

**US 50 West: Purcell Boulevard to Wills Boulevard (Milepost 309 to  
Milepost 313) and McCulloch Boulevard Intersection  
Improvements (Milepost 307)**

Project Number: STA 050A-022  
Project Code: 19056

**Senate Bill 40 Formal Wildlife Certification Report**

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## List of Acronyms and Abbreviations

|       |                                               |
|-------|-----------------------------------------------|
| Ave.  | Avenue                                        |
| Bldv. | Boulevard                                     |
| BA    | Biological Assessment                         |
| BO    | Biological Opinion                            |
| BMP   | best management practices                     |
| BRR   | biological resources report                   |
| CDOT  | Colorado Department of Transportation         |
| CPW   | Colorado Parks and Wildlife                   |
| EA    | Environmental Assessment                      |
| FACU  | Facultative Upland                            |
| FACW  | Facultative Wetland                           |
| FHWA  | Federal Highway Administration                |
| MBTA  | Migratory Bird Treaty Act                     |
| OBL   | Obligate wetland                              |
| OHV   | off-highway vehicle                           |
| PBS-1 | Pueblo Boulevard South-1                      |
| PEL   | Planning and Environmental Linkages           |
| Rd.   | Road                                          |
| ROW   | right-of-way                                  |
| SB 40 | Senate Bill 40                                |
| SGPI  | Shortgrass Prairie Initiative                 |
| UPL   | Upland                                        |
| USACE | United States Army Corps of Engineers         |
| USEPA | United States Environmental Protection Agency |
| USC   | United States Code                            |
| WUS   | waters of the US                              |

## 1. Introduction

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The Colorado Department of Transportation (CDOT) is conducting an Environmental Assessment (EA) for proposed improvements to US Highway 50 (US 50) from Purcell Boulevard (Blvd.) to Wills Blvd. and the intersections of US 50 and Purcell Blvd., Pueblo Blvd., and McCulloch Blvd. (i.e., US 50 West EA) (**Figure 1** and **Figure 2**).

The Proposed Action includes elements of the recommended Preferred Alternative identified in the *US 50 West Planning and Environmental Linkages (PEL) Study (US 50 West PEL Study)* (2012a). The PEL recommended Preferred Alternative identified improvements to address peak-hour congestion and above average crash rates along US 50 from Swallows Road (Rd.) to Baltimore Avenue (Ave.) (**Figure 3**). Appendix A2, *US 50 West PEL Study* (CDOT, 2012a), and A3 of the EA, *US 50 West Implementation Plan* (CDOT, 2012b), include additional information on the PEL Preferred Alternative.

CDOT is submitting this report to Colorado Parks and Wildlife (CPW) to request a Formal Senate Bill 40 (SB 40) Wildlife Certification for the US 50 West EA. This report follows the 2013 Guidelines for SB 40, as developed and agreed on by CPW and CDOT.

### 1.1 Project Description

#### 1.1.1 Proposed Action

The Proposed Action would include widening 3.4 miles of US 50 to include a third eastbound lane from Purcell Blvd. to Wills Blvd. The Proposed Action would also provide intersection improvements at the Purcell Blvd./US 50, Pueblo Blvd./US 50, and McCulloch Blvd./US 50 intersections (**Figure 1** and **Figure 2**). The intersection improvements at Purcell Blvd. and McCulloch Blvd. would modify the northbound to eastbound turn lane geometry to US 50, and add a channelizing curb island for improved traffic flow and pedestrian/bicycle refuge. Intersection improvements at Pueblo Blvd./US 50 would include an eastbound through lane, an eastbound deceleration lane and ramp onto Pueblo Blvd., and a northbound ramp and acceleration lane onto eastbound US 50. The proposed improvements would also include widening the eastbound bridge at Wild Horse Dry Creek (CDOT Structure K-18-CW). The bridge improvements would include extending the existing piers within the Wild Horse Dry Creek drainage area, adding a third eastbound lane, and incorporating a multi-use pedestrian/bicycle trail on the bridge to accommodate a proposed future multi-use trail on the southbound side of US 50. The multi-use trail would be a separate project to be built by others. The Proposed Action would also include drainage improvements and water quality features.

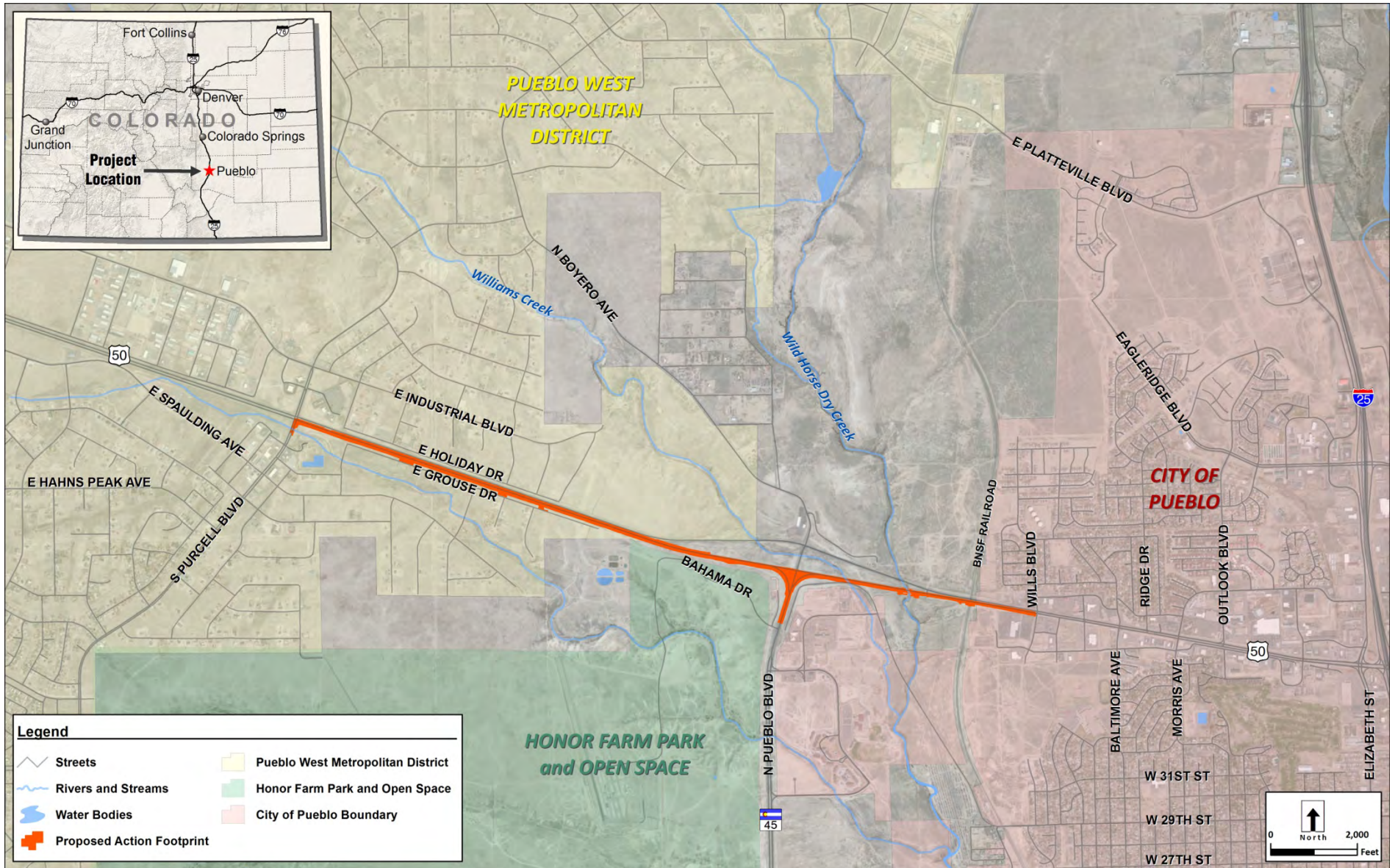
The proposed transportation and water quality improvements would be constructed within the existing CDOT right-of-way (ROW). Permanent easements for drainage would be required in three locations adjacent to CDOT ROW. The main text and figures of the EA provide additional detail about the Proposed Action, while Appendix A1 of the EA includes project drawings.

### ***1.1.2 No Action Alternative***

The No Action Alternative would include any transportation projects that have not been built, but for which funding has been committed. As identified in the *US 50 West PEL Study* (CDOT, 2012a), the No Action Alternative assumes that no major capacity improvements would occur along US 50 from Swallows Rd. to Baltimore Ave. (CDOT, 2012a). However, the No Action Alternative would include routine maintenance to keep the existing transportation network in good operating condition. The main text of the EA provides additional detail about the No Action Alternative.

