

MEMORANDUM

TO: Planning Board

FROM: Curtis Weller, Civil Engineer I

DATE: October 7, 2020

CALL UP ITEM: Standard Wetland Permit (WET2020-00015)
Community Ditch Trail Reroute

Key Dates

Wetland permit approved by staff:	10/7/20
The decision may be called up by Planning Board on or before:	10/21/20
There is one Planning Board meeting within the 14 day call up period on:	10/15/20

Project Description

Portions of the community ditch trail are eroding, and the trail is degrading over time. Open Space and Mountain Parks (OSMP) is planning to reroute the trail, and close the degrading portions of trail, in order to eliminate these problems. Some of the current trail pass through an herbaceous isolated wetland that are not mapped as part of the City’s regulated wetland bodies, but still require a wetland permit since the project is on city land. Closing the problem section of trail will result in temporary impacts to the wetland. However, the proposed mitigation will restore and increase the total area of wetlands.

Wetland Review Criteria for Standard Wetland Permits

- **Hydrology:** Surface runoff from the trail enters a drainage swale on the west side of the trail before entering a culvert that passes under the trail and discharges to the north. The culvert is to be plugged with a rock and rock check dams are to be added to the drainage swale. Post trail closure these actions will reduce erosion and help retain water for wetland. The proposed activities will improve the wetland hydrology.
- **Minimization:** Temporary impacts to the buffers and wetland body will be restored to a condition equal to or greater than preconstruction evaluations. Following applicable best management practices outlined in the City’s Wetland Protections Program Best Management Practices and OSMP’s Ecological Best Management Practices as needed.
- **Restoration of Temporary Impacts:** The disturbed areas will be revegetated with native seed.
- **Best Management Practices:** Following applicable best management practices outlined in the City’s Wetland Protections Program Best Management Practices and OSMP’s Ecological Best Management Practices as needed.
- **Protection of Species:** The area was evaluated for threats to U.S. Fish and Wildlife listed threatened and endangered species, and Preble’s meadow jumping mouse. The area does not contain habitat know to be utilized by the Preble’s meadow jumping mouse.

- Mitigation Plan: The 970 square feet of trail within the wetland body will be removed and restored to functioning wetland. Improving site hydrology for the wetland. Restoring temporary impacts in the wetland buffers.

The proposed project will have the following impacts to city regulated wetlands:

	<i>Permanent (sq. ft.)</i>	<i>Temporary (sq. ft.)</i>
<i>Wetland</i>	0	970
<i>Inner Buffer</i>	0	830
<i>Outer Buffer</i>	0	970

Associated Floodplain Development Permits

This project is not within the 100-year floodplain and does not require a separate floodplain development permit.

