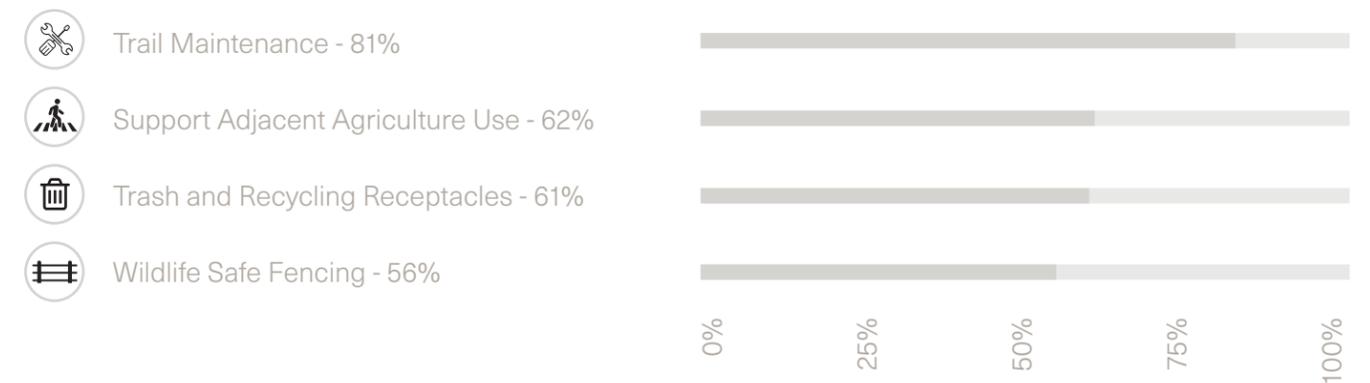
The primary desire for recreation programming was bicycle use (97%) followed by pedestrian use (75%) and Nordic skiing (71%). Among the write in responses there was a desire for and off highway alignment (15 votes), e-bikes as an allowed use (9 votes), and a focus on year-round use (11 votes) amongst others.

EDUCATION



The primary desire for recreation programming was trail markers (81%) followed by interpretive signage (41%). Among the write in responses there was a desire for and mile markers and maps (10 votes) and signage on local history (7 votes) amongst others.

STEWARDSHIP



Each of the Stewardship items received a majority of support. The primary desire for stewardship elements was trail maintenance (81%) followed by designs that support adjacent agricultural uses (62%). Among the write in responses there was a desire for and stewardship education signage (5 votes) and dog stations (4 votes) amongst others.

PREFERRED TRAIL ALIGNMENT

Based on feedback received on the proposed alternatives during the Community Open House and associated online survey, the preferred trail alignment was Alternative A. Support for Alignment A was based on the community's perception of its respect for private property and safety. Generally, participants from the community prefer that the proposed alignment utilizes the existing right of way, and wherever possible, limits the intrusions and interference with private property ownership. Safety, a common theme amongst participant's responses on all alignments, the preferred alignment reduces interaction with Colorado 135. Additional signage and landscape buffer, wherever possible, is incorporated into the plan to promote safe driveway and roadway crossings.

Based on the analysis, this plan identifies the alignment for a multimodal trail within the Colorado State Colorado 135 Right-of-Way (ROW) from Brush Creek Road to Cement Creek Road, approximately 4.7 miles. The multimodal trail will continue approximately 0.5 miles within the ROW along Cement Creek Road and terminate at Teocalli Road. The proposed trail will have a 12-foot width in most areas, and a 10-foot width where design constraints are present. The trail alignment could enable seasonal or year-round use, but this is an operational characteristic that the community and County will need to determine based on maintenance and upkeep requirements with collaboration and discussion with CDOT.

While a number of comments in the community survey expressed a preference for a trail alignment across private property because the STOR Committee, County staff, and the consultant team have not established that there are enough willing landowners to create a feasible alignment that option has not been delineated.

TRAIL SECTION

At the request of Gunnison County Public Works Department, the proposed multimodal trail has a typical width of 12'. Per Chapter 13 of the Colorado Department of Transportation Roadway Design Guide, an 11' wide multimodal trail allows for a

bicyclist to pass another traveling in the same direction while someone is approaching from the opposite direction. At locations with grading or ROW constraints, the proposed trail transitions to a width of 10' (the minimum width advised for two-direction traffic on a shared use path in accordance with CDOT).

DESIGN SPEED

According to Chapter 13 of the Colorado Department of Transportation Roadway Design Guide, an 18-mph design speed is generally sufficient for most paths in relatively flat areas (generally less than 2 percent grades). A general design speed of 18-mph has been selected for the proposed multimodal trail.

HORIZONTAL ALIGNMENT

Generally, the proposed trail alignment has been located as far away from Colorado 135 as feasible to create the maximum separation between path users and motorists on the highway. Where possible,

the edge of the proposed trail has been kept a minimum of 17' from the existing edge of asphalt along Colorado 135, this allows for ample space for storage of snow during plowing season. The 17' buffer between the proposed trail and existing road will minimize impacts to trail users from snowplows should the trail be maintained and utilized in the winter months.

Horizontal curves for the proposed trail have been designed in accordance with the AASHTO Guide for the Development of Bicycle Facilities Fourth Edition. Per Table 5-2. Minimum Radii for Horizontal Curves on Paved, Shared Use Paths at 20-Degree Lean Angle, a design speed of 18-mph corresponds to a minimum radius of 60 ft. All curves in the proposed alignment have a minimum horizontal radius of 60' measured at the centerline of the interior lane.

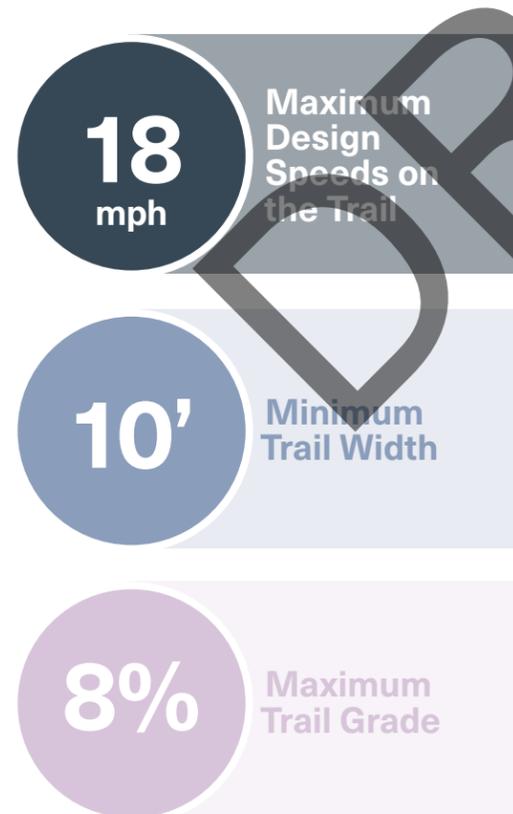
At the location of the pedestrian bridge crossing Slate River, horizontal curves have been designed based on the turning template of a Ford F-350 to accommodate maintenance access.

VERTICAL ALIGNMENT

The vertical alignment of the proposed path generally follows the grade of the existing topography to minimize the extent of earthwork import/export. At all locations excluding either approach to the proposed pedestrian bridge crossing Slate River, the continuous grade of the multimodal trail has been limited to 5%

or less in accordance with Chapter 13 of the Colorado Department of Transportation Roadway Design Guide. The Roadway Design Guide also states that where ROW, topography, or geometric constraints make the provision of a continuous grade less than 5% impractical, grades should be minimized. The approach to the Slate River from the south requires a continuous grade of 8% to transition from the elevation of Colorado 135 to the elevation of the river crossing due to the existing topography. The approach to the Slate River from the north requires a maximum continuous grade of approximately 6.5% to transition from the elevation of Colorado 135 to the elevation of the river crossing due to the existing topography.

Per Chapter 13 of the Colorado Department of Transportation Roadway Design Guide, transitions between grades with more than a 2 percent algebraic difference should be made with vertical curves. The proposed multimodal trail utilizes vertical curves designed in accordance with Table 13-7 Minimum Length of Crest Vertical Curve Based on Stopping Sight Distance for all transition between grades larger than 2%.



INTERSECTION DESIGN

Wherever possible, the proposed multimodal trail matches the existing grade of both private access drives and roadway intersections. In locations where private access drives are unpaved at the location of the trail crossing it is proposed to extend asphalt from the existing roadway to the back of the proposed trail. In locations where asphalt exists at the location of the trail crossing, it is to be maintained and protected in place.