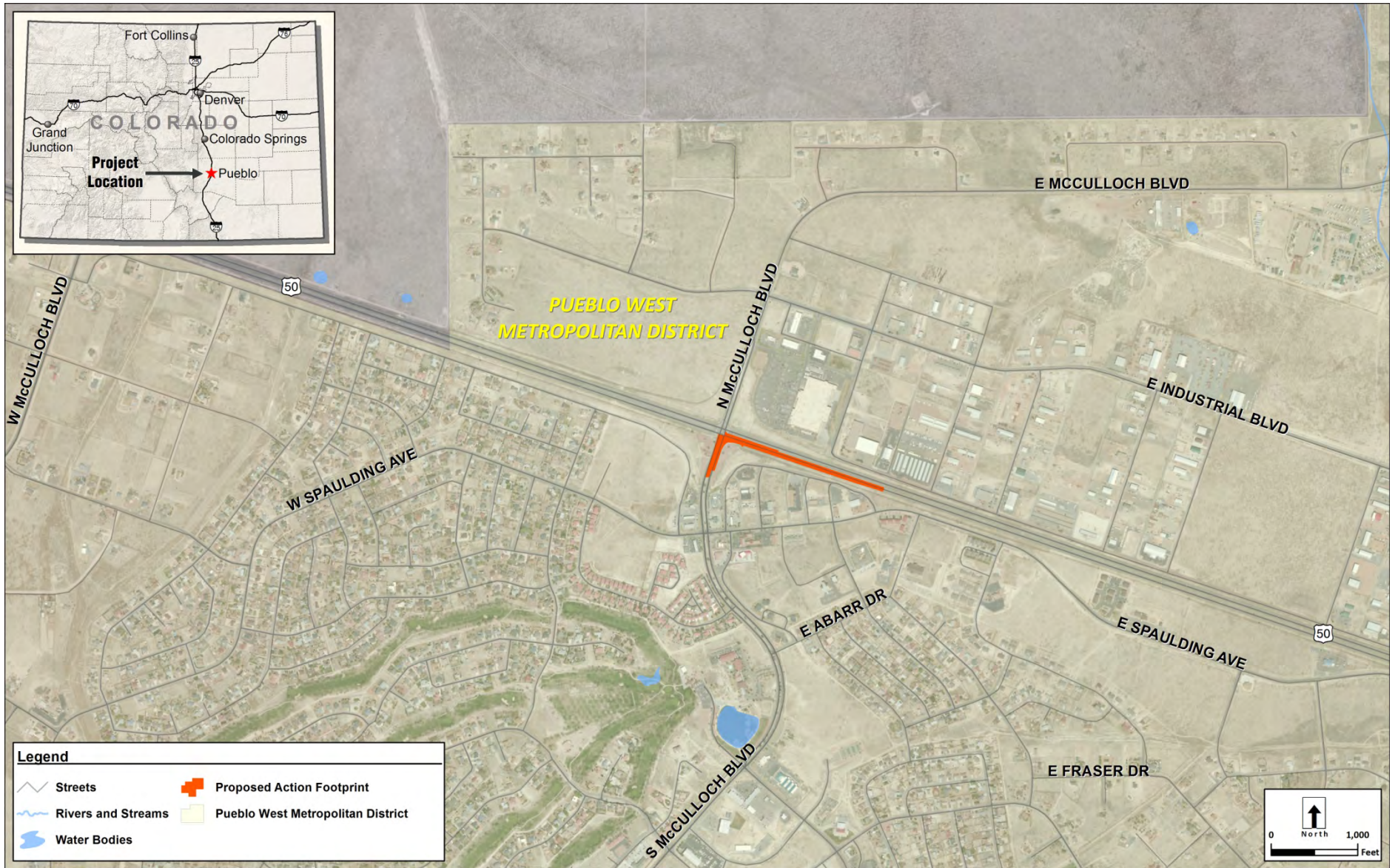
# 50 US 50 West Environmental Assessment

Figure 1. Proposed Action - Purcell Boulevard to Wills Boulevard



# 50 US 50 West Environmental Assessment

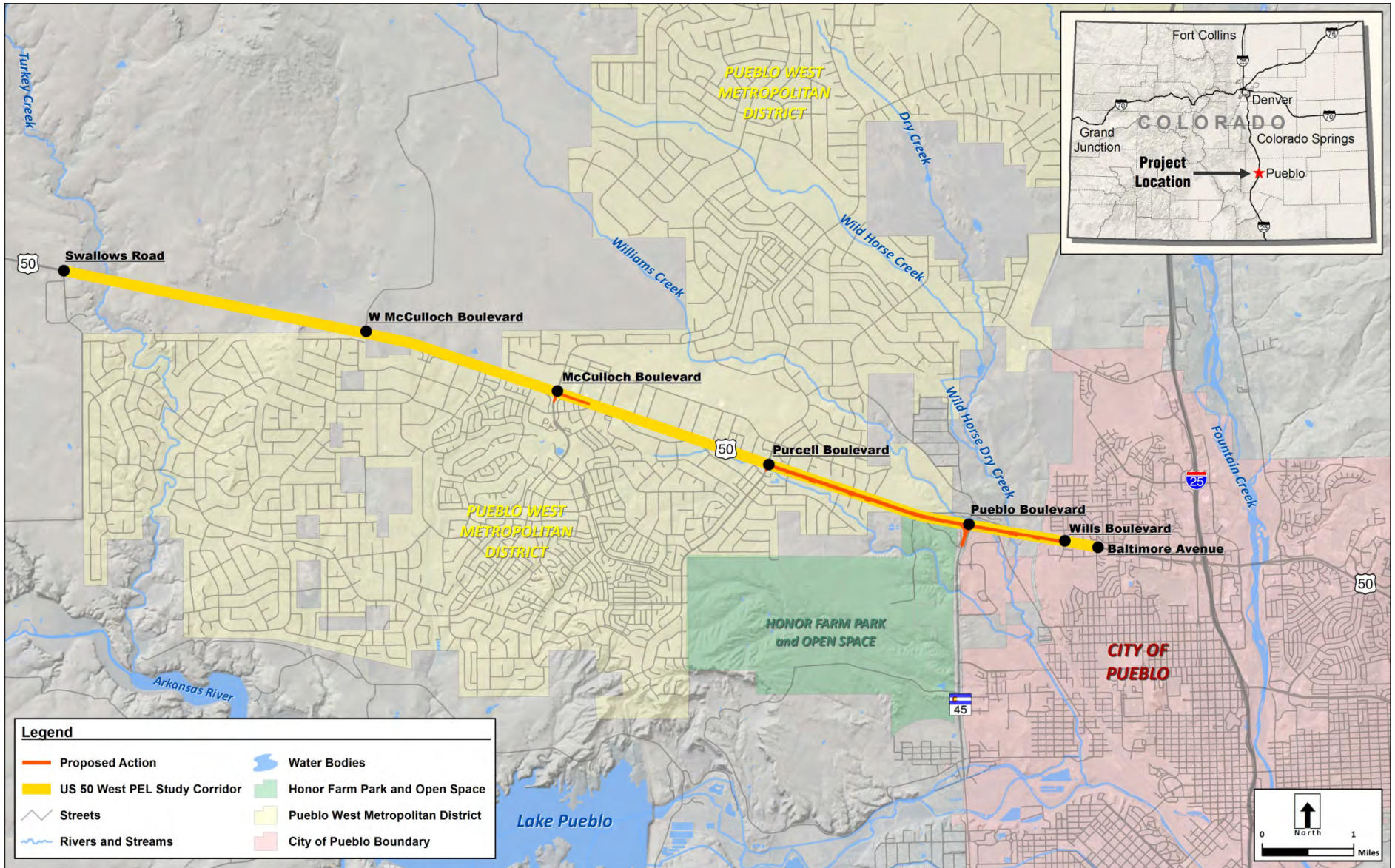
Figure 2. Proposed Action – McCulloch Boulevard / US 50 Intersection





# US 50 West Environmental Assessment

Figure 3. US 50 West PEL Study Corridor



## 2. SB 40 Introduction and Jurisdictional Description

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Senate Bill 40 (33-5-101-107, C.R.S. 1973, as amended) is a state statute requiring the state to obtain a wildlife certification from CPW when the agency plans construction in “any stream or its bank or tributaries.” CDOT implements SB 40 using the guidelines established in a 2013 programmatic agreement between CPW and CDOT designed to protect and preserve fish and wildlife resources associated with streams in Colorado. The purpose of these guidelines is to clarify when SB 40 certification is required, to describe the procedures to be followed by CDOT, and to establish conditions to ensure the protection of fish and wildlife resources in SB 40 jurisdictional areas.

