

9.0 MITIGATION MEASURES

9.1 Introduction

Provided below in Section 9.2 are the Mitigation Measures that have been provided as part of the Final Environmental Assessment submitted to FHWA April 5, 2010. A Finding of No Significant Impact was issued by the Federal Highway Administration on April 16, 2010.

9.2 Mitigation Measures

The following mitigation measures and commitments are not subject to change without the prior written approval of the Federal Highway Administration.

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Arizona Department of Transportation Design Responsibilities

1. During final design, the Pima County Regional Flood Control District floodplain manager will be provided an opportunity to review and comment on the design plans.
2. During final design, the design plans will be reviewed to verify the extent of impacts to Waters of the United States. The Arizona Department of Transportation will prepare and submit an application to the United States Army Corps of Engineers for a Clean Water Act Section 404 permit and Section 401 Water Quality Certification for the project.
3. No work will occur within Waters of the United States until the appropriate Clean Water Act Section 404 permit and Section 401 Water Quality Certification are obtained.
4. During final design, the United States Fish and Wildlife Service list of threatened, endangered, proposed, and candidate species and the Arizona Game and Fish Department Heritage Data Management System will be reviewed by a qualified biologist to determine if new species or critical habitat has been identified or any changes in listing status have occurred. The Biological Evaluation and Biological Opinion will be updated to reflect any changes.

5. Prior to the start of construction, the Arizona Department of Transportation will acquire 60 acre-credits in a United States Fish and Wildlife Service-approved conservation bank for Pima pineapple cactus. Any change in the scope of the project that may occur during final design will require a reevaluation of impacts to Pima pineapple cactus habitat.
6. Invasive species control will be conducted both prior to and during construction to minimize colonization of disturbed areas by non-native grasses that may degrade potential Pima pineapple cactus habitat. The Arizona Department of Transportation Natural Resources Management Section will begin invasive species control two years prior to the commencement of work on the roadway project.
7. During final design, the Arizona Department of Transportation will develop a project-specific Plan for Control of Noxious and Invasive Plant Species, which would address appropriate control of occurrences of invasive plant species within the right-of-way during construction. The plan will include such provisions as vehicle inspection to prevent movement of noxious and invasive species seeds to and from the work site; procedures for collection, removal, and disposal of noxious and invasive plants; and proposed methods of control, such as application of herbicides and mechanical or manual removal, to be used for each plant species at various stages of plant development.
8. During final design, the Arizona Department of Transportation will develop a plan for topsoil salvage in natural areas where construction disturbance will occur and invasive species are not present. In these areas, 4 to 8 inches of surface soil will be salvaged and stockpiled to be redistributed over the cut and fill slopes adjacent to the new roadway upon completion of construction. During final design, a survey by a qualified biologist will be conducted to determine the presence of invasive species in the project area. In areas where topsoil is determined to contain invasive species seed banks, topsoil will not be reused.

9. All disturbed soils that will not be landscaped or otherwise permanently stabilized by construction will be seeded using species native to the project vicinity.
10. The Arizona Department of Transportation will develop a native plant salvage plan for the project during final design. Plant species protected under the Arizona Native Plant law will be avoided by construction to the extent practicable. If impacts to native plants cannot be avoided, the plants will be treated in accordance with state law. The plan will include salvaging all Pima pineapple cactus within the area of permanent disturbance and replanting them at a location approved by a qualified biologist. Any Pima pineapple cactus that are not within the area of permanent disturbance, but present within the right-of-way, will be flagged by a qualified biologist prior to the commencement of work in order to avoid accidental damage to the plants during construction.
11. Protected native plants within the project limits will be impacted by this project; therefore, the Arizona Department of Transportation Roadside Development Section will determine if Arizona Department of Agriculture notification is needed. If notification is needed, the Arizona Department of Transportation Roadside Development Section will send the notification at least 60 calendar days prior to the start of construction.
12. The Arizona Game and Fish Department will be invited by the Arizona Department of Transportation to participate in agency partnering during final design.
13. During final design, the Arizona Department of Transportation project manager will contact the Arizona Department of Transportation Environmental Planning Group noise coordinator to arrange for qualified personnel to review and update the noise analysis.
14. During final design, the Arizona Department of Transportation project manager will contact the Arizona Department of Transportation Environmental Planning Group hazardous materials coordinator (602.712.7767) to arrange for the preparation of an updated Preliminary Initial Site Assessment, lead-based paint assessment, and asbestos assessment.

