APPENDIX A. US 50 WEST, PURCELL BLVD. TO WILLS BLVD. (MILEPOST 309 TO MILEPOST 313), MCCULLOCH BLVD. INTERSECTION IMPROVEMENTS (MILEPOST 307) ENVIRONMENTAL ASSESSMENT

ENVIRONMENTAL ASSESSMENT

US 50 West

Pueblo, Colorado

Purcell Blvd. to Wills Blvd. (Milepost 309 to Milepost 313)

McCulloch Blvd. Intersection Improvements (Milepost 307)

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

Lead Agencies

Federal Highway Administration

Colorado Department of Transportation
Region 2

June 2014

ENVIRONMENTAL ASSESSMENT SIGNATURES

Submitted by:

6/2/2014

Tom Wrona, P.E. — Date
Region 2 Transportation Director
Colorado Department of Transportation

Concurred by:

Scott McDaniel 6·3·2014

Scott McDaniel, P.E. — Date
Acting Chief Engineer
Colorado Department of Transportation

Approved by:

6-3-2014

For John M. Cater, P.E. — Date
Division Administrator, Colorado Division
Federal Highway Administration

Statute of Limitations

A Federal Agency may publish a notice in the Federal Register, pursuant to 23 United States Code § 139(l), indicating that one or more Federal agencies have taken final action on permits, licenses, or approvals for a transportation project. If such notice is published, claims seeking judicial review of those Federal agency actions will be barred unless such claims are filed within 150 days after the date of publication of the notice, or within such shorter time period as is specified in the Federal laws pursuant to which judicial review of the Federal agency action is allowed. If no notice is published, then the periods of time that otherwise are provided by the Federal laws governing such claims will apply.

For Information Contact

Joe Garcia
Project Manager
Colorado Department of Transportation
Region 2
905 Erie Avenue
Pueblo, CO 81002
719-546-5727
joe.garcia@state.co.us

Randy Jensen
Program Delivery Team Leader
Federal Highway Administration
12300 W. Dakota Avenue, Suite 180
Lakewood, CO 80228
720-963-3018
randy.jensen@dot.gov

Public Comment Period

The public comment period for this document begins June 16, 2014, and ends July 15, 2014. Written comments on this document can be submitted through the project website: http://www.coloradodot.info/library/studies/us50ea or by mail or email to Joe Garcia, Project Manager, as noted above.

A public meeting for this project will be held at the Pueblo West Library (298 S. Joe Martinez Blvd., Pueblo West, CO 81007) on June 30, 2014, from 6:00 PM to 8:00 PM.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES – PROVIDED ON CD AND ON CDOT WEBSITE (HTTP://WWW.COLORADODOT.INFO/LIBRARY/STUDIES/US50EA)

APPENDIX A – SUPPORTING TECHNICAL DOCUMENTS BY SUBJECT

- A1 PROJECT DRAWINGS AND PLANS
- A2 US 50 WEST PLANNING AND ENVIRONMENTAL LINKAGES (PEL) STUDY
- A3 US 50 PEL IMPLEMENTATION PLAN
- A4 AIR QUALITY
- A5 SOILS INVESTIGATION
- A6 WATER QUALITY AND FLOODPLAINS
- A7 WETLANDS
- A8 BIOLOGICAL RESOURCES REPORT
- A9 SENATE BILL 40 FORMAL CERTIFICATION
- A10 HISTORIC AND ARCHAEOLOGY
- A11 PALEONTOLOGY
- A12 ENVIRONMENTAL JUSTICE
- A13 PARKS AND RECREATION
- A14 TRAFFIC NOISE AND VIBRATION IMPACT ASSESSMENT
- A15 HAZARDOUS MATERIALS INITIAL SITE ASSESSMENT

APPENDIX B – AGENCY AND STAKEHOLDER COORDINATION

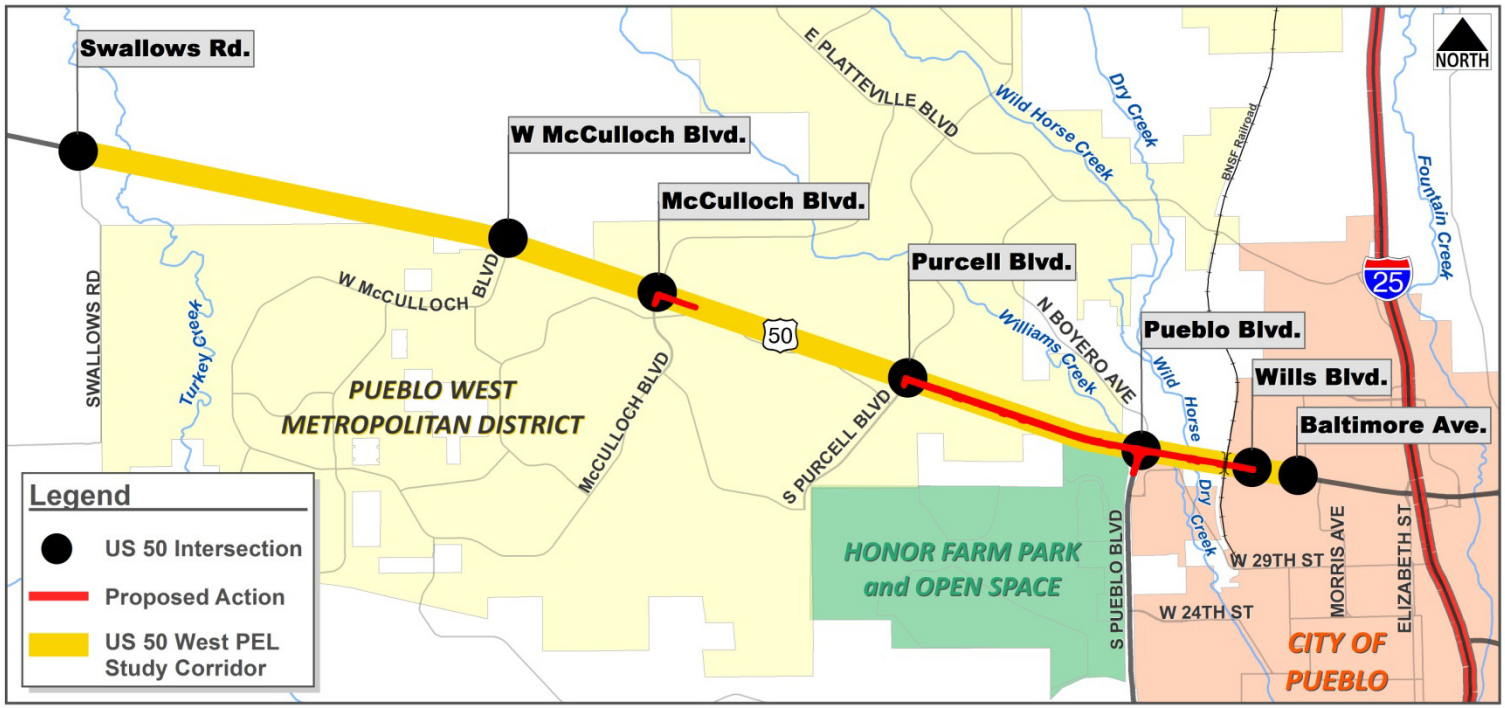
LIST OF ACRONYMS AND ABBREVIATIONS

Ave.	Avenue
BA	Biological Assessment
BFE	base flood elevation
Blvd.	Boulevard
BMPs	best management practices
BNSF	Burlington Northern Santa Fe
BO	Biological Opinion
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health and Environment
CFR	Code of Federal Regulations
CPW	Colorado Parks and Wildlife
Dr.	Drive
EA	Environmental Assessment
EDB	extended detention basin
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
I-25	Interstate 25
LOS	Level of Service
MBTA	Migratory Bird Treaty Act
MM	Mile Marker
mph	miles per hour
MS4	Municipal Separate Storm Sewer Systems
MSAT	Mobile Source Air Toxics
MUE	Multi-Use Easement
NAC	National Abatement Criteria
NEPA	National Environmental Policy Act
PACOG	Pueblo Area Council of Governments
PEL	Planning and Environmental Linkages Study
PWMD	Pueblo West Metropolitan District
Rd.	Road
ROW	right-of-way
SGPI	Shortgrass Prairie Initiative
SGPI BO	Shortgrass Prairie Initiative Biological Opinion
sq. ft.	square feet
SWMP	stormwater management plan
US 50	U.S. Highway 50
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
vpd	vehicles per day
vph	vehicles per hour

INTRODUCTION

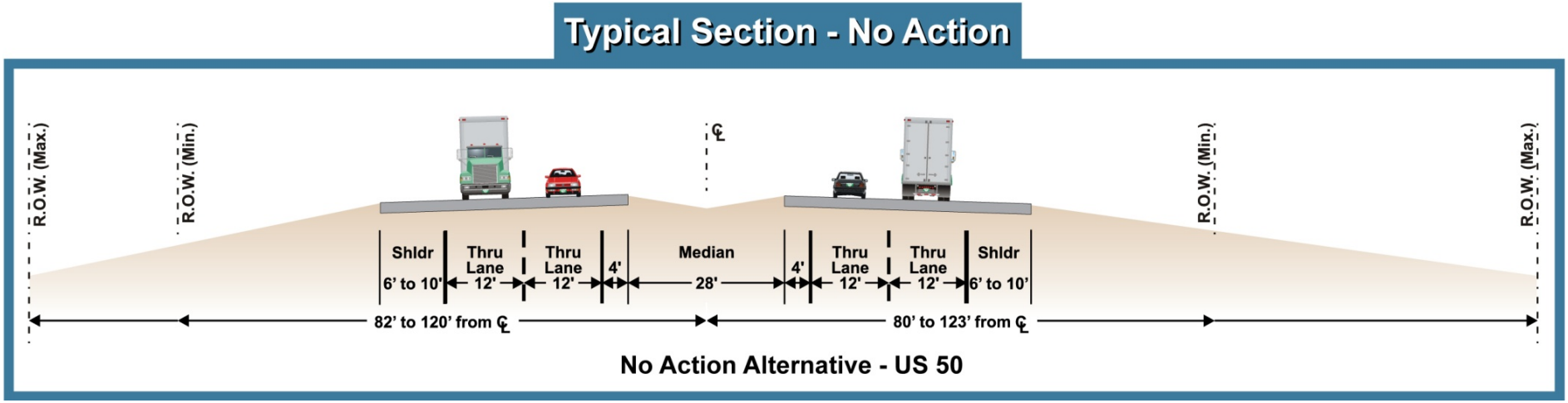
The Colorado Department of Transportation (CDOT) and Federal Highway Administration (FHWA) are proposing to add an additional 3.4-mile eastbound lane to U.S. Highway 50 (US 50) between Purcell Boulevard (Blvd.) and Wills Blvd.; and intersection improvements at McCulloch Blvd., Purcell Blvd., and Pueblo Blvd., within the City of Pueblo, Pueblo County, and Pueblo West Metropolitan District (PWMD). The improvements included in this Proposed Action are elements of the Preferred Alternative that CDOT recommended in the *US 50 West Planning and Environmental Linkages (PEL) Study* (US 50 West PEL) (2012a). The PEL recommended Preferred Alternative included US 50 from Swallows Road (Rd.) to Baltimore Avenue (Ave.), hereinafter referred to as the PEL Corridor (**Figure 1**). CDOT undertook the US 50 West PEL because of peak hour congestion and above average crash rates, particularly in the eastern end of the PEL Corridor. The US 50 West PEL established the purpose and need, evaluated a full range of alternatives, and developed the *US 50 West PEL Implementation Plan* (CDOT, 2012b) for the PEL recommended Preferred Alternative. The PEL recommended Preferred Alternative consists of six lanes on US 50 east of McCulloch Blvd. to Baltimore Ave., diamond interchanges at McCulloch Blvd. and Purcell Blvd., and a diverging diamond interchange at Pueblo Blvd. CDOT recently added a third eastbound lane from Wills Blvd. to Baltimore Ave. that was cleared through a separate Categorical Exclusion.

Figure 1. Proposed Action and PEL Study Corridor



US 50 is a four-lane highway from Swallows Rd. to Wills Blvd. In the suburban and rural sections of US 50 between Swallows Rd. and the approach to Pueblo Blvd., US 50 is a four-lane divided highway with a 28-foot median and a 65 mile per hour (mph) speed limit, as shown on **Figure 2**. At the approaches to Pueblo Blvd., the eastbound and westbound travel lanes separate to a 600-foot-wide median. East of the Pueblo Blvd. intersection to the Burlington Northern Santa Fe (BNSF) railroad bridge over US 50, the median narrows and the speed limit transitions to 55 mph. In the urban section east of the BNSF, the speed limit is 45 mph. The intersections at US 50 and McCulloch Blvd., Purcell Blvd., Pueblo Blvd., Wills Blvd., and Baltimore Ave. are signalized. Eastbound and westbound bridges span Williams Creek and Wild Horse Dry Creek at the US 50 and Pueblo Blvd. intersection. The existing features of US 50 represent the No Action Alternative. The No Action Alternative assumes that no major capacity improvements would be made to US 50. The No Action Alternative includes routine maintenance to keep the existing transportation network in good operating condition. **Figure 2** illustrates the existing cross section of US 50 between Swallows Rd. and the approach to Pueblo Blvd.

Figure 2. Existing Cross Section Between Swallows Rd. and Pueblo Blvd.



With available project funding to implement the Proposed Action, CDOT is now transitioning from the PEL Study to the National Environmental Policy Act (NEPA) process, in coordination with FHWA. This Environmental Assessment (EA) has been prepared to evaluate the Proposed Action benefits and environmental impacts, relevant to the No Action Alternative. CDOT is following criteria identified in 23 Code of Federal Regulations (CFR) 771.111(f) to ensure that this project has logical termini and independent utility and does not restrict other reasonably foreseeable transportation improvements identified in the US 50 West PEL's recommended Preferred Alternative.

The Proposed Action focuses on providing eastbound improvements in the eastern portion of the PEL Corridor, which is identified in the *US 50 West PEL Implementation Plan* (CDOT, 2012b) as an area with near-term capacity needs. The Proposed Action would add eastbound capacity for a.m. peak travel

demand in the most congested portion of the PEL Corridor, would enhance connectivity to Interstate 25 (I-25), and would not restrict developing other transportation improvements included in the PEL recommended Preferred Alternative.

Future elements of the PEL recommended Preferred Alternative will undergo NEPA analysis as funding for design, right-of-way (ROW), and construction becomes available.

WHAT IS THE PURPOSE OF THE PROJECT?

The purpose of the Proposed Action is to reduce congestion and improve safety, consistent with the US 50 West PEL purpose and need:

- Improve safety on eastbound US 50 from Purcell Blvd. to Wills Blvd. and where McCulloch Blvd. turns right onto eastbound US 50.
- Increase mobility, such as improving travel delay, and relieve traffic congestion for commuters from PWMD to the city of Pueblo and other regional destinations. US 50 is functionally classified as an urban freeway within the PEL Corridor and is a primary east-west route providing connectivity with I-25 for business, shopping, recreation, and freight travel in the PWMD and Pueblo area.
- Minimize detrimental level of service (LOS) on the surrounding roads when improving US 50. LOS is a letter grade corresponding to the amount of congestion a road has when completed to a standard. LOS A is the best or the least congested grade. LOS F indicates failure because the demand for a road is more than its capacity (Transportation Research Board, 2010). See Figure 1-4 on page 1-5 of **Appendix A2**, US 50 West PEL.

WHERE WOULD THE PROJECT BEGIN AND END? (LOGICAL TERMINI AND INDEPENDENT UTILITY)

Policies and procedures for implementing NEPA prescribed in FHWA's regulation 23 CFR 771 include criteria for project development in Part 771.111(f), requiring that a transportation improvement:

- Connect logical termini and be of sufficient length to address environmental matters on a broad scope;
- Has independent utility or independent significance (i.e., be usable and be a reasonable expenditure of funds even if no additional transportation improvements are made in the area); and
- Does not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

The termini for the proposed eastbound third lane from Purcell Blvd. to Wills Blvd. are "logical" because they would allow construction of a complete project that would address safety, mobility, and congestion issues. This section of US 50 experiences the highest a.m. peak hour traffic volumes in the PEL Corridor, which are projected to continue to 2035. In addition, the highest number of crashes in the PEL Corridor occurs at the Pueblo Blvd. and Purcell Blvd. intersections.

The termini for the proposed northbound right-turn intersection improvements at McCulloch Blvd. and Purcell Blvd. are logical because these intersections have the heaviest right-turn eastbound traffic volumes during the a.m. peak hour. The existing radii for these turns are tight, and the acceleration lanes at both intersections are not adequate for travelers merging into high-speed, high-volume US 50 traffic.

Because the project area for the proposed eastbound third lane from Purcell Blvd. to Wills Blvd. is within the limits of the Williams Creek and Wild Horse Dry Creek watersheds crossed by US 50, it allows a comprehensive evaluation of the environmental resources, which include water quality and Municipal Separate Storm Sewer Systems (MS4), floodplains and wetlands, and wildlife habitat. The project area also allows for mitigation planning and permit requirements associated with the resource evaluations. The project area for the proposed right-turn lane at McCulloch Blvd. allows analysis of this US 50 intersection and the entrance to PWMD.

If CDOT never builds anything beyond a third eastbound lane from Purcell Blvd. to Wills Blvd. for the next 20 years, eastbound commuters on US 50 would benefit. The proposed eastbound lane is an integral component of the *US 50 West PEL Implementation Plan* (CDOT, 2012b) and would not restrict the reasonably foreseeable transportation improvements associated with the PEL recommended Preferred Alternative. In addition, the proposed eastbound lane would establish three-lane eastbound connectivity on US 50, starting at Purcell Blvd., with the recently constructed third eastbound lane from Wills Blvd. to Baltimore Ave., and to I-25. The proposed intersection improvements at McCulloch Blvd. and Purcell Blvd. would improve mobility and safety for a.m. eastbound commuters from PWMD, even if no other improvements are made to these intersections.

The next phase of improvements in the *US 50 West PEL Implementation Plan* (CDOT, 2012b) includes adding the third westbound lane from Wills Blvd. to Purcell Blvd., replacing the westbound bridge at Wild Horse Dry Creek, and widening Pueblo Blvd. All these improvements are consistent with the PEL recommended Preferred Alternative. Future elements of the PEL recommended Preferred Alternative, including the westbound lane, will undergo NEPA analysis as funding for design, ROW, and construction becomes available. Additional funding is being pursued for the PEL Corridor.

WHAT ARE THE NEEDS FOR THE PROJECT?

The Needs for PEL Corridor improvements identified in the *US 50 West PEL* (2012a) are demonstrated by high levels of future vehicular demand; congested intersections; high accident rates concentrated around intersections; the presence of informal park-and-ride locations in the Corridor; and a lack of pedestrian, bicycle, and transit connectivity.

Consistent with the *US 50 West PEL* (2012a), the need for improvements from Purcell Blvd. to Wills Blvd. that would be addressed by the Proposed Action include the following:

- **High levels of future vehicular demand –** Some of the highest growth increases in the Pueblo Area Council of Governments (PACOG) region are anticipated along the PEL Corridor in north Pueblo and PWMD, where population is projected to grow by nearly 10 percent by 2035. In addition, US 50 traffic volumes west of I-25 are anticipated to be roughly double their current volumes by 2035. The highest increase in traffic volumes is projected in the eastern portion of the PEL Corridor, extending from Purcell Blvd. to Wills Blvd.

- **Congested intersections –** The *US 50 West PEL Implementation Plan* (2012b) identifies locations and elements of the PEL Corridor where LOS failure would occur, in 2-year increments starting at 2011. The most critical current traffic congestion extends from Purcell Blvd. to Wills Blvd. Eastbound a.m. traffic on US 50 at Purcell Blvd. is currently the most congested, operating at LOS F. By 2035, commuter traffic volumes at the US 50 intersections of McCulloch Blvd., Purcell Blvd., and Pueblo Blvd. would operate at LOS F during both a.m. and p.m. peak hour traffic without improvements.
- **High accident rates concentrated around intersections –** The highest number of crashes on US 50 in the PEL Corridor are concentrated at the Pueblo Blvd. and Purcell Blvd. intersections. The main type of crash of concern in the project area is the rear-end crash, with a systematic increase on US 50 from west to east, indicating that crashes correspond to the buildup in congestion associated with eastbound a.m. commuter traffic volumes. The percentage of rear-end crashes at intersections in the project area range from 67 percent to 73 percent (CDOT, 2012b), which is considered disproportionate to the expected rate (45 percent) of rear-end crashes for a typical Urban 4-Lane Divided Signalized 4-leg intersection, based on statewide data collected by CDOT in Colorado. Crashes representing the remaining 32 percent include fixed objects, broadsides, sideswipes, overturning, approach turns, and animals. McCulloch Blvd. and Pueblo Blvd. intersections have the heaviest right-turn eastbound traffic volumes during the a.m. peak hour. The existing radii for these turns are tight, and the 1250-foot-long acceleration lanes at both intersections are not adequate for travelers merging into high-speed, high-volume US 50 traffic, causing sideswipe accidents.
- **Lack of pedestrian, bicycle, and transit connectivity** – Pedestrian and bicycle facilities have been planned in the PEL Corridor as a part of a regional network in the PACOG 2035 Long Range Transportation Plan.