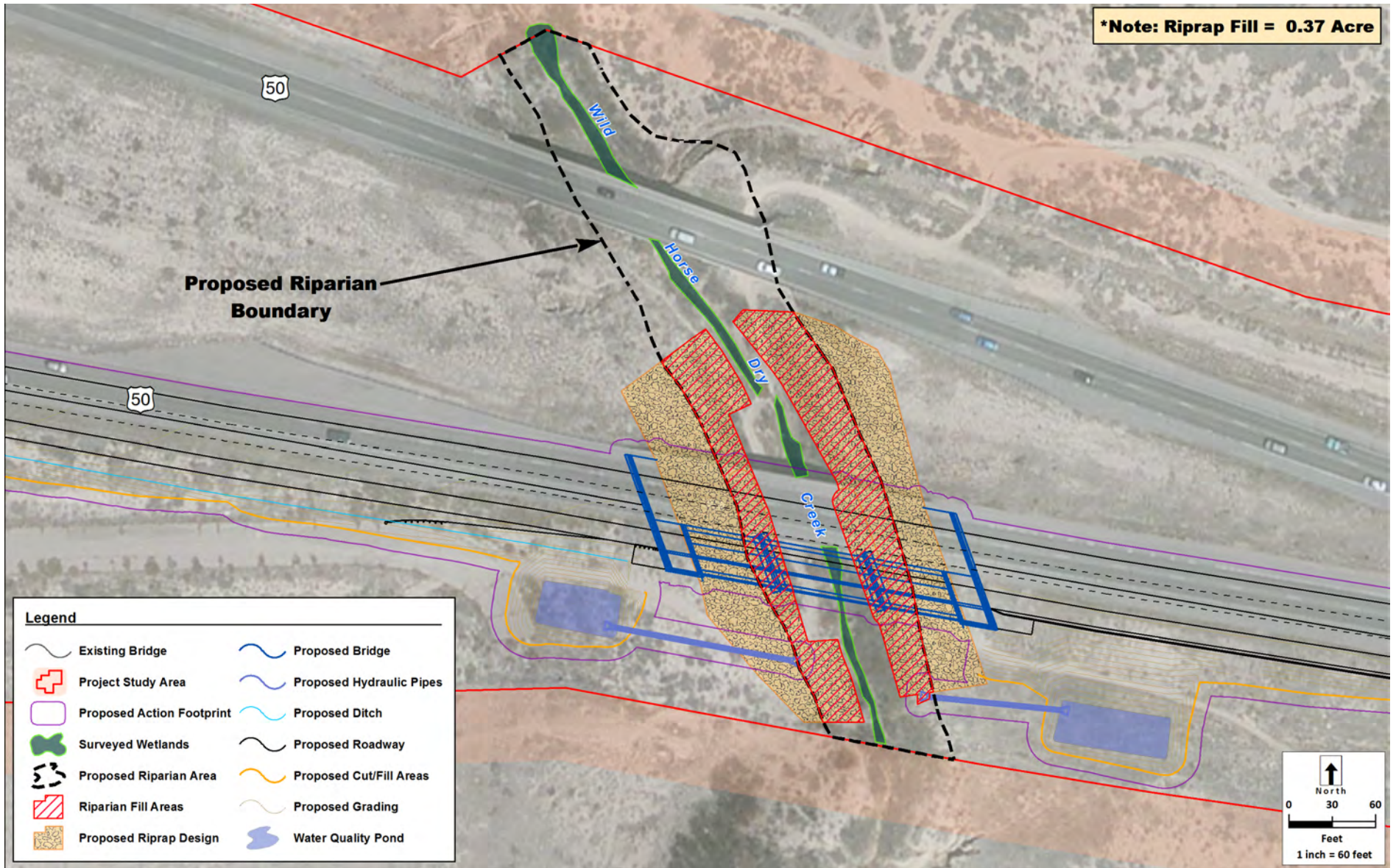
Williams Creek and Wild Horse Dry Creek within the study area qualify as SB 40 jurisdictional streams based on the following criteria:

- All perennial streams represented by solid blue lines on US Geological Survey 7.5’ Quad maps.
- Segments of streams at which 25 percent or more of the vegetation includes riparian vegetation such as cottonwood, willow, alder, sedges, or other plants dependent on groundwater or overbank flooding. Such segments shall be within 300 feet upstream or downstream of the project. The 300-foot distance shall be measured along the length of the stream by valley length.
- Segments of streams having wetlands present within 600 feet upstream or downstream of the project. The 600-foot distance shall be measured by valley length.

The extent of the jurisdictional area covered under SB 40 includes the stream bed, the stream banks, and as much of the bankside (riparian) areas as could reasonably be expected to contribute to the quality of the general stream habitat through shading, water quality filtering, contribution of food items for fish and wildlife, and the contribution of organic matter for stream food chain support. The jurisdictional area affected by this project includes Wild Horse Dry Creek and the entire width of the adjacent riparian areas. All field survey observations were from public ROW because there was no access to private properties surrounding the project.

**Figure 4** shows the extents of the SB 40 boundaries at Wild Horse Dry Creek. There will be no SB 40 impacts to the Williams Creek drainage resulting from the construction of this project.

Figure 4. Riparian Area Boundary & Fill Areas



### 3. Formal SB 40 Wildlife Certification and Criteria

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Guidelines for SB 40 Wildlife Certification (CPW and CDOT, 2013) state that CPW must grant projects under the jurisdiction of SB 40 either a Programmatic or a Formal Certification. Smaller projects that have little to no impact on wildlife or on their habitats can obtain a Programmatic SB 40 Wildlife Certification, which expedites the process and eliminates unnecessary work.

The SB 40 guidelines require a Formal Wildlife Certification on projects that meet any 1 of 13 criteria. The US 50 West Project meets 2 of the 13 criteria as discussed below:

1. ***Projects involving replacement of existing structures over streams if the impacts extend 100 feet or more upstream and downstream of the project as measured along the valley length.***

The US 50 West Project includes the widening of the eastbound bridge at Wild Horse Dry Creek and related construction elements, including widening of the existing piers. Based on the proposed riprap design detail, the riprap will extend further than 100 feet upstream and downstream, thereby exceeding the 100 feet maximum for a Formal SB 40 Wildlife Certification.

2. ***If state or federally listed threatened, endangered, proposed, or candidate species may be impacted by a project, if Colorado state-listed species or state species of special concern may be impacted, or if the habitat of such species may be impacted (see [www.dnr.state.co.us](http://www.dnr.state.co.us)).***

The project improvements along Wild Horse Dry Creek due to the eastbound bridge widening have the potential to affect habitat for several listed species, including the triploid Colorado checkered whiptail (*Aspidoscelis neotesselata*) (CDOT, 2014a). Whiptail lizards were observed along Williams Creek during June and July 2013 surveys, and habitat is assumed in the Wild Horse Dry Creek area. Other species that were not observed, but suitable habitat exists in the area of Wild Horse Dry Creek, include the massasauga (*Sistrurus catenatus*) and the plains leopard frog (*Rana blairi*).

### 4. Existing Conditions

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The approximate center of the US 50 West EA Project is located in Pueblo County in the SW  $\frac{1}{4}$  of the SW  $\frac{1}{4}$  of Section 9, Township 2 South, Range 65 West (Lat 38.318 and Long -104.678). Site photographs in **Appendix A** present existing conditions observed in the field during June, July, and October 2013, and **Appendix B** presents the proposed bridge design over Wild Horse Dry Creek in a general layout view.

Areas subject to the jurisdiction of SB 40 are found adjacent to Wild Horse Dry Creek as shown in **Figure 4**. The following section identifies the observations of wetlands, hydrology, and noxious weeds within the Wild Horse Dry Creek drainage. **Figure 5** shows the current quality of the riparian zone at Wild Horse Dry Creek. Off-road vehicle use adjacent to and within the drainage (vehicle crossings) is causing soil compaction, erosion, and stream channel impacts. Groundwater and surface flows on-site influence the hydrology for wetlands associated with Wild Horse Dry Creek.

In **Figure 5**, the photo on the left is a view from the south side looking north, and the photo on the right is from the north side looking south.

**Figure 5. Existing Vegetation in the Wild Horse Dry Creek Riparian Area**



The wetlands at the project site are palustrine–persistent emergent. Riparian areas outside these wetlands are primarily palustrine–scrub shrub (CDOT, 2014b) and provide wildlife cover, nesting and breeding areas, and shelter from the elements. While the Wild Horse Dry Creek riparian area contains no tree species, there is a continuous corridor of dying or dead tamarisk shrub cover within this riparian area that provides most of the wildlife habitat within this drainage.

**Table 1** identifies the dominant vegetation species of the wetland areas, riparian areas, and nearby uplands as confirmed through field observations at Wild Horse Dry Creek.

