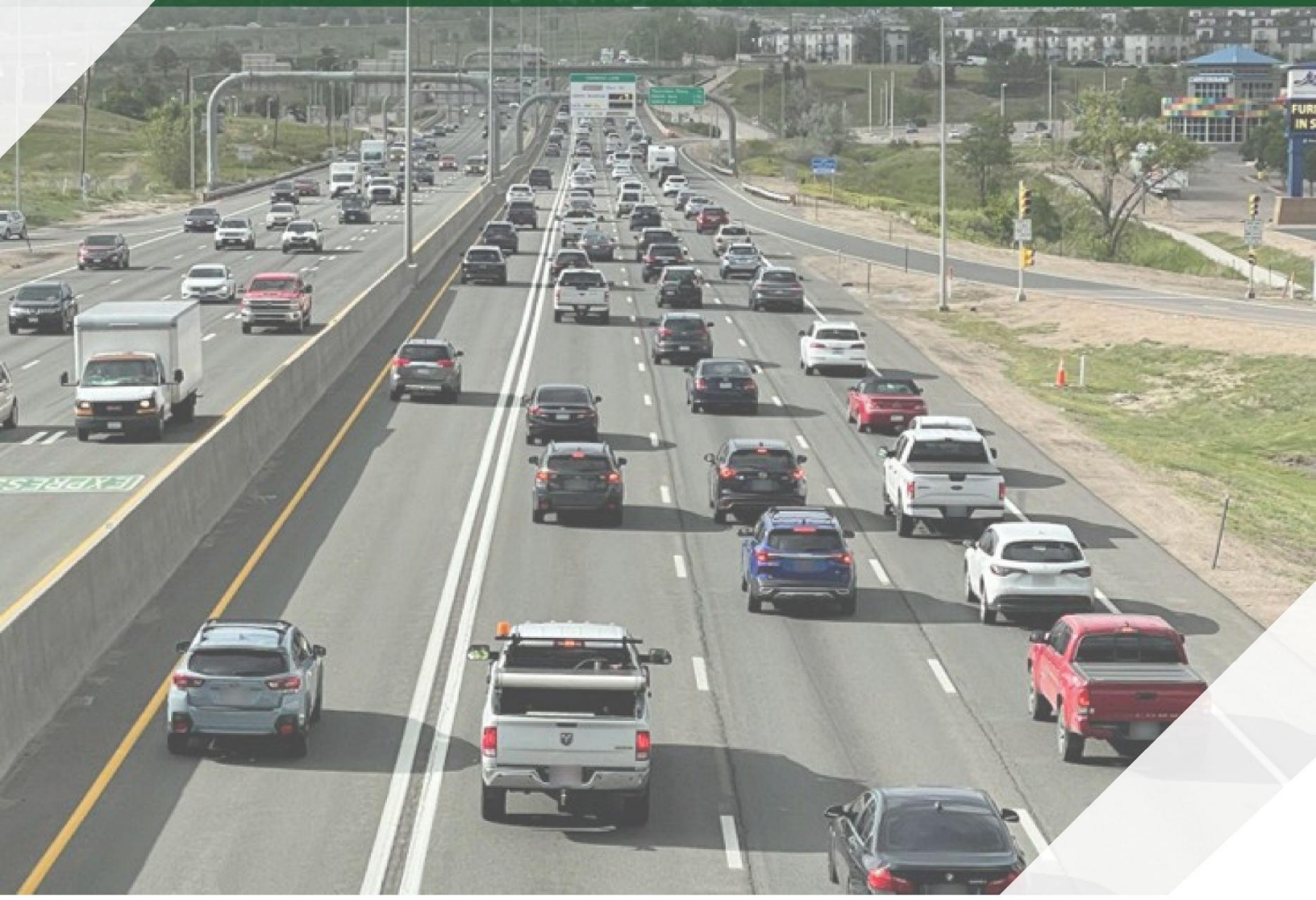
I-25 (US 36 to 104th Avenue)

Safety and Operations Improvements Project



Appendix D3: Biological Resources Technical Report

September 2026

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Appendix D3. Biological Resources Technical Report

September 15, 2026 – Version 10
Project Number: PM 0253-299
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Acronyms and Abbreviations

Acronym or Abbreviation	Full Name
BMP	best management practice
CDA	Colorado Department of Agriculture
CDPHE	Colorado Department of Public Health and Environment
CDOT	Colorado Department of Transportation
COMP	Colorado Mitigation Procedures
CPW	Colorado Parks and Wildlife
CRS	Colorado Revised Statutes
CSQT	Colorado Stream Quantification Tool
CVCP	Colorado Vegetation Classification Project
CWA	Clean Water Act
CWMA	Colorado Weed Management Association
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESA	Endangered Species Act
EO	Executive Order
FACWet	Functional Assessment of Colorado Wetlands
FHWA	Federal Highway Administration
I-25	Interstate 25
GIS	Geographic Information Systems
IPaC	Information, Planning and Conservation
MBTA	Migratory Bird Treaty Act
NEPA	National Environmental Policy Act
NHD	National Hydrography Dataset
NLCD	National Land Cover Database
NWI	National Wetland Inventory
NWP	Nationwide Permit
OHWM	Ordinary High Water Mark
OTIS	Online Transportation Information System
PEM	palustrine emergent
PSS	palustrine scrub-shrub
SB	Senate Bill
SPWRAP	South Platte Water Related Activities Program
SWIFT	Statewide Findings Impact Table
SWMP	Stormwater Management Plan
US 36	United States Highway 36
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WUS	Waters of the United States

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1.0 Introduction and Background

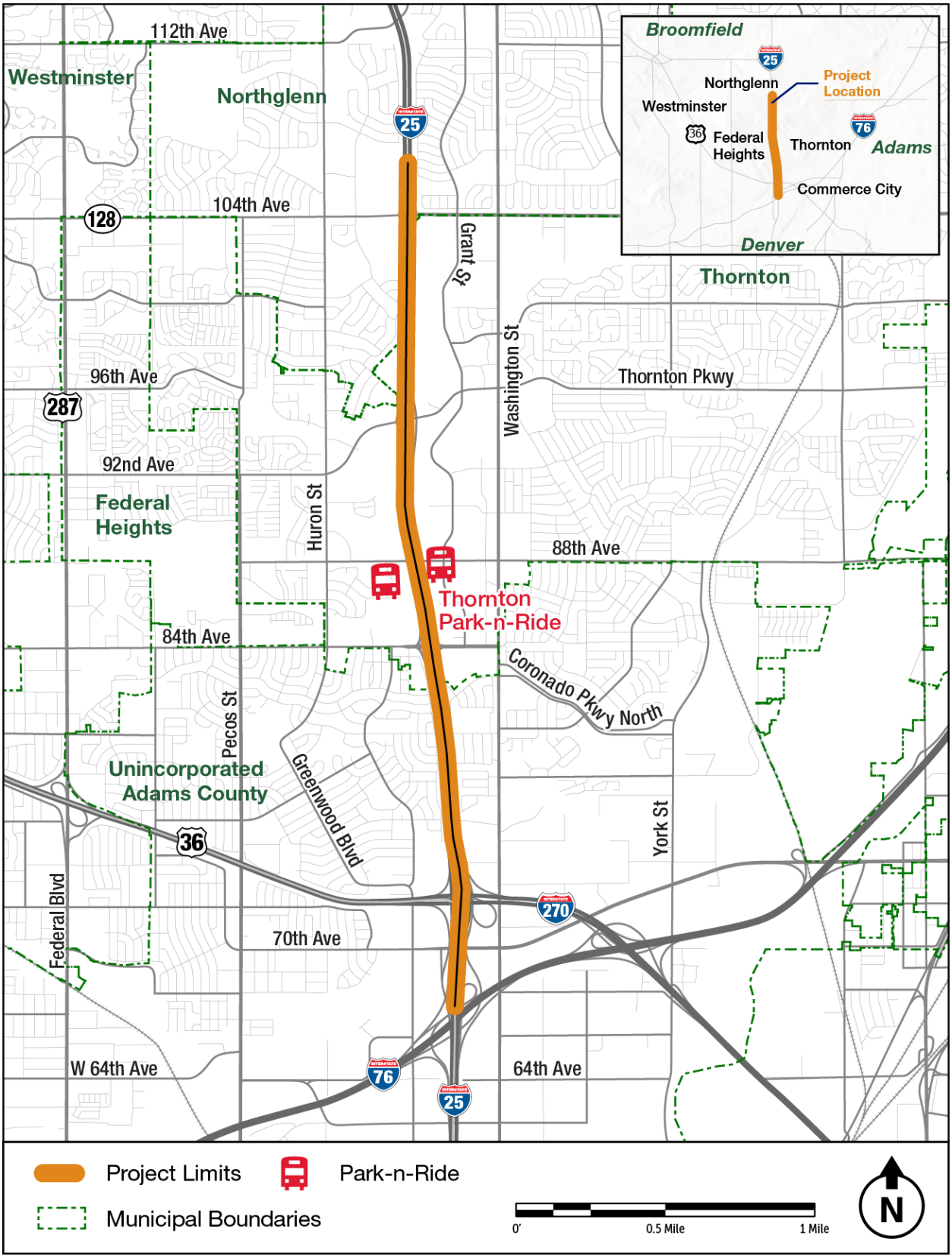
The Colorado Department of Transportation (CDOT) and the Federal Highway Administration (FHWA) are proposing transportation and safety improvements to Interstate 25 (I-25) between United States Highway 36 (US 36)/I-76/I-270 interchange and 104th Avenue (**Figure 1**). This Biological Resources Technical Report was prepared to support evaluation of the I-25 from US 36 to 104th Avenue Safety and Operations Improvements project (the project).

CDOT has previously completed an Environmental Impact Statement (EIS) and other planning efforts that recommended improvements to this segment of I-25. The current project evaluates proposed transportation improvements that reflect and build upon previous recommendations. Because the current project includes elements that were not evaluated and approved in the **North I-25 Record of Decision 1** (FHWA & CDOT, 2011), this project is undergoing new evaluation under the National Environmental Policy Act (NEPA).

The following project details can be found in **Attachment A**:

- Project History
- Project Limits
- Purpose and Need
- Proposed Action Description

Figure 1. Project Limits



2.0 Regulatory Setting

NEPA requires projects with federal oversight or projects pursuing federal funding assistance to evaluate the environmental consequences of proposed actions. Other federal regulations and state statutes also require coordination with federal and state agencies to identify impacts on other sensitive biological resources, including the following:

- The Clean Water Act (CWA) of 1972, which protects wetlands, open waters, and other Waters of the United States (WUS).
- Federal Executive Order (EO) 11990—Protection of Wetlands, which directs lead federal agencies, in this instance FHWA, to protect wetlands by avoiding direct or indirect support of construction in wetlands when a practicable alternative is available.
- The Fish and Wildlife Coordination Act of 1934, as amended.
- The Endangered Species Act (ESA) of 1973, which protects threatened and endangered species and their habitat.
- The Migratory Bird Treaty (MBTA) of 1918, which protects most birds found in Colorado and their active nests.
- EO 13186—Protection of Migratory Birds, which directs executive departments and agencies to take certain actions to further implement the MBTA.
- The Federal Noxious Weed Act of 1974, which established a program to control the spread of noxious weeds.
- EO 13112—Invasive species, which prevents the introduction of invasive species, provides for their control, and minimizes the economic, ecological, and human health impacts caused by invasive species.
- Colorado Department of Agriculture (CDA), Plant Industry Division, Colorado Noxious Weed Act, 35-5.5-101 to 119, Colorado Revised Statutes (CRS), including species on the Colorado Noxious Weed List.
- Nongame, Endangered, or Threatened Species Conservation Act (Colorado State Statute Title 33, Article 2).
- Shortgrass Prairie Initiative—Multi-agency agreement to assess transportation project impacts on sensitive species of Colorado's eastern plains.
- CDOT 2009 Impacted Black-tailed Prairie Dog Policy.
- Colorado Senate Bill (SB) 40 Wildlife Certification for Impacts on streams, stream banks, or stream tributaries (CDOT & CPW, 2013).
- CDOT's NEPA Manual (CDOT, 2024a).
- Colorado Regulation 87, Implementation of House Bill 24-1379, Discharges of Dredge and Fill into State Waters.

3.0 Methodology

In this report, biological resources refer to vegetation, noxious weeds, general terrestrial wildlife and avian species, federally listed threatened and endangered species, Colorado special status species, and aquatic resources.

3.1 Data Collection

The information in this report incorporates resource information from publicly available information, previous studies, and field surveys. Information was compiled from the following sources:

- United States Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI; USFWS, 2024)
- United States Geological Survey (USGS) National Hydrography Dataset (NHD; USGS, 2024)
- United States Environmental Protection Agency (EPA) Eco-Regions (EPA, 2024)
- Colorado Vegetation Classification Project (CVCP; CPW, 2007)
- CDOT Online Transportation Information System (OTIS; CDOT, 2017)
- USFWS Information, Planning, and Conservation (USFWS, 2024)
- Colorado Parks and Wildlife (CPW, 2017)
- National Land Cover Database (NLCD, 2021)
- Colorado Statewide Findings Impact Table (SWIFT), a CDOT screening tool to identify impacts from specific project activities and locations (CDOT, 2024b)

In addition to publicly available data, other information was compiled from the following previous studies:

- CDOT Wildlife Technical Report for I-25—Adams, Boulder, Broomfield, Denver, Larimer, and Weld Counties (CDOT, 2008)
- CDOT Final Programmatic Biological Assessment for North I-25 Adams, Boulder, Broomfield, Denver, Larimer and Weld Counties, Colorado (CDOT, 2011a)
- CDOT Wildlife Technical Report Addendum for North I-25—Adams, Boulder, Broomfield, Denver, Larimer and Weld Counties, Colorado (CDOT, 2011b)
- CDOT & FHWA I-25/84th Avenue Bridge Reconstruction Project—Ecological Assessment (CDOT & FHWA, 2010)
- CDOT & FHWA North I-25 Final EIS (CDOT & FHWA, 2011)
- CDOT & FHWA North I-25, US 36 to SH 7 Planning and Environmental Linkages Study—Corridor Conditions Report (CDOT & FHWA, 2014)
- FHWA & CDOT North I-25 Record of Decision 1 (FHWA & CDOT, 2011)

In 2017 and 2018, field surveys were performed to evaluate and reassess resources in the project area that were previously documented during the 2010-era studies listed above, and to collect information on any new resources. The area covered by these previous evaluations

largely overlaps the current project area. Though slightly larger, the current project area, shown as the limits of disturbed area in **Figure 2**, is not expected to encompass sufficiently different habitats and resources than previously studied. Therefore, the previous work serves to describe existing conditions, updated where appropriate to reflect current resources and management direction.

Pedestrian surveys for aquatic resources and other incidental biological observations were completed in summer 2024. The 462-acre survey area is shown in **Figure 2**. The species identified during those surveys are not considered a comprehensive list of potentially present species, but rather additional information supplemental to the other data sets referenced in Methodology.

3.2 Analysis Approach

The analysis of impacts considers how the No Action and Proposed Action alternatives would permanently impact land cover types (habitats) through Geographic Information Systems (GIS) analysis and coordination with design staff. This includes impacts to general wildlife species, as well as migratory birds, noxious weeds, Colorado special status species, and federally listed threatened and endangered species. The SWIFT and the Information for Planning and Consultation (IPaC) were used to analyze impacts to federal ESA-listed species. Permanent impacts to waters of the U.S. (WUS) were calculated by overlaying the proposed project footprint with aquatic features. Permanent and temporary impacts to riparian vegetation (regulated under Senate Bill 40 [SB 40]) were estimated by overlaying the proposed project footprint with mapped drainages.

4.0 Existing Conditions

4.1 Land Cover and Habitats

A majority of the land area is developed, with minimal areas of open space or landscaped parks. The exception is the Niver Creek Open Space, west of I-25 and North of 88th Avenue. Most of the urban development consists of residential and commercial zoning and transportation infrastructure.

The project area is located in the Flat to Rolling Plains sub-ecoregion within the High Plains Ecoregion. The High Plains Ecoregion consists of dry grassland across smooth or slightly irregular plains with a high percentage of cropland. The Flat to Rolling Hills sub-ecoregion physiography is characterized by intermittent streams, with a few large perennial streams, silty and sandy substrates, and small, open, depressional wetlands scattered throughout the region. The natural vegetation tends to include shortgrass prairies and riparian areas, as well as dryland and irrigated cropland with some grassland and rangeland (Chapman et al., 2006). Urbanization has converted or disturbed most of these habitats within and surrounding the project area.

Attachment B presents the distribution of landcover types, and **Table 1** presents their acreage (NLCD, 2021). Field observations confirmed the low presence of natural habitats.

