

# Appendix E

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## Appendix E: Scheduling and Estimated Costs for North TSA Projects

### Plan Implementation Costs

The current total estimated cost of implementing the draft plan, not including the personnel expenses of standard employees, is \$4.3 million. Costs are estimated and may be subject to change as additional evaluation and planning occurs for project implementation.

OSMP would also look for additional opportunities to fund projects in the Draft Plan, including grants and partnerships. Some projects may also be suitable for completion by or with the assistance of volunteers.

### Project Phasing

Project scheduling will be subject to change based on the integration of North TSA projects into future departmental budgeting and work planning.

The draft plan recommendations were ranked by considering the benefits of each strategy based on trail sustainability, visitor experience and environmental benefits. A strategy received a higher ranking if there was greater benefit across all three factors and if that strategy had especially widespread or long-lasting benefit.

Additional factors integrated into project phasing include:

- Project cost, staff capacity or other fiscal constraints.
- Specific timing requirements (i.e. completion of flood related projects for FEMA reimbursement).
- Sequencing (i.e., projects that are necessarily precursors or dependents or that can leverage staff and cost efficiencies through sequencing).
- Prior commitments and projects already planned for completion in upcoming years
- Projects with a high level of community support/anticipation are given greater priority than projects which are otherwise the same.
- The need to coordinate partner agency collaboration.

Smaller scale projects and those that have fewer timing or cost constraints (i.e. management area designations, sign projects, regulatory changes) may be included in annual work plans as opportunity allows and accomplished as a part of ongoing core departmental services and infrastructure maintenance as shown in both **Table 1: Ongoing Projects and Actions to Implement North TSA Plan** and **Table 2: Projects that can be Added as Opportunity, Staffing and Funding Allows to 2016-2022 Timeline**.

Projects that require future planning, feasibility studies and coordination with other City departments, Boulder County and other agencies are included in **Table 3: Projects that are Dependent on Collaboration with Other Departments, Boulder County and External Entities**. Cost estimates are not available for these projects.

The recommended scheduling of remaining North TSA projects is included in **Table 4: Recommended Schedule for North TSA Projects and Actions**.

Table 1: Ongoing Projects and Actions to Implement North TSA Plan

Action #	Plan Ref #	Action	Estimated Cost	Benefit Rank 0-1 = Low 2-3 = Medium 4-6 = High
1	T1	Provide management area designations for properties without designations to guide management actions: Retain the Joder and Cox property designation as a Habitat Conservation Area (HCA) and implement as part of the North Foothills HCA.	\$10,000	Medium
20	T21	Designate undesignated access points that connect with new or existing designated trails.	\$12,600	Medium
23	T24	Remove unnecessary fencing and use wildlife friendly fencing.	\$17,800	Medium
24	T25	Allow natural revegetation or restore all undesignated trails not integrated into designated trail connections.	\$25,500	High
25	T26	Assess and prevent the introduction and spread of priority invasive plants along new trail connections and decommissioned or undesignated trail sections under restoration.	\$91,000	High
26	T27	Create interpretive information and messages about unique, rare and sensitive resources.	\$31,000	Medium
65	B30	Continue to follow the terms of the lease regarding public access to the BVR equestrian arena and concurrently develop options for nearby horse trailer parking and/or seek to provide an equivalent and suitable corral option that will be determined in cooperation with stakeholders that will be vetted and approved in a future public process. The board recommends that staff proactively address any conflict issues resulting from public access in future lease negotiations.	\$20,000	Low
79	NF19	Do not allow off-trail permits within the North Foothills HCA.	Costs combined with HCA designation and implementation	Medium
82	REG	Joder HCA designation and off trail permit implementation	Costs combined with HCA designation and implementation	Low
TOTAL ESTIMATED COST			\$207,900	

Table 2: Projects that can be Added as Opportunity, Staffing and Funding Allows to 2016-2022 Timeline

Action #	Plan Ref #	Action	Estimated Cost	Benefit Rank 0-2 = Low 2-3 = Medium 4-6 = High
34	W10	Create a second, smaller Wonderland Lake backdrop loop trail (Glider Access Trail). Create a more sustainable trail connection to replace the existing glider access trail.	\$95,000	High
66	REG	Lefthand Trail: Dogs Voice and Sight On Corridor	\$500	Low
TOTAL ESTIMATED COST			\$95,500	

