E 88TH AVE 8800 N

I-76 NB RAMPS TO HIGHWAY 2

WETLANDS AND OTHER WATERS OF THE U.S.

May 2021

Prepared for:
City of Commerce City

Commerce CITY

ENVIRONMENTAL ASSESSMENT

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Acronyms and Abbreviations

BNSF	BNSF Railway
CFR	Code of Federal Regulations
CWA	Clean Water Act
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health and Environment
CM	Control Measures
EA	Environmental Assessment
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ETAP	Environmental Technologies Action Plan
FAC	Facultative
FACW	Facultative Wetland
FHWA	Federal Highway Administration
FACWet	Functional Assessment of Colorado Wetlands
NEPA	National Environmental Policy Act
OBL	Obligate
OHWM	ordinary high water mark
U.S.	United States
UPRR	Union Pacific Railroad
USACE	United States Army Corps of Engineers
WOUS	Waters of the U.S.

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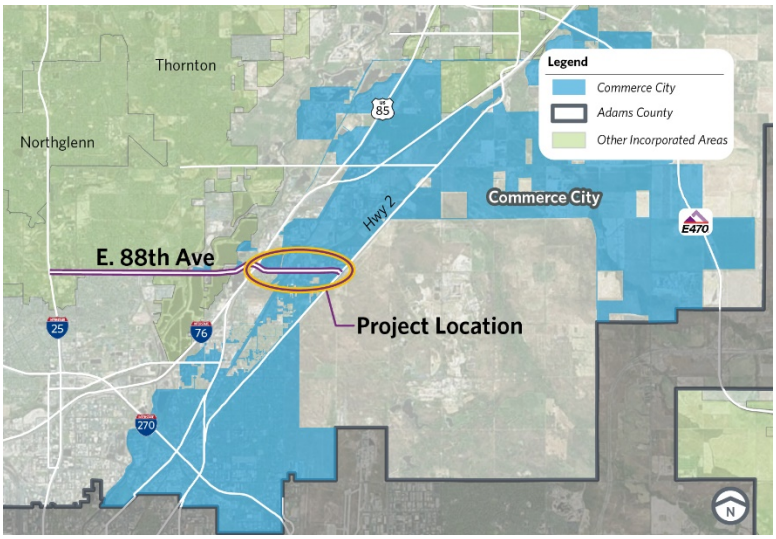
1.0 INTRODUCTION

The City of Commerce City and the Colorado Department of Transportation (CDOT) are proposing improvements to E. 88th Avenue, hereafter referred to as the Proposed Action.

This technical report discusses the regulatory setting, affected environment, and the impacts of the Proposed Action on wetlands and other waters of the U.S. (WOUS) within the identified project study area. This document also identifies mitigation measures, including applicable measures that will reduce impacts during construction and operation of the Proposed Action.

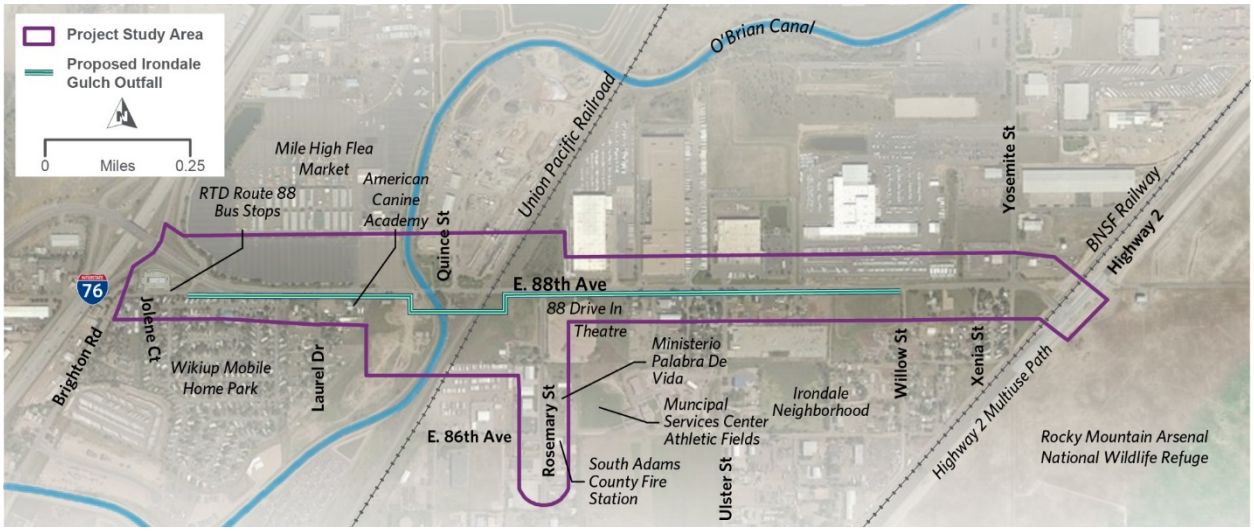
Figure 1. E. 88th Avenue Location Map



1.1 Project Study Area

The project study area is located in Commerce City, Adams County, Colorado (Figure 1). It extends approximately north and south 200 to 700 feet from the center of E. 88th Avenue, and approximately east and west 230 feet from the center of Rosemary Street and 650 feet south of E. 86th Avenue (Figure 2). Within the project study area, E. 88th Avenue crosses over the O'Brian Canal on a bridge, crosses a Union Pacific Railroad (UPRR) track at grade west of Rosemary Street, and crosses BNSF Railway (BNSF) tracks at grade west of Highway 2.