Table 1. Land Cover Types

Land Cover Type	Description of Land Cover Type	Acreage	% of total
Developed, Varied Intensity	Includes areas with a mixture of constructed materials and vegetation, with potential for people to reside in high numbers. Intensity can vary in degree (low, medium, or high) with impervious surfaces fluctuating between 20-80% of total land cover.	180.7	89.9
Developed, Open Space	Includes areas with a mixture of some constructed materials, but mostly vegetation in the form of lawn grasses. Impervious surfaces account for less than 20% of total land cover.	9.6	4.8
Shrub/Scrub	Areas dominated by shrubs less than 5 meters tall with shrub canopy typically greater than 20% of total vegetation. This includes true shrubs, young trees in an early successional stage, or trees stunted by environmental conditions.	4.8	2.4
Grassland/Herbaceous	Areas dominated by graminoid or herbaceous vegetation, generally greater than 80% of total vegetation.	3.2	1.6
Woody Wetlands	Areas where forest or shrub land vegetation accounts for greater than 20% of vegetative cover or the soil or substrate.	1.3	0.6
Cultivated Crops	Areas used for the production of annual crops; crop vegetation accounts for greater than 20% of total vegetation.	0.1	0.1
Open Water	All areas of open water, generally with less than 25% cover, vegetation or soil.	0.3	0.1

Land Cover Type	Description of Land Cover Type	Acreage	% of total
Emergent Herbaceous Wetlands	Areas where perennial herbaceous vegetation accounts for greater than 80% of vegetative cover and the soil or substrate is periodically saturated with or covered in water.	0.6	0.3
Pasture/Hay	Areas of grasses, legumes, or a mixture planted for livestock grazing or the production of seed or hay crops, typically on a perennial cycle. Pasture/hay accounts for greater than 20% of total vegetation.	0.4	0.2
Total		**200.9** [1, 2]	**100.0**

4.2 Common Wildlife and Wildlife Corridors

Based on the habitats present in the project area, several species of mammals, birds, reptiles, and amphibians have the potential to occur. It is important to note that the large majority (92 percent) of the project area is categorized as low, medium, or high intensity developed area that limits the amount of suitable habitat available to many of the species mentioned in **Table 2**.

The species presented in **Table 2** are likely to occur based on the presence of suitable habitat, were observed during field visits, or were identified in the previous studies listed in **Section 3.0**. This list should not be considered comprehensive, nor should these species be considered definitively present.

Table 2. Potentially Present Common Wildlife Species

Habitat Type	Wildlife Species
Urban and Developed Areas	Red fox, raccoon, striped skunk, big brown bat, fox squirrel, deer mouse, house mouse, House Sparrow, European Starling, Common Grackle, House Finch, Mourning Dove, Rock Dove, Canada Goose, American Robin, and Barn Swallow
Streams, Riparian, and Wetland	Mule deer, white-tailed deer, coyote, red fox, raccoon, striped skunk, eastern cottontail, big brown bat, meadow vole, prairie vole, deer mouse, house mouse, Red-tailed Hawk, Cooper's Hawk, Swainson's Hawk, Northern Harrier, Great Horned Owl, American Kestrel, Great Blue Heron, Red-Winged Blackbird, Song Sparrow, Common Yellowthroat, Common Snipe, Northern Oriole, American Goldfinch, Yellow Warbler, Canada Goose, plains garter snake, western-painted turtle, bullfrog, western chorus frog, Woodhouse's toad, and tiger salamander
Grassland and Open Space	Mule deer, coyote, striped skunk, red fox, white-tailed jackrabbit, eastern cottontail, Black-tailed Prairie dog, deer mouse, meadow vole, prairie vole, house mouse, Rough-legged Hawk, Red-Tailed Hawk, Swainson's Hawk, Northern Harrier, Great Horned Owl, American Kestrel, Vesper Sparrow, Western Meadowlark, House Sparrow, European Starling, Common Grackle, Mourning Dove, Canada Goose, Killdeer, Black-Billed Magpie, and bull snake

[1] Project area total is approximately 315.2 acres. The difference here represents existing pavement and surveyed wetlands and other waters, approximately 114.3 acres. The complete acreage of all sidewalks, parking lots, and other interstates besides I-25 are not included in the existing pavement layer; they are accounted for in the Developed, Varied Intensity NLCD layer.
[2] Due to rounding individual values to the tenths place, the visible figures sum to 201.0 acres, while the true sum of the unrounded data yields the mathematically accurate total of 200.9 acres.

No designated wildlife corridors are present, nor would substantial wildlife migration be expected in such a developed area. It is likely that wildlife moves along the Niver Creek drainage as it provides cover and regular water. Niver Creek crosses beneath the highway via a culvert, inaccessible to wildlife.

Though no large-scale wildlife movements are expected, wildlife does move through the project area. Quantifying the extent of wildlife movements and which specific species are present is difficult; however, vehicle collision data can provide some insight. Information from CDOT and CPW wildlife vehicle collision records from 2017 to 2023 were reviewed. Ten wildlife-vehicle collisions were reported including four deer, four raccoons, and two unknowns (CDOT, 2023). The minimal amount of wildlife-vehicle collisions (less than two collisions reported per year) provides further evidence that wildlife is not common around the project area, likely due to a lack of suitable habitat and that wildlife are not using the highway as a corridor.

4.3 Senate Bill 40 Compliance

Colorado SB 40 is a regulatory vehicle requiring CDOT to obtain a Wildlife Certification from CPW when any stream or its bank or tributaries are affected due to a state action. The level of SB 40 Wildlife Certification required on projects varies from programmatic to formal, depending on specific criteria.

Based on Section III(A) of the Guidelines for SB 40 Wildlife Certification (CPW & CDOT, 2013), several streams meet the jurisdictional criteria: Niver Creek, Niver Creek Tributary L, Niver Creek Tributary M, ephemeral and intermittent tributaries to these features, and any adjacent wetlands. Tree and shrub removal along these streams will require SB 40 certification. No irrigation canals in the project area are mapped or listed as a fishery by CPW, and they are therefore not SB 40-jurisdictional. Roadside drainage ditches are not SB 40-jurisdictional.

4.4 Migratory Birds

Despite limited suitable habitat within the project area for migratory bird nesting, it is likely that nesting migratory birds are present. Limited nesting habitats are present, primarily along the waterways in the wetland and riparian areas and on bridge structures. Ornamental trees provide opportunity for species accustomed to disturbance. Though not observed, cliff swallows (*Petrochelidon pyrrhonota*) may nest under bridges or other structures near water.

Table 3 presents birds potentially present in or within 0.5 mile of the project area. CPW raptor nest data records only one nest within one mile of the project area. A red-tailed hawk was located along I-25 southbound at the Thornton Parkway exit. It was last active in 2016, and data has not been updated since (Hamous, 2024).

Table 3. Potentially Present Migratory Birds

Common Name	Scientific Name
American Kestrel	*Falco sparverius*
American Robin	*Turdus migratorius*
Bald Eagle	*Haliaeetus leucocephalus*
Barn Swallow	*Hirundo rustica*
Black-billed Magpie	*Pica hudsonia*
Broad-tailed Hummingbird	*Selasphorus platycercus*
Burrowing Owl	*Athene cunicularia*
Canada Goose	*Branta canadensis*
Chimney Swift	*Chaetura pelagica*
Clark's Grebe	*Aechmophorus clarkia*
Cliff Swallow	*Petrochelidon pyrrhonota*
Common Grackle	*Quiscalus quiscula*
Cooper's Hawk	*Accipiter cooperii*
Eurasian Collared-Dove	*Streptopelia decaocto*
Ferruginous Hawk	*Buteo regalis*
Golden Eagle	*Aquila chrysaetos*
Grasshopper Sparrow	*Ammodramus savannarum*
Great-Horned Owl	*Bubo virginianus*
Horned Lark	*Eremophila alpestris*
House Finch	*Carpodacus mexicanus*
Killdeer	*Charadrius vociferous*
Lesser Yellowlegs	*Tringa flavipes*
Long-billed Curlew	*Numenius americanus*
Long-eared Owl	*Asio otus*
Mourning Dove	*Zenaida macroura*
Northern Harrier	*Circus hudsonius*
Pectoral Sandpiper	*Calidris melanotos*
Red-headed Woodpecker	*Melanerpes erythrocephalus*
Red-tailed Hawk	*Buteo jamaicensis*
Rough-legged Hawk	*Buteo lagopus*
Swainson's Hawk	*Buteo swainsoni*
Vesper Sparrow	*Pooecetes gramineus*
Western Meadowlark	*Sturnella neglecta*
Whimbrel	*Numenius phaeopus hudsonicus*

4.5 Special Status Species

Special status species are considered those listed by the USFWS as protected under the ESA, or as Threatened, Endangered, or Special Concern by Colorado. IPaC is maintained by the USFWS, and contains information on federally listed species, their designated critical habitats, and other managed resources like migratory birds. The IPaC database was queried for ESA-listed species with potential presence or designated habitats within 0.5 mile of the project area (USFWS, 2024). Colorado state-sensitive species lists are maintained by CPW (CPW, 2024).

4.5.1 Federally Listed Species

The IPaC database identified seven federally listed species known to range within the project area (USFWS, 2026), listed in **Table 4**. Based on the available habitats and known distributions, the only federally listed species that may occur within the project area is the monarch butterfly, which is a proposed threatened species and is not formally protected. No

critical habitat has been designated. Additionally, the tricolored bat, a species proposed as endangered and within the species overall range was identified by the SWIFT as a species to consider (CDOT, 2024b). Consultation with the USFWS is advised regarding current listing status and management practices for these species. The remaining federally listed species are excluded from impact analysis because the project area lacks suitable habitat.

Table 4. Federally Listed Species

Common Name	Scientific Name	Status	Potential to Occur
Pallid Sturgeon	*Scaphirhynchus albus*	Endangered	None, no habitat, water depletions may affect downstream habitats
Piping Plover	*Charadrius melodus*	Threatened	None, no habitat, water depletions may affect downstream habitats
Monarch Butterfly	*Danaus plexippus*	Proposed Threatened	Possible, milkweed present
Suckley's Cuckoo Bumble Bee	*Bombus suckleyi*	Proposed Endangered	Unlikely, no observations
Ute Ladies—tresses	*Spiranthes diluvialis*	Threatened	None, no habitat
Tricolored Bat	*Perimyotis subflavus*	Proposed Endangered	Low but possible; bridge structures provide potential day-roosting habitat; structure assessment recommended prior to removal.
Western Prairie Fringed Orchid	*Platanthera praeclara*	Threatened	None, no habitat, water depletions may affect downstream habitats
Whooping Crane	*Grus americana*	Endangered	None, no habitat, water depletions may affect downstream habitats

Pallid Sturgeon—Pallid sturgeon requires turbid water, diverse aquatic habitat types, and flow rates afforded by large free-flowing rivers. These habitats are not present; however, water depletions may affect downstream habitats.

Piping Plover—Piping Plovers occur as migrants, arriving around April 1. Most have passed through by the end of May. They can be found in the eastern part of the state. Nesting habitat in Colorado is on sandy lakeshore beaches, sandbars within riverbeds, or even sandy wetland pastures. An important aspect of this habitat is that of sparse vegetation. There is no suitable habitat present; however, water depletions may affect downstream habitats.

Monarch Butterfly—With its iconic orange and black markings, the monarch butterfly is one of the most recognizable butterfly species in North America and is known for its impressive long-distance migration. Milkweed and flowering plants are needed for monarch habitat. Adult monarchs feed on the nectar of many flowers during breeding and migration, but they can only lay eggs on milkweed plants. Host plants may occur in diverse habitats, from roadsides to wetlands. Milkweed was observed within the project area, and monarch butterfly presence is possible.

FHWA initiated a programmatic, formal consultation on July 18, 2022, regarding the monarch butterfly to determine the impact FHWA/CDOT actions may have on the butterfly. The conference opinion, issued December 28, 2022, concluded that these actions are not expected to jeopardize the monarch butterfly (USFWS, 2022). To proactively minimize any impacts to potential Monarch butterfly habitat, disturbed areas will be reseeded with a mix of native plant species, including two species of flowering forbs and milkweed, where appropriate.

Suckley's Cuckoo Bumble Bee—Parasitic species, usurps nests of similar species; therefore, requires existing host colonies of bumble bees, typically underground nests. Suckley's bumble bee recent observations have greatly diminished from historic abundance and range. Suckley's bumble bee has experienced an overall decline of 77%, losing more than 50% of its range and with relative abundance records at less than 10% of historic observations.

Ute Ladies'-tresses Orchid—Ute ladies'-tresses orchids are found primarily in moist meadows associated with perennial stream terraces, floodplains, and oxbows at elevations between 4,300 and 6,850 feet. Additional vegetation and hydrology types occupied include seasonally flooded river terraces, sub-irrigated or spring-fed abandoned stream channels and valleys, and lakeshores. In addition, 26 populations have been discovered along irrigation canals, berms, levees, irrigated meadows, excavated gravel pits, roadside barrow pits, reservoirs, and other human-modified wetlands. Over one-third of all known Ute ladies'-tresses populations are found on alluvial banks, point bars, floodplains, or oxbows associated with perennial streams. No suitable habitat is present.

Tricolored Bat—CDOT has documented Tricolored Bat day-roosting in bridges in the Denver metropolitan area, including within Greenwood Village, which is within the species' regional range and not far from the project corridor. Although Tricolored Bat has not been documented in the project area, the 88th Avenue bridge slated for removal represents potential day-roosting habitat. CPW recommends conducting a structure assessment per FHWA guidelines prior to bridge removal to confirm the presence or absence of bat use.

Western Prairie Fringed Orchid—Grows on moist sections of upland and bottomland prairies, often on calcareous substrates or on loess-derived soils. It occurs most often in remnant native prairies and meadows but has also been observed at disturbed sites. No suitable habitat is present.

Whooping Crane—Whooping Cranes live in mudflats around reservoirs and in agricultural areas. While wintering, they live on salt flats dominated by coastal salt grass. Their nesting grounds are wetland communities dominated by bulrush. Whooping Cranes have not been seen in Colorado since 2002, and no suitable habitat is present. However, water depletions may affect downstream habitat.

The four federally listed species sensitive to water depletions (Whooping Crane, Pallid Sturgeon, Piping Plover, and Western Prairie-fringed Orchid) and two state-listed species (Least Tern and Mountain Plover) lack suitable habitat within the project area but may be

impacted from project-related water depletions of downstream habitats. The project would use water for concrete, soil compaction, and dust control, likely sourced from the South Platte River Basin. To address the effects of water depletions, CDOT is a participating agency in the South Platte Water Related Activities Program (SPWRAP). SPWRAP is a non-profit organization of South Platte water users that collaborates with Colorado to evaluate watershed-level consumption. The water quantity needed for the project has not yet been calculated. When determined, a source will be identified, and that source may already be contemplated in the SPWRAP as an existing permitted source. If not, project-related depletions may need to be reviewed through consultation with the USFWS.

4.5.2 State-Listed Special Status Species

The CPW state-listed species with potential to occur within the project area are presented in **Table 5**. Of the state-listed species, most are not expected to occur in the project area because of a lack of suitable habitat or the project is outside of their known range. The SWIFT indicates that seven species may be present: Burrowing Owl, Black-Tailed Prairie Dog, Northern Leopard Frog, Ferruginous Hawk, Mountain Plover, Common Garter Snake, and Bald Eagle. No additional species were added based on field observations of habitats. These species are discussed in the following sections.

Table 5. State-Listed Species

Species	Typical Habitat/Range	State Status	Potential to Occur
Amphibians			
Northern Leopard Frog (*Rana/Lithobates pipiens*)	Wet meadows and the banks and shallows of marshes, ponds, lakes, reservoirs, streams, and irrigation ditches	Special Concern	Possible, habitat along Niver Creek and other water bodies
Birds			
Bald Eagle (*Haliaeetus leucocephalus*)	Near reservoirs and along major rivers	Special Concern	Possible, may use Clear Creek corridor, nesting unlikely
Ferruginous Hawk (*Buteo regalis)*	Open grasslands and sagebrush and other arid shrub country	Special Concern	Possible, may forage over the project area, nesting unlikely
Least Tern (*Sterna antillarum*)	Sandy or pebbly beaches, lakes and reservoirs, sandbars	Endangered	None, no habitat, but water depletions may affect downstream habitats
Mountain Plover (*Charadrius montanus*)	Flat areas with sparse grass near water	Special Concern	None, no habitat, but water depletions may affect downstream habitats
Western Burrowing Owl (*Athene cuniculalria*)	Prairie dog colonies	Threatened	Possible, prairie dog colonies present

Species	Typical Habitat/Range	State Status	Potential to Occur
Mammals			
Black-Tailed Prairie Dog (*Cynomys ludovicianus)*	Grasslands and open spaces	Special Concern	Present, active colonies along highway and medians
Reptiles			
Common Garter Snake (*Thamnophis sirtalis*)	Marshes, ponds, and the edges of streams	Special Concern	Possible, within range, may inhabit wetlands and drainages

Northern Leopard Frog—Northern Leopard Frogs prefer banks and shallow portions of marshes, wet meadows, ponds, lakes, and streams, particularly where rooted aquatic vegetation is present (Hammerson, 1999). Habitat is present at Niver Creek and its tributaries and possibly along persistent wetlands. This species may be present within the project area.

Western Burrowing Owl—Western Burrowing Owls often inhabit prairie dog burrows or artificial burrows such as culverts. They are protected under the MBTA and listed as State Threatened. No individuals or signs of active burrows have been observed in the project area; however, prairie dog colonies are present as available habitat for owls. Protocol surveys should be performed prior to construction to determine the presence or absence of Western Burrowing Owls, in compliance with CPW recommended survey protocol (CPW, 2021).

Bald Eagle—Bald Eagles are seldom seen far from water, such as large rivers, lakes, and seacoasts. In Colorado, they are often found near reservoirs and along major rivers during both the summer and winter. During the breeding season, Bald Eagles defend territories and most frequently can be found nesting in large cottonwood trees. In the winter, Bald Eagles communally roost in large trees for warmth and protection and forage occasionally over prairie dog colonies. This species may hunt over the project area, but nesting is unlikely.

Ferruginous Hawk—Ferruginous Hawks live in open spaces, grasslands, prairie, sagebrush steppe, scrubland, and pinyon-juniper woodland edges. They prefer a diet of rabbits, ground squirrels, gophers, and prairie dogs. This species may hunt over the project area but nesting is unlikely.

