

Appendix H. Region 4 Commitments and Mitigation Table

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Project Name: US 34: US 287 to LCR 3 Environmental Assessment
Project Number: NH 0341-060
Environmental Mitigation Table

(Per Region 4 format requirements - content same as EA Exhibit 3-20)

Category	Mitigation Measures and Commitments	Date Completed
Construction Impacts	See below by resource type:	
Air Quality	BMPs would be implemented to reduce the impact of potential particulates less than 10 microns during construction, including: <ul style="list-style-type: none"> · Spraying exposed soil and soil surfaces with water, wetting agents, and/or soil binding agents · Covering trucks carrying fine materials · Minimizing mud tracking from the construction area · Controlling speed limits for trucks traveling on roads with high silt loading in the construction area · Performing proper maintenance on construction equipment 	
Noise	In general, construction activities would be limited to daytime work hours. Construction equipment would be turned off during prolonged periods of nonuse and an effort would be made to combine noisy operations to occur during the same time period. Stationary equipment would be located as far away from receptors as feasible and curtains would be erected around stationary equipment in areas close to residences. Additionally, the contractor would be required to use mufflers on engines (or intake silencers, engine enclosures, and noise blankets) and quiet-use generators).	
Wetlands	The following Construction Wetland Mitigation Measures are proposed to protect wetlands in temporary impact areas. <ul style="list-style-type: none"> · All wetland areas and water bodies not impacted by the project would be protected from unnecessary encroachment by temporary fencing. Sediment control such as silt fence or erosion logs would also be used where needed to protect the area from sediment. Siltation control devices would be placed on the down-gradient side of construction areas to prevent soil from entering wetland areas. · Staging of construction equipment, equipment refueling, or storage of construction supplies would not be allowed within 50 feet of a wetland. · A stormwater management plan would be developed prior to and for inclusion in the construction bid plans. All bare fill or cut slopes adjacent to wetlands would be stabilized as soon as practicable. · No fertilizers would be allowed on the project. · Work areas would be limited to minimize construction impacts on wetlands. 	
Water Quality	Temporary erosion control and stormwater measures would be implemented during construction activities. CDOT would develop a Stormwater Management Plan (SWMP) during final design. The SWMP, which details BMPs used for construction, would be prepared in accordance with the CDOT <i>Erosion Control and Stormwater Quality Guide</i> , CDOT <i>Standard Specifications 107.25-Water Quality and 208-Erosion Control</i> .	
Visual Resources	Visual impacts would be minimized during the construction by limiting stockpiles and equipment storage to designated areas. Any traffic control devices would be removed promptly after use.	
Historic Preservation/ Archaeological Resources	If cultural materials were exposed during construction, the CDOT senior staff archaeologist would be notified immediately to ensure evaluation as required by NHPA and all other applicable state and federal regulations.	
Paleontological Resources	When the project design plans are finalized, the CDOT paleontologist would examine them and determine the extent of disturbance of Pierre Shale, if any, that may occur during construction. If monitoring is required, a monitoring and mitigation plan would be prepared based on the discipline report written for this project EA. If any sub-surface bones or other potential fossils are found during construction, the CDOT staff paleontologist would be notified immediately to assess their significance and make further recommendations.	
T and E species	Based on current studies, no TES species or species of concern have been identified as likely to occur in the project corridor. USFWS requires updated documentation on the TES plant species prior to implementation of construction activities. USFWS concurrence for the Preble's meadow jumping mouse must also be renewed before construction. Additional evaluations and surveys, if warranted, will be conducted prior to construction for any new TES species identified subsequent to the current study.	