Figure 2. Project Study Area



2.0 REGULATIONS AND GUIDANCE

Agencies that regulate impacts to the nation's surface water resources within Colorado include the U.S. Army Corps of Engineers (USACE), the U.S. Environmental Protection Agency (EPA), and the Colorado Department of Public Health and Environment (CDPHE). WOUS are protected under Sections 401 and 404 of the Clean Water Act (CWA). The USACE has the primary regulatory authority for enforcing Section 404 requirements for jurisdictional WOUS. The EPA has final authority in jurisdictional determination rulings.

Additionally, waters of the U.S. are further identified using the most recently approved guidance from the USACE and EPA published December 2, 2008 (USACE and EPA, 2008). The guidance was issued pursuant to the U.S. Supreme Court findings in the Rapanos and Carabell cases and is herein referred to as the Rapanos Guidance.

The stated objective of the CWA is *to restore and maintain the chemical, physical, and biological integrity of the Nation's waters* (33 U.S.C. §§ 1251 *et seq.*). Section 404 of the Act requires the issuance of a permit by the USACE for the release of dredged or fill material into jurisdictional WOUS.

Additional protection is afforded to wetlands through Executive Order (EO) 11990, which directs federal agencies to avoid, to the extent possible, long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. Specifically, federal agencies are directed to provide leadership and take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities when acquiring, managing, and disposing of federal lands and facilities; and providing federally sponsored, financed, or assisted construction and improvements, or conducting federal activities and programs affecting land use. This EO does not apply to the issuance of permits (by federal agencies), licenses, or allocations to private parties for activities involving wetlands on non-federal property. According to the U.S. Department of Transportation's 5660.1A, the federal policy dictating implementation of EO 11990, new construction located in wetlands is to be avoided unless there is no practicable alternative to the construction and the proposed action includes all practicable measures to minimize harm (USDOT, 1978). According to recent Federal Highway Administration (FHWA) guidance, EO 11990 will continue to apply to many wetlands excluded from regulation under Section 404 of the CWA by the January 2001 court ruling (Environmental Technologies Action Plan [ETAP], 2001). Such wetlands include isolated, intrastate wetlands, such as prairie potholes and vernal pools. However, the FHWA has imposed limits on the extent to which EO 11990 will be applied (ETAP, 2001). The guidance is as follows:

> *FHWA will not apply EO 11990 to drainage ditches, either highway or for other purposes, which were not originally excavated in waters of the U.S. (as currently defined), or to sites exhibiting wetland characteristics which are solely caused and supported by human activities, such as but not limited to, stormwater runoff which is concentrated by man-made ditches or agricultural irrigation leakage, and which are not considered jurisdictional waters by the USACE.*

2.1 Definitions

The Code of Federal Regulations (33 CFR 328.3), defines WOUS as:

- *All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.*
- *All interstate waters including interstate wetlands.*
- *All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:*
  - *Which are, or could be, used by interstate or foreign travelers for recreational or other purposes; or*
  - *From which fish or shellfish are, or could be, taken and sold in interstate or foreign commerce; or*
  - *Which are used, or could be used, for industrial purposes by industries in interstate commerce.*
- *All impoundments of waters otherwise defined as waters of the U.S. under the definition.*
- *Tributaries of waters of the U.S. identified above.*
- *The territorial seas.*
- *Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in the paragraphs above. The term "adjacent" means bordering, contiguous, or neighboring. Wetlands separated from other waters of the U.S. by humanmade dikes or barriers, natural river berms, beach dunes, and the like are "adjacent wetlands.*

2.1.1 Streams

In general, the jurisdictional extent of streams is defined by the ordinary high water mark (OHWM). Per 33 CFR 328.3(e), the term "ordinary high water mark" means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as 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.

2.1.2 Wetlands

Wetlands can be WOUS and are defined by 33 CFR 328.3 (b) as areas that are inundated or saturated by surface or ground water 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. Wetlands generally include swamps, marshes, bogs, and similar areas. However, temporarily or seasonally flooded depressions that receive overland storm runoff or overbank floodwaters can meet the three criteria and be considered wetlands. This is often due to the slowly permeable soils that remain inundated or saturated and result in anaerobic, hydric soils after just 12 to 14 consecutive days.

If a wetland is observed in a project study area, wetlands would be determined by the positive indication of three criteria: hydrophytic vegetation, hydrology, and hydric soils. If evidence of the three criteria were found, a Wetland Determination Data Form would be completed on site. Recorded information would include the dominant plant species in each vegetation layer (i.e., tree, sapling/shrub, herbaceous, and

vine). The indicator status of each recorded plant species would be determined from the *North American Digital Flora: National Wetland Plant List, version 2.4.0* (Lichvar et al., 2016).