Black-Tailed Prairie Dog—Grasslands within the project area support active and inactive Black-tailed Prairie Dog (*Cynomys ludovicianus*) colonies. Black-tailed Prairie Dogs are state-listed as Special Concern. Adams County does not have specific plans regarding prairie dog management. CDOT prairie dog policy is contained in the Impacted Black-tailed Prairie Dog Policy (CDOT, 2009), which directs CDOT projects to avoid and minimize impacts to prairie dogs. Field observations in summer 2024 located several active prairie dog colonies, notably around the Thornton Parkway interchange (**Figure 2**). The colonies range from small populations inhabiting a narrow median to larger colonies spanning many acres extending away from the project.

Common Garter Snake—The Common Garter Snake inhabits marshes, ponds, and the edges of streams, largely restricted to aquatic, wetland, and riparian habitats along the floodplains of streams. It is seldom found away from water or at isolated ponds. The snake is active in shallow water and on land adjacent to water. These habitats are present, and the species is likely present as well.

Mountain Plover—Mountain Plovers inhabit prairie grasslands, arid plains and fields. Nesting Plovers choose shortgrass prairies, grazed by prairie dogs, bison and cattle, and overgrazed tallgrass and fallow fields. The Mountain Plover breeds in Montana, Wyoming, Colorado, New Mexico, and the Texas Panhandle, and winters from central California and southern Arizona southward into Mexico. In Colorado, major breeding areas exist at the Pawnee National Grasslands. There is no habitat for this species, and it is not expected to be present.

4.6 Noxious Weeds

The Colorado Noxious Weed Act qualifies a plant as a noxious weed if it meets one or more of the following criteria (CDOT, 2024c):

- Aggressively invades or is detrimental to economic crops or native plant communities.
- Is poisonous to livestock.
- Is a carrier of detrimental insects, diseases, or parasites.
- The direct or indirect effect of the presence of this plant is detrimental to the environmentally sound management of natural or agricultural ecosystems.

CDA designates 77 plant species as “noxious weeds.” The Colorado Noxious Weed List is separated into four categories: Lists A, B, C, and the “Watch List.”

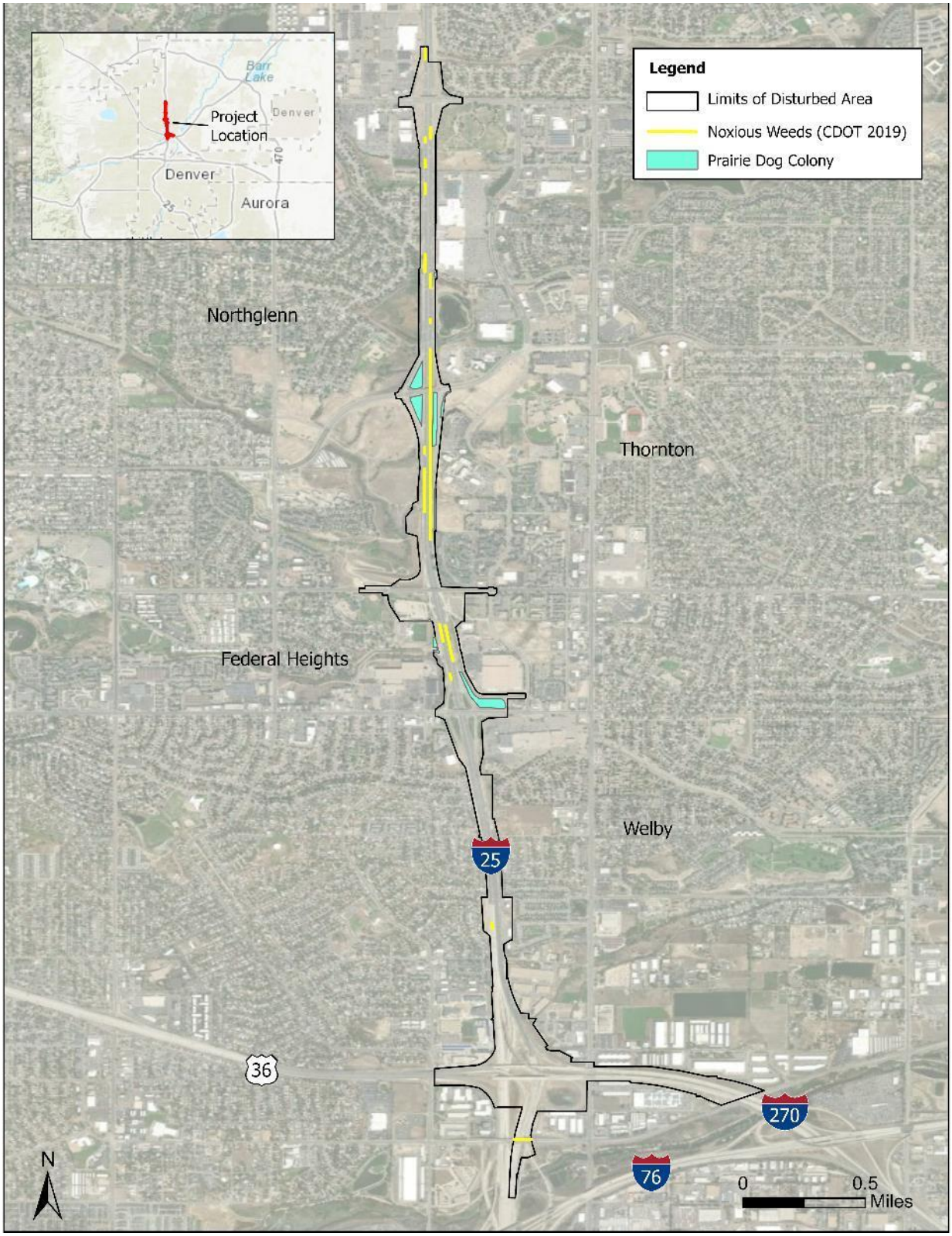
List A includes 25 plant species with limited-to-no-distribution in Colorado and designated for immediate eradication. List B includes 36 species locally common but managed to stop continued spreading. List C includes 16 generally widespread species that are not managed to stop spreading but identified for additional education, research, and biological control. The Watch List is intended to serve advisory and educational purposes only and is used to locate and report distributions of these species for future designation as noxious weeds (CDA, 2003; CDA, 2024; CWMA, 2013).

CDOT conducted a statewide survey of noxious weeds in 2019. This survey identified three species of noxious weeds within the boundaries of the current project area: Common Mullein, Field Bindweed, and Russian Olive (**Figure 2**; CDOT, 2019). During 2024 field surveys, Common Mullein and Russian Olive, as well as Canada Thistle, Common Teasel, and Musk Thistle were observed. **Table 6** presents the noxious weed species identified in the project area.

Table 6. Noxious Weeds in the Project Area

Common Name	Scientific Name	CDA List
Canada Thistle	*Circium arvense*	List B
Common Teasel	*Dipsacus fullonum*	List B
Musk Thistle	*Carduus nutans*	List B
Russian Olive	*Elaeagnus angustifolia*	List B
Common Mullein	*Verbascum thapsus*	List C
Field Bindweed	*Convolvulus arvensis*	List C

Figure 2. Noxious Weeds and Mapped Black-tailed Prairie Dog Colonies[1]



[1] Prairie dog colonies mapped in the field may extend beyond the disturbance limits

4.7 Aquatic Resources

The CWA was enacted to restore and maintain the chemical, physical, and biological integrity of the Nation's waters through the elimination of discharges of pollutants. In support of this goal, the CWA established permit programs to control discharges into WUS and provided the EPA and the U.S. Army Corps of Engineers (USACE) with regulatory authority to issue permits. Section 404 established a program to regulate the discharge of dredged or fill material into WUS and requires the issuance of a permit for any activities resulting in such discharge, unless an exemption applies.

A May 2023 United States Supreme Court decision affects the applicability of the CWA on some waters. Waters no longer jurisdictional under the CWA may be considered waters of the state. In response, Colorado signed House Bill 24-1379 into law. It directs the Colorado Water Quality Control Division to develop a dredge and fill authorization program and the Water Quality Control Commission to establish permitting and mitigation rules by end of 2025. The outcome is Regulation 87, a control regulation for avoiding, minimizing, and mitigating the impacts of dredge and fill activity. Impacts to waters of the state will be reviewed and authorized by the Colorado Department of Public Health and Environment (CDPHE) under the state Dredge and Fill Program. The program includes impact calculation and mitigation requirements similar to the Individual Permit and Nationwide Permit Program administered by the USACE.

Aquatic resources in the project area were delineated in summer 2024 and fall 2025; the complete findings are presented in the Aquatic Resources Survey Report found in **Attachment C** (CDOT, 2026). The wetland survey area contains 39 wetlands, six ponds, and ten streams, as presented in **Table 7**. Given the wetland survey area is narrowly focused around existing roadways, most surveyed waters are influenced by the surrounding infrastructure, either created by or affected by it. Many wetlands are formed by stormwater runoff collecting in designed retention basins or are a result of poor stormwater drainage. Most roadside or ditch wetlands are not formed in natural drainages and discharge to the stormwater system.

Table 7. Aquatic Resource Summary

Type	Count	Acres
Emergent Wetland	31	4.3
Scrub-Shrub Wetland	7	1.6
Forested Wetland	1	0.1
Streams	10	2.1
Ponds	6	5.3
Total	55	13.4

The exception is the Niver Creek Open Space, located north of 88th Avenue west of I-25, which is the only extensive natural drainage within the project area. Niver Creek flows southeast, and though channelized in sections, confluences with the South Platte River about 2.5 miles southeast of the open space. Several wetlands are associated with this system on both sides of the highway.

Most other wetlands have developed within the stormwater drainage system of the surrounding infrastructure. Parking areas, commercial developments, and roadways all concentrate stormwater runoff to discrete discharge locations. This additional water input has formed several wetlands in vegetated drainage swales and roadside ditches.

Aquatic resources that do not meet the criteria for wetlands are considered open water (e.g., ponds) or stream channels. Most are associated with natural drainages; the remainder are the result of concentrated stormwater runoff. The Niver Creek drainage system, primarily in the Niver Creek Open Space, is composed of smaller tributaries that confluence in the south end of the open space before being conveyed under I-25 and continuing to the South Platte River. The remaining non-wetland waters are agricultural canals, stormwater retention ponds, or small channels formed by stormwater runoff.

5.0 Environmental Consequences

5.1 No Action

The No Action Alternative would not implement any of the proposed transportation improvements. Operations and maintenance of existing infrastructure would continue as designed and planned. Incidental impacts to wildlife would continue to occur via existing disturbances. Impacts to habitats would not occur beyond routine operations and maintenance.

5.2 Proposed Action

Final construction designs are not yet developed; however, the design is sufficiently advanced to approximate biological resources impacts. The project would impact an already disturbed ecosystem; therefore, substantial impacts to the biological environment are not expected. Specific discrete resources would be impacted (e.g., wetlands and prairie dog colonies); mitigation measures are proposed to minimize those disturbances (see **Section 6.0**).

5.2.1 Land Cover and Habitats

The project area consists primarily of disturbed habitats (**Table 1**). The loss of quality native habitat is not expected as all habitats within the project area have been disturbed. Permanent habitat impacts would occur from highway widening and the addition of permanent water quality features (**Attachment B**, **Table 8**). Temporary habitat impacts would result from construction activities and staging areas. Because most impacts would occur within the CDOT right-of-way along a heavily trafficked transportation corridor of an urban setting, the loss of highly used general habitats is expected to be minimal. The conversion of disturbed habitats adjacent to roadways is not expected to substantially affect local wildlife habitats. Wildlife displaced during project construction would be able to return.

None of the habitats are those covered under the Shortgrass Prairie Initiative.

Table 8. Temporary and Permanent Impacts – Land Cover[1]

Land Cover Type	Temporary (acres)	Permanent (acres)
Developed, Varied Intensity	159.1	21.6
Developed, Open Space	8.9	0.7
Shrub/Scrub	4.0	0.8
Grassland/Herbaceous	3.0	0.2
Woody Wetlands	1.3	0.0
Cultivated Crops	0.1	0.0
Open Water	0.2	0.1
Emergent Herbaceous Wetlands	0.6	0.0
Pasture/Hay	0.4	0.0
Total	**177.6**	**23.4**

5.2.2 Common Wildlife and Wildlife Corridors

No special wildlife areas will be impacted (e.g., refuge or other designated management area), nor are any wildlife migration corridors present. Movement of wildlife along the Niver Creek drainage would be temporarily interrupted during construction around the Niver Creek culvert beneath I-25. The project activity is not expected to substantially affect wildlife movements.

5.2.3 Senate Bill 40 Compliance

The project may affect SB 40-jurisdictional trees and shrubs. Niver Creek and its tributaries are the only SB 40-jurisdictional drainages, and impacts are minimal. When work areas are finalized and if certification is required, trees and shrubs will be inventoried prior to removal as required by the SB 40 Wildlife Certification process. Any SB 40 trees or shrubs removed by the project will be mitigated per CPW requirements. In all other areas, trees greater than 4 inches in diameter at breast height will be replaced per CDOT requirements.

5.2.4 Migratory Birds

Because project construction is anticipated to span several years, including during the nesting season, direct impacts to raptors and migratory birds may occur. Construction during breeding or migration seasons could cause disturbances or displacement-related impacts, such as the removal of nesting substrate or noise and activity disturbances near construction areas. These disturbances would have a minimal effect on migratory birds because of the limited extent of nesting habitat in the project area. Surveys for nesting raptors and other active migratory bird nests must occur before construction.

[1] NLCD land cover types were not assigned to the existing pavement layer or surveyed wetland areas. Because the existing pavement layer does not include all sidewalks, parking lots, and non-I-25 roadway pavement, some areas classified as NLCD land cover type Developed, Varied Intensity are actually existing pavement. Consequently, the impact estimates presented in this table overestimate impacts to NLCD land cover types.

Structures such as bridges provide nesting habitats as well. Replacement of the 88th Avenue bridge would temporarily disrupt any nesting, but the structure would be cleared of nests before removal. Wherever active nests are found, depending on the nature of the impact and distance to the nest, avoidance buffers may be established. Removal of vegetation outside of the nesting season would minimize the potential for nesting bird conflicts with construction.

Direct impacts on raptors and migratory birds from project-related construction activities are not anticipated. Indirect impacts to individual birds could occur from noise and light associated with construction; however, these indirect impacts would be temporary. With the implementation of mitigation measures, impacts on migratory birds, including raptors, will be minimized.

5.2.5 Special Status Species

Federally Listed Species

Monarch Butterfly—Milkweed host plants were observed in several locations, and monarch butterflies may be present. As a proposed Threatened species for ESA listing, consultation with the USFWS will be required based on its listing status at the time of construction. To proactively minimize any impacts to potential Monarch butterfly habitat, disturbed areas will be reseeded with a mix of native plant species, including two species of flowering forbs and milkweed, where appropriate. In addition, the project may enroll in the approved programmatic candidate conservation agreement with assurances with an integrated candidate conservation agreement for the monarch butterfly. With the enrollment, the project will obtain an enhancement of survival permit, agreeing to enhance and maintain habitat for monarch butterflies as well as grant incidental take of monarch butterflies that may result from vegetation maintenance activities on enrolled land if the monarch butterfly becomes protected under the ESA.

Suckley's Cuckoo Bumble Bee—The species has not been documented in the lower US in about 10 years; however, misidentification may play an issue in understanding the current distribution. This bumble bee requires host colonies of other bumble bees, so it's possible other bee surveys could be used to determine potential presence. The USFWS will advise on the bee based on the species' listing status and distribution information when the project begins construction.

Tricolored Bat—Although regular use of the urban corridor by the tricolored bat has not been documented, CPW has confirmed day-roosting occurrences in bridges within the Denver metropolitan area. The project is within the species' overall range (CPW, 2025), and the 88th Avenue bridge scheduled for removal represents potential roosting habitat. CPW recommends a structure assessment per FHWA guidelines be conducted prior to demolition. If no evidence of bat use (e.g., guano or urine staining) is observed during the assessment, no further action is required. If bat use is confirmed, coordination with USFWS and CPW will determine appropriate avoidance or minimization measures depending on the species' listing status at the time of construction.

State Listed Species

Northern Leopard Frog—Project disturbance to wetlands would primarily occur to drainage swales and other low-functioning wetlands that do not generally provide suitable habitat for northern leopard frogs. About 0.12 acre of channel would be impacted. Although most aquatic impact areas are largely degraded, potential impacts to northern leopard frog habitat may occur. **Distribution data does not indicate presence within the project area watersheds; impacts are highly unlikely.**

Western Burrowing Owl—Western Burrowing Owls may inhabit inactive prairie dog burrows. No Burrowing Owls have been observed; however, formal protocol surveys have not been performed. Should construction be scheduled between March 15 and October 31 within potential habitat (i.e., prairie dog colonies), protocol surveys must be performed prior to construction (CPW, 2021). If burrowing owls are present, consultation with CDOT and CPW biologists will determine the appropriate avoidance buffers.

Bald Eagle—Although no mapped habitat is within the project area, nor nests recorded within one mile, Bald Eagles may occasionally forage along Clear Creek and the South Platte River. No direct impacts to Bald Eagles or their habitat are anticipated. Select tree removal would occur; however, no suitable nesting or roosting trees (e.g., mature trees along major waterways) would be removed. Construction activities are not likely to impact eagles because the project would occur within a highly developed, urbanized area with constant traffic and human activity. If eagles are present in the project vicinity, they would likely be acclimated to human activity. Because there is no regular Bald Eagle nesting or roosting within or near the project area, project-related impacts to Bald Eagles are not likely to occur. Overall, post-construction habitat characteristics are expected to be similar to existing conditions, and it is unlikely the project would impact Bald Eagle usage, which is considered low.