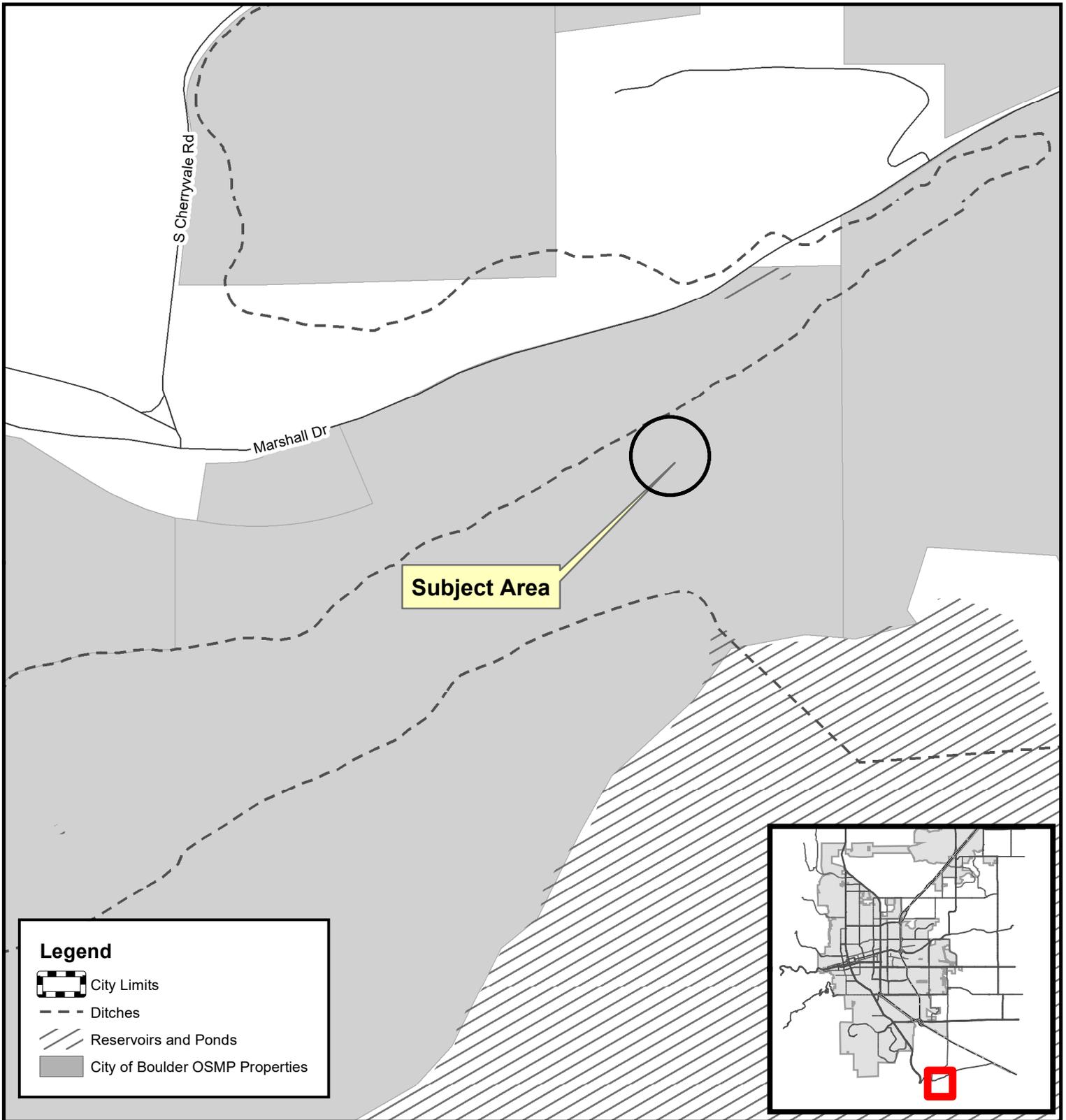
Questions about the project should be directed to:

Curtis Weller, EIT, TECS
 Civil Engineer I
 303-441-4053
wellerc@bouldercolorado.gov

Attachments:

- A. Vicinity Map
- B. Wetland Permit Application
- C. Wetland Permit Report

City of Boulder Vicinity Map



Location: 0 Marshall Rd t
Review Type: Wetland Permit Public Process
Review Number: WET2020-00015
Applicant: Adam Gaylord, City of Boulder



1 inch = 600 feet



The information depicted on this map is provided as graphical representation only. The City of Boulder provides no warranty, expressed or implied, as to the accuracy and/or completeness of the information contained herein.



Wetland Permit Application

- Wetland permits are required for development that impacts regulatory wetland and buffer zone areas and is required by Section 9-3-9 (see Table 3-1 for required permit type and exemptions) of the Boulder Revised Code.
- Incomplete applications will not be accepted. Please fill out every section of this form.

