

MEMORANDUM

TO: Open Space Board of Trustees

FROM: Dan Burke, Interim Director, Open Space and Mountain Parks
Steve Armstead, Interim Deputy Director
Mark Davison, Community Connections and Partnerships Division Manager
Mark Gershman, Planning and Design Supervisor
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DATE: January 16, 2019

SUBJECT: Written Information: Eldorado Canyon to Walker Ranch Connection

Background

For many years, there has been a desire to create a multiuse link from Eldorado Canyon State Park (ECSP) to Walker Ranch. To that end, Boulder County Parks and Open Space (BCPOS), the City of Boulder Open Space and Mountain Parks (OSMP) and Colorado Parks and Wildlife (CPW) (the partner agencies), partnered to complete a feasibility study and planning process to consider opportunities for the multi-use connection.

After collaboration to complete the feasibility study and careful consideration of the findings, the partner agencies jointly recommended the North Route (using segment N1-N2-N4) as the preliminary recommendation for a preferred alignment. There also was agreement among the project partners that current challenges such as parking capacity, congestion, park access, and the Eldorado Springs interface must be addressed as part of future planning, design, and construction phases.

Staff provided an update to the Open Space Board of Trustees (OSBT) in December and presented the feasibility report, preliminary partner recommendation, and results of the community questionnaire. The December 2018 questionnaire asked respondents how supportive, or not, they were of the preliminary recommendation and reasons why. At that time the board requested additional information to support their consideration of making a preferred alignment recommendation as an agenda item in February.

This update focuses on those topics for which the board requested additional clarifications and/or information on and includes:

- Supplemental information on the North Route including impacts to the Western Mountain Parks Habitat Conservation Area (HCA).
- Potential tools and management strategies to address the implementation challenges, especially those surrounding the Eldorado Canyon State Park interface and capacity related topics such as access, parking, and congestion.
- The process and OSBT involvement in future planning, design, and implementation phases.

Consideration of North Route impacts to the Western Mountain Parks HCA

The potential impacts to the Western Mountain Parks HCA have been evaluated and informed decisions from the outset of the feasibility study and planning process. This section of the memo will highlight previous decisions relating to HCA impacts, and impacts related specifically to consideration of the alternative alignments N4 and N3 on the HCA, and other differences between N3 and N4. North Route alternatives can be viewed in **Attachment A**.

Previous decisions relating to Western Mountain Parks HCA impacts – routes considered, dismissed, and retained

At the beginning of the process two potential routes (in addition to N3 and N4) were identified for consideration to connect the western end of the existing Eldorado Canyon Trail to Walker Ranch but were dismissed. They were not included in the feasibility report due to a higher level of concern about the impacts to the HCA. These other routes are shown in **Attachment B**. Routes 4 and 5 (as numbered in the attachment) extended north from the existing Eldorado Canyon Trail, with route 4 returning south to connect back into the existing trail area and route 5 continuing north and connecting into the Ethel Harold Trailhead. Although these conceptual alignments were considered to provide sustainable trail routes and visitor experience advantages, they were removed from further consideration due to concerns about fragmentation and other impacts to wildlife habitat, more specifically the number of crossing of riparian habitat/drainages in an HCA.

Alternative N4 was intentionally designed and specifically studied to assess if it were possible and how to best minimize impacts to the HCA while meeting desired trail standards and visitor experiences. It was selected as the preferred alternative future design work will continue to focus on refinements that minimize impacts to natural resources within the HCA while meeting desired trail standards and visitor experiences.

HCA impacts of the North Route and between N3 and N4

Environmental impacts were evaluated in the feasibility report by analyzing potential impacts to the following evaluation criteria:

- Wetland and Riparian Habitat
- Significant Natural Communities
- Wildlife Habitat Impacts
- Undisturbed Habitat Impacts

This section of the memo highlights the differences between N3 and N4 based on the above evaluation criteria and provide supplemental information where relevant.

Wetland and Riparian Habitat

The feasibility study evaluated riparian habitat impacts based on the number of times the trail routes cross mapped riparian areas which were recently mapped on OSMP. The conceptual N4 alignment would result in two new stream crossings and removal and restoration of the existing Eldorado Canyon Trail (N3) stream crossing. The N3 alignment would retain the existing stream crossing.

The feasibility study concluded N4 would have minor impacts, and N3 would be insignificant since the route follows the existing trail corridor through the wetland and riparian habitat. The existing N3 crossing and the N4 crossings are ephemeral streams with limited riparian vegetation contributing to resource staff's assessment that the impacts are minimal. Additionally, the current (N3) stream crossing is physically unsustainable and over time impacts to the HCA would likely occur due to trail widening and erosion in the drainage. Improving the physical sustainability of the N3 stream crossing would require substantial infrastructure such as a bridge, less developed infrastructure improvements would not significantly improve the trail sustainability and require on-going maintenance. The new (N4) stream crossings will be constructed sustainably, with minimal infrastructure, and likely minimize long-term impacts on riparian habitat over time.