Table 3: Projects that are Dependent on Collaboration with Other Departments, Boulder County and External Entities

Action #	Plan Ref #	Action	Estimated Cost	Benefit Rank 0-3 = Low 2-3 = Medium 4-6 = High
10	T10	Collaborate with partner agencies to create regional connections in a way that minimizes natural resource impacts. North TSA to Boulder County Parks and Open Space's Heil Valley Ranch. The North TSA Plan does not preclude future planning processes to assess and recommend a regional connector trail connection to Heil Ranch on the Buckingham property.	Unknown	Medium
11	T11	Regional Connections: North TSA to Boulder County Parks and Open Space's Lagerman/Imel/AHI Open Space Complex.	Unknown	Medium
12	T12	Regional Connections: A Boulder-to-Lyons trail connection including the efforts of the Rocky Mountain Greenway Project	Unknown	Medium
13	T13	Regional Connections: IBM Connector Trail underpass and trail (construction pending)	Boulder County Project	Low
14	T14	Regional Connections: Fourmile Canyon Creek Trail underpass to Cottonwood Trail (construction pending)	Boulder County Project	Low
15	T15	Regional Connections: Eagle Trail to the planned Boulder Reservoir Trail	Unknown	Medium
17	T17	Local Connections: Joder Ranch and Boulder County's Six-Mile Fold. Boulder County will conduct its own planning process to determine access and management of visitors onto Six-Mile Fold. OSMP will coordinate with the county's planning efforts to determine if and where trails could be located in this area.	Unknown	Low
18	T18	Local Connections: City of Boulder's Area III park site to the North TSA	Unknown	Low
19	T20	Local Connections: Fourmile Canyon Creek Greenway path to Foothills Community Park	City of Boulder Greenways Project	Low
27	W1	Collaborate with City of Boulder Parks and Recreation Department to support designed nature play experiences on their property and support appropriate passive recreation aspects of this type of experience on adjacent OSMP land.	Core Service	Low
29	W4	Improve safety at Broadway crossing between Sumac Avenue, RTD bus stop and the Foothills Nature Center.	Core Service	Medium