**Table 1. Dominant Vegetation Species**

| Common Name          | Botanical Name              | Wetland Indicator |
|----------------------|-----------------------------|-------------------|
| Tamarisk             | <i>Tamarix chinensis</i>    | FACW              |
| Creeping bentgrass   | <i>Agrostis stolonifera</i> | FACW              |
| Rubber rabbitbrush   | <i>Ericameria nauseosa</i>  | UPL               |
| Golden currant       | <i>Ribes aureum</i>         | FACU              |
| Perennial pepperweed | <i>Lepidium latifolium</i>  | FACW              |
| Hoary Cress          | <i>Cardaria draba</i>       | UPL               |

Source: CDOT, 2014b.

Wetland Vegetation Indicator Key: OBL – Obligate wetland, FACW – Facultative Wetland, FACU – Facultative; Upland, UPL – Upland

It is important to note that the native golden currant and rubber rabbitbrush had an estimated 5 percent and 10 percent aerial coverage, respectively. This is much less than the tamarisk aerial coverage (30 percent). However, because there were no other shrubs at the outpost sampling location for the Wild Horse Dry Creek wetlands, these shrubs were considered dominant per the United States Army Corps of Engineers (USACE) vegetation sampling rules.

The *Biological Resources Report* (BRR) prepared for the US 50 West EA (CDOT, 2014a) identifies five state species of special concern and one state threatened species with potential suitable habitat within the study area, including the black-tailed prairie dog (*Cynomys ludovicianus*), triploid Colorado checkered whiptail, massasauga rattlesnake, plains leopard frog, northern leopard frog (*Rana pipiens*),

and Western Burrowing Owl (*Athene cunicularia hypugaea*), respectively. Within the study area, there is no suitable habitat for federally-listed threatened/endangered species.

## 5. Impacts

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**Section 5** describes the impacts of the Proposed Action and the No Action Alternative on the SB 40 resources identified in the study area. Permanent impacts from the Proposed Action were determined based on the project design footprint and included the areas of ground disturbance from the following project elements:

- Addition of a third eastbound lane and intersection improvements at Purcell Blvd./US 50 and McCulloch Blvd./US 50
- Bridge widening, including pier work, at Wild Horse Dry Creek
- Placement of riprap for erosion control
- Drainage outfall structures

As part of the Proposed Action, post-construction restoration would include native seeding and erosion control at temporarily affected areas adjacent to the proposed bridge with native revegetation/restoration in open areas of the Wild Horse Dry Creek drainage.

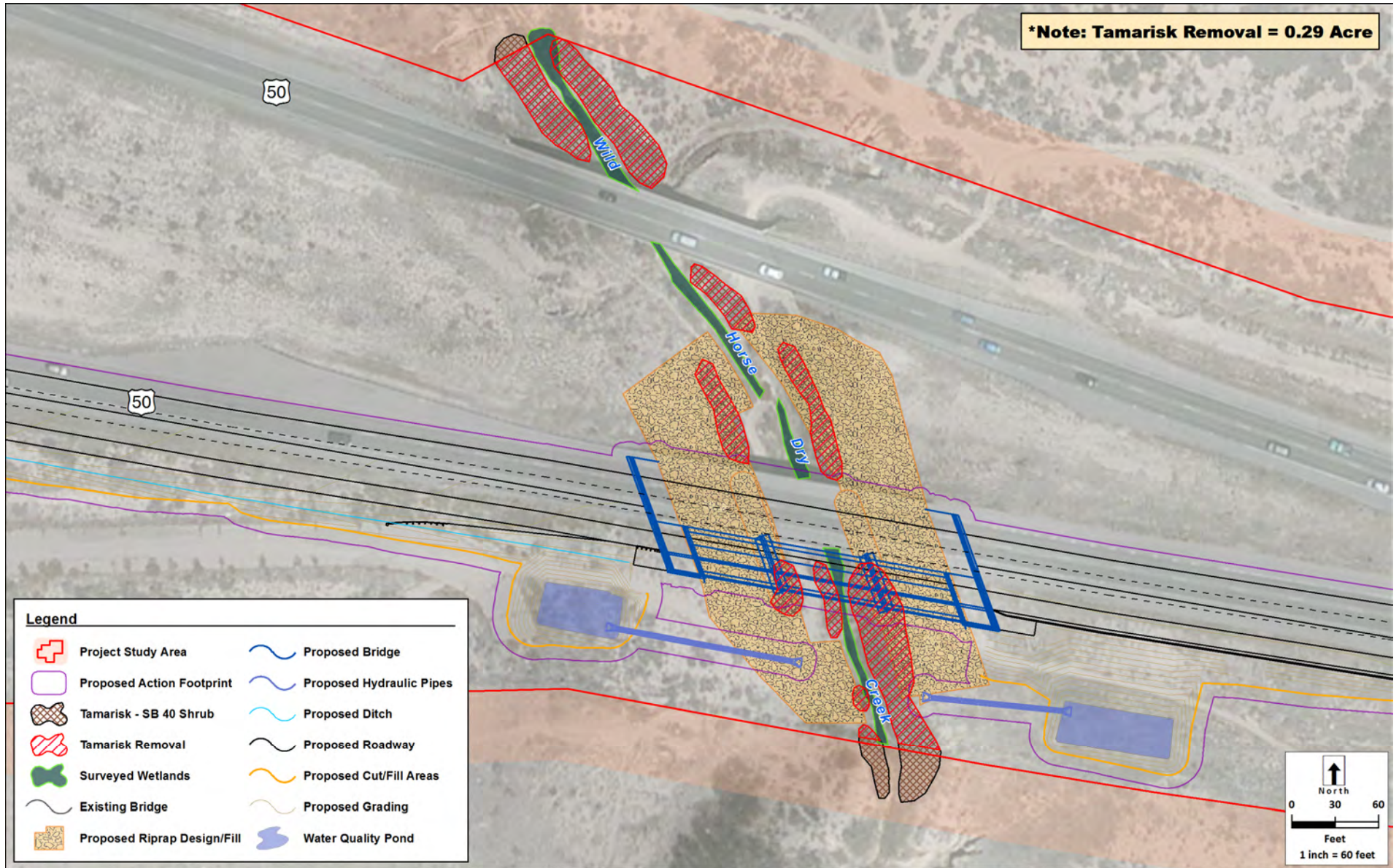
The Proposed Action would have an impact on riparian areas from riprap/fill placement and also from SB 40 shrub/noxious weed removal. A total of 0.37 acre of permanent fill would be placed in riparian areas (**Figure 6**). Approximately 12,523 square feet (0.29 acre) of shrubs within CDOT's ROW would be removed. Impacts would result from the widening of the bridge, the installation of riprap, and the proposed removal of tamarisk along Wild Horse Dry Creek within the CDOT ROW. Tamarisk is identified as a List B noxious weed on the Colorado Noxious Weed List.

The No Action Alternative would not have an impact on SB 40 resources.

Federal Executive Order 13112, the Colorado Noxious Weed Act (Title 35, article 5.5), Colorado Executive Order D-006-99, and Colorado Regulations 8-CCR-1206-2 mandate the control of listed noxious weeds. Noxious weeds are non-native plants that establish themselves in disturbed soils and can quickly spread and displace native vegetation and habitat, which continually threatens the economic and environmental value of Colorado lands. List B weeds are managed to stop continued spreading. Within the Wild Horse Dry Creek drainage, tamarisk will be cut down and hand-sprayed with an aquatic safe herbicide. For additional information on noxious weeds, refer to the *US 50 West BRR* (CDOT, 2014a). A CDOT project special specification 217 (Herbicide Treatment) is being prepared to manage the control of noxious weeds during construction (CDOT, 2011b).

As noted earlier, potential suitable habitat for five state species of special concern and one state threatened species was identified within the study area. Potential impacts on these species will be minimized by implementing best management practices (BMPs) during construction activities and off-site habitat conservation measures per the Shortgrass Prairie Initiative Biological Opinion (BO) and Biological Assessment (BA), as identified in the BRR (CDOT, 2014a).

Figure 6. SB 40 Shrub Removal Areas – Tamarisk



The Migratory Bird Treaty Act (MBTA) of 1918 protects the vast majority of birds found in Colorado and their nests. CDOT has a Standard Special Specification for Road and Bridge Construction controls during construction of the project that limits construction activity around nests from April 1 to August 31; this is the standard special specification 240 (Protection of Migratory Birds) (CDOT, 2011c). Construction activities around active migratory bird nests will be limited, unless a qualified biologist determines that there are no active nests in the project area. Construction plans will include a project special specification 240. Refer to the BRR (CDOT, 2014a) for additional information on migratory bird nests present within the project area.

## **6. Mitigation**

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Direct impacts on riparian areas due to the Proposed Action will be minimized as much as possible based on the feasibility of implementation in relation to other factors, such as engineering design standards and safety issues (for example, slope constraints). It has been determined that there is no practicable alternative to the proposed bridge widening construction in riparian areas within SB 40 jurisdiction, and that the Proposed Action will include all practicable measures to minimize harm that may result from such use.