Significant Natural Communities

The two sensitive plant communities that N4 comes close to or intersects the periphery of are both shrub savannahs dominated by mountain mahogany. These shrub communities occur on the south and southwest facing slopes which could be avoided, or impacts minimized during future trail design phases. Due to the ability to entirely or mostly avoid sensitive natural communities the impact to significant natural communities in the HCA for N3 and N4 were considered similar and insignificant.

Wildlife Habitat Impacts

Wildlife habitat impacts were evaluated by assessing trail route impacts to the following:

- Sensitive wildlife habitat
- Golden eagle half mile nest buffers
- Preble's meadow jumping mouse (PMJM) known and potential habitat
- Boulder County Comprehensive Plan (BCCP) Critical Wildlife Habitat areas
- CPW - Tracked Species Habitat

This section of the memo will focus on the wildlife evaluation criteria most relevant to OSMP lands and/or the north route and include sensitive wildlife habitat, Golden eagle ½ mile nest buffer, and PMJM Habitat. The north route does not intersect BCCP Critical Wildlife Habitat areas. The CPW species data was also reviewed, and recognizing it is at a broad scale indicated there are no/insignificant impacts associated with re-routes proposed along the north route.

Sensitive Wildlife Habitat

The polygons labeled as “Sensitive Wildlife Habitat” (**Attachment C: North Routes Sensitive Wildlife Habitat**) includes buffers around observations of flammulated owls and the known location of Cooper's hawk nests. The small re-routes required of section N2 would occur outside of the nesting season to minimize disturbance. Based on staff experiences and comparable observations throughout OSMP, a perceived increase in human use of the trail is unlikely to impact them as the distance from the trail and location of the nests on the landscape offer adequate protection and buffer from trail users. Section N2 is the only north trail segment that intersects sensitive wildlife habitat and the impacts are anticipated to be insignificant.

Golden eagle half mile nest buffers

Figure 9 in the feasibility study (**Attachment C: North Routes Sensitive Wildlife Habitat**) depicts a half mile buffer around a Golden Eagle nest along the South Boulder Peak ridge. There has not been a nesting attempt at this nest site for the past 10 years. Because of this, the US Fish and Wildlife Service (USFS) would not consider this an active nest per the Bald and Golden Eagle Protection Act (which considers eagle nests still active 5 years following the last nesting attempt). Additionally, there is 1000 ft elevational difference between the nest (7880 ft) and the existing Eldorado Canyon Trail (6880 ft.). In wildlife staff's expert judgement and using information and observations from similar situations with golden eagle nests across OSMP (e.g. Lefthand Palisades, Skunk Canyon, and Flagstaff), this vertical difference in conjunction with the linear distance between the nest and the trail provides sufficient protection for the historic nesting site, even with an increase in human use of the trail. In addition, the section of trail within the buffer will only undergo minor re-routes, and construction to complete these would occur outside of the eagle nesting season. N2 is the only north trail segment that intersects the Golden eagle half mile nest buffer and the impacts are anticipated to be insignificant.

PMJM Potential Habitat

The USFS would be consulted in regard to PMJM potential habitat and trail design would be guided by the consultation to limit impacts. The only segments to intersect PMJM potential habitat are N3 and N4, and both intersect the same habitat and impacts are anticipated to be similar and insignificant.

Undisturbed Habitat Impacts

In the feasibility study, habitat impacts were evaluated by assessing the overall change to large tracts of undisturbed (without trails) habitat. The multi-jurisdictional undisturbed habitat along the North Route was estimated at 1,613 acres. N3 would result in an estimated 3 acres (1%) loss. N4 would result in an estimated 24 acres (2% lost). Both N3 and N4 were considered to have insignificant impacts to the multi-jurisdictional undisturbed habitat block.

Per the board request to understand the impacts particular to the Western Mountain Parks HCA a similar analysis was undertaken. Attachment D, Figure 1 shows the HCA. The Western Mountain Parks HCA is 4079 acres. N3 would result in an estimated two acres (or .05%) loss to the HCA. N4 would result in an estimated 19 acres (or .5%) loss to the HCA.

However, the Western Mountain Parks HCA is not an undisturbed habitat block, there are several existing trails that cross the area. Using similar methods and buffers as used in the feasibility study, the undisturbed OSMP habitat block in the HCA is approximately 794 acres (**Attachment D: Figure 2**). Segment N3 would result in an estimated 2 acres (or .3%) loss to undisturbed habitat. N4 would result in an estimated 19 acres (or 2.4%) loss to undisturbed habitat. (**Attachment D: Figure 3**). Given the similar acres and percent of undisturbed habitat lost staff considers the impacts to be insignificant.

