

Roadway Planning & Design Engineering Services for

# La Cholla Boulevard: Magee Road to Lambert Lane (4RTLTM)

## Environmental Assessment and Mitigation Report

April 2010

Prepared by

**URS**





April 21, 2010

Mr. Dean Papajohn, PE  
Project Manager  
Pima County Department of Transportation  
Public Works Building  
201 N. Stone Avenue, 4th Floor  
Tucson, AZ 85701

RE: Environmental Assessment and Mitigation Report  
La Cholla Boulevard, Magee Road to Lambert Lane  
Pima County Project No. 4RTLTM  
URS Job No. 24096890

Dear Mr. Papajohn:

We are pleased to submit the final Environmental Assessment and Mitigation Report for the above-referenced project. This report was prepared by Jean Paul Charpentier Senior Environmental Planner, and was reviewed by William Jackson, Senior Environmental Planner, and by Eric Sibson, URS Project Manager. Feel free to contact me at (520) 877-1800 if you have any questions or comments regarding the report.

Sincerely,

A handwritten signature in black ink that reads "Eric Sibson".

URS Corporation  
Eric Sibson, PE  
Senior Project Manager

A handwritten signature in black ink that reads "Jean Paul Charpentier".

Jean Paul Charpentier  
Senior Environmental Planner

Attachments

URS Corporation  
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**LA CHOLLA BOULEVARD:  
MAGEE ROAD TO LAMBERT LANE  
ENVIRONMENTAL ASSESSMENT AND  
MITIGATION REPORT**

**Prepared For**



**PIMA COUNTY DEPARTMENT OF TRANSPORTATION**

201 North Stone Avenue  
Tucson, Arizona 85701-1207  
Pima County Project Number 4RTLTM

Prepared by

**URS**

**URS Corporation**

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(<http://www.roadprojects.pima.gov/LaChollanorth/>)

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Public Involvement  
Noise Analysis Report  
Biological Evaluation  
Preliminary Initial Site Assessment (hazardous materials)



## LIST OF ACRONYMS

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ACM	asbestos containing materials
ADA	Americans with Disabilities Act
ADEQ	Arizona Department of Environmental Quality
AGFD	Arizona Game and Fish Department
ASM	Arizona State Museum AZ Arizona
AZPDES	Arizona Pollutant Discharge Elimination System
CAC	Community Advisory Committee
CDO	Canada del Oro
CFPO	Cactus ferruginous pygmy-owl
CO	carbon monoxide
Corps	U.S. Army Corps of Engineers
CWA	Clean Water Act
dba	A-weighted decibel
DCR	design concept report
EAMR	environmental assessment and mitigation report
EPA	U.S. Environmental Protection Agency
ESR	environmentally sensitive roadway
FEMA	Federal Emergency Management Agency
HURF	Highway User Revenue Funds
IGA	Inter-Governmental Agreement
KOPs	key observation points
LBP	lead-based paint
MSE	mechanically stabilized earth
m <sup>3</sup>	cubic meter
µg	microgram
mph	miles per hour
NAAQS	National Ambient Air Quality Standards
NO <sub>2</sub>	nitrogen dioxide
O <sub>3</sub>	ozone
PCDOT	Pima County Department of Transportation
PCNAP	Pima County Noise Abatement Procedure
PDEQ	Pima County Department of Environmental Quality
PISA	Preliminary initial site assessment
PM <sub>2.5</sub>	fine particulate matter (2.5 microns in diameter or less)
PM <sub>10</sub>	particulate matter (10 microns in diameter or less)
PJD	preliminary jurisdiction
ppm	parts per million
RTA	Regional Transportation Authority
R/W	right-of-way
SDCP	Sonoran Desert Conservation Plan
SO <sub>2</sub>	sulfur dioxide
SWPPP	Stormwater Pollution Prevention Plan
U.S.	United States
USFWS	U.S. Fish and Wildlife Service



## EXECUTIVE SUMMARY

### Project Overview

The Pima County Department of Transportation (PCDOT) in cooperation with the Town of Oro Valley and the Regional Transportation Authority (RTA) proposes to widen approximately 5 miles of La Cholla Boulevard from a two-lane arterial roadway into a four-lane divided arterial roadway between Magee Road and Tangerine Road. The Inter-Governmental Agreement (IGA) with the RTA calls for this project to be completed in two phases. During Phase 1 of the proposed project, PCDOT will lead the preliminary roadway design for the entire corridor and will design and construct the roadway improvements from Magee Road to Lambert Lane (Figures 1 and 2). During Phase 2, the Town of Oro Valley will complete the design and construct the roadway improvements from Lambert Lane to Tangerine Road.

Phase 1 includes the conceptual design resulting in a Design Concept Report (DCR) for the roadway improvements from Magee Road to Tangerine Road and an Environmental Assessment and Mitigation Report (EAMR) for the roadway improvements from Magee Road to Lambert Lane. Construction of Phase 1 from Magee Road to Lambert Lane is planned for the 2012 to 2016 implementation period of the 20 year RTA plan. Final design and construction of the roadway from Lambert Lane to Tangerine Road is planned for the 2022 to 2026 implementation period of the 20 year RTA plan.