CEMENT CREEK ROAD

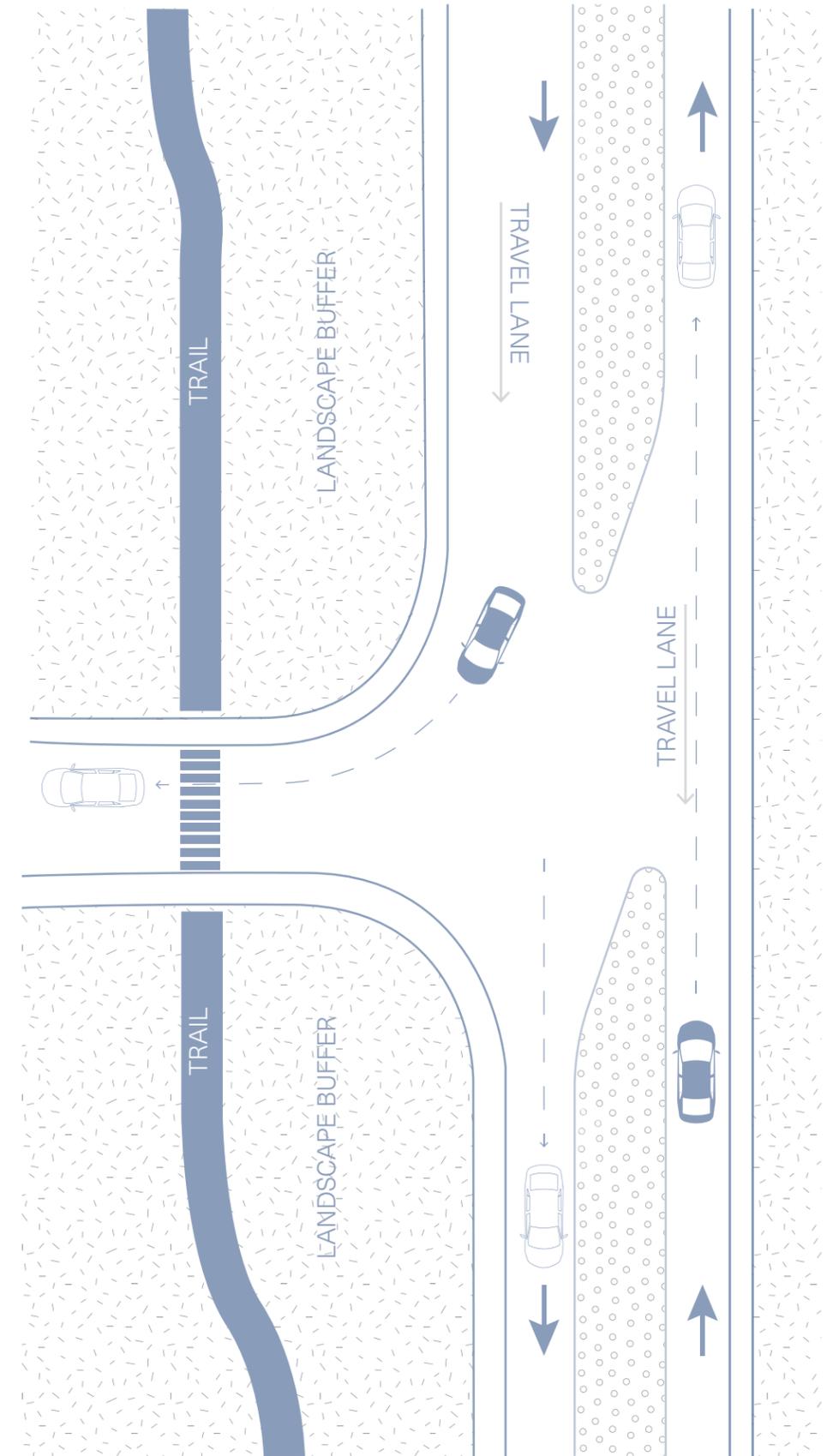
A conceptual plan has been created for the continuation of the multimodal path from the intersection of Colorado 135 and Cement Creek Road to the intersection of Teocalli Road and Cement Creek Road. No vertical information or design has been provided at this time for the multimodal path along Cement Creek Road. The existing striped bike lane extending along Cement Creek Road from Teocalli Road to Colorado 135 is proposed to be widened to the CDOT recommended minimum width of 10'. The existing asphalt is proposed to be extended 3-4' to allow for the expanded bike lane width. As the bike lane approaches the vehicular bridge crossing East River, a ramp will allow users to mount a sidewalk to create vertical separation between bikers and vehicular traffic on the confined bridge.

SIGNAGE

Signage is shown at all crossings of both private access drives and roadway intersections. Yield signs are proposed at all private access drive crossing locations. Crosswalk striping is proposed at all roadway intersections to show the continuation of the multimodal trail to users while also warning intersecting vehicular traffic that pedestrians may be present. Yellow Type 1 object markers are proposed at all roadway intersections to warn trail users of the approaching intersection and crosswalk. A red Type 4 object marker is used at Teocalli Road to mark the end of the multimodal path.

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TYPICAL ROAD CROSSING
CONDITION



CORRIDOR PLAN ILLUSTRATIVE

This plan illustrates the preferred trail connection between Crested Butte and Crested Butte South. The trail is located primarily within the Colorado 135 right of way but utilizes an existing recreation easement within the Hidden River Subdivision. Key features of the plan include:

Signage to support safety, etiquette, and education of local history and resources.

Measurements and descriptions of landscape buffers and separation between the highway and trail.

Mitigation measures, such as retaining walls and replacing guardrails for increased safety.

Drainage infrastructure that will be further studied in future phases of design work.

Potential connections that could be established in the future as additional roadway infrastructure and community development projects are completed.

A key plan has been included on each enlargement sheet to provide context to the relative location of the trail as it relates to primary roadways, subdivisions, and industrial areas along the corridor.

A detailed site plan rendering and two perspective illustrative renderings express the characteristics of the trail and illustrate the separation of the proposed alignment from the roadway.

TRAIL ALIGNMENT - KEY FEATURES

-  Road / Driveway Crossing
-  River Crossing
-  Transit Connection
-  Existing Trail Connection
-  Proposed Development Site
-  Potential Programming Opportunities

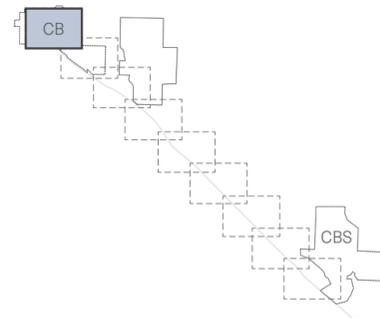
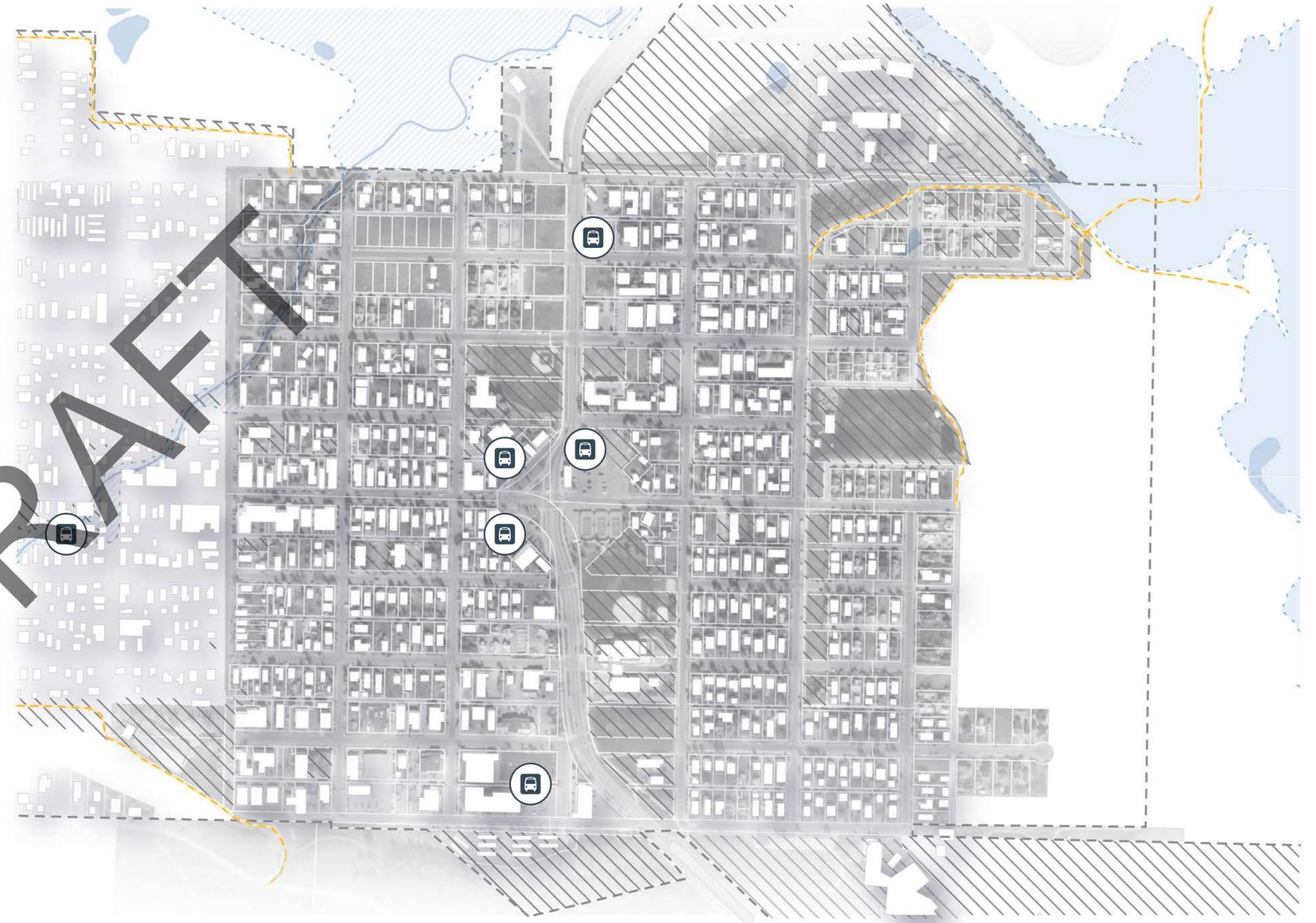
17'
Width Landscape Buffer
Maintained for ~2.6 miles (58%) of the proposed trail along Colorado 135