Visitor Experience and Trail Sustainability differences between N3 and N4

While the environmental impacts of N3 and N4 are the same or similar there are large differences for trail sustainability and the visitor experience. These are highlighted below:

- *Visitor Experience/Trail Aesthetic and Character* - While all of N4 will likely be rideable for advanced and intermediate riders, it is estimated by OSMP staff that approximately 75% of N3 will likely be rideable for an advanced rider. Approximately up to 25% will be hike-a-bike for advanced riders, and even more intermediate riders. N3 will be significantly more difficult than N4 and has very limited flexibility to incorporate a range of difficulty or adjust the difficulty during the design phase when compared with the N4 alternative.
- *Trail Sustainability and Maintenance* – Segment N4 would achieve the desired bike trail standards, while substantial portions of N3, approximately 75% cannot meet desired design standards. As such, the costs to maintain N3 will be higher.
- *Visitor Conflict Management* - The potential for visitor conflict along N3 will be higher as the trail will not be designed with appropriate sight lines, grades and other techniques that can minimize potential conflicts.

Best Management Practices and other potential management strategies to address implementation challenges.

The feasibility study and public comments identified challenges to successful implementation of a multi-use connection due to existing conditions and constraints that exist in the park and the surrounding town site of Eldorado Springs. Particular challenges exist regarding state park access and parking. These conditions currently present challenges, and it is anticipated that the multi-use trail would increase park visitation by an estimated 7% (up to about 60 additional trail visitor per day, on average).

Staff heard interest from the OSBT that in addition to an interagency commitment, a better understanding of the best management practices, tools and management strategies would be helpful to provide reasonable assurances that those challenges and other issues could be addressed. If the North Route is

approved as the preferred alignment, the next step will be a public process to identify the most appropriate tools and management strategies to address implementation challenges. The tables below list potential tools, best practices and management strategies for consideration; at this time there are no commitments or decisions regarding specific actions or strategies except for those specifically identified (actions denoted with an *). The intent of sharing this information is to provide an idea of the range of practices that could be employed and/or considered.

Transportation Demand Management (TDM) Tools
Locally fund new seasonal shuttles that connect remote parking to trailheads/entrances
*Redesign ECSP entrance station to provide a turnaround for vehicles
Road improvements: Boulder County, CPW, and Artesian Springs negotiate agreement for improvement of private road through Eldorado Springs
* Parking enforcement of illegal parking violations in Eldorado Springs and along Highway 170
*Paid parking for non-residents: OSMP southern trailheads currently charge a parking fee for visitors who reside outside of Boulder County.
On-line or mobile parking reservation system
Reconfigure/redesign parking areas to increase parking supply
Paid parking for all visitors
Variable parking pricing based on demand
Increased funding for enforcement
Increase/expand current parking areas
Partner with Transportation Network Companies (TNC). TNCs are organizations, such as Uber, that matches passengers with drivers via websites and mobile apps.
Provide dedicated drop off/pick up areas for TNC at trailheads/entrance stations
Traffic calming features
Trailhead/entrance station connections to bike network/lanes
Amend “no bikes” regulations at some trails that provide connections between and to trailheads
Social media promotions on “peak” and “off peak” days
Traffic management and enforcement plan for peak days
*Advance parking notification/variable message board (along 93 indicating when the park is at capacity)
*Prohibit entrance to ECSP by vehicle when all parking spots are taken
*Recordings and messaging stating there is no available parking
*Redirecting visitors to other properties
Parking webcams to display current supply
Carpool/vanpool spaces
Reduce parking at current trailheads
Purchase RTD service to expand local routes to trailheads/areas
Roadway access management (medians, curbs, and signs)

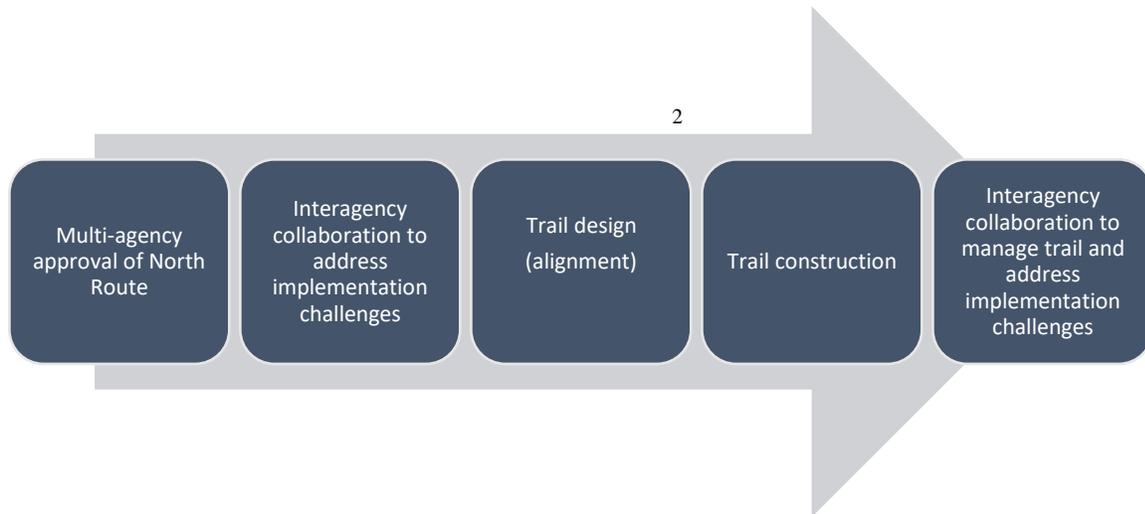
Potential Visitor Conflict and Experience tools
ECSP Trail improvements/expansions, such as the extension of the Streamside Trail to disperse visitors and provide an alternative to using the road
* Consistent trail courtesy messaging- OSMP, CPW, and Jefferson County Open Space are currently partnering on a trail courtesy study with the goal of consistent visitor messaging.
Require permits and reservations for access to Eldorado Canyon State Park
Eldorado Canyon State Park Visitor Use Management Plan
*Trail design elements to reduce bike speed and increase visibility