<b>Project name:</b>	La Cholla Boulevard: Magee Road to Tangerine Road
<b>Pima County project number:</b>	4RTLTM
<b>Project location and limits:</b>	3 miles along La Cholla Boulevard, beginning approximately 800 feet north of Magee Road and extending north to approximately 800 feet north of Lambert Lane. The project width is approximately 150 feet. At the intersections of Overton Road and La Cholla Boulevard; and Lambert Lane and La Cholla Boulevard, the project extends east and west approximately 1,000 feet. The project is located in parts of Sections 9, 10, 15, 16, 21, 22, 27, and 28 of Township 12 South, Range 13 East.
<b>Estimated Cost:</b>	\$43,850,000
<b>Funding Sources:</b>	Project funding includes: (1) sales tax revenue from the citizen-approved Regional Transportation Plan administered by the RTA, (2) Pima County development impact fees, and (3) Highway User Revenue Funds (HURF).
<b>Construction Fiscal Year:</b>	2012



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## **Project Purpose and Need**

The purpose of the project is to widen La Cholla Boulevard between Magee Road and Lambert Lane to a four-lane divided road to increase capacity; improve traffic operations; provide a bridge across the Cañada del Oro (CDO) Wash; increase mobility through the provision of a multi-use trail and bicycle access within a striped bicycle lane along the paved road shoulder; and improve drainage facilities. The project will reduce heavy traffic volumes during peak travel hours and future traffic congestion on La Cholla Boulevard by providing additional capacity and more efficient intersection operation. The project will construct raised medians, left-turn lanes, and frontage roads that will concentrate turning movements, thereby improving traffic operation and reducing the number of potential collisions along the corridor. The project will provide an all-weather travel surface for the road through construction of a bridge over the CDO Wash, drainage improvements including culvert installation, and a stormwater collection and conveyance system. The project will also improve mobility through the provision of a multi-use trail and bicycle access.

## **Project Elements**

The project involves widening La Cholla Boulevard between Magee Road and Lambert Lane. The design speed for La Cholla Boulevard is 50 miles per hour (mph) and will be posted for 45 mph. Project construction is scheduled to begin in 2012 and last 18 to 24 months. The project includes the construction of the following specific improvements:

- Widen La Cholla Boulevard from a two-lane road to a four-lane divided road (two lanes northbound and two lanes southbound) between Magee Road and Lambert Lane. The inside travel lanes will be 11 feet wide and the outside travel lanes will be 11 feet wide for most of the corridor. Right turn lane will be 13 feet wide and the left turn lane will be 14 feet wide. The clear zone from the vehicle travel lane will be 20 feet wide.
- Replace existing at-grade crossing of the CDO Wash with a 4-lane bridge.
- Construct 20-foot wide raised medians and turning lanes throughout the length of the project.
- Construct an 8-foot wide unpaved multi-use trail along most of the project.
- Construct a sidewalk on the west side of frontage road between Morning Jewel Place and Tortolita Bluffs Drive.
- Provide bicycle access along the 8-foot multi-use trail and along the 6-foot paved road shoulder along most of the project.



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- Construct a frontage road on the east side of La Cholla Boulevard across from Owls Peaks Place. The frontage road will be shared by four properties. A median opening would be provided at the entrance and exit of the frontage road.
- Construct a frontage road on the west side of La Cholla Boulevard at the Bluffs Subdivision. The frontage road will connect Tortolita Bluffs Drive and Morning Jewel Place. This will provide a common access point to and from La Cholla Boulevard and will establish the required sight distance from the proposed CDO Wash Bridge. A median opening would be provided at the entrance and exit of the frontage road.
- Reconstruct the La Cholla Boulevard intersection with Overton Road and Lambert Lane to provide two through lanes, a left-turn lane, a right-turn lane, and a through bike lane. The Magee intersection will be improved under a separate Pima County project.
- Construct a stormwater collection and conveyance system.
- Replace or construct new culverts and channels at washes as follows:
  - Extend existing drainage structure between Magee Road and Hardy Road.
  - Construct 13 new drainage structures underneath La Cholla Boulevard between Hardy Road and Lambert Lane.
  - Construct a drainage channel approximately 700 feet north of Overton Road. The drainage channel would capture flow and convey under La Cholla Boulevard and continue conveying the flow directly east to the CDO Wash.
  - Construct a drainage channel on the west side of La Cholla Boulevard on the opposite side of the road from Coral Ridge Loop. The drainage channel will be used to direct flows impacting the new roadway embankment to the appropriate outfall location.
- Construct noise barriers at the following locations:
  - La Cholla Hills subdivision south of Coral Ridge Loop for the residences between La Cholla Boulevard and Breezewood Place.
  - La Cholla Hills subdivision north of Coral Ridge Loop for the residences between La Cholla Boulevard and Candlewood Loop.
- Install landscape improvements in project median, along the multi-use trail, and within the project right-of-way (R/W) limits.



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- Install artwork to be incorporated into the design and landscape improvements.
- Coordinate necessary relocation of existing utilities.
- Reconstruct access points for private properties adjacent to La Cholla Boulevard to match the new road elevation.

### **Project Impacts and Recommended Mitigation**

This section summarizes the key findings and recommended mitigation for project-related environmental impacts based on the evaluation of each of the topics below.