Avoidance, minimization, and mitigation (vegetation enhancement/restoration) measures are being implemented to limit permanent impacts on wildlife habitat and vegetation.

### **6.1 Avoidance Measures**

Avoidance measures to protect SB 40 resources during the design process of the eastbound bridge will include shifting the location of riprap away from the Wild Horse Dry Creek stream channel. Further avoidance measures of the creek channel and willow planting areas will occur during final design. Other avoidance measures will include siting water quality ponds and outlet drainage structures from these ponds in a manner that will avoid the Wild Horse Dry Creek stream channel. The design of the outlet drainage structures was placed in a manner that will avoid the riparian area as much as possible.

### **6.2 Minimization Measures**

Minimization of impacts on vegetation, where possible and appropriate, will be accomplished by following the BMPs identified in the 2013 Guidelines for SB 40 (CPW and CDOT, 2013) and included in the Stormwater Management Plan (SWMP). Existing wetlands will be protected with orange plastic fence and silt fence during construction to prevent access to the riparian corridor. Also, minimization measures will continue during the final design process and may be accomplished by future design modifications, such as altering the grading plan to limit disturbances and modifying slope ratios.

### **6.3 Mitigation Measures**

A vegetation enhancement/restoration effort along Wild Horse Dry Creek will be implemented for the US 50 West Project to address both permanent and temporary impacts on SB 40 resources. While impacts are limited to the area of the eastbound bridge widening, the vegetation enhancement/restoration efforts will include the riparian areas along the entire stretch of Wild Horse Dry Creek, from the north ROW limit to the south ROW limit. This area is hereby referred



to as the Restoration Site, as shown on **Figure 7** and **Figure 8**. The goal of including a larger area for mitigation efforts than the actual area being disturbed is to help increase the success of the enhancement/restoration efforts. **Section 7** discusses monitoring and success criteria.

All areas cleared of tamarisk within the Restoration Site will be replanted with a combination of sandbar willow, other shrubs, and a grass seed-mix, within the conceptual planting zones illustrated in **Figure 7**. Sandbar willow will be planted in a narrow planting zone adjacent to the Wild Horse Dry Creek channel, as illustrated in **Figures 7** and **8**. This will meet the 1:1 mitigation ratio per the SB 40 Wildlife Certification requirements and in accordance with specification 214 (Planting) of the CDOT Standard Specifications for Road and Bridge Construction (CDOT, 2011a), which will be included with the construction plans. **Table 2** provides the area of tamarisk shrub removal, as well as the proposed quantities of shrub replacement with planting and seeding. Approximately 1,100 willow brush cuttings will be required for the vegetation enhancement/restoration effort. The sandbar willow cuttings will be taken from off-site populations because tamarisk has replaced sandbar willow in this entire drainage and no on-site stock is available to be planted at the Restoration Site.

CDOT plans to permanently close the informal off-highway-vehicle (OHV) trails within the US 50 ROW that cross the Wild Horse Dry Creek riparian area. The current informal OHV trails have caused extensive compaction of soils, erosion, and degraded the vegetation within the Wild Horse Dry Creek riparian area. To meet this goal, the Restoration Site will also be targeted for revegetation with golden currant and rubber rabbitbrush. Golden currant and rubber rabbitbrush shrubs will be seeded outside the sandbar willow wetland areas, as illustrated in **Figure 7**, to provide additional wildlife habitat to enhance jurisdictional SB 40 areas, and also to act as a barrier to any future OHV trail creation. Approximately 9,950 square feet will be targeted for revegetation with the mixed shrub species within the Restoration Site, as shown in **Table 2**. Also, based on the extended forecast for exceptional drought levels in Pueblo County (USDA Drought Monitor, 2013), later stages of the US 50 West Project will include considerations for drought tolerant species in developing revegetation plans.

In addition, native grasses will be planted in between shrubs, and in soil covered riprap outside the eastbound bridge deck. Based on the conceptual cross section presented in **Figure 8**, enhancement to the existing jurisdictional SB 40 riparian area will occur.

The included Wild Horse Dry Creek planting zones (**Figure 7**) identify the vegetation species and placement within the riparian boundary at the Wild Horse Dry Creek drainage. **Table 2** summarizes impact and mitigation totals for shrubs in the project area.

**Table 2. Summary of Shrub Impacts and Mitigation Replacement**

| SB 40 Resource Type | Shrub Coverage Area Removed    | Shrubs Replaced within the Wild Horse Dry Creek Drainage (SB 40)                                                                                                  |
|---------------------|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Shrub Area          | 12,523 square feet / 0.29 acre | 1,100 Willow Brush Cuttings*<br>9,950 square feet seeded with mixed shrub species (golden currant and rubber rabbitbrush)<br>20,020 square feet of grass seed-mix |

*\*This number represents the willow planting zone area tallied and divided by a planting area per stem of 6 square feet (6,600 square feet/ 6 square feet).*

Based on the above proposed planting quantities, the 12,523 square feet of tamarisk removed will be mitigated with approximately 16,550 square feet of shrub replacement (willow brush cuttings and mixed shrub planting areas).

## 7. Monitoring and Success Criteria

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Shrubs and native seeding areas shall be monitored and maintained by CDOT's project 214 specification (Planting) requirements following seeding and planting, or until the mitigation success standard has been met as required by the project 214 specification, as presented below.

**214.04 Landscape Establishment.** From the time of installation, during construction, and throughout the Landscape Establishment period the Contractor shall maintain all plant material and seeded areas in a healthy and vigorous growing condition, and ensure the successful establishment of vegetation. This includes performing establishment, replacement work, and landscape maintenance work as described below.

The beginning of the Landscape Establishment period depends upon receipt of the written *Notice of Substantial Landscape Completion* from the Engineer. Substantial Landscape Completion occurs when all plant materials in the Contract have been planted and all work under Sections 212, 213, 214, and 623 has been performed, except for the Section 214 pay item, Landscape Maintenance. If the Notice of Substantial Landscape Completion is issued during the spring planting season, the Landscape Establishment period begins immediately and lasts for a period of 12 months. If the Notice of Substantial Landscape Completion is issued at any other time, the Landscape Establishment period begins at the start of the next spring planting season and lasts for a period of 12 months.

- (a) *Establishment and Replacement.* After all planting on the project is complete, a plant inspection shall be held including the Contractor, Engineer, and CDOT Landscape Architect to determine acceptability of plant material. During the inspection, an inventory of rejected material will be made, and corrective and necessary cleanup measures will be determined. Dead, dying, or rejected material shall be removed each month during the Landscape Establishment period as directed. Plant replacement shall be performed during the spring planting seasons at the beginning and end of the Landscape Establishment Period. Plant replacement stock shall be planted in accordance with the Contract and is subject to all requirements specified for the original material. Plant replacement shall be at the Contractor's expense.

Based on the project 214 specification (214.03(h)), brush layer cuttings will be watered thoroughly every day for one month.

SB 40 guidance (Section VII. SB 40 Field Reviews) requires an inspection and field review of the US 50 West Project and SB 40-related issues; thus, CDOT and CPW staff will conduct an in-field meeting to discuss project-specific impacts and the required mitigation.