Ferruginous Hawk—Similar to Bald Eagle, Ferruginous Hawks may forage within the project area. Select tree removal would occur and may include suitable nesting trees for this and other raptors. Construction activities are not likely to impact Ferruginous Hawks because the project would occur within a highly developed, urbanized area with constant traffic and human activity. Ferruginous Hawks present in the project vicinity would likely be acclimated to human activity. Because there is no documented nesting within or near the project area, project-related impacts are not likely to occur.

Black-tailed Prairie Dog—Based on current prairie dog colony extent, an estimated nine acres of colonies would be impacted based on projected temporary and permanent impacts. Prairie dog populations fluctuate, new areas may be colonized before construction, and presently active colonies may become inactive. Therefore, pre-construction surveys are necessary to confirm the extent of active prairie dog colonies. CDOT's prairie dog policy will be followed, and a prairie dog management plan will be developed. Coordination will occur with the CDOT biologist during the preparation of the prairie dog management plan.

Common Garter Snake—Project disturbance to wetlands and riparian areas would primarily occur to drainage swales and other low-functioning areas that do not generally provide a suitable habitat for common garter snakes. Impacts to preferred habitat, such as natural floodplain depressions and streambank/riparian wetlands along Niver Creek and its tributaries, would be minimal. Therefore, impacts to the common garter snake may occur but are considered unlikely, isolated, and minor.

Mountain Plover—Preferred habitats of grasslands and prairies are not abundant, though limited low-quality habitats are present. Mountain Plovers are not expected to inhabit these areas, though it is possible. Pre-construction nesting clearance surveys will be performed to locate any ground-nesting birds. If present, active nests of all migratory birds, including mountain plover, will be buffered in consultation with CPW.

5.2.6 Noxious Weeds

The Proposed Action would result in soil disturbance from construction and the likely importation of topsoil and fill. This disturbance would create favorable conditions for introducing and further spreading noxious weeds. A separate noxious weed survey must be performed, and mitigation activities must be identified before ground-disturbing activities begin. Mitigation measures, including weed-free imported mulch and topsoil, vehicle washing, and pre-treating may be employed.

5.2.7 Aquatic Resources

Initial assessments show the Proposed Action would impact 17 wetlands and other waters (**Table 9**). Impacted waters are presented in **Attachment D**. All impacts are associated with the widening of I-25 and associated ramps and drainage improvements, and Niver Creek drainageway improvements.

Table 9. Estimated Aquatic Resource Impacts

Feature ID[1]	Temporary Impacts	Permanent Impacts	Description of Resource
WL7	0.144 acre - Plates or mats will be placed on adjacent wetland if access is needed. May need dewatering.	0.036 acre palustrine emergent (PEM) wetland impact from shoulder realignment and toe of slope shifting east.	Stormwater pond capturing runoff from nearby parking, adjacent to east shoulder of I-25 and E 74th Avenue. Presumably connects to nearby Colorado Agricultural Canal (OW3)
WL11	0.010 acre PEM wetland impact from shoulder realignment and drainage	None	Landscaped median between NB offramp at 84th Avenue fed by stormwater runoff.
WL16	0.001 acre PSS wetland—culvert extension east side of I-25	0.008 acre PSS wetland—culvert extension east side of I-25	Fed from Farmers Ditch on west side of I-25, a portion of the channel is WL16, but becomes open and non-vegetated at OW7 and flows to a drain at the eastern end, presumably to stormwater system.
WL17	None, entire wetland is permanent impact	0.089 acre PEM; shoulder realignment	Ditch along I-25 NB just north of Thornton Parkway, flows north in erosional gully to WL16/OW7 drainage.

[1] See Figure 5 in the Aquatic Resources Survey Report for a map of features corresponding to Feature IDs.

Feature ID[1]	Temporary Impacts	Permanent Impacts	Description of Resource
WL19	0.003 acre PEM; ramp and main line realignment	0.008 acre PEM; ramp and main line realignment	Stormwater ditch wetland in median between I-25 SB and Thornton Parkway offramp, fed by stormwater from adjacent roadways. Flows west under offramp in culvert toward Niver Creek headwaters.
WL21	None, entire wetland is permanent impact	0.114 acre PEM; stormwater detention and treatment pond	Maintained stormwater basin constructed to receive runoff from the adjacent RTD parking lot. A raised outlet on the south side of the basin drains overflow events to Niver Creek. The outlet shows no signs of flow, e.g., sediment, debris, or staining.
WL22	None, entire wetland is permanent impact	0.034 acre PSS; stormwater detention and treatment pond	Wetlands abutting Niver Creek
WL23	None	0.011 acre PEM; culvert inlet extension and stormwater drainage	Wetland on floodplain of Niver Creek Tributary L (OW11), west side of I-25 between 84th Avenue and 88th Avenue.
WL24	.014 acre PSS; grading associated with highway widening	None	Wetland formed in stormwater basin, west of I-25, draining to the north to the adjacent Niver Creek Tributary L.
WL25	None, entire wetland is permanent impact	0.092 acre PEM; shoulder realignment	Ditch along I-25, fed by stormwater, drains to stormwater system on west shoulder of highway.
WL28	<.001 acre	0.002 acre PEM; shoulder realignment	Stormwater feature constructed in uplands. Fed by flows from I-25 to the east.
WL30	0.005 acre PEM, culvert extension west of I-25 on Unnamed Niver Creek Tributary	None	Wetland at culvert outlet on I-25 southbound shoulder, from WL14 on east side of I-25. With OW13.
WL36	None	0.100 acre PSS, indirect impact from reduced flow from realignment of Niver Creek	Fringe wetlands along Niver Creek east of I-25 and south of 88th Avenue. With OW6.
OW6	None	0.011 acre /32 ft of channel east of I-25; grading associated with highway widening 0.015 acre/ 80 ft of channel; stormwater detention basin 0.260 acre / 926 ft of channel; indirect impact from reduced flow from realignment of Niver Creek	Main stem of Niver Creek
OW7	<.001 acre	0.004 acre/32 ft of channel; culvert extension west from I-25	Portion of a channel originating on the west side of I-25 at Farmer's Ditch at a controlled diversion. Drains to Colorado Agricultural Canal.
OW11	None	0.063 acre/ 129 ft of channel; culvert extensions both sides of I-25	Niver Creek Tributary L west side of I-25 between 84th Avenue and 88th Avenue, carried under I-25 to Niver Creek.
OW13	0.009 acre / 53 ft of channel; culvert extension	None	Unnamed tributary to Niver Creek, formed at culvert outlet on I-25 southbound shoulder, from WL14 on east side of I-25. With OW13.

A total of 0.154 acre of wetlands and 0.353 acre of stream channel anticipated to be under CWA jurisdiction would be permanently impacted by the project, which includes 0.100 acre of indirect impact to wetlands and 0.260 acre of indirect impact to the Niver Creek. A total of 0.340 acre of wetlands potentially outside CWA jurisdiction would also be permanently impacted; a jurisdictional determination for these wetlands is pending. In addition, a total of 0.177 acre of wetlands and 0.009 acre of stream channel would be temporarily impacted. Project design is not yet final. Thus these impact estimates are preliminary and may be refined during final design, permitting, and agency coordination.

Indirect impacts to wetlands and stream channel, which totals 0.100 acre of impact to wetlands abutting Niver Creek east of I-25 and 0.260 acre of impact to the Niver Creek channel east of I-25, are due to channel realignment and drainageway improvement activities proposed along Niver Creek. These indirect impacts will be considered permanent impacts by the Corps and will require compensatory mitigation, as directed by the agencies.

The remaining waters are roadside features that will be impacted by road widening and associated grading. Roadside wetlands (e.g., WL7, WL11, WL19) will be filled. Channels passing under I-25 will be impacted by culvert extensions to accommodate road widening (e.g., OW7, OW11).

For projects requiring a Clean Water Act Section 404 permit, in 2020 the USACE released Colorado Mitigation Procedures (COMP Version 2.0, 2020) which outlines the process for compensatory wetland and stream mitigation evaluations and provides statewide consistency in making compensatory mitigation determinations (USACE, 2020a). In accordance with COMP, the USACE also developed the Colorado Stream Quantification Tool (CSQT Version 1.0 2020), a spreadsheet-based calculator to determine compensatory mitigation debits and the corresponding credits needed to offset the loss of stream functions (USACE, 2020b). Projects that result in permanent stream loss of 3/100th of an acre (0.03 acre) or greater may need to complete a CSQT assessment to determine the anticipated functional change between the existing (current) and proposed (post-project) conditions. At the USACE's discretion, projects that result in functional losses may need to be mitigated as part of the NWP authorization process. The applicability and completion of CSQT will be determined during final design.

In aggregate, impacts exceed 500 square feet and therefore require a Wetland Finding Report. The regulatory authority responsible for reviewing impacts to any given water depends on that water's jurisdictional status. Waters may be WUS, waters of the state, or not jurisdictional under either agency.

Under the CWA, the Nationwide Permit Program issues authorizations for minor impacts to WUS. Several impacted waters are likely WUS and subject to CWA jurisdiction. It is expected that multiple authorizations under Nationwide Permit 14—Linear Transportation Projects (NWP 14) would be applied to WUS impacts. All impacts meet the criteria and thresholds for NWP 14. Specific mitigation measures and any special conditions will be determined during the NWP 14 Pre-Construction Notification process.

Some impacts may be to waters of the state, that is, those non-CWA jurisdictional waters that fall under the purview of CDPHE. For impacts to waters of the state, the project will submit Permanent Authorization to the CDPHE Water Quality Control Division for Dredge and Fill activities per Regulation 87 required by House Bill 24-1379. It is assumed that impacts to waters of the state will be regulated by CDPHE, and mitigation will offset impacts.

Impacted waters that are determined to be regulated by neither CWA nor CDPHE, are still subject to internal CDOT guidance, which requires mitigation regardless of jurisdiction. Mitigation will offset impacts to any isolated waters.

6.0 Mitigation

Minor impacts to the biological environment are expected, and mitigation is available to avoid or minimize. **Table 10** presents mitigation measures proposed to offset biological impacts.

Table 10. Mitigation Commitments

Resource	Impact	Location	Measure	Responsible Party	Timing
Threatened and Endangered Species	Potential impacts to northern leopard frog habitat	Niver Creek tributaries	Develop and implement an Integrated Noxious Weed Management Plan specific to species identified in the Biological Resources Technical Report and weeds that occur during construction to reduce the introduction and spread of noxious weeds that could impact the northern leopard frog.	CDOT Construction Engineering	Pre-Construction
Threatened and Endangered Species	Potential impacts to monarch butterfly habitat	Within project Limits	To proactively minimize any impacts to potential monarch butterfly habitat, disturbed areas will be reseeded with a mix of native plant species including two species of flowering forbs and milkweed.	CDOT Environmental and Contractor	Construction
Threatened and Endangered Species	Direct and/or indirect impacts to Western Burrowing Owl	Within project Limits	Survey for prairie dog colonies to identify locations of potential nesting burrowing owls. Perform protocol surveys for burrowing owl (CPW, 2021). If present, consultation with CPW is required to determine site-specific buffers and other avoidance measures.	CDOT Environmental and Contractor	Pre-Construction/ Construction

Resource	Impact	Location	Measure	Responsible Party	Timing
Vegetation and Noxious Weeds	Direct and/or indirect impacts to Western Burrowing Owl	Within project limits	Develop a revegetation and landscape plan to be approved by a CDOT landscape architect for all reclamation areas prior to construction. Revegetate reclaimed areas with native species to replicate or enhance native vegetative communities. Identify specific objectives of the revegetation plan, such as selecting native plants and seed mixes for revegetation that blend the vegetation with existing vegetation and are consistent with vegetation types, growth habits, and soil types; mimicking surrounding native plant densities; and minimizing the spread of noxious and invasive weeds.	CDOT Engineering and Landscape Architect, and Contractor	Pre-construction and Post-construction
Vegetation and Noxious Weeds	Reclamation of existing roadway that would not be incorporated into the Project and other disturbed areas	Within project Limits	Revegetate and stabilize temporarily disturbed areas using CDOT-approved native seed mixes.	CDOT Engineering and Contractor	Construction
Vegetation and Noxious Weeds	Clearing and removal of vegetation exposes soils to erosion, disturbs habitat, and has the potential to introduce noxious weeds or contribute to the spread of noxious weeds	Within project Limits	Conduct a noxious weed survey prior to construction to map existing weeds within the project area. Develop and implement an Integrated Noxious Weed Management Plan to prevent the spread of noxious weeds into temporarily disturbed areas. Implement measures to control noxious weed spread such as salvage weed-free topsoil for use in seeding and equipment washing. CDOT Standard Specification Section 217—Herbicide Treatment will be incorporated into the project Specifications.	CDOT Environmental and Contractor	Construction and Post-Construction

Resource	Impact	Location	Measure	Responsible Party	Timing
Wildlife—Migratory Birds	Potential impacts to migratory birds and/or their habitats	Within project limits	Incorporate a CDOT Special Specification 240 (Protection of Migratory Birds) as part of the final plan set to avoid impacts on nesting raptors and migratory birds in accordance with the Migratory Bird Treaty Act. Conduct a nest survey by a qualified biologist before nesting season ahead of construction. If active nests are found, coordinate with CPW and the USFWS to determine an appropriate course of action, which may include, but is not limited to, buffering the active nest or a delay in construction to avoid the breeding season.	CDOT Environmental	Final Design/ Pre-Construction, and Construction
Wildlife—Prairie Dogs	Disruption and/or destruction of active Black-tailed Prairie Dog colonies	Within project limits	The area of Black-tailed Prairie Dog towns that will be affected by the project will be mapped and calculated during final design and before construction by a qualified biologist (CDOT, 2009).	CDOT Environmental	Pre-construction/ Construction
Wildlife—Prairie Dogs	Disruption and/or destruction of active Black-tailed Prairie Dog colonies	Within project limits	During final design and construction, avoid and minimize impacts to prairie dog colonies. Follow CDOT's black-tailed Prairie Dog Policy to guide the prairie dog management activities. Section 240 regarding Black-tailed Prairie Dog management will be added to the project Specifications.	CDOT Environmental and Engineering, and Contractor	Pre-construction/ Construction

Resource	Impact	Location	Measure	Responsible Party	Timing
Wildlife—Raptors	Possible effect to raptors, including temporary displacement, auditory disturbance, and habitat loss	Within project limits	The Biologist will perform a line-of-sight survey from the project area, or a survey within 0.5 mile for nesting raptors, before the nesting season and ahead of construction. If raptor nests are identified within the buffer, coordination with CPW and the USFWS is required to determine an appropriate course of action, which may include, but is not limited to, a delay in construction to avoid the breeding season. Follow CPW Recommended Buffer Zones and Seasonal Restrictions for Colorado raptors (CPW, 2020).	CDOT Environmental; CDOT Construction Engineering; Contractor	Pre-Construction/ Construction
Wildlife Habitat/ Vegetation	Permanent and temporary loss of riparian vegetation and habitats, including within SB 40-jurisdictional areas	Within project limits	Survey riparian areas subject to SB 40 certification with CPW and conduct SB 40 inventory.	CDOT Environmental	Pre-Construction/ Construction
Wildlife Habitat/ Vegetation	Permanent and temporary loss of riparian vegetation and habitats, including within SB 40-jurisdictional areas	Within project limits	Develop and implement SB 40 planting plan to replace trees and shrubs according to SB 40 requirements.	CDOT Environmental; CDOT Construction Engineering; Contractor	Pre-Construction/ Construction/ Post-Construction
Wildlife—General	Small mammals, reptiles, and amphibians may become entrapped in erosion control netting such as blankets and waddles.	Within project limits	To reduce wildlife entrapment, all erosion control blankets will be biodegradable and will not contain plastic monofilament netting	CDOT Environmental; CDOT Construction Engineering; Contractor	Construction/ Post-Construction

Resource	Impact	Location	Measure	Responsible Party	Timing
Wildlife—Tricolored Bat	Potential displacement or mortality of roosting bats from 88th Avenue bridge removal	88th Avenue bridge	Prior to bridge demolition, conduct a structure assessment per FHWA guidelines (USFWS Appendix D Bridge/Culvert Bat Assessment Form, March 2022) to determine whether tri-colored bats or other bat species are using the structure. If no evidence of bat use (guano, urine staining, or direct observation) is found, no further action is required. If evidence of bat use is found, coordinate with CPW and USFWS to determine appropriate avoidance and minimization measures consistent with the species' listing status at the time of construction.	CDOT Environmental and Contractor	Pre-Construction
Wetlands and Aquatic Resources	Direct and/or indirect impacts to surface waters and wetlands	Within and adjacent to all mapped wetlands and surface waters	Ensure best management practices (BMP)s and containment structures are in place for work conducted within and adjacent to the Ordinary High Water Mark (OHWM) and mapped wetlands to prevent concrete washout and other potential pollutants from reaching creeks and wetlands.	CDOT Engineering and Contractor	CDOT Engineering and Contractor

Resource	Impact	Location	Measure	Responsible Party	Timing
Wetlands and Aquatic Resources	Disturbance of vegetation and potential pollutant discharges into wetlands	Construction staging areas	Locate construction staging and materials stockpiling at least 50 feet from the edge of wetlands or creeks, when possible. No staging will be allowed in wetlands. Determine specific staging locations during construction planning to verify this buffer is achievable considering the narrowness of the corridor and limited areas available. If this buffer is not achievable, CDOT will consider allowing materials closer to the edge of wetlands or the edge of water and identify appropriate additional BMPs that will be required to minimize disturbance of vegetation and prevent pollutant discharges into sensitive habitats. BMPs will be determined on a site-by-site basis and any modifications will require CDOT environmental staff's approval.	CDOT Engineering and Environmental, and Contractor	CDOT Engineering and Environmental, and Contractor
Wetlands and Aquatic Resources	Permanent loss of wetlands and stream	Within project limits	Obtain a CWA Section 404 Permit from the USACE prior to the start of construction. NWPs are anticipated to permit the proposed work, including but not limited to, NWP 14 - Linear Transportation Projects.	CDOT Environmental	CDOT Environmental
Wetlands and Aquatic Resources	Permanent loss of wetlands and stream	Within project limits	Consult with CDPHE under Regulation 87. Depending on impacts and construction timeline, a temporary or permanent authorization may be given to meet requirements of the Colorado Dredge and Fill Program.	CDOT Environmental	CDOT Environmental

Resource	Impact	Location	Measure	Responsible Party	Timing
Wetlands and Aquatic Resources	Permanent loss of wetlands and stream	Within project limits	Unavoidable impacts on waters and wetlands will be mitigated per CDOT, U.S. Army Corps of Engineers (USACE), and CDPHE – Colorado Dredge and Fill Program policies.	CDOT Environmental	CDOT Environmental
Wetlands and Aquatic Resources	Permanent loss of wetlands and stream	Within project limits	Unavoidable impacts on all wetlands and waters, regardless of jurisdiction, are expected to be mitigated through purchase of credits at an approved mitigation bank. The type of credits and ratio will be determined in consultation with the appropriate agency.	CDOT Environmental	CDOT Environmental

7.0 Required Permits and Clearance Needs

The following permits and/or actions will be required as part of the Proposed Action:

- SB 40 Certification—Consultation with CPW regarding mitigation for removal of riparian vegetation.
- Obtain a CWA Section 404 Permit from the US Army Corps of Engineers (USACE) prior to the start of construction. Nationwide Permits are anticipated to permit the proposed work, including but not limited to, NWP 14 - Linear Transportation Projects.
- Consult with CDPHE under Regulation 87. Depending on impacts and construction timeline, a temporary or permanent authorization may be given to meet requirements of the Colorado Dredge and Fill Program.
- Prepare a Wetland Finding Report upon completion of final design and impact calculation.