#### ***Biological Resources***

The project area is moderately to densely vegetated, primarily with native plants, including species subject to Pima County's Environmentally Sensitive Roadway Design Guidelines and the Arizona Native Plant Law. Plants will be preserved in place, salvaged and relocated, or replaced to match existing vegetation densities of the adjacent undisturbed areas. Landscape plans will be developed to reflect these criteria. The Arizona Department of Agriculture will be notified regarding native plant removal. The federally listed endangered lesser long-nosed bat (*Leptonycteris yerbabuena*) has the potential to use the project area for forage. A federally recognized species of concern—the cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*)—has the potential to occur within the project area. A biological evaluation was conducted to determine the potential effect on these species; it concluded that the project will not adversely affect either species or their habitats.

#### ***Drainage and Clean Water Act***

This project area is located within the Upper Santa Cruz and Avra Basin. Sixteen wash crossings occur along La Cholla Boulevard. The most prominent drainage feature in the project area is the CDO Wash, which crosses La Cholla Boulevard at-grade approximately 1,400 feet south of Overton Road. At this crossing CDO Wash is a 300-foot-wide ephemeral stream with lined banks downstream of La Cholla Boulevard and natural banks upstream. The wash bed is vegetated with typical xeroriparian vegetation. During moderate to large storms, the roadway is inundated, limiting access for residents, businesses, and emergency vehicles. La Cholla Boulevard crosses seven washes at grade between Overton Road and Lambert Lane.

A preliminary jurisdictional delineation has been submitted to the U.S. Army Corps of Engineers (Corps). A Clean Water Act (CWA) Section 404 permit will be required for work within these washes. In addition, a CWA Section 401 water quality permit may be required from the Arizona Department of Environmental Quality (ADEQ) and will be determined at time of permitting. Because the project will disturb more than 1 acre of land, the project will require a CWA Section 402 permit. Compliance can be obtained by filing a



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Notice of Intent with ADEQ to use the statewide Construction General Permit, along with the preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP). The project will affect designated washes (regulated riparian habitat) under the Pima County Riparian Ordinance. Impacts to regulated riparian habitat will be assessed in coordination with Pima County Regional Flood Control District.

### ***Floodplain***

No adverse impacts to floodplains have been identified. Parcels 225-06-0360, 225-06-042A, 225-06-0440, 225-06-0450, 225-24-5620, and 225-24-5640 will experience a slight raise in flood elevation. As previously noted, impacts to Pima County regulated riparian habitat will be assessed in coordination with Pima County Regional Flood Control District.

### ***Air Quality***

The project will produce a temporary increase in particulate matter (i.e., dust) during construction. This impact will be short-term in nature, and measures will be implemented to minimize this impact during construction. The overall impacts of the project on air quality will be positive for the following reasons: (1) the project will decrease traffic congestion, thereby reducing emissions associated with idling vehicles and (2) the project will provide curbs, thereby reducing the amount of particulate matter that is tracked onto the roadway from the currently unpaved R/W and released into the air. An Air Quality Activity Permit (i.e. dust control permit) from Pima County Department of Environmental Quality will be obtained by the contractor prior to construction.

### ***Noise***

Regional growth and the increased traffic capacity from the project will result in increased traffic volumes along the road corridor. The resulting traffic noise levels will exceed acceptable noise levels, based on the Pima County Noise Abatement Procedure (PCNAP) criteria of 66 A-weighted decibels (dBA) at 22 noise sensitive properties. Rubberized asphalt will be used in road construction and will result in a noise reduction. Barriers were deemed reasonable and feasible at 22 single-family residences. Noise barriers are to be considered at the following locations:

- Two noise barriers located in front of the La Cholla Hills Subdivision at Breezewood Place and Candlewood Loop.

### ***Utilities***

Affected utilities that will require relocation as part of the project include overhead and underground lines and underground (wet and dry) pipes, and a well site. Relocation work may result in temporary service



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interruptions to area residences and businesses. Businesses and residences will generally be notified in advance of any interruptions.

### ***Hazardous Materials***

A Preliminary Initial Site Assessment (PISA) was conducted to identify potential recognized environmental conditions (RECs) associated with individual parcels within the Study Area, and to identify those properties requiring more detailed investigation. No RECs have been identified in the project corridor.

### ***Construction Activities***

Access to homes and businesses will be maintained during construction. Access across the CDO Wash will be maintained during bridge construction. A temporary road may be required during construction of the CDO Wash Bridge. No detours or other temporary roads are anticipated. Traffic control and vehicle safety measures, such as reduced speed, temporary lane restrictions, construction signage, and barriers are likely to slow traffic during construction. Construction activities will result in temporary dust generation and noise. Standard measures will be employed to reduce dust and noise. The project will result in temporary noise impacts during project construction associated with the operation of heavy equipment. Mitigation measures are proposed to minimize short-term construction noise to the extent practicable; however, construction noise impacts will occur. The contractor will comply with Pima County's Noise Ordinance (Pima County Code Chapter 9.30.070).

### ***Cultural Resources***

The project does not have the potential to affect any cultural resources. No further cultural resources work is required.