Recorded information includes the dominant plant species in each vegetation stratum (i.e., tree, sapling/shrub, herbaceous, and vine). The indicator status of each recorded plant species is determined from *The National Wetland Plant List* (Lichvar et al., 2016). To meet the dominance test for hydrophytic vegetation, greater than 50 percent of the dominant plant species must have an indicator status of facultative (FAC, 34 to 66 percent probability of occurring in wetlands), facultative wetland (FACW, 67 to 99 percent probability), or obligate wetland (OBL, greater than 99 percent probability).

The determination of wetland hydrology is based on the presence of at least one primary or two secondary indicators of a prolonged hydroperiod (i.e., period of inundation/saturation). Primary indicators include surface water, high water table, saturation, water marks, sediment deposits, drift deposits, algal mat or crust, iron deposits, inundation visible on aerial imagery, water-stained leaves, aquatic fauna, marl deposits, hydrogen sulfide odor, oxidized rhizospheres along living roots, presence of reduced iron, recent iron reduction in tilled soils, and thin muck surface. Secondary indicators include surface soil cracks, sparsely vegetated concave surface, drainage patterns, moss trim lines, dry-season water table, crayfish burrows, saturation visible on aerial imagery, geomorphic position, shallow aquitard, FAC-neutral test, and sphagnum moss.

Hydric soils are defined as soils that are flooded, ponded, or saturated long enough during the growing season to develop anaerobic conditions in the upper part of the soil profile. The determination of hydric soils is generally based on the presence of indicators of an aquic moisture regime and hydric conditions. Aquic moisture regimes occur under anaerobic conditions and could develop from continuous saturation for at least 5 percent of the growing season. At least one positive hydric soil indicator at each site is required to classify the soil as hydric. For example, soils in prolonged anaerobic conditions undergo chemical reduction of iron and manganese, thereby producing low-chroma soil colors. Additionally, if reduced iron and manganese in inundated or saturated soil is exposed to oxygen in other areas of the soil ped (e.g., root pores and ped faces), areas of concentrated high-chroma mottles develop that are referred to as redoximorphic features. During the field survey, colors of the soil profile matrix and mottles are identified using Munsell® soil color charts. Additional characteristics of soil profile, texture, color, topography, and field indicators of hydrology are also considered in determining the presence of hydric soil.

Wetland Finding

CDOT Guidance for Functional Assessment of Wetlands states that a Wetland Finding needs to be completed if permanent impacts to wetlands and other WOUS exceed 500 square feet or a combination of permanent and temporary impacts exceed 1,000 square feet. Additionally, a Functional Assessment of Colorado Wetlands (FACWet) analysis is required for CDOT/FHWA projects and FHWA-funded projects if the impact to wetland habitat is 0.10 acre or greater (CDOT, 2013).

CDOT's wetlands program requires one-to-one replacement of both jurisdictional and non-jurisdictional wetlands impacted by projects.

3.0 METHODOLOGY

Before field surveys were conducted, the following data sources were reviewed for information on vegetation patterns, topography, drainage, and potential or known wetlands in the project vicinity:

- Aerial Imagery—Recent and historic imagery form 1993 through 2018.
- Topographic map—U.S. Geological Survey.
- National Wetlands Inventory data (USFWS, 2019).
- Soils data (NRCS, 2019a; NRCS, 2019b).
- General ecological description of the project study area (USDA, 2006).

HDR and CDOT biologists conducted site visits to assess the project study area on February 1 and 4, 2019.

The surveys were conducted in accordance with the USACE 1987 Wetlands Delineation Manual (Environmental Laboratory, 1987) and its Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0) (USACE, 2010). The delineation was also performed to reflect guidance in accordance with the U.S. Supreme Court rulings in the Solid Waste Agency of Northern Cook County and Rapanos cases (EPA, 2008). Potentially jurisdictional WOUS, including wetlands, would have been evaluated using routine on-site delineation methods, which includes the positive indication of three criteria: hydrophytic vegetation, hydrology, and hydric soils. However, due to terrain and lack of right-of-entry, potential WOUS including the O'Brian Canal and wetlands, were visually assessed from the edge of the property and the features were desktop-delineated and calculated in Esri ArcGIS 10.6 software.

3.1 Affected Environment

The project study area is located in Commerce City, Adams County, Colorado (Figure 1). The project study area begins at the intersection of E. 88th Avenue with Interstate 76 northbound ramps and transverse eastward to the intersection with Highway 2 (Figure 2).

The Proposed Action is located within the Commerce City, Colorado United States (U.S.) Geological Survey quadrangle unit (2016) (Public Land Survey System: Sections 20, 21, 22, 27, 28, and 29 of Township 2 South, and Range 67 West). The western terminus coordinates of the Proposed Action are 39.85740, -104.91211 (WGS 84), and the eastern terminus coordinates are 39.85549, -104.88257.

The project study area lies within the Central High Plains, Southern Part Major Land Resource Area, part of the Western Great Plains Range and Irrigated Region Land Resource Region (USDA, 2006). The Central High Plains, Southern Part Major Land Resource Area includes smooth to slightly irregular plains consisting of sediments deposited by rivers that drained the young and actively eroding Rocky Mountains. The immediate project study area has been significantly disturbed by the ongoing development of Commerce City.