SECTION 01

There are opportunities for future expansion of the proposed trail alignment to extend into town with designated striped bike lanes. Future planning of the trail system allows for the connection to the Mt. Crested Butte trail.

Legend

-  Proposed Trail Alignment
-  Existing Infrastructure
-  Rivers
-  Flood Plain - Boundary
-  Colorado 135 Right of Way





SECTION 02

The proposed trail alignment utilizes the existing Deli Trail connection between the Crested Butte High School and Town Ranch open space.

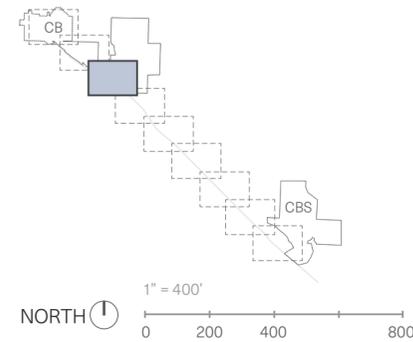
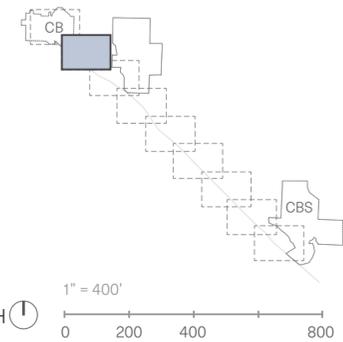
SECTION 03

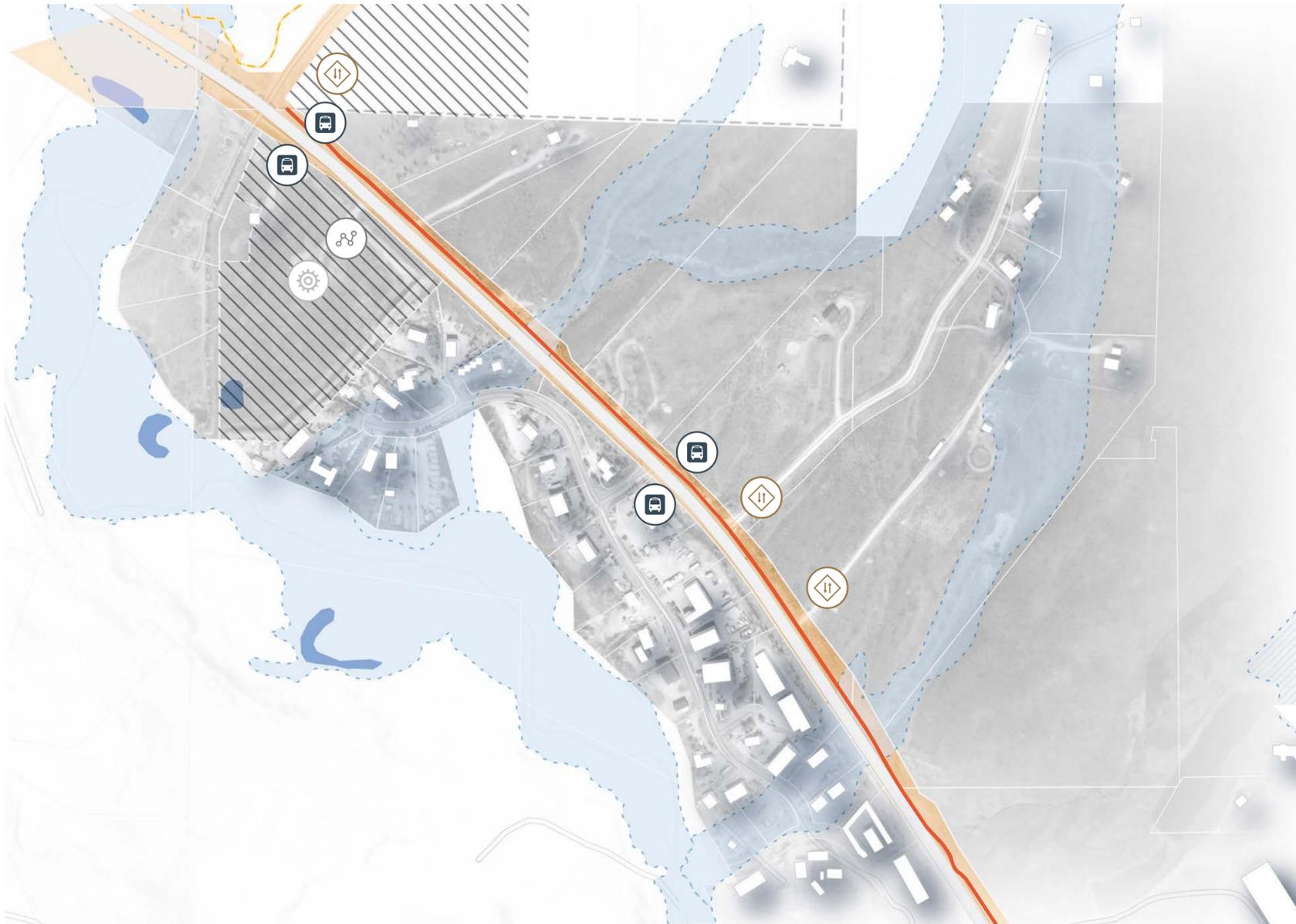
The approach to Brush Creek from Crested Butte utilized the existing pedestrian bridge at the Slate River. Additional parking and programming improvements are considered in this area in future phases of planning.



- Legend**
- Proposed Trail Alignment
 - Existing Infrastructure
 - Rivers
 - Flood Plain - Boundary
 - Colorado 135 Right of Way

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SECTION 04
 Activity and development at the Brush Creek intersection allows for connection between the Whetstone Affordable Housing Development and existing bus stops along Colorado 135.