  Future projects identified in the initial phases of the *US 50 PEL Implementation Plan* (2012b) will address other PEL Corridor needs as additional funding becomes available, such as the westbound lane from Wills Blvd. to Purcell Blvd., Pueblo Blvd. intersection improvements, and sections of the proposed pedestrian/bicycle path.

WHAT IS THE PROPOSED ACTION?

The Proposed Action involves widening 3.4 miles of US 50 to include a third eastbound lane from Purcell Blvd. to Wills Blvd. The Proposed Action does not include improvements to westbound US 50. The Proposed Action would also provide intersection improvements at Purcell Blvd./US 50, Pueblo Blvd./US 50, and McCulloch Blvd./US 50 intersections. 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 include an eastbound through lane, an eastbound deceleration lane and ramp onto Pueblo Blvd., and a northbound ramp and an acceleration lane onto eastbound US 50. The proposed improvements would also widen the eastbound bridge at Wild Horse Dry Creek (CDOT Structure K-18-CW). The bridge improvements include extending the existing piers within the Wild Horse Dry Creek drainage area and adding a third eastbound lane. The expansion of the eastbound bridge would also accommodate the proposed future pedestrian/bicycle path planned for the south side of US 50 from McCulloch Blvd. to Wills Blvd., which is an element of the PEL recommended Preferred Alternative.

The Proposed Action includes water quality improvements to be constructed within the existing CDOT ROW including grass-lined swales adjacent to the roadway and two extended detention basins (EDBs). Drainage easements would be required in three locations adjacent to CDOT ROW within the PWMD. Approximately 1 acre of the PWMD multi-use easement (MUE) adjacent to the US 50 ROW would be contoured to accommodate stormwater runoff from highway drain pipes. During construction, 0.5 acre of temporary easement will also be obtained from the adjacent property owner, PWMD, to accommodate grading.

Figure 3 provides a map index of the Proposed Action. **Figures 3a through Figure 3l** show the Proposed Action footprint and design features from Purcell Blvd. to Wills Blvd.; **Figures 3m and 3n** show the Proposed Action footprint and design features at the McCulloch Blvd./US 50 intersection; and **Figure 4** shows a typical section of the Proposed Action from Purcell Blvd. to Wills Blvd. with three eastbound lanes. Additional detail regarding the Proposed Action is provided in the main text of this EA, and project drawings are provided in **Appendix A1** of this EA. **Figure 3** includes US 50 mile markers (MM), as well as horizontal control line stationing that provides location references to the design drawings in **Appendix A1**.

How does the Proposed Action fit into the PEL Recommended Preferred Alternative?

CDOT divided the PEL recommended Preferred Alternative into elements and set priorities based on traffic projections within the *US 50 West PEL Implementation Plan* (CDOT, 2012b) because funds to implement the entire PEL recommended Preferred Alternative are not currently available.

The Proposed Action to widen eastbound US 50 from Purcell Blvd. to Wills Blvd. fits into the ultimate plan to widen US 50 to six lanes from west of McCulloch Blvd. to Wills Blvd. and into the initial phases of the *US 50 West PEL Implementation Plan* (CDOT, 2012b), that prioritize six-lane widening of US 50 from Purcell Blvd., to Wills Blvd. based on the urgency of traffic congestion. CDOT identified the Proposed Action to provide interim eastbound improvements because, with the currently available funds, it best meets the urgency of the traffic needs in the eastern portion of the PEL Corridor, representing a positive taxpayer investment in the return of reduced congestion and improved operational conditions. The proposed northbound right-turn lanes onto US 50 from McCulloch Blvd., Purcell Blvd., and Pueblo Blvd. are also interim improvements, until funds become available to implement the ultimate interchange improvements planned at these locations. Widening of the eastbound bridge at Wild Horse Dry Creek would accommodate the proposed future pedestrian/bicycle path from McCulloch Blvd. to Wills Blvd. identified in the *US 50 West Implementation Plan* (CDOT, 2012b).

Figure 3. Proposed Action

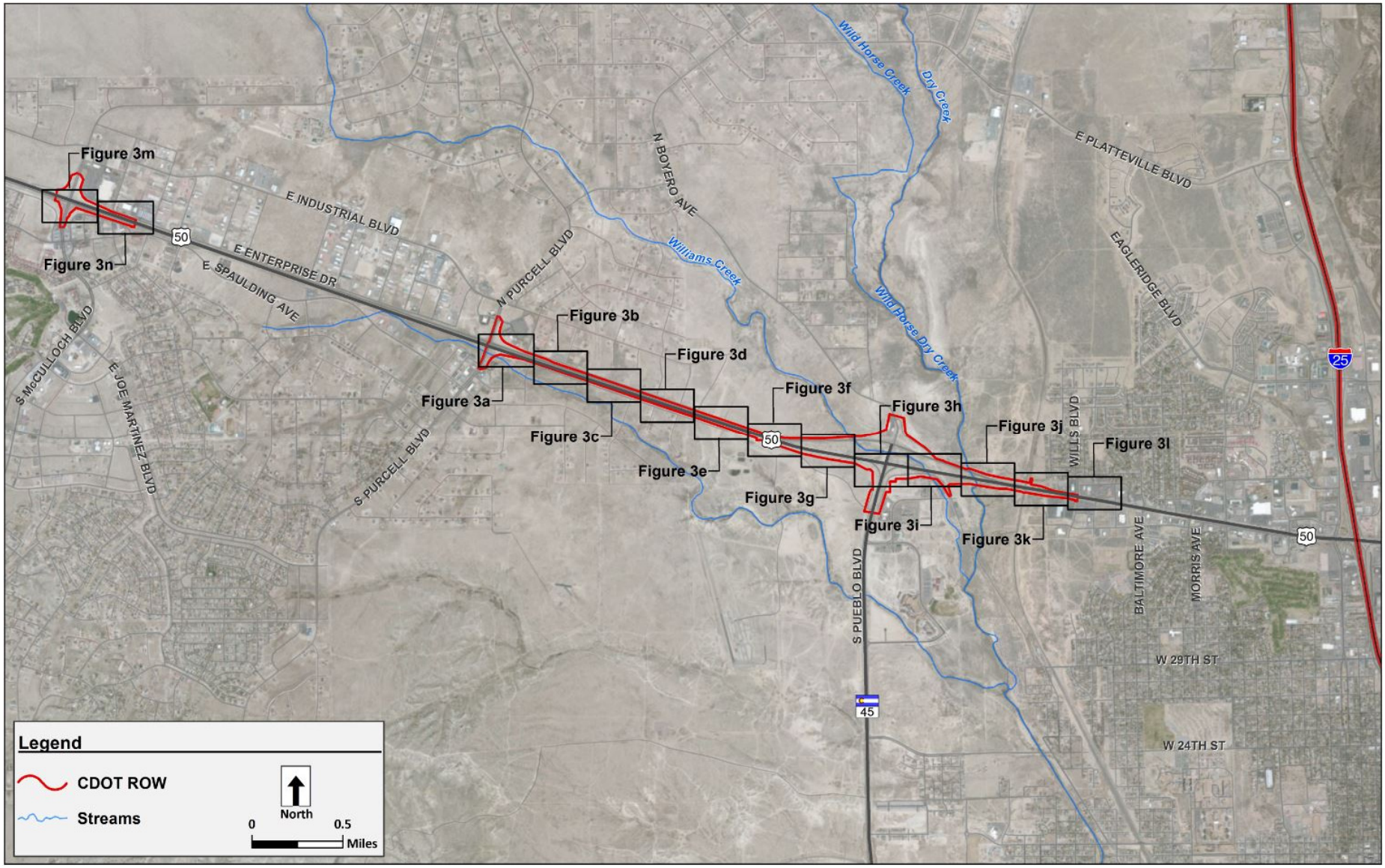


Figure 3a. Proposed Action – Purcell Blvd. to Wills Blvd.

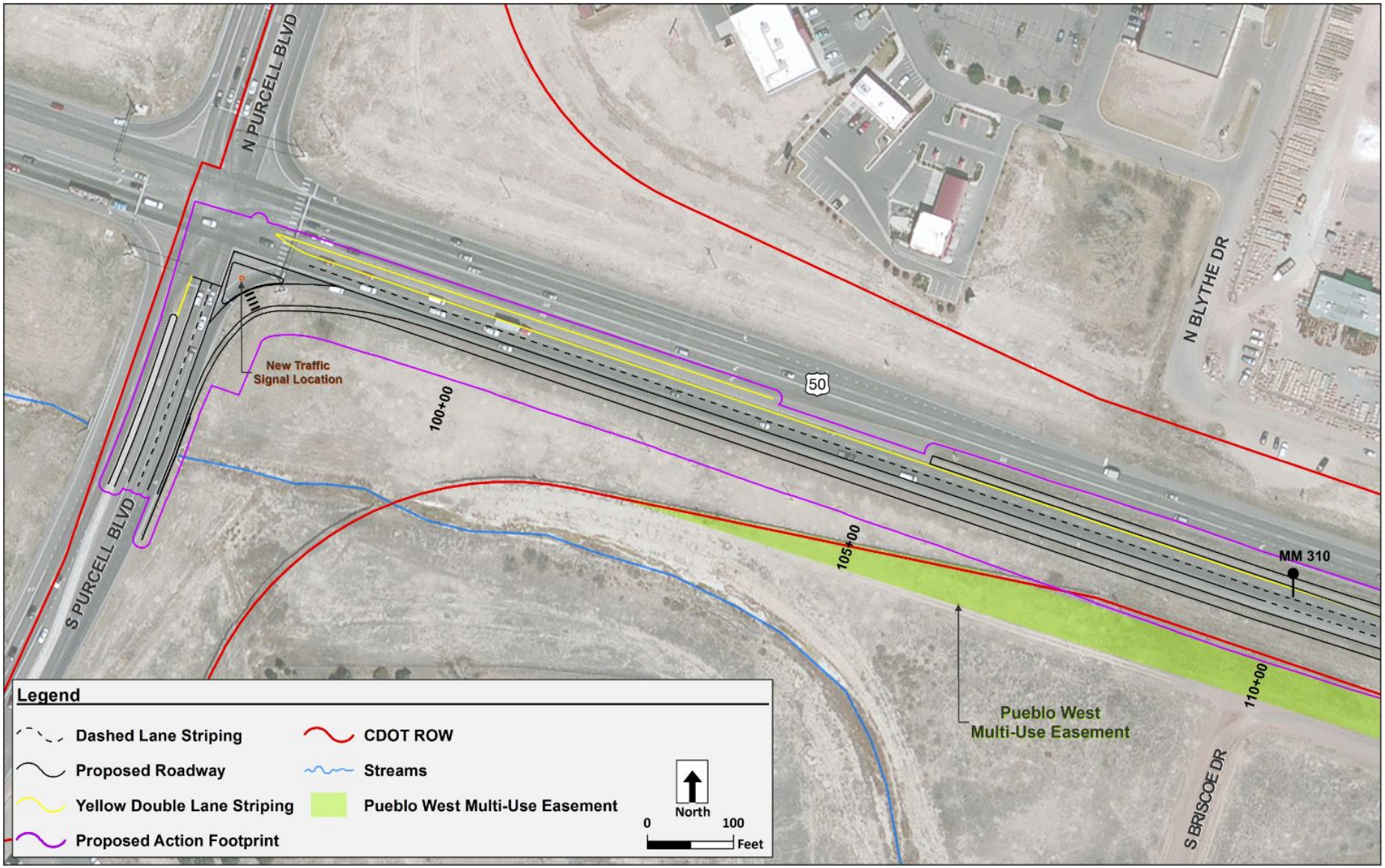


Figure 3b. Proposed Action – Purcell Blvd. to Wills Blvd.

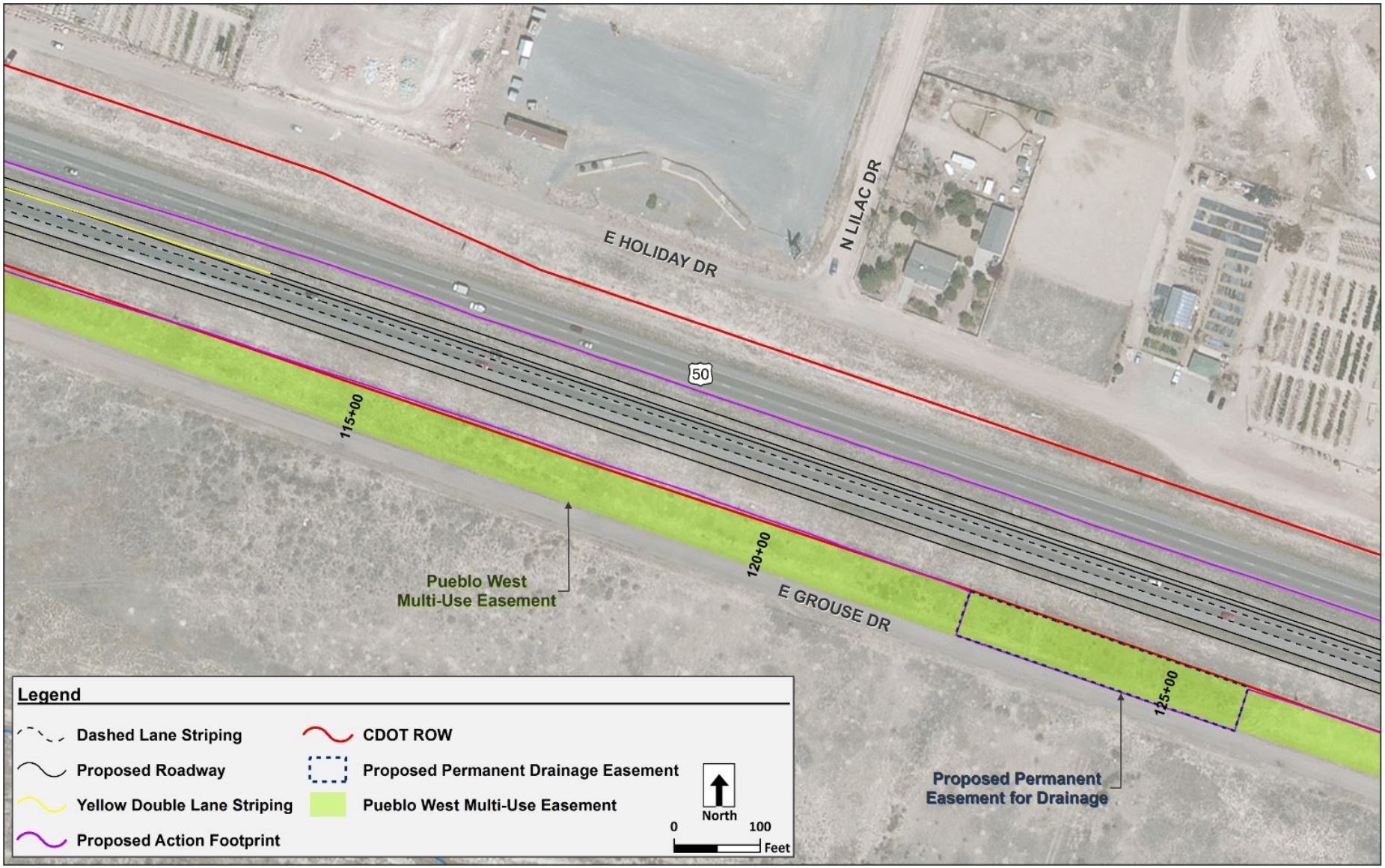


Figure 3c. Proposed Action – Purcell Blvd. to Wills Blvd.

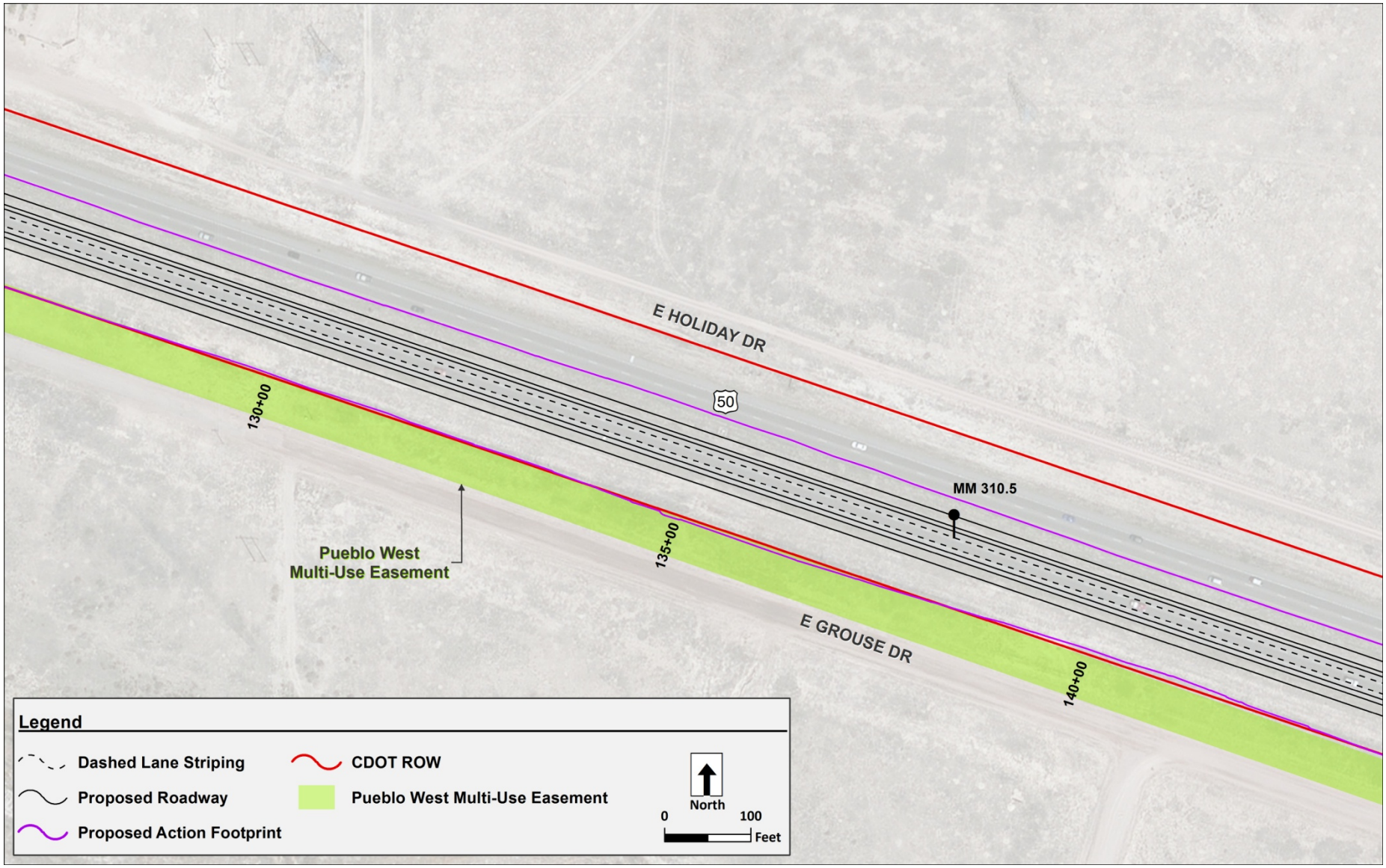


Figure 3d. Proposed Action – Purcell Blvd. to Wills Blvd.

