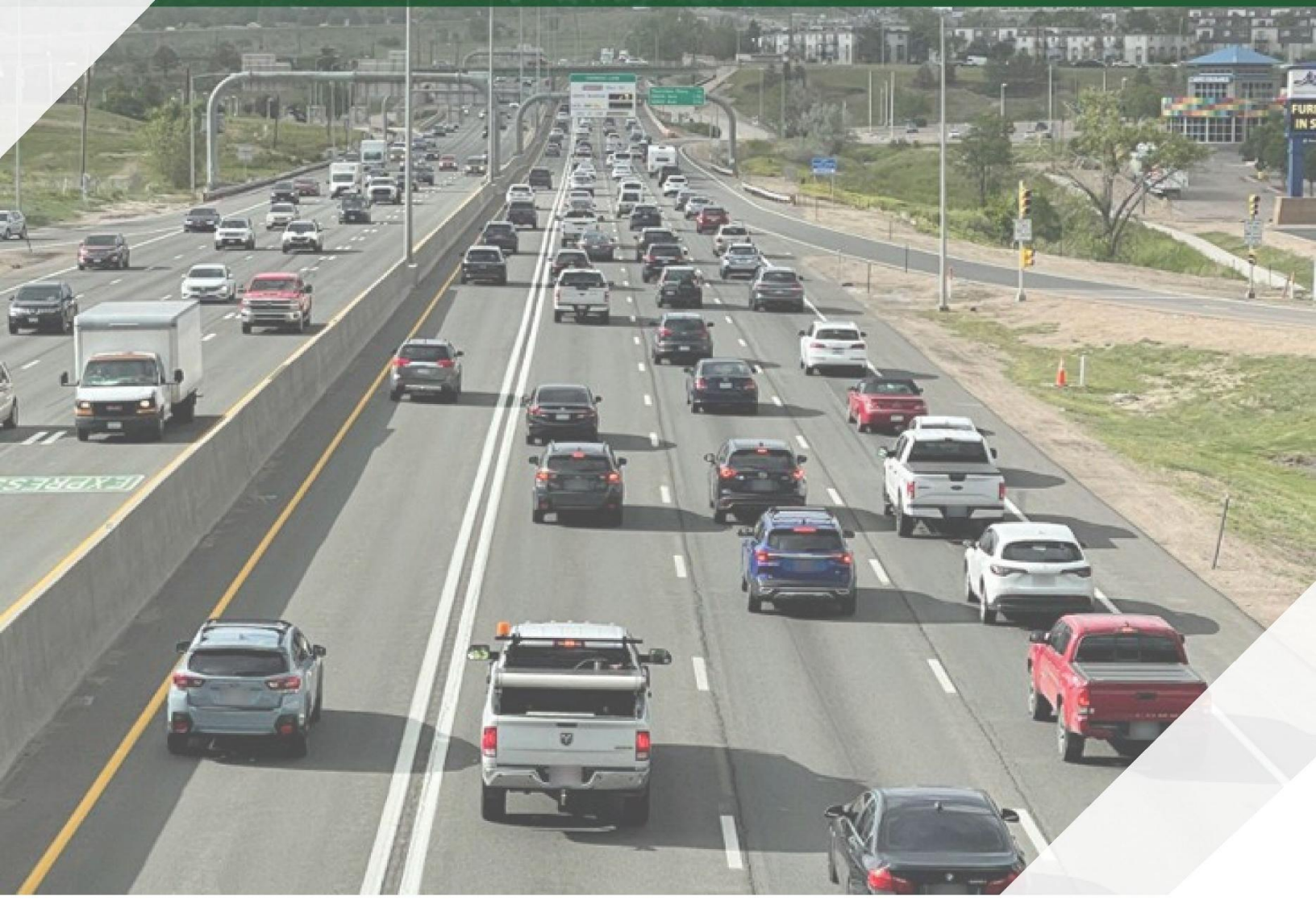
# I-25 (US 36 to 104th Avenue)

Safety and Operations Improvements Project



# Appendix D4: Water Quality Technical Report

**August 2026**

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# Appendix D4. Water Quality Technical Report

August 5, 2026 – Version 5
Project Number: PM 0253-299
Subaccount Number: 25563

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# Acronyms and Abbreviations

| Acronym or Abbreviation | Full Name |
|---|---|
| BOD | Biological Oxygen Demand (BOD) |
| CDOT | Colorado Department of Transportation |
| CDPHE | Colorado Department of Public Health and Environment |
| CDPS | Colorado Discharge Permit System |
| CM | Control Measure |
| CWA | Clean Water Act |
| DNR | Colorado Department of Natural Resources |
| EA | Environmental Assessment |
| FHWA | Federal Highway Administration |
| ft | feet |
| I-25 | Interstate 25 |
| I-76 | Interstate 76 |
| I-270 | Interstate 270 |
| MHFD | Mile High Flood District |
| MS4 | Municipal Separate Storm Sewer System |
| PWQ | Permanent Water Quality |
| ROW | right-of-way |
| SWMP | Stormwater Management Plan |
| TMDL | Total Maximum Daily Load |
| US 36 | United States Highway 36 |
| USDOT | United States Department of Transportation |
| VOC | Volatile Organic Compound |
| WQCC | Colorado Water Quality Control Commission |
| WQCD | Water Quality Control Division |

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# 1.0 Introduction and Background

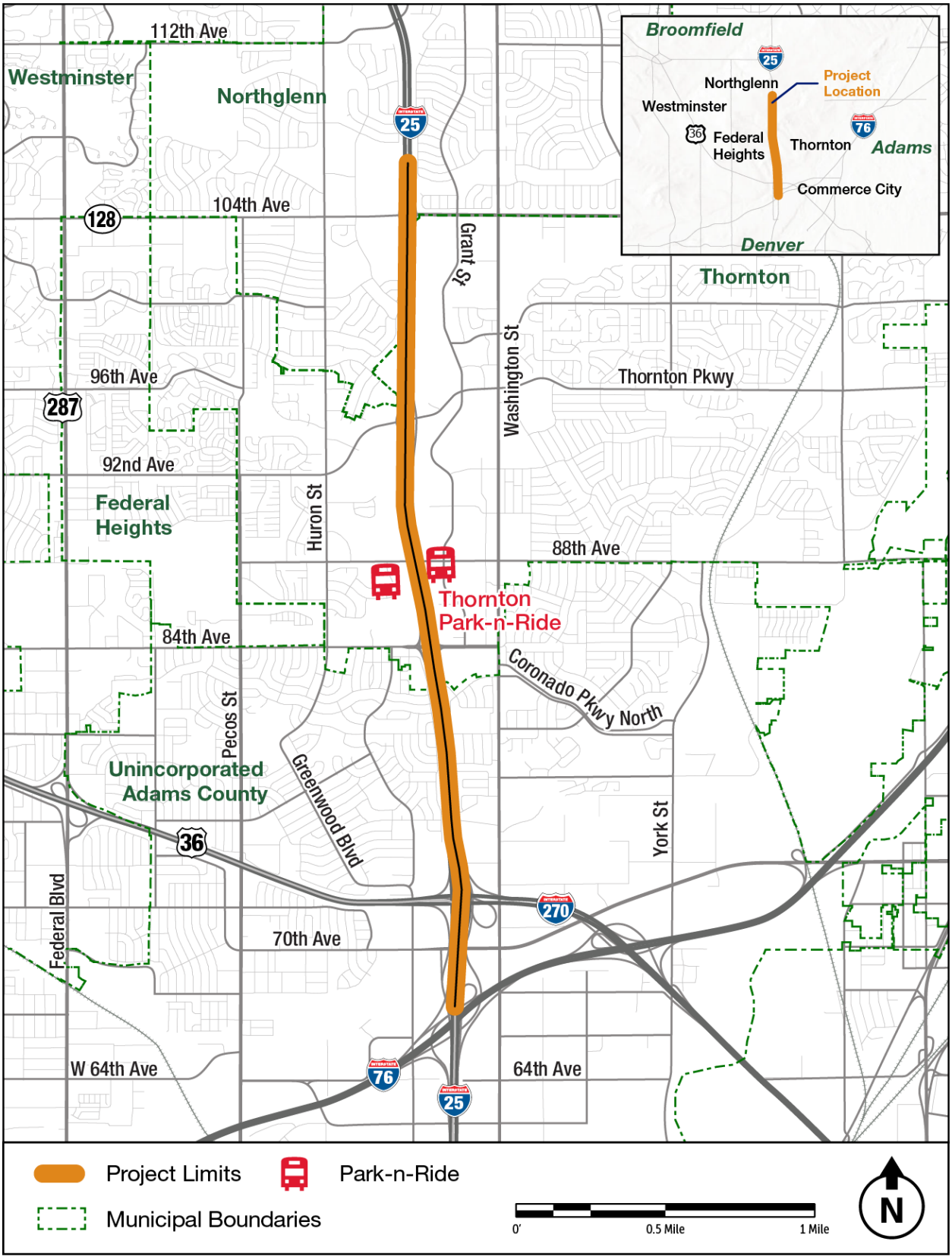
The Colorado Department of Transportation (CDOT) and the Federal Highway Administration (FHWA) are proposing transportation improvements to Interstate 25 (I-25) between United States Highway 36 (US 36) and 104th Avenue (**Figure 1**). This Water Quality Technical Report was prepared to support evaluation of the I-25 from US 36 to 104th Avenue project (the project). The Regional Transportation District (RTD) is a cooperating agency.

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** (ROD1) (FHWA and CDOT, 2011), this project is undergoing new evaluation under the National Environmental Policy Act (NEPA).

The following project information can be found in **Attachment A:** Project Information:

- Project History
- Project Study Area
- Purpose and Need
- Proposed Action Description

**Figure 1. Project Study Area**



# 2.0 Regulatory Setting

The following analysis was conducted in compliance with the Clean Water Act (CWA) and the Colorado Department of Public Health and Environment (CDPHE) Total Maximum Daily Loads (TMDLs) database was referenced. All Municipal Separate Storm Sewer System (MS4) and New Development and Redevelopment guidelines were followed.

## 2.1 Applicable Statutes, Regulations, and Permits

### 2.1.1 Federal Regulations

The following identify relevant federal statutes, regulations, and permits that apply to this project:

- The Clean Water Act
- Regulation Section 303(d) (state designation of waterbodies that do not meet water quality standards for their designated uses and to develop TMDLs to bring the waterbody up to the required water quality standard)
- Regulation Section 401 (certification by states that federally permitted activities comply with state water quality standards)
- Regulation Section 402 (National Pollution Discharge Elimination System, or NDPES, administered by Colorado under the Colorado Discharge Permit System, or CDPS)

### 2.1.2 State Water Quality

In Colorado, the Water Quality Control Division (WQCD) within CDPHE administers the CWA Sections 401, 402, and 303(d). The Colorado Water Quality Control Commission (WQCC) implements these regulations and sets the water quality standards for waterbodies throughout Colorado.