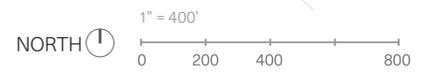
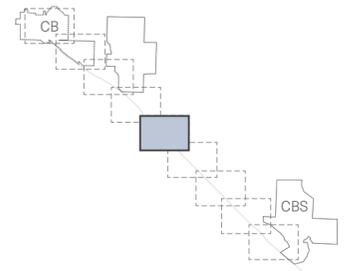
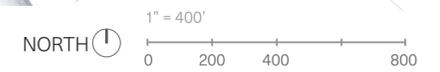
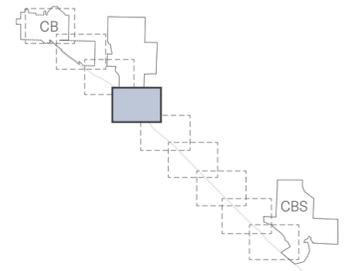


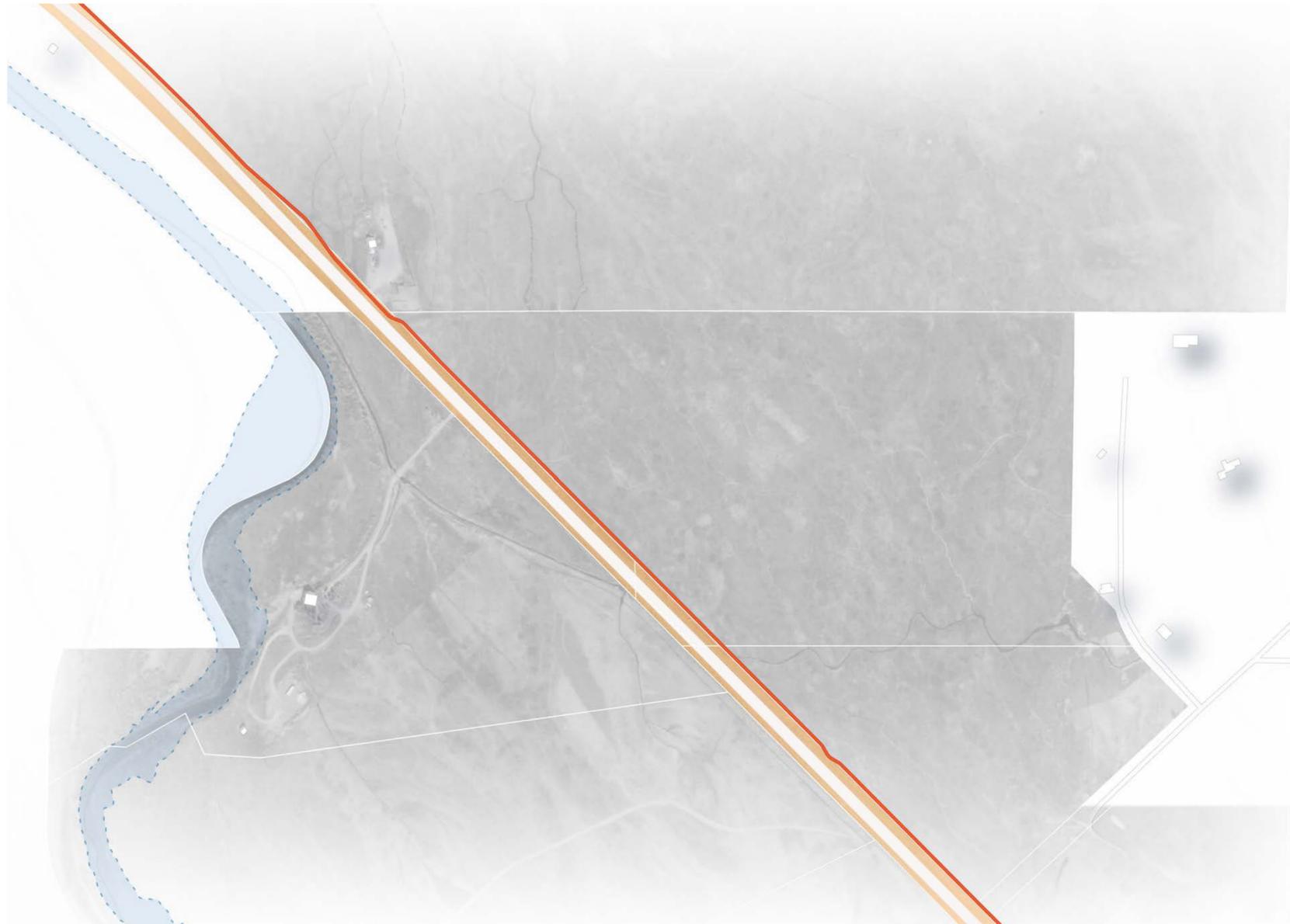
SECTION 05
 Potential future expansions of the trail alignment, including the development of underpasses, would allow access for commuters to the Riverland Industrial Park.

Legend

- Proposed Trail Alignment
- Existing Infrastructure
- Rivers
- - - Flood Plain - Boundary
- - - Colorado 135 Right of Way

DRAFT



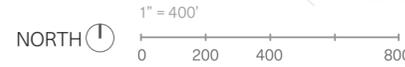
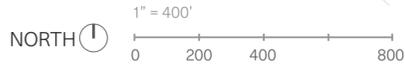
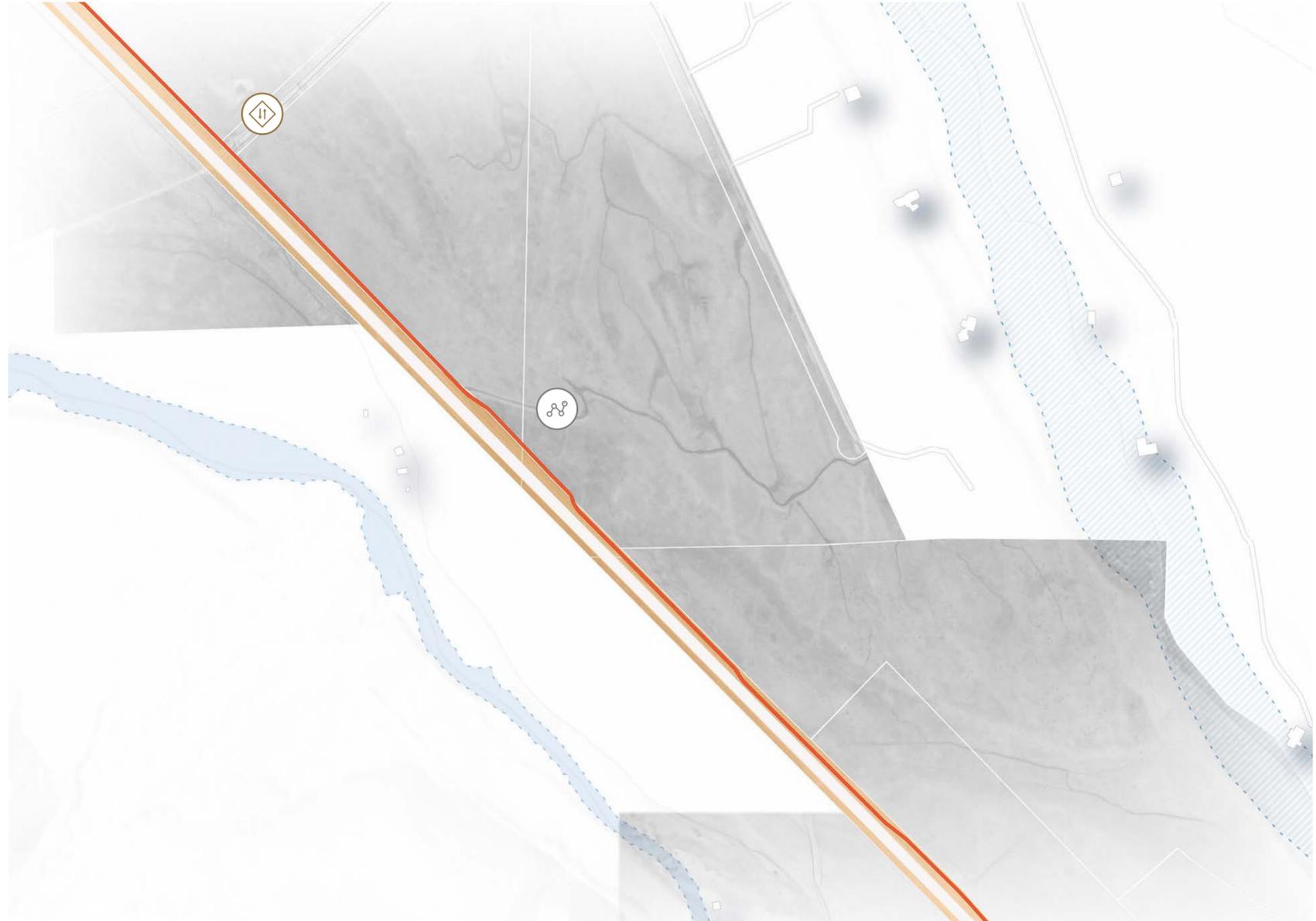