Figure 7. Restoration Site Planting Zones

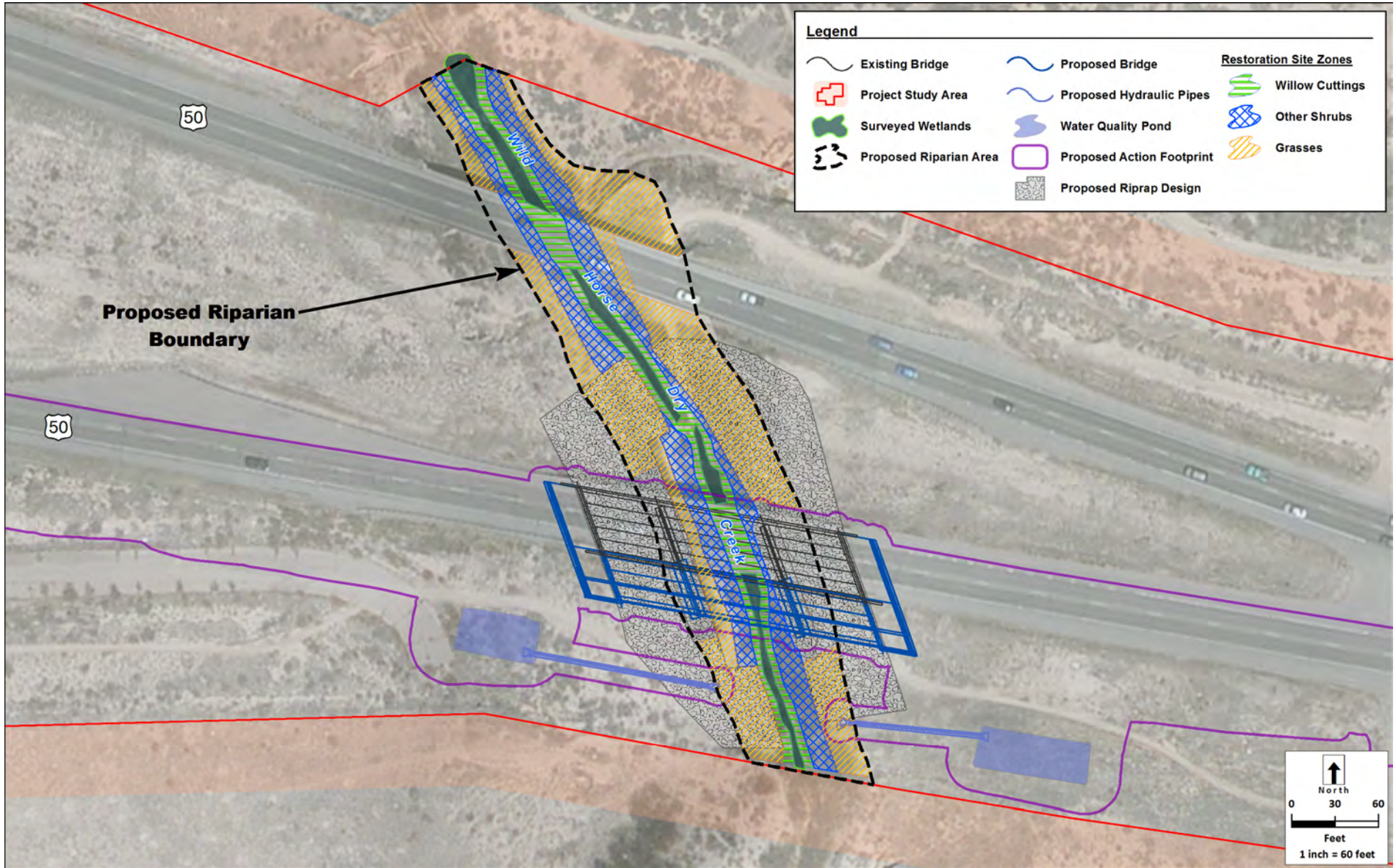
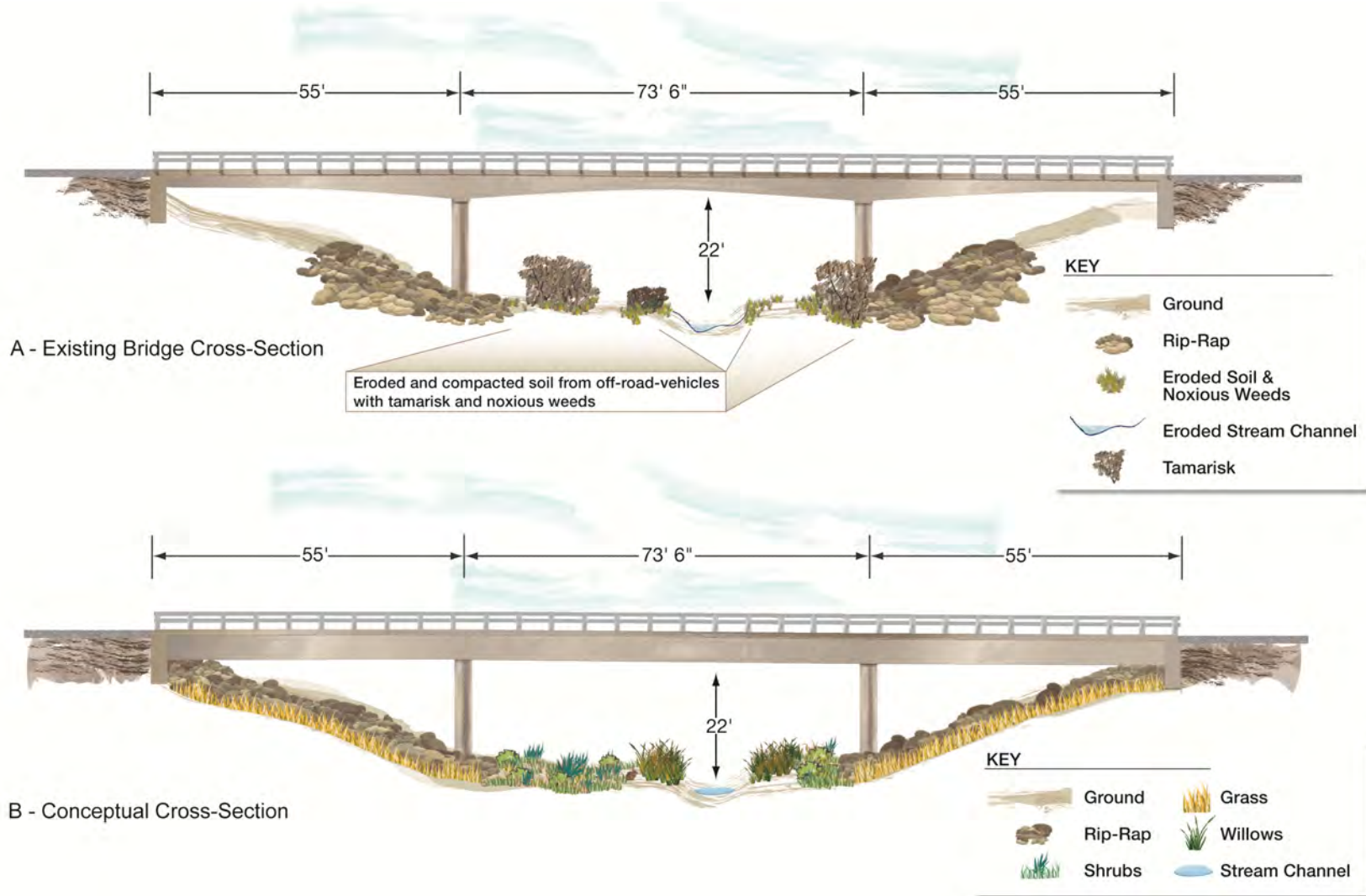


Figure 8. Wild Horse Dry Creek Bridge Existing and Conceptual Cross Sections



## 8. Summary

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Wild Horse Dry Creek is considered under the jurisdiction of SB 40. Because the US 50 West Project meets two of the 13 SB 40 criteria, this project requires a Formal SB 40 Wildlife Certification. This report serves as an evaluation and documentation of the proposed project and of the environmental conditions present within the riparian corridor project area. CDOT proposes to remove approximately 12,523 square feet (0.29 acre) of shrubs (tamarisk) under SB 40 jurisdiction due to their status as an invasive noxious shrub.

These shrubs will be mitigated for by planting new shrubs and seeding in the open, native areas within the riparian boundary adjacent to Wild Horse Dry Creek. The total number of willow cuttings and other seed mixes will be identified in the project specification 214 (Planting) and included in construction plans.

## 9. References

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- Colorado Department of Natural Resources and the Department of Transportation. 2013. *Memorandum of Agreement by and among the Colorado Department of Natural Resources and the Department of Transportation Regarding Senate Bill 40 Certification*. Signed July 8, 2013.
- Colorado Parks and Wildlife (CPW) and Colorado Department of Transportation (CDOT). 2013. *Guidelines for Senate Bill 40 Wildlife Certification Developed and Agreed Upon by Colorado Parks and Wildlife and the Colorado Department of Transportation*. April 2013.
- Colorado Department of Transportation (CDOT). 2014a. *US 50 West Project – Biological Resources Report*. February.
- . 2014b. *US 50 West Project – Wetland Delineation Technical Report*. February.
- . 2012a. *US 50 West Planning and Environmental Linkages (PEL) Study*. June.
- . 2012b. *US 50 West Implementation Plan*. June.
- . 2011a. *Standard Specifications for Road and Bridge Construction: Project 214 Specification*.
- . 2011b. *Standard Specifications for Road and Bridge Construction: Project Special 217 Specification*.
- . 2011c. *Standard Specifications for Road and Bridge Construction: Project Special 240 Specification*.
- United States Department of Agriculture (USDA). 2013. US Drought Monitor website: <http://droughtmonitor.unl.edu/>. Accessed in June.

# Appendix A

## Site Photographs



**Photo 1 — Riparian vegetation found at the Wild Horse Dry Creek drainage.**  
View looking north from in between the eastbound and westbound bridges.



**Photo 2 — Looking northeast at an erosion channel north and east of the westbound bridge.**



**Photo 3 — Looking north from under the westbound bridge.**

This is the typical vegetation strata along the Wild Horse Dry Creek drainage, dominated by tamarisk.