Signs to reinforce etiquette and warn of high use areas
*Education, outreach and enforcement
*Separated Uses - N1, within the state park, will retain the existing Eldorado Canyon Trail for climbing and hiking use. A new trail will accommodate biking. ¹
*Boulder Mountain Bike Patrol and other related volunteer trail stewardship efforts
Increased education, outreach and enforcement at and following trail opening

Natural and Cultural Resource protection Best Management Practices
* Pre-construction surveys to identify and avoid rare plants.
* Cultural resource survey to confirm presence or absence and mitigate/avoid as appropriate prior to construction
* Adherence to OSMP Ecological Best Management Practices for Trail Design, Construction, Maintenance, and Closure on OSMP lands to minimize impacts to the HCA.
*Adherence to OSMP Ecological Best Management Practices related to invasive plant management and mitigation

Process and OSBT involvement in future planning, design, and implementation phases.

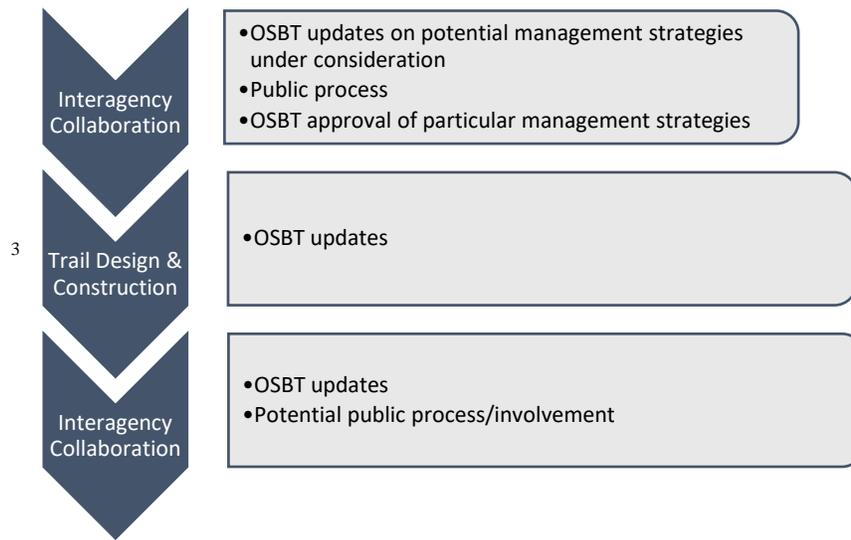
If the north route is approved the multi-year implementation process would follow the general steps outlined below:



¹ The section of N1 within the state, and for which there would be separate trails, is the most visited portion of the trail. The annual daily average for that portion of the trail is 125 daily visitors. OSMP visitor estimates for the portion of the Eldorado Canyon Trail on OSMP lands is 24 daily visitors. An estimated 81% of visitors just hike the first section of the trail within the state park, and for which a separate trail is proposed.

² If the joint agency recommendation is adopted and approved, the agencies may begin to seek funding for design and construction of the multi-use trail at the same time as the collaboration and public process to address implementation challenges. While trail design may occur concurrently, it is intended the trail will not be built until after the public process and implementation of strategies to address existing conditions.

The OSBT would be involved through the combination of updates and potential approvals/action items.



The OSBT would receive updates on implementation, including management strategies being considered to address implementation challenges, trail design progress and construction timing and when the process has completed an implementation phase and is progressing to a subsequent phase.

The OSBT would receive updates on the development and implementation of management strategies that are:

- Consistent with TSA commitments (West and Eldorado Mountain Doudy Draw (EMDD))
- Do not change existing OSMP regulations
- Do not require significant capital improvements/funds
- Primarily related to Eldorado Canyon State Park improvements

Management strategies that may be brought to the board as an action item, include, but are not limited to strategies that:

- Amend TSA commitments (West and EMDD)
- Amend existing OSMP regulations
- Require significant OSMP capital improvements/funds
- Require other significant financial investments by the city
- Are significant improvements or modifications to and/or impact OSMP lands.