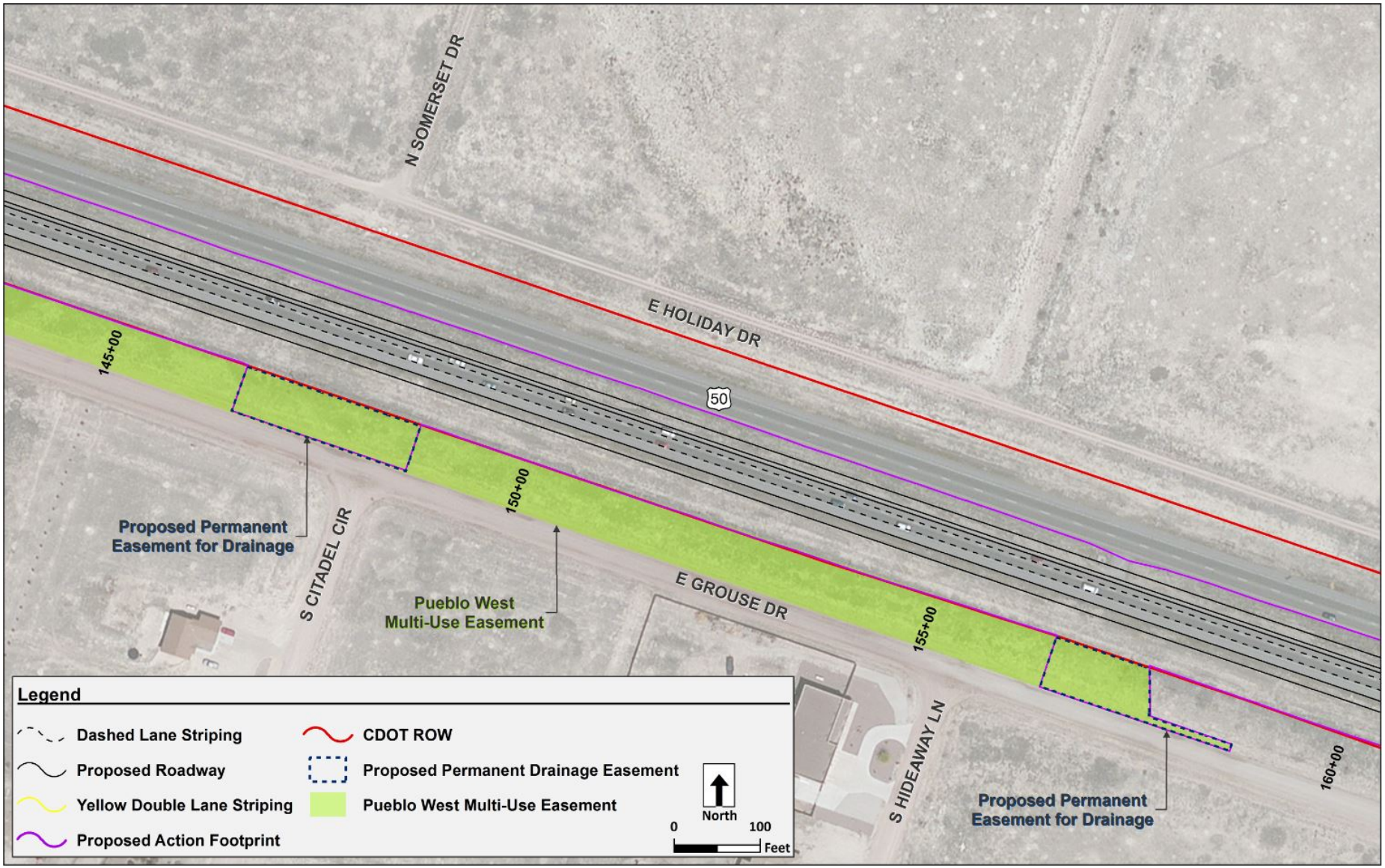


Figure 3e. Proposed Action – Purcell Blvd. to Wills Blvd.

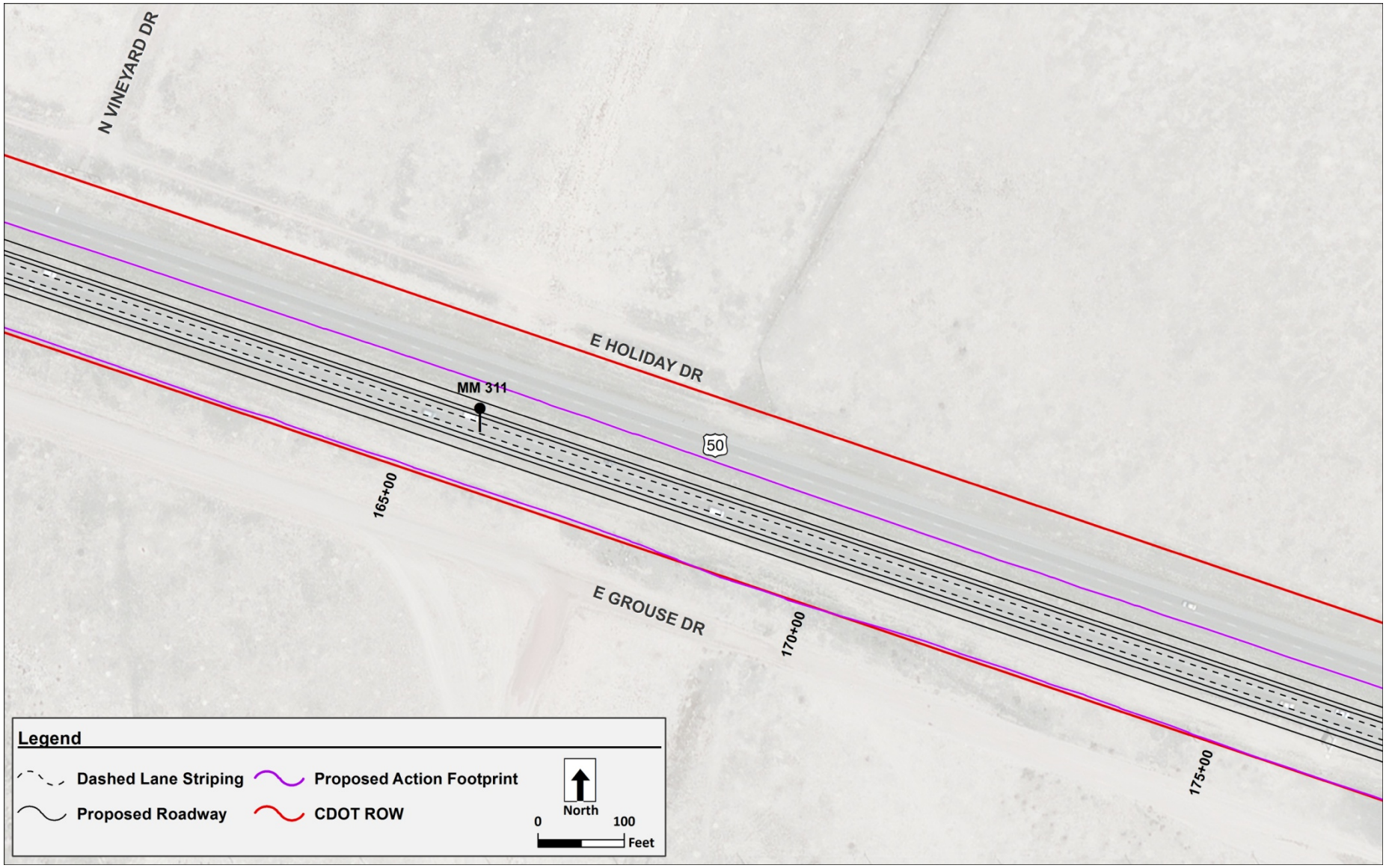


Figure 3f. Proposed Action – Purcell Blvd. to Wills Blvd.

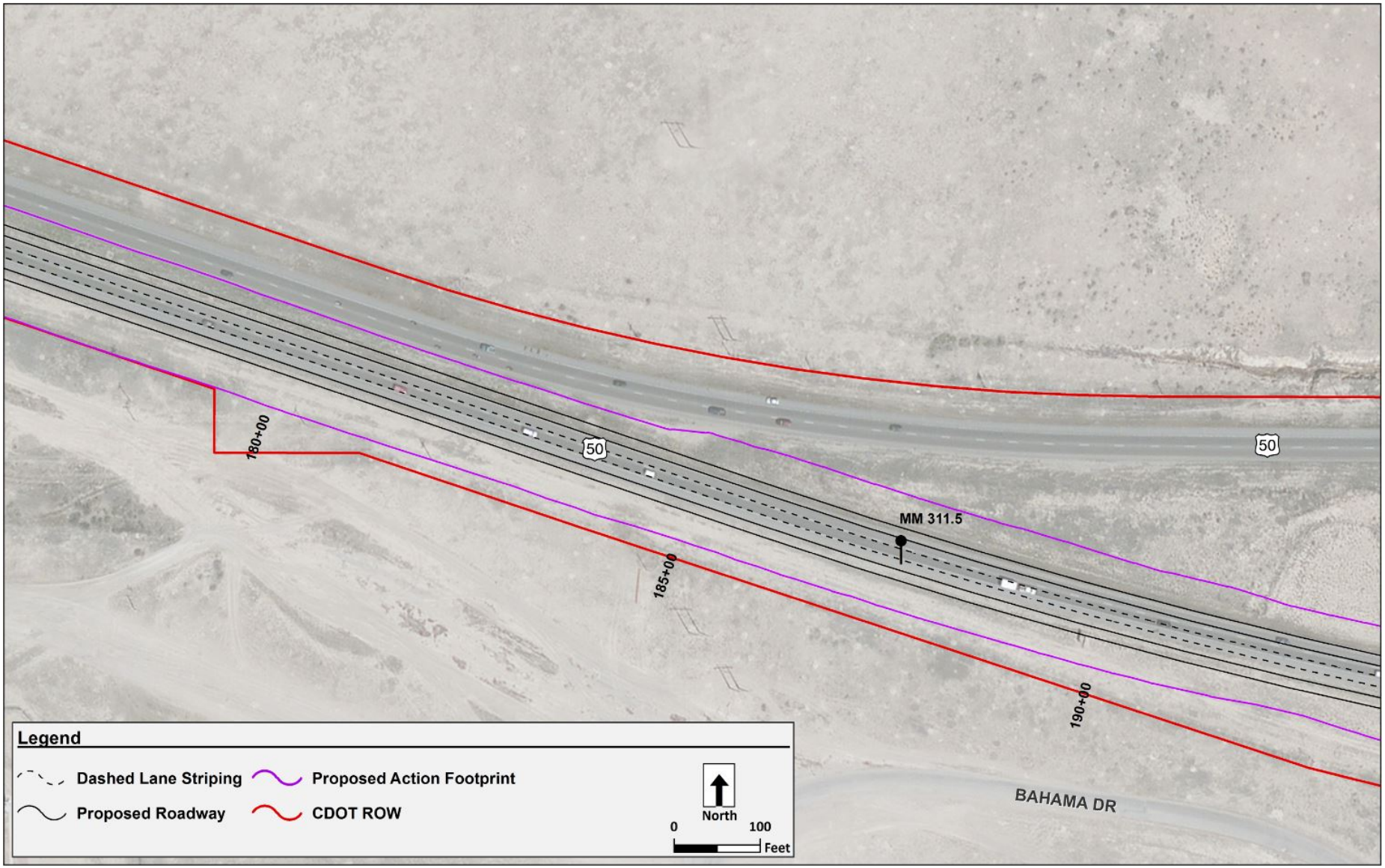


Figure 3g. Proposed Action – Purcell Blvd. to Wills Blvd.

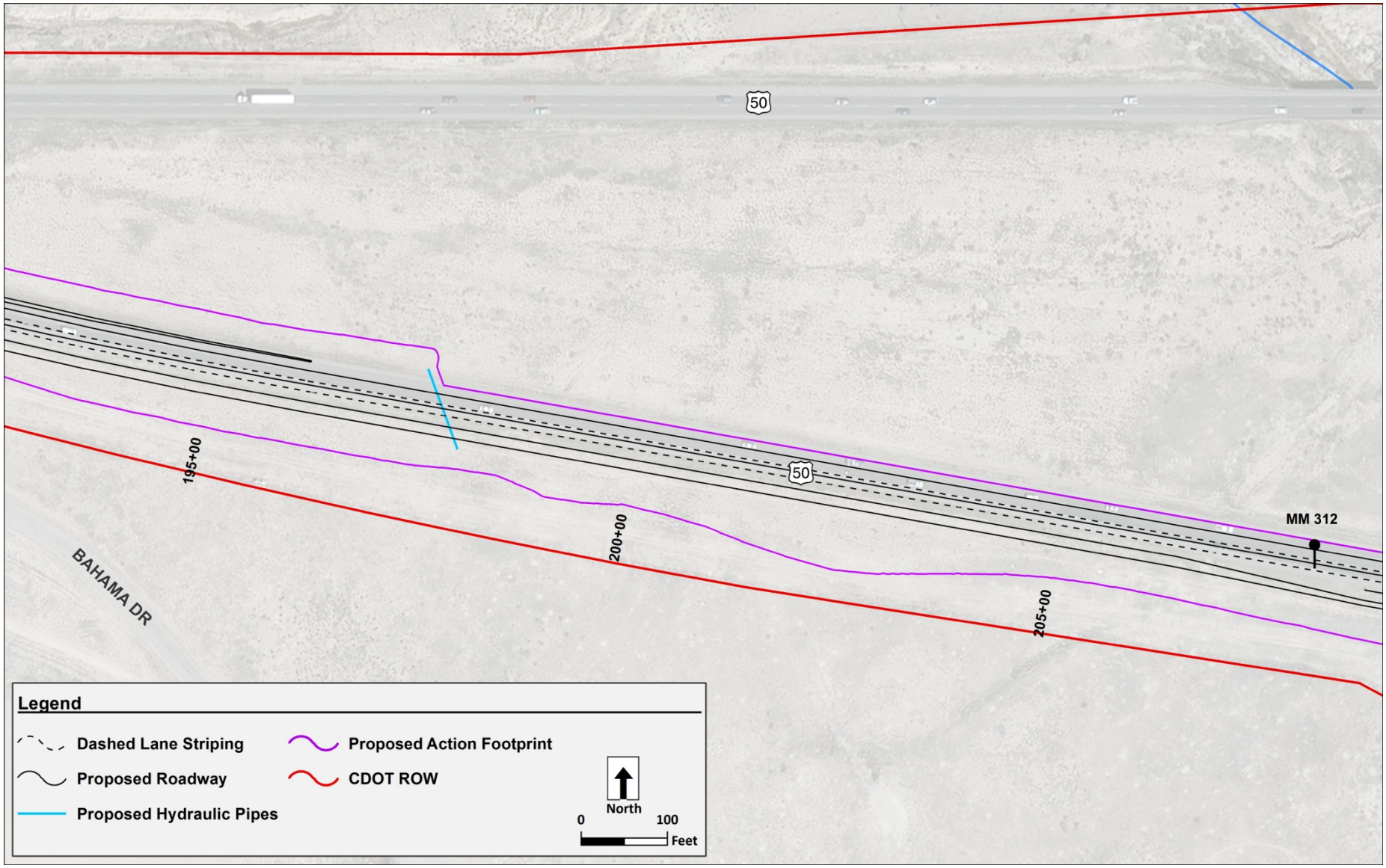


Figure 3h. Proposed Action – Purcell Blvd. to Wills Blvd.

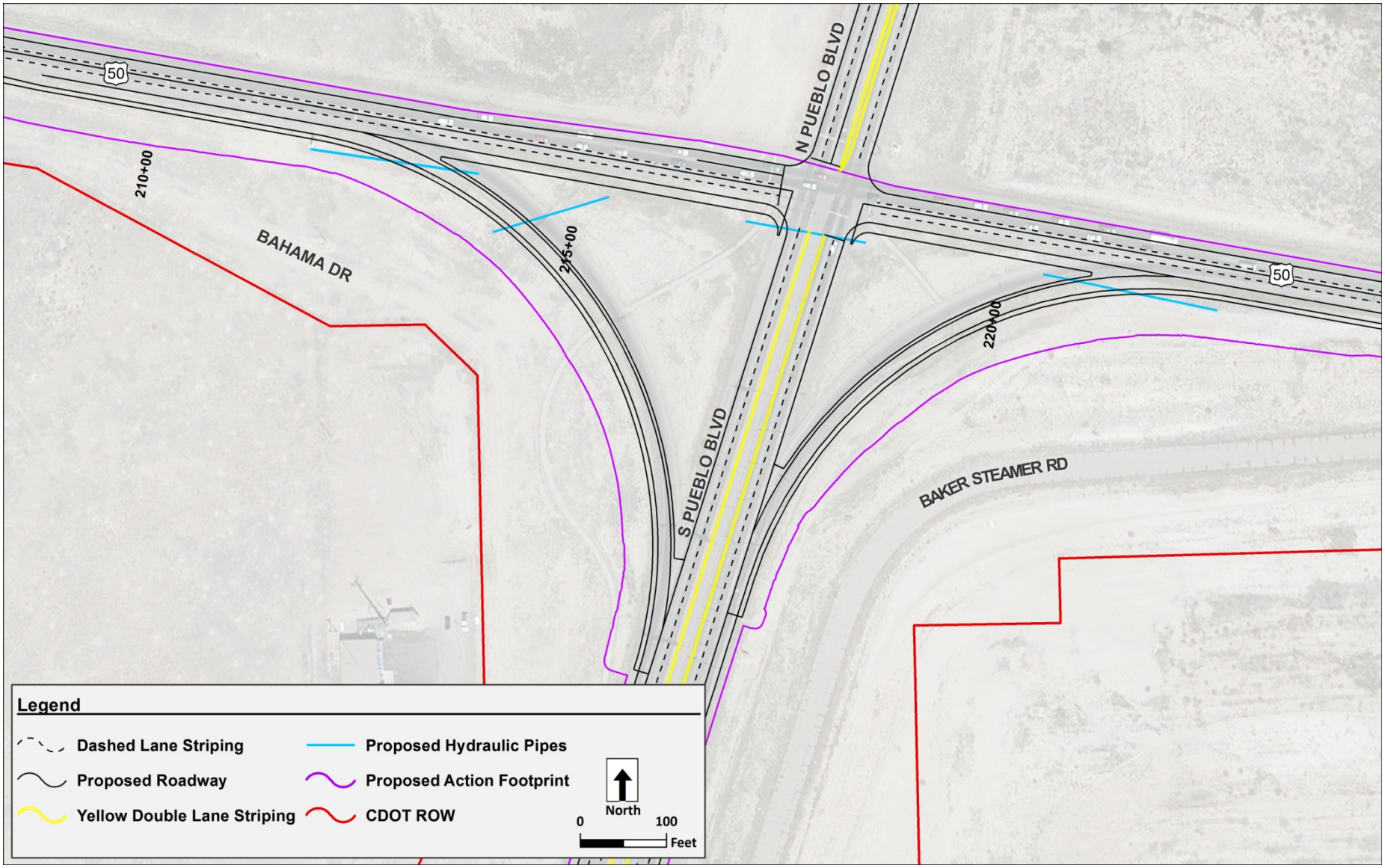


Figure 3i. Proposed Action – Purcell Blvd. to Wills Blvd.

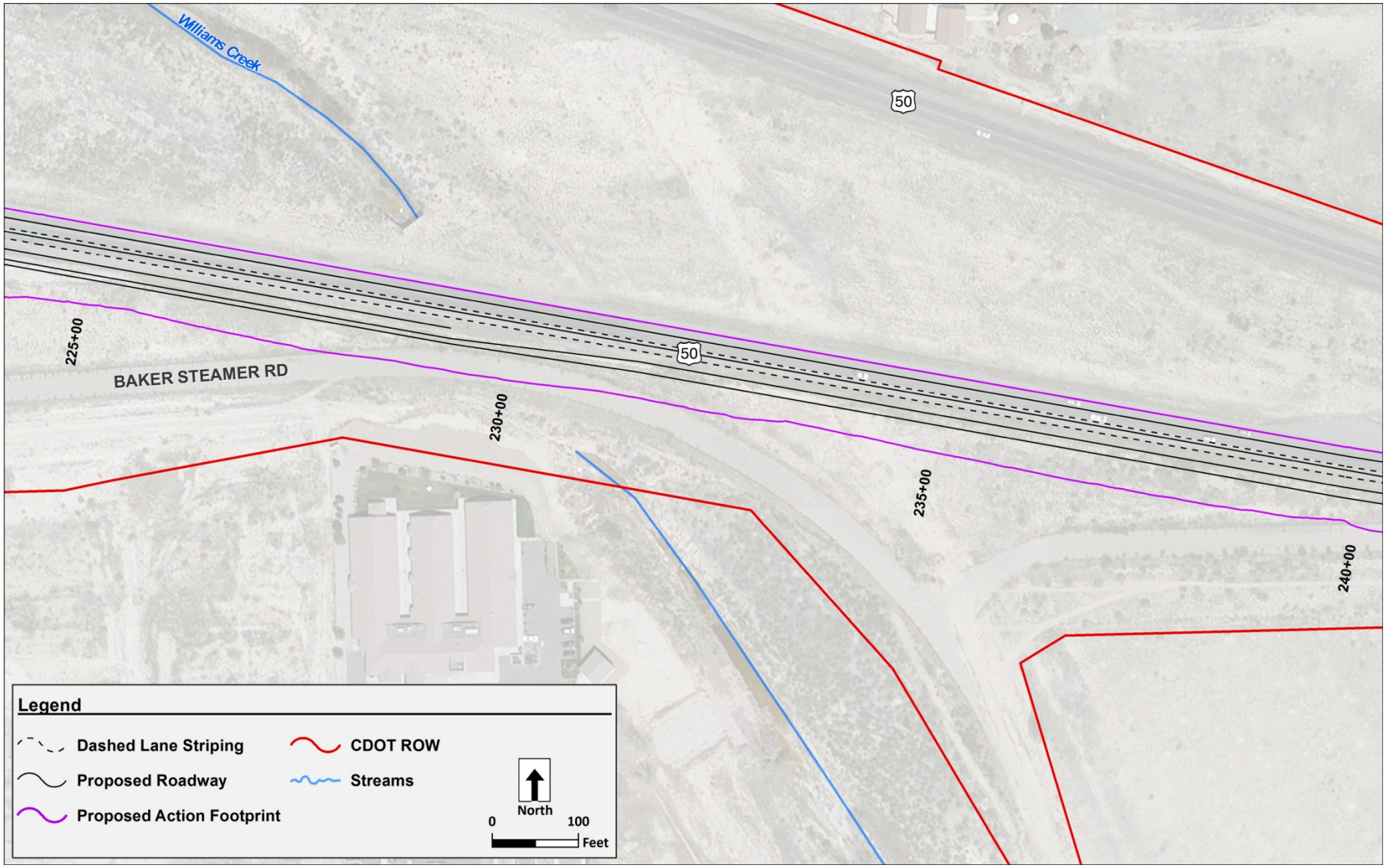


Figure 3j. Proposed Action – Purcell Blvd. to Wills Blvd.