CWA Section 402 is implemented through WQCC Regulation Number 61 (5 Colorado Code of Regulation 1002-61) under the CDPS. This regulation includes Construction Stormwater permits (COR040000) and Construction Dewatering permits (COG070000). A Remediation Activities for Discharges to Surface Water or Groundwater (COG315000 or COG316000) permit is required for projects with hazardous materials concerns.

Surface waterbodies throughout the project area flow toward the South Platte River. Water quality classifications and standards for the South Platte River Basin are implemented through Regulation Number 38 (5 Colorado Code of Regulation 1002-38). This regulation establishes the classification and numeric standards for the South Platte River, as well as relevant tributaries and standing bodies of water.

In compliance with the provisions of the Colorado Water Quality Control Act and the Federal Water Pollution Control Act, CDPHE manages a CDOT MS4 individual permit (COS000005) and the rest of the Phase II MS4 General Permits of the Cities and Counties in the project area.

Coverage is issued to cities and counties throughout the state of Colorado that apply for certification for stormwater discharges associated with MS4s. This statewide general MS4 permit functions under the CDPS.

As noted, CDOT is an MS4 permittee under the COS000005 individual permit managed through the CDPS by CDPHE. The currently effective CDOT MS4 permit is the COS000005 Modification 4 (effective July 1, 2020, and set to expire on July 27, 2020) (CDPHE, 2020). CDPHE administratively extended the permit and is expected to begin renewal in the next couple of years.

The CDOT MS4 permit requires the permittee to implement a program to reduce the discharge of pollutants to the MS4 if certain criteria are triggered by the Project Improvements; this is accomplished through the Permanent Water Quality Management program, additional details of which can be found in the permit document. Projects within the Cherry Creek Reservoir drainage basin are subject to Regulation 72 while all other projects are considered priority development projects. “Priority Development Projects” are development projects that meet all the following:

- Result in land disturbance of greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, unless excluded below and,
- Either discharge to a stream segment that is on 303(d) list for a roadway pollutant of concern or discharges to the Cherry Creek Reservoir drainage basin and is exempted under section 72.7.2(c)(4) of Regulation 72, and
- Has a 20 percent or more increase of impervious surface.

The permit identifies the specific roadway pollutants of concern, which includes total suspended solids, cadmium (total and potentially dissolved), chromium (total and potentially dissolved), copper (total and potentially dissolved), iron (total and potentially dissolved), lead (total and potentially dissolved), magnesium (total and potentially dissolved), manganese (total and potentially dissolved), nickel (total and potentially dissolved), zinc, total inorganic nitrogen, total phosphorus, chloride, sodium, oil and grease.

### 2.1.3 Local Water Quality

The Project crosses Adams County, City of Thornton, and the City of Northglenn. However, the CDOT Water Quality Program and MS4 Permit requirements are applied to areas within CDOT’s right-of-way and are not subject to other municipal MS4 permit requirements.

#### Adams County

Adams County is an MS4 permittee under the statewide MS4 General Permit (COR090000). Per the map provided by the Adams County Stormwater Quality Division, the project area is partially located within the Adams County MS4 Permitted Area. Any Adams County MS4 Permitted Area within the project area is located south of 84th Avenue. A map of the MS4 jurisdictional boundaries within or adjacent to the project area is provided in **Figure 2.**

## City of Thornton

The City of Thornton is an MS4 permittee under the statewide MS4 General Permit (COR090000). Additionally, to obtain a City of Thornton construction permit, the owner/contractor must obtain a CDPHE permit for stormwater discharges associated with construction activity, as discussed under the CDPS (City of Thornton, 2018a). This program outlines a wide array of standards and requirements, including the implementation of erosion and sediment controls (City of Thornton, 2018b). A map of the MS4 jurisdictional boundaries within or adjacent to the project area is provided in **Figure 2**.

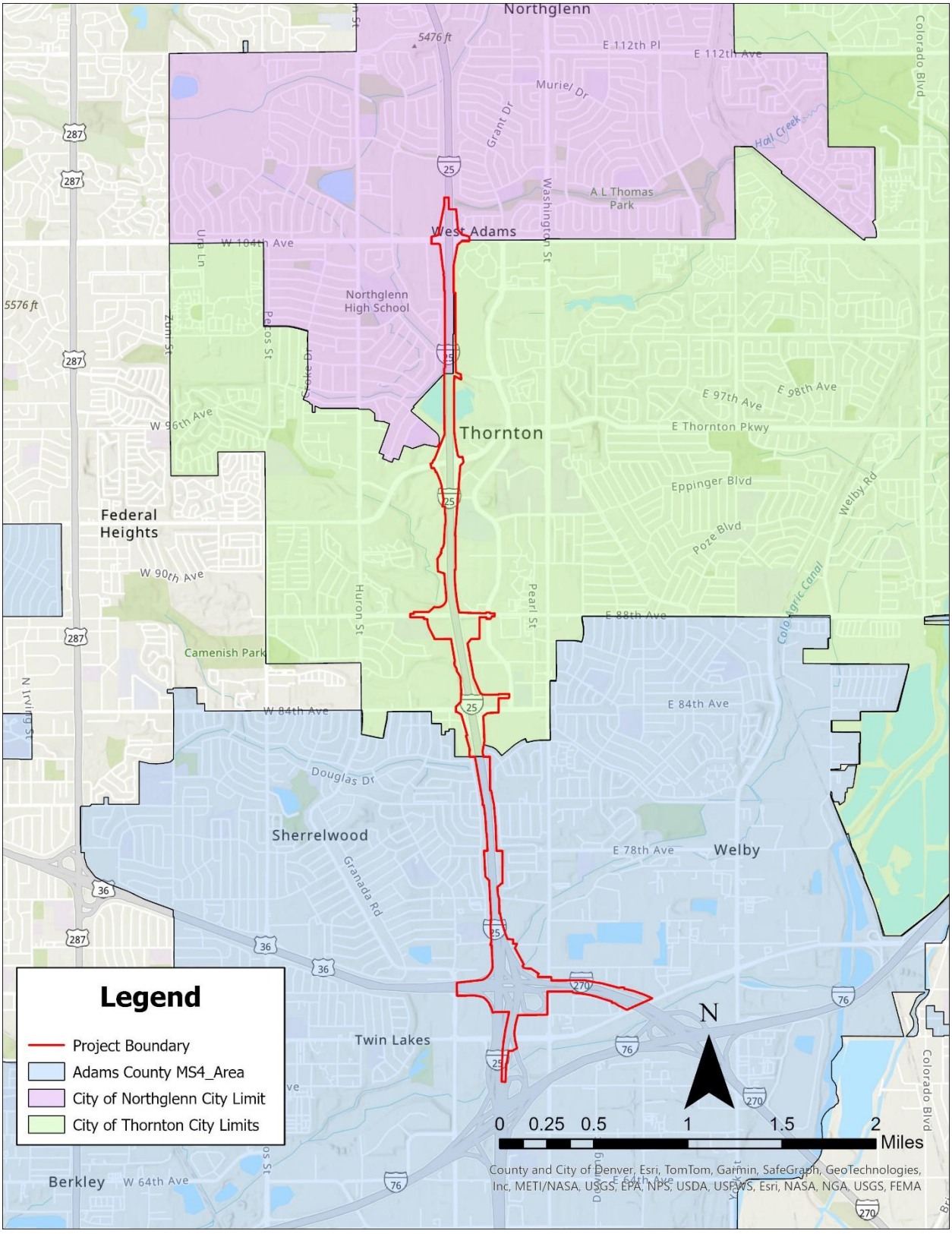
The City of Thornton also provides documentation about the inspection and maintenance of detention ponds used for post-construction runoff. If detention ponds are to be designed within the City of Thornton's jurisdiction, these documents would need to be used.

## City of Northglenn

The City of Northglenn is an MS4 permittee under the statewide MS4 General Permit (COR090000). In association with this permit, construction stormwater site plans, sediment and erosion control plans, stormwater pollution prevention plans, drainage reports, drainage plans, and SWMPs may be required. The City of Northglenn also requires a project to be permitted under the CDPS if the project would disturb one or more acres of land. A map of the MS4 jurisdictional boundaries within or adjacent to the project area is provided in **Figure 2**.

A detailed account of all storm water quality related city ordinances can be located in Chapter 16 - Article 17 of the City's Municipal Code (City of Northglenn, 2018).

**Figure 2. MS4 Jurisdiction Areas in the Project Area**



# 3.0 Methodology

Evaluation of the water quality for the Proposed Action included reviewing the previously conducted studies along the project corridor, including the **North I-25 Final EIS, North I-25 EIS Record of Decision, I-25 Managed Lanes Project ROD Re-evaluation**, and the **North I-25, US 36 to SH 7 Planning and Environmental Linkages Study**.

Evaluation was conducted under the context of the fifteen pollutants of concern listed in the CDOT MS4 Permit Modification 4 (COS000005) (CDPHE, 2020). These pollutants include total suspended solids, cadmium (total and potentially dissolved), chromium (total and potentially dissolved), copper (total and potentially dissolved), iron (total and potentially dissolved), lead (total and potentially dissolved), magnesium (total and potentially dissolved), manganese (total and potentially dissolved), nickel (total and potentially dissolved), zinc, total inorganic nitrogen, total phosphorus, chloride, sodium, oil and grease.

Analysis of the project area and receiving waterbodies near the project was conducted by accessing and reviewing available resources from the following agencies: Federal Emergency Management Agency (FEMA), Mile High Flood District (MHFD), Colorado Department of Natural Resources (DNR), United States Geological Survey (USGS), and Google Earth.

Impact areas and the increase in impervious area as a result of the Proposed Action were reviewed and approximated using preliminary designs and the OpenRoads Designer program.

Impaired water statuses were obtained and reviewed using the Colorado Section 303(d) **List of Impaired Waters and Monitoring Evaluation List** and the **Integrated Water Quality Monitoring and Assessment Report 2018** as previously noted.

The CDOT National Environmental Policy Act (NEPA) Manual provides a table identifying potential transportation project related contaminants that may have an impact on water resources near the project for both the construction phase and the operation (post-construction) phase. The NEPA Manual table presented in **Table 1** and **Table 2** was used to identify potential contaminants that may have an impact on receiving waterbodies near the project as a result of project activities.