8.0 References

Colorado Department of Agriculture (CDA). 2003. Rules Pertaining to the Administration and Enforcement of the Colorado Noxious Weed Act, Title 35, Article X.

CDA. 2024. Colorado Noxious Weed List. https://ag.colorado.gov/conservation/noxious-weeds/species-id. Accessed October 2024.

Colorado Department of Transportation (CDOT). 2008. Wildlife Technical Report for North I-25—Adams, Boulder, Broomfield, Denver, Larimer, and Weld Counties, Colorado. Prepared by ERO Resources. October.

CDOT. 2009. Impacted Prairie Dog Policy. Russel George, Executive Director. January 15.

CDOT. 2011a. Final Programmatic Biological Assessment for North I-25 Adams, Boulder, Broomfield, Denver, Larimer, and Weld Counties, Colorado. Prepared by ERO Resources.

CDOT. 2011b. Wildlife Technical Report Addendum for North I-25—Adams, Boulder, Broomfield, Denver, Larimer, and Weld Counties, Colorado. Prepared by ERO Resources. August.

CDOT. 2017. Online Transportation Information System (OTIS). http://dtdapps.coloradodot.info/otis.

CDOT. 2019. Noxious Weeds 2019. https://data-cdot.opendata.arcgis.com/datasets/cdot::noxious-weeds-2019/about. Accessed September, 2024.

CDOT. 2023. Wildlife Vehicle Collision Data along I-25 in Adams County. Accessed October 2024.

CDOT. 2024a. **CDOT National Environmental Policy Act Manual.** Version 7 Update. June 2023.

CDOT. 2024b. Statewide Impact Findings Table (SWIFT). Online tool at: swift.colorado.gov. Accessed November 2024.

CDOT. 2024c. Noxious Weed Frequently Asked Questions. https://ag.colorado.gov/conservation/noxious-weeds/faq. Accessed October 2024.

CDOT. 2025. I-25 US 36 to 104th Avenue Transportation Improvements. Aquatic Resources Survey Report. July 1.

CDOT and FHWA. 2010. I-25/84th Avenue Bridge Reconstruction Project—Ecological Assessment. Prepared by Felsburg Holt & Ullevig. June.

CDOT & FHWA. 2014. North I-25, US 36 to SH 7 Planning and Environmental Linkages Study—Corridor Conditions Report.

Chapman, S.S., Griffith, G.E., Omernik, J.M., Price, A.B., Freeouf, J., and Schrupp, D.L. 2006. Ecoregions of Colorado (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,200,00).

Colorado Parks and Wildlife (CPW). 2017. All Species Activity Mapping Data. Accessed November 2018.

CPW. 2020. Recommended Buffer Zones and Seasonal Restrictions for Raptors.

CPW. 2021. Recommended Survey Protocol and Actions to Protect Nesting Burrowing Owls. April 6.

CPW. 2024. List of State Sensitive Species. Available online at: https://cpw.state.co.us/species-profiles. Accessed October 2024.

CPW. 2025. Tri-colored Bat Overall Range. Website database: https://geodata.colorado.gov/datasets/CPW::tri-colored-bat-overall-range/about. Accessed June 2025.

CPW & CDOT. 2022. Guidelines for Senate Bill 40 Wildlife Certification Developed and Agreed Upon by Colorado Parks and Wildlife and the Colorado Department of Transportation. January 28.

Colorado Weed Management Association (CWMA). 2013. Noxious Weeds of Colorado—field guide. 11th edition.

FHWA and CDOT. 2011. North I-25 Record of Decision 1. December. Accessed April 2024 from https://www.codot.gov/projects/archives/study-archives/north-i-25-eis.

FHWA and CDOT. 2011. North I-25 Final EIS. Prepared by Jacobs and Felsburg and Ullevig. August.

Hammerson, Geoffrey A. 1999. Amphibians and Reptiles in Colorado. University Press of Colorado. 2nd Edition. p. 484.

Hamous, Lexi. 2024. Personal Communication. From Lexi Hamous, CPW Northeast Region Land Use Coordinator. Email to Matt Kizlinski, Peak Consulting Group. Re: Raptor nests within 1 mile of the project. November 11.

National Land Cover Database (NLCD) 2021 Land Cover (CONUS): Multi-Resolution Land Characteristics Consortium, https://www.mrlc.gov/data/nlcd-2021-land-cover-conus, Accessed September 25, 2024.

U.S. Army Corps of Engineers (USACE). 2020a. Colorado Mitigation Procedures, Version 2.0. USACE Albuquerque, Omaha, and Sacramento Districts. June 2020.

USACE. 2020b. Colorado Stream Quantification Tool User Manual (v1.0). USACE Albuquerque, Omaha, and Sacramento Districts. July 2020.

U.S. Environmental Protection Agency (EPA). 2024. Eco-regions. https://www.epa.gov/eco-research/ecoregions. Accessed October 2024.

U.S. Fish and Wildlife Service (USFWS). 2022. Appendix D: Bridge/Culvert Bat Assessment Form. March 2022. Available at: https://www.fws.gov/sites/default/files/documents/appendix-d-bridge-culvert-bat-assessment-form-march-2022.pdf

U.S. Fish and Wildlife Service (USFWS). 2022. Conference Opinion for the Federal Highway Administration/Colorado Department of Transportation Monarch Butterfly (Danaus plexippus) Programmatic Biological Conference. Project Code 2022-0065745. Colorado Ecological Services Office, Lakewood, Colorado. December 28.

U.S. Fish and Wildlife Service (USFWS). 2026. Information for Planning and Consultation (IPaC). Database available at: IPaC: https://ipac.ecosphere.fws.gov. Accessed February 2026.

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Attachment A.

Project Information

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Attachment A: Project Information

October 23, 2026 - Version 15

Subaccount number: 25563

BACKGROUND

The Colorado Department of Transportation (CDOT) and the Federal Highway Administration (FHWA) are proposing transportation improvements to Interstate 25 (I-25) between United States Highway 36 (US 36)/I-270/I-76 interchange and 104th Avenue.

Project History

CDOT has previously completed an Environmental Impact Statement (EIS), a Planning and Environmental Linkages (PEL) study, a safety audit, previous National Environmental Policy Act (NEPA)-level planning, and supplemental operational and transit and safety analyses that recommended improvements to this segment of I-25.

Some of the previously recommended improvements have been constructed, like the Express Lanes approved in the **North I-25 Record of Decision 1** (ROD1) (FHWA and CDOT, 2011), while others have not yet been implemented. The current Project evaluates proposed transportation improvements that reflect and build upon previous recommendations.

Because the current Project includes elements that were not evaluated and approved in the **North I-25 ROD1**, this Project is undergoing new evaluation under the National Environmental Policy Act.

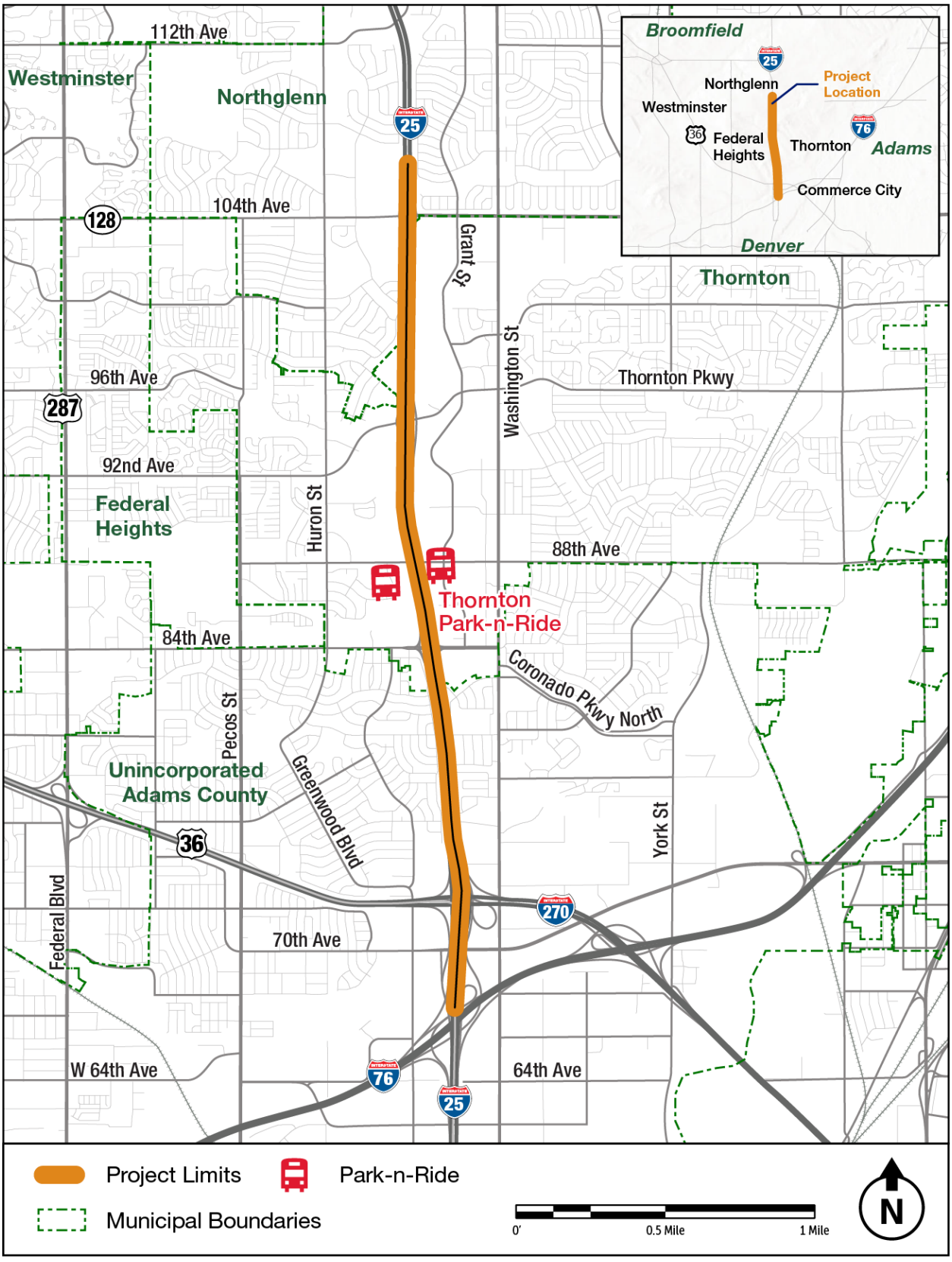
Study Area

The Project limits, illustrated in **Figure 1**, extend along I-25 from the US 36/I-76/I-270 interchange to 104th Avenue. It includes portions of US 36 and I-270, major arterials crossing I-25, and areas of potential drainage improvements. The study area for the Project varies by resource. Each resource's study area is defined within its corresponding technical report or memorandum.

The interchanges included in the Project limits are:

- I-25/US 36/270/I-76
- I-25/84th Avenue
- I-25/88th Transit Slip Ramps
- I-25/Thornton Parkway
- I-25/104th Avenue

Figure 1. Project Limits



PURPOSE AND NEED

The purpose of the Project is to improve I-25 between US 36 and 104th Avenue to address safety concerns and traffic operations.

The Project is needed to:

- Improve safety
- Improve traffic operations

In addition to addressing Project needs, the Project also has the following goal:

- Minimize environmental and community impacts caused by the Project

PROPOSED ACTION

The Project would improve approximately five miles of I-25 between US 36 and 104th Avenue. All lanes are 12 feet in width unless otherwise noted. The current cross-section of this segment of I-25 includes:

- Three general-purpose travel lanes in each direction
- One Express Lane in each direction, along the inside shoulder, separated from the adjacent general-purpose lane by a 2-foot buffer
- A southbound auxiliary lane between the 84th Avenue and US 36 interchanges
- A southbound auxiliary lane between the 88th Avenue transit slip ramp and the 84th Avenue interchange
- A northbound auxiliary lane between the 88th Avenue transit slip ramp and Thornton Parkway interchange
- Inside shoulders varying in width between 2 and 12 feet and outside shoulders varying in width between 6 and 12 feet

The Proposed Action on I-25 between US 36 and 104th Avenue, illustrated in **Figure 2**, includes the general-purpose and Express Lanes listed above and adds the following elements to the existing cross-section:

- A new 12-foot wide southbound general-purpose lane from 104th Avenue to south of 84th Avenue (all new lanes will be 12 feet in width)
- A new northbound climbing lane from the I-76 entrance ramp to 104th Avenue
- An expanded buffer of 4 feet between the Express Lane and the adjacent general-purpose lane
- A new continuous auxiliary lane southbound between the 84th Avenue and Thornton Parkway interchanges
- New continuous northbound auxiliary lanes between the interchanges at I-270 and 84th Avenue, 84th Avenue and Thornton Parkway, and Thornton Parkway and 104th Avenue
- Expanded inside and outside shoulders with typical 10-foot widths, and minimum 6.5-foot inside and 7-foot width in restricted locations

In addition to those changes to the cross-section, the Proposed Action would include the following elements:

- Realignment of the combined I-76 and US 36 on-ramp connection
- Expansion of the I-270 exit to northbound I-25 from one to two lanes; I-270 merge with I-25 shifted farther north (See **Figure 3**)
- Removal of bus-only slip ramps along I-25 at the Thornton Park-n-Ride facilities
- Changes to the Park-n-Ride west parking lot including reduction in size and reconstruction of circulation widths, sidewalks, and median areas to accommodate the proposed open channel of Niver Creek
- Changes to the Park-n-Ride east parking lot including reconstruction of bus bays and relocated shelters and amenities
- Replacement of the 88th Avenue bridge over I-25; wider to accommodate improved bicycle and pedestrian facilities and longer to accommodate I-25 widening

- Realignment of the I-25 adjacent existing trail and pedestrian network within the Niver Creek Open Space and its connections to the Thornton Park-n-Ride facilities (see **Figure 4**)
- Replacement of the aging pedestrian and bikeway underpass at the Thornton Park-n-Ride facility
- Removal of Niver Creek from the existing box culvert at the Thornton Park-n-Ride and conversion of the creek into an open channel
- Relocation of the segment of Niver Creek east of I-25, which currently flows south from the Park-n-Ride east parking lot to the creek's intersection with Tributary L, to the west side of I-25
- New water quality treatment features throughout the project area