The climate in the project study area is semiarid. Annual precipitation in the project study area ranges from 12 to 18 inches, with the greatest amount of precipitation received during the spring and summer. Fall and winter are comparatively dry (USDA, 2006). The average annual precipitation is 17 inches,

based on a 30-year average (1981 to2010) (NOAA, 2011). The average annual temperature is 45 to 55 degrees Fahrenheit, while the freeze-free period averages 160 days and ranges from 135 to 190 days (USDA, 2006).

The project study area is located in an industrial and commercial area with some residential areas on the south side of E. 88th Avenue. The project study area includes a few parcels that are not developed and are primarily dominated by non-native species. The project study area occurs at an elevation of approximately 5,150 feet. The predominant habitat types within the project study area include disturbed grassy/weedy roadside habitat and landscaped areas. There is one stream, the O'Brian Canal, and two wetlands in the project area, which provide habitat for terrestrial and avian species. At the eastern terminus of the project study area is the Rocky Mountain National Wildlife Refuge which has an established 15,000 acres of prairie and lakes attracting a variety of wildlife.

3.1.1 Vegetation

Disturbed/developed lands are the most dominant habitat type in the project study area (Photo 1). The proposed project would be generally located within existing disturbed roadway right-of-way that does not provide suitable habitat for most native wildlife species. Dominant species along much of the disturbed roadside upland habitats included: smooth brome (*Bromus inermis*), Canada thistle (*Cirsium arvense*), downy brome (*Bromus tectorum*), kochia (*Kochia scoparia L.*), puncturevine (*Tribulus terrestris*), Russian thistle (*Salsola tragus L.*), soapweed yucca (*Yucca angustifolia),* common mullein (*Verbascum thapsus*), diffuse knapweed (*Centaurea diffusa*), and a variety of landscape grasses. Kochia was observed throughout the project study area, sometimes forming dense stands in disturbed areas. Scattered shrubs and trees in the project study area included rabbitbrush (*Chrysothamnus nauseous*), Siberian elm (*Ulmus pumila*), Russian olive (*Elaeagnus angustifolia*), and plains cottonwood (*Populus deltoides*).

Photo 1. General habitat within the project study area

Although limited, there are aquatic resources located in the project area. Riparian habitat along the O'Brian Canal included plains cottonwood, smooth brome, kochia, and other seasonally unidentifiable forbs and grasses. Wetland and open water habitat within the project study area included plains cottonwood, Siberian elm, cattail (*Typha* spp.), and rushes (*Schoenoplectus* sp.).

3.1.2 Soils

Soils in the project study area are typically sandy clay loams and clay loams formed from alluvial or eolian processes, and are well-drained. The types of soil within the project study area are shown in Table 1 (NRCS, 2019a).

Table 1. Characteristics of Soils Mapped in the Project Study Area

Mapping Unit Symbol and Name	Texture	Percent Slope	Location	Drainage Class	Prime Farmland	Hydric Soil
AsB—Ascalon sandy loam	Sandy clay loam	0 to 3	Eastern half of project study area	Well-drained	No	No
AsC—Ascalon sandy loam	Sandy clay loam	3 to 5	Middle portion of project study area near the railroad tracks	Well-drained	No	No
NIA—Nunn loam	Clay loam	0 to 1	Western portion of project study area, mostly along irrigation canal	Well-drained	No	No
NIB—Nunn loam	Clay loam	1 to 3	Middle portion of the project study area near railroad tracks	Well-drained	No	No
SnA—Satanta loam	Clay loam	0 to 1	Western portion of the project study area around Mile High Flea Market	Well-drained	No	No
VoA—Vona sandy loam	Sandy loam	0 to 1	Western portion of the project study area near interchange with I-76	Well-drained	No	Yes
VoB—Vona sandy loam	Sandy loam	1 to 3	Western portion of the project study area near interchange with I-76	Well-drained	No	No
VoC—Vona sandy loam	Sandy loam	3 to 5	Eastern portion of the project study area near interchange with Highway 2	Well-drained	No	No

Source: NRCS, 2019a.

3.1.3 Hydrology

The Irondale Gulch basin is characterized by a lack of existing stormwater infrastructure. Currently, most site runoff either infiltrates or flows overland in a westerly direction. The project site is flat (under 1% slope), so runoff is generally slow and unconcentrated. Under the Proposed Action, roadway runoff flows will be concentrated and conveyed underground in a storm sewer system west to the South Platte River. The project study area includes the O'Brian Canal, which is a diversion of the South Platte River approximately 4.8 aerial miles southwest of the project study area. Both untreated runoff from the existing bridge and overland sheet flow enters the canal. The O'Brian Canal drains to Barr Lake, which then drains to multiple irrigation ditches. Some of these ditches drain upland and some drain back to the South Platte River. The South Platte River flows northeast and converges with the Missouri River, a traditional navigable water, in eastern Nebraska and eventually drains into the Mississippi River in eastern Missouri.