³ If the joint agency recommendation is adopted and approved, the agencies may begin to seek funding for design and construction of the multi-use trail at the same time as the collaboration and public process to address implementation challenges. While trail design may occur concurrently, it is intended the trail will not be built until after the public process and implementation of strategies to address existing conditions.

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**Figure 3.
North Route Alignments**

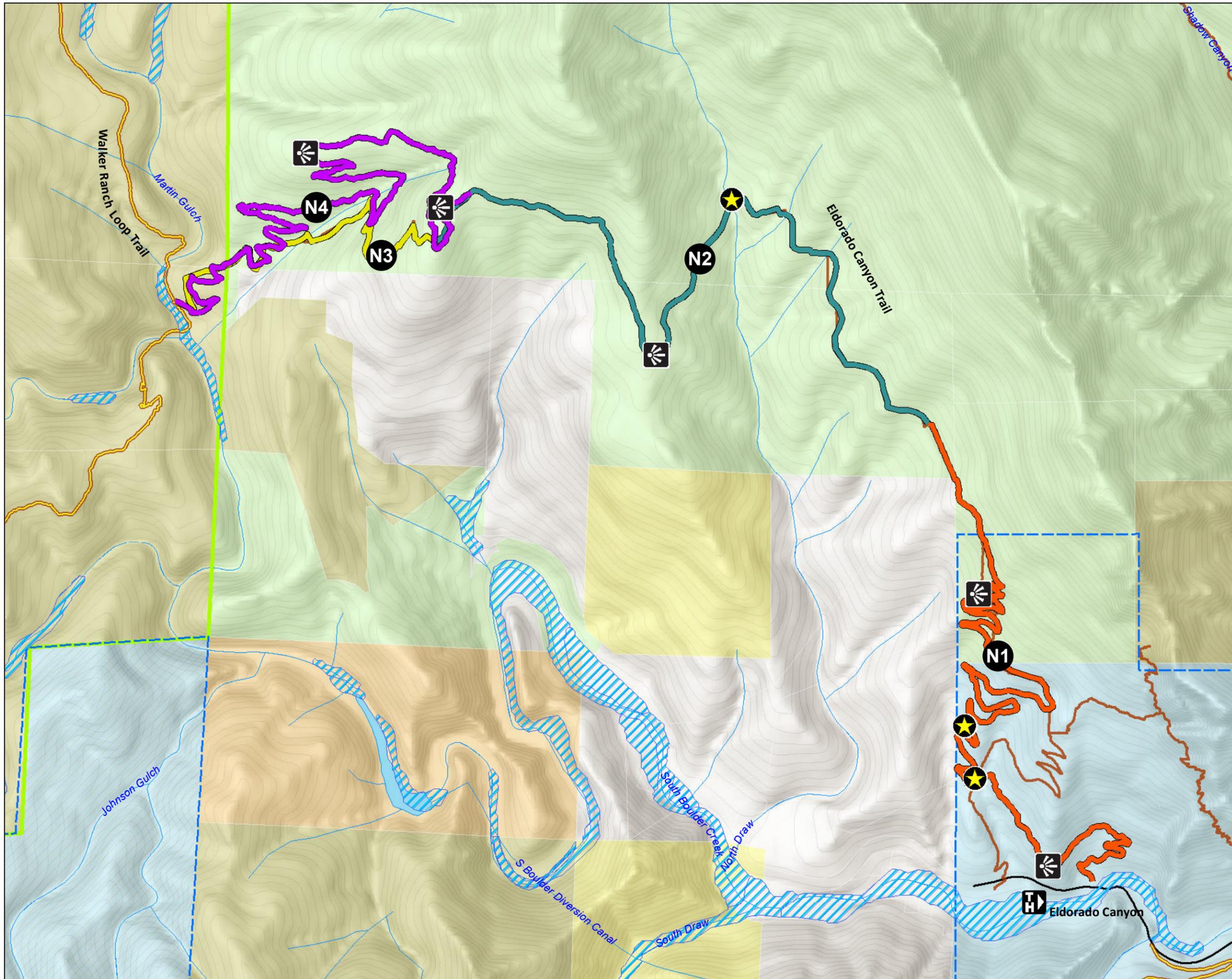
Eldorado Canyon – Walker Ranch Trail Feasibility Study

Alternative Sub-Routes

- N1
- N2
- N3
- N4
- Riparian Areas and Wetlands
- ★ Point of Interest
- ☼ Primary Viewpoint
- H Trailhead
- Existing Hiking Trail
- Existing Multi-Use Trail
- Neighborhood Road
- Stream/River
- 20-Foot Contour