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Project Related Impacts	See below by resource type:	
Noise	<p>Residences between N. Garfield Avenue and the BNRR Bridge: After application of feasible and reasonable criteria, three receptors in the US 34 corridor required additional analysis. Receptors 60 and 61 at the far western end of the corridor represent residences located on both sides of US 34 between North Garfield Avenue and the BNRR bridge. The predicted noise levels for these homes under the Action Alternative (year 2030) are 68 to 69 dB(A), which is a 1-dB(A) increase over the existing levels. Although a noise wall is not considered feasible for either of these locations, some noise reduction could be provided by construction of a closed rail safety barrier on both sides of US 34 in association with the bridge improvements. The area would be re-examined during final design.</p> <p>The Reserve Apartments (Receptor 18) are located on the north side of US 34 off McWhinney Blvd. Based on visual inspection, each building appeared to contain five ground-floor units each. The predicted noise level for these apartments under the Action Alternative (year 2030) is 72 dB(A), which is a 2-dB(A) increase over the existing levels. A 660-foot-long barrier was modeled along the proposed CDOT right-of-way, which is located on top of the existing terrain that currently provides some noise reduction. The easternmost 100 feet of the barrier diverts from the CDOT right-of-way and wraps around to the north along McWhinney Blvd. The amount of noise reduction, in dB(A), that would be achieved by the barrier was predicted for barrier heights ranging from 6 to 12 feet. Predictions were made using both the "wall" and "berm" barrier types in the TNM model. The desired noise reduction is 5 to 10 dB(A). The results were that a 10-foot-tall barrier is appropriate.</p> <p>The cost benefit ratios for either the wall or berm barriers modeled is less than CDOT's standard of \$4,000 per dB of noise reduction per benefited receptor. The cost of each modeled barrier was calculated using a unit cost of \$30 per square foot for walls and \$10 per cubic yard for berms. Noise reduction was calculated using TNM. The number of benefited receptors is calculated as the number of homes where at least 3 dB(A) of noise reduction was predicted, and for the 10-foot-tall barrier there are 14 benefited receptors. Based on this analysis, a 10-foot-tall barrier would be considered for this area. This analysis would be re-examined during the final design phase of the project.</p>	
Hazardous Materials	<p>The following are sites of potential concern and include specific recommendations:</p> <p>Nine historic gas stations, dry cleaners, and automobile repair facilities: Completion of a Phase 1 Environmental Site Assessment is required for any properties showing historic uses that could contribute to the presence of hazardous materials for which right-of-way would be required. That report would indicate past and current uses of that site and would determine if that site does or historically has affected the corridor. Note that right-of-way acquisition from all nine properties is anticipated, each of which would pose a level of risk that CDOT would acquire a contaminated property and the liability for cleanup associated with it. In addition, contamination from four of these properties may have migrated into the existing US 34 right-of-way.</p> <p>Four LUST sites: The groundwater monitoring reports for the LUST sites located at Craig's Conoco and the Shell Service Station should continue to be reviewed. These reports will provide information pertaining to the extent of groundwater contamination and its potential migration beneath the study area. If project construction activities disturb subsurface soils or groundwater in the area of the U Pump It and Schrader's LUST sites at the North Madison Avenue intersection, pre-characterization of soils and groundwater for project personnel health and safety issues, as well as for materials management and dewatering issues, would be performed. Right-of-way acquisition is anticipated from all four LUST sites, each of which may pose a risk that CDOT would acquire a contaminated property and the liability for cleanup associated with it. In addition, contamination from three of these properties may have migrated into the existing US 34 right-of-way.</p> <p>Oil and Gas Well: If project right-of-way and subsequent construction activities disturb or come in close proximity to the McDonough #16-2 oil and gas tank battery location, pre-characterization of soils and groundwater for project personnel health and safety issues, as well as for materials management and dewatering issues, would be performed.</p> <p>Electrical Transformers: The Poudre Valley Rural Electric Association (REA) should be contacted if any of the transformers are to be disturbed during construction activities. Xcel Energy and the city of Loveland also have the potential to own transformers located along the project corridor. They too should be contacted if any of the transformers are to be disturbed during construction activities. If any of the transformers test positive for PCBs, the utility company of ownership would be responsible for handling and disposal.</p> <p>Structures Containing Lead-Based Paints and/or Friable Asbestos: If either or both of these hazardous materials are encountered, coordination with the CDPHE and other agencies that regulate these materials will occur.</p>	