### ***Visual Resources***

The greatest changes to the visual character of the project area will occur in the foreground and middle ground by converting the existing two-lane road to a four-lane divided road, constructing a bridge over the CDO Wash, a multi-use trail on the west side, and recommended noise barriers. Foreground and middle ground views will have a moderate increase in structured hardscape compared with the existing undeveloped R/W. The existing dip crossings at washes will be eliminated, thus creating a less undulating roadway. Noise barriers of 9 feet in height will affect existing background views. Landscape plantings and artistic elements are recommended to soften the hardscape and improve the aesthetic appeal of the project corridor.



### ***Right-of-Way Acquisition and Displacement***

Property acquisition from 34 properties, totaling approximately 22.04 acres, is needed to achieve the proposed roadway improvements. No total acquisition of properties is required. Due to the linear nature of the project, additional R/W required for the project is typically a narrow strip of land adjacent to the existing roadway. The typical property acquisition is relatively minor; averaging less than 0.5 acre each, and would not affect continued use or development of these properties. Drainage improvements, including culverts, have been designed to minimize R/W requirements and impacts to residences. Nonetheless, some R/W for drainage easements will be required to construct improvements and provide maintenance access. Drainage easements will be needed from 18 property owners, totaling approximately 6.79 acres. The drainage easements are relatively minor; most of them would be less than 0.2 acre and would not affect continued use or development of these properties. No commercial or residential displacement would result from the project, and no adverse impacts associated with acquisitions have been identified. Drainage easement for the proposed drainage channel at parcel 225-06-0140 would require 2.23 acres of the subject parcel's 9.85 acres.

### ***Temporary and Permanent Access and Parking Impacts***

This project will include raised medians with turning lanes to improve safety and traffic operations by reducing the number of potential collision points. Pedestrian, bicycle, and equestrian access will be improved through the addition of a new multi-use trail along the west side of the road, provision for bicycle access along paved road shoulder, and a new equestrian crossing at Lucero Road. No impacts to parking are anticipated. Access to residences, churches, and businesses will be maintained during construction.

### ***Neighborhood Disruption***

The project area predominantly consists of low-density residential, with some moderate- to high-density residential near Hardy Road. Other land uses include commercial, public (Metropolitan Domestic Water Improvement District and Tucson Electric Power), church, vacant land, and flood control/wash. Project construction will temporarily produce dust, noise, and traffic delays within the project area. Standard measures to control dust and noise will be implemented during construction. Access to residences, churches, and businesses will be maintained during construction, but some traffic delays will be unavoidable. The project will result in permanent neighborhood impacts as well. The construction of raised medians and turning lanes will improve safety and operations, but will also modify current access conditions by controlling turning movements. The project will promote better overall connectivity by improving pedestrian facilities, bicycle access, and providing a multi-use trail.



***Parks and Recreation***

Project activities will temporarily disrupt current use of the R/W and shoulder. Bicyclists, pedestrians, and equestrians will be temporarily rerouted within project limits during construction. However, the project will construct a multi-use trail, access for bicycles within a striped bicycle lane along the paved road shoulder and equestrian crossings of La Cholla Boulevard at McCarty Road and Lucero Road that will provide enhanced recreation benefits for the corridor.

***Consistency with Other Plans***

The project will implement one of the first phase projects of the Regional Transportation Plan. The project has been designed and evaluated to be consistent with the Pima County Roadway Design Manual and conforms to American Association of State Highway and Transportation Officials standards. The project is generally consistent with Circulation Element policies B, C, D, H, K1, and L from the Pima County Comprehensive General Plan Update.

***Mitigation Summary***

For the adverse impacts identified in this assessment, a summary describing the impact, recommended mitigation, necessary coordination with other agencies, and the parties responsible for implementing the mitigation is provided in Table ES-1.

**Table ES-1.** Environmental Assessment and Mitigation Report Impact and Mitigation Summary

<b>Potential Impacts</b>	<b>Recommended Mitigation</b>	<b>Agency coordination and consultation</b>	<b>Parties responsible for implementation</b>
Removal of native plants	Comply with Arizona Native Plant Law and Pima County Environmentally Sensitive Roadway Design Guidelines; mitigate removed or relocated protected native plants to match existing densities of adjacent, undisturbed areas. Saguaros will be mitigated at a 1:1 ratio.	Arizona Department of Agriculture	Pima County and Contractor
	File a Notice of Intent with the Arizona Department of Agriculture 60 days prior to the removal or salvage of applicable native plants.	Arizona Department of Agriculture	Pima County and Contractor
Impacts to waters of the United States	The County will obtain a CWA Section 404 Individual Permit, if needed, or operate using a 404 Nationwide Permit and comply with permit conditions. In addition, a CWA Section 401 water quality permit may be required from the Arizona Department of Environmental Quality (ADEQ) and will be determined at time of permitting.	United States Army Corps of Engineers Arizona Department of Environmental Quality	Pima County and Contractor