Figure 2. Proposed Action

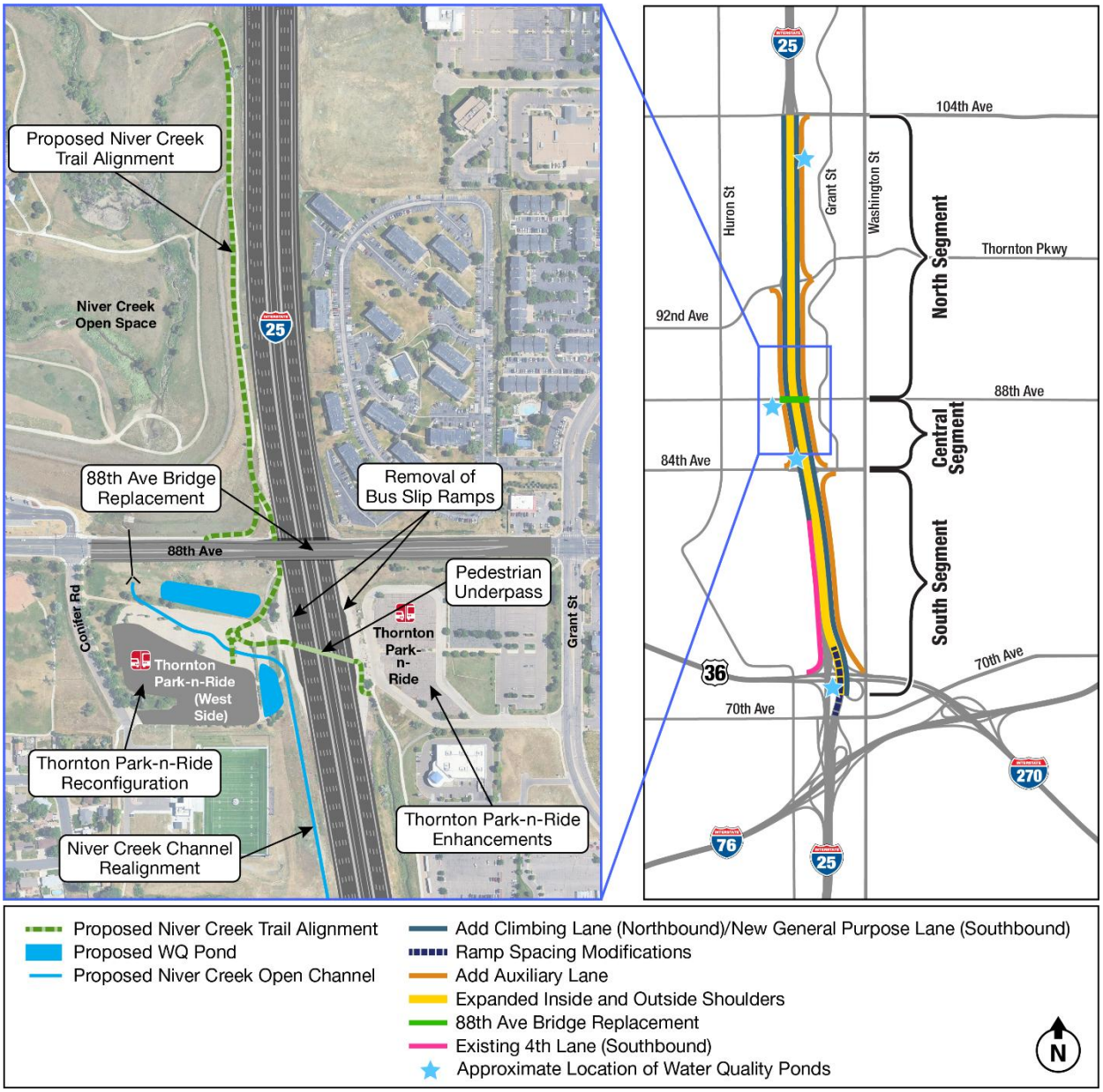


Figure 3. Proposed Improvements to I-270 Exit to NB I-25

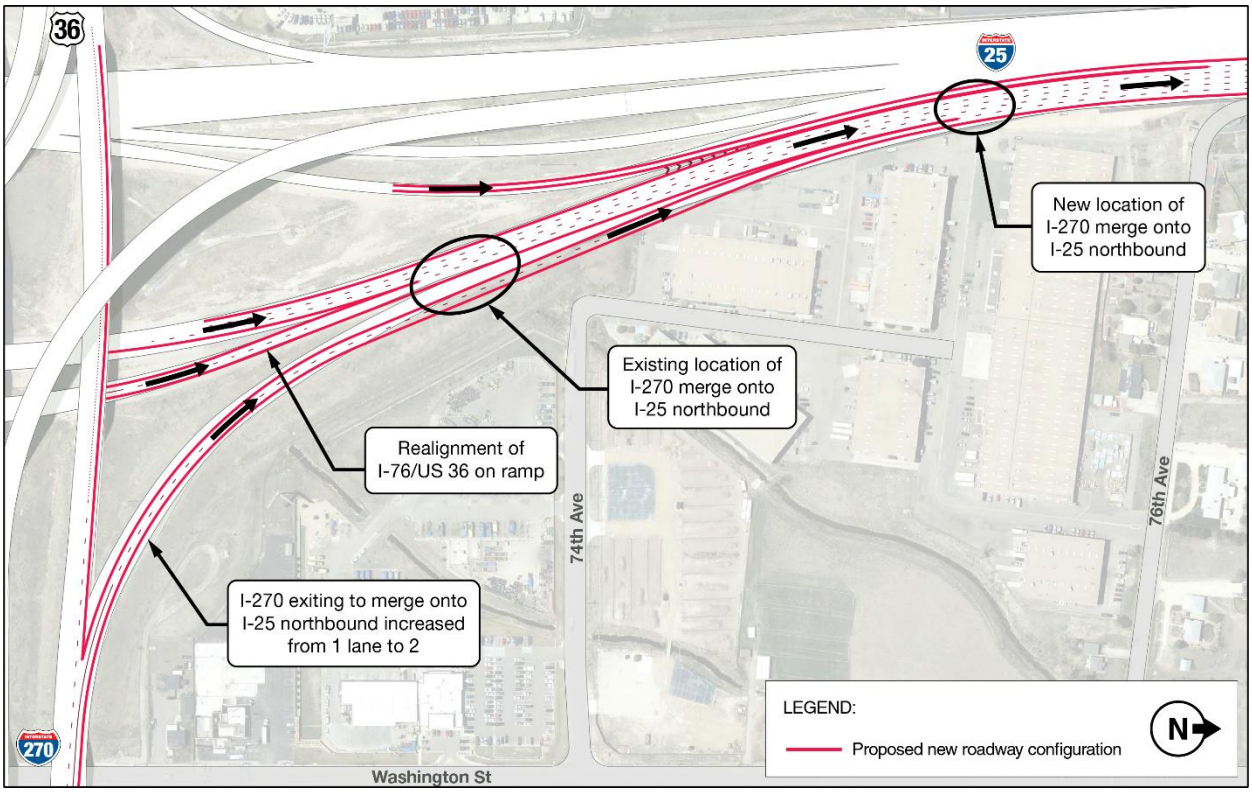
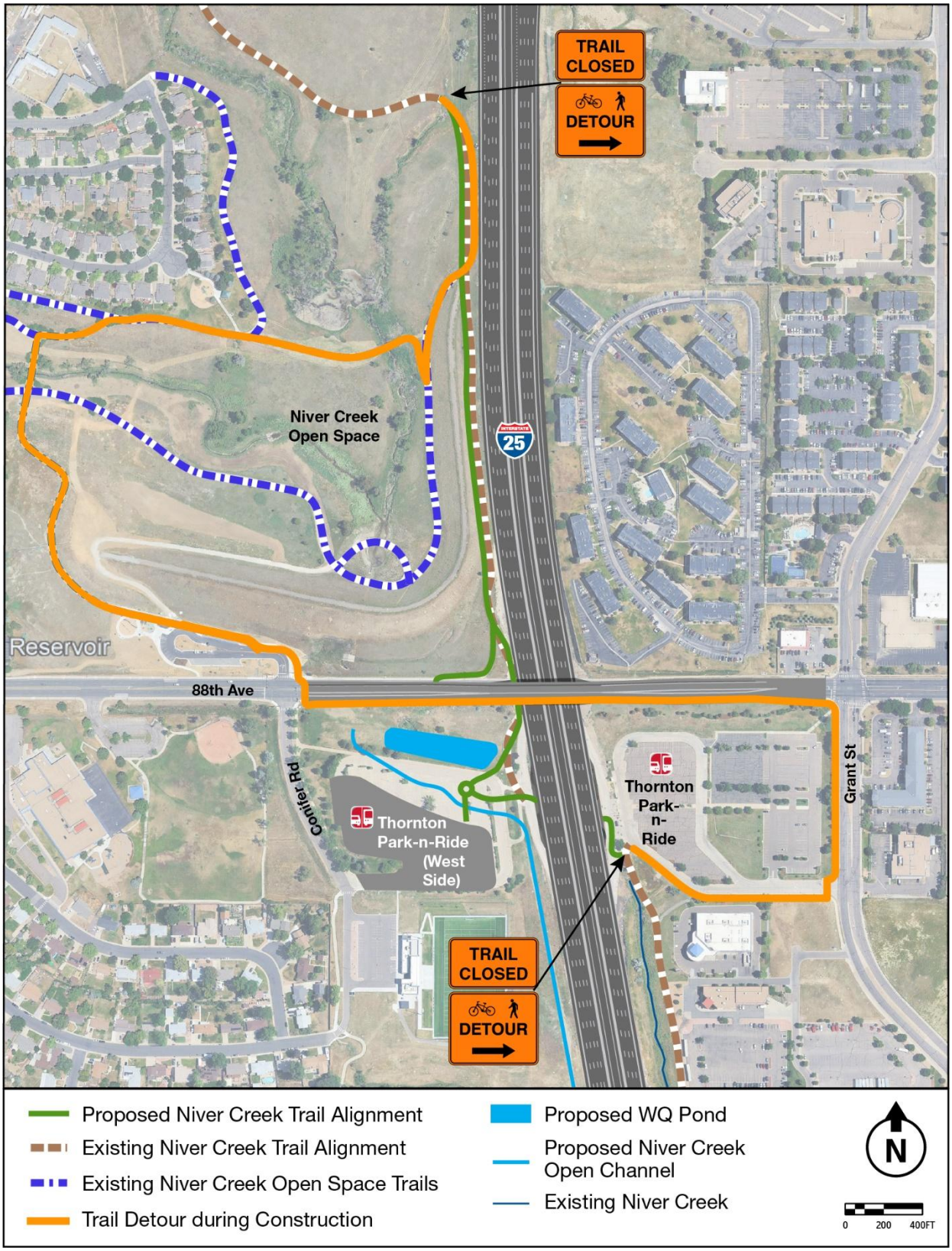


Figure 4. Proposed Realignment of Niver Creek Trail



Attachment B.

Impacted Land Cover and Vegetation

Attachment B. Impacted Land Cover and Vegetation

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NOTE: This attachment is not able to be included in the Environmental Assessment at this time due to accessibility. If you would like a copy of this attachment or to sit down with a project team member to review this attachment, please contact the project team at I25.US36to104thAvenue@gmail.com or 720-378-8859.

Attachment C.

Aquatic Resources Survey Report

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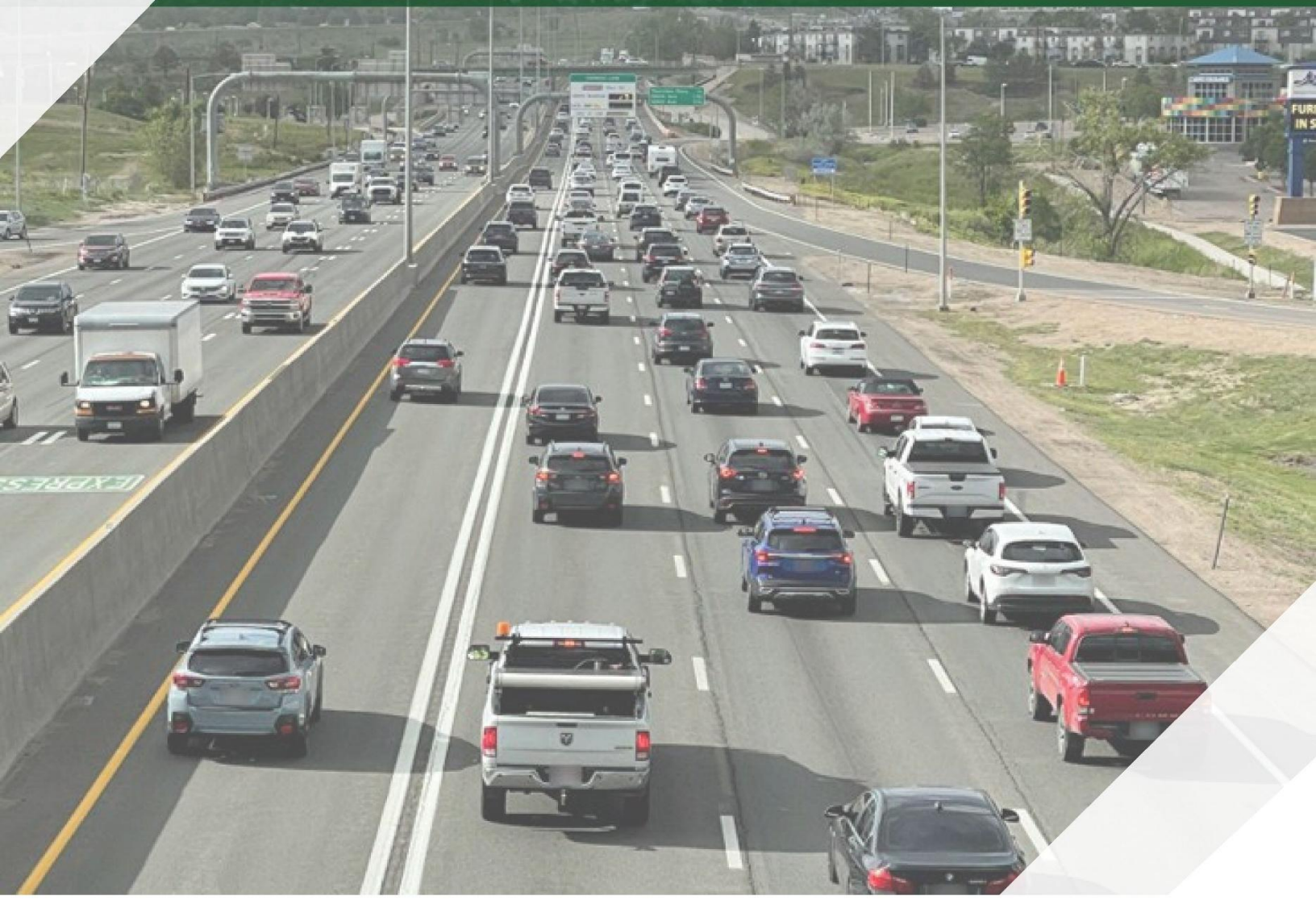
I-25 (US 36 to 104th Avenue)

Safety and Operations Improvements Project



Attachment C: Aquatic Resources Survey Report

July 2026

Attachment C. Aquatic Resources Survey Report

July 22, 2026 – Version 8
Project Number: PM 0253-299
Subaccount Number: 25563

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7.0 References **C-24**

Attachments

Attachment A. Figures
Attachment B. Antecedent Precipitation Tool (APT) Report
Attachment C. Wetland Data Forms
Attachment D. Photos

Tables

Table 1. Wetland Details C-10
Table 2. Non-Wetland Waters Details C-19

Acronyms and Abbreviations

Acronym or Abbreviation	Full Name
APT	Antecedent Precipitation Tool
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Health and Environment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
CWA	Clean Water Act
FHWA	Federal Highway Administration
GIS	Geographic Information Systems
HUC	Hydrologic Unit Code
I-25	Interstate 25
NEPA	National Environmental Policy Act
NHD	National Hydrography Dataset
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OHWM	Ordinary High-Water Mark
OW	Other Water
PABF	Palustrine, Aquatic Bed, Semipermanently Flooded
PEM	Palustrine Emergent
PEM1C	Palustrine, Emergent Persistent, Seasonally Flooded
PFO	Palustrine Forested
PSS	Palustrine, Scrub Shrub
PUBGx	Palustrine, Unconsolidated Bottom, Intermittently Exposed, Excavated
PUBF	Palustrine, Unconsolidated Bottom, Semipermanently Flooded
R4SSBA	Riverine, Intermittent, Streambed, Temporarily Flooded
R4SBCx	Riverine, Intermittent, Streambed, Seasonally Flooded, Excavated
ROD	Record of Decision
RP1FO	Forested, Lotic, Riparian
RPWs	Relatively Permanent Waters
U.S.	United States
US 36	United States Highway 36
USACE	US Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WL	Wetland
WOTUS	Waters of the U.S.

1.0 Introduction

The Colorado Department of Transportation (CDOT) and the Federal Highway Administration (FHWA) are proposing transportation improvements to Interstate 25 (I-25) between United States Highway 36 (US 36)/I-76/I-270 interchange and 104th Avenue (Figure 1 in **Attachment A**). This survey report was prepared to support evaluation of the I-25 (US 36 to 104th Avenue) Safety and Operations Improvements project (the project).

CDOT has previously completed an Environmental Impact Statement (EIS) and other planning efforts that recommended improvements to this segment of I-25. The current project evaluates proposed transportation improvements that reflect and build upon previous recommendations. Because the current project includes elements that were not evaluated and approved in the North I-25 Record of Decision 1 (FHWA and CDOT, 2011), this project is undergoing new evaluation under the National Environmental Policy Act (NEPA).

This report was prepared following the current delineation procedures prepared by the United States (U.S.) Army Corps of Engineers – Omaha District (USACE). The boundaries of potential waters of the U.S. (WOTUS) described and mapped in this report should be considered preliminary until verified by the USACE.

2.0 Regulatory Setting

The Clean Water Act (CWA) was enacted to restore and maintain the chemical, physical, and biological integrity of the Nation's waters through the elimination of discharges of pollutants. In support of this goal, the CWA established permit programs to control discharges into waters of the U.S. and provided the U.S. Environmental Protection Agency (EPA) and the USACE with regulatory authority to issue permits. Section 404 established a program to regulate the discharge of dredged or fill material into WOTUS and requires the issuance of a permit for any activities resulting in such discharge, unless an exemption applies.

Section 401 requires any applicant for a federal license or permit that involves discharges into a navigable water (e.g., Section 404 permit) to also obtain a water quality certification demonstrating that the activity complies with the CWA. The USACE issues Section 404 permits, and Colorado Department of Health and Environment (CDPHE) issues water quality certification under Section 401.

For purposes of issuing permits, the EPA and USACE have established a definition of waters of the U.S. and verify jurisdiction of aquatic resources that meet that definition, either through the permitting process or a separate jurisdictional determination process. The EPA and USACE are responsible for making all final jurisdictional determinations. The regulatory definition of waters of the U.S. is codified in the Clean Water Act (33 USC 1251 et seq.) and clarified in EPA's regulations (40 CFR 120.2).