Category	Mitigation Measures and Commitments	Date Completed
	<p>If additional hazardous materials are encountered before or during construction of the Action Alternative, CDOT's Section 250, Environmental Health and Safety Management specification would be used. If necessary, a health and/or safety plan and materials management plan would be prepared and implemented to mitigate potential health and safety hazards to workers and the public. Pre-characterization of soils and groundwater for project personnel health and safety, materials management, and dewatering is required before disturbance of subsurface soils or groundwater by highway construction activities at sites of potential concern. Depending on the results of the pre-characterization of test results, coordination with various agencies and permitting may be required. If the test samples are deemed hazardous, a materials management plan would be developed that describes the specifics of the hazardous waste permitting and compliance issues.</p>	
Right of Way/ Relocations	<p>CDOT will comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Uniform Act), which provides for uniform and equitable treatment of all persons displaced from their homes, businesses, or farms. The Uniform Act is a form of compensation, not mitigation.</p> <p>The information in this section is based on conceptual design; the actual number of relocations and specifics on property acquisitions would be known when final design is complete. Measures to further reduce the number of relocations and amount of acquisitions would be implemented</p> <p>For any person(s) whose real property interests may be affected by this project, the acquisition of those property interests will comply fully with the Uniform Act. The Uniform Act is a federally mandated program that applies to all acquisitions of real property or displacements of persons resulting from federal or federally assisted programs or projects. It was created to provide for and insure the fair and equitable treatment of all such persons. To further ensure that the provisions contained within this act are applied "uniformly," CDOT requires Uniform Act compliance on any project for which it has oversight responsibility regardless of the funding source.</p> <p>Additionally, the Fifth Amendment of the U.S. Constitution provides that private property may not be taken for a public use without payment of "just compensation." All affected owners will be provided notification of the acquiring agency's intent to acquire an interest in their property, including a written offer letter of just compensation specifically describing those property interests. A right-of-way specialist will be assigned to each property owner to assist him or her with this process.</p> <p>In certain situations, it may also be necessary to acquire improvements that are located within a proposed acquisition parcel. In those instances where the improvements are occupied, it becomes necessary to "relocate" those individuals from the subject property (residential or business) to a replacement site. The Uniform Act provides for numerous benefits to these individuals to assist them both financially and with advisory services related to relocating their residence or business operation. Although the benefits available under the Uniform Act are far too numerous and complex to discuss in detail in this document, they are available to both owner-occupants and tenants of either residential or business properties. In some situations, only personal property must be moved from the real property and this is also covered under the relocation program.</p> <p>As soon as feasible, any person scheduled to be displaced shall be furnished with a general written description of the displacing agency's relocation program which provides at a minimum, detailed information related to eligibility requirements, advisory services and assistance, payments, and the appeal process. It shall also provide notification that the displaced person(s) will not be required to move without at least 90 days' advance written notice. For residential relocatees, this notice cannot be provided until a written offer to acquire the subject property has been presented, and at least one comparable replacement dwelling has been made available. Relocation benefits will be provided to all eligible persons regardless of race, color, religion, sex or national origin. Benefits under the Uniform Act, to which each eligible owner or tenant may be entitled, will be determined on an individual basis and explained in detail by an assigned right-of-way specialist.</p>	
Land Use	<p>Mitigation for the changes in land use would be through compensation to the landowners during the right-of-way acquisition process.</p>	
Socioeconomics	<p>Mitigation measures would be the same as for right-of-way.</p>	
Section 4(f)	<p>No mitigation measures are required. FHWA concurrence letters on de minimis impacts are located in Appendix A, Environmental Coordination.</p> <p>On January 9, 2007, the Federal Highway Administration (FHWA) concurred with the finding that the effects of this proposed improvement constituted a de minimis impact and the requirements of 23 USC 138 and 49 USC 303 have been satisfied.</p>	
Aesthetics	<p>See Visual Impacts</p>	
Visual Impacts	<p>Only construction related as noted above.</p>	