► **REQUIRED MATERIALS FOR ALL PERMITS**

- Site Plan (please show the wetland and buffer zone boundaries)
- At least two photographs of current conditions
- Construction drawings (as applicable)

► **TO SUBMIT YOUR WETLAND PERMIT APPLICATION**

- Save your application and supplemental files as PDFs
- Name your materials according to the File Naming Convention in the [Ele](#)
- Submit application and files to PDSskipatrip@bouldercolorado.gov

► **CONTACT INFORMATION**

Applicant Contact Information

<i>Name</i> Adam Gaylord	<i>Phone#</i> 303-495-8982	<i>Email Address</i> gaylorda@bouldercolorado.gov	
<i>Address</i> 2520 55th St	<i>City</i> Boulder	<i>State</i> CO	<i>Zip</i> 80301

Property Owner Contact Information

- Same as Applicant

<i>Name</i>	<i>Phone#</i>	<i>Email Address</i>	
<i>Address</i>	<i>City</i>	<i>State</i>	<i>Zip</i>

- The owner of the property is aware of and consenting to the improvements being made in this permitting process.

Signature of Owner: Adam Gaylord

Date: 8/20/20

This application will not be accepted without the owner's signature.

**City of Boulder
Planning & Development Services**

These documents have been reviewed for compliance with the requirements of the Boulder Revised Code (BRC 1981) and other ordinances of the City of Boulder and are approved for construction. No modifications to or deviations from these documents are allowed without written approval by the City of Boulder, nor are these documents to be used for construction at any site other than the site for which these documents have been approved. This approval shall not be construed to be a permit for, or an approval of, any violation of the Boulder Revised Code or other City ordinance. This approval shall not prevent the building official from requiring the correction of errors in the construction documents and other data. The building official may also prevent occupancy or use of a structure where in violation of the Boulder Revised Code or other City ordinance.

Permit # WET2020-00015 10/07/2020
Date

► **PROJECT INFORMATION**

Permit Type (please check one)	<input checked="" type="checkbox"/> Standard	<input type="checkbox"/> Conditional
	<input type="checkbox"/> Boundary Determination	<input type="checkbox"/> Functional Evaluation

Project Address: On Marshall Mesa south of Marshall Road and east of CO-93 (see Figure 1)

Project Description: *please include the who, what, where, when and why in your project description (please also describe if this project is part of a larger project)*

Please see attached project narrative.

► **PROJECT IMPACTS**

Impact Area <i>(permanent & temporary)</i>	Total Impacted Area <i>(square feet)</i>	Required Restoration Ratio <i>(area restored to area disturbed)</i>
Wetland	970	2:1
Inner & Outer Buffer Zone	1,800	1:1

► **BEST MANAGEMENT PRACTICES**

Describe how you will keep sediment or erosion from entering the creek.

Please see attached project narrative.

► **HYDROLOGY**

Check all that apply:

Current Water Source	<input checked="" type="checkbox"/> Groundwater	<input type="checkbox"/> Stream water	<input checked="" type="checkbox"/> Rainwater	<input type="checkbox"/> Other:
Future Water Source	<input checked="" type="checkbox"/> Groundwater	<input type="checkbox"/> Stream water	<input checked="" type="checkbox"/> Rainwater	<input type="checkbox"/> Other:

Will your project negatively impact site hydrology? Yes No

If yes, please describe:

► **MINIMIZATION**

Describe the steps taken to ensure that your project is causing the least amount of wetland disturbance.

Please see attached project narrative.

► **RESTORATION OF TEMPORARY IMPACTS**

I will be utilizing native wetland seed mix for restoration. Yes No

If no, please explain:

Will you be restoring at the project location? Yes No

If no, please describe where your restoration will occur:

► **OTHER ITEMS TO CONSIDER**

Does your project include any of the following? Check all that apply:

<input type="checkbox"/> Bank Stabilization	Native plants/landscaping are preferred over rip rap or hardened structures (as feasible).
<input checked="" type="checkbox"/> Vegetation Removal	For noxious weed infestation or native habitat restoration only (applies to inner buffer).
<input type="checkbox"/> New Steps/Pathway	Only allowed in buffer zones, one per property, and 4-feet wide maximum.
<input type="checkbox"/> Sediment Removal	Shall not alter flood capacity. Vegetated channel bottoms shall be restored.
<input checked="" type="checkbox"/> Fill	Identify the source of any fill, and the location where any fill will be placed

If you checked any of the above, please describe:

Please see attached project narrative.