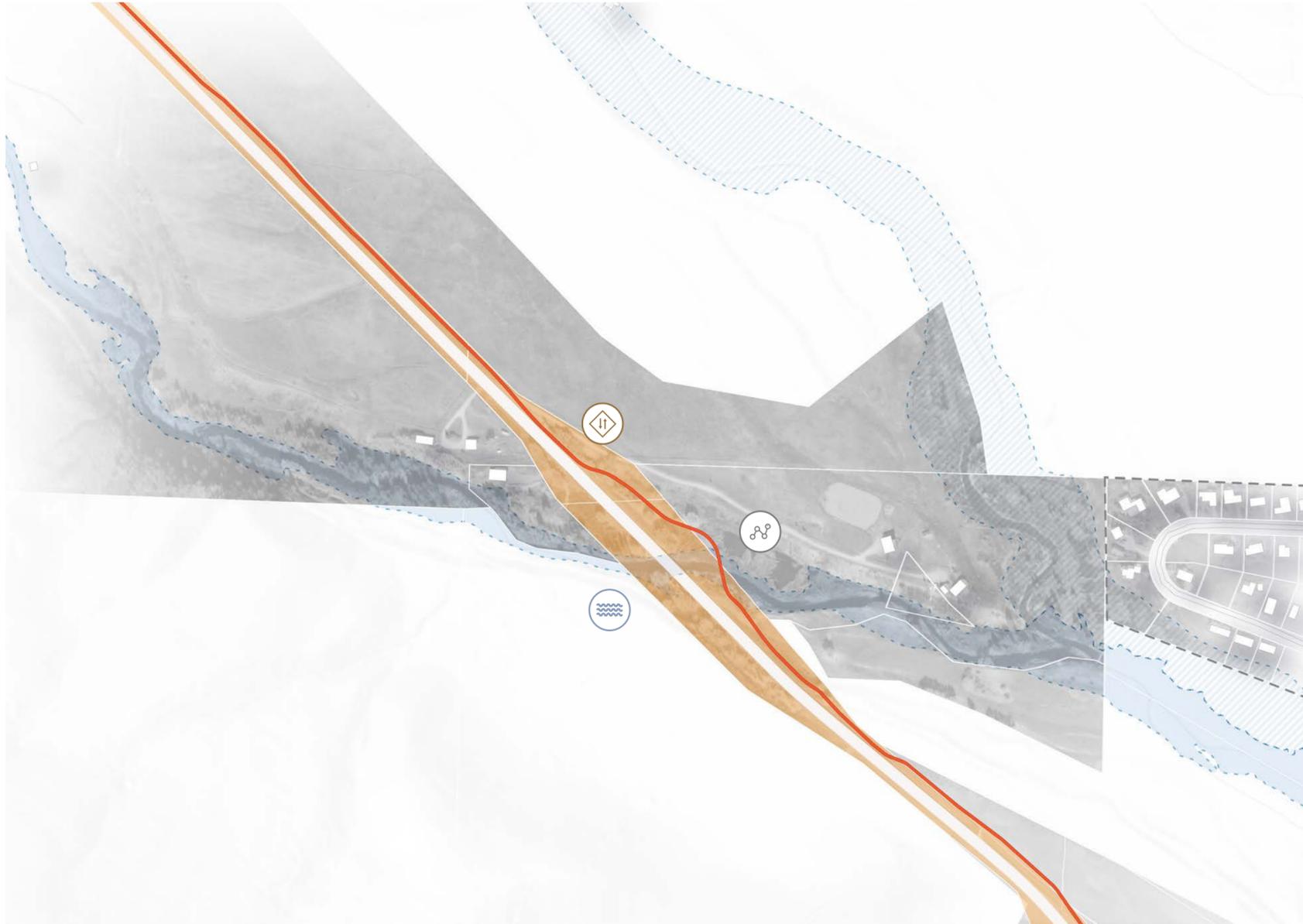
SECTION 06
 Within the Hidden River Subdivision, an existing recreation easement extends 20' beyond the existing Colorado 135 Right of Way.

SECTION 07
 In this trail condition, there is ample room for landscape buffer to increase the separation between the proposed trail alignment and the adjacent roadway.

- Legend**
- Proposed Trail Alignment
 - Existing Infrastructure
 - Rivers
 - Flood Plain - Boundary
 - Colorado 135 Right of Way

DRAFT



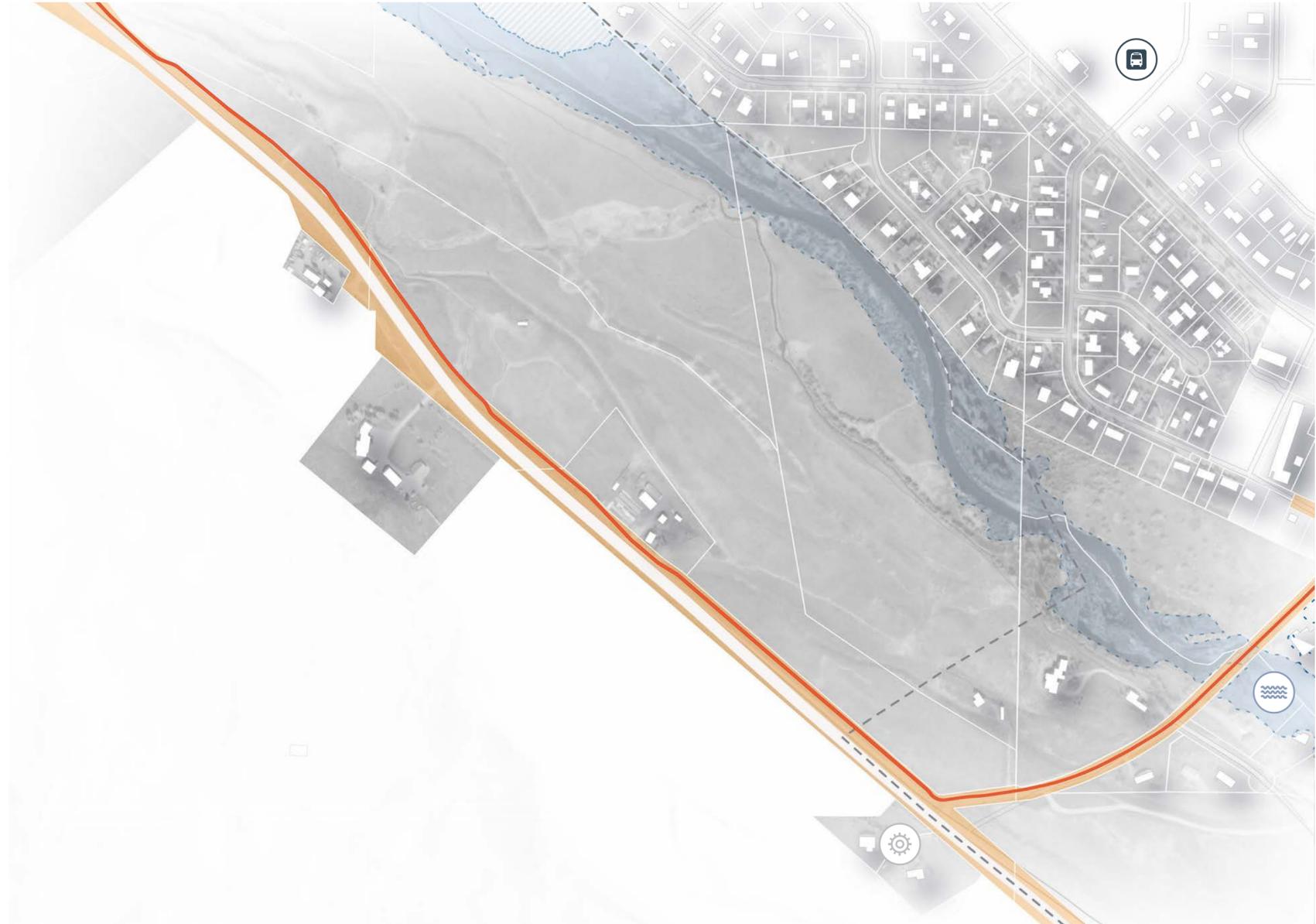
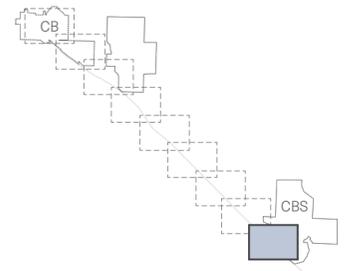
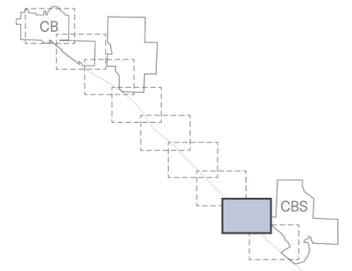