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Scenic Views	See Visual Impacts	
Environmental Justice	All property acquisition would follow the procedures outlined in the CDOT Right of Way Manual. CDOT follows the Federal Uniform Relocation and Real Property Acquisition Act of 1970 (Public Law 91-646), as amended in 1987 (Public Law 100-17), 1991 (Public Law 102-240) and 1997 (Public Law 105-117). The purpose of the act is "To provide for uniform and equitable treatment of persons displaced from their homes, businesses, or farms by Federal and federally assisted programs and to establish uniform and equitable land acquisition policies for Federal and federally assisted programs."	
USFS Lands	Not Applicable	
State Lands	Not Applicable	
BLM Lands	Not Applicable	
Historic and Archaeological Resources	No mitigation is required. However, the commitment to CSS design is applicable to US 34 design adjacent to all NRHP eligible properties. Should extensive ground disturbance in these areas occur from other sources such as private development prior to final design and construction, the CSS design would be reconsidered.	
Historic Bridge Structure Number:	Not Applicable	
Paleontological Resources	Only construction related as noted above.	
T and E species	No Mitigation Required	
Wildlife	<p>Mitigation of wildlife impacts would include the following activities:</p> <ul style="list-style-type: none"> · Minimize disturbance to native plant communities. · Minimize tree removal. · Use erosion control techniques, such as silt fence, to protect surrounding areas that may be used by wildlife species. · Use wildlife-friendly erosion control blankets to minimize impacts on wildlife. · Follow requirements of the Colorado Department of Transportation Region 4, as follows: The MBTA protects all migratory birds, nests and eggs except English sparrow, European starling, and rock dove and resident game birds. For projects that could potentially result in the killing, taking, harassing, or harming of these birds, the following conditions must be adhered to: <p>Tree trimming/removal. Tree trimming and/or removal activities shall be completed before birds begin to nest or after the young have fledged. In Colorado most nesting and rearing activities occur between April 1 and August 31. However, since some birds nest as early as February a nesting bird survey must be conducted by a biologist before any tree trimming or removal activities begin.</p> <p>Bridge/box culvert work. Bridge or box culvert work that may disturb nesting birds must be completed before birds begin to nest or after the young have fledged. No bridge or box culvert work may take place between April 1 and August 31. If work activities are planned between these dates, nests must be removed (before nesting begins) and appropriate measures taken to assure no new nests are constructed. Failure to remove and keep nests from becoming established could postpone construction of the project.</p> <p>Clearing/grubbing activities. Clearing and grubbing of vegetation that may disturb ground nesting birds must be completed before birds begin to nest or after the young have fledged. If work activities are planned between April 1 and August 31, vegetation must be removed and/or trimmed to a height of six inches or less prior to April 1. Once vegetation has been removed and/or trimmed, appropriate measures (such as repeated mowing/trimming) must be implemented to ensure vegetation does not grow more than six inches. Failure to maintain vegetation height of six inches or less could provide habitat suitable for nesting birds that could postpone construction of the project.</p>	
Migratory Birds Species:	No Mitigation Required	
Wildlife	No Mitigation Required	
Landscaping	No Mitigation Required	