None of these apply to my project

For Standard Review Applications Only

► PROTECTION OF SPECIES

Check *one* and attach to application:

- Army Corps of Engineers Nationwide Permit
- Army Corps of Engineers 404 Permit AND US Fish and Wildlife Threatened & Endangered Species Permit
- Neither. Please see project narrative for explanation.

► MITIGATION PLAN

Please provide a mitigation plan that addresses the following items in the order listed below.

1. Statement that mitigation plan was prepared by qualified wetland biologist
2. Existing site evaluation
 - a. Type and value of existing wetlands
 - b. Total area impacted (use table above)
 - c. Total area to be mitigated (use ratios in table above)
 - d. Construction start/end date
3. Mitigation Site
 - a. Location
 - b. Who owns the mitigation site (do you have their approval?)
 - c. Description of mitigation (i.e. is the site suitable for wetlands?)
 - d. Hydrology description
 - i. where will the water come from to establish the wetland?
 - ii. Who owns the water? Do you have their consent?
 - e. Mitigation start/end date
 - f. Probability of success of mitigation measures
4. Mitigation Site Maintenance
 - a. Description of maintenance activities: weed control, litter removal, irrigation, water control structures, vegetation maintenance (replanting), culvert clearing
 - b. When will maintenance start?
 - c. Who will perform maintenance?
 - d. How often will maintenance be performed?
 - e. When will maintenance end?
5. Mitigation Site Monitoring
 - a. Monitoring criteria: how will you know the site is successful? 80% revegetated, no noxious weeds
 - b. When will monitoring start?
 - c. Who will perform the monitoring?
 - d. When will monitoring end?

Community Ditch Trail Reroute

City of Boulder Stream, Wetland and Water Body Permit Narrative

August 20, 2020

Revised September 29, 2020

1.0 Background

Community Ditch Trail is a popular hiking and biking trail managed by the City of Boulder Open Space and Mountain Parks (OSMP) located on Marshall Mesa south of Marshall Road and east of CO-93 (Figure 1). A portion of Community Ditch Trail that connects Marshall Mesa Trail to Cowdrey Draw Trail is prone to muddy conditions, trail braiding, and erosion (Photos 1 & 2), negatively impacting visitor experience and trailside vegetation. In an effort to increase trail sustainability, OSMP is proposing to reroute a section of Community Ditch Trail (Figure 2).



Photo 1. Section of Community Ditch Trail prone to muddy conditions and trail widening.



Photo 2. Braided section of Community Ditch Trail bisecting herbaceous wetland.

2.0 Project Area Description

The total project length is approximately 0.4 miles (2,085 feet) of proposed new trail replacing 0.3 miles (1,520 feet) of existing trail. The project area slopes northward at a roughly fourteen percent grade with elevations that range from 5,570 feet to 5,670 feet. Vegetation is composed mostly of mixed grass prairie with patchy native shrubland west of Community Ditch Trail. The mixed grass prairie consists of native grasses such as big bluestem (*Andropogon gerardii*, FACU) and bunchgrasses (*Aristida* spp.) as well as non-native grasses such as smooth brome (*Bromus inermis*, UPL) and cheatgrass (*Bromus tectorum*, UPL). The native shrubland is composed mostly of skunkbush (*Rhus trilobata*, UPL).