This evaluation did not include water quality sampling and modeling.

All information in this report was collected in August and September 2018.

### Table 1. Potential Contaminants from Construction Phase of Transportation Projects that May Impact Water Resources

| Source | Pollutants |
|---|---|
| Adhesives | Phenols, formaldehydes, asbestos, benzene, naphthalene |
| Cleaners | **Metals**[1], acidity, alkalinity, **chromium** |
| Plumbing | **Lead, copper, zinc**, tin |
| Painting | Volatile Organic Compounds (VOCs), **metals**, phenolics, mineral spirits |
| Wood | Biological Oxygen Demand (BOD), formaldehyde, **copper**, creosote |
| Masonry/concrete | Acidity, sediment, **metals**, asbestos |
| Demolition | Asbestos, aluminum, **zinc**, dusts, **lead** |
| Yard operations and maintenance | **Oil, grease**, coolants, benzene and derivatives, vinyl chloride, **metals**, BOD, **sediment**, disinfectants, sodium arsenate, dinitro compounds, rodenticides, insecticides |
| Landscaping and earthmoving | Pesticides, herbicides, **fertilizers**, BOD, alkalinity, metals, sulfur, aluminum sulfate |
| Materials Storage | Spills, leaks, dust, **sediment** |

[1]**Bold Pollutants** indicate a roadway pollutant of concern per the CDOT MS4 Permit (CDPHE, 2020)

Source: CDOT (2024). CDOT NEPA Manual - Resource Considerations

### Table 2. Potential Contaminants from Operation Phase of Transportation Projects that May Impact Water Resources

| Source | Pollutants |
|---|---|
| Leaks, spills, accidents | **Oil**, gasoline, diesel, **grease**, VOCs, chemicals, other potentially hazardous materials |
| Vehicle traffic | **Oils, grease**, gasoline, diesel, benzene and derivatives, aromatic hydrocarbons, coolants, **rust (iron), heavy metals (lead, zinc, iron, chromium, cadmium, nickel, copper)**, rubber, asbestos |
| Winter sanding | **Sediment** |
| Deicing | Calcium, **sodium, magnesium, chloride** |
| Landscape Maintenance | Herbicides, pesticides, **fertilizers**, BOD, alkalinity, **metals**, sulfur, aluminum sulfate |
| Adhesives | Phenols, formaldehydes, asbestos, benzene, naphthalene |
| Cleaners | **Metals**[1], acidity, alkalinity, **chromium** |
| Painting | VOCs, **metals**, phenolics, mineral spirits |

[1]**Bold Pollutants** indicate a roadway pollutant of concern per the CDOT MS4 Permit (CDPHE, 2020)

Source: CDOT (2024). CDOT NEPA Manual - Resource Considerations

# 4.0 Existing Conditions

This section describes the existing water quality features within the Project corridor.

## 4.1 Existing Conditions and Context Summary

Except for updating information based on more recent data from CDPHE database and CDOT Environmental Data Viewer website, prior NEPA-Level Planning describes the existing conditions as follows:

### 4.1.1 Watersheds and Receiving Waterbodies of Interest

Throughout the project corridor, the topography and the flow of water are observed as flowing generally from the northwest to the southeast, toward the South Platte River. The South Platte River flows southwest to northeast in the project vicinity, located approximately 2 to 3 miles east of the project area. The Mile High Flood District's (MHFD) Watershed Delineation indicates the project area would cross through four watersheds, all of which flow primarily to the east-southeast, toward the South Platte River (MHFD, 2018). The four watersheds, from south to north, are Clear Creek, Niver Creek, South Grange Hall Creek (sometimes referred to as the Grange Hall Creek Tributary South), and Grange Hall Creek – Upper watersheds; each watershed is associated with a primary waterbody flowing through the delineated area.

**Figure 3** displays the receiving waterbodies, the approximate watershed basin boundaries, and the general watershed flow direction near the project. Based on preliminary designs, most of the project work would be within the two central watersheds (Niver Creek and South Grange Hall Creek). The associated waterbodies in these watersheds will be the primary receiving waters from project activities. The main receiving waterbodies from the project area would be Niver Creek, Niver Creek Tributary L, and South Grange Hall Creek. A small portion of project work would extend to the north of the South Grange Hall Creek watershed, resulting in the Grange Hall Creek also being a minor receiving waterbody for the project area. All waterbodies near the project flow toward an eventual confluence with the South Platte River. Therefore, the South Platte River would also be considered a receiving waterbody for the project.

Other waterbodies near the project include Clear Creek, Niver Creek Tributary M, Thornton HS Tributary, Hoffman Drainageway, and other minor and unnamed waterbodies. Based on current preliminary designs, no water from the proposed limits of disturbance would be anticipated to have an impact on these waterbodies. If the proposed limits of disturbance change or expand, these listed waterbodies may need to be reevaluated as receiving waterbodies.

Niver Creek generally flows from the northwest to the southeast, toward the South Platte River. Niver Creek crosses the project area, via a culvert, just south of 88th Avenue. Niver

Creek Tributary L generally flows west to east toward a confluence with the Niver Creek main stem.

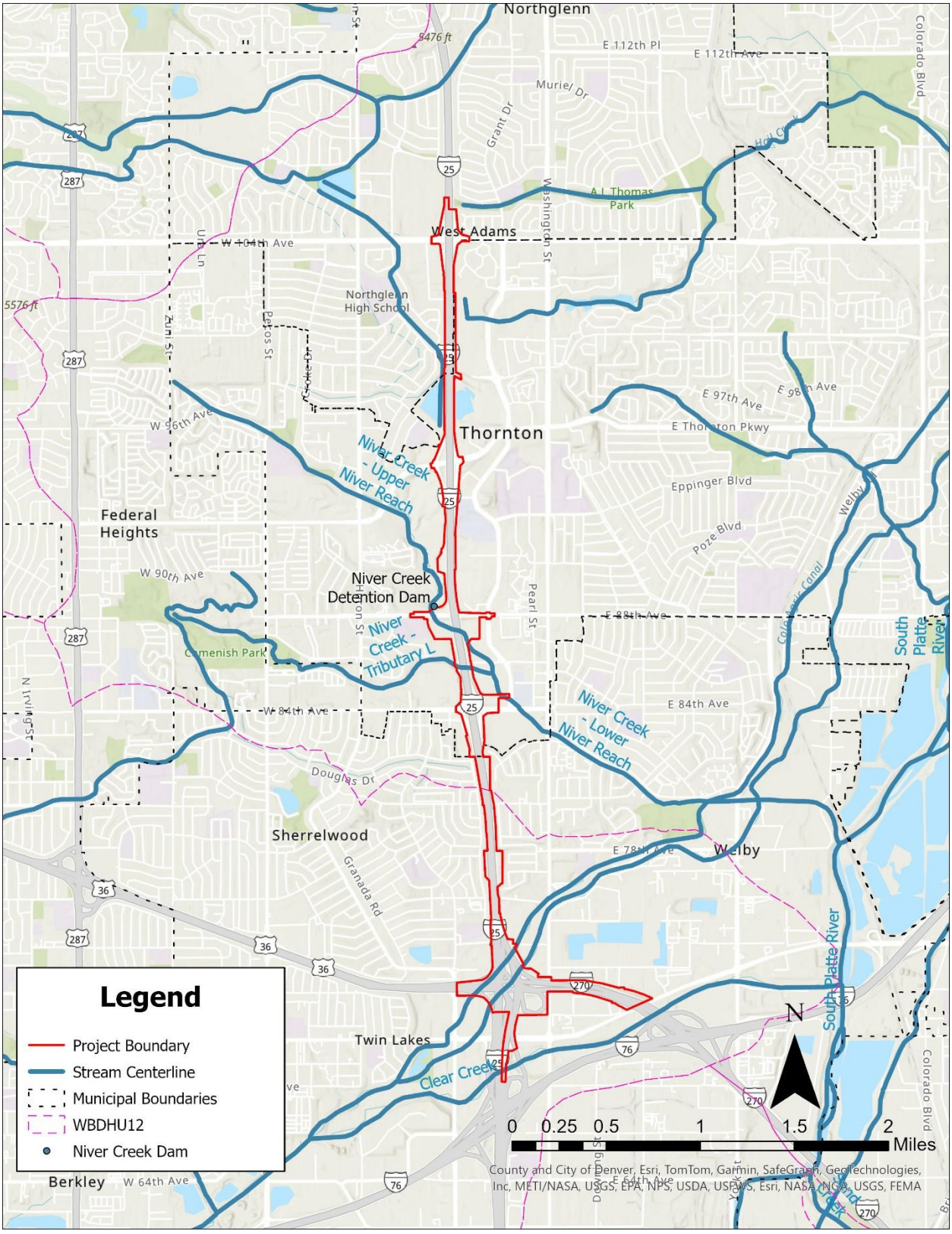
Niver Creek Tributary L crosses the project area, via a culvert, approximately 1,200 feet south of the Niver Creek culvert crossing and converges with Niver Creek on the eastern side of this culvert. Niver Creek and Tributary L primarily flow through well-defined channels and drainage structures near the project. Niver Run and Niver Draw, as shown on **Figure 3**, are both small tributaries that flow from northeast to southwest to a convergence with the Niver Creek main stem. Both Niver Run and Niver Draw are down-gradient and adjacent to the proposed project activities.

South Grange Hall Creek generally flows from the west to the northeast, toward a confluence with the Grange Hall Creek main stem. South Grange Hall Creek crosses the project area, via two non-adjacent culverts, just south of 104th Avenue. South Grange Hall Creek flows through ditches, channels, and drainage structures and passes through detention basins/ponds. Grange Hall Creek generally flows from west to east, toward the South Platte River. Grange Creek crosses I-25 just north of the project area, via a culvert from the Croke Reservoir. Grange Hall Creek flows through ditches, channels, and drainages structures, primarily in open space and recreational lands.

A few small lakes/ponds/reservoirs, such as Badding Reservoir, Croke Lake, and several unnamed detention basins, are located near the project and may also be considered receiving waterbodies of interest.

Additionally, two irrigation ditches, Colorado Agricultural Canal and Lower Clear Creek Canal, were identified at the southern end and just south of the project area, respectively. Both irrigation canals generally flow from southwest to northeast. Both Niver Creek and the main stem of Grange Hall Creek cross these two irrigation ditches east of the project area while flowing toward the South Platte River. Irrigation ditches are treated as hydraulically separate from the natural flow of water in the area and are not considered receiving waterbodies of interest.