Category	Mitigation Measures and Commitments	Date Completed
Vegetation and Noxious Weeds	<p>All CDOT revegetation Best Management Practices (BMPs) and guidelines will be followed to ensure adequate revegetation of the study area. All disturbed areas will be seeded in phases throughout construction. Mitigation measures are anticipated to include:</p> <ul style="list-style-type: none"> · Limit the amount of disturbance of grading to 10 feet beyond the toe of slope. Project will follow CDOT standard specifications for amount of time that disturbed areas are allowed to be non-vegetated. · Avoid existing trees, shrubs and vegetation, to the maximum extent possible. Schedule a preconstruction site visit to identify the vegetation that will be protected during construction. · Implement temporary and permanent erosion control measures to limit erosion and soil loss. Slopes should be roughened at all times. · Revegetate all disturbed areas with native grass and forb species. Seed, mulch and mulch tackifier would be applied in phases throughout construction. · Remove topsoil heavily infested with noxious weeds from the site or bury it under a minimum of 5 feet of fill. <p>The Integrated Noxious Weed Management Plan located in Appendix E will be updated during the design phase immediately before the construction phase.</p>	
Soils	No Mitigation Required	
Prime Farmland	No Mitigation Required	
Floodplains/ Drainage	See Water Quality below and above under construction related.	
Water Quality	<p>The project will comply with the process outlined in Appendix I of the CDOT Drainage Design Manual (see Appendix G of this EA). A Stormwater Management Plan (SWMP) will be completed during final design. It will address specific methods of reducing pollutants in stormwater runoff during construction. Stormwater BMPs for a site during construction would consist of five major elements:</p> <ol style="list-style-type: none"> 1. Implementation of BMPs for erosion control. These include, but are not limited to, phased seeding with mulch and tackifier, the use of wildlife friendly erosion control blankets, the use of embankment protectors, the use of berm diversions or check dams, and outlet protection for storm sewer pipes. 2. Implementation of BMPs for sediment control. These include, but are not limited to, erosion bales or logs, silt fence, storm drain inlet and outlet protection, sediment traps, concrete washout and saw water containment basins, and stabilized construction entrances. 3. Implementation of BMPs for materials handling and spill prevention. These include, but are not limited to, stockpile management, material management, material use, and spill prevention and control. 4. Implementation of BMPs for waste management. These include, but are not limited to, concrete, hazardous, and contaminated waste management to ensure that solid or liquid wastes are not carried off the site by stormwater. 5. Implementation of BMPs for pollution prevention. These include treatment during dewatering and paving operations. It also includes the use of street sweeping and temporary waterway crossings. <p>Permanent BMPs will be designed to protect stormwater quality and reduce pollutant discharges after construction is complete. The following is a list of commitments and conceptual BMPs applicable to the US 34 project corridor. A determination of exact methods and locations of stormwater BMPs would be made during final design.</p> <p>Conduct H&H study. CDOT would conduct a hydrologic and hydraulic (H&H) study during final design for the western portion of the US 34 corridor as appropriate, depending on the level of completion of the city of Loveland drainage projects now in progress.</p> <p>Use existing and/or design additional wet or sedimentation vaults. Underground wet or sedimentation vaults capture and treat runoff. This type of structure has a grit chamber and removes debris, trash, and sediment from storm flows. The city of Loveland already has vaults along the US 34 corridor. Due to lack of open land for the western portion of the US 34 corridor, the design of additional vaults may be required. CDOT would coordinate this activity with the city and pursue maintenance agreements with the city.</p> <p>Construct detention ponds. CDOT would coordinate with the city to develop permanent BMPs near Mountain View High School where additional land may be available for detention ponds.</p> <p>Coordinate to establish permanent BMPs. CDOT has begun coordination and will continue to work with the City of Loveland, Town of Johnstown, and developers to develop and implement permanent BMPs to address the expansion of US 34 as developments progress from Boyd Lake Avenue east to LCR 3.</p>	

Category	Mitigation Measures and Commitments	Date Completed
Wetlands	<p>The Action Alternative design would include avoidance and minimization of impacts on wetlands in the project corridor. Impacts on wetlands would be avoided and minimized as much as practical during the final design process. The design would comply with the policy of Executive Order 11990 regarding impacts on wetlands. The following specific BMPs from the Erosion Control and Storm Water Quality Guide (CDOT 2002) would be required during construction to reduce the potential for wetlands to be indirectly affected by sedimentation from accelerated erosion or by hazardous materials (such as fuel or equipment lubricants):</p> <ul style="list-style-type: none"> • All disturbed areas would be revegetated with native grass and forb species. Seed, mulch and mulch tackifier would be applied in phases throughout construction. • Slopes would be roughened at all times. • Check dams would be used where appropriate to slow the velocity of water through roadside ditches and in swales. <p>• Wetland areas not to be disturbed would be protected with fences and erosion logs to prevent encroachment of construction equipment and sediment.</p> <p>• Wetlands subject to temporary impacts would be returned to pre-construction elevations and conditions with the goal of preserving the original wetland plant community to the extent this is practical.</p> <p>Both jurisdictional and non-jurisdictional wetlands would be mitigated on a 1:1 basis. Wetland areas temporarily impacted by construction activities would be restored as soon as possible following completion of the activity.</p>	
Utilities, Irrigations Ditches and Railroads	<p>Coordination with county and city officials and local utility owners would minimize disruption of service. Coordination would also be necessary with the appropriate ditch companies and railroads to minimize disruption during construction.</p>	
Permit	Permit Measures and Commitments	Date Received
404 NW/ Individual Permit #		
401 Permit		
402 Permit		
Dewatering Permit		
Municipal Permit		
SB40		
Stormwater: CDPS Permit #		
Stormwater: MS4 Phase I/Phase II and Areas		
Well Permits from the Colorado Engineers Office		