3.2 Results

Aquatic resources identified as potential WOUS within the project study area consist of one perennial stream channel. In addition, two wetlands and one open water feature were identified in the project study area but are not considered WOUS (Photo 2, Photo 3, Table 2, and Figure 3).

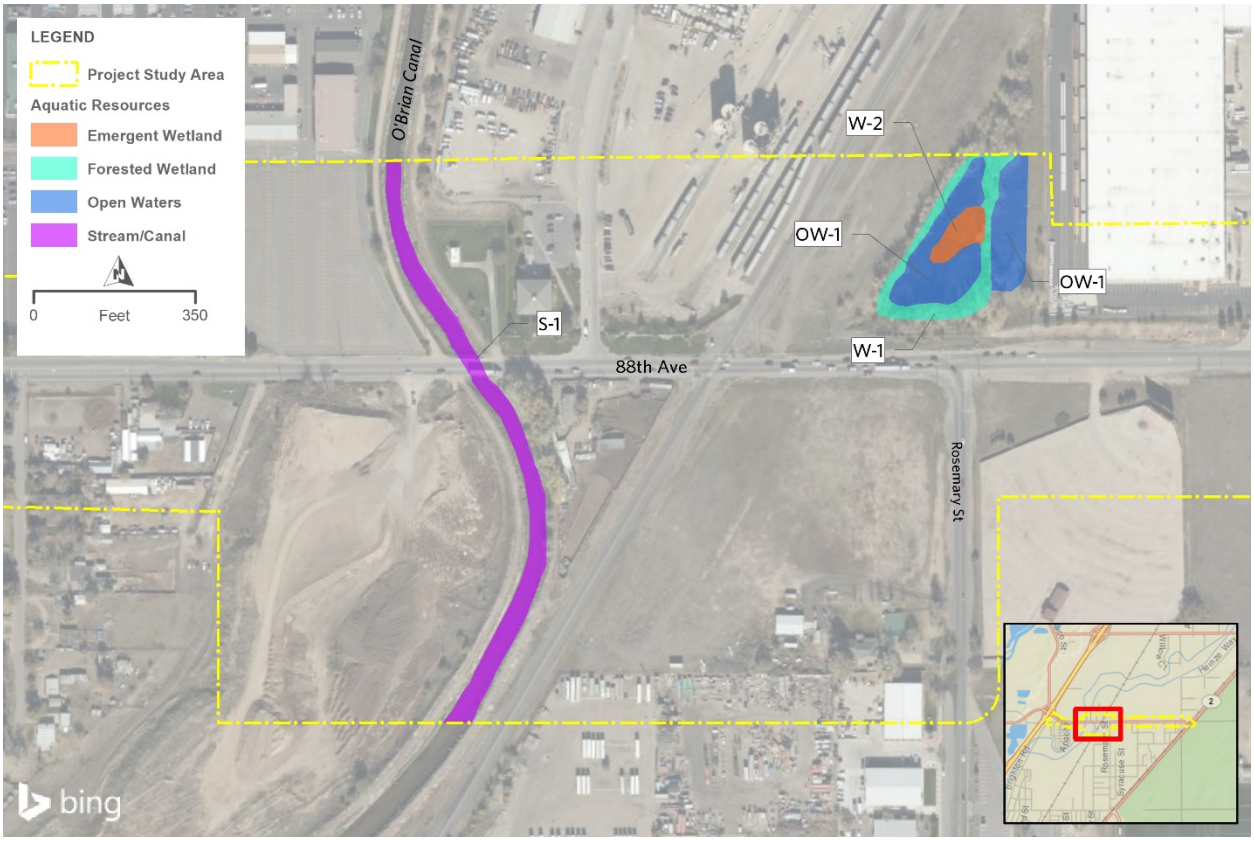
Table 2. Summary of Aquatic Resources within the Project Study Area

Resource ID	Acreage within the Project Study Area
Streams	1.17
Wetlands	0.73
Open Waters	1.08
Total	**2.98**

Photo 2. O'Brian Canal (S-1) crossing under E. 88th Avenue within the project study area (looking south).

Photo 3. View of the emergent and forested wetland (W-1 and W-2), and open waters (OW-1) within the project study area (looking north).

Figure 3. Aquatic Resources Within the Project Study Area



3.2.1 Streams

Perennial stream S-1 or the O'Brian Canal, flows through the western portion of the project study area. The stream has steep banks with a 42-foot average OHWM. Riparian vegetation includes smooth brome, kochia, and plains cottonwood trees. Some of the eroding banks have been armored with concrete riprap. Potential wetlands along the O'Brian Canal were investigated; however, due to lack of right-of-entry, and lack of visual hydrologic and vegetative indicators, soil pits were not excavated for further analysis. The O'Brian Canal is a diversion of the South Platte River, which is located 4.8 miles southwest of the project study area. Within the project study area, stream S-1 is 1,320 feet in length and 1.17 acres in size (Table 3).

The National Hydrology Dataset shows the O'Brian Canal as a blue line for the stream segment described above. Because of this and its connection to the South Platte River, stream S-1 is considered a WOUS.