**Figure 3. Watershed Basin and Receiving Waterbodies**



### 4.1.2 Impaired Waters

The CDPHE WQCC's Regulation 93 – Colorado's Section 303(d) List of Impaired Waters and Monitoring and Evaluation List (CDHPE, 2023) and the WQCD's Integrated Water Quality Monitoring and Assessment Report 2024 (CDHPE, 2024) were obtained and reviewed to evaluate the impaired status of waterbodies near the project.

Runoff from the project ultimately drains to the South Platte River which is impaired for cadmium which is a roadway pollutant of concern. Therefore, the Project will require permanent water quality control measure to mitigate the water quality impacts. The following subsections discuss the project's primary receiving waterbodies listed with impaired statuses in the CDPHE documentation.

#### Niver Creek and Tributaries

Niver Creek and its associated tributaries are not specifically noted as impaired by the CDPHE's **Section 303(d) List of Impaired Waters and Monitoring and Evaluation List**. However, Niver Creek and its associated tributaries are listed as impaired under the segment code **COSPUS16c**, described as "All tributaries to the South Platte River, including all wetlands, from the outlet of Chatfield Reservoir to a point immediately below the confluence with Big Dry Creek…." The listing applies to approximately 250 miles of waterbodies throughout the described region.

The **Integrated Water Quality Monitoring and Assessment Report 2024** classified the Use Attainment, 303(d) Listing, and Monitoring and Evaluation Listing for the described South Platte River tributaries, **COSPUS16c**, as follows:

- **Integrated Report (IR) Category 5** –Indicates that, based on existing and readily available data and/or information, technology-based effluent limitations, more stringent effluent limitations, and other pollution control requirements are not sufficient to implement an applicable water quality standard and a TMDL is needed. This category constitutes the Section 303(d) list of waters impaired by a pollutant. When more than one pollutant is associated with the impairment of a single waterbody, the waterbody will remain in Category 5 until TMDLs for all pollutants have been completed and approved by the United States Environmental Protection Agency (EPA) (WQCD, 2024).
- **Aquatic Life Warm Water Class 2** – Waters that cannot sustain a wide variety of cold or warm water biota, including sensitive species, due to physical habitat, water flows or levels, or uncorrectable water quality conditions that result in substantial impairment of the abundance and diversity of species.
- **Recreational Tier E / Recreational Use N** – The Recreational Tier is listed as E, indicating existing use (i.e., surface waters are used for primary contact recreation). However, the Recreational Use is listed as N, indicating recreational use is not supported.
- **Categorized Specific Conditions from the Integrated Water Quality Monitoring and Assessment Report 2024**

1. **Recreational Use (E. Coli)** – 5 (303(d))
2. **Water Supply Use (Selenium (Dissolved))** – 5 (303(d))

### Grange Hall Creek, South Grange Hall Creek, and Tributaries

Grange Hall Creek, South Grange Hall Creek, and associated tributaries are not specifically noted as impaired by the CDPHE's **Section 303(d) List of Impaired Waters and Monitoring and Evaluation List**. However, identical to the Niver Creek and tributaries, Grange Hall Creek and associated tributaries are listed as impaired under the segment code **COSPUS16c**, as previously described. The impaired conditions for Grange Hall Creek, South Grange Hall Creek, and associated tributaries are identical to the conditions listed in the previous section for **Niver Creek and Tributaries**.

### South Platte River

The South Platte River is listed as impaired by the CDPHE's **Section 303(d) List of Impaired Waters and Monitoring and Evaluation List**. Due to the size of the South Platte River, the river has been segmented by the 303(d) list to identify impairments on a smaller scale. The segment of the South Platte River that will receive flow from the project vicinity is noted as **COSPUS15_C**, described as "Mainstem of the South Platte River from Sand Creek to approximately 600 feet south of 120th Avenue." South Platte River tributaries, **COSPUS16c**, are also included in the segments that receive flow from the project vicinity.

The **Integrated Water Quality Monitoring and Assessment Report 2024** classified the Use Attainment, 303(d) Listing, and Monitoring and Evaluation Listing for this segment of the South Platte River, **COSPUS15_C**, as follows:

- **IR Category 4a** – The TMDL process has been completed, indicating the EPA has approved or established a state developed TMDL for any segment – pollutant combination. The waterbody is expected to result in full attainment of the standard once implementation of the TMDL is complete. Monitoring shall occur to verify the water quality standard is met when the TMDL is implemented.
- **Aquatic Life Warm Water Class 2** – Waters that cannot sustain a wide variety of cold or warm water biota, including sensitive species, due to physical habitat, water flows or levels, or uncorrectable water quality conditions that result in substantial impairment of the abundance and diversity of species.
- **Recreational Tier E / Recreational Use T** – The Recreational Tier is listed as E, indicating existing use (i.e., surface waters are used for primary contact recreation). However, the Recreational Use is labeled as T, indicating recreational use does have an imposed TMDL due to water conditions.
- **Categorized Specific Conditions from the Integrated Water Quality Monitoring and Assessment Report 2024**
  1. **Aquatic Life Use (Temperate)** – 3b (Monitoring and Evaluation List)
  2. **Aquatic Life Use (Dissolved Oxygen)** – 4a (TMDL)

3. **Aquatic Life Use (Cadmium [Dissolved])** – 4a (TMDL)
4. **Aquatic Life Use (Ammonia)** – 4b (Alternative plan for attaining water quality standard without TMDLs)
5. **Recreational Use (E. Coli)** - 4a (TMDL) [The Regulation #93 - 303(d) List notes this impaired parameter to be delisted due to approved TMDL]
6. **Water Supply Use (Nitrate)** – 4b (Alternative plan for attaining water quality standard without TMDLs)

### Non-Receiving Waters Near the Project

Other waterbodies noted as non-receiving waters in **Section 4.1.1 Watersheds and Receiving Waterbodies of Interest** will primarily fit into the same impaired water category as the Niver Creek, Grange Hall Creek, and their associated tributaries, as the flow from these waterbodies is toward the South Platte River. If the proposed limits of disturbance change resulting in one of these non-receiving waterbodies becoming receiving waterbodies, they will be assumed to be impaired under **COSPUS16c** and evaluated for impacts as such.

## 4.1.3 Existing Permanent Water Quality Control Measures

Using CDOT's Environmental Data Viewer, the existing permanent water quality (PWQ) control measures (CMs) in the project area were identified. The existing PWQ CMs in the project vicinity, from south to north, include:

- At the interchange of US-36 and I-25, an extended detention basin (EXDB00193) is located in the northeast quadrant within the on/off-ramps. See **Figure 4** for location and estimated treated area.
- At the I-25 and 84th Avenue interchange, two extended detention basins (EXDB00360 and EXDB00299) are located between the I-25 roadway and the on/off-ramps on the northern side of the interchange (in the northeast and northwest quadrants of the interchange). See **Figure 5** for location and estimated treated area.
- At the I-25 and 104th Avenue interchange, four roadside treatment swales (TRSW00120, TRSW00089, TRSW00053, and TRSW00115) are located around the interchange. Treatment swales are located between the I-25 roadway and the on/off-ramps in each quadrant of the interchange. Additionally, a treatment swale (TRSW00152) is also located on the outer edge of the I-25 South off ramp (northwest quadrant). See **Figure 6** for location and estimated treated area.