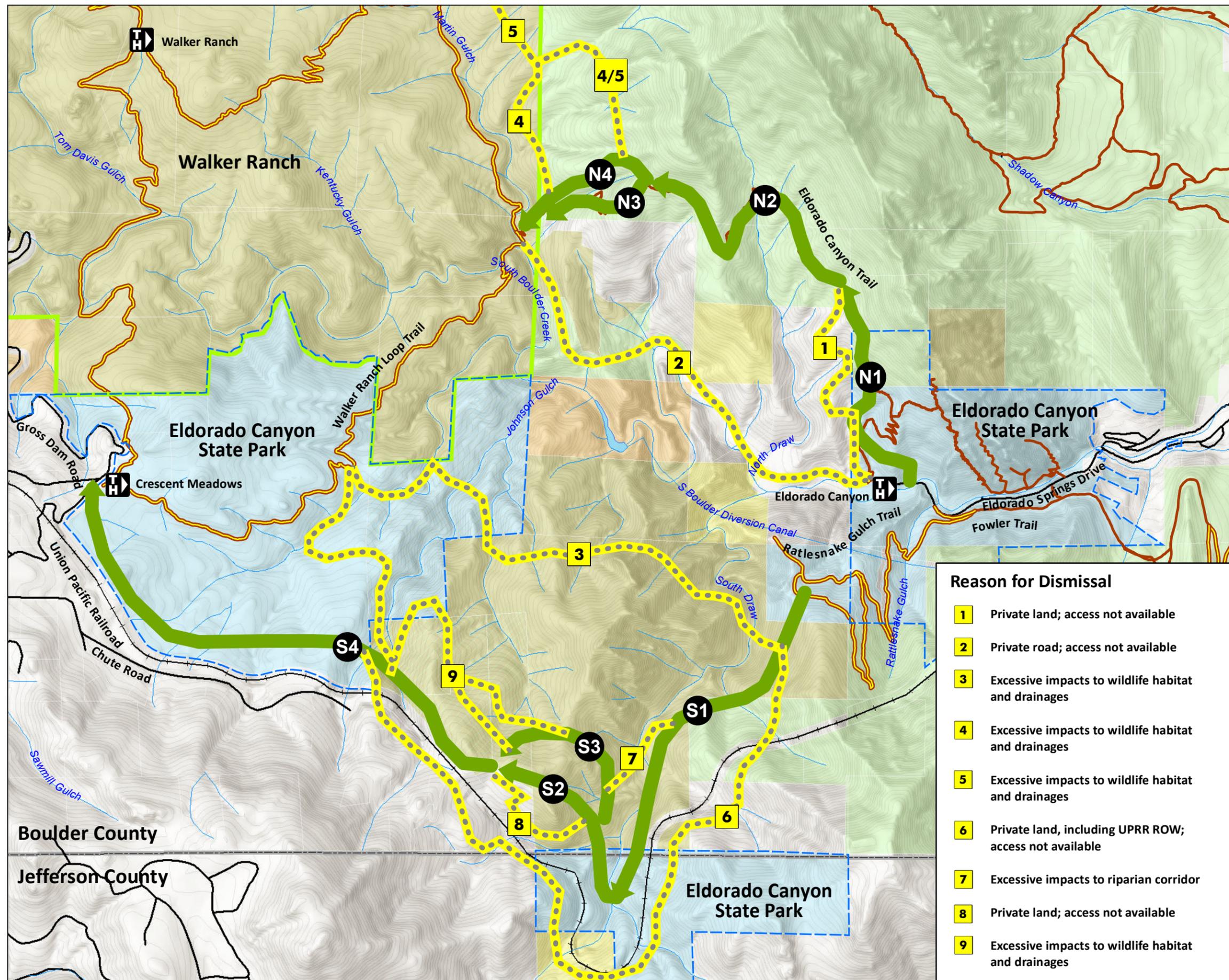
Land Manager

- Eldorado Canyon State Park Boundary
- Walker Ranch Boundary
- Boulder County
- City of Boulder
- State of Colorado – Boulder County
- State of Colorado
- Denver Water
- Bureau of Land Management



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Figure 2. Routes Considered and Dismissed