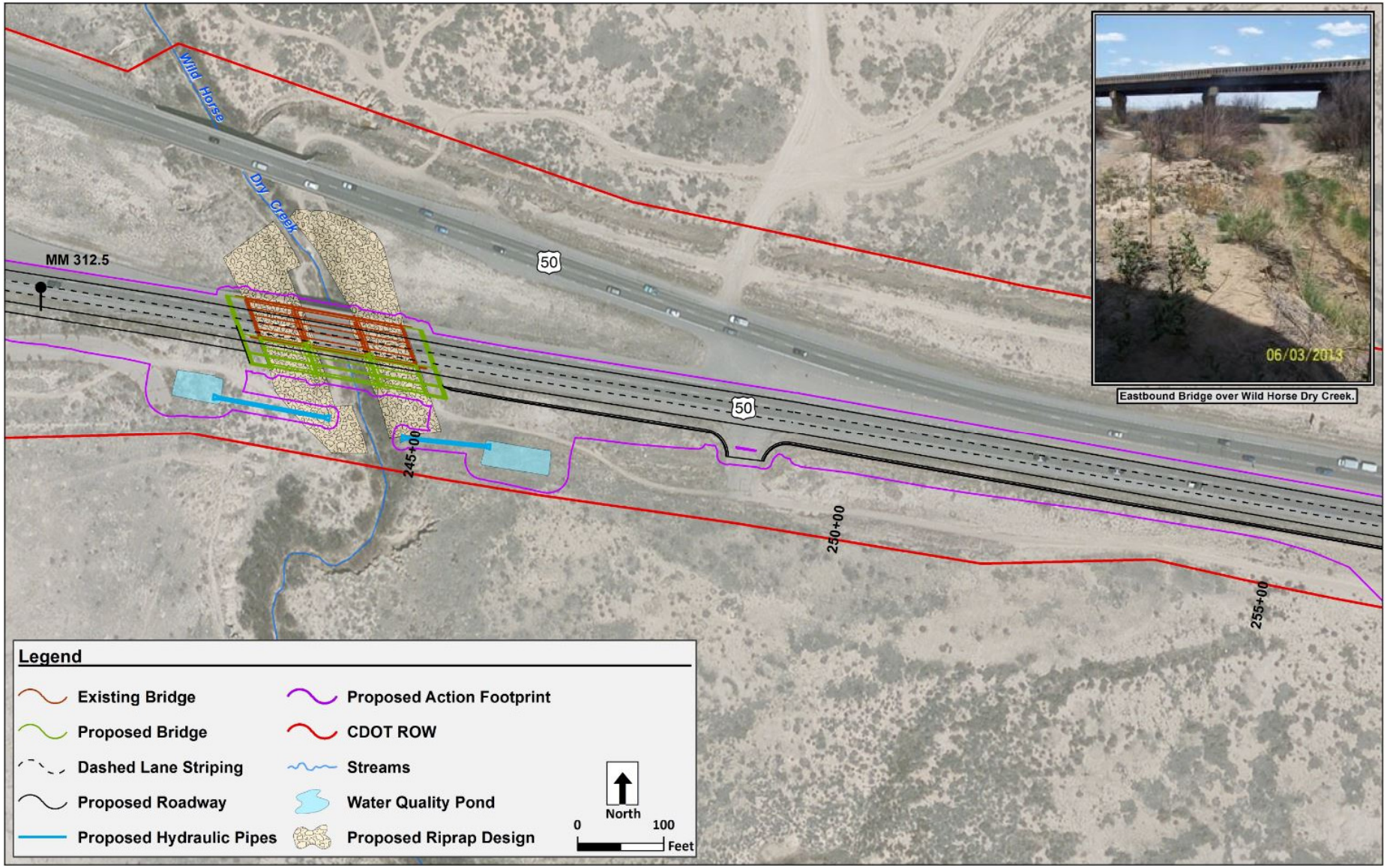


Figure 3k. Proposed Action – Purcell Blvd. to Wills Blvd.

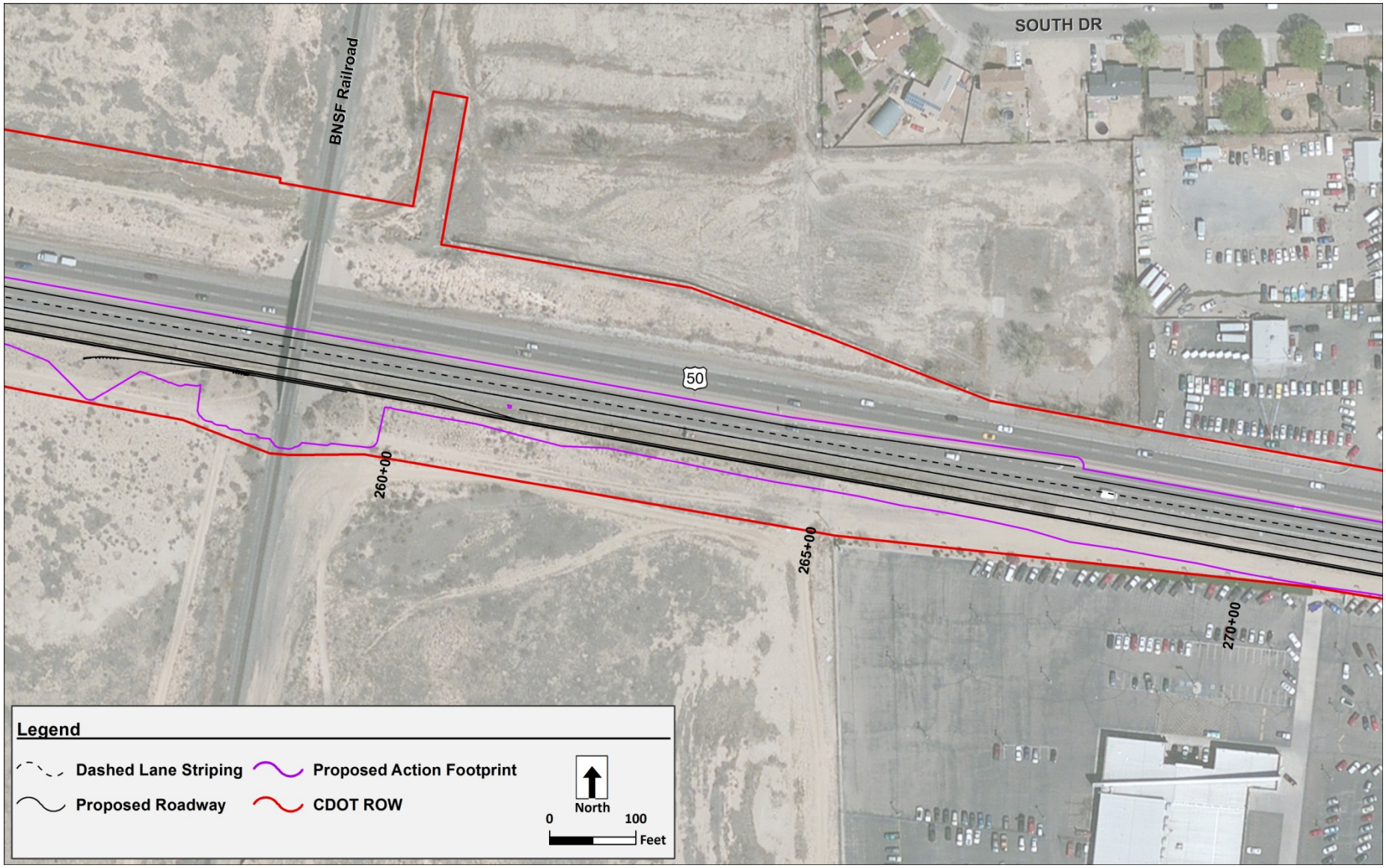


Figure 3l. Proposed Action – Purcell Blvd. to Wills Blvd.

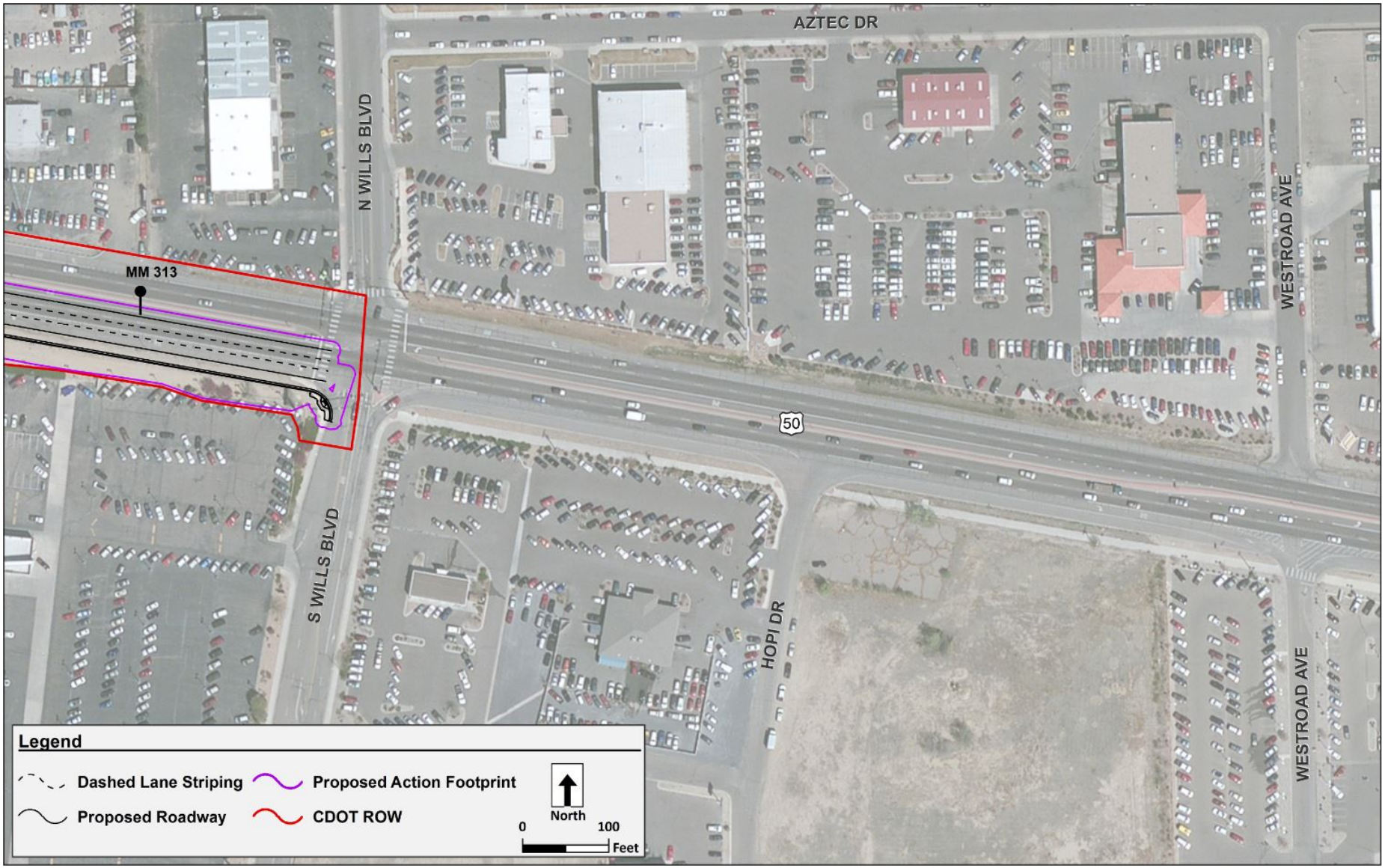


Figure 3m. Proposed Action – McCulloch Blvd./US 50 Intersection

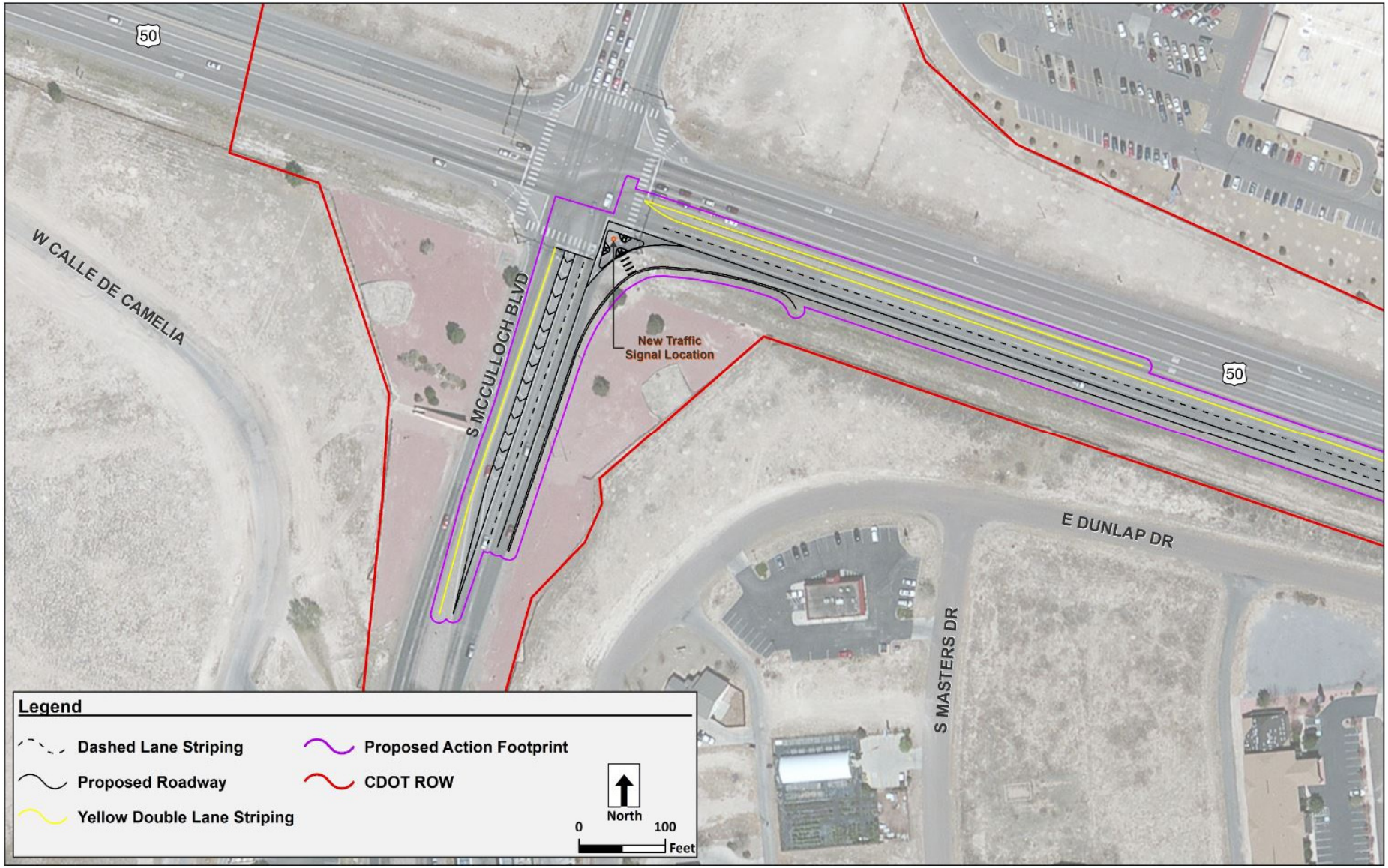


Figure 3n. Proposed Action – McCulloch Blvd./US 50 Intersection

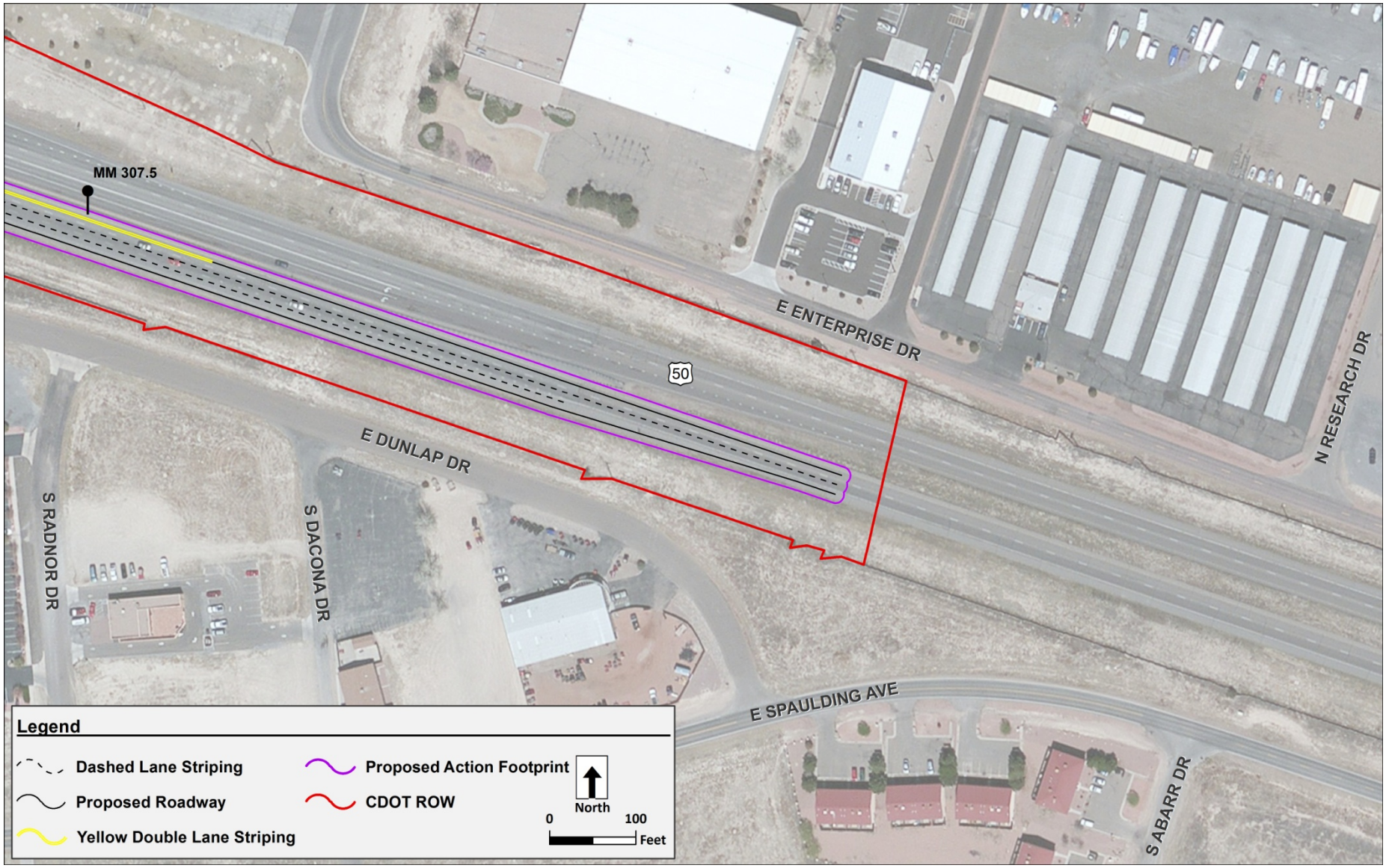
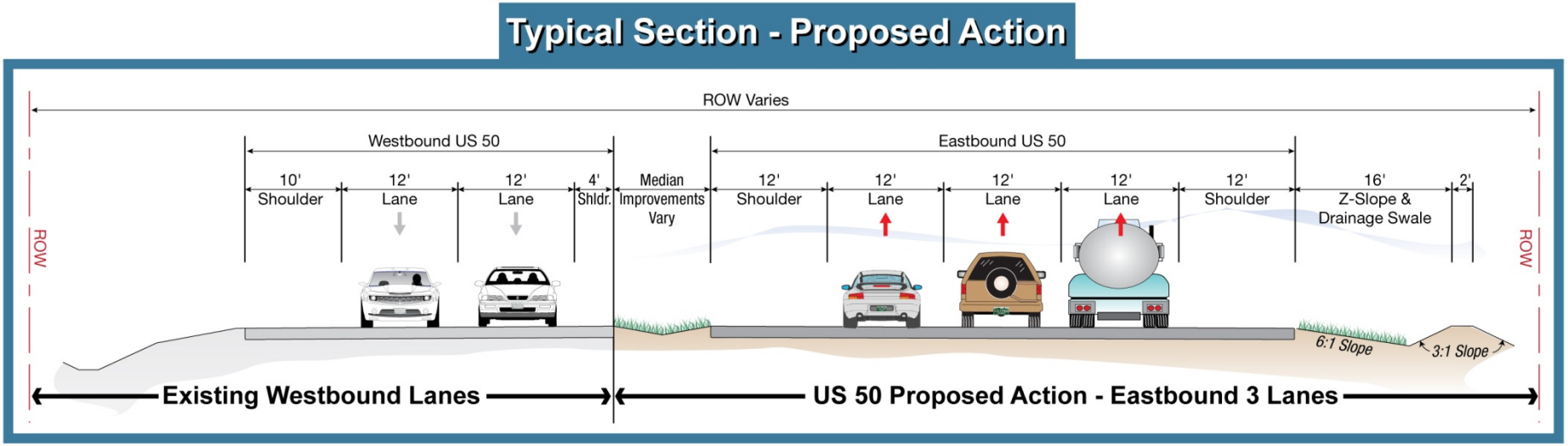


Figure 4. US 50 Proposed Action – Eastbound Three Lanes Typical Section



WHAT WILL HAPPEN IF THE PROPOSED ACTION IS NOT IMPLEMENTED?