Table 4: Recommended Schedule for North TSA Projects and Actions

Action #	Plan Ref #	Action	2016	2017	2018	2019	2020	2021	2022	2023 and Later	Benefit Rank 0-1 = Low 2-3 = Medium 4-6 = High
2	T2	Management Area Designation: Designate Dagle II as a Natural Area.	Core Service								Low
3	T3	Management Area Designation: Designate Dakota Ridge Village property as a Passive Recreation Area.	Core Service								Low
4	T4	Management Area Designation: Designate Berman Brothers property as an Agricultural Area.	Core Service								Low
5	T5	Management Area Designation: Designate Stratton as a Natural Area.	Core Service								Low
6	T6	Management Area Designation: Designate Lappin as a Natural Area.	Core Service								Low
7	T7	Management Area Designation: Designate IBM open space easement as a Natural Area. Limit public access to on trail travel on IBM open space easement property.	Core Service								Low
8	T8	Management Area Designation: Designate Hart-Jones Exchange as a Natural Area.	Core Service								Low
9	T9	Management Area Designation: Designate Palo Park as a Natural Area.	Core Service								Low
16	T16	As opportunities arise, collaborate with partner agencies to create local trail connections in a way that minimizes natural resource impacts. Joder Trail to Buckingham Park via Olde Stage Road (in progress)	\$8,500 Underway								Medium
30	W5	Revegetate the flood damaged northern loop section of Old Kiln Trail.	\$3,640 Underway								Medium
56	B21	Provide a sustainable connection with Sage Trailhead by replacing undesignated trails through shale barrens and rare plant habitat with one new designated trail with educational signs for pedestrians and equestrians north of Mesa Reservoir.	\$140,000 Design	Build							High
80	NF20	After City Council approval of the North TSA Plan, staff will return to the OSBT with monitoring recommendations for the North Foothills HCA, the North Sky Trail and the Joder property.	Core Service								Low
84	NP4	Prohibit public access on Waldorf, Ryan, Andrea, Jacob, Bison, Oasis, Steele, Bennett, Stratton, Brewbaker, Berman Brothers, Dodd and Abbott properties.	\$3,000								Medium
85	NP5	Allow public access on Deluca, Hester and Campbell properties with seasonal closure (May 1-July 31) for ground nesting bobolinks.	\$1,000								Medium
86	NP6	Allow public access on Johnson, Bruning, and Schooley properties.	\$1,000								Low
21	T22	Bring all trails up to standards. (South Foothills Trail)		\$100,000							Medium
28	W3	Construct a shade structure near Wonderland Lake Trailhead.		\$25,000							Low
35	W11	Improve Americans with Disabilities (ADA) access on Wonderland Lake Trail.		\$9,000							Medium
45	B10	Provide public access to portions of Lappin, Lousberg, Papini and B.L.I.P. properties while protecting sensitive natural resources. Protect aquatic and wetland resources in and around ponds on these properties by prohibiting public access to the ponds.		\$9,000							Medium
52	B17	Bring Foothills Trailhead up to standards.		\$12,500							Medium
61	B26	Improve Americans with Disabilities Act (ADA) access on Eagle and Sage trails.		\$130,000							Medium
67	NF7	Close Cottonwood Recreation Area.		\$800							Low
69	NF9	Construct one loop trail on the northwest section of the Joder property. (Mahogany Loop)		\$131,000 Design	Build	Build					Medium
70	NF10	Construct a new trailhead for passenger vehicle parking on the Dagle/Wright properties. (Coyote Trailhead)		\$137,000 Initial Design	Final Design and Permits	Build					Medium
72	NF12	Retain Interim Joder Trailhead. (Joder Ranch Trailhead)		\$7,000 Initial Design	Final Design	Build					Low

Action #	Plan Ref #	Action	2016	2017	2018	2019	2020	2021	2022	2023 and Later	Benefit Rank 0-1 = Low 2-3 = Medium 4-6 = High
73	NF13	Construct a north-south connector trail from Foothills Trail to the Joder Ranch Trail west of US 36 (North Sky Trail). Construct a trail from the southern section of the Railroad Grade, west of Foothills Business Park, connecting to the Joder Ranch Trail. Use best efforts to locate connector trail through the conservation easement.		\$805,000 Initial Design	Final Design and permitting	Build	Build	Build			Medium
76	NF16	Re-route Hogback Trail.		Initial Design				\$146,000 Final Design, Permits	Build		High
77	NF17	Re-route Foothills Trail where it connects to Hogback Trail and eastward to US 36.		Initial Design				\$113,000 Final Design, Permits	Build		High
85	NP5	Allow public access on Deluca, Hester and Campbell properties with seasonal closure (May 1-July 31) for ground nesting bobolinks.		\$1,000							Medium
36	W12	Prohibit boats and belly boats on Wonderland Lake.			\$500						Low
37	W13	Prohibit ice skating on Wonderland Lake.			\$500						Low
38	W14	Allow sledding on Wonderland Lake dam.			\$500						Low
39	W15	Do not provide access to Wonderland Lake's south, west and north shores.			\$3,500						Low
40	W16	Provide access to the cattail marsh on north side of peninsula.			\$8,000						Medium
41	W17	Establish hardened pullout areas on the peninsula for educational programming and a hardened wading access. Provide increased beach access on the western edge of the peninsula.			\$14,000						Medium
42	W18	Allow Wonderland Lake wading access from designated areas on the peninsula.			\$700						Low
43	W19	Create Wonderland Lake fishing pier.			\$45,000						Low
60	B25	Bring Sage (BVR) Trailhead up to standards. Improve restroom facilities.			\$71,500 Amenity Updates	Design and build outhouse					High
68	NF8	Realign western section of the Interim Joder Trail near the Buckingham Property. (Joder Ranch Trail)			\$14,000 Design	Build					Low
53	B18	Add a new trailhead at the Degge Trail access point (Horseshoe Trailhead). Provide additional parking capacity and horse trailer parking.				\$97,500 Design	Build				Medium
54	B19	Create trail connection between Foothills and Degge trails, re-route Degge Trail. Provide a trail connection from Foothills Trail to re-routed west end of Degge Trail.				\$35,000 Design	Build				Medium
55	B20	Replace existing trails north of Mesa Reservoir with new trail connections. Replace Old Mill and Cobalt trails with a single new trail connection and replace western section of Eagle Trail and steep, downhill eastern portion section of Eagle Trail with new re-routed connections.				\$156,000 Initial Design	Final Design and Permits	Build	Build		High
57	B22	Provide nature-viewing access at Mesa Reservoir.				\$2,500 Initial Design	Final Design and Permits	Build	Build		Low
58	B23	Replace southern sections of Mesa Reservoir Trail and the Hidden Valley Trail with a new single trail connection.				\$176,000 Initial Design	Final Design and Permits	Build	Build		High
62	B27	Designate and slightly re-route in some locations one parallel single track tread adjacent to the Eagle and Sage loop at BVR.				\$35,000 Initial Design	Final Design and Permits	Build	Build		Medium
71	NF11	Construct a connector trail from the new trailhead (Coyote Trailhead) on the Dagle property to the Joder Ranch Trail.				Complete with new Coyote Trailhead					Low