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<b>Potential Impacts</b>	<b>Recommended Mitigation</b>	<b>Agency coordination and consultation</b>	<b>Parties responsible for implementation</b>
Regulated riparian habitat impacts	A riparian impact assessment will be prepared and, if needed, mitigation will be developed in conjunction with the Pima County Regional Flood Control District to compensate for impacts to regulated riparian habitat.	Pima County Regional Flood Control District	Pima County and Contractor
Stormwater impacts resulting from soil erosion and dust	The County and Contractor will file a separate Notice of Intent to use the Arizona Pollutant Discharge Elimination System Construction General Permit with the ADEQ. PCDOT will prepare and implement a Stormwater Pollution Prevention Plan. Utilities are responsible for preparing separate SWPPPs and getting NOIs for their activities.	Arizona Department of Environmental Quality	Pima County and Contractor
Dust during construction	Implement standard specifications for dust suppression and comply with the Stormwater Pollution Prevention Plan (referenced above). Obtain an Air Quality Activity Permit from the Pima County Department of Environmental Quality.	Pima County Department of Environmental Quality	Pima County and Contractor
Traffic noise	Construct noise barriers as identified in the traffic noise report.	Pima County Department of Transportation	Pima County
Construction Noise	Construction equipment will be maintained in good working order, intake silencers will be used where appropriate, new equipment will be subject to new product noise emission standards, stationary equipment will be located as far away from sensitive receivers as possible, and construction activities adjacent to residential areas will be limited to daylight hours to maximum extent practicable. The contractor will comply with Pima County's Noise Ordinance (Pima County Code Chapter 9.30.070), which sets the construction start and stop times in order to avoid noise disruptions at night. If nighttime work is required, the contractor will need to obtain a permit from Pima County.	Pima County Department of Transportation	Contractor
Utility service interruptions	Customers will be notified when needed and when possible of any planned utility service interruptions.	Applicable utility	Utility or contractor
Exposure of unanticipated hazardous materials	If suspected hazardous materials are encountered during construction, work shall cease at the location and the Pima County Engineer shall be contacted to arrange for proper assessment, treatment, or disposal of those materials.	Pima County Department of Transportation	Contractor



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<b>Potential Impacts</b>	<b>Recommended Mitigation</b>	<b>Agency coordination and consultation</b>	<b>Parties responsible for implementation</b>
Asbestos and lead emissions	An Asbestos Hazard Emergency Response Act Certified Building Inspector will complete asbestos and lead testing of the structures, and conduct lead/asbestos abatement if needed.	Pima County Department of Transportation	Pima County
Residential, church and business access during construction	The contractor shall maintain access to schools, businesses, and residences. The contractor shall provide signs to identify business and school access during construction.	Pima County Department of Transportation	Contractor
Pedestrian, bicyclist, and equestrian routing during construction	During construction, the contractor shall designate a pedestrian, bicyclist, and equestrian route around the work zone when needed and when possible.	Pima County Department of Transportation	Contractor
Disturbance of cultural resources	If site features or previously unidentified cultural resources are encountered during construction at any location other than the monitored locations, the contractor should stop work immediately at that location, take all reasonable steps to secure the preservation of those resources, and contact the archaeological monitor.	Arizona State Museum Applicable tribes State Historic Preservation Office Pima County Cultural Resources and Historic Preservation Office	Contractor
Visual impact associated with road construction	Include landscaping plantings in front of noise barriers and in project medians where practicable to soften the appearance of the hardscape.	Pima County Department of Transportation	Pima County
Permanent acquisition and temporary use of property	The county will compensate property owners at fair market value for the permanent or temporary use of property as mitigation consistent with federal and state law.	Pima County Department of Real Property	Pima County

**Agency Coordination**

Pima County has and will continue to coordinate with several agencies for this project. These efforts include:

- Pima County is coordinating with the RTA, which is providing funding and conducting business outreach for the project.
- Pima County is coordinating with the Town of Oro Valley, which is a partner in this project through an IGA with Pima County and the RTA.



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- Pima County consulted the Pima Association of Governments Regional Bicycle Facilities Map (2001) to determine designated bicycle facilities in the project area.
- Pima County is coordinating with private and municipal utilities regarding impacts to facilities within the project limits.
- Pima County is coordinating with the Corps to obtain a Section 404 CWA permit for work in jurisdictional waters of the United States.
- Pima County is coordinating with ADEQ regarding Arizona Pollutant Discharge Elimination System (AZPDES) Construction General Permit compliance. AZPDES will require preparation of a SWPPP and filing of a Notice of Intent to comply with the Statewide Construction Permit with ADEQ.
- The project involves the removal of native plants and will comply with the Pima County Environmentally Sensitive Roadway Design Guidelines.
- Arizona Game and Fish Department (AGFD) was contacted through a scoping letter requesting concerns pertaining to special status plants and animals that may occur within the project area. AGFD response did not include specific concerns related to this project.
- PCDOT coordinated with AGFD on potential wildlife movement corridors and possible road design to accommodate wildlife movement through and within the project area.
- PCDOT coordinated with Pima Trails Association on equestrian access within the project area.
- United States Fish and Wildlife Service (USFWS) was contacted through a scoping letter requesting concerns pertaining to federal threatened and endangered species that may occur within the project area.
- In addition, PCDOT is coordinating with the following Pima County departments: Cultural Resources and Historic Preservation; Environmental Quality; Natural Resources, Parks, and Recreation; Regional Flood Control District; and Regional Wastewater Reclamation.

### **Public Involvement**

Public involvement activities have included the following key activities.

### ***Public Participation Plan***

This plan includes public information meetings, selection and development of a CAC, ongoing contact with affected parties, media relations, development of informational materials, development and



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implementation of a project website and the maintenance of an interdepartmental project files. The goals of the plan are to educate the public about the project's purpose and need, solicit the public's comments on the project, review public comments and adjust the roadway design concept to address the public concerns to the greatest extent possible and within the constraints of the project, including safety and cost.