If CDOT and FHWA do not select the Proposed Action for implementation, US 50 from McCulloch Blvd. to Wills Blvd. would continue to operate as a four-lane divided highway with no capacity, safety, or mobility improvements. Increased traffic volumes over time would negatively affect intersection and roadway operating conditions. In addition, no water quality protection or stream and wetland improvements would be constructed with the No Action Alternative.

The LOS data provided on **Table 1** show how US 50 would be if the Proposed Action is not implemented. **Appendix A2** includes diagrams illustrating LOS and traffic data for each intersection on pages 1-10 through 1-14 and on pages 1-16 through 1-19.

The following summarize key eastbound traffic impacts identified in the *US 50 West PEL* (CDOT, 2012a):

- At McCulloch Blvd., during the a.m. peak hour, the heaviest traffic is on the northbound right turn to eastbound US 50 with more than 1,000 vehicles leaving PWMD. By 2035, this turning lane will operate near capacity for a.m. commuters with northbound right volumes expected to be more than 1,500 vehicles per hour (vph).
- By the time commuters traveling eastbound from PWMD on US 50 reach Purcell Blvd. during the a.m. peak hour, they are traveling in congested (LOS F) traffic volumes of more than 1,800 vph; by 2035, volumes grow to more than 2,400 vph.
- Commuters making the northbound right turn from Purcell Blvd. to eastbound US 50 during the a.m. peak hour experience moderate delays (LOS C) with more than 1,000 commuters leaving PWMD; by 2035, volumes grow to more than 1,300, resulting in a.m. eastbound congestion (LOS F) and may result in rear-end and sideswipe crashes.
- During the a.m. peak hour at Pueblo Blvd., eastbound through traffic on US 50 currently experiences moderate delays (LOS C) with more than 1,900 vph and more than 1,100 vph turning right to southbound Pueblo Blvd. By 2035, eastbound commuters would be traveling in congested traffic (LOS F) at the Pueblo Blvd. intersection, with more than 3,000 vph on through lanes and more than 1,400 vph turning southbound.
- At Wills Blvd. during the a.m. peak hour, eastbound traffic experiences minimal delays (LOS A) due to minimal cross traffic (on Wills Blvd.) with more than 1,900 vph on US 50; by 2035, peak hour a.m. volumes grow to more than 2,600 vph with slight delays in traffic (LOS B).

Additional analysis was conducted as part of the EA to further characterize the traffic conditions on eastbound US 50, including how much delay travelers would experience and the length of traffic backup (queuing) at intersections during the a.m. peak hour congestion. The additional analysis of traffic operations performance measures was based on the previous data collected as part of the *US 50 West PEL* (2012a) and is summarized below.

- During the a.m. peak hour on US 50 between McCulloch Blvd. and Wills Blvd., commuters currently experience approximately 544 combined hours of delay due to congestion compared to uncongested or free-flow traffic conditions. By 2035, the hours of delay would increase to 3,550 hours of delay.
- During the a.m. peak hour, the average delay at intersections (average delay per vehicle [seconds]) would increase from current conditions, as follows:
  - Commuters traveling eastbound on US 50 currently experience approximately 32.2 seconds (approximately 1/2 minute) of delay at the Purcell Blvd. intersection. By 2035, the delay would increase to 113 seconds (almost 2 minutes), which operates at LOS F (delays greater than 80 seconds), resulting in an average backup (queue) length of 4,500 feet and a maximum of 6,400 feet.
  - Commuters traveling eastbound on US 50 currently experience approximately 20.8 seconds (less than 1/2 minute) of delay at Pueblo Blvd. By 2035, the delay would increase to 192.5 seconds (over 3 minutes), which operates at LOS F, resulting in an average backup (queue) length of 2,770 feet and a maximum of 3,270 feet.

Under the No Action Alternative, CDOT would continue to perform routine maintenance to keep the existing transportation network in good operating condition. **Figure 2** shows a typical section of the No Action Alternative. For more information, refer to **Appendix A2**, *US 50 West PEL* (2012a).

Table 1. No Action Traffic Impacts

US 50 Intersections with Elements of the Proposed Action	Traffic Impacts if Proposed Action Is Not Implemented			
	Existing Peak Hour LOS and Traffic Volumes (2011)		Future Peak Hour Traffic LOS and Volumes (2035)	
	a.m./Eastbound	p.m./Westbound	a.m./Eastbound	p.m./Westbound
McCulloch Blvd. Intersection	**LOS C**	**LOS C**	**LOS F**	**LOS F**
US 50 – Existing through lanes	Eastbound through traffic – LOS C 860 peak hour vehicles	Westbound though traffic – LOS C 620 peak hour vehicles	Eastbound through traffic – LOS F 1,400 peak hour vehicles	Westbound through traffic – LOS F
Proposed northbound right-turn improvement on US 50	LOS B 1,030 peak hour vehicles		LOS F 1,260 peak hour vehicles	
Purcell Blvd. Intersection	**LOS E**	**LOS C**	**LOS F**	**LOS F**
Proposed eastbound third lane begins east of intersection	Eastbound through traffic – LOS F 1,850 peak hour vehicles	Westbound through traffic – LOS C 1,430 peak hour vehicles	LOS F 1,240 peak hour vehicles	Westbound through traffic – LOS F
Proposed northbound right-turn improvement on US 50	LOS C 1,040 peak hour vehicles		LOS F 1,310 peak hour vehicles	
Pueblo Blvd. Intersection	**LOS C**	**LOS E**	**LOS F**	**LOS F**
US 50 – Third eastbound lane proposed through intersection	Eastbound through traffic – LOS C 1,960 peak hour vehicles	Westbound through traffic – LOS E 1,820 peak hour vehicles	LOS F 3,030 peak hour vehicles	Westbound through traffic – LOS F
Proposed southbound right-turn improvement from US 50	LOS C 1,120 peak hour vehicles		LOS F 1,440 peak hour vehicles	
Proposed northbound right-turn improvement to US 50	LOS C 490 peak hour vehicles		LOS F 550 peak hour vehicles	
Wills Blvd. Intersection	**LOS A**	**LOS B**	**LOS B**	**LOS F**
US 50 – Third eastbound lane proposed through intersection	Eastbound through traffic – LOS A 1,900 peak hour vehicles	Westbound through traffic – LOS B 2,140 peak hour vehicles	LOS A 2,690 peak hour vehicles	Westbound through traffic – LOS F 3,320 peak hour vehicles

Source: US 50 West PEL (2012a)

No Action Alternative

Level of Service (LOS) is a letter grade corresponding to the amount of congestion a road has when completed to a standard. LOS A is the best or the least congested grade. LOS F indicates failure because the demand for a road is more than its capacity.

How well do the No Action Alternative and the Proposed Action meet the Purpose and Need?

Table 2 summarizes the specific project needs and how the No Action Alternative and the Proposed Action would address them.

Table 2. Purpose and Need Summary for the No Action Alternative and the Proposed Action

Project Needs	No Action Alternative	Proposed Action
Roadway Capacity/ Mobility	Does not have adequate capacity to accommodate a.m. peak travel demand in the most congested portion of the PEL Corridor. **Table 1** provides both a.m. and p.m. peak hour traffic volumes and LOS at each intersection for the No Action Alternative. Two-way traffic volumes from Purcell Blvd. to Pueblo Blvd. are expected to almost double by year 2035, with truck traffic between 4.7 and 6.4 percent (CDOT, 2012a). By 2035, the level of congestion at these intersections will reach LOS F. By 2035, the average delay for commuters during the a.m. peak hour at Pueblo Blvd. is expected to be 193 seconds, with an average queue length of 2,770 feet. The northbound right-turn lanes at the McCulloch Blvd. and Purcell Blvd. intersections are inadequate to accommodate the eastbound traffic volumes during the a.m. peak hour. By 2035, they will operate at LOS F. See **Table 1**. For additional information on intersection configurations, traffic patterns, and LOS, please refer to Section 1.4.3 of **Appendix A2**, *US 50 West PEL* (2012a).	Provides added capacity to accommodate a.m. peak travel demand in the most congested portion of the PEL Corridor by adding a third eastbound lane from Purcell Blvd. to Wills Blvd. Does not address the entire capacity needs identified in the *US 50 West PEL* (2012a), but it would improve capacity and reduce delay and have independent utility, even if no additional transportation improvements are made. By 2035, the average delay for commuters during the a.m. peak hour at Pueblo Blvd. is reduced to 97 seconds, with an average queue length of 1,120 feet. Would reduce congestion and also establish three-lane connectivity for eastbound travelers from Purcell Blvd. to the recently constructed third eastbound lane from Wills Blvd. to Baltimore Ave., and to I-25. The proposed eastbound lane would also improve connectivity for commuters traveling from PWMD to the city of Pueblo between Purcell Blvd. and Pueblo Blvd. The proposed northbound to eastbound turn lane modifications at the Purcell Blvd. and McCulloch Blvd. intersections would improve mobility and reduce backup (queues) during a.m. peak hour traffic by increasing the turning radii and extending the length of acceleration lanes onto US 50. The proposed curb island at these intersections would improve traffic flow and provide pedestrian/bicycle users a safe location at the US 50 intersection cross walks. This improvement would be Americans with Disability Act compliant.

Table 2. Purpose and Need Summary for the No Action Alternative and the Proposed Action (Continued)

Project Needs	No Action Alternative	Proposed Action
Safety	Does not address safety conditions and accident rates at intersections. Pueblo Blvd. and Purcell Blvd. experience the highest number of crashes. An increase in the rate of rear-end crashes may result from the increasing traffic volumes from west to east. The 1,250-foot-long acceleration lanes on eastbound US 50 at the McCulloch Blvd. and Purcell Blvd. intersections are not adequate for travelers merging into high-speed, high-volume traffic, causing sideswipe accidents. Off-road vehicle use and trespassing on CDOT ROW is causing a safety issue. This illegal trespassing is occurring within the Wild Horse Dry Creek drainage (see **Figure 3j**).	Improves safety conditions at intersections. Crashes would be expected to decline the most at Pueblo Blvd. and at Wills Blvd. because the third eastbound lane would improve eastbound capacity through the intersections. The northbound turning lanes onto eastbound US 50 proposed at McCulloch Blvd. and Purcell Blvd. would reduce the a.m. peak hour sideswipe crashes, primarily by improving turning radii and extending the acceleration lane, improving mobility for travelers at US 50. The third eastbound through lane and improved southbound right turn at Pueblo Blvd. would reduce the a.m. peak hour rear-end and sideswipe crashes by improving mobility and reducing congestion at the intersection. Recent studies by the Transportation Research Board (2012, 2013) report on the relationships of congestion and crash rates and on the positive effects on safety through reduced congestion through design treatments, such as the addition of lanes. As part of the Proposed Action, CDOT plans to prevent continued trespassing within the ROW area within the Wild Horse Dry Creek drainage.
Pedestrian and Bicycle Facilities	Does not accommodate future pedestrian and bicycle connectivity. No separate bicycle or pedestrian facilities exist along US 50 west of Wills Blvd. Although US 50 is a designated bicycle route in PACOG plans, there are no clearly marked bicycle lanes on either direction of US 50.	Accommodates the proposed future pedestrian and bicycle path as part of the eastbound bridge widening at Wild Horse Dry Creek included in the PEL recommended Preferred Alternative. Includes pedestrian refuge islands at McCulloch Blvd. and Purcell Blvd. intersections.

WHY ARE FHWA AND CDOT RECOMMENDING THE PROPOSED ACTION?

FHWA and CDOT are recommending that the Proposed Action be implemented because it improves roadway capacity/mobility and safety, accommodates bicycle/pedestrian facilities, and provides water quality benefits.

WHAT ARE THE IMPACTS ASSOCIATED WITH THE NO ACTION ALTERNATIVE AND THE PROPOSED ACTION?

CDOT has evaluated the No Action Alternative and the Proposed Action for impacts to various resources present within the US 50 West project area. **Table 3** summarizes impacts to these resources for the No Action Alternative and for the Proposed Action. The project area to be assessed includes areas of both permanent impacts from the completed project and temporary impacts during construction. The Mitigation Tracking Number corresponds to the mitigation measures identified in **Table 4** that will be implemented to lessen the impacts of the Proposed Action. For more detailed information on the impacts, see the corresponding technical documentation in **Appendix A** (the specific supporting technical document and appendix location are noted in parentheses below each resource in **Table 2**). Farmlands are not present within the Proposed Action footprint, and energy was researched in the *US 50 West PEL* (2012a) and found not relevant to alternative analysis; therefore, they are not discussed here. For more information on farmlands and energy, refer to **Appendix A2**.

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
Transportation Resources (CDOT, 2014a – Appendix A1) (CDOT, 2012a – Appendix A2) (CDOT, 2012b – Appendix A3)	Transportation resources associated with the Proposed Action include US 50 from McCulloch Blvd. to Wills Blvd. The highest current traffic volumes occur at the Pueblo Blvd. intersection.	Results in continued congestion, expected to worsen to LOS F by 2035. The pattern of crashes in the project area would also continue, worsening as congestion increases. Eastbound travel delay and queuing would not improve. By 2035, the average delay for commuters during the a.m. peak hour at Pueblo Blvd. is expected to be 193 seconds (over 3 minutes), with an average backup (queue) length of 2,770 feet.	**Permanent Impacts** Addresses the most critical eastbound congestion in the area by: • Increasing capacity and reducing eastbound a.m. peak hour congestion, starting at the Purcell Blvd. intersection • Improving safety and mobility at intersections from McCulloch Blvd. to Wills Blvd.; and reducing crashes, particularly at Purcell Blvd. and Pueblo Blvd. • Establishing three-lane eastbound connectivity on US 50 from Purcell Blvd. to I-25	1

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
Transportation Resources (Continued) (CDOT, 2014a – Appendix A1) (CDOT, 2012a – Appendix A2) (CDOT, 2012b – Appendix A3)	By 2035, the US 50 intersections at McCulloch Blvd., Purcell Blvd., and Pueblo Blvd. will operate at LOS F; and Wills Blvd. will operate at LOS B during the a.m. peak hour traffic. There is a pattern of rear-end and sideswipe crashes in the eastern portion of the PEL Corridor, particularly at the Purcell and Pueblo Blvd. intersections. The section titled "What will happen if the Proposed Action is not implemented?" summarizes existing and future LOS and crashes, as well as provides an additional analysis of traffic operations performance measures, including travel delay and backup (queuing). For additional transportation information, refer to the *US 50 West PEL* (**Appendix A2**).		By 2035, US 50 in the project area would operate at LOS F; however, the average travel delay for commuters during the a.m. peak hour at Pueblo Blvd. is reduced to 97 seconds (approximately 1 1/2 minutes), with an average queue length of 1,120 feet. **Temporary Impacts** Existing US 50 lanes will, for the most part, stay open to traffic during construction of the additional eastbound lane, widening of the bridge over Wild Horse Dry Creek, and construction of intersection improvements at McCulloch Blvd. and Purcell Blvd. Intermittent single lane closures will be allowed during non-peak traffic hours to accommodate construction activities.	1

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
Air Quality (CDOT, 2014b – Appendix A4)	Pueblo County generally has good air quality and is an attainment area for all air quality priority pollutants identified and monitored by the U.S. Environmental Protection Agency (EPA). Air quality from vehicles degrades under congested, stop-and-go traffic conditions when compared with free-flowing traffic conditions.	Would not cause exceedences of regulatory thresholds for any criteria pollutants, nor would it result in changes in traffic volumes, vehicle mix, or any other factor that would cause an increase in mobile source air toxics (MSATs).	**Permanent Impacts** Adding one eastbound lane to US 50 and reducing a.m. peak hour congestion would reduce air pollution from eastbound US 50. Would not cause exceedences of regulatory thresholds for any criteria pollutants, nor would it result in changes in traffic volumes, vehicle mix, or any other factor that would cause an increase in MSATs. Moreover, EPA regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with EPA's MOVES2010b model forecasts a combined reduction of 83 percent in the total annual emission rate for the priority MSATs from 2010 to 2050, while vehicle-miles of travel are projected to increase by 102 percent. This will reduce the background level of MSATs and the possibility of substantive MSAT emissions from this project. FHWA MSAT guidance can be found here: https://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/aqintguidmem.pdf	2

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
Air Quality (Continued) (CDOT, 2014b – Appendix A4)			**Temporary Impacts** Construction activities would generate diesel emissions from construction equipment and fugitive dust from ground disturbing activities. These would be temporary, lasting only during the construction period. Fugitive dust would result from ground disturbance to approximately 25.8 acres due to the construction of the Proposed Action, of which 7.3 acres would be paved, and 18.5 acres would be temporarily disturbed and revegetated.	2
Geologic Resources, Including Soils and Groundwater (CDOT, 2014c – Appendix A5)	Surficial soils and sedimentary bedrock underlay the PEL Corridor. The surficial soil cover is relatively thin, typically less than 20 feet, over bedrock. Soils are silty clay, with limestone fragments and gravel. The erosion hazard is generally moderate in these soils. Erosion was observed primarily in the Williams Creek and Wild Horse Dry Creek drainage channels during field surveys conducted in the summer of 2013. Illegal off-road vehicle use contributes to soil compaction, stream channel erosion, and sedimentation along and within Wild Horse Dry Creek.	Would not affect the geologic resources.	**Permanent Impacts** Would use conventional methods in constructing the eastbound third lane that would follow the existing US 50 profile and be constructed mostly in previously graded soils. The road edge would typically be on fill. A continuous drainage swale paralleling the eastbound lane would have a 3:1 back slope that would meet or blend into existing contours within the US 50 ROW. The shale and sandstone bedrock would provide suitable bearing material to support the expected eastbound bridge loading.	3, 4, 5

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
Geologic Resources, Including Soils and Groundwater (Continued) (CDOT, 2014c – Appendix A5)	Bedrock includes the Pierre Shale Formation (shale and sandstone) and the Niobrara Formation (chalky shale and fossiliferous limestone). Bentonite lenses within the bedrock have the potential for swelling. Groundwater appears to be at an elevation consistent with the water elevations of Williams Creek and Wild Horse Dry Creek.		**Temporary Impacts** Excavation for the bridge pier spread footings would avoid the Wild Horse Dry Creek channel but may encounter shallow groundwater during construction. The overall Proposed Action footprint would disturb approximately 25.8 acres during construction. The relatively flat terrain would limit erosion to the construction zone, especially following clearing of vegetation for construction activities.	3, 4, 5
Water Quality (CDOT, 2014d – Appendix A6)	Receiving water bodies include Williams Creek and Wild Horse Dry Creek. Williams Creek flows into Wild Horse Dry Creek about 1 mile south of US 50, and Wild Horse Dry Creek flows into the Arkansas River 4 miles to the south. There is currently no water quality treatment for US 50 roadway stormwater runoff in the project area. Wild Horse Dry Creek is included in the Colorado Department of Public Health and Environment (CDPHE) 303(d) list for impaired waters. The entire creek has a 303(d) high priority listing for *E. coli* and a low priority for selenium (Se). *E. coli* impairments in Colorado streams are generally derived from animal waste, while the source of selenium impairments in Colorado streams is more ubiquitous. Selenium, a naturally occurring element, is found in rocks, soils, and water.	Would result in continued soil compaction, stream channel erosion, and sedimentation along and within Wild Horse Dry Creek from illegal off-road vehicle use in the CDOT ROW. There is no water quality treatment for US 50 roadway stormwater runoff in the project area.	**Permanent Impacts** Would result in approximately 7.3 acres of impervious area from the eastbound lane and eastbound bridge widening. An increase in impervious surfaces would alter the volume, velocity, and quality (type and quantity of chemicals and other pollutants, such as sediment) of stormwater runoff from US 50 into Williams Creek and Wild Horse Dry Creek and a tributary to Williams Creek. **Temporary Impacts** During construction, stormwater runoff could carry sediment to Williams Creek and Wild Horse Dry Creek from grading and construction of the eastbound lane, eastbound bridge, roadside drainage swale, and water quality features.	4, 5