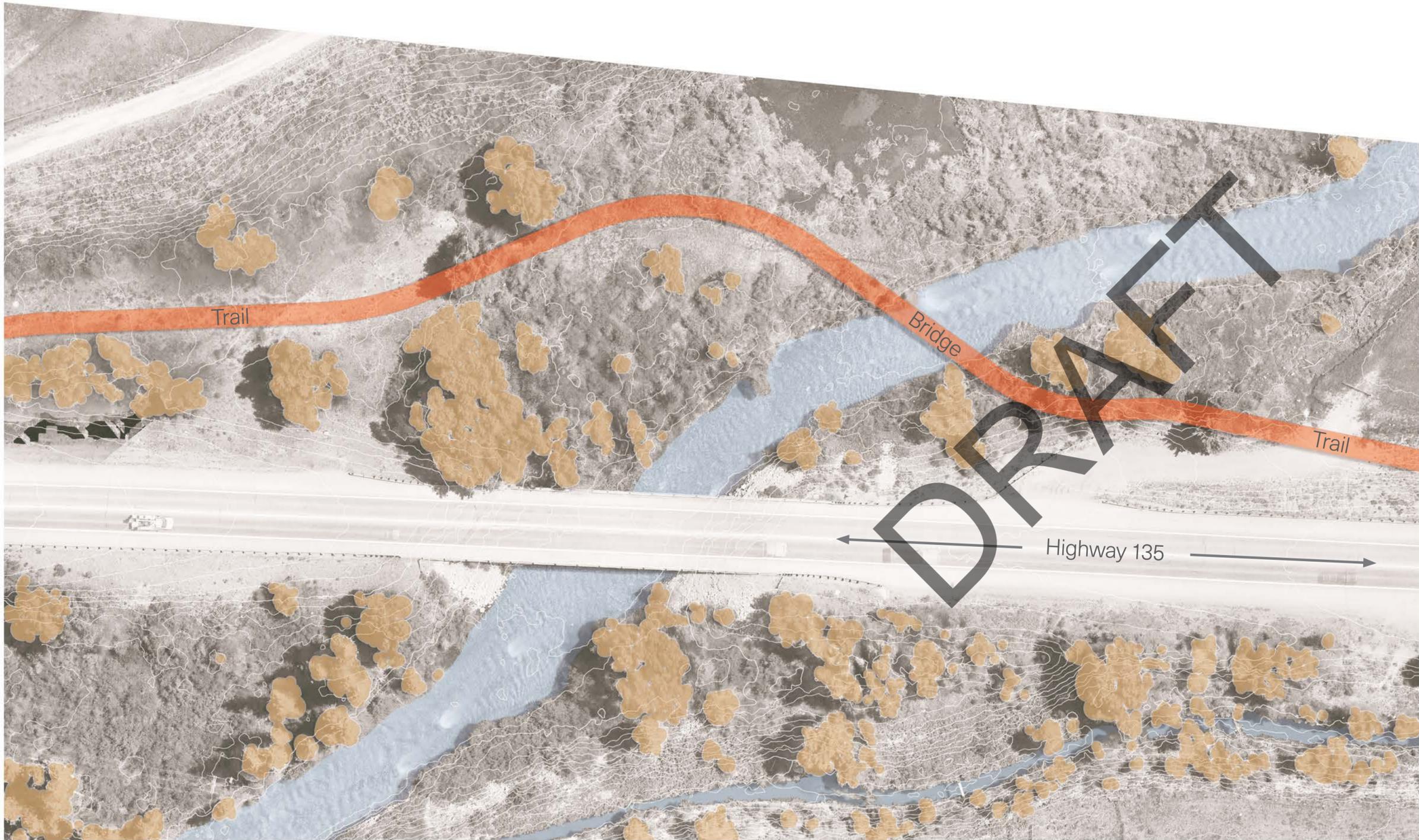
SECTION 08
The proposed pedestrian bridge at the Slate River crossing allows users a visual connection to the surrounding landscape.

SECTION 09
Further engineering is required to understand the extent of expansion required to create safe separation from traffic on the Cement Creek bridge.

DRAFT

- Legend**
- Proposed Trail Alignment
 - Existing Infrastructure
 - Rivers
 - Flood Plain - Boundary
 - Colorado 135 Right of Way

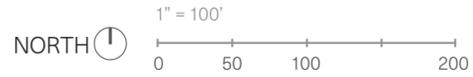


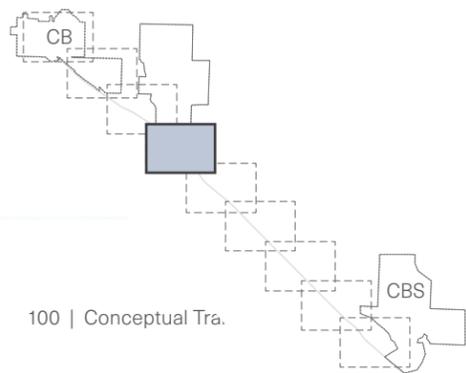
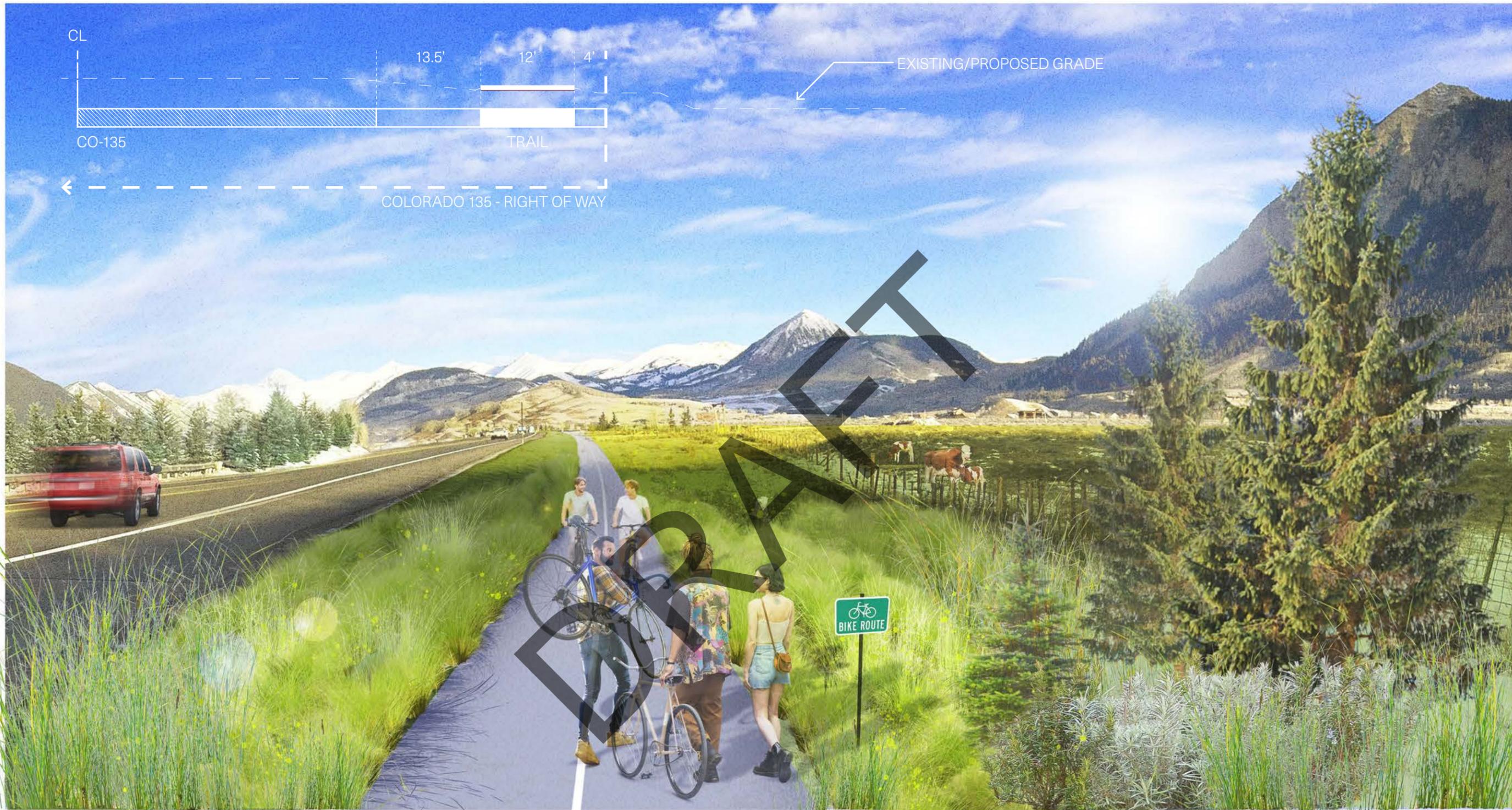


DETAILED SITE PLAN ILLUSTRATIVE

The Slate River Crossing represents the section of trail that requires the greatest extent of engineering. Remaining within the Colorado 135 right of way, the preferred trail alignment proposed creating a connection across the Slate River that allows users to access the river and create a meaningful visual connection with the surrounding landscape.

Additional surveying in this area is required to understand the extent of wetlands and constructability within the flood plain of the Slate River.