**Figure 4. EXDB00193 Extended Detention Basin**

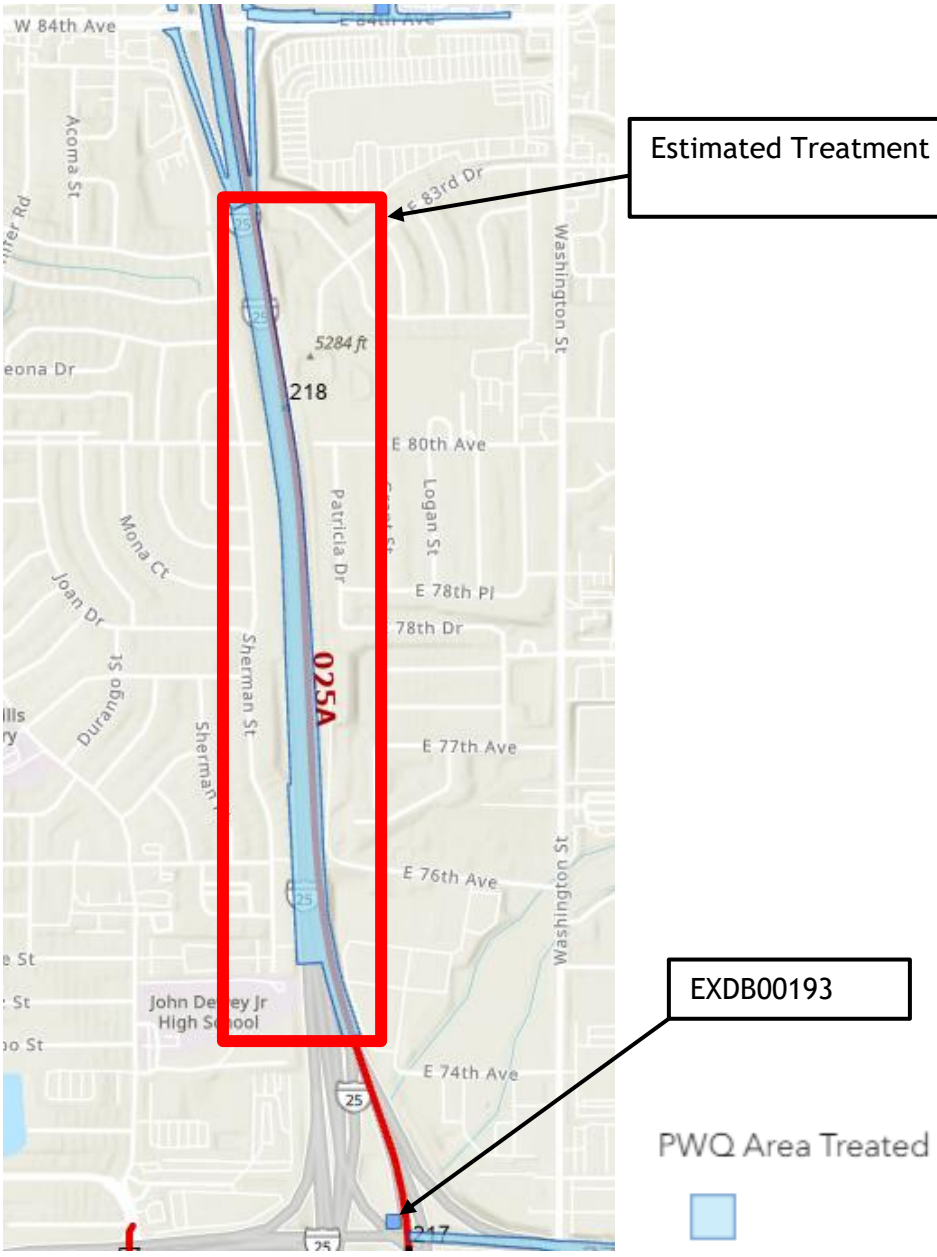


**Figure 5. EXDB00360 and EXDB00299 Extended Detention Basins**

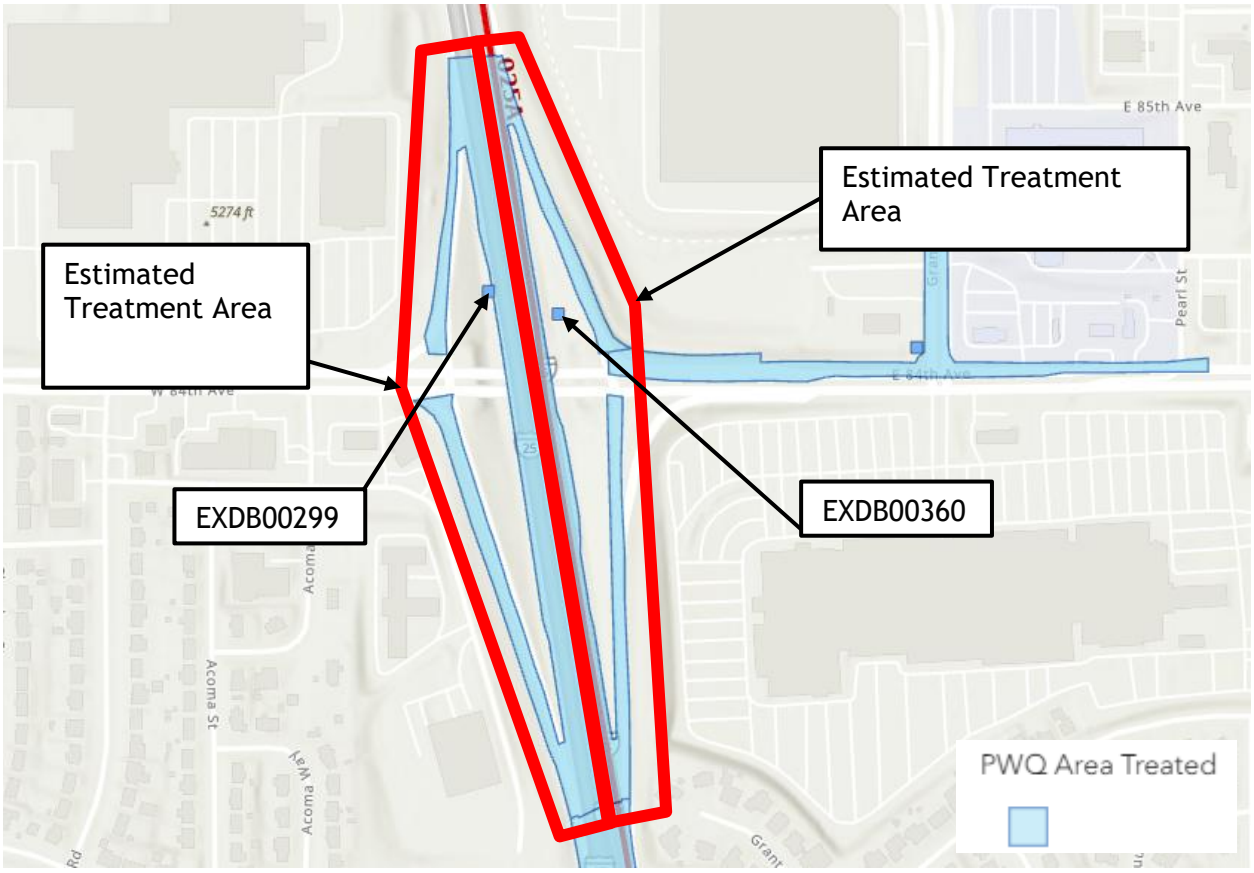
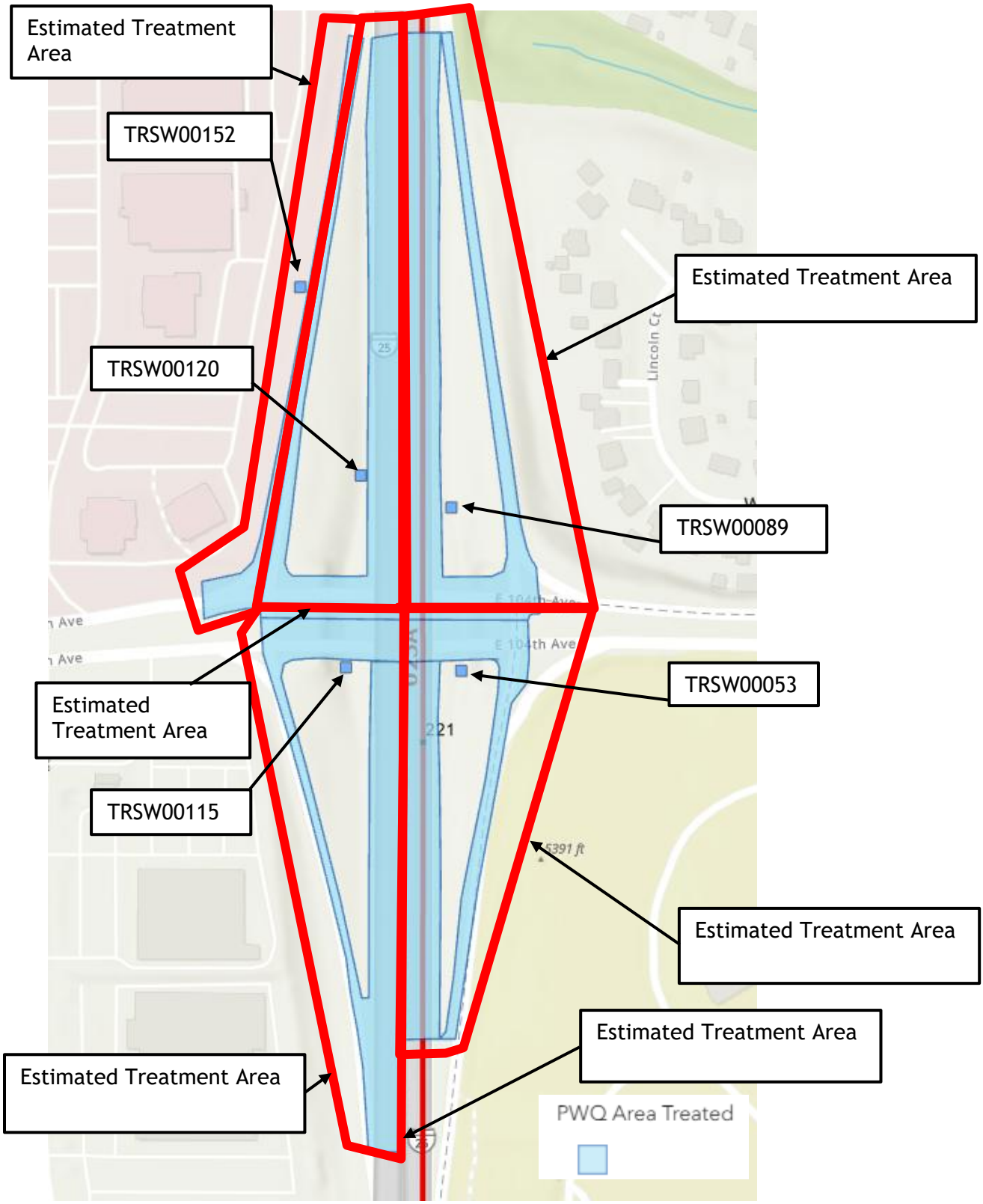


**Figure 6. TRSW00120, TRSW00089, TRSW00053, TRSW00115, and TRSW00152 Treatment Swales**



### 4.1.4 Beneficial Uses of Waterbodies Near the Project

Based on information obtained from CDPHE's 303(d) related data, the waterbodies near the project would have a variety of beneficial uses, including recreational, agricultural, and the protection and propagation of terrestrial and aquatic life. Additionally, the South Platte River and Clear Creek are noted as being used for public water supply.

# 5.0 Environmental Consequences

## 5.1 No Action

The No Action Alternative for the project is a no project alternative. This alternative would maintain the current drainage patterns and water quality conditions with no new improvements or new impacts to the project site.

## 5.2 Proposed Action

The Proposed Action Descriptions can be found in **Attachment A** Project Information.

### 5.2.1 Impact Summary

Impacts of highway development on water quality result from the following: and/or actions could be required as part of the Proposed Action:

- Proximity to the receiving waterbodies
- Erosion and sedimentation related to cut and fill slopes
- Increased concentrated runoff from impervious surfaces
- Increase in highway-related pollutants, particularly related to winter maintenance

Mitigation strategies will be required with the design goal of improving the water quality in nearby receiving waterbodies as a result of a more robust water quality and storm sewer system near the project, all while complying with multiple MS4 permits and water quality regulations.

Temporary impacts on water quality in the project area could occur during construction activities due to ground disturbance, potential for spills or accidental releases of pollutants, and additional runoff from the construction area. There is a potential increase in both pollutant runoff and sedimentation in nearby drainage structures and waterbodies during construction due to project activities.

Project designs are not final at this time and may be subject to change. Because there will be an increase in impervious area due to project activities, it can be expected there will be an increase in sedimentation and pollutant runoff from the proposed limits of disturbance, which will need to be mitigated by PWQ CMs. The Proposed Action would result in an increase in impervious area through the project area as seen in **Table 3**.

**Table 3. Approximate Increase in Impervious Area Based on Preliminary Designs**

| Location | Approximate Increase in Impervious Area |
|---|---|
| I-25N - North Section | ~5.8 Acres (~250,000 $ft^2$) |
| I-25N - Central Section | ~22.8 Acres (~994,000 $ft^2$) |
| I-25N - South Section | ~6.84 Acres (~298,000 $ft^2$) |
| **Entire Project** | **~35.4 Acres (~1,542,000 $ft^2$)** |

Source: Drainage Design, July 2026

Despite the large size of land disturbance associated with the proposed project and the increase in impervious area within the proposed limits of disturbance, the mitigation measures to be designed and implemented are anticipated to reduce the pollutant and sedimentation impacts on nearby receiving waterbodies and provide an overall net benefit to the water quality near the project in comparison to existing conditions. Mitigation strategies are discussed in greater detail in the following section.