### ***Community Advisory Committee***

#### Community Advisory Committee Meetings

The CAC was formed to provide PCDOT with input throughout the design process. Property owners and residents within a 0.5-mile radius of La Cholla Boulevard were invited to express interest in joining the CAC. Fourteen members of the local community were selected.

CAC meetings have been held on the following dates and for the purposes outlined below:

- June 6, 2009 – organizational meeting to introduce project team members, present a project improvement overview, and review the responsibilities and role of the CAC.
- October 27, 2009 – meeting focusing on the artist selection process, traffic, roadway, bridge, drainage, environmental, project update question/answer session, introduction to the process of noise analysis, selection of CAC chair, and project schedule.
- December 8, 2009 – meeting was held to review the results of the draft noise study report.
- February 16, 2010 – meeting focusing on Phase 1 roadway design, drainage design, and traffic engineering.
- March 16, 2010 – meeting focusing on the Draft DCR, Draft EAMR, and the recommendation letter to be prepared by the CAC
- April 6, 2010 – meeting discussing public art, landscape design and CAC's EAMR review letter.

#### Community Advisory Committee Concerns

The CAC has provided positive feedback on widening La Cholla Boulevard to a four lane divided roadway with a center median, paved shoulders, pedestrian trail, landscaped medians, and safety features such as improvements in sight distance, drainage, intersection geometry, and pedestrian ways. Early in the project the CAC raised issues such as traffic volumes, access, noise, property values, and environmental concerns. The Stage I Design Plans, DCR, and EAMR explain how each of these issues is being



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addressed in the project. The top priority of the CAC is to see a bridge constructed over the CDO Wash as soon as possible.

### ***Public Meetings***

Public open houses were held on December 1, 2009 and March 30, 2010. Fifty people attended the December 1 open house and 80 people attended the March 30 open house. The public meetings were publicized through news releases distributed to the appropriate media and through display advertisements placed in the Daily Territorial and Arizona Daily Star a minimum of 15 days prior to each meeting. Meeting announcements are mailed to the project contact list of approximately 2,300 addresses, which comprise potentially affected residents, businesses and interested parties, as well as elected officials. Corresponding information is posted on the project Web site. Sign-in sheets are provided to record attendance at the meetings, and attendees are asked to submit comments on the forms provided at the meetings. Comments submitted during a two-week period following each meeting are documented and summarized on the project website.

At the December 1 open house, the project team provided aerial maps showing the roadway design and comment forms to encourage attendees to submit comments regarding the project. At the March 30 meeting, the project team presented the proposed roadway design and draft versions of the DCR and EAMR. People were invited to provide comments on the project.

A public hearing of the EAMR will be held before a meeting of the Pima County Board of Supervisors.

### ***Community Comments***

Key subjects of community comments arising from public involvement activities are outlined below, followed by Pima County's responses. The responses are based on feedback previously provided to the CAC or public and specific information on the project design.

**Noise barriers.** The County has received differing opinions on the desirability of noise barriers, with many residents favoring the provision of noise barriers between the roadway and residences. A noise study was conducted for the project and, based on the study, noise barriers are warranted in two areas:

- La Cholla Hills Subdivision South of Coral Ridge Loop for the residences between La Cholla Boulevard and Breezewood Place.
- La Cholla Hills subdivision north of Coral Ridge Loop for the residences between La Cholla Boulevard and in front of the residences west of Candlewood Loop

**Drainage.** Issues at individual properties being affected by drainage design are being addressed with consideration for property owner concerns. Drainage has been designed to make La Cholla Boulevard all-



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weather-access by directing flow under the road. Concrete box culverts, smaller culverts, and drainage channels are proposed to improve hydraulic performance.

**Access.** Residents have expressed concern about convenient access to their properties once the raised medians have been constructed. Raised medians consolidate access, but also reduce the potential for collisions, by controlling turning movements and lane crossover, and improve operations. U-turns will be allowed at median openings to facilitate access to local streets. Frontage roads will concentrate access to La Cholla Boulevard from existing properties that currently access directly to La Cholla Boulevard.

**Right-of-way and easement acquisition.** Property owners have raised concerns about easements that need to be acquired for the project. The proposed design maximizes use of the existing R/W and existing drainage easements. Additional easements are necessary to provide an adequate buffer for facilities and construction activities and maintenance. No total acquisition of properties is required to accommodate the proposed roadway alignment.

**Vegetation.** Residents have expressed concern about the loss of native vegetation along the project corridor. Native and landscaped vegetation will be affected by construction activities. A native plant survey has been conducted in accordance with Pima County's Environmental Sensitive Roadway Design Guidelines. Permanent easements and Pima County property within washes and R/W will be revegetated and irrigated according to the landscape and irrigation plans. Post-construction plant density will be similar to the adjacent density of undisturbed areas.

**Equestrian use.** Equestrian users commented on the need for designated crossing of La Cholla Boulevard. Two signed crossings of La Cholla Boulevard with median openings are provided to access for equestrian use. In addition, an un-landscaped area along the west right of way of La Cholla Boulevard between Magee Road and Lambert Lane is provided to increase access for pedestrians, bicyclists, and equestrians and improve safety.