3.0 Regulated Areas

An OSMP ecologist inspected the project area including a 50-foot buffer around the limits of disturbance. The existing trail passes through a herbaceous, isolated wetland (Figure 3) composed mostly of arctic rush (*Juncus arcticus subsp. ater*, FACW) and Nebraska sedge (*Carex nebrascensis*, OBL). A narrow but relatively deep (approximately 12-18 inches) drainage swale runs adjacent (parallel) to the west edge of the trail. The trail and a trail-side drainage swale have adversely affected hydrology in the wetland, drawing the water table down and facilitating invasion by non-native weeds, mostly Canada thistle (*Cirsium arvense*, FACU). The wetland and a 50-foot buffer surrounding the wetland are regulated under the City of Boulder's Stream, Wetland, and Water Body Protection Program.

The trail-side drainage swale flows to a culvert that runs north under the trail and drains to a small (roughly 30-foot x 12-foot) area approximately 15 feet north of the existing trail. The area does support similar vegetation to the wetland (arctic rush and Nebraska sedge) but the wetland vegetation wouldn't persist without the water drained from the wetland. The proposed project includes removal of the drainage swale and the plugging of the culvert to improve hydrology within the wetland (please see below). Given that the hydrology of the area at the end of the culvert is artificial, and that it is less than 400 square feet in area, it is not regulated under the City of Boulder's Stream, Wetland, and Water Body Protection Program.

4.0 Proposed Project

OSMP is proposing to reroute a 1,520-foot erosion-prone section of Community Ditch Trail to improve trail sustainability and user experience and to allow restoration of an impacted herbaceous wetland. The reroute will move the trail outside of the regulated area. As such, no impacts to regulated areas are expected for construction of the new trail. The project will include closing and restoring the rerouted portion of the existing trail and associated drainage swale. A series of rock check-dams will be installed within the drainage swale to hold water within the wetland. Rock will also be used to plug the culvert that runs under the existing trail. Rock will be harvested from the site or imported from the surrounding area. The entire closed portion of trail, including that within the wetland, will be ripped to decompact soil, and the portion within the wetland will be graded to match surrounding topography. Finally, portions of the closed trail, including the portion within the regulated area, will be seeded with appropriate native seed mixes.

5.0 Impacts

Restoration of the closed trail and drainage swale will require approximately 2,770 square feet of temporary impacts to the regulated area (Table 1).

Table 1. Proposed wetland and buffer impacts by activity type.

Proposed Activity	Impacted Area (ft ²)					
	Wetland		Inner Buffer		Outer Buffer	
	Temporary	Permanent	Temporary	Permanent	Temporary	Permanent
Buildings and Additions						
Other Structures:						
Pavement, Surface, & Trails: <i>Ripping & Grading Closed Trail & Drainage Swale</i>	970 (closed trail within wetland to be restored to functioning wetland)	0	830	0	970	0
Landscaping & Landscape Maintenance:						
Stream Channel & Flood Improvements:						
Total	970	0	830	0	970	0

Note: Blank cells equate to zero square feet.

6.0 Avoidance and Minimization

Considerable effort has been put into avoiding and minimizing impacts associated with this project. Most of these efforts center around design alternatives, which are discussed in Section 7. Additionally, during construction, OSMP will follow all applicable Best Management Practices outlined in Wetland Protections Program Best Management Practices (City of Boulder 1995) and OSMP's Ecological Best Management Practices (City of Boulder 2013) including:

- Limiting the removal of vegetation to that which is absolutely necessary
- Staging materials outside of regulated areas

7.0 Alternatives Analysis

OSMP examined several possible trail alignment alternatives for the project including not rerouting the portion of the trail located within the regulated area or moving it out of the wetland but not entirely out of the buffer. These alternatives were ultimately rejected in favor of attempting to restore the wetland and buffer. Several alignments further west were also considered but ultimately rejected because of potential impacts to native shrub communities and cultural resources (the site was a coal mine in the late 19th and early 20th centuries).

8.0 Mitigation and Monitoring

The proposed project will result in 2,770 square feet of temporary impacts to the regulated area and will result in restoring approximately 970 square feet of closed trail to functioning wetland (Table 1). This mitigation plan was prepared by a qualified wetland biologist.