Eldorado Canyon – Walker Ranch Trail Feasibility Study

1 Routes Previously Dismissed from Analysis

Routes under consideration

H Trailhead

Existing Hiking Trail

Existing Multi-Use Trail

Railroad

Neighborhood Road

Stream/River

20-Foot Contour

Land Manager

Eldorado Canyon State Park Boundary

Walker Ranch Boundary

Boulder County

City of Boulder

Boulder County – City of Boulder

State of Colorado – Boulder County

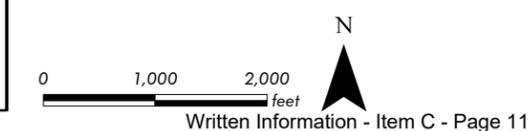
State of Colorado

Denver Water

Bureau of Land Management

Reason for Dismissal

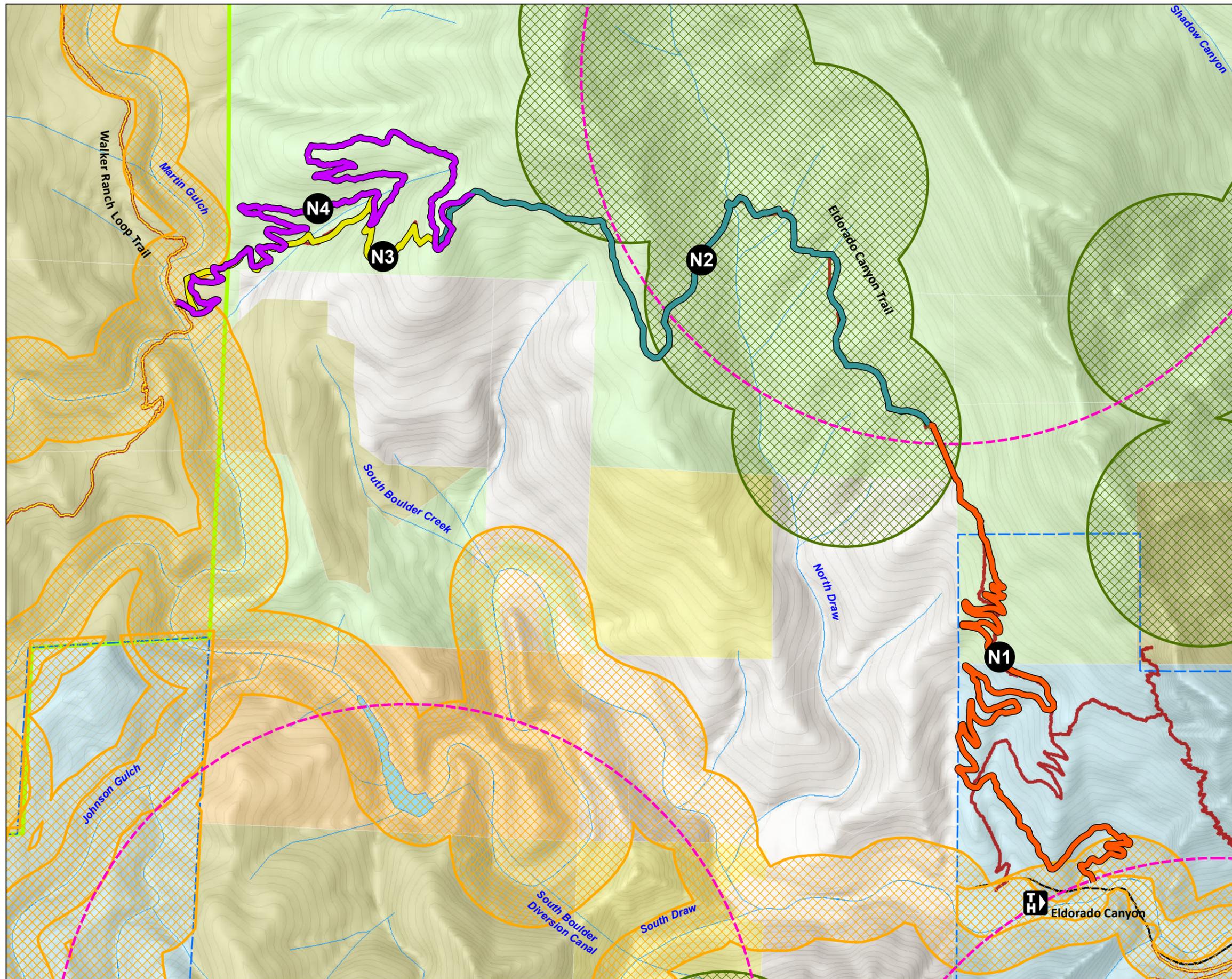
- 1** Private land; access not available
- 2** Private road; access not available
- 3** Excessive impacts to wildlife habitat and drainages
- 4** Excessive impacts to wildlife habitat and drainages
- 5** Excessive impacts to wildlife habitat and drainages
- 6** Private land, including UPRR ROW; access not available
- 7** Excessive impacts to riparian corridor
- 8** Private land; access not available
- 9** Excessive impacts to wildlife habitat and drainages



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Figure 9. North Routes Sensitive Wildlife Habitat

Eldorado Canyon – Walker Ranch Trail Feasibility Study



Alternative Sub-Routes

- N1
- N2
- N3
- N4
- Trailhead
- Golden Eagle ½-Mile Nest Buffer
- Sensitive Wildlife Habitat
- Preble's Meadow Jumping Mouse Habitat
- Existing Hiking Trail
- Existing Multi-Use Trail
- Neighborhood Road
- Stream/River
- 20-Foot Contour

Land Manager

- Eldorado Canyon State Park Boundary
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OSMP Western Mountain Parks HCA and Undisturbed Habitat Impacts