### **Public Participation Summary Table**

Table ES-2 summarizes the public involvement activities undertaken for the project. Copies of public involvement materials, including advertisements, notices, and meeting summaries, can be found on the project website.



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**Table ES-2. Public Participation Activities**

Date, time and location or date and means of distribution	Notification	Attendance or distribution or coverage	Methods of public input documentation and response
<b><i>Project mailing list</i></b>			
Not applicable	Not applicable	Approximately 2,300 addresses including the Community Advisory Committees (CACs) for this project, the project team, interested parties, and residents in the mailing area encompassing 0.5 mile on each side of La Cholla Boulevard.	Not applicable
<b><i>Partnering workshop</i></b>			
October 7, 2009 8 a.m. to 12 p.m. Pima County Public Works Building	Notice mailed to the project team, partnering agencies, property owners, businesses, CAC members, and homeowner associations	Attendees included Pima County Department of Transportation, project management team members, and partnering agencies.	The project management and team organization were discussed, as well as the partnering principles.
<b><i>Community Advisory Committee</i></b>			
June 6, 2009 6 p.m. to 8 p.m. Grace Community Church	Notice mailed to the CAC and parties on the project mailing list Notice posted to the project Web site	14 CAC members and six members of the general public	The CAC and project team members were introduced, followed by discussion of how a CAC operates, a project overview, and the engineering and environmental phases of the project. Comments from CAC members were documented in meeting minutes.
October 27, 2009 6 p.m. to 8 p.m. Grace Community Church	Notice mailed to the CAC and parties on the project mailing list Notice posted to the project Web site	Seven CAC members	The project management team gave status updates on the artist selection, traffic report, bridge design, drainage, environmental studies, noise analysis, and project schedule. A CAC chairperson was elected. Questions from the CAC and public were documented in meeting minutes.



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<b>Date, time and location or date and means of distribution</b>	<b>Notification</b>	<b>Attendance or distribution or coverage</b>	<b>Methods of public input documentation and response</b>
December 8, 2009 6 p.m. to 8 p.m. Grace Community Church	Notice mailed to the CAC and parties on the project mailing list Notice posted to the project Web site	Ten members of the CAC and four members of the general public	The meeting included an update on the status of reports, an overview of the project schedule, and an introduction to the noise study procedure. The CAC members' concerns were discussed and comments were documented in meeting minutes.
February 16, 2010 6 p.m. to 8 p.m. Grace Community Church	Notice mailed to the CAC and parties on the project mailing list Notice posted to the project Web site	Ten members of the CAC and four members of the general public	The meeting focused on Phase 1 roadway design, drainage design, and traffic engineering. The CAC members' concerns were discussed and comments were documented in meeting minutes.
March 16, 2010 6 p.m. to 8 p.m. Grace Community Church	Notice mailed to the CAC and parties on the project mailing list Notice posted to the project Web site	Ten members of the CAC and four members of the general public	The meeting focused on the Draft DCR, Draft EAMR, and the recommendation letter to be prepared by the CAC. The CAC members' concerns were discussed and comments were documented in meeting minutes.
April 6, 2010 6 p.m. to 8 p.m. Grace Community Church	Notice mailed to the CAC and parties on the project mailing list Notice posted to the project Web site	Ten members of the CAC and four members of the general public	The meeting discussed public art, landscape design and CAC's EAMR review letter.. The CAC members' concerns were discussed and comments were documented in meeting minutes.
<b>Public Open House</b>			
December 2, 2009 6 p.m. to 8 p.m. Grace Community Church	Notice mailed to the CAC and parties on project mailing list Notice posted to the project Web site	Approximately 50 members of the general public	Draft versions of the roadway design, noise analysis, and environmental studies were provided. The public were invited to provide comments.