8.1 Mitigation

Closing and restoring the existing Community Ditch Trail will result in the removal of approximately 100 linear feet of trail from regulated areas. The only impacts to regulated areas associated with the project (described above) are to restore hydrology to the wetland and decompact soil within the buffer. OSMP is proposing that this trail closure and restoration serve as mitigation for the project. The site will be maintained on a regular basis by OSMP or an OSMP contractor.

8.2 Monitoring & Success Criteria

OSMP will monitor the restoration in the regulated area for a period of three years. Reports will be submitted annually starting immediately after project completion. Reports will include at least one photo of the restoration area and a visual estimate of percent cover of noxious weeds at the time of monitoring. Mitigation will be deemed a success if there are no Class A noxious weeds and there is less than 10% cover by Class B noxious weeds by the end of the monitoring period.

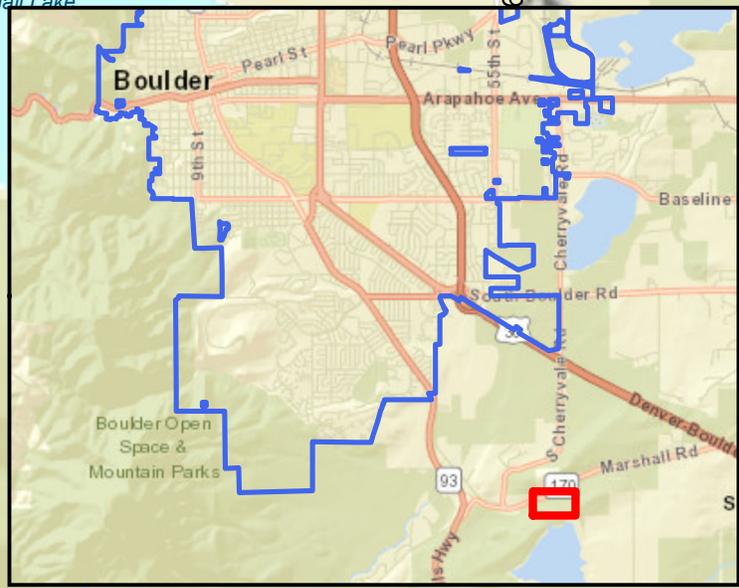
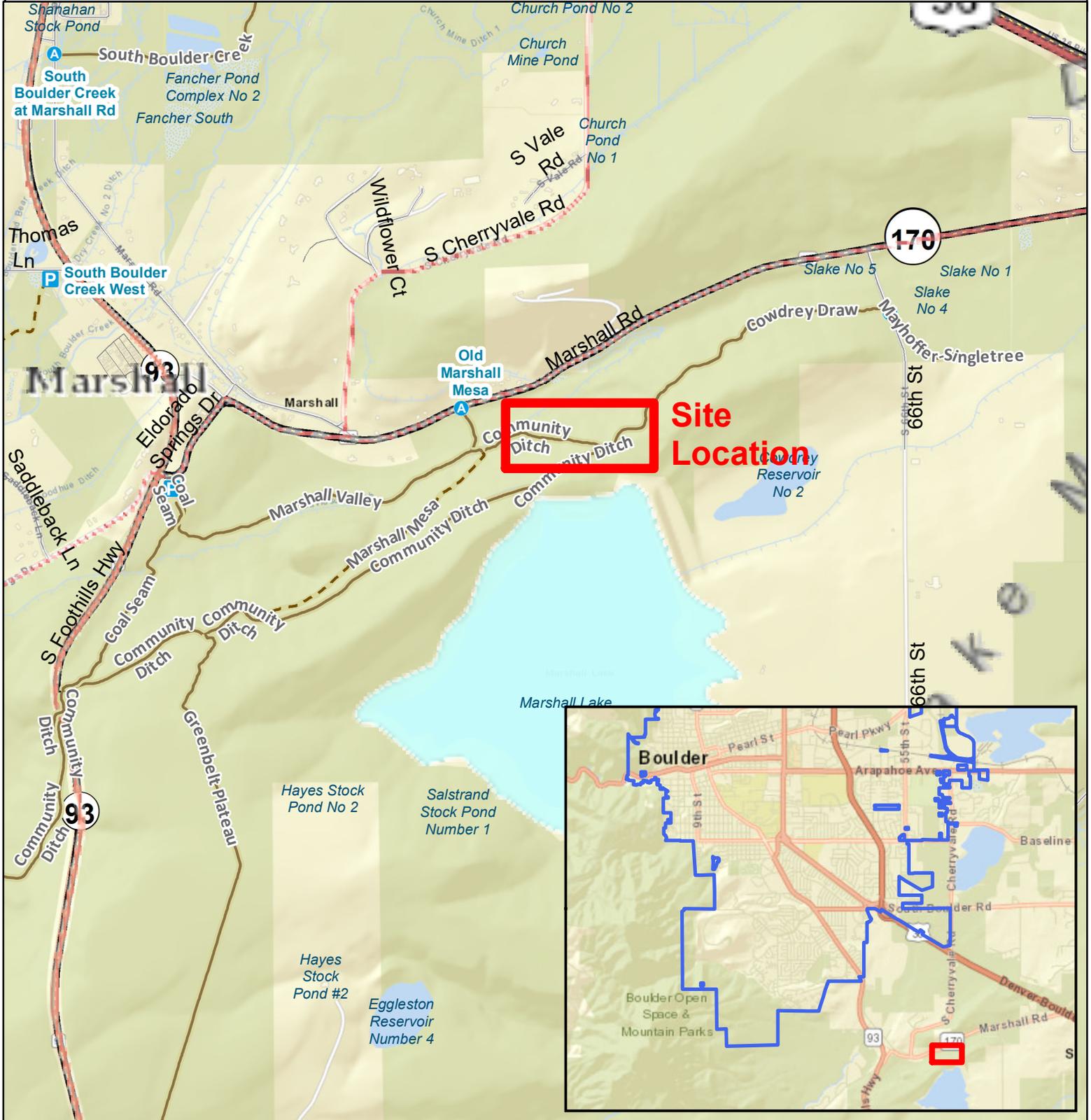
9.0 State and Federal clearances