Figure 1. Western Mountain Parks HCA

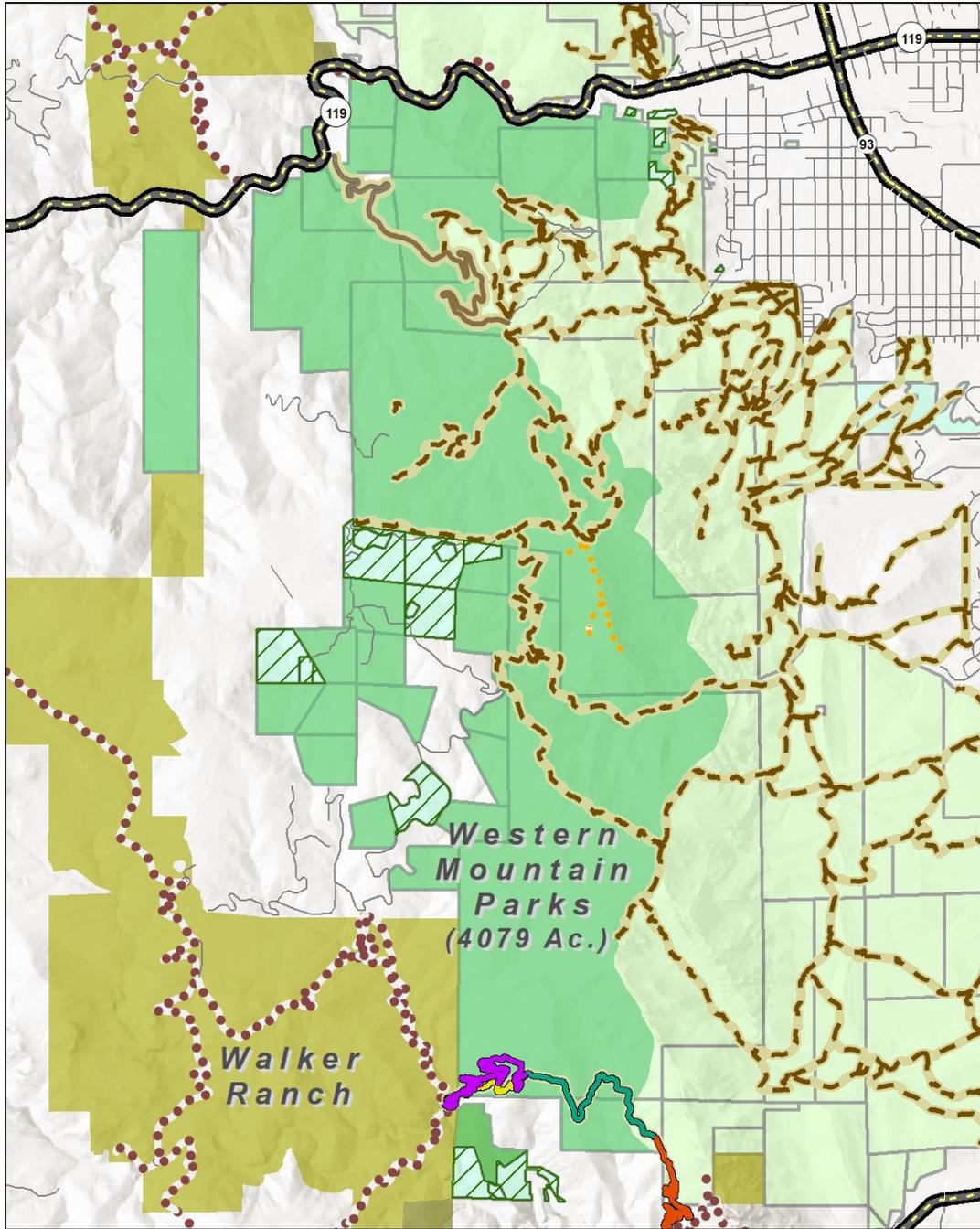


Figure 2. Current Undisturbed Habitat Impacts

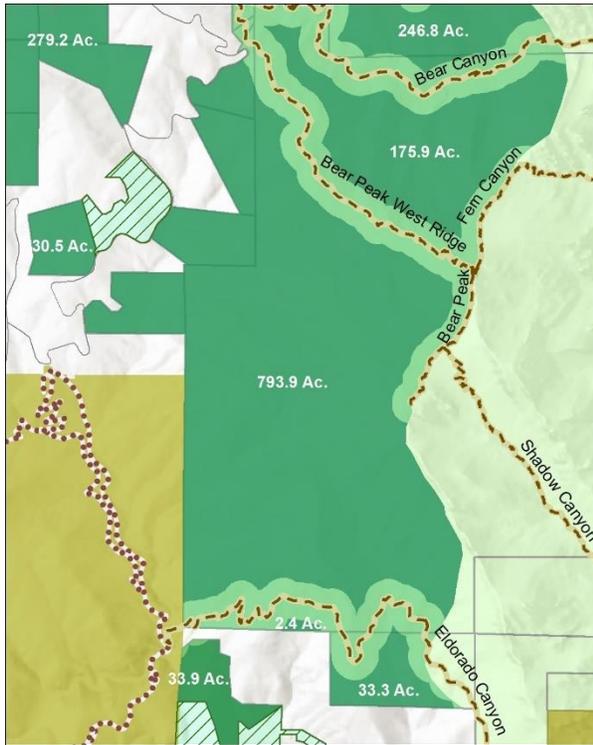


Figure 3. N4 Undisturbed Habitat Impacts