15. During final design, the Arizona Department of Transportation Historic Preservation Team will develop and implement a data recovery plan for site AZ AA: 16.5 (ASM).
16. During final design, the Arizona Department of Transportation will consider extending the Option C proposed westbound outside lane into the Sandario Road/State Route 86 intersection to connect to the eastbound to northbound right-turn lane.

Arizona Department of Transportation Tucson District Responsibilities

1. No work will occur within Waters of the United States until the appropriate Clean Water Act Section 404 permit and Section 401 Water Quality Certification are obtained.
2. Prior to construction, the Arizona Department of Transportation Engineer will have the contractor review the “Environmental Protection on Arizona Department of Transportation Projects Instructions to Contractors” and review and sign the “Checklist for Environmental Compliance.” The Arizona Department of Transportation Engineer will also sign the checklist and return it to the United States Army Corps of Engineers seven calendar days prior to construction.
3. The Arizona Department of Transportation Engineer will submit the contractors’ Arizona Pollutant Discharge Elimination System Notice of Intent and the Notice of Termination to the District environmental coordinator.
4. The Arizona Department of Transportation Engineer will contact the Arizona Department of Transportation Environmental Planning Group biologist to schedule the preconstruction meeting on a mutually agreeable date to ensure a qualified biologist would be available to attend the meeting.
5. No work will occur within the right-of-way or proposed new right-of-way between milepost 161.3 and milepost 161.8 until the Arizona Department of Transportation Environmental Planning Group informs the Engineer that data recovery has been completed in accordance with the terms and stipulations of the project’s Memorandum of Agreement.

Contractor Responsibilities

1. No work shall occur within Waters of the United States until the appropriate Clean Water Act Section 404 permit and Section 401 Water Quality Certification are obtained.
2. Prior to construction, the contractor shall review the “Environmental Protection on Arizona Department of Transportation Projects Instructions to Contractors” and review and sign the “Checklist for Environmental Compliance.”
3. The contractor shall comply with all terms, general conditions, and special conditions of the project’s Clean Water Act Section 404 permit and Section 401 Water Quality Certification.
4. The contractor, in association with the Engineer, shall submit the Arizona Pollutant Discharge Elimination System Notice of Intent and the Notice of Termination to the Arizona Department of Environmental Quality only after the Engineer has reviewed and approved the Stormwater Pollution Prevention Plan.
5. The contractor shall adhere to the topsoil salvage plan developed by the Arizona Department of Transportation.
6. All disturbed soils that shall not be landscaped or otherwise permanently stabilized by construction shall be seeded using species native to the project vicinity.
7. The contractor shall adhere to the native plant salvage plan developed by the Arizona Department of Transportation.
8. The contractor shall avoid all flagged and/or otherwise designated sensitive resource areas within or adjacent to the project area.
9. If any Sonoran desert tortoises are encountered during construction, the contractor shall adhere to the Arizona Game and Fish Department’s *Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects* (Revised October 23, 2007).
10. Prior to construction, the contractor shall employ a qualified biologist to present an environmental awareness program to all personnel who would be on-site, including, but not limited to, contractors, contractors’ employees, supervisors, inspectors, and subcontractors working at project locations on SR 86 in Pima County. This program shall contain, at a minimum, information concerning the biology and distribution of the Sonoran desert tortoise, legal status and occurrence in the project area, measures to avoid impacts to tortoises, and procedures to be implemented in case of desert tortoise encounters.
11. The contractor shall adhere to the project-specific Plan for Control of Noxious and Invasive Plant Species developed by the Arizona Department of Transportation.
12. To prevent the introduction of invasive species seeds, all earth-moving and hauling equipment shall be washed at the contractor’s storage facility prior to entering the construction site.
13. To prevent invasive species seeds from leaving the site, the contractor shall inspect all construction equipment and remove all attached plant/vegetation and soil/mud debris prior to leaving the construction site.
14. The contractor shall ensure that all exhaust systems on equipment will be in good working order and properly designed engine enclosures and intake silencers will be used where appropriate. To minimize noise impacts during construction, idling equipment shall be located as far away from sensitive receivers, such as residences, as possible.
15. No work shall occur within the right-of-way or proposed new right-of-way between milepost 161.3 and milepost 161.8 until the Engineer informs the contractor that data recovery has been completed in accordance with the terms and stipulations of the project’s Memorandum of Agreement.
16. With the exception of temporary, short-term closures (not exceeding 2 to 3 hours) of driveways, the contractor shall maintain driveway access to all businesses and residences throughout construction. If a given property has multiple driveways, at least one will remain open at all times.