The wetland associated with the project is not jurisdictional to the Navigable Waters Protection Rule. As such, clearance from or coordination with the Army Corps of Engineers isn't required.

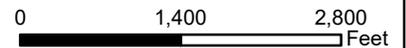
The northern portion of the proposed reroute is within Colorado Parks and Wildlife mapped occupied range for the federally threatened Preble's meadow jumping mouse. However, no shrub removal within mapped occupied range will be necessary. Further, OSMP will follow USFWS recommended conservation measures for Preble's during construction and restoration. The project area does not provide potential habitat for any other federally-listed species. No coordination with U.S. Fish and Wildlife Service is necessary.

Community Ditch Reroute

Figure 1. Location Map



- Hiking Trail
- Multi-Use Trail
- Climbing or Gliding Access
- Boulder City Limits
- OSMP Trailhead with Designated Parking
- Access Point



Community Ditch Reroute

Figure 2: Project Area



— Existing Trail to Reroute
— Proposed Reroute

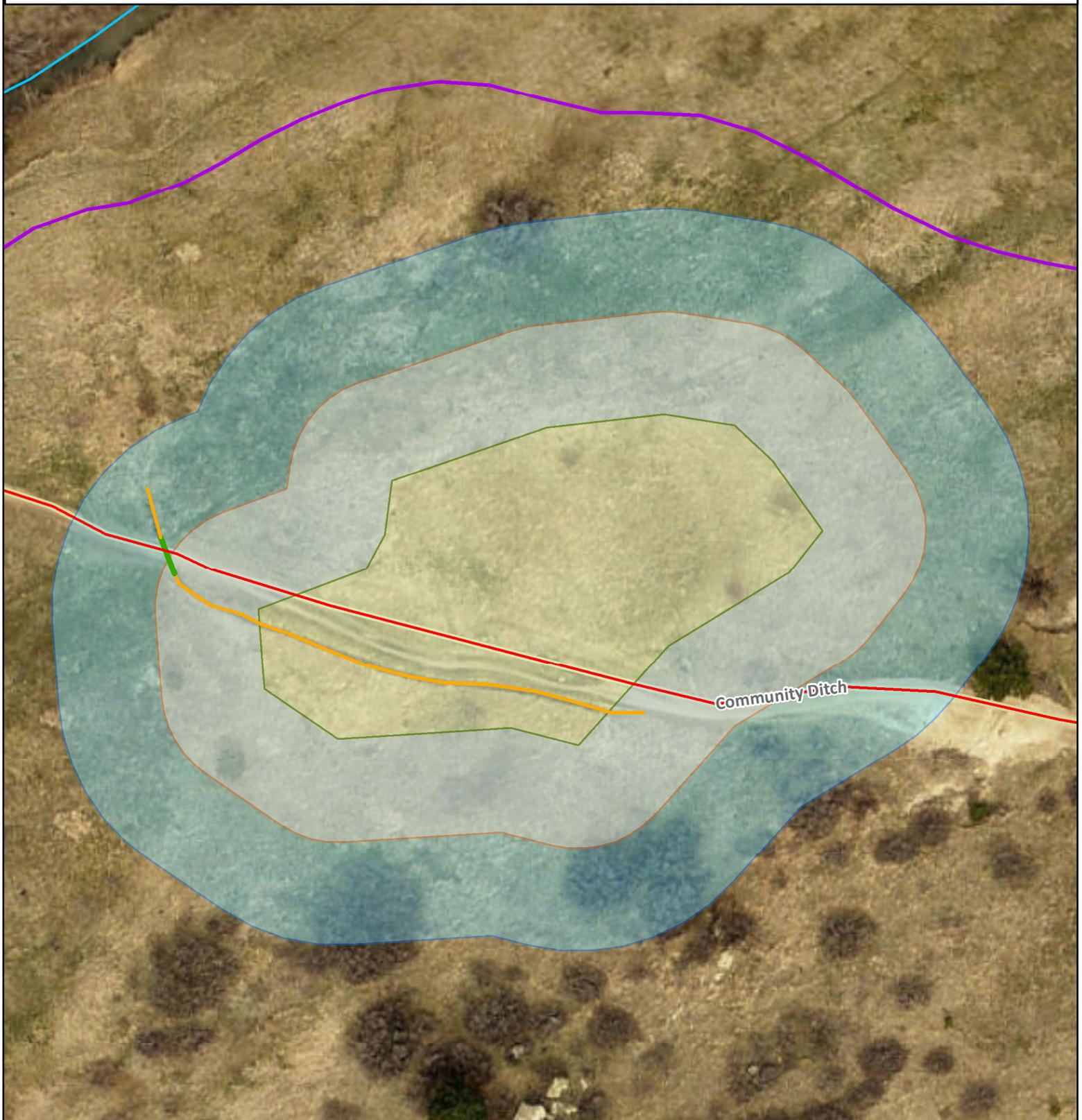
Herbaceous Wetland
Inner 25ft Regulated Buffer
Outer 50ft Regulated Buffer

--- Intermittent Stream
— Main Ditch

0 150 300 Feet

Community Ditch Reroute

Figure 3: Regulated Areas



Existing Trail to Reroute

Proposed Reroute

Herbaceous Wetland

Inner 25ft Regulated Buffer

Outer 50ft Regulated Buffer

Main Ditch

Culvert

Drainage Swale