APPROACH INTO CRESTED BUTTE: MOST CONSTRAINED CONDITION

A more constrained section of trail, topography and existing above ground utilities within the right of way require the trail to be in closer proximity to the roadway although the extent of the right of way would allow for greater separation. Retaining walls and other

mitigation measures could be utilized in these areas to increase the landscape buffer area in constrained areas.

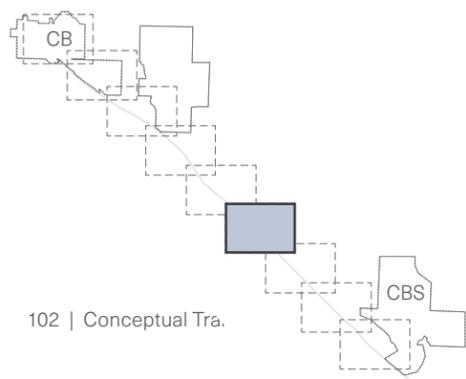


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HIDDEN RIVER RANCH SUBDIVISION: LEAST CONSTRAINED CONDITION

The trail plan varies in condition as one travels from Crested Butte South to Crested Butte. Within the Hidden River Ranch Subdivision, there is a 20' trail easement that allows the preferred alignment to move out of the Colorado 135 right of way creating an

additional landscape buffer between trail users and vehicular traffic. In this section of trail, the landscape buffer is a minimum 36' from the white line and 33' from the edge of asphalt.



TRAIL PLAN



ACTION PLAN FOR IMPLEMENTATION

IDENTIFICATION OF POTENTIAL FUNDING SOURCES

The successful execution of the Crested Butte to Crested Butte South multimodal trail connection relies on a comprehensive and coordinated implementation strategy that addresses both immediate and future opportunities. This includes strategies and considerations for phasing, opportunities for funding, ongoing maintenance considerations and continued collaboration with community stakeholders.

A critical aspect of the implementation of this trail connection is the identification of funding sources – both existing and potential – that can support further planning and engineering study of the alignment and the execution of the plan. Potential funding includes grants, public-private partnerships, community fundraising and leveraging state and federal resources.

CAPITAL IMPROVEMENT FUNDS

Capital Improvement Plans (CIP) are short-range plans that identify the capital projects to help achieve the vision and goals set in the County's strategic and comprehensive plans. Capital Improvement Funds (CIF) for parks and open space management funding refer to financial resources specifically allocated for the planning and development of physical infrastructure and improvements within parks and open spaces. Funding designated in Capital Improvements Funds are typically intended for the construction, renovation, or acquisition of physical assets that have a lasting impact on the quality and functionality of a space – beneficial to the greater community.

Funding may come from various sources, including government appropriations, bonds, impact fees, grants, donations, and / or public-private partnerships.

GRANTS

Grants provide the opportunity to pursue funding that can support various aspects of the plan development including further detailed planning work, as well as construction implementation for the trail. For grants to be a viable source of funding, having strong grant writing and research personnel is essential to the effort. The process of securing grants often requires matching of funds in kinds – therefore, it is beneficial to develop a long-range plan that identifies which grants the project qualifies for, the associated due dates with those, and the fund matching requirements. Often, grant funding is most applicable when associated with a secondary source of funding or support for funding from a local government agency.

Possible grant sources:

- Colorado Department of Transportation (CDOT)
- Colorado Parks and Wildlife (CPW)
- Federal Recreation Trails Program
- Great Outdoors Colorado (GOCO)

Some potential grant sources include programs through the following organizations:

Non-motorized Grants Program: This program is through the Colorado Parks and Wildlife Department and funded through Great Outdoors Colorado and the Federal Recreational Trails Program. This program provides grants of up to \$250,000 for the planning, construction, and maintenance of non-motorized trails.

Land and Water Conservation Fund: This program, managed by the Colorado Parks and Wildlife Department is intended to support development or public recreation areas and facilities. This grant funds up to \$1.25 Million and requires a one-to-one match. Funding is typically directed to community-scale projects.

Community Impact Grant: This GOCO program provides grant funding to build community access to recreation and the outdoors, including trails. Funding levels for these grants varies, but is typically under \$1 Million.

Planning and Capacity Grant: This GOCO program provides funding to projects that are in the planning phase, as well as in story telling opportunities. The next stages of the planning work for the trail, as well as longer term efforts to integrate education and information to tell the story of the area could be eligible for this grant opportunity.

Transportation Alternative Program (TAP): This program, administered by the Colorado Department of Transportation, supports the design and construction of pedestrian and bicycle facilities.

Multimodal Transportation and Mitigation Options Fund (MMOF): This program supports funding for construction, operations, planning and greenhouse gas mitigation programs. The program, managed by the Colorado Department of Transportation, supports bicycle, pedestrian, and transit projects. These funds are distributed through the Transportation Planning Regions.

Transportation Safety Grants: The Colorado Department of Transportation has a number of grant opportunities for programs. These grants are intended to support programs and construction that will improve overall safety. The proposed trail improves the overall safety of bike and walking trips in the corridor, and could be eligible for these funds.

Recreational Trails Grant Program: This US Department of Transportation program provides grant funding for the development and maintenance of recreational trails that are motorized and non-motorized. These grants typically range from \$10,000 to \$5 Million.

Private Grants: There are potential grant opportunities through private organizations, such as the Anschutz Family Foundation and the Gates Family Foundation.

PHASING PLAN

- 1 Complete the Brush Creek Intersection capital improvement project.
- 2 Organize trail development to be completed in one season.
- 3 Explore future trail connections!

COST ESTIMATE

The following is a preliminary study on the evaluation of costs associated with the implementation of the proposed trail alignment. At this level of design, two surface materials have been identified – gravel and concrete. Further study and design development of the proposed alignment in coordination with funding sources will determine which surfacing is ultimately used.

**\$4.2 – \$8.6
MILLION
DEPENDING ON
SURFACING**

CEMENT CREEK - OPINION OF PROBABLE COST (CONCRETE)

Crested Butte Multimodal Trail - 10% - Concrete Trail				
Item	Unit	Quality	Unit Cost	Total
Colorado 135 STA. 210+00 to STA. 458+10				
CLEARING AND GRUBBING	LS	1	\$200,000.00	\$200,000.00
RESET MARKER	EA	5	\$400.00	\$2,000.00
RELOCATE GROUND SIGN	EA	7	\$500.00	\$3,500.00
RELOCATE UTILITY PEDESTAL	EA	6	\$1,520.00	\$9,120.00
RELOCATED CULVERT	LF	166	\$350.00	\$58,100.00
RELOCATE UTILITY POLE	EA	1	\$3,000.00	\$3,000.00
RELOCATE FENCE	LF	8175	\$20.00	\$163,500.00
RELOCATE GATE	EA	2	\$450.00	\$900.00
CONCRETE RETAINING WALL	SF	4925	\$75.00	\$369,394.00
CROSSWALK STRIPING (10'x2' BARS)	SF	520	\$60.00	\$31,200.00
SIGN PANEL (CLASS 1)	SF	70	\$35.00	\$2,441.00
STEEL SIGN SUPPORT	EA	31	\$200.00	\$6,200.00
PROPOSED CULVERT	LF	628	\$150.00	\$94,200.00
PROPOSED PEDESTRIAN BRIDGE	LS	1	\$250,000.00	\$250,000.00
PAVE DRIVEWAYS	TON	209	\$200.00	\$41,754.00
SHOULDER (ABC)	CY	1838	\$80.00	\$147,023.00
TRAIL (PAVED)	SY	32377	\$145.00	\$4,694,713.00
TRAIL (ABC)	CY	3562	\$80.00	\$284,921.00
ROADWAY SHOULDER EXTENSION	TON	369	\$135.00	\$49,855.00
UNCLASSIFIED EXCAVATION	CY	1980	\$35.00	\$69,300.00
EMBANKMENT MATERIALS (CIP)	CY	12480	\$35.00	\$436,800.00
MOBILIZATION	LS	1	\$100,000.00	\$100,000.00
F/A CONTINGENCY	LS	1	\$1,400,000.00	\$1,400,000.00

TOTAL: \$8,417,921.00

CEMENT CREEK - OPINION OF PROBABLE COST (GRAVEL)