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
Water Quality (Continued) (CDOT, 2014d - Appendix A6)	Accelerated selenium mobilization can be associated with subsurface irrigation drainage systems that are incorporated in agricultural fields to prevent excess salt buildup in soils. These systems can leach natural selenium from soils, which then drain into surrounding aquatic environments, such as ponds or creeks, which, in turn, empty into larger rivers or wetland ecosystems. Williams Creek is not included on the CDPHE 303 (d) list for impaired waters. Illegal off-road vehicle use contributes to soil compaction, stream channel erosion, and sedimentation along and within Wild Horse Dry Creek.			4, 5
Floodplains (CDOT, 2014d – Appendix A6)	US 50 crosses a Federal Emergency Management Agency (FEMA) regulated floodplain at Wild Horse Dry Creek, which is designated as a Zone AE floodplain. This means a detailed study has been performed and the base flood elevation (BFE) has been established. No floodway has been delineated. The BFE just upstream of the bridge is approximately 4777 ft.	Does not change the FEMA floodplain at Wild Horse Dry Creek.	**Permanent Impacts** Widening the eastbound bridge at Wild Horse Dry Creek by approximately 31 feet would result in minor impacts to the FEMA floodplain. There is the potential for an approximately 0.2 foot rise from existing conditions in the Wild Horse Dry Creek floodplain upstream of the eastbound bridge. Placement of riprap and widening of the bridge piers would result in a disturbance area of approximately 21,000 square feet (sq. ft.) or 0.5 acre.	4, 5, 6

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
Floodplains (Continued) (CDOT, 2014d – Appendix A6)			**Temporary Impacts** During construction, stormwater runoff could carry sediment to the Williams Creek and Wild Horse Dry Creek floodplains, which might impact water quality and flood elevations. Construction activities associated with the widening of the bridge piers, placement of riprap, and access would occur within an area of approximately 38,000 sq. ft. or 0.9 acre.	4, 6
Wetlands/Waters of the US (CDOT, 2014e – Appendix A7)	US 50 crosses wetlands along Williams Creek and Wild Horse Dry Creek. Illegal off-road vehicle use along informal trails in the area contributes to soil compaction, stream channel erosion, and sedimentation along and within Wild Horse Dry Creek. Thick stands of tamarisk (*Tamarix chinensis*) are dominant along Williams Creek and Wild Horse Dry Creek. Tamarisk and other noxious weeds are discussed in the **Noxious Weeds** section. Wetland delineations conducted in June 2013 revealed the presence of approximately 1.1 acres of wetlands within Williams Creek, Wild Horse Dry Creek, and a tributary to Williams Creek at Purcell Blvd. These wetlands would likely be considered jurisdictional wetlands, as they are abutting the relatively permanent waters of adjacent creeks that flow directly or indirectly into a Traditional Navigable Water (U.S. Army Corps of Engineers [USACE], 2007).	Allows continued stream channel erosion and tamarisk infestation.	**Permanent Impacts** Avoids permanent impacts to wetlands, including Williams Creek, Wild Horse Dry Creek, and a tributary to Williams Creek at Purcell Blvd. Includes removal of vegetation (primarily tamarisk) from the stream channel due to bridge widening and the installation of riprap. **Temporary Impacts** There would be no construction activities in wetland areas. However, during construction, stormwater runoff could carry sediment to wetlands within Williams Creek and Wild Horse Dry Creek from grading and construction of the eastbound lane, eastbound bridge, roadside drainage swale, and water quality features.	4, 5, 7

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
Vegetation (CDOT, 2014f – Appendix A8)	The project is located within the Central Shortgrass Prairie ecoregion. This southeastern area of Colorado is referred to as the Arkansas Valley Barrens, with typically sparse vegetation, growing in limited soils. Most of the vegetation present in the biological resources study area includes native shortgrass prairie grasses, shrubs, and trees. The Williams Creek riparian area, which includes some noxious weed species, contains stands of Siberian elm (*Ulmus pumila*), golden currant (*Ribes aureum*), sandbar willow *(Salix interior),* narrowleaf cattail (*Typha angustifolia*), creeping bentgrass (*Agrostis stolonifera*), small spikerush (*Eleocharis minima*), tamarisk, and annual sunflowers (*Helianthus annuus*). The Wild Horse Dry Creek riparian area contains stands of tamarisk, creeping bentgrass, small spikerush, Nebraska sedge (*Carex nebrascensis*), perennial pepperweed (*Lepidium latifolium*), hoary cress (*Cardariadraba*), and prince's plume (*Stanleya pinnata*). Noxious weeds are discussed in the section that follows.	Does not impact vegetation resources.	**Permanent Impacts** Paving would result in the permanent removal of approximately 7.3 acres of shortgrass prairie grasses and shrubs. The increase in impervious surfaces would cause an increase in stormwater runoff and the exposure of the surrounding vegetation to higher levels of pollutants. Bridge widening and the installation of riprap would result in the removal of riparian vegetation and non-native vegetation (primarily tamarisk), along Wild Horse Dry Creek. Tree impacts would include the removal of one upland tree (honey locust) east of Purcell Blvd./US 50 and three upland trees (one honey locust and two pinyon pines) at the McCulloch Blvd./US 50 intersection. **Temporary Impacts** Soil disturbance of 18.5 acres of shortgrass prairie from construction equipment would create favorable conditions conducive to the introduction and further spread of noxious weeds.	8, 9, 11

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
Noxious Weeds (CDOT, 2014f – Appendix A8)	Of the 12 species of weeds identified in the biological resources study area that are on the Colorado Department of Agriculture Noxious Weed List and the Pueblo County Target Species List (Pueblo County, 2013), field bindweed (*Convolvulus arvensis*) and redstem filaree (*Erodium cicutarium)* are common. Thick stands of tamarisk are dominant along Williams Creek and Wild Horse Dry Creek. The common occurrence of broom snakeweed (*Gutierrezia sarothrae)* indicates that the vegetation is in a less than optimal state. These weeds are introduced species that are known to out-compete native flora.	Invasion and further spread of noxious weeds would continue.	**Permanent Impacts** Surface disturbance of approximately 18.5 acres following construction could indirectly introduce noxious and invasive weed species. **Temporary Impacts** Soil disturbance of 25.8 acres from construction activities, such as grading, would create favorable conditions for noxious weeds to be introduced, become established, or spread further. Construction equipment would potentially introduce noxious weed species into the project area.	11
Senate Bill 40 (SB 40) Resources (CDOT, 2014g – Appendix A9)	Williams Creek and Wild Horse Dry Creek qualify as SB 40 jurisdictional streams, including the stream beds, stream banks, and as much bankside (riparian) areas that contribute to the quality of the general stream habitat through shading, water quality filtering, contribution of food items for fish/wildlife, and organic matter to the stream. 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.	Does not impact SB 40 resources.	**Permanent Impacts** Removal of SB 40 resources (primarily tamarisk) along Wild Horse Dry Creek due to bridge widening and the installation of riprap. A total of 0.37 acre of permanent fill would be placed in riparian areas along Wild Horse Dry Creek. Approximately 12,523 sq. ft. (0.3 acre) of SB 40 shrubs would be removed. **Temporary Impacts** During construction, stormwater runoff could carry sediment to Williams Creek and Wild Horse Dry Creek from grading and construction of the eastbound lane, eastbound bridge, roadside drainage swale, and water quality features.	4, 5, 10

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
Fish (CDOT, 2014g – Appendix A9)	Aquatic habitats are limited to Williams Creek and Wild Horse Dry Creek. Within the CDOT ROW, these habitats have been modified from illegal off-road vehicle use in the area, the bridge over Wild Horse Dry Creek, and riprap. Illegal off-road vehicle use along informal trails in the area contributes to soil compaction, stream channel erosion, and sedimentation along and within Wild Horse Dry Creek. Algae, tamarisk, and other noxious weeds dominate the habitat within the Wild Horse Dry Creek drainage. During field surveys in the summer of 2013, two native fish species were observed: the plains killfish (*Fundulus zebrinus)* and the fathead minnow (*Pimephales promela*). These fish are not federally-listed (threatened or endangered) or state-listed (threatened or endangered) species, candidate species, or state species of special concern. Plains killifish were observed in the Williams Creek and Wild Horse Dry Creek channels and pools; and fathead minnows were observed in the Williams Creek channel and pools.	Would not change the aquatic habitat conditions.	**Permanent Impacts** The eastbound bridge expansion and the addition of riprap would not permanently impact fish habitat along Wild Horse Dry Creek, and the proposed improvements would not impede fish movement. **Temporary Impacts** During construction, stormwater runoff could carry sediment to Williams Creek and Wild Horse Dry Creek from grading and construction of the eastbound lane, eastbound bridge, roadside drainage swale, and water quality features. There would be no construction activities in Wild Horse Dry Creek.	4, 5, 11, 12

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
Wildlife (CDOT, 2014f – Appendix A8) (CDOT, 2014g – Appendix A9)	The project is located within the Central Shortgrass Prairie ecoregion. The Williams Creek and Wild Horse Dry Creek corridors provide riparian habitat for mammals, migratory birds, and reptiles. Wildlife habitats in the biological resources study area are highly modified by noxious weed infestation, ROW disturbances, and drought conditions. The project area is not located in a known migration area for species such as deer or elk; however, there is habitat for many small and medium-sized mammals, such as desert cottontail (*Sylvilagus audubonii*), black-tailed prairie dogs (*Cynomys ludovicianus*), and coyotes (*Canis latrans*). Habitat for reptiles, amphibians, and birds is also present (see the **Threatened/Endangered Species and State Species of Special Concern** section). Analysis documented in the *US 50 West PEL Study* (CDOT, 2012a) from 2004 to 2008 showed that 2 percent of the crashes within the PEL Corridor were from wildlife.	Would not change wildlife habitats or migratory bird habitats, other than the continued potential for wildlife vehicle collisions that may increase as traffic volumes increase.	**Permanent Impacts** Would include permanent habitat loss of approximately 7.3 acres of shortgrass prairie and fragmentation of habitat due to the construction of the additional eastbound lane. Direct mortality may occur, primarily to small and medium-sized wildlife, reptiles/amphibians, and low-flying birds from vehicles. The widened roadway will make it more difficult for animals to move across the landscape. Removal of riparian vegetation due to bridge widening and the installation of riprap along Wild Horse Dry Creek would result in a loss of habitat for wildlife species that depend on the riparian corridor. Would place a total of 0.37 acre of permanent fill in riparian areas and remove 12,523 sq. ft. (0.29 acre) of shrubs along the section of Wild Horse Dry Creek that is within CDOT's ROW. Widening of the eastbound bridge would not impede wildlife movement.	9, 10, 13

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
Wildlife (Continued) (CDOT, 2014f – Appendix A8) (CDOT, 2014g – Appendix A9)			**Temporary Impacts** Surface disturbance of approximately 18.5 acres during construction could affect wildlife. The widened roadway and bridge over Wild Horse Dry Creek would also cause temporary habitat loss, restrict wildlife movement, and potentially displace certain wildlife species in the short term or temporarily due to increased noise and human presence associated with construction activities. The temporary concrete barrier, to be installed in approximately 2,000-foot sections within the median during construction from Purcell Blvd. to the divided intersection at Pueblo Blvd., would temporarily restrict wildlife movement across US 50. However, the concrete barrier will not be installed near Williams Creek or Wild Horse Dry Creek, where wildlife could be more likely to attempt to cross US 50 at-grade due to the lack of wildlife fencing in the area. The closest temporary barrier will be approximately 4,500 feet west of Williams Creek and approximately 5,800 feet west of Wild Horse Dry Creek. The barriers will be removed after construction.	9, 10, 13

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
Wildlife (Continued) (CDOT, 2014f – Appendix A8) (CDOT, 2014g – Appendix A9)			Other indirect effects could include the introduction and spread of noxious or invasive weed species, which may further degrade wildlife habitat. Wildlife mortality from construction-related ground clearing and earth-movement activities could also affect small terrestrial species and burrowing animals.	
Migratory Birds (CDOT, 2014f – Appendix A8)	Migratory bird surveys along Williams Creek identified active and inactive nests in the biological resources study area, including: • Black-billed Magpie (*Pica hudsoni)* – Active and inactive nests • Western Kingbird (*Tyrannus verticalis*) – Active nest • Cliff Swallows (*Petrochelidon pyrrhonota)* – Multiple active nests at the Wild Horse Dry Creek bridge, the Williams Creek culvert, and the culvert passing under Purcell Blvd., in the area south of US 50.	Would not change migratory bird habitats other than potential disturbances from increased traffic.	**Permanent Impacts** Removing riparian vegetation along Wild Horse Dry Creek due to bridge widening and installing riprap would result in a loss of habitat for migratory birds that depend on the riparian corridor. Impacts to active Cliff Swallow nests may occur during the widening of the eastbound bridge over Wild Horse Dry Creek if construction occurs during the nesting season. **Temporary Impacts** Short-term temporary impacts from the increased noise and human presence due to construction activities associated with the entire project (for example, construction noise and night lighting).	14

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
Threatened/ Endangered Species and State Species of Special Concern (CDOT, 2014f – Appendix A8)	The biological resources study area contains no suitable habitat for federally-listed threatened or endangered species. June, July, and October 2013 field surveys identified no rare plants. The biological resources study area contains six state listed species with suitable habitat: • The black-tailed prairie dog (*Cynomys ludovicianus*) (State Threatened Species), with prairie dog colonies present within the study area • Western Burrowing Owl (*Athene cunicularia hypugaea*) (State Species of Concern) • Massasauga (*Sistrurus catenatus*) (State Species of Concern) • Triploid Colorado checkered whiptail (*Cnemidophorus neotesselatus*) (State Species of Concern) • Plains leopard frog (*Rana blairi*) (State Species of Concern) • Northern leopard frog (*Rana pipiens*) (State Species of Concern) June and July 2013 surveys identified six individual whiptails along the terraces above Williams Creek.	Does not affect state listed species habitats.	**Permanent Impacts** Impacts from the permanent removal of 7.3 acres of shortgrass prairie may affect, but would not adversely affect, state listed species habitat: • Black-tailed prairie dog colonies are located within and adjacent to the Proposed Action footprint, at the Purcell Blvd. and McCulloch Blvd. intersections. • Project construction may potentially affect Western Burrowing Owls that may use the prairie dog colonies as habitat. • Impacts to massasauga habitat may occur as a result of project construction activities. • Construction of the eastbound bridge, the installation of riprap, and removal of tamarisk along Wild Horse Dry Creek may affect, but would not adversely affect, habitat for the Triploid Colorado checkered whiptail, the plains leopard frog, and the northern leopard frog. **Temporary Impacts** See Wildlife.	11, 15, 16, 17, 18, 19

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
Historic and Archaeological Resources (CDOT, 2014h – Appendix A10)	No National Register of Historic Places eligible resources were found within the project area.	Would not affect historic or archaeological resources.	**Permanent Impacts** Would not affect historic resources. Ground disturbance by heavy equipment and construction activities have the potential to encounter unknown buried cultural material. Section 106 clearances are provided in **Appendix A10**. **Temporary Impacts** No temporary impacts to historic or archaeological resources are expected.	20
Paleontological Resources (CDOT, 2014i – Appendix A11)	Locally abundant marine fossils are within the Niobrara geologic formation in the project area. The Potential Fossil Yield Classification for this formation is rated moderate. The potential for encountering a scientifically important fossil locality is low, but is somewhat higher for common fossils.	Would not affect paleontological resources.	**Permanent Impacts** The bridge construction could possibly unearth subsurface fossils from the Niobrara Formation Smoky Hill Shale Member with a moderate rating for fossil importance. **Temporary Impacts** No temporary impacts to paleontological resources are expected.	21

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
Land Use (CDOT, 2012a – Appendix A2)	Current development is concentrated at the McCulloch Blvd., Purcell Blvd., and Wills Blvd. intersection; and at the southeast quadrant of the Pueblo Blvd. intersection. City of Pueblo and Pueblo County land use zoning and the *2035 Comprehensive Plan* characterize land use trends toward higher-density, urban-style development adjacent to the Proposed Action footprint. Residential and commercial uses are currently zoned between McCulloch Blvd. and Purcell Blvd.; and commercial development is zoned from Purcell Blvd. to Wills Blvd. The largest potential for future land use growth and associated regional trip generation occurs at Pueblo Blvd. The relatively low density current uses for much of the intersection are planned to become a Special Development Area for mixed use development.	Would be incompatible with the planning objectives for the area. US 50 would not accommodate the increases in travel demand projections associated with the planned growth in commercial and residential development.	**Permanent Impacts** Would avoid permanent impacts on PEL Corridor land uses adjacent to the Proposed Action footprint. As an element of the PEL recommended Preferred Alternative, the Proposed Action would be compatible with future planning objectives for the City of Pueblo, Pueblo County, and PWMD. The proposed drainage easements and temporary construction easements would occupy approximately 1 acre and 0.5 acre, respectively, on PWMD and would not affect private parcels south of E. Grouse Drive (Dr.). Drainage easements would be located within the MUE that PWMD established as a buffer strip between the CDOT ROW and E. Grouse Dr., for utility and trail uses. The MUE is considered compatible with the drainage easements based on the US 50 West PEL (2012a) (see **Appendix A2**, Sections 3.13.4 and 3.15.4). **Temporary Impacts** Temporary impacts would include grading on easements to improve drainage at outfalls.	9, 22

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
Social Resources (CDOT, 2012a – Appendix A2)	PACOG's *Amended 2035 Long Range Transportation Plan* (2011) forecasts high population and employment growth in census tracts in proximity to the PEL Corridor, including PWMD, and the City of Pueblo within the southeast quadrant of the Pueblo Blvd. intersection. See **Appendix A2** for more information.	Would not directly affect social resources. Indirect impacts to social and economic resources may be associated with continued congestion and traffic accidents.	**Permanent Impacts** Would support the economic and social needs of the PEL Corridor and surrounding area by providing increased capacity with improved vehicular access, while minimizing disruption to land uses outside the CDOT ROW. **Temporary Impacts** Would create delays in traffic while construction is occurring. During these times, community facilities would take longer to access from US 50 and would require some extended travel time. Existing US 50 lanes will, for the most part, stay open to traffic during construction of the additional eastbound lane, widening of the bridge over Wild Horse Dry Creek, and construction of intersection improvements at McCulloch Blvd. Intermittent single lane closures will be allowed during non-peak traffic hours to accommodate construction activities.	23

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
Environmental Justice (CDOT, 2014j – Appendix A12)	The Hispanic/Latino population within Pueblo County (41.4 percent) is much higher than that of the State of Colorado (20.7 percent). Environmental justice communities are located in the vicinity of US 50 between McCulloch Blvd. and Wills Blvd. The census block groups in the community study area generally have similar proportions of minorities as the Pueblo County average. Most of the block groups within the community study area (consists of Census block groups adjacent to US 50) have a lower Hispanic/Latino minority population when compared to that of Pueblo County (41.4 percent). Three block groups have a slightly higher percentage than that of Pueblo County, ranging from 41.6 percent to 54.6 percent. The block groups within the community study area are large and extend well beyond US 50 and very few residences are directly adjacent to US 50. Low-income households range from 2.9 percent to 29.9 percent within the census tracts adjacent to the project, as compared to 17.6 percent for Pueblo County. The nearest residences in the census tract that has a higher percentage (29.9 percent) than Pueblo County are located more than 0.5 mile from US 50.	Would not result in any disproportionately high or adverse impacts to low-income and/or minority populations in the study area. Would create traffic delays due to increased traffic without the added lane capacity. All populations present within the community study area would continue to experience the traffic congestion problems.	**Permanent Impacts** Would not result in any disproportionately high or adverse impacts to the low-income and/or minority populations within the community study area. Would share project impacts and benefits equally among all populations and would not be predominately borne by low-income or minority populations. Overall, Pueblo County and the City of Pueblo residents would benefit from enhanced mobility along US 50 to the community and public services facilities within the vicinity of the project due to improved connectivity, reduced congestion, and improved safety. **Temporary Impacts** Temporary impacts to low-income and/or minority populations would be no different from the temporary impacts due to traffic disruptions during construction, as identified in the **Social Resources** section.	23, 24
Right-of-Way (CDOT, 2014a – Appendix A1)	The City of Pueblo, Pueblo County, and PWMD lands are adjacent to the US 50 ROW.	Would not change the CDOT ROW.	Would require no additional ROW for transportation and water quality improvements. A drainage easement would be required within the PWMD, as shown on **Figures 3a**, **3b**, **and 3c**.	25