Table 3. Streams Within the Project Study Area

Resource ID	Description	Average OHWM (feet)*	Classification	Linear Feet within the Project Study Area	Acreage within the Project Study Area
S-1	Perennial Stream	42	RPW	1,320	1.17
			Total		**1.17**

*OHWM: Ordinary High Water Mark.

**RPW: Relatively permanent water that flows indirectly into traditional navigable water.

3.2.2 Non-Jurisdictional Features

Table 4. Wetlands and Open Waters within the Project Study Area

Resource ID	Description*	Classification**	Acreage within the Project Study Area
W-1	Forested	Abutting	0.54
W-2	Emergent	Abutting	0.19
OW-1	Open Water	Abutting	1.08
		Total	**1.81**

Cowardin et al., 1979.

** Abutting: Wetland abutting a relatively permanent water.*

The project study area includes non-jurisdictional drainage features that hold infrequent drainage. Non-jurisdictional waters in the project study area include two assumed wetlands—one palustrine emergent and another palustrine forested, and a connected open water feature (Table 4). Abutting each other, both the open water and wetlands appear to be a private water quality pond and product of the railroad construction on the west (i.e., UPRR) and the commercial building (i.e., Lowes Distribution) on the east. This pond does not accept roadway runoff and treats only site drainage. The water features are in a depressed landscape and isolated from other WOUS and therefore are considered non-jurisdictional. During the time of the delineation, right-of-entry was not obtained so a visual observation was made from the edge of the property boundary, and the boundaries of the wetlands were delineated using ArcGIS 10.6 with historic aerials.

Two wetlands, forested wetland W-1 and emergent wetland W-2, are located in the center portion of the project study area. Within the project study area, wetlands W-1 and W-2 are 0.54 acre and 0.19 acre in size, respectively. Abutting these two wetlands is an open water feature, OW-1, which is 1.08 acres in size.

During the February 2019 field survey, the previous year's cattail growth was evident, and the features contained standing water (Photo 3). The wetland habitat around the open water feature was dominated by plains cottonwood, Siberian elm, cattail, and rushes.

Within the project study area, the non-jurisdictional wetlands are not considered to be WOUS because each feature: (1) does not have a surface hydrologic connection to a water of the U.S.; (2) is not adjacent to a WOUS; (3) is not used for, never was in the past, and likely never would be used for interstate commerce; and/or (4) is not an interstate water (USACE, 2008).

4.0 DESCRIPTION OF ALTERNATIVES

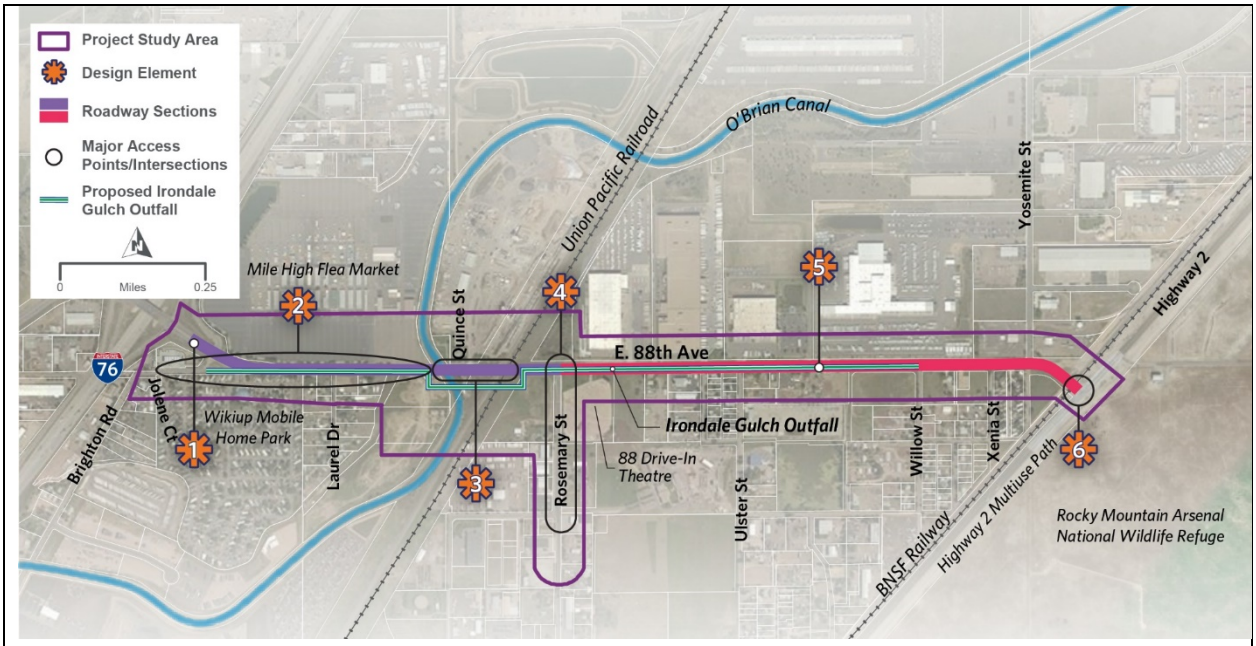
4.1 No-Action Alternative

Under the No-Action Alternative, the project study area would remain largely the same as its existing condition, with the exception of future implementation of the Irondale Gulch Outfall project, which will require reconstructing a portion of E. 88th Avenue from Brighton Road to Willow Street to construct the regional storm sewer underneath the roadway.