# 6.0 Mitigation

The following are preliminary strategies for mitigation of impacts and are subject to change. Final mitigation measures will be defined in the Environmental Assessment.

## 6.1 Mitigation During Construction

A SWMP will be prepared to outline and detail erosion control within the project area during the initial (pre-construction), interim (during construction), and final (post-construction) project phases. The SWMP will identify the type and location of CMs to be installed before and during construction to mitigate potential water quality impacts due to erosion occurring during construction activities. Additionally, a spill prevention, control, and countermeasure plan will be developed and implemented for the project construction site to establish standard operating procedures and require employee training to minimize the accidental release of pollutants that could contaminate stormwater runoff.

## 6.2 Mitigation Post-Construction

Drainage designs currently being developed provide specific PWQ CMs for the project. These PWQ CMs are represented as Water Quality Ponds across three sections of the project, South, Central, and North.

**Figure 7. Water Quality Ponds - Entire Project**

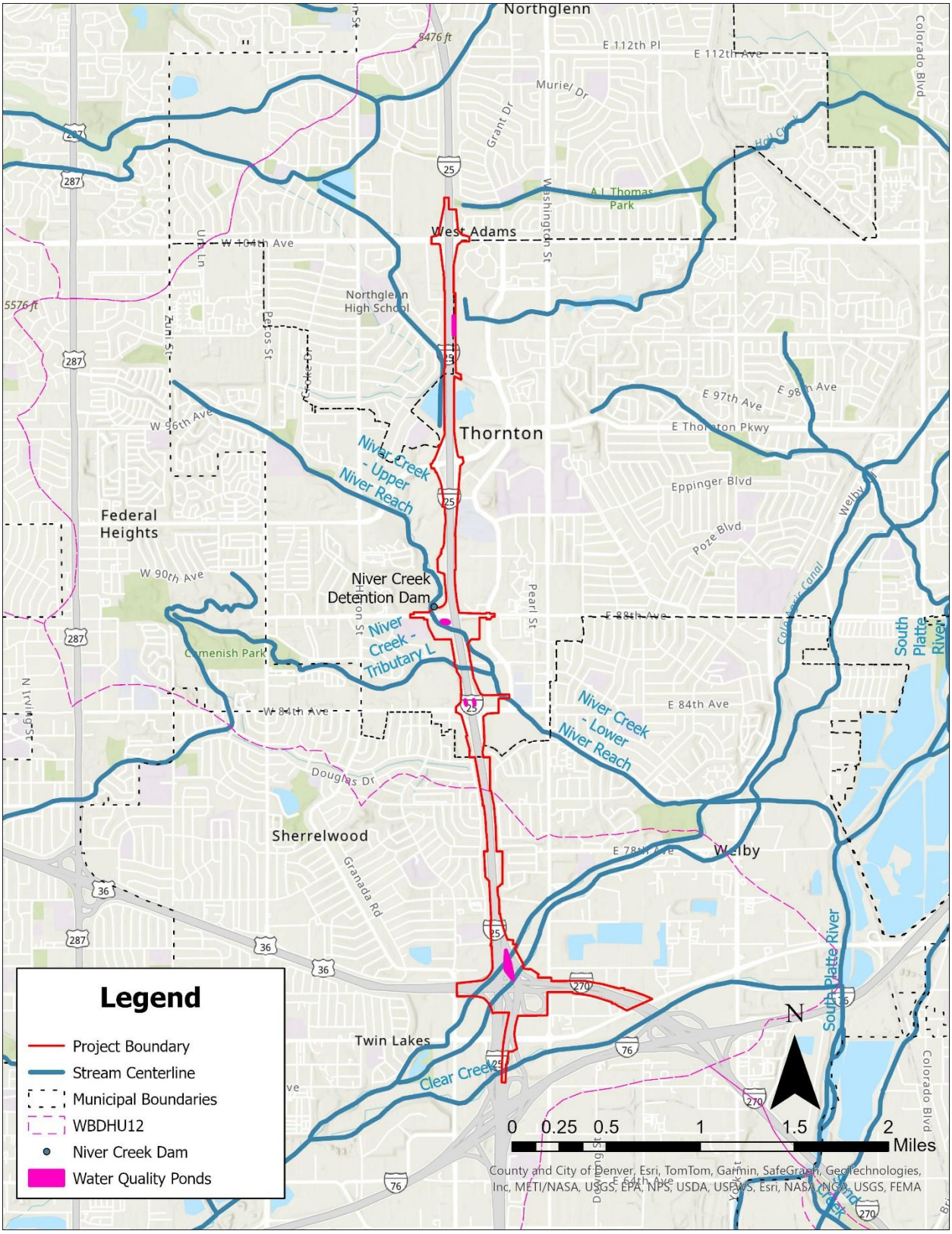


**Figure 8. Water Quality Ponds - South Section**

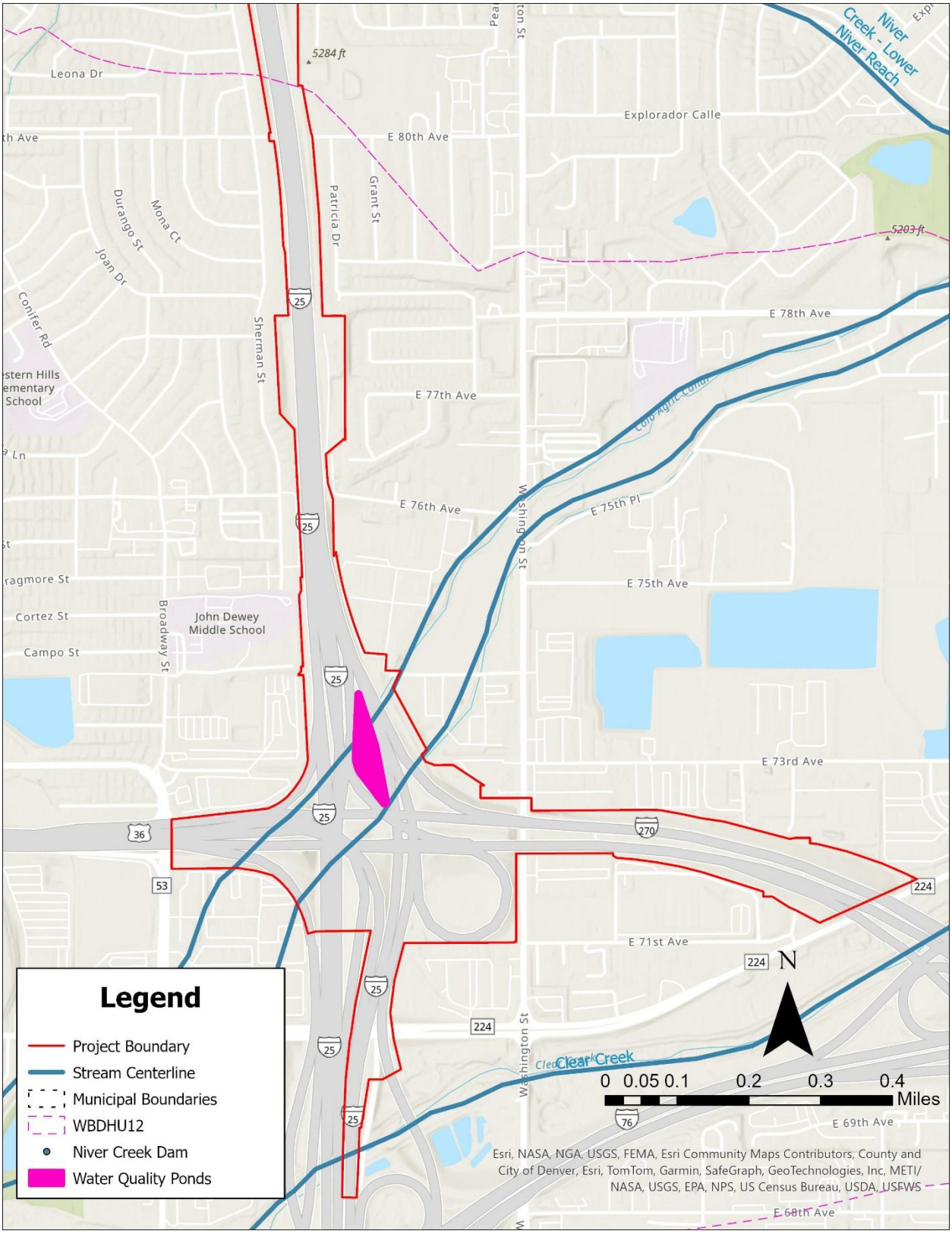


**Figure 9. Water Quality Ponds - Central Section**

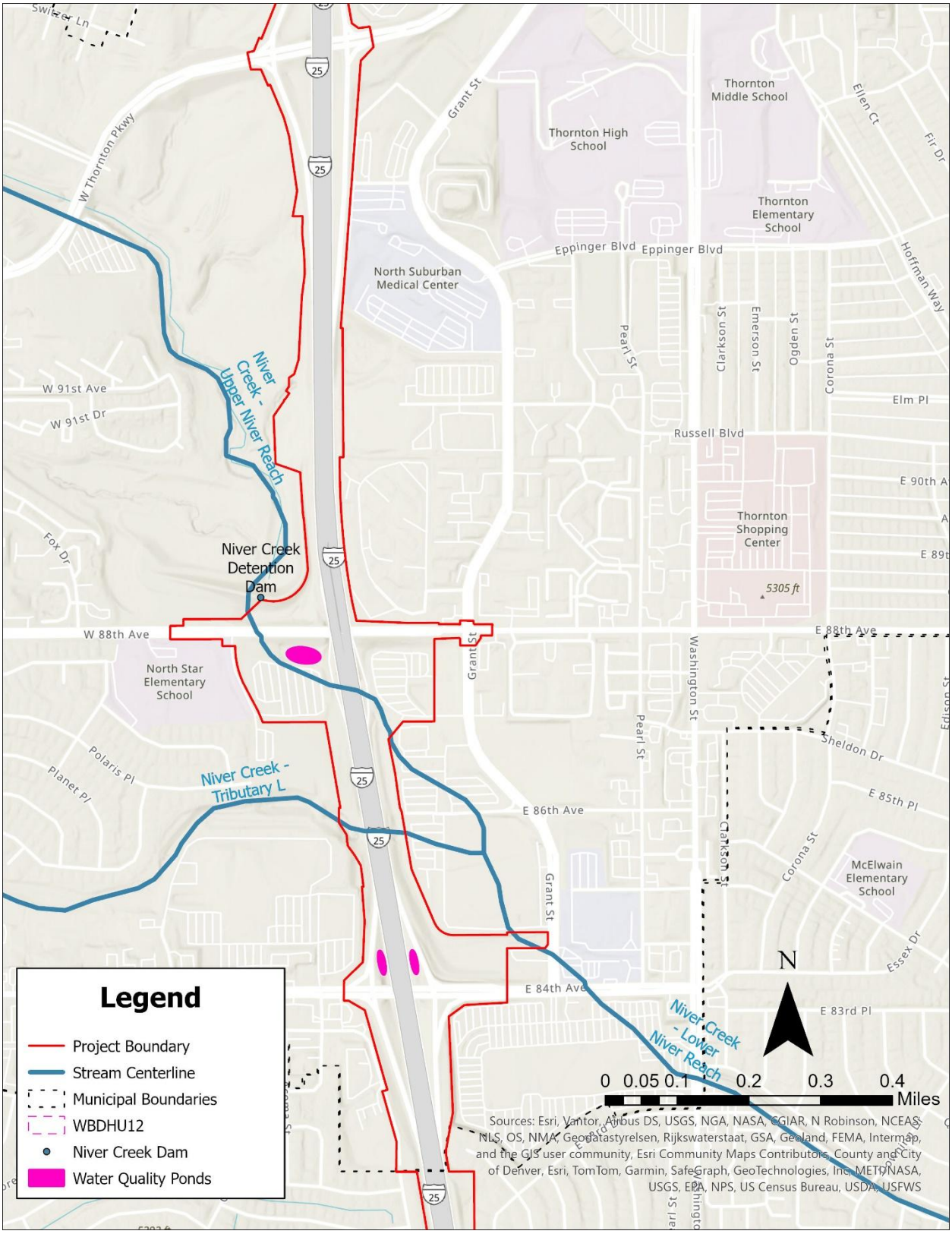
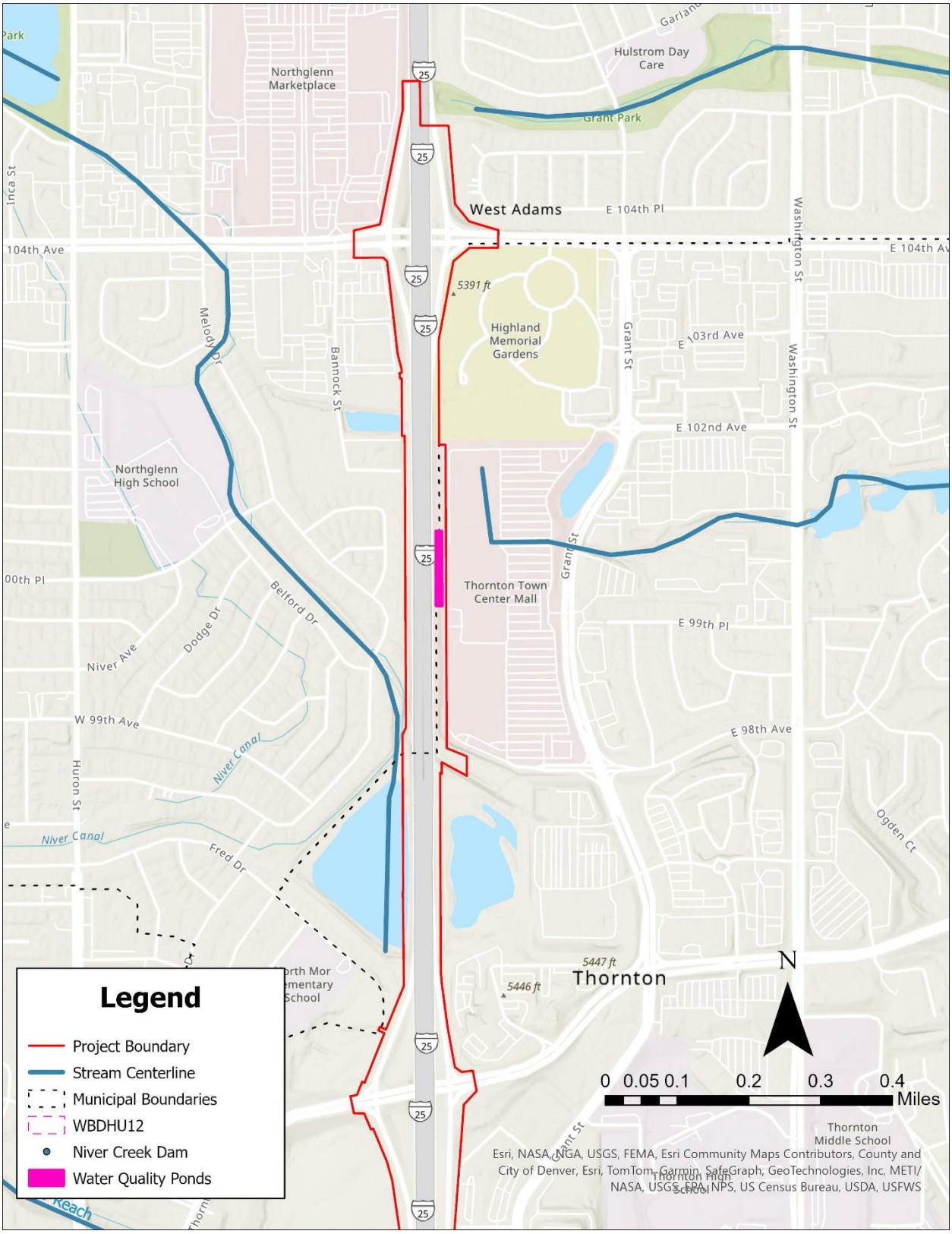


**Figure 10. Water Quality Ponds - North Section**



Due to the increase in impervious area as a result of the Proposed Action, the installation of post-construction PWQ CMs is currently planned to meet MS4 permitting and other relevant water quality standards for any applicable jurisdictions impacted, primarily CDOT.

Post-construction PWQ CMs will be designed with the goal of reducing or eliminating pollutants and sedimentation flowing from the project area, improving the overall storm sewer system in the project area, and avoiding impacts on impaired natural waterbodies near the project. Additionally, the potential presence of hazardous materials in the soil and/or groundwater in the project vicinity will be evaluated; this information will be coordinated with the design team to ensure any proposed infiltration PWQ CMs will avoid contaminated locations. Therefore, a net benefit to water quality near the project as a result of the project activities is anticipated in post-construction conditions.

## 6.3 Mitigation Commitments

The following **Table 4** lists are preliminary strategies for mitigation of impacts, which and are subject to change. Final mitigation measures will be defined in the Environmental Assessment.

## Table 4. Mitigation Commitments

| Activity Causing Impact | Location of Activity | Impact | Mitigation Commitment | Responsible Branch | Timing/Phase of Mitigation Implementation |
|---|---|---|---|---|---|
| Increase in impervious surface due to proposed roadway improvements | Project Site | Increased runoff from the proposed roadway | Permanent water quality features and other post-construction CMs will be designed and shall be installed to be in compliance with CDOT's and the local agency's MS4 permit. The design and installation shall reduce or eliminate pollutants and sedimentation reaching natural waterbodies near the project. | CDOT Design<br>CDOT Construction | Design<br>Construction |