Action #	Plan Ref #	Action	2016	2017	2018	2019	2020	2021	2022	2023 and Later	Benefit Rank 0-1 = Low 2-3 = Medium 4-6 = High
78	NF18	Do not allow off-trail permits for the area inside the Joder loop trail for two years following the trail's construction. (Mahogany Loop)				\$3,000					Low
83	REG	Mahogany Loop: Dogs Prohibited				\$1,000					Low
51	B16	Bring Eagle Trailhead up to standards.					\$57,000 Design	Build			High
32	W8	Create Wonderland Lake backdrop loop trail connection by re-routing trails (Antler Loop). Re-route existing designated and undesignated trails to provide more sustainable connections to the paragliding launch sites and visitors seeking a trail experience on the Wonderland hogback.						Initial Design	Final Design and Permits	\$131,000 Build	High
47	B12	Bring Lefthand Trailhead up to standards.						\$56,500 Design	Build		Medium
74	NF14	Include the North Sky Trail in the muddy closure program.						Core Service			Medium
75	NF15	Post educational signs about the North Foothills HCA. Include information about the area's important natural resources as well as safety concerns such as rattlesnakes.						\$20,500			Low
81	REG	N/A North Sky Trail: Dogs Leash Required (August 1 – April 30) and Seasonal Prohibited (May 1 – July 31)						\$1,000			Low
46	B11	Designate access point for where Lefthand Trail connects to Neva Road.							\$300		Low
59	B24	Pave Longhorn Road.							\$ 700,000		Medium
22	T23	Bring all trailheads and access points up to standards.								\$128,000	Medium
31	W6	Rename Four Mile Creek Trailhead as Fourmile Canyon Creek Trailhead.								\$10,100	Low
33	W9	Re-route portion of Wonderland Lake Trail. Re-route the steep downhill section of trail just north of where it connects into Foothills South Trail.								\$10,000	Medium
44	REG	Wonderland Loop (Antler Loop): Voice and Sight On Corridor								\$2,000	Low
48	B13	Improve Lefthand Trail.								\$145,000	High
49	B14	Designate a connector trail from Lefthand Trail to the Lake Valley Estates neighborhood.								\$300	Medium
50	B15	Create a connection via the Boulder Reservoir to Niwot Road (Talon Trail). Create a regional trail connection that minimizes natural resource impacts. Work with partner agencies to determine the most feasible trail alignment with a preference for an alignment along 55th Street.								\$200,000	Medium
64	B29	Create a new trail connection on the south side of the Papini property (Wrangler Trail). Provide a trail connection along the south side of Papini property connecting Kelso Road to the Mesa Reservoir trail system.								\$75,000	High
TOTALS			\$157,140	\$1,367,300	\$158,200	\$506,000	\$57,000	\$337,000	\$700,300	\$701,400	