Crested Butte Multimodal Trail - 10% - Gravel Trail				
Item	Unit	Quality	Unit Cost	Total
Colorado 135 STA. 210+00 to STA. 458+10				
CLEARING AND GRUBBING	LS	1	\$200,000.00	\$200,000.00
RESET MARKER	EA	5	\$400.00	\$2,000.00
RELOCATE GROUND SIGN	EA	7	\$500.00	\$3,500.00
RELOCATE UTILITY PEDESTAL	EA	6	\$1,520.00	\$9,120.00
RELOCATED CULVERT	LF	166	\$350.00	\$58,100.00
RELOCATE UTILITY POLE	EA	1	\$3,000.00	\$3,000.00
RELOCATE FENCE	LF	8175	\$20.00	\$163,500.00
RELOCATE GATE	LF	2	\$450.00	\$900.00
CONCRETE RETAINING WALL	SF	4925	\$75.00	\$369,394.00
CROSSWALK STRIPING (10'x2' BARS)	SF	520	\$60.00	\$31,200.00
SIGN PANEL (CLASS 1)	SF	70	\$35.00	\$2,441.00
STEEL SIGN SUPPORT	EA	31	\$200.00	\$6,200.00
PROPOSED CULVERT	LF	628	\$150.00	\$94,200.00
PROPOSED PEDESTRIAN BRIDGE	LS	1	\$250,000.00	\$250,000.00
PAVE DRIVEWAYS	TON	209	\$200.00	\$41,754.00
SHOULDER (ABC)	CY	1838	\$80.00	\$147,023.00
TRAIL (GRAVEL)	CY	16189	\$80.00	\$1,295,093.00
UNCLASSIFIED EXCAVATION	CY	1980	\$35.00	\$69,300.00
EMBANKMENT MATERIALS (CIP)	CY	12480	\$35.00	\$436,800.00
MOBILIZATION	LS	1	\$100,000.00	\$100,000.00
F/A CONTINGENCY	LS	1	\$660,000.00	\$660,000.00

TOTAL: \$3,943,525.00

CEMENT CREEK - OPINION OF PROBABLE COST

Crested Butte Multimodal Trail - 10% - Concrete / Gravel Trail				
Item	Unit	Quality	Unit Cost	Total
Cement Creek				
SIGN PANEL (CLASS 1)	SF	16	\$35.00	\$551.00
STEEL SIGN SUPPORT	EA	7	\$200.00	\$1,400.00
SHOULDER (ABC)	CY	215	\$80.00	\$17,220.00
ROADWAY SHOULDER EXTENSION	TON	369	\$135.00	\$49,855.00
RAISED CONCRETE SIDEWALK	SY	272	\$145.00	\$39,472.00
CONCRETE RETAINING WALL	SF	200	\$75.00	\$15,000.00
EARTHWORK	LS	1	\$25,000.00	\$25,000.00
MOBILIZATION	LS	1	\$25,000.00	\$25,000.00
F/A CONTINGENCY (20%)	LS	1	\$35,000.00	\$35,000.00

TOTAL: \$208,498.00

RECOMMENDED NEXT STEPS



The Crested Butte to Crested Butte South Trail Plan is intended to serve as a preliminary guide for the creation of a trail connecting the two communities. The content in this plan is a collective effort from leadership, local stakeholder organizations, and is strongly guided by feedback from the STOR Committee, community feedback, interviews with adjacent property owners, and the data analysis of existing and proposed conditions.

The following actions should be considered to continue the efforts of this plan:

INCLUSION OF TRAIL IN CIP

The inclusion of the project for trail construction and management will be instrumental to the feasibility of this project to be implemented. When included in the CIP, the Opinion of Probable cost should be used as a basis, with an acknowledgement that additional design detail beyond the 10% design completed in this study is needed to fully understand costs.

CONTINUED WORK WITH SUSTAINABLE TOURISM AND OUTDOOR RECREATION (STOR) COMMITTEE

The STOR Committee will continue to evaluate the plan and make a determination on the proposed alignment. This recommendation will be made to the Gunnison County Board of County Commissioners whether to move the plan forward to a more detailed level of design.

IMPLEMENT WILDLIFE RECOMMENDATIONS

While the trail alignment along the highway is the best solution from a wildlife perspective, it remains important to ensure wildlife is considered in the final design and as the trail is used. Three key recommendations from the wildlife report should be implemented:

1. As CPW recommends, minimize fences to facilitate wildlife movement across the trail corridor.
 - Any fences that must be installed should be wildlife friendly and meet the standards described in “Fencing with Wildlife in Mind” (Available: <https://cpw.state.co.us/Documents/LandWater/PrivateLandPrograms/FencingWithWildlifeInMind.pdf>).
 - Fences should not be constructed between the trail and Highway 35 such that an animal traversing the fence will land on the road.

2. Require and enforce a dog leash restriction.
3. Any waste or recycling receptacles should be approved bear-proof types.

DESIGN REFINEMENT

COMPLETION OF DETAILED SURVEY WORK

For the future design development of the proposed multimodal trail, it is recommended that a more detailed land survey is conducted to provide accurate design refinement. A future survey should include field surveyed elevations, underground utility locates, extent of wetlands, existing culverts and drainageways, and observed surface features (such as location of irrigation ditches, above ground utilities, fences, etc.). An additional survey should extend from the project start at Brush Creek Road to the project end at Teocalli Road.

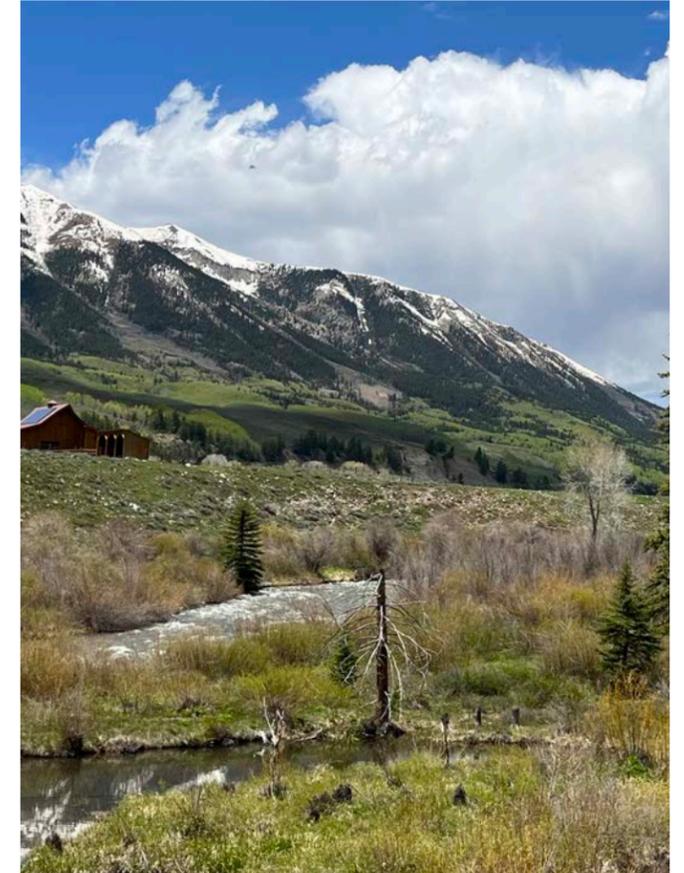
The proposed alignment and associated preliminary grading were developed using 2-foot contours, collected using LiDAR technology, and will need to be further refined to 1-foot contours for detailed horizontal and vertical alignments, as well as for detailed grading and drainage strategies.

SLATE RIVER CROSSING DETAILS

At either approach to the proposed Slate River crossing, it is recommended to consider increasing the design speed of bicyclists on the continuous steep grades. Additionally, these long continuous slopes should be analyzed and adjusted to include level resting intervals or recovery areas.

STEEP SLOPE CONSIDERATIONS

At locations of grading constraints where tie-in grades at a slope of 3:1 were not feasible, retaining walls are shown. It is recommended that these locations be analyzed for the ability to obtain a grading easement from adjacent landowners. Alternatively, walls could be replaced with a barrier such as a safety rail and steeper tie-in slope if geotechnical data suggests slopes greater than 3:1 are possible without excessive erosion.



HIGHWAY STRIPING CONSIDERATIONS

Where the ROW width does not allow for the desired separation between the multimodal trail and travel lanes of Colorado 135, the potential to re-stripe the highway should be analyzed. Re-striping of the highway will need to involve CDOT but has the potential to create more separation between motorists and trail users.

DETERMINE SEASONAL OR YEAR-ROUND USAGE

The proposed alignment can be used for seasonal or year-round use. Additional cost estimation for seasonal versus year-round maintenance should be completed to enable the County Commissioners to determine if a year-round trail is desired at this time. It is important to note that selecting seasonal use when the trail is initially constructed does not preclude winter use in the future.

APPENDIX





Legacy Design is the defining element of our practice. It is our commitment to an elevated level of design inquiry to arrive at the optimal solutions for clients. The process ensures that our projects reflect the critical issues facing the built environment and that they deliver measurable benefit to clients and communities. It is the foundation of the firm's workshop culture and guides all projects.