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
Utilities and Railroad (CDOT, 2014a – Appendix A1) (CDOT, 2012a – Appendix A2)	Types of underground and overhead utilities within the US 50 ROW include: • Gas line • Underground fiber optic line • Water line • Wastewater line • Transmission lines US 50 crosses under the BNSF Railway tracks, approximately 0.75 mile east of the Pueblo Blvd. intersection. The BNSF rail line at this location is a single-track segment serving as one of the rail lines connecting Colorado Springs and Pueblo.	Would not affect utilities or BNSF tracks within the ROW.	**Permanent Impacts** Would not affect the BNSF tracks, bridge structure carrying the BNSF tracks over US 50, or overhead transmission lines. There would be no permanent impacts or loss of service from utilities that are currently operating within portions of the CDOT ROW. **Temporary Impacts** Relocation of underground utilities within the ROW may be required due to the construction of the eastbound lane and grading for the parallel drainage swale. There may be a temporary loss of service during utility relocations. In addition, there may be a temporary impact to CDOT traffic signals during construction.	26
Parks/Recreational Resources and Section 4(f) and 6(f) Resources (CDOT, 2014k – Appendix A13)	The Honor Farm Park and Open Space is located within the City of Pueblo south of US 50 and west of Pueblo Blvd. and is considered a Section 4(f) resource. Section 4(f) provides protection for significant public recreational resources and historic sites from transportation uses. PWMD is planning the Main McCulloch Blvd. Trail along the east side of McCulloch Blvd. from Joe Martinez Blvd. (south of US 50) to Industrial Blvd. (north of US 50). The planned trail would have an on-grade crossing of US 50 at McCulloch Blvd. CDOT is coordinating with PWMD on the trail crossing design at US 50.	Would have no use to existing or planned parks and recreational resources or to Section 4(f) resources.	**Permanent Impacts** Because construction of the eastbound lane would be limited to the existing CDOT ROW, there would be no impacts to the Honor Farm Park and Open Space. Therefore, there are no Section 4(f) uses. Would coordinate the design and construction of the proposed right-turn lane at McCulloch Blvd. and US 50 with the planned Main McCulloch Blvd. Trail being planned by PWMD.	Not Applicable

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
Parks/Recreational Resources and Section 4(f) and 6(f) Resources (Continued) (CDOT, 2014k – Appendix A13)	No 6(f) resources are present in the US 50 West project area. No properties in the vicinity of the Proposed Action footprint have received Colorado Parks and Wildlife (CPW) Land and Water Conservation Funds assistance; therefore, no Section 6(f) consultation with CPW is required.		**Temporary Impacts** No temporary impacts to parks/recreational and Section 6(f) resources are expected. No temporary use/occupancy of Section 4(f) resources is expected.	Not Applicable
Noise (CDOT, 2014l – Appendix A14)	Traffic noise is considered in the context of the noise levels at exterior areas of frequent human use at noise-sensitive locations such as homes. Noise impacts occur when noise levels will exceed the CDOT Noise Abatement Criteria (NAC) or will increase by 10 decibels. Existing noise conditions were examined within and adjacent to the Proposed Action footprint. Three residential receptors are impacted by equaling or exceeding the CDOT NAC (66 dBA), and the range of noise levels at these locations is 69 to 71 dBA.	The 2035 traffic conditions with no improvements to US 50 were examined. Three residences were identified as impacted by traffic noise (same as existing conditions). Three residential receptors are impacted by equaling or exceeding the CDOT NAC (66 dBA), and the range of noise levels at these locations is 71 to 73 dBA.	**Permanent Impacts** The 2035 traffic conditions with the Proposed Action in place were examined. Five residences were identified as impacted by traffic noise—two more than with the No Action Alternative. Five residential receptors would be impacted by equaling or exceeding the CDOT NAC (66 dBA), and the range of noise levels at these locations would be 67 to 73 dBA. Noise abatement barriers were evaluated to mitigate these impacts. None of the barriers were found to be feasible and reasonable; therefore, no noise abatement barriers are recommended. **Temporary Impacts** Construction noise could temporarily affect adjoining properties within and adjacent to the Proposed Action footprint.	27

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
Visual Resources/ Aesthetics (CDOT, 2012a – Appendix A2)	The regional landscape setting is characterized by open views within the Arkansas Valley Barrens landscape and distant mountain panoramas to the west. The shortgrass prairie vegetation is generally sparse and treeless, with chalky shale outcropping. Open views across the Honor Farm Park and Open Space, Williams Creek, and Wild Horse Dry Creek create a natural image. Patterns of local development transition from suburban to commercial between PWMD and Pueblo. The parallel railroad tie fence provides a "ranch-like" element, and the PWMD entrance signage at McCulloch Blvd. creates a local identity. There are no dominant focal points, and the landscape and architectural colors are generally light monochromatic earth tones.	Would not result in any landscape changes or visual impacts.	Impacts of improvements to the eastbound lane and bridge to viewers from PWMD, the Pueblo Blvd. area, and US 50 may be noticed, but would not be likely to attract attention or modify the setting. • Views from PWMD – Residential views from PWMD along the south side of US 50 would be limited to a group of residences south of E. Grouse Dr. along Hideaway Lane and Citadel Circle, where viewshed distances would range from approximately 150 ft. to 1,200 ft. to the US 50 ROW. The visual contrast of the eastbound lane improvements from PWMD residents would be weak, and while noticeable, they are not likely to attract attention or modify the setting. Grading would blend into the existing contours within the CDOT ROW.	28

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
Visual Resources/ Aesthetics (Continued) (CDOT, 2012a – Appendix A2)			• Views from the Pueblo Blvd. intersection – Views from a retirement living facility and a Family Worship Center at the southeast quadrant of the Pueblo Blvd. intersection range from 200 ft. to 700 ft. from the US 50 ROW; and approximately 800 to 1,300 ft. from the eastbound bridge. The visual contrast of the eastbound lane and bridge would be weak, and while noticeable, they are not likely to attract attention or modify the setting. The eastbound lane would be located over a box culvert at Williams Creek, and the eastbound bridge expansion would match the horizontal elevation of the existing eastbound bridge. • Views from US 50 – The eastbound lane would not screen views from US 50 because roadside grading would generally be on fill and would match existing contours at the edge of the ROW. Temporary concrete barriers, to be installed in approximately 2,000-foot sections within the median during construction from Purcell Blvd. to the divided intersection at Pueblo Blvd., would temporarily modify views for travelers on US 50. The barriers will be removed after construction.	28

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
Hazardous Materials (CDOT, 2014m – Appendix A15)	The regulatory data search identified one property adjacent to the CDOT ROW, the former US 50 West AMOCO, where past activities may have resulted in soil and water contamination within the Proposed Action footprint.	Would not affect hazardous materials.	Would not expect to encounter hazardous materials during construction based on regulatory records and a visual reconnaissance of the areas within and adjacent to the Proposed Action footprint in conjunction with the proposed limited soil disturbance depth near the former US 50 AMOCO site and groundwater monitoring well.	29
Cumulative Impacts	The US 50 West PEL Study (2012a), Section 3.20, includes an analysis of cumulative impacts. The cumulative effects study area generally includes the PWMD to the west and north, Lake Pueblo to the south, and the Honor Farm Park and Open Space and the portion of the City of Pueblo to I-25 to the east, as shown on **Figure 1**. The timeframe for past projects is tied to the modernization of Pueblo's highway system with the construction of I-25 through Pueblo between 1947 and 1959 and with the construction of the US 50 bypass in 1957. Reasonably foreseeable future projects are based on plans and projections out to 2035 in the PACOG *Amended 2035 Long Range Transportation Plan* (2011) and in the PACOG *2035 Comprehensive Plan* (2002). At the time of its creation in 1969, PWMD had no population. From 1990 to 2000, the PWMD experienced rapid growth from 4,396 residents to almost 17,000. The population at the 2010 census was 29,843. All lands adjacent to US 50 and interchanges are either built out or planned and zoned for development.	Not applicable because the No Action Alternative is considered as part of the past, present, and reasonably foreseeable future actions identified in the cumulative impacts analysis.	This analysis examines the potential cumulative impacts of the past, present, and reasonably foreseeable future actions in the area with the added impacts of the Proposed Action. As an element of the PEL recommended Preferred Alternative, the incremental impact of the Proposed Action would unlikely have negative cumulative impacts on environmental resources, when added to other past, present, and reasonably foreseeable future actions.	4, 5, 7, 8, 9, 10, 11, 15, 16, 17, 18, 19

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
Cumulative Impacts (Continued)	PWMD appears likely to see continuing growth, approaching a 2035 population of about 45,000, approaching its build-out capacity of 50,000 to 55,000 (PACOG, 2011). The future land use plans for the area are summarized under **Land Use**. The PEL recommended Preferred Alternative includes a multi-use pedestrian and bicycle trail, and PWMD is planning the Main McCulloch Blvd. Trail. Cumulative impact issues analyzed for the Proposed Action include water quality, wetlands, State Species of Special Concern, and fish habitats associated with Williams Creek and Wild Horse Dry Creek; and shortgrass prairie. • Water Quality – Williams Creek and Wild Horse Dry Creek habitats are receiving water bodies for US 50 roadway stormwater runoff. Soil compaction, stream channel erosion, and sedimentation along and within Wild Horse Dry Creek result from illegal off-road vehicle use in the CDOT ROW; and there is currently no water quality treatment for US 50 runoff in the project area. • Wetlands – Tamarisk dominates the wetlands along both Williams Creek and Wild Horse Dry Creek habitats.		With mitigation measures, there is the potential for positive impacts, particularly on the water quality, wetlands, and wildlife habitats associated with Williams Creek and Wild Horse Dry Creek. The potential for environmental impacts resulting from the Proposed Action would be minimized because the footprint would fall within CDOT ROW, and mitigation will be implemented for permanent and temporary resource impacts. The proposed intersection improvements would not be disruptive to existing and future development.	4, 5, 7, 8, 9, 10, 11, 15, 16, 17, 18, 19

Table 3. Environmental Impacts of the No Action Alternative and the Proposed Action (Continued)

Resource	Context	No Action Alternative	Proposed Action	Mitigation Tracking Number
Cumulative Impacts (Continued)	• State Species of Special Concern, and fish habitats associated with Williams Creek and Wild Horse Dry Creek – Stream channel erosion, soil compaction, and sedimentation have modified aquatic and riparian habitats. • Shortgrass Prairie – The extent of native grassland vegetation and associated wildlife habitats have been reduced by US 50 and PWMD development. The project is located in an area covered under the Central Shortgrass Prairie Programmatic Biological Opinion (BO)/Biological Assessment (BA) developed by CDOT, FHWA, and the USFWS to mitigate anticipated impacts on the shortgrass prairie ecosystem from CDOT projects for species listed as threatened/endangered under the Endangered Species Act, and for declining species that may become listed in the future. Mitigation occurs programmatically through offsite habitat conservation and on-site mitigation measures identified in the Programmatic BO/BA. Consultation with USFWS was completed through the Programmatic BO/BA.			4, 5, 7, 8, 9, 10, 11, 15, 16, 17, 18, 19

WHAT MITIGATION COMMITMENTS WILL BE MADE FOR THE PROPOSED ACTION?

Mitigation commitments for the Proposed Action have been identified in detail for each impacted resource and are presented in the technical documentation contained in **Appendix A**. Each technical report or memorandum in **Appendix A** provides additional details regarding the methodology and analysis of impacts and mitigation measures. **Table 4** lists a unique tracking number, mitigation category, impact, mitigation commitment, responsible agency for tracking commitments, and the timing or phase that mitigation will be implemented, summarizing all of the commitments made for the Proposed Action.

Table 4. Summary of Impacts and Mitigation for the Proposed Action

Tracking Number	Mitigation Category	Impact	US 50 West EA (Project Number: STA 050A-022) Mitigation Commitment	Responsible Branch	Timing/Phase That Mitigation Will Be Implemented
1	Transportation Resources	Temporary disruption of traffic	A construction traffic monitoring and signage system to ease travel conditions for motorists and bikeway users will be implemented. There will be public information updates during construction.	CDOT Design Engineering and CDOT Construction Engineering	Design and Construction
2	Air Quality	Air emissions and fugitive dust during construction	The following best management practices (BMPs) for air quality will be applied: • Maintain equipment on a regular basis. Equipment will be subject to inspection by the project manager to ensure maintenance. • Allow no excessive idling of inactive equipment or vehicles. • Control fugitive dust systematically through diligent implementation of CDOT's Standard Specifications for Road and Bridge Construction, particularly Sections 107.24 (Air Quality Control), 209 (Watering and Dust Palliatives), and 250 (Environmental, Health and Safety Management), and the Air Pollution Control Division's Air Pollutant Emission Notification requirements. These BMPs will be included in the project construction plans.	CDOT Construction Engineering	Construction

Table 4. Summary of Impacts and Mitigation for the Proposed Action (Continued)

Tracking Number	Mitigation Category	Impact	US 50 West EA (Project Number: STA 050A-022) Mitigation Commitment	Responsible Branch	Timing/Phase that Mitigation will be Implemented
3	Geologic and Groundwater Resources	Potential to encounter groundwater during bridge pier foundation construction	The contractor will obtain a Colorado Discharge Permit System Construction Dewatering Permit (COG070000).	CDOT Construction Engineering	Construction
4	Water Quality	Erosion and runoff in constructions zones	A stormwater management plan (SWMP) will contain construction BMPs. CDOT will implement these temporary BMPs project-wide to prevent erosion and deposition of sediment. Typical BMPs that are anticipated to be used for this project include: • Street sweeping • Stabilized construction entrances • Erosion logs • Removal and disposal of sediment • Aggregate bags • Temporary berms • Check dams • Permanent native seeding and mulching • Silt fence • Placement of soil retention blankets • Concrete washout structures • Placement of plastic fence to protect sensitive areas, such as wetlands • Vehicle tracking pads • Monthly inspections by CDOT Water Quality Program Manager	CDOT Region 2 Environmental, CDOT Design Engineering, and CDOT Construction Engineering	Design and Construction

Table 4. Summary of Impacts and Mitigation for the Proposed Action (Continued)

Tracking Number	Mitigation Category	Impact	US 50 West EA (Project Number: STA 050A-022) Mitigation Commitment	Responsible Branch	Timing/Phase that Mitigation will be Implemented
5	Water Quality	Polluted highway stormwater runoff	Permanent water quality mitigation will implement prevailing regulations and guidelines of the New Development, Redevelopment Program. Permanent water quality facilities will be identified in the SWMP and include flat swales adjacent to the roadway and two EDBs. Areas disturbed during construction will be revegetated (see Mitigation Tracking Number 9) to also prevent erosion and sedimentation. The swales and EDBs will attenuate flows and allow infiltration, evaporation, and plant transpiration (see **Appendix A1**). Permanent BMPs will be incorporated into design, including riprap along Wild Horse Dry Creek, riprap check dams along vegetated swales and adding riprap to outfalls to break up concentrated flows.	CDOT Design Engineering and CDOT Construction Engineering	Design and Construction
6	Floodplains	Floodplain impacts	Minor grading will produce a zero rise in the water surface. Riprap and revegetation/reseeding to stabilize the floodplain along Wild Horse Dry Creek are included in Mitigation Tracking Numbers 4 and 5.	CDOT Hydraulics Engineering	Design and Construction

Table 4. Summary of Impacts and Mitigation for the Proposed Action (Continued)

Tracking Number	Mitigation Category	Impact	US 50 West EA (Project Number: STA 050A-022) Mitigation Commitment	Responsible Branch	Timing/Phase that Mitigation will be Implemented
7	Wetlands	Erosion or other indirect impacts to wetlands	CDOT will implement BMPs to avoid any erosion or other indirect impacts to wetlands within and adjacent to the Proposed Action footprint (see Mitigation Tracking Number 5). The vegetation enhancement/restoration strategy at Wild Horse Dry Creek involves installing riprap (see Mitigation Tracking Number 5) and removing tamarisk along Wild Horse Dry Creek and replacing it with willow brush cuttings within the stretch of the drainage from ROW to ROW. CDOT will address the vegetation enhancement/restoration strategy through revised project special specifications 217 (Herbicide Treatment) and 214 (Planting). In addition, CDOT will close informal trails within the ROW. Wetland protection measures are included in Mitigation Tracking Number 4.	CDOT Region 2 Environmental and CDOT Construction Engineering	Construction
8	Vegetation	Shortgrass Prairie removal	Impacts to approximately 7.3 acres of vegetation will be mitigated through CDOT's offsite Shortgrass Prairie Initiative (SGPI).	CDOT Region 2 Environmental	Already completed per the SGPI

Table 4. Summary of Impacts and Mitigation for the Proposed Action (Continued)

Tracking Number	Mitigation Category	Impact	US 50 West EA (Project Number: STA 050A-022) Mitigation Commitment	Responsible Branch	Timing/Phase that Mitigation will be Implemented
9	Vegetation	Vegetation disturbance	CDOT will develop and implement a revegetation and reseeding plan that will be included in the SWMP for areas disturbed during construction. Specific objectives of the revegetation plan will be identified, such as blending the vegetation with existing vegetation, using native species, and minimizing the spread of noxious and invasive weeds. Erosion control features will minimize soil disturbance. Areas disturbed during construction will be reseeded with a seed mix that includes blue grama (*Boutelous gracillis*), buffalo grass [*Boutelous dactyloides*], galleta (*Pleuraphis jamesii)*, western wheatgrass (*Pascopyrum smithii)*, green needle grass (*Nassella Virdula*), side-oats grama (*Boutelous curtipendula)*, Indian ricegrass (*Achnatherum hymenoides)*, American vetch (*Vicia americana)*, purple prairieclover (*Dalea purpurea)*, and blue flax (*Linum perenne)*. Areas along Wild Horse Dry Creek will be revegetated with a different seed mix appropriate for the soils in the riparian area, as identified in Mitigation Tracking Number 10.	CDOT Region 2 Environmental and CDOT Construction Engineering	Design and Construction

Table 4. Summary of Impacts and Mitigation for the Proposed Action (Continued)

Tracking Number	Mitigation Category	Impact	US 50 West EA (Project Number: STA 050A-022) Mitigation Commitment	Responsible Branch	Timing/Phase that Mitigation will be Implemented
10	Vegetation/SB 40 Resources	Impacts to SB 40 resources along Wild Horse Dry Creek	BMPs outlined in the *SB 40 Guidelines* (CPW & CDOT, 2013) are incorporated into this project. The guidelines are in conformance with the following CDOT documents: Erosion Control and Stormwater Quality Guide; Standard Specifications for Road and Bridge Construction; MS4 permit; and Drainage Design Manual. BMPs include revegetating all disturbed areas with a mix of native trees, grasses, and forbs. The revegetation plan will be included in the SWMP. All areas cleared of tamarisk along Wild Horse Dry Creek will be replanted with a combination of sandbar willow (1:1 mitigation ratio), other shrubs, and a native grass seed-mix. The replanting along Wild Horse Dry Creek will include willow brush cuttings, shrub species (four-winged saltbrush [*Atriplex canescens*]), and native grass seed-mix (alkali sacaton [*Sporobolus airoides*], western wheatgrass, galleta, blue grama, alkaligrass [*Puccinellia distans*], and American vetch).	CDOT Region 2 Environmental and CDOT Construction Engineering	Construction

Table 4. Summary of Impacts and Mitigation for the Proposed Action (Continued)

Tracking Number	Mitigation Category	Impact	US 50 West EA (Project Number: STA 050A-022) Mitigation Commitment	Responsible Branch	Timing/Phase that Mitigation will be Implemented
11	Noxious Weeds	Noxious weed introduction during construction	Noxious weed management objectives will generally be met by implementing the following actions in the project area: • The project will be surveyed for noxious weeds throughout construction to identify and treat weeds. • The area of ground disturbance will be kept to the minimum necessary. • All equipment will be thoroughly cleaned before entering and exiting the construction area. Cleaning and disposal of weed infested soil shall be included in the cost of Item 626 Mobilization. The contractor shall submit to the engineer a statement certifying that all equipment has been cleaned before initial site arrival. • Areas with dense noxious weed populations will not be used for topsoil salvage. • Only herbicides approved for use in water will be used in or within 25 feet of wetlands or other water features. • Broadcast herbicide spraying will be approved only through written consent of the engineer and shall be applied when weather conditions (including wind) are suitable for such work. • Engineer will be notified 24 hours before herbicide is applied. • The application of herbicides will be limited in June through August near Williams Creek and Wild Horse Dry Creek. Tamarisk removal from Wild Horse Dry Creek is included in Mitigation Tracking Number 7.	CDOT Region 2 Environmental and CDOT Construction Engineering	Construction