| Project Construction | Throughout Construction Area | Increased sediment and pollutants from the proposed roadway construction process | Impacts to nearby natural waterbodies during construction will be minimized by implementing a Stormwater Management Plan (SWMP). Stormwater Management Plan including WQ, spill, and landscaping plans, CMs, and activities | CDOT Design<br>CDOT Construction | Design<br>Construction |

# 7.0 Required Permits and Clearance Needs

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

- A final design water quality technical report is being prepared and shall be submitted to CDOT Water Quality personnel once design has been finalized, documenting compliance with the requirements of the relevant MS4 permit(s). AtkinsRéalis will be responsible for preparing this final design water quality technical report.
- A Section 404 permit will be obtained if jurisdictional wetlands will be impacted by the Project.
- A CDPS Construction Stormwater Permit, which includes the preparation of the SWMP as previously discussed, will be required to protect State waters and ensure the quality of stormwater runoff on any construction activity that disturbs at least 1 acre of land, which this project does. This permit will be obtained from CDPHE's WQCD. Local jurisdiction's grading permit(s) may be required.
- Due to the expectation that groundwater will be encountered during construction activities, a CDPS Construction Dewatering permit will be required. Additionally, based on the hazardous materials assessment conducted for the project area, it is likely that an additional CDPS permit for Remediation Activities for Discharges to Surface Water or Groundwater will be required. CDOT would be responsible for obtaining these permits from CDPHE's WQCD prior to final design.

The listed required permits are based on current project designs and decisions; therefore, the required project permits have the potential to change as the project continues to final design. Additionally, based on current project plans for CDOT to obtain ownership of all necessary property and ROW required for the new project footprint, no water quality requirements from local jurisdictions will be obligatory. Only CDOT's water quality requirements are to be implemented at this time. Should temporary or permanent easements on local ROW or roads be obtained, the local MS4 permit requirements will need to be implemented.

# 8.0 References

Colorado Department of Public Health & Environment (CDPHE). 2020. Authorization to discharge under the Colorado Discharge Permit System Permit Number COS000005. Modified, Reissued, and Signed May 29th, 2020.

Colorado Department of Public Health & Environment (CDPHE). 2023. Water Quality Control Commission (WQCD) regulations. "Regulation #93: Colorado's Section 303(d) List of Impaired Waters and Monitoring and Evaluation List." Accessed October 14. https://www.coloradosos.gov/CCR/GenerateRulePdf.do?ruleVersionId=11077&fileName=5%20CCR%201002-93

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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.