4.2 Proposed Action

The Proposed Action and the No-Action Alternative evaluated in this report are described in detail in the *E. 88th Avenue (I-76 NB Ramps to Highway 2) Environmental Assessment.* The Proposed Action would reconstruct E. 88th Avenue just east of the I-76 northbound ramps between Brighton Road and Highway 2 to improve traffic operations and accommodate all users. The design elements that comprise the Proposed Action are numbered from west to east and described in Figure 4.

Figure 4. Proposed Action Design Elements



1) Two lanes each direction, with raised median and a multiuse path on the north and sidewalk on the south, west of Rosemary Street.
2) Access changes between Brighton Road and the O'Brian Canal:
    a. Improved Jolene Court approach to Brighton Road.
    b. Permitted U-turn at E. 88th Avenue and Brighton Road.
    c. Improved access at the Mile High Flea Market with a signalized intersection, dedicated left-turn and U-turn movements, and dynamic lane (left-turn lane during events and travel lane during normal roadway operations).
3) New single-span bridge over the O'Brian Canal and improved at-grade crossing of UPRR to accommodate wider roadway and bicycle and pedestrian facilities.
4) Widened Rosemary Street with sidewalks on both sides and reconfigured intersection with E. 88th Avenue.
5) One lane in each direction, with a two-way left-turn lane and a buffer-separated multiuse path on the north and sidewalk on the south, east of Rosemary Street.
6) Multiuse path and sidewalk extended across the BNSF tracks and Highway 2.

Stormwater Drainage and Water Quality Treatment – Section of Irondale Gulch Outfall would detain stormwater and water would be treated within the proposed right-of-way.

5.0 IMPACTS EVALUATION

5.1 Methodology

Impacts to WOUS were assessed by overlaying the proposed roadway plans with the WOUS data layers.

5.2 No-Action Alternative

Under the No-Action Alternative, CDOT and Commerce City would not reconstruct E. 88th Avenue between I-76 and SH 2. No wetlands or other WOUS would experience any additional direct or indirect,

temporary or permanent, adverse impacts. Conditions would remain as described in Section 3.1 and continue to be subject to existing disturbances. The O'Brian Canal would continue to receive precipitation events, as well as some project study area runoff.

5.3 Proposed Action

WOUS within the project study area consist of one perennial stream, also known as O'Brian Canal. The Proposed Action will result in permanent impacts to the O'Brian Canal, as described below.