**Photo 4 — A triploid Colorado checkered whiptail found within the project area.**

This particular lizard was observed in the Williams Creek drainage to the west.





**Photo 5 — Looking northwest from north of the westbound lanes at the typical riparian zone along Wild Horse Dry Creek.**

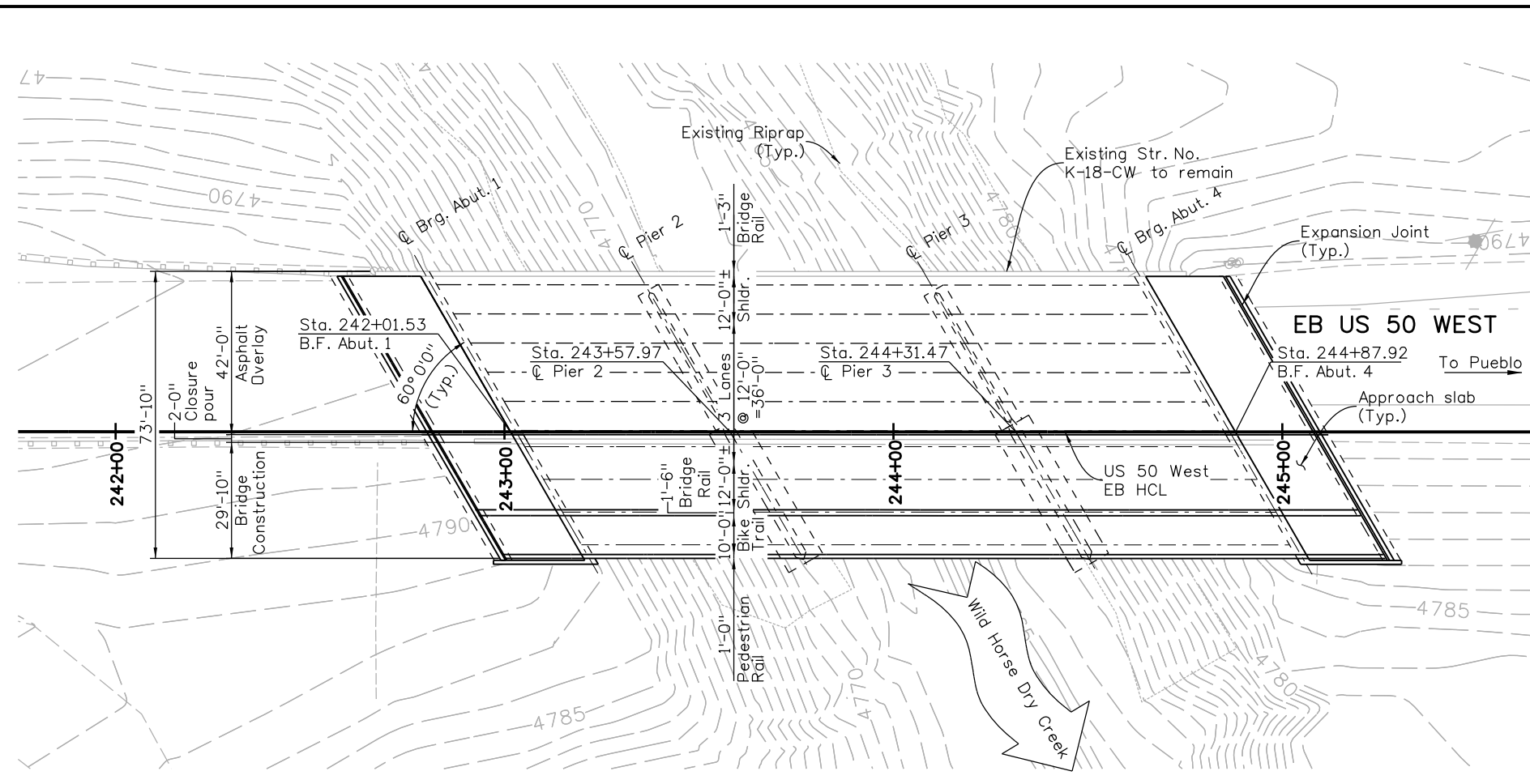
Area is dominated by tamarisk, creeping bentgrass, and noxious weeds near the channel.



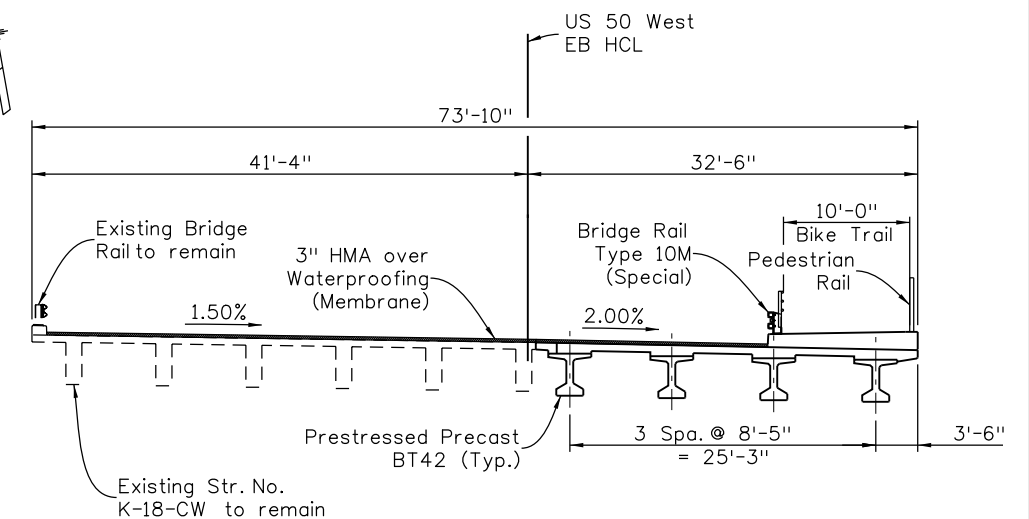
**Photo 6 — Looking west from Pueblo Blvd. from in the median.**

Drought has had a severe impact on upland vegetation.

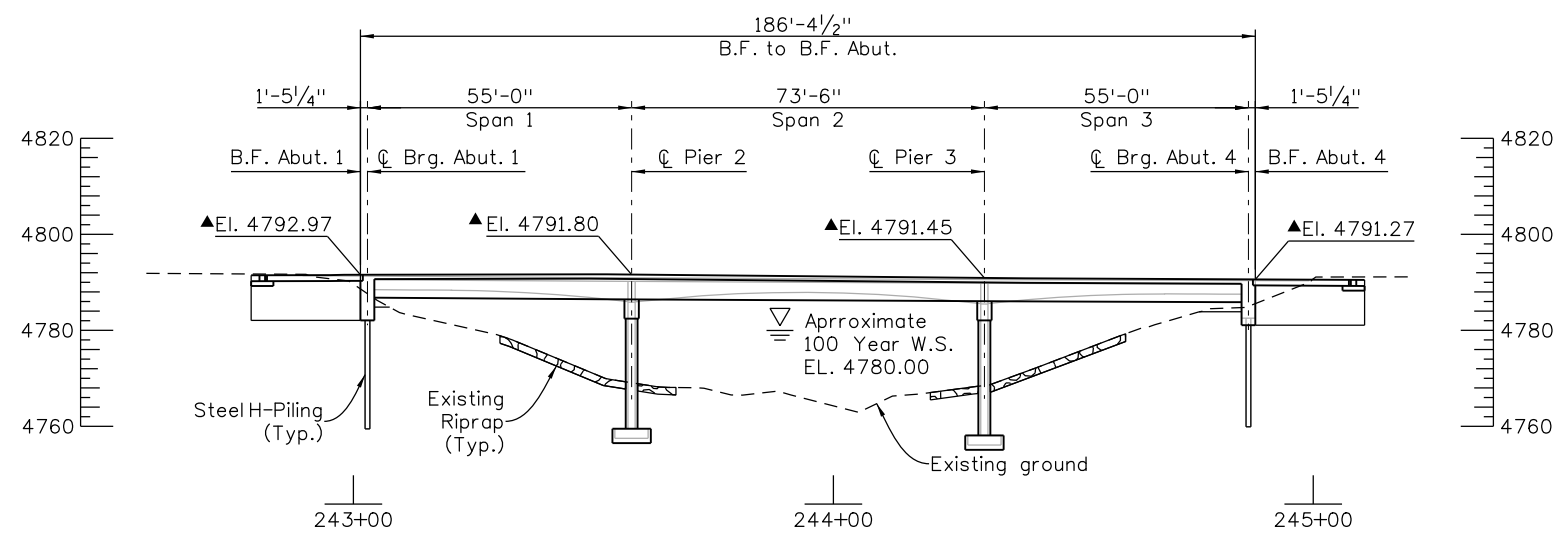
**Appendix B**  
**Wild Horse Dry Creek Bridge General Layout**