Table 4. Summary of Impacts and Mitigation for the Proposed Action (Continued)

Tracking Number	Mitigation Category	Impact	US 50 West EA (Project Number: STA 050A-022) Mitigation Commitment	Responsible Branch	Timing/Phase that Mitigation will be Implemented
12	Fish	Construction runoff and siltation	See Mitigation Tracking Numbers 4, 5, and 11.	CDOT Region 2 Environmental	Construction
13	Wildlife	Loss of habitat	See Mitigation Tracking Numbers 9 and 10. Temporary concrete barriers will be removed after construction.	CDOT Region 2 Environmental	Completed habitat conservation per the SGPI Construction
14	Migratory Bird Treaty Act (MBTA)	Loss of migratory bird habitat and nests	To avoid and minimize activities that will have an impact on migratory birds and their nests, CDOT will include in project construction plans a standard special specification 240 (Protection of Migratory Birds). Western Burrowing Owl impacts are addressed in a standard special specification 240 (Black-Tailed Prairie Dog Management).	CDOT Environmental, CDOT Design Engineering, and CDOT Construction Engineering	Design and Construction
15	Threatened/ Endangered Species, State Species of Special Concern	Loss of black-tailed prairie dog habitat within Proposed Action footprint	Mitigation for potential impacts on black-tailed prairie dogs, including offsite habitat conservation and implementation of the Conservation Strategy for Non-Listed Species, identified in the SGPI BO and BA (USFWS, 2004). As stated in the SGPI BO and BA, CDOT will avoid and minimize impacts on known black-tailed prairie dog colonies within the project footprint. CDOT's *Impacted Black-Tailed Prairie Dog Policy* (2009) will be followed for all activities that affect black-tailed prairie dogs within the Proposed Action footprint. CDOT will include a project special provision 240 (Black-Tailed Prairie Dog Management) that will be included in the project construction plans for all activities that affect black-tailed prairie dogs within the project footprint.	CDOT Region 2 Environmental and CDOT Construction Engineering	Completed habitat conservation per the SGPI Design and Construction

Table 4. Summary of Impacts and Mitigation for the Proposed Action (Continued)

Tracking Number	Mitigation Category	Impact	US 50 West EA (Project Number: STA 050A-022) Mitigation Commitment	Responsible Branch	Timing/Phase that Mitigation will be Implemented
16	Threatened/ Endangered Species, State Species of Special Concern and MBTA	Loss of Western Burrowing Owl habitat within the Proposed Action footprint	Mitigation for potential impacts on the Western Burrowing Owl, including offsite habitat conservation and implementation of the Conservation Strategy for Non-Listed Species, is identified in the SGPI BO and BA (USFWS, 2004), and will be included in the project construction plans. If prairie dog colonies are impacted within the project footprint and CDOT ROW and construction is scheduled to occur during the nesting season (March 15 – October 31) for Western Burrowing Owls, the CDOT staff biologist will survey the area for the presence of Western Burrowing Owls. If Western Burrowing Owls are found at the site, CDOT will coordinate with the USFWS under the MBTA to ensure compliance. CDOT will include a project special provision 240 in the project construction plans for all activities that affect Western Burrowing Owls within the project area. No Burrowing Owls are expected to be present between November 1 and March 14 (CPW, 2008).	CDOT Region 2 Environmental and CDOT Construction Engineering	Completed habitat conservation per the SGPI Design and Construction
17	Threatened/ Endangered Species, State Species of Special Concern	Loss of massasauga habitat within Proposed Action footprint	Mitigation for potential impacts on the massasauga is covered per the SGPI and includes offsite habitat conservation and implementation of the Conservation Strategy for Non-Listed Species identified in the SGPI BO and BA (USFWS, 2004), and will be included in the project construction plans. Erosion control BMPs included in the SWMP will address potential impacts to the massasauga rattlesnake. If construction activities occur between March 1 and July 31, the CDOT staff biologist and CPW will be consulted prior to construction to determine actions necessary to avoid and minimize impacts.	CDOT Region 2 Environmental	Completed habitat conservation per the SGPI Construction

Table 4. Summary of Impacts and Mitigation for the Proposed Action (Continued)

Tracking Number	Mitigation Category	Impact	US 50 West EA (Project Number: STA 050A-022) Mitigation Commitment	Responsible Branch	Timing/Phase that Mitigation will be Implemented
18	Endangered Species, State Species of Special Concern	Loss of triploid Colorado checkered whiptail habitat within Proposed Action footprint	Mitigation for potential impacts on the triploid Colorado checkered whiptail is covered per the SGPI and includes offsite habitat conservation and implementation of the Conservation Strategy for Non-Listed Species identified in the SGPI BO and BA (USFWS, 2004), and will be included in the project construction plans. Erosion control BMPs included in the SWMP will address potential impacts to the triploid Colorado checkered whiptail.	CDOT Region 2 Environmental	Completed habitat conservation per the SGPI Construction
19	Threatened/ Endangered Species, State Species of Special Concern	Loss of plains leopard frog and northern leopard frog habitat within the Proposed Action footprint	Conservation measures for the northern leopard frog are identified in the SGPI BO and BA (USFWS, 2004), and will be included in the project construction plans. These conservation measures will also apply to the plains leopard frog, which inhabits similar habitat to that of the northern leopard frog. Erosion control BMPs in the SWMP will address potential impacts to the plains leopard frog and northern leopard frog. If construction activities occur between March 1 and July 31, the CDOT staff biologist and CPW will be consulted prior to construction to determine actions necessary to avoid and minimize impacts. Also application of herbicide near Williams Creek and Wild Horse Dry Creek will be restricted during June to August (frog metamorphosis period) (see Mitigation Tracking Number 11).	CDOT Region 2 Environmental	Completed habitat conservation per the SGPI Construction

Table 4. Summary of Impacts and Mitigation for the Proposed Action (Continued)

Tracking Number	Mitigation Category	Impact	US 50 West EA (Project Number: STA 050A-022) Mitigation Commitment	Responsible Branch	Timing/Phase that Mitigation will be Implemented
20	Historic and Archaeological Resources	Ground disturbance by heavy equipment and construction activities have the potential to encounter unknown buried cultural material	If any subsurface cultural materials are exposed during any phase of construction, the CDOT senior staff archaeologist will be contacted immediately to assess and evaluate the materials for eligibility to the National Register of Historic Places. The Contractor shall comply with CDOT Standard Specification 107.23 (Archaeological and Paleontological Discoveries), as identified in the project construction plans.	CDOT Region 2 Environmental and CDOT Construction Engineering	Construction
21	Paleontological Resources	Impacts during excavating and drilling at the eastbound bridge piers	If any subsurface bones or other potentially significant fossils are found anywhere within the US 50 project area during construction, work in the immediate vicinity should be temporarily suspended, and the CDOT staff paleontologist should be notified immediately to assess the significance of the find and to make further recommendations. The Contractor shall comply with CDOT standard specification 107.23 (Archaeological and Paleontological Discoveries), as identified in the project construction plans.	CDOT Region 2 Environmental and CDOT Construction Engineering	Construction
22	Land Use	Grading on easements to improve drainage	See Mitigation Tracking Number 9.	CDOT Region 2 Environmental and CDOT Construction Engineering	Construction
23	Social Resources	Temporary traffic impacts	CDOT will coordinate with local communities for construction practices that will minimize disruption of traffic flow. CDOT will implement a Public Information Outreach campaign during construction. CDOT will implement a way-finding and signage system to ease travel conditions for motorists and bikeway users.	CDOT Construction Engineering and Public Information Office	Construction

Table 4. Summary of Impacts and Mitigation for the Proposed Action (Continued)

Tracking Number	Mitigation Category	Impact	US 50 West EA (Project Number: STA 050A-022) Mitigation Commitment	Responsible Branch	Timing/Phase that Mitigation will be Implemented
24	Environmental Justice	Temporary traffic impacts	See Mitigation Tracking Number 23.	CDOT Construction Engineering and CDOT Public Information Office	Construction
25	Right-of-Way	ROW easement acquisitions	CDOT will follow the Uniform Relocation Act.	CDOT ROW	Design
26	Utilities	Utility relocation	Coordinate utility relocation with utility companies during final design.	CDOT Design Engineering, CDOT Construction Engineering, and CDOT Utilities	Design and Construction
27	Noise	Construction noise	The project area abuts residential areas. To address the temporary elevated noise levels that may be experienced during construction, standard abatement measures shall be incorporated into construction contracts, where it is feasible to do so. These will include: • Manage construction activities to keep noisy activities as far from sensitive receptors as possible. • Exhaust systems on equipment would be in good working order. Maintain equipment on a regular basis and subject equipment to inspection by the construction project manager to ensure maintenance. • Minimize night construction adjacent to residential areas where feasible in terms of safety and operations • Use properly designed engine enclosures and intake silencers where appropriate. • Locate stationary equipment as far from sensitive receptors as possible.	CDOT Construction Engineering	Construction

Table 4. Summary of Impacts and Mitigation for the Proposed Action (Continued)

Tracking Number	Mitigation Category	Impact	US 50 West EA (Project Number: STA 050A-022) Mitigation Commitment	Responsible Branch	Timing/Phase that Mitigation will be Implemented
28	Visual Resources/ Aesthetics	Visual impact of grading and eastbound bridge widening	Final design will emphasize blending roadside grading with existing contours to achieve a natural appearance, as much as practicable, and minimize cuts and fill. Native seeds for revegetation will be used. The eastbound bridge pedestrian fence has a dark and non-reflective surface. Temporary concrete barriers will be removed after construction.	CDOT Design Engineering and CDOT Construction Engineering	Design and Construction
29	Hazardous Materials/ Waste	Encountering hazardous materials	CDOT Standard Specifications 250 (Environmental, Health and Safety Management) for assessment, handling, transport, and disposal of hazardous materials will be implemented if hazardous materials are encountered during construction.	CDOT Construction Engineering	Construction

WHAT ADDITIONAL CLEARANCES AND PERMITS ARE REQUIRED FOR THIS PROJECT?

In addition to the NEPA evaluation of environmental impacts provided by this EA, the Proposed Action must comply with federal and state laws and regulations, including the Clean Water Act, Endangered Species Act, MBTA, and others. This includes obtaining permits, preliminary and construction surveys, reviews, and other approvals as required by local agency, state, and federal regulations.

Due to the absence of federally listed threatened and endangered species, Section 106 properties, or wetland impacts, there was no formal consultation with USFWS, Advisory Council on Historic Preservation, Colorado Office of Archaeology and Historic Preservation, or USACE. The SGPI addresses CDOT's routine maintenance and upgrade activities on existing transportation corridors of eastern Colorado until the year 2024 that are likely to affect threatened and endangered, proposed, candidate, or sensitive species.

The following summarizes the types of permits, coordination, and authorization that may be required to support Proposed Action construction. Please note that this list is subject to change.

Construction Access Permits—The construction contractor is required to obtain construction access permits for detours and lane closures from the CDOT Region Access Control Manager.

Dewatering Permit—The contractor will obtain a Colorado Discharge Permit System Construction Dewatering Permit (COG070000) from CDPHE.

Permits from Local Jurisdictions—CDOT will obtain easements for drainage and construction from PWMD.

Air Quality—Pueblo County may require a **Construction Demolition Air Permit**. If required, the construction contractor would acquire this permit.

Air Quality—An **Air Pollution Emissions Notice** permit will be needed from CDPHE, as well as other regional and local authorities, as required, assuming that there will be up to 25.8 acres of ground disturbance during construction. The construction contractor would acquire this permit.

Floodplain—CDOT will acquire a **Floodplain Development Permit** from the City of Pueblo and Pueblo County.

Municipal Separate Storm Sewer Systems (MS4) Compliance—CDOT will provide a water quality report to CDPHE documenting methods to meet MS4 requirements.

Clean Water Act, Section 404 —CDOT will prepare a 404 Nationwide permit application for submittal to USACE.

Senate Bill 40 Certification—SB 40 requires any state agency to obtain wildlife certification from the Colorado Parks and Wildlife when the agency plans construction in ". . . any stream or its bank or tributaries" (CDOT, 2012c). CDOT will acquire the SB 40 Certification.

Stormwater Permit—A **Colorado Discharge Permit System** permit, which includes the preparation of a SWMP, is required to protect state waters and ensure the quality of stormwater runoff on any construction activity that disturbs at least one acre of land. CDOT will obtain this permit from CDPHE's Water Quality Control Division.

Utility Permit—The construction contractor will be required to obtain a utility permit for any work within CDOT's ROW to install or maintain a utility.

WHAT OUTREACH AND OPPORTUNITIES FOR STAKEHOLDER PARTICIPATION WERE PROVIDED?

Stakeholder participation during the preparation of the *US 50 West PEL* (CDOT, 2012a) included involvement and input on issues, purpose and need, alternatives development and screening, and the PEL recommended Preferred Alternative. In addition, outreach, coordination, and consultation have been conducted with federal, state, and local agencies during the preparation of this EA, including:

- City of Pueblo
- Pueblo County
- PWMD
- Colorado Natural Heritage Program
- Denver Botanic Garden Herbarium

Appendix B provides documentation. CDOT contacted several agencies for technical information and coordination related to floodplains and drainage; parks, recreation, and trail plans; and rare plants known to occur in Pueblo County. **Appendix B** includes details about these contacts. Also, in January 2014, FHWA contacted six federally recognized Native American tribes with an established interest in Pueblo County (Apache Tribe of Oklahoma, Cheyenne and Arapaho Tribes of Oklahoma, Comanche Nation of Oklahoma, Kiowa Tribe of Oklahoma, Northern Arapaho Tribe, and Northern Cheyenne Tribe) and invited them to participate in the project as consulting parties under the National Historic Preservation Act. Consultation with Native American tribes recognizes the government-to-government relationship between the United States government and sovereign tribal groups (see **Appendix A10** and **Appendix B**). In that context, federal agencies must acknowledge that historic properties of religious and cultural significance to one or more tribes may be located on ancestral, aboriginal, or ceded lands beyond modern reservation boundaries. No tribes elected to reply, and therefore, none participated as consulting tribal nations.

WHAT ADDITIONAL OPPORTUNITIES FOR STAKEHOLDER PARTICIPATION WILL BE PROVIDED?

A public meeting for this project will be held at the Pueblo West Library (298 S. Joe Martinez Blvd., Pueblo West, CO 81007) on June 30, 2014, from 6:00 PM to 8:00 PM.

NEXT STEPS

After initial acceptance of this EA by CDOT and FHWA, a public and agency review of the EA will occur. The EA will be made available for review for 30 days. During this time, a public meeting will also be held. After the 30-day public comment period concludes, the comments gathered will be evaluated to determine where changes to the analysis would affect the decision. Responses to substantive comments will be prepared and included in the decision document.

If comments received during the public availability period indicate that changes to the Proposed Action are necessary, then a clarification will be made in the decision document to:

- Reflect changes in the Proposed Action or mitigation measures resulting from comments received on the EA or at the public meeting and any impacts of the changes
- Include any necessary findings, agreements, or determinations (for example, wetlands and Section 106)
- Include a copy of pertinent comments received on the EA and responses to the comments

Upon conclusion of the public comment period, CDOT and FHWA will prepare a decision document after the comments are received, assessed, and provided a response. Upon completion of the EA, the decision document, and final design, the project construction phase will commence. It is anticipated that the project will be advertised for construction in October 2014 and that construction will take place over a two-year period.

REFERENCES

Colorado Department of Transportation (CDOT). 2009. Impacted Black-Tailed Prairie Dog Policy. January. Accessed December 2013. http://www.coloradodot.info/programs/environmental/wildlife/guidelines/pdpolicy0109.pdf/view.

Colorado Department of Transportation (CDOT). 2012a. *US 50 West Planning and Environmental Linkages Study*. June. [Available in Appendix A2]

Colorado Department of Transportation (CDOT). 2012b. *US 50 West PEL Implementation Plan*. June. [Available in Appendix A3]

Colorado Department of Transportation (CDOT). 2012c. *SB 40 Guidelines*. Accessed September 2013. http://www.coloradodot.info/projects/I25NorthCOSDB/contract-documents/SB40%20Support%20Documents/SB%2040%20Guidelines.pdf/view

Colorado Department of Transportation (CDOT) 2014a. *Project Drawings and Plans*. February. [Available in Appendix A1]

Colorado Department of Transportation (CDOT) 2014b. *Air Quality Technical Report for the US 50 West: Purcell Boulevard to Wills Boulevard and McCulloch Boulevard/US 50 Intersection*. February. [Available in Appendix A4]

Colorado Department of Transportation (CDOT) 2014c. *Soils Investigation Report for the US 50 West: Purcell Boulevard to Wills Boulevard and McCulloch Boulevard/US 50 Intersection*. February. [Available in Appendix A5]

Colorado Department of Transportation (CDOT) 2014d. *Water Quality and Floodplains Technical Report for the US 50 West: Purcell Boulevard to Wills Boulevard and McCulloch Boulevard/US 50 Intersection*. February. [Available in Appendix A6]

Colorado Department of Transportation (CDOT) 2014e. *Wetlands Technical Report for the US 50 West: Purcell Boulevard to Wills Boulevard and McCulloch Boulevard/US 50 Intersection*. February. [Available in Appendix A7]

Colorado Department of Transportation (CDOT) 2014f. *Biological Resources Technical Report for the US 50 West: Purcell Boulevard to Wills Boulevard and McCulloch Boulevard/US 50 Intersection*. February. [Available in Appendix A8]

Colorado Department of Transportation (CDOT) 2014g. S*enate Bill 40 Formal Certification for the US 50 West: Purcell Boulevard to Wills Boulevard and McCulloch Boulevard/US 50 Intersection*. February. [Available in Appendix A9]

Colorado Department of Transportation (CDOT) 2014h. *Historic and Archaeology Technical Report for the US 50 West: Purcell Boulevard to Wills Boulevard and McCulloch Boulevard/US 50 Intersection*. February. [Available in Appendix A10]

Colorado Department of Transportation (CDOT) 2014i. *Paleontology Technical Report for the US 50 West: Purcell Boulevard to Wills Boulevard and McCulloch Boulevard/US 50 Intersection*. February. [Available in Appendix A11]

Colorado Department of Transportation (CDOT) 2014j. *Environmental Justice Technical Report for the US 50 West: Purcell Boulevard to Wills Boulevard and McCulloch Boulevard/US 50 Intersection*. February. [Available in Appendix A12]

Colorado Department of Transportation (CDOT) 2014k. *Parks and Recreation Resources Technical Report for the US 50 West: Purcell Boulevard to Wills Boulevard and McCulloch Boulevard/US 50 Intersection*. February. [Available in Appendix A13]

Colorado Department of Transportation (CDOT) 2014l. *Traffic Noise and Vibration Impact Assessment for the US 50 West: Purcell Boulevard to Wills Boulevard and McCulloch Boulevard/US 50 Intersection*. February. [Available in Appendix A14]

Colorado Department of Transportation (CDOT) 2014m. *Hazardous Materials Initial Site Assessment for the US 50 West: Purcell Boulevard to Wills Boulevard and McCulloch Boulevard/US 50 Intersection*. February. [Available in Appendix A15]

Colorado Parks and Wildlife (CPW). 2008. *Recommended Survey Protocol and Actions to Protect Nesting Burrowing Owls*. February.

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.

Pueblo Area Council of Governments (PACOG). 2002. *2035 Comprehensive Plan*: *Pueblo Regional Development Plan*. July.

Pueblo Area Council of Governments (PACOG). 2011. *Amended 2035 Long-Range Transportation Plan*.

Pueblo County. 2013. Turkey Creek Conservation District: Pueblo County Noxious Weeds Management. Website: http://www.puebloweeds.com/. Accessed in June.

Transportation Research Board. 2010. Highway Capacity Manual. Fifth Edition.

Transportation Research Board. 2012. Transportation Research Record: Journal of the Transportation Research Board, No. 2279. 2012. “Relationship Between Freeway Flow Parameters and Safety and Its Implication for Adding Lanes.” Washington, D.C., DOI: 10.3141/2279-14.

Transportation Research Board. 2013. *Identification and Evaluation of the Cost-Effectiveness of Highway Design Features to Reduce Nonrecurrent Congestion*. Prepublication Draft. Not Edited. SHRP 2 Reliability Project L07. National Academy of Sciences.

United States Army Corps of Engineers. (USACE). 2007. Regulatory Guidance Letter. No. 07-02. Dated July 4.

United States Fish and Wildlife Service (USFWS). 2004. Central Shortgrass Prairie Programmatic Biological Opinion.