Standard Specifications Included as Mitigation Measures

1. According to the Arizona Department of Transportation's Standard Specifications for Road and Bridge Construction, Section 104 Scope of Work, Subsection 09 Prevention of Landscape Defacement; Protection of Streams, Lakes, and Reservoirs (2008 Edition), "The contractor shall take sufficient precautions, considering various conditions, to prevent pollution of streams, lakes, and reservoirs with fuels, oils, bitumens, calcium chloride, fresh Portland cement concrete, raw sewage, muddy water, chemicals or other harmful materials. None of these materials shall be discharged into any channels leading to such streams, lakes or reservoirs."
2. According to the Arizona Department of Transportation's Standard Specifications for Road and Bridge Construction, Section 104 Scope of Work, Subsection 09 Prevention of Landscape Defacement; Protection of Streams, Lakes, and Reservoirs (2008 Edition), "The contractor shall give special attention to the effect of its operations upon the landscape and shall take special care to maintain natural surroundings undamaged."
3. According to the Arizona Department of Transportation's Standard Specifications for Road and Bridge Construction, Section 104 Scope of Work, Subsection 08 Prevention of Air and Noise Pollution (2008 Edition), "The contractor shall control, reduce, remove or prevent air pollution in all its forms, including air contaminants, in the performance of the contractor's work." Fugitive dust generated from construction activities will be controlled in accordance with the Arizona Department of Transportation's Erosion and Pollution Control Manual for Highway Design and Construction, special provisions, and local rules or ordinances. The contractor will comply with all applicable air pollution ordinances, regulations, and orders during construction. All dust-producing surfaces will be watered or otherwise stabilized to reduce short-term impacts associated with an increase in particulate matter attributable to construction activity.
4. According to the Arizona Department of Transportation's Standard Specifications for Road and Bridge Construction, Section 104 Scope of Work, Subsection 08 Prevention of Air and Noise Pollution (2008 Edition), "The contractor shall comply with all local sound control and noise level rules, regulations and ordinances which apply to any work performed pursuant to the contract. Each internal combustion engine used for any purpose on the work or related to the work shall be equipped with a muffler of a type recommended by the manufacturer."
5. According to Arizona Department of Transportation's Standard Specifications for Road and Bridge Construction, Section 107 Legal Relations and Responsibility to Public, Subsection 07 Sanitary, Health, and Safety Provisions (2008 Edition), "During construction operations, should material be encountered which the contractor believes to be hazardous or contaminated, the contractor shall immediately do the following: a) stop work and remove workers within the contaminated areas b) barricade the area and provide traffic control, and c) notify the Arizona Department of Transportation Engineer." The Arizona Department of Transportation Engineer will arrange for proper assessment, treatment, or disposal of those materials. Such locations will be investigated and proper action implemented prior to the continuation of work in that location.
6. According to the Arizona Department of Transportation's Standard Specifications for Road and Bridge Construction, Section 107 Legal Relations and Responsibility to Public, Subsection 05 Archaeological Features (2008 Edition), "When archaeological, historical, or paleontological features are encountered or discovered during any activity related to the construction of the project, the contractor shall stop work immediately at that location and shall take all reasonable steps to secure the preservation of those resources and notify the Engineer." The Arizona Department of Transportation Engineer will, in turn, notify the Arizona Department of Transportation Historic Preservation Team to evaluate the significance of the resources. If human remains are encountered during any phase of the project on non-federal land, all work must stop and the Engineer will contact Arizona Department of Transportation Historic Preservation Team and the Arizona State Museum. If human remains are discovered on Bureau of Land Management property, the Bureau of Land Management Tucson Area archaeologist must be notified as well.