A May 2023 United States Supreme Court decision affects the applicability of the CWA on some waters. The Sackett case addressed the jurisdictional status of Relatively Permanent Waters (RPWs), including vacating the Significant Nexus test previously used to establish jurisdiction. In September 2023, the regulatory agencies released the final rule to amend the "Revised Definition of 'Waters of the United States'" issued by the Court. Ongoing litigation in several states has created two operative definitions for WOTUS. In Colorado, waters will be evaluated per the 2023 Rule as Amended (USACE and EPA, 2023).

Waters no longer jurisdictional under the CWA, and certain waters not regulated prior to the Sackett decision, may be considered waters of the state. Consultation with CDPHE may be required to review impacts to waters of the state under Regulation 87 for the state Dredge and Fill Program. Depending on the impacts and construction timeline, permanent impact authorization may be required. CDPHE legislation includes impact calculation and mitigation requirements similar to the Individual Permit and Nationwide Permit Program administered by the USACE. Some activities are exempt, as well as certain waters excluded from regulation.

CDOT requires mitigation of impacts to jurisdictional and non-jurisdictional wetlands. Wetlands subject to CDOT mitigation requirements include areas with wetland soils, hydrology, and vegetation.

For purposes of this report, all delineated aquatic resources that have a defined ordinary high water mark (OHWM; referred to as other waters) or meet the definition of a wetland are considered potential waters of the U.S., unless they are specifically considered excluded waters in the regulations. Federal regulations define the OHWM as “that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” (33 CFR 328.3). Wetlands are defined for regulatory purposes as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (40 CFR 230.3 and 33 CFR 328.3). Wetlands are important ecological resources that perform many functions including groundwater recharge, flood flow attenuation and conveyance, erosion control, and water quality improvement. They also provide habitat for many plants and animals, including sensitive species.

3.0 Methods

This section summarizes the methods used to perform the desktop review and field survey. Before field surveys were performed, the following data sources were reviewed for information on vegetation patterns, topography, drainage, and potential or known WOTUS in the project vicinity:

- Aerial imagery (ESRI, 2024)
- Topographic maps
- National Wetlands Inventory Data (United States Fish and Wildlife Service [USFWS], 2024)
- National Hydrography Dataset (United States Geologic Survey [USGS], 2024)
- Soils data (Natural Resources Conservation Service [NRCS], 2024)

Aerial images available through ArcGIS online services (ESRI, 2024) were reviewed to identify features in addition to those shown in the National Wetland Inventory (NWI) and National Hydrology Dataset (NHD) datasets that should be investigated for WOTUS during the field survey. Geographic Information Systems (GIS) data from the NWI (USFWS, 2023) and NHD (USGS, 2023) were overlaid on the Survey Area to identify a set of preliminary potential aquatic resources.

The 370-acre Survey Area is centered on the 5.6-mile segment of I-25 north of Denver from US 36 to 104th Avenue (Figure 2 in **Attachment A** shown as wetland 'Study Area'). It includes portions of US 36 and I-270, major arterials crossing I-25, Niver Creek Open Space, and areas of potential drainage improvements.

The Survey Area ranges in elevation from 5,160 to 5,370 feet above mean sea level. Local topography has been substantially altered to accommodate transportation infrastructure, commercial and industrial development, and residential areas. Accompanying this development has been a substantial alteration in hydrology. Natural streams have been channelized, and concentration of stormwater runoff has created new drainages.

The Survey Area falls within the 12th-level Hydrologic Unit Code (HUC) watersheds Derby Lake-South Platte River (HUC12 101900030402) and Outlet Clear Creek (HUC12 101900040404); see Figure 3 in **Attachment A**.

NRCS soil survey data was acquired for the Survey Area (Figure 4 in **Attachment A**; NRCS, 2024). This data was reviewed for the presence of hydric soils. The NRCS soils data indicates several soils, primarily loams and silty clays, of which a few minor components are rated as hydric. However, given the developed nature of the Survey Area, disturbed and problematic soils should be expected.

The Antecedent Precipitation Tool (APT; USACE, 2024; USACE, 2025a) was used to compare precipitation in the 90 days prior to the field surveys against historical precipitation records

(**Attachment B**). For the field surveys conducted in 2024, the APT results showed Normal Precipitation Conditions, but with recent precipitation trending drier than normal. At the time of the 2024 field survey, the Palmer Drought Severity Index rating was Moderate Wetness. For the 2025 field surveys, the surveys took place during the dry season and the APT results showed a drought index of incipient drought conditions but with current Normal Conditions.

Delineation methodology began by using aerial images, NWI and NHD mapping, and visual observations, to guide a pedestrian survey throughout the Survey Area.

All potential waters were examined for the presence of wetland and Ordinary High Water Mark (OHWM) indicators. Wetlands were evaluated in accordance with the Wetland Delineation Manual (USACE, 1987) and Great Plains Regional Supplement (USACE, 2008). Methods for identification of the OHWM followed USACE guidance in place at the time of each survey in 2024 (USACE, 2022) and 2025 (USACE, 2025b). Aquatic resource classification follows Cowardin (1979). Photo points, wetland boundaries, and OHWMs were mapped using a handheld global positioning system unit with submeter accuracy.

4.0 Existing Conditions – Survey Results

The field survey was performed May 27 to May 30, June 3, August 16, 2024 as well as September 17 and 24, 2025. The objectives of the survey were to:

- Investigate all potential waters to determine if wetland or OHWM indicators are present
- Delineate all waters within the Survey Area

The Survey Area contains wetlands, ponds, and linear non-wetland drainages (streams). Wetland data forms are in **Attachment C**. **Table 1** and **Table 2** present details of the aquatic resources. Photo Points are located on Figure 5 in **Attachment A** (shown as 'Survey Results' on pages 1-16) while the actual photos are included in **Attachment D**. Wetlands are labeled with a WL identifier. Non-wetland waters are labeled with OW, indicating an open water feature.

4.1 Wetlands

The Palustrine System includes all nontidal wetlands dominated by trees, shrubs, or other emergent vegetation. Thirty-nine palustrine wetlands were delineated, **Table 1**. Given the Survey Area is narrowly focused around existing roadways, most waters are somehow influenced by the surrounding infrastructure, either created by or influenced by it. Many wetlands are formed by stormwater runoff collecting in either designed retention basins, or are a result of poor stormwater drainage. Most roadside or ditch wetlands are not formed in natural drainages and discharge to the stormwater system.

The exception is the Niver Creek Open Space, located north of 88th Avenue west of I-25 (Figure 5 in **Attachment A**, Pages 5, 6, and 7). Niver Creek (OW6, presented further in Non-Wetland Waters) flows southeast, and though channelized in sections, confluences with the South Platte River about 2.5 miles southeast of the open space. Several wetlands are associated with this system, on both sides of the highway.

Table 1. Wetland Details

Wetland ID	Figure 5 Page Number	Cowardin Classification[1]	Area (acre)	Notes	CWA Jurisdictional Assessment	Agency[2]
WL1	13, 14, 16	PEM	0.141	Fed by stormwater runoff from surrounding roadways, flows south to WL2, then to Clear Creek.	WOTUS Rule Exclusion (b)(3) - Roadside ditches excavated in uplands may apply; however, feature is a RPW and drains directly to Clear Creek via culvert. Waters of the State Excluded Waters (5)(b) - Stormwater control features in uplands applies - Not a regulated Water of the State. If feature determined not WOTUS, it would still be subject to CDOT wetland impact mitigation policy.	USACE or CDOT
WL2	16	PEM	0.223	Fed by stormwater runoff from surrounding roadways, flows south to Clear Creek.	WOTUS Rule Exclusion (b)(3) - Roadside ditches excavated in uplands may apply; however, feature is a RPW and drains directly to Clear Creek via culvert. Waters of the State Excluded Waters (5)(b) - Stormwater control features in uplands applies - Not a regulated Water of the State If feature not WOTUS, it would still be subject to CDOT wetland impact mitigation policy.	USACE or CDOT
WL3	16	PEM	0.129	Beaver activity, fed by stormwater runoff from surrounding roadways, flows south to Clear Creek.	WOTUS Rule Exclusion (b)(3) - Roadside ditches excavated in uplands may apply; however, feature is a RPW and drains directly to Clear Creek via culvert. Waters of the State Excluded Waters (5)(b) - Stormwater control features in uplands applies - Not a regulated Water of the State If feature not WOTUS, it would still be subject to CDOT wetland impact mitigation policy.	USACE or CDOT

Wetland ID	Figure 5 Page Number	Cowardin Classification[1]	Area (acre)	Notes	CWA Jurisdictional Assessment	Agency[2]
WL4	14	PEM	0.062	Abutting large stormwater retention basin (OW1), outlet in SW corner of pond drains to stormwater system.	WOTUS Rule Exclusion (b)(5) - Artificial ponds created in dry land to collect water for settling may apply; however, feature is a RPW and likely drains to the municipal stormwater system. Waters of the State (5)(b) Excluded Waters - Stormwater control features in uplands applies - Not a regulated Water of the State Feature is neither WOTUS nor State jurisdictional; however, it would be subject to CDOT wetland impact mitigation policy.	CDOT
WL5	15	PEM	0.053	Roadside ditch along I-270, flow is east, but there is no outlet or connection to a downstream water.	WOTUS Rule Exclusion (b)(3) - Roadside ditches excavated in uplands applies, not a WOTUS Waters of the State (5)(b) Excluded Waters - Stormwater control features in uplands applies - Not a regulated Water of the State Feature is neither WOTUS nor State jurisdictional; however, it would be subject to CDOT wetland impact mitigation policy.	CDOT
WL6	15	PEM	0.050	Stormwater ditch capturing inputs from nearby parking and roadways, flows south through culvert to Clear Creek.	WOTUS Rule Exclusion (b)(8) - Swales and erosional features may apply; however, feature is a RPW and drains directly to the Clear Creek floodplain via culvert and could be considered CWA-jurisdictional. If not WOTUS, Waters of the State (5)(b) Excluded Waters - Stormwater control features in uplands applies, and would not be a regulated Water of the State.	USACE

Wetland ID	Figure 5 Page Number	Cowardin Classification[1]	Area (acre)	Notes	CWA Jurisdictional Assessment	Agency[2]
WL7	12	PEM	0.180	Stormwater pond capturing runoff from nearby parking, outlet at south end presumably connects to nearby Colorado Agricultural Canal (OW3).	Non-WOTUS; pending AJD. Appears to lack continuous surface connection to a WOTUS. WOTUS Rule Exclusion (b)(5) may also apply - Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing. If not CWA-jurisdictional, Waters of the State (5)(b) Excluded Waters - Stormwater control features in uplands applies, and would not be a regulated Water of the State. If feature is neither WOTUS nor State jurisdictional, it would be subject to CDOT wetland impact mitigation policy.	USACE or CDOT
WL8	12	PEM	0.010	Fringe wetland along the Lower Clear Creek Canal (OW2).	Wetland abutting canal, presumed WOTUS.	USACE
WL9	10	PEM	0.339	Constructed pond, presumably filled by pumped groundwater to irrigate surrounding meadows. No connection to natural drainages.	WOTUS Rule Exclusion (b)(5) - Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for irrigation. Waters of the State Excluded Waters (5)(d) - Artificial lakes, lagoons, or ponds that are created entirely by excavating or diking upland to collect and retain water and that are used exclusively for irrigation. Feature is neither WOTUS nor State jurisdictional; however, it would be subject to CDOT wetland impact mitigation policy.	CDOT

Wetland ID	Figure 5 Page Number	Cowardin Classification[1]	Area (acre)	Notes	CWA Jurisdictional Assessment	Agency[2]
WL10	9, 10	PEM	0.092	Wetland formed by stormwater inputs from highway culverts, drains east in small channel (OW5) into neighborhood, presumably to stormwater collection.	No WOTUS Rule Exclusions apply. Stormwater fed RPW wetland that drains to municipal stormwater system. Waters of the State (5)(b) Excluded Waters - Stormwater control features in uplands applies, and would not be a regulated Water of the State. If feature is neither WOTUS nor State jurisdictional, it would be subject to CDOT wetland impact mitigation policy.	USACE or CDOT
WL11	9	PEM	0.010	Landscaped median between offramp and I-25, fed by stormwater runoff, no drain or outlet observed. Flows north to main stormwater collector north of overpass.	Non-WOTUS; lacks continuous surface connection to a WOTUS. WOTUS Rule Exclusion (b)(3) - Roadside ditches excavated in uplands applies, not a WOTUS. Waters of the State (5)(b) Excluded Waters - Stormwater control features in uplands applies - Not a regulated Water of the State. Feature is neither WOTUS nor State jurisdictional; however, it would be subject to CDOT wetland impact mitigation policy.	CDOT
WL13	8	PEM	0.093	Stormwater basin fed by runoff from nearby parking area, drains through culvert to Niver Creek (OW6).	Wetland formed in stormwater basin. Waters of the State (5)(b) Excluded Waters - Stormwater control features in uplands applies, and would not be a regulated Water of the State. If feature is neither WOTUS nor State jurisdictional, it would be subject to CDOT wetland impact mitigation policy.	USACE or CDOT
WL14	5	PEM	0.692	Large stormwater basin collecting runoff from the north and south, conveyed west under I-25 to an unnamed tributary of Niver Creek (OW13) and WL30.	Wetland formed in stormwater basin; however, it drains directly to a headwaters tributary to Niver Creek west of the highway. Waters of the State (5)(b) Excluded Waters - Stormwater control features in uplands applies, and would not be a regulated Water of the State. If feature is neither WOTUS nor State jurisdictional, it would be subject to CDOT wetland impact mitigation policy.	USACE or CDOT

Wetland ID	Figure 5 Page Number	Cowardin Classification[1]	Area (acre)	Notes	CWA Jurisdictional Assessment	Agency[2]
WL15	5	PEM	0.039	Stormwater ditch capturing inputs from nearby parking, no outlet or drain observed.	WOTUS Rule Exclusion (b)(3) - Roadside ditches excavated in uplands applies, not a WOTUS. Waters of the State (5)(b) Excluded Waters - Stormwater control features in uplands applies - Not a regulated Water of the State Feature is neither WOTUS nor State jurisdictional; however, it would be subject to CDOT wetland impact mitigation policy.	CDOT
WL16	3	PSS	0.050	Fed from Farmers Ditch on west side of I-25, a portion of the channel is WL16, but becomes open and non-vegetated at OW7 and flows to a drain at the eastern end, presumably reaching the Colorado Agricultural Canal.	WOTUS Rule Exclusion (b)(4) Artificially irrigated areas that would revert to dry land if irrigation ceased. Waters of the State (5)(a) Excluded Waters - All portions of ditches and canals that are excavated on upland and that convey water or wastewater applies - Not a regulated Water of the State. Impacts to this feature should be permitted by USACE due to being along a regional irrigation canal system and would be subject to CDOT wetland impact mitigation policy.	USACE or CDOT
WL17	3	PEM	0.089	Ditch along I-25, flows north in erosional gully to WL16/OW7 drainage.	Non-WOTUS, pending AJD. WOTUS Rule Exclusion (b)(3) - Roadside ditches excavated in uplands applies, not a WOTUS. Waters of the State (5)(b) Excluded Waters - Stormwater control features in uplands applies - Not a regulated Water of the State Feature is neither WOTUS nor State jurisdictional; however, it would be subject to CDOT wetland impact mitigation policy.	USACE or CDOT
WL18	2	PEM	0.034	Ditch wetland fed by irrigation and runoff from north, flows east to business access driveway, over curb into roadway. No drain or outlet observed.	WOTUS Rule Exclusion (b)(3) - Roadside ditches excavated in uplands applies, not a WOTUS. Waters of the State (5)(b) Excluded Waters - Stormwater control features in uplands applies - Not a regulated Water of the State Feature is neither WOTUS nor State jurisdictional; however, it would be subject to CDOT wetland impact mitigation policy.	CDOT

Wetland ID	Figure 5 Page Number	Cowardin Classification[1]	Area (acre)	Notes	CWA Jurisdictional Assessment	Agency[2]
WL19	4	PEM	0.106	Wetland in median between I-25 and offramp, fed by stormwater from nearby roadways. Flows west under offramp in culvert to large wetland complex to the west.	Non-WOTUS, pending AJD; Lacks continuous surface connection to a WOTUS. WOTUS Rule Exclusion (b)(5) may also apply - Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing. Waters of the State (5)(b) Excluded Waters - Stormwater control features in uplands applies - Not a regulated Water of the State If feature is neither WOTUS nor State jurisdictional, it would be subject to CDOT wetland impact mitigation policy.	USACE or CDOT
WL21	7	PEM	0.114	Overflow stormwater basin along Niver Creek drainageway. Conveys stormwater flow back to Niver Creek via a culvert.	Non-WOTUS; pending AJD. Lacks continuous surface connection to a WOTUS.	USACE, or CDOT
WL22	6, 7	PSS	0.034	Fringe wetland along Niver Creek (OW6) at the creek's outlet at 88th Ave., flows east to support WL21, then passes under I-25 as Niver Creek.	Wetland abutting Niver Creek, WOTUS.	USACE
WL23	8	PEM	0.024	Four patches of fringe wetland along Niver Creek Tributary L (OW11), culvert conveys OW11 under I-25 and it joins Niver Creek (OW6) on the east side of the highway.	Wetland abutting Niver Creek Tributary L, presumed WOTUS.	USACE