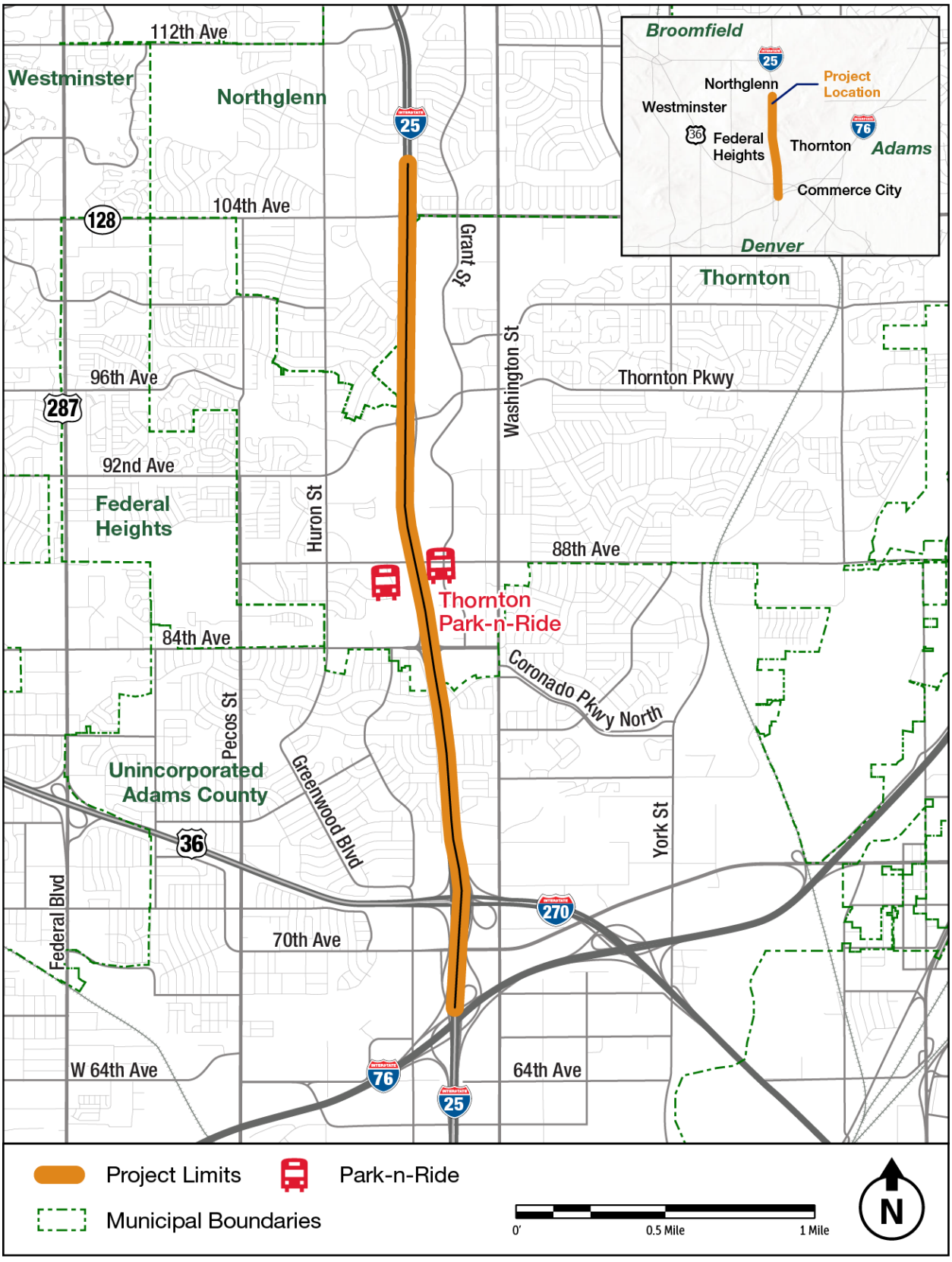
### Study Area

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**

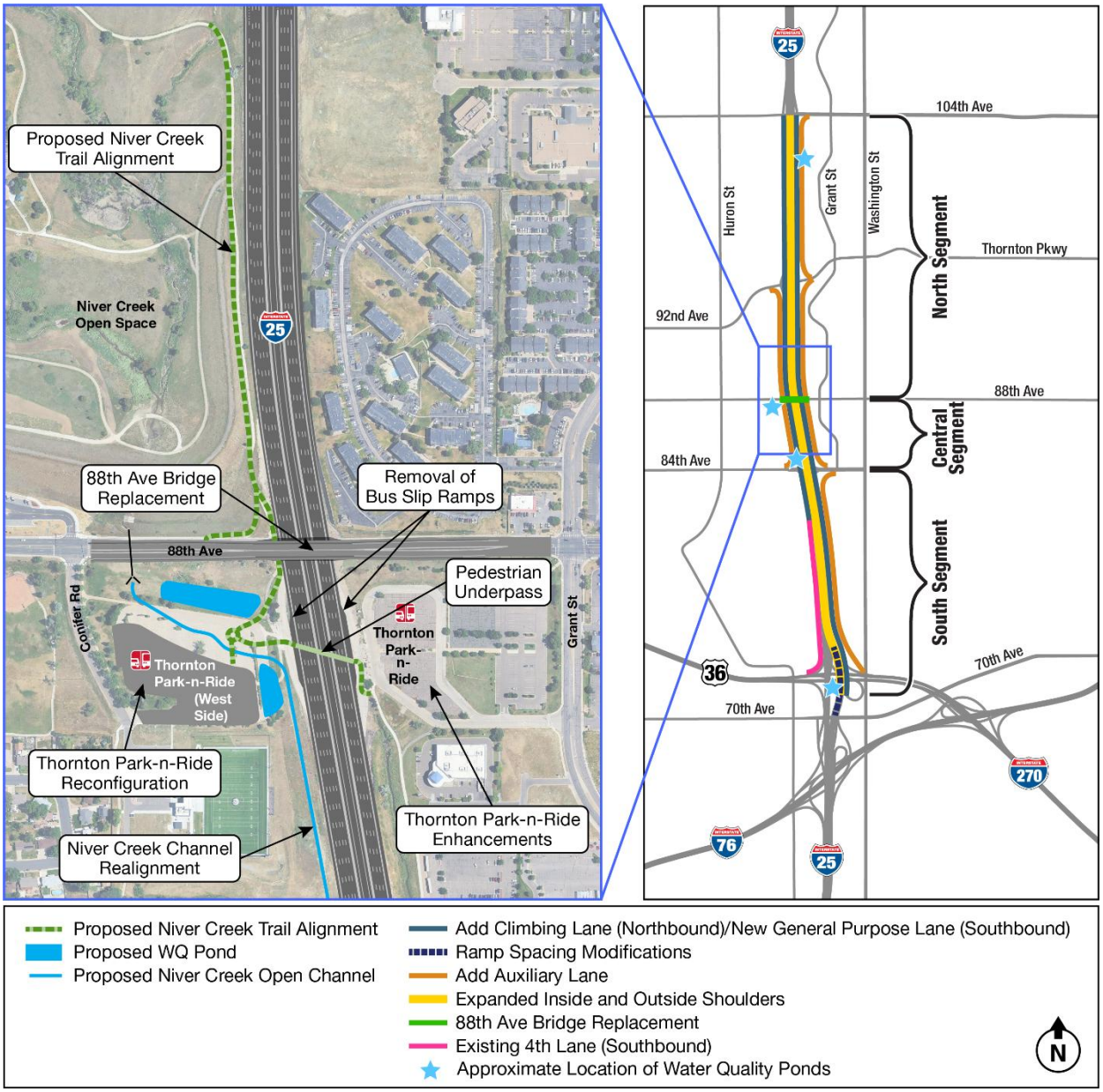


**Figure 3. Proposed Improvements to I-270 Exit to NB I-25**

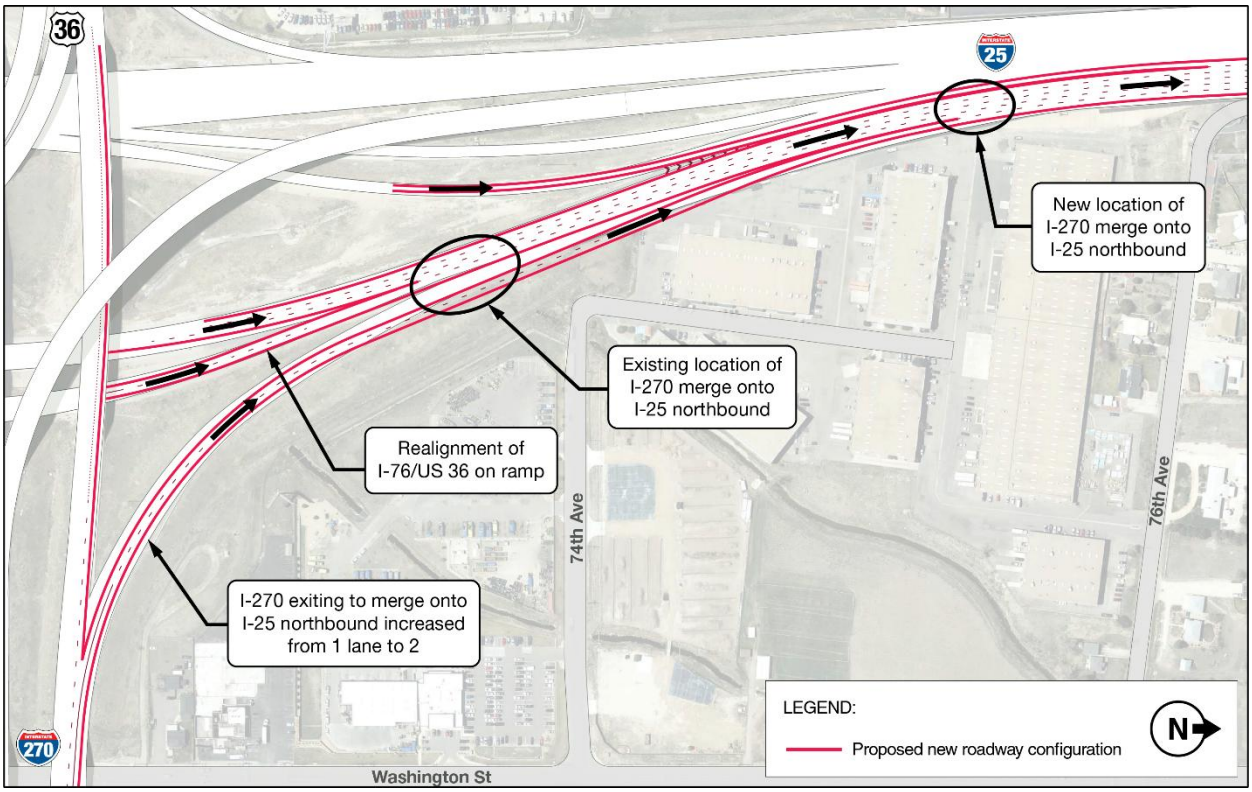


**Figure 4. Proposed Realignment of Niver Creek Trail**