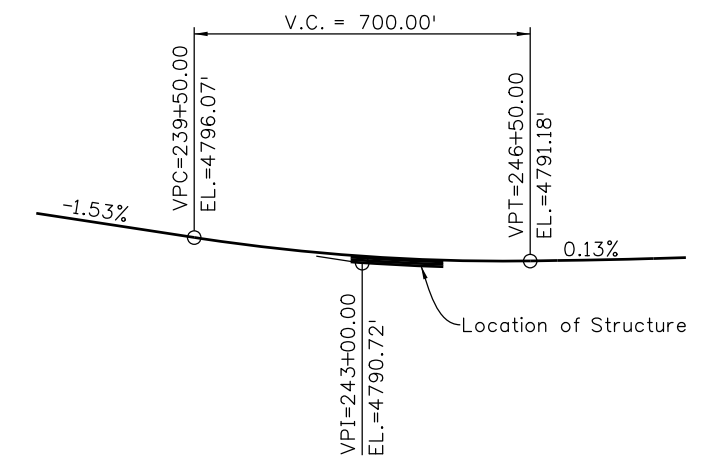
**PLAN**



**TYPICAL SECTION**



**ELEVATION**



**PROFILE GRADE**

▲ Elevation at Finished Grade at Horizontal Control Line

Print Date: 8/29/2013  
 File Name: 19506BRDG\_Widening\_GeneralLayout.dgn  
 Horiz. Scale: 1:40 Vert. Scale: As Noted  
 Unit Information Unit Leader Initials  
 FELSBURG HOLT & ULLEVIG  
 6300 South Syracuse Way  
 Centennial, CO 80111  
 25 years of engineering paths to transportation solutions

| Sheet Revisions |          |       |
|-----------------|----------|-------|
| Date:           | Comments | Init. |
|                 |          |       |
|                 |          |       |
|                 |          |       |

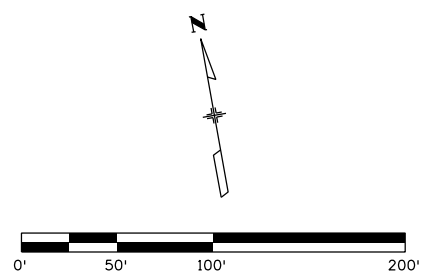
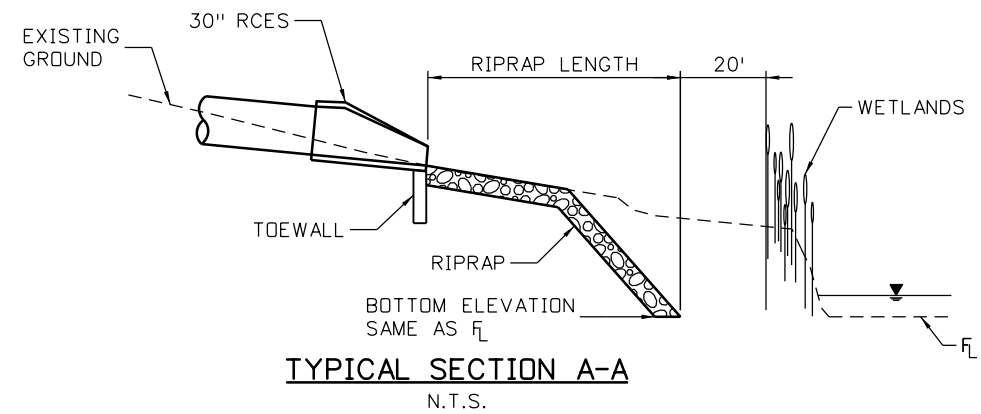
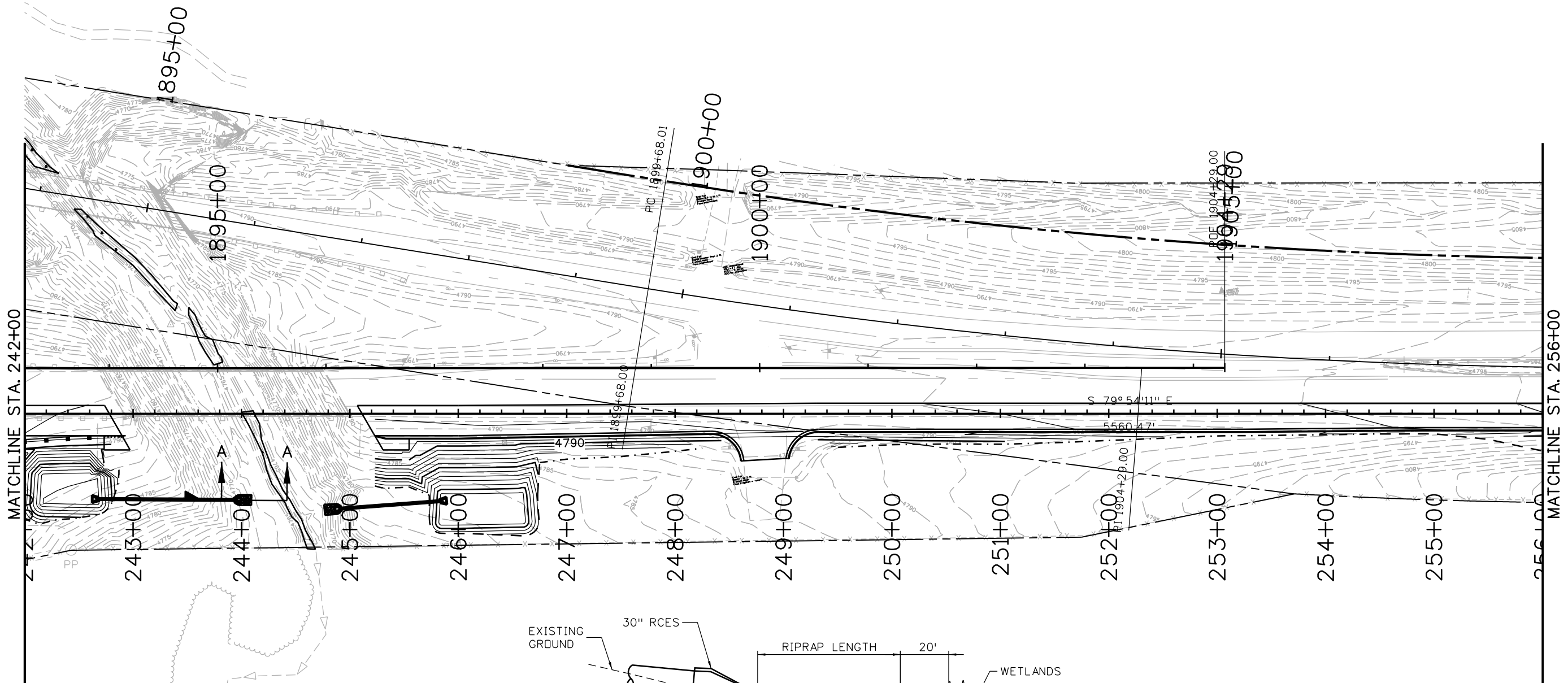
Colorado Department of Transportation  
 905 Erie Avenue  
 Pueblo, CO 81001  
 Phone: 719-562-5509 FAX: 719-546-5702  
 Region 2 DTD

As Constructed  
 No Revisions:  
 Revised:  
 Void:

US 50 WEST  
 EB OVER WILD HORSE DRY CREEK  
 GENERAL LAYOUT  
 Designer: C. Otegui  
 Detailer: V. Miranda  
 Sheet Subset: Bridge  
 Structure Numbers: K-18-CW  
 Subset Sheets: B2 of 5

Project No./Code  
 STA 050A-22  
 19056  
 Sheet Number

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Print Date: 11/21/2013

File Name: 19056HYDR\_DET01\_Wetlands.dgn

Horiz. Scale: 1:100 Vert. Scale: As Noted

Unit Information Unit Leader Initials

**FELSBURG HOLT & LILLEVIG**  
 6300 South Syracuse Way  
 Centennial, CO 80111  
 25 years of engineering paths to transportation solutions

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| Sheet Revisions |          |       |
|-----------------|----------|-------|
| Date:           | Comments | Init. |
|                 |          |       |
|                 |          |       |
|                 |          |       |

Colorado Department of Transportation



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Region 2 DTD

| As Constructed |
|----------------|
| No Revisions:  |
| Revised:       |
| Void:          |

| US 50 WEST WETLANDS DETAIL |                   |
|----------------------------|-------------------|
| Designer:                  | Structure Numbers |
| Detailer:                  | Subset Sheets: of |
| Sheet Subset:              |                   |

| Project No./Code |
|------------------|
| STA 050A-22      |
| 19056            |
| Sheet Number     |

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