Wetland ID	Figure 5 Page Number	Cowardin Classification[1]	Area (acre)	Notes	CWA Jurisdictional Assessment	Agency[2]
WL24	8	PSS	0.168	Stormwater from parking area to south feeds retention basin, drain at north end presumably connects to OW11 just to the north.	Wetland formed in stormwater basin; drains to Niver Creek Tributary L via culvert. Likely non-WOTUS. Waters of the State (5)(b) Excluded Waters - Stormwater control features in uplands applies, and would not be a regulated Water of the State. If feature is neither USACE nor State jurisdictional, it would be subject to CDOT wetland impact mitigation policy if permanent impacts are proposed.	USACE or CDOT
WL25	9	PEM	0.092	Ditch along I-25, fed by stormwater, culvert outlet at north end from roadside drainage. No outlet or drain located.	Non-WOTUS, pending AJD; lacks continuous surface connection to a WOTUS. WOTUS Rule Exclusion (b)(3) - Roadside ditches excavated in uplands applies, not a WOTUS. Waters of the State (5)(b) Excluded Waters - Stormwater control features in uplands applies - Not a regulated Water of the State. Feature is neither USACE nor State jurisdictional; however, it would be subject to CDOT wetland impact mitigation policy.	USACE or CDOT
WL26	13	PEM	0.017	Ditch wetland with no apparent inlet or water source other than roadside runoff. Feature ends as wetland, no channel or culvert/drain downstream.	Non-WOTUS; lacks continuous surface connection to a WOTUS. WOTUS Rule Exclusion (b)(3) - Roadside ditches excavated in uplands applies, not a WOTUS. Waters of the State (5)(b) Excluded Waters - Stormwater control features in uplands applies - Not a regulated Water of the State. Feature is neither USACE nor State jurisdictional; however, it would be subject to CDOT wetland impact mitigation policy, if impacted.	CDOT
WL27	6	PEM	0.099	Stormwater feature constructed along historic Niver Creek drainageway. Fed by flows from WL28 and parking lot to the west.	Wetland formed in stormwater basin along Niver Creek. Presume WOTUS.	USACE or CDOT

Wetland ID	Figure 5 Page Number	Cowardin Classification[1]	Area (acre)	Notes	CWA Jurisdictional Assessment	Agency[2]
WL28	6, 7	PEM	0.018	Ditch wetland supported by stormwater inputs from culvert from 88th Ave. and runoff from the north, drains west to WL27 and Niver Creek (OW6).	Non-WOTUS, pending AJD. WOTUS Rule Exclusion (b)(3) - Roadside ditches excavated in uplands applies, no continuous connection to downstream waters, not a WOTUS. Waters of the State (5)(b) Excluded Waters - Stormwater control features in uplands applies - Not a regulated Water of the State. Feature is neither USACE nor State jurisdictional; however, it would be subject to CDOT wetland impact mitigation policy.	USACE or CDOT
WL29	5	PEM	0.259	Depression at headwaters of Niver Draw (OW14), no inlet or water source noted, likely groundwater-fed with runoff from I-25, flows to Niver Creek (OW6).	Wetland abutting Niver Creek tributary, WOTUS.	USACE
WL30	5	PEM	0.005	Fringe along culvert outlet along unnamed tributary to Niver Creek (OW13), fed by input from WL14 on east side of I-25.	Wetland abutting Niver Creek tributary, WOTUS.	USACE
WL31	6	PEM	0.016	Small wetland on the edge of beaver pond (OW15), part of Niver Creek drainage (OW6).	Wetland abutting Niver Creek, WOTUS.	USACE
WL32	6, 7	PEM	0.524	Multiple fringe wetlands along Niver Creek (OW6).	Wetland abutting Niver Creek, WOTUS.	USACE
WL33	6	PSS	0.350	Multiple fringe wetlands along Niver Creek (OW6).	Wetland abutting Niver Creek, WOTUS.	USACE
WL34	6	PEM	0.152	Recently created wetland along Niver Creek (OW6) at the creek's inlet under the dam.	Wetland abutting Niver Creek, WOTUS.	USACE
WL36	8	PSS	0.108	Fringe wetlands along Niver Creek (OW6).	Wetland abutting Niver Creek, WOTUS.	USACE

Wetland ID	Figure 5 Page Number	Cowardin Classification[1]	Area (acre)	Notes	CWA Jurisdictional Assessment	Agency[2]
WL37	3, 4	PEM	0.550	Formed in depression of Badding Reservoir, fed historically by Farmers High Line Canal for agricultural purposes. Currently no observed inlet/outlet or perennial surface water connection.	Wetland formed in flood control basin fed by agricultural ditch in Badding Reservoir. Possible WOTUS. If water feature is neither WOTUS nor State jurisdictional, it would be subject to CDOT wetland impact mitigation policy, if impacted.	USACE or CDOT
WL38	4	PSS	1.024	Formed in depression of Badding Reservoir, fed historically by Farmers High Line Canal for agricultural purposes. Currently no observed inlet/outlet or perennial surface water connection.	Wetland formed in flood control basin fed by agricultural ditch in Badding Reservoir. Possible WOTUS. If feature is neither WOTUS nor State jurisdictional, it would be subject to CDOT wetland impact mitigation policy, if impacted.	USACE or CDOT
WL39	4	PFO	0.137	Formed in depression of Badding Reservoir, fed historically by Farmers High Line Canal for agricultural purposes. Currently no observed inlet/outlet or perennial surface water connection.	Wetland formed in flood control basin fed by agricultural ditch in Badding Reservoir. Possible WOTUS. If feature is neither WOTUS nor State jurisdictional, it would be subject to CDOT wetland impact mitigation policy, if impacted.	USACE or CDOT
WL40	4	PEM	0.215	Fed by drainage to the northeast, as overflow from Croke Lake on the east side of I-25.	Non-WOTUS; appears to lack continuous surface connection to a WOTUS. No State jurisdictional exclusions appear to apply.	CDPHE or CDOT
WL41	4	PSS	0.084	Fed by drainage to the northeast, as overflow from Croke Lake on the east side of I-25. Potential downstream connection to Niver Creek.	Non-WOTUS; appears to lack continuous surface connection to a WOTUS. No State jurisdictional exclusions appear to apply.	CDPHE or CDOT
WL42	3	PEM	0.130	Fringe wetland adjoining Croke Lake. Croke Lake overflows via drainage into WL 40 and 41.	Non-WOTUS; appears to lack continuous surface connection to a WOTUS. No State jurisdictional exclusions appear to apply.	CDPHE or CDOT

[1] PEM = Palustrine Emergent; PSS = Palustrine Scrub-Shrub; PFO = Palustrine Forested Wetland
[2] Jurisdictional status can only be determined by the regulatory agency; however, preliminary assessments can be made

Table 2. Non-Wetland Waters Details

Fea-ture ID	Figure 5 Page Number	Cowardin Classification[1]	Area (acre)	Width (ft)	Length (ft)	Notes	Jurisdictional Assessment	Agency[2]
OW1	14	PABF	2.523	NA	NA	Large stormwater retention basin in the SE corner of I-25 and I-270 interchange. Drain in the south end to unknown location, likely stormwater system.	WOTUS Rule Exclusion (b)(5) - Artificial ponds created in dry land to collect water for settling may apply; however, feature is a RPW and likely drains to the municipal stormwater system. Waters of the State (5)(b) Excluded Waters - Stormwater control features in uplands applies - Not a regulated Water of the State Feature is neither USACE nor State jurisdictional.	N/A
OW2	12	R4SBCx	0.085	15	218	The Lower Clear Creek Canal, flows northwest to the South Platte River.	RPW canal with direct connection to Niver Creek and the South Platte River, presumed WOTUS.	USACE
OW3	12	R4SBCx	0.029	12	72	The Colorado Agricultural Canal, flows northwest to the South Platte River.	RPW canal with direct connection to Niver Creek and the South Platte River, presumed WOTUS.	USACE
OW4	10	PUBGx[3]	0.328	NA	NA	Constructed pond, presumably filled by pumped groundwater to irrigate adjacent meadows. No connection to natural drainages.	WOTUS Rule Exclusion (b)(5) - Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for irrigation. Waters of the State Excluded Waters (5)(d) - Artificial lakes, lagoons, or ponds that are created entirely by excavating or diking upland to collect and retain water and that are used exclusively for irrigation. Feature is neither USACE nor State jurisdictional.	N/A
OW5	9, 10	R4SBA[3]	0.002	1	90	One-foot-wide open channel draining WL10, flows northeast into residential area, presumed to reach to stormwater system.	WOTUS Rule Exclusion (b)(3) - Roadside ditches excavated in uplands applies, drains to stormwater system, not a WOTUS Waters of the State (5)(b) Excluded Waters - Stormwater control features in uplands applies - Not a regulated Water of the State Feature is neither USACE nor State jurisdictional.	N/A
OW6	5, 6, 7, 8, 9	R5UBH	1.185	5	4067	Niver Creek, a near-perennial stream, flows southeast, joining the South Platte River.	RPW stream, presumed WOTUS	USACE
OW7	3	R4SBCx	0.069	4	492	Portion of a ditch originating on the west side of I-25 at Farmer's Ditch at a controlled diversion. Drains to inlet at east end of Survey Area.	Presumed WOTUS. Impacts to this feature should be permitted due to being along regional irrigation canal system. Waters of the State (5)(a) Excluded Waters - All portions of ditches and canals that are excavated on upland and that convey water or wastewater applies - Not a regulated Water of the State	USACE

Fea-ture ID	Figure 5 Page Number	Cowardin Classification[1]	Area (acre)	Width (ft)	Length (ft)	Notes	Jurisdictional Assessment	Agency[2]
OW8	2	R5UBH	0.051	NA	NA	Retention pond along the Grange Hall Creek Tributary South that discharges to natural channels to the east.	No WOTUS Rule Exclusions apply. RPW pond that drains to the municipal stormwater system. Possible WOTUS pending AJD. Waters of the State (5)(b) Excluded Waters - Stormwater control features in uplands applies - Not a regulated Water of the State	USACE
OW9	2	PUBF	1.319	NA	NA	Retention pond along the Grange Hall Creek Tributary South that likely drains to OW8 on the east side of I-25.	No WOTUS Rule Exclusions apply. RPW pond that drains east under highway to OW8, another stormwater pond, that in turn drains to the municipal stormwater system. Possible WOTUS pending AJD. Waters of the State (5)(b) Excluded Waters - Stormwater control features in uplands applies - Not a regulated Water of the State	USACE
OW11	8	PEM1C	0.244	6	643	Niver Creek Tributary L, carried under I-25 to Niver Creek.	RPW stream, presumed WOTUS	USACE
OW12	6	PEM1C	0.265	4	842	Niver Creek Tributary M, joins Niver Creek west of I-25.	RPW stream, presumed WOTUS	USACE
OW13	5, 6, 7	PEM1C	0.135	3	611	Unnamed Tributary to Niver Creek, joins Niver Creek west of I-25.	RPW stream, presumed WOTUS	USACE
OW14	5	PEM1C	0.012	2	120	Niver Draw, joins Niver Creek west of I-25.	RPW stream, presumed WOTUS	USACE
OW15	6	Rp1FO	0.661	NA	NA	Beaver pond in open space along Niver Creek (OW6)	RPW pond adjacent to Niver Creek, presumed WOTUS	USACE
OW16	1	R4SBA[3]	0.052	3	724	Small, stormwater fed channel flows north, reaching Grange Hall Creek via overland flow.	WOTUS Rule Exclusion (b)(3) - Roadside ditches excavated in uplands applies; however, it drains to Grange Hall Creek. Waters of the State (5)(b) Excluded Waters - Stormwater control features in uplands applies - Not a Water of the State	USACE
OW17	3, 4	PSS1C	0.386	50	400	Small ponding area in Badding Reservoir next to WL 37, 38, and 39. Badding Reservoir was historically fed by an agricultural canal.	Formed in flood control basin fed by agricultural ditch in Badding Reservoir. Possible WOTUS. No State jurisdictional exclusions appear to apply.	USACE or CDPHE

[1] Cowardin Classification as assigned in the NWI. PABF – Palustrine, Aquatic Bed, Semipermanently Flooded; R4SBCx – Riverine, Intermittent, Streambed, Seasonally Flooded, Excavated; PUBGx – Palustrine, Unconsolidated Bottom, Intermittently Exposed, Excavated; R4SBA - Riverine, Intermittent, Streambed, Temporarily Flooded; R5UBH – Riverine, Unknown Perennial, Unconsolidated Bottom, Permanently Flooded; PUBF - Palustrine, Unconsolidated Bottom, Semipermanently Flooded; PEM1C - Palustrine, Emergent Persistent, Seasonally Flooded; Rp1FO – Forested, Lotic, Riparian

[2] Jurisdictional status can only be determined by the regulatory agency; however, preliminary assessments can be made.

[3] No NWI classification, preliminary code assigned based on field observations.

Most other wetlands have developed within the stormwater drainage system of the surrounding infrastructure. Parking areas, commercial developments, and roadways all concentrate stormwater runoff to discrete discharge locations. This additional water input has formed several wetlands in vegetated drainage swales and roadside ditches.

4.2 Non-Wetland Waters

Aquatic resources that do not meet the criteria for wetlands are typically open water (e.g., ponds) or stream channels. Sixteen non-wetland waters were delineated, **Table 2**. Most are associated with natural drainages; the remainder are the result of concentrated stormwater runoff.

The Niver Creek drainage system, primarily in the Niver Creek Open Space, is composed of smaller tributaries that confluence in the south end of the open space before being conveyed under I-25 and continuing to the South Platte River.

The remaining non-wetland waters are agricultural canals, stormwater retention ponds, or small channels formed by stormwater runoff.

5.0 Jurisdictional Assessment

The purpose of this report is to document the presence of aquatic resources that may be subject to impact assessment as WOTUS under the CWA, as waters of the state under CDPHE Regulation 87 or as neither and are mitigated under CDOT policy. Jurisdictional status can only be determined by the regulatory agency; however, preliminary assessments can be made. **Table 1** and **Table 2** present an initial CWA jurisdictional/WOTUS status assessment based on several criteria.

Naturally-occurring relatively permanent waters (RPWs) and any abutting wetlands are generally considered CWA-jurisdictional. Niver Creek (OW6) and its tributaries (OW11, OW12, OW13, and OW14) are therefore CWA-jurisdictional. Wetlands abutting these waters would also be jurisdictional, e.g., WL22, WL31, WL32, and others.

Constructed or designed features that capture stormwater in uplands and discharge in uplands are typically not CWA-jurisdictional. This includes designed stormwater drainages that support wetlands (e.g., WL1, WL2, and WL3), and wetlands that have indirectly developed from poor local drainage (e.g., WL11, WL19, and WL23). Waters that capture only stormwater and discharge to the municipal stormwater system may be considered non-CWA-jurisdictional.

Waters that are not CWA-jurisdictional may be waters of the state, subject to impact regulation administered by CDPHE. Excluded from consideration are ditches constructed in uplands and stormwater control features; therefore, many of the waters in the Survey Area would not be waters of the state.

Natural aquatic resource (i.e., not artificially created) waters that are neither WOTUS nor waters of the state would then be considered isolated. Such wetlands are subject to CDOT's internal guidelines regarding mitigating impacts.

6.0 Conclusions

Numerous aquatic resources are present within the Survey Area. Some are natural features, though all have been modified to some degree as the urban corridor developed around them. Some features have been created, directly and indirectly, by concentrated stormwater runoff. Impacts to aquatic resources described in this report may be subject to regulation by state and/or federal agencies. When impacts to waters are determined, consultation with both the USACE and CDPHE will be required to determine the jurisdictional status of the impacted waters, including any permitting and mitigation.

7.0 References

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. FWS/OBS-79/31. USDI Fish and Wildlife Service, Washington, DC.

Environmental Systems Research Institute (ESRI). 2024. World Imagery. Accessed through ArcGIS Online.

FHWA and CDOT. 2011. North I-25 EIS Record of Decision (ROD). December.

Natural Resources Conservation Service (NRCS). 2024. Web Soil Survey. Available online at: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx. Accessed July 2024.

U.S. Army Corps of Engineers (USACE). 1987. Corps of Engineers Wetland Delineation Manual. Technical Report Y-87-1.

USACE. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual Great Plains Region (Version 2.0). ERDC/EL TR-10-01. March.

USACE. 2022. National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams. Interim Version. ERDC/CREREL TR-22-26. November.

USACE. 2024. Antecedent Precipitation Tool. Version 1.0.13. Available online at: https://github.com/jDeters-USACE/Antecedent-Precipitation-Tool/releases/tag/v1.0.13.

USACE. 2025a. Antecedent Precipitation Tool. Version 3.0.8. Available online at: https://github.com/erdc/Antecedent-Precipitation-Tool/releases/tag/v3.0.8

USACE. 2025b. National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams: Final Version. ERDC/CRREL TR-25-1. January.

USACE and EPA. 2023. Joint Coordination Memorandum to The Field Between the U.S. Department Of The Army, U.S. Army Corps Of Engineers (Corps) and The U.S. Environmental Protection Agency (EPA). September 27.

United States Geologic Survey (USGS). 2024. National Hydrography Dataset. Available online at: https://viewer.nationalmap.gov/basic/?basemap=b1&category=nhd&title=NHD%20View. Accessed July 2024.

U.S. Fish and Wildlife Service (USFWS). 2024. National Wetlands Inventory Surface Waters and Wetlands. Available online at: https://www.fws.gov/wetlands/data/Mapper.html. Accessed July 2024.

Attachment A.

Figures

Attachment A. Figures

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Attachment B.

Antecedent Precipitation Tool (APT) Report

Attachment B. Antecedent Precipitation Tool (APT) Report

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Attachment C.

Wetland Data Forms

Attachment C. Wetland Data Forms

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Attachment D.

Photos

Attachment D. Photos

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Attachment D.

Impacted Wetlands and Waters of the United States

Attachment D. Impacted Wetlands and Waters of the United States

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