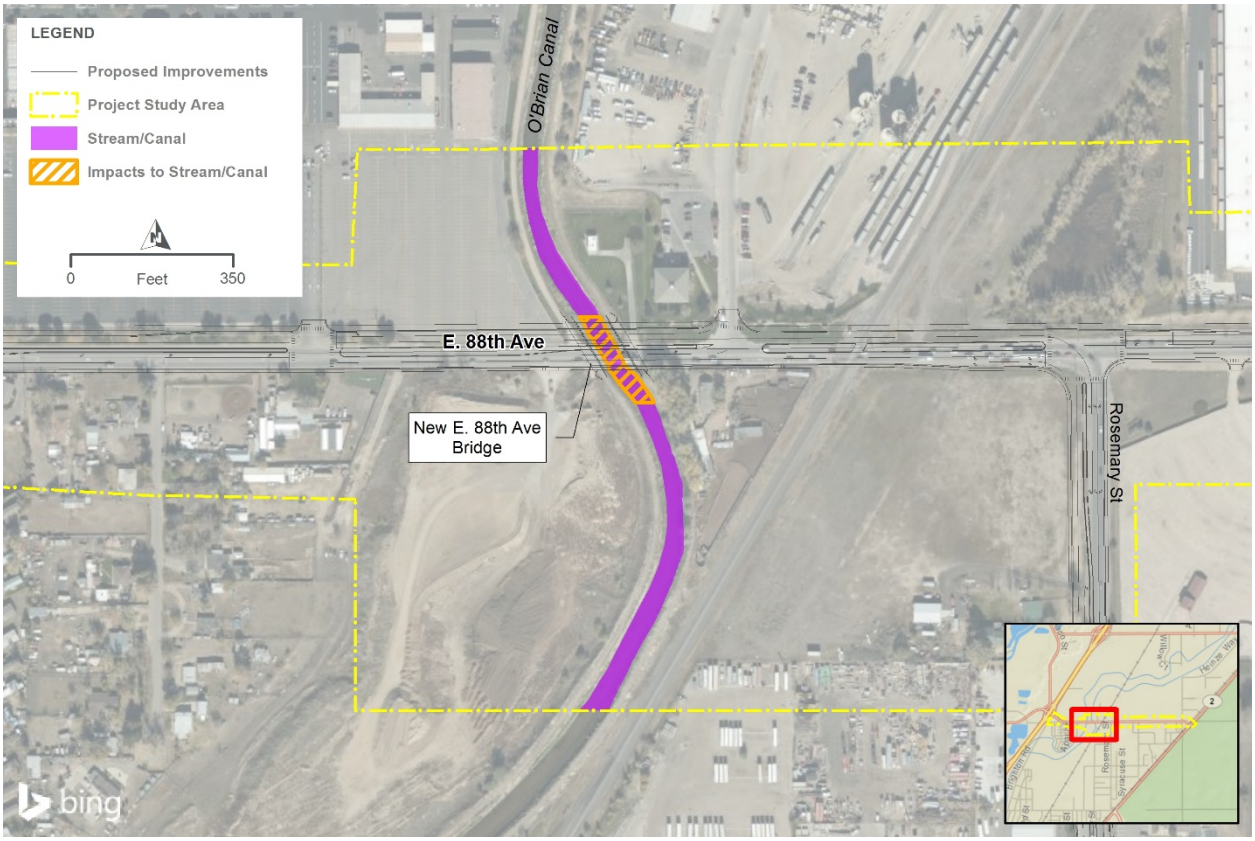
5.3.1 Permanent Impacts

Direct Impacts

No direct, permanent impacts to wetlands are anticipated from the Proposed Action.

A portion of the O'Brian Canal, a WOUS, will be concrete lined as required by the owner of the canal, resulting in approximately 0.18 acres (8,000 square feet) of permanent impacts (Figure 5). The bridge abutments are located outside the limits of the canal and the bridge is a single span over the canal, therefore no permanent impacts will result from construction of the bridge.

Figure 5. Impacts to WOUS



Indirect Impacts

No indirect permanent impacts to wetlands are anticipated from the Proposed Action.

Indirect impacts to WOUS would result in a benefit to the O'Brian Canal because improved roadway drainage would eliminate untreated stormwater runoff from E. 88th Avenue from entering the canal. Roadway runoff would be conveyed via a new stormwater system, flowing west and connecting to an existing stormwater system, and ultimately outfalling to the South Platte River. There would be a localized increase in stormwater runoff to the South Platte River.

5.3.2 Temporary Impacts (Construction)

Construction-related temporary impacts would include increased erosion from cleared and excavated areas and transport of sediments to wetlands and surface waters, including the wetland complex north of Rosemary Street and the O'Brian Canal. Additionally, potential impacts during construction are possible if spills of fuels or other materials cause a pollutant discharge into the O'Brian Canal.

6.0 SUMMARY OF FINDINGS

Based on the delineation and review of potentially jurisdiction waters of the U.S., including wetlands, the project study area contains 1 stream, totaling 1,320 feet in length and 1.17 acres.

7.0 AGENCY COORDINATION

Based on the conceptual design (approximately 15% design) and anticipated 0.18 acre of impacts to the O'Brian Canal, the Proposed Action would require a Section 404 permit; therefore, coordination with the USACE is anticipated.

7.1 Other Clean Water Act Permitting Requirements

Section 401 of the CWA requires that projects permitted under Section 404 permits meet conditions to ensure water quality protection during and following placement of fill into waters of the U.S. (for example, construction activities). Within Colorado, the Colorado Department of Public Health and Environment administers the Section 401 water quality certification program.

8.0 MITIGATION

Table 5. Summary of Impacts and Mitigation

Mitigation Category	Impact	Mitigation Commitment	Responsible Branch	Timing/Phase that Mitigation will be Implemented
Wetlands and Waters of the U.S.	Runoff to the O'Brian Canal or wetland complex north of Rosemary Street from construction activity.	Adhere to the terms and conditions of the Colorado Discharge Permit System permit. Fertilizers and/or hydro-mulching will not be allowed within 50 feet of the O'Brian Canal or wetland complex north of Rosemary Street. Equipment shall be refueled within designated refueling containment area. The refueling containment area shall be located greater than 100 horizontal feet away from the O'Brian Canal or wetland complex north of Rosemary Street. Construction staging and materials stockpiling will be located greater than 50 feet from the edge of wetlands or creeks, when possible, to avoid disturbance of vegetation and to prevent pollutant discharges into sensitive habitats. No staging will be allowed in wetlands. Specific locations will be determined during construction planning and, considering the narrowness of the corridor and limited areas available, this buffer may need to be reduced.	City of Commerce City, Contractor	During Construction

Table 5. Summary of Impacts and Mitigation

Mitigation Category	Impact	Mitigation Commitment	Responsible Branch	Timing/Phase that Mitigation will be Implemented
		If this buffer is not achievable, the City of Commerce City will consider the placement of materials closer to the edge of wetlands or the edge of water and identify appropriate additional Control Measures that will be required to minimize disturbance of vegetation and prevent pollutant discharges into sensitive habitats.		
Wetlands and Waters of the U.S.	Permanent impacts to approximately 124 linear feet of the O'Brian Canal (0.18 acre).	Obtain and adhere to the terms and conditions of the Section 404 Nationwide Permit.	City of Commerce City	Final Design, Pre-Construction
Wetlands and Waters of the U.S.	Runoff from ongoing operations.	Adhere to the terms and conditions of the City of Commerce City MS4 permit.	City of Commerce City, Contractor	Pre-Construction, During Construction

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