La Cholla Boulevard: Magee Road to Lambert Lane  
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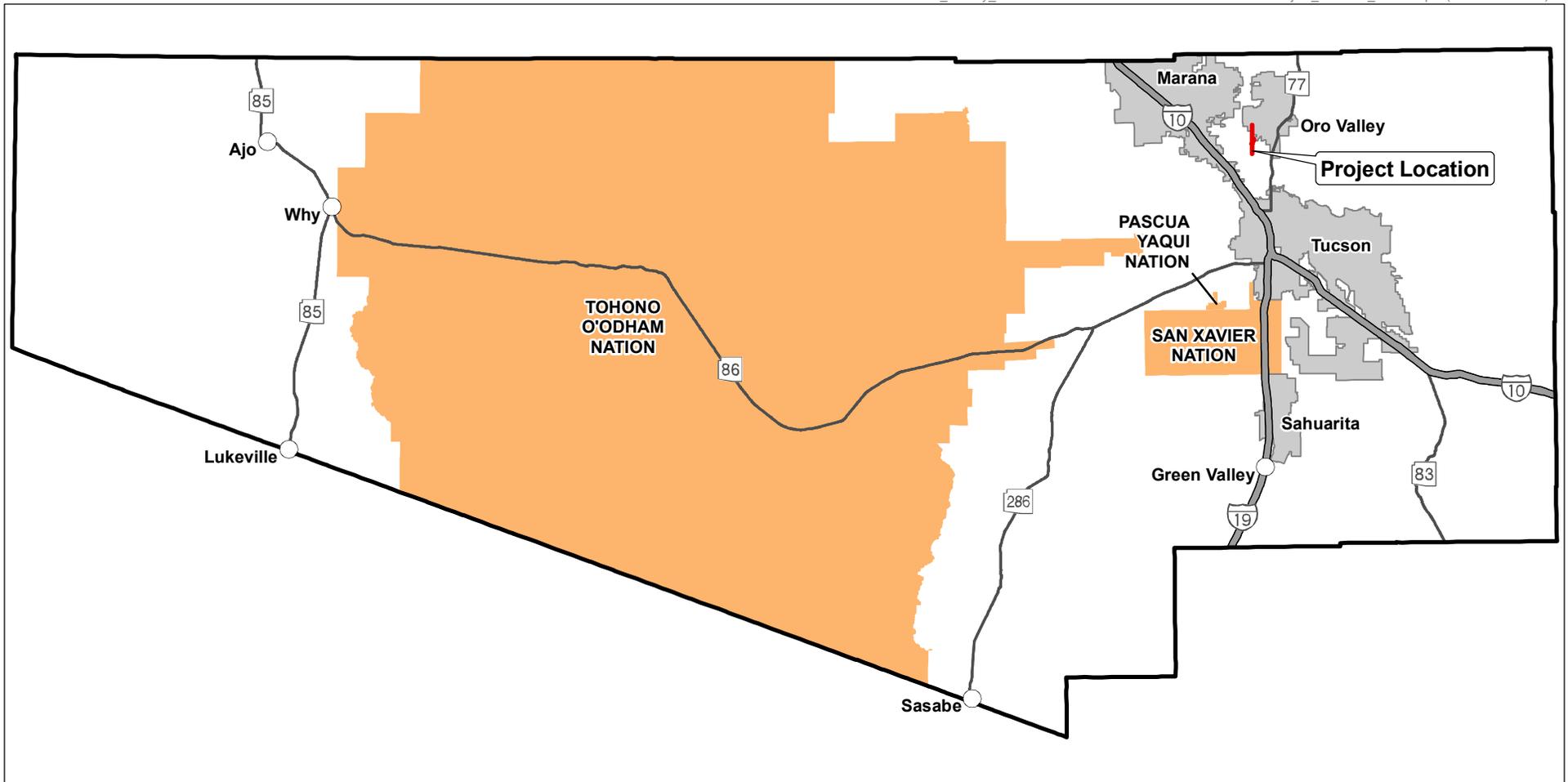
<b>Date, time and location or date and means of distribution</b>	<b>Notification</b>	<b>Attendance or distribution or coverage</b>	<b>Methods of public input documentation and response</b>
March 30, 2010 6 p.m. to 8 p.m. Grace Community Church	Notice mailed to the CAC and parties on project mailing list Notice posted to the project Web site	Approximately 80 members of the general public	The project team presented the proposed roadway design and draft versions of the DCR and EAMR. People were invited to provide comments on the project.
<b><i>Equestrian Survey</i></b>			
November 2009	Equestrian survey mailed, provided at the public open house, and posted on project Web site	Distributed to the project mailing list and made available to additional interested parties through Web site posting and public open house.	Requested that the public provide comments on equestrian use the project area. Results of the survey were used to identify areas of equestrian use and potential project mitigation.
<b><i>Community Advisory Committee Report</i></b>			
Upon review of the EAMR, the CAC will prepare a letter to the Pima County Board of Supervisors outlining its recommendations for addressing issues and concerns regarding the project.	Not applicable	Not applicable	Not applicable
<b><i>Document Review</i></b>			
March 2010 Draft EAMR	Document posted on the project web site	Copies of document provided to members of the CAC	CAC members were invited to review the document and prepare a recommendation letter. Members of the public were invited to provide comments.
<b><i>Public Hearing</i></b>			
Public hearing is planned to occur following public comment period for the final EAMR	Not applicable	Not applicable	Public hearing comments will be included in hearing transcript.



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Date, time and location or date and means of distribution	Notification	Attendance or distribution or coverage	Methods of public input documentation and response
<b><i>Project Web Site</i></b>			
Project web site was established in 2009 and is updated as information is developed, including: - project description - CAC meeting schedule and meeting minutes - public open house notice - project noise report and maps - CAC meeting handouts – project maps and reports	The following notices and documents have been posted on the project web site: <ul style="list-style-type: none"> <li>• Equestrian survey</li> <li>• Project contact information</li> <li>• Public open house maps, documents and presentations</li> <li>• CAC membership</li> <li>• CAC meeting minutes</li> <li>• Draft EAMR</li> </ul>	Not applicable	Not applicable



**Legend**

- |  |   |
|--|---|
|  Project Location   | <b>General Features</b>   |
|  Town               |  City                |
|  Interstate Highway |  Indian Reservation |
|  State Route        |  Pima County         |

Source:  
 Project Site: URS 2009 - 2010  
 Base Map: ALRIS 2007, Pima County 2009  
 Roads: ADOT 2009

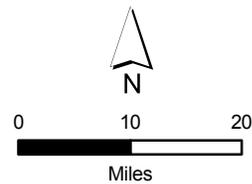


Figure 1

**Project Location**

La Cholla Boulevard, Magee Road to Lambert Lane Phase 1

Pima County Project Number: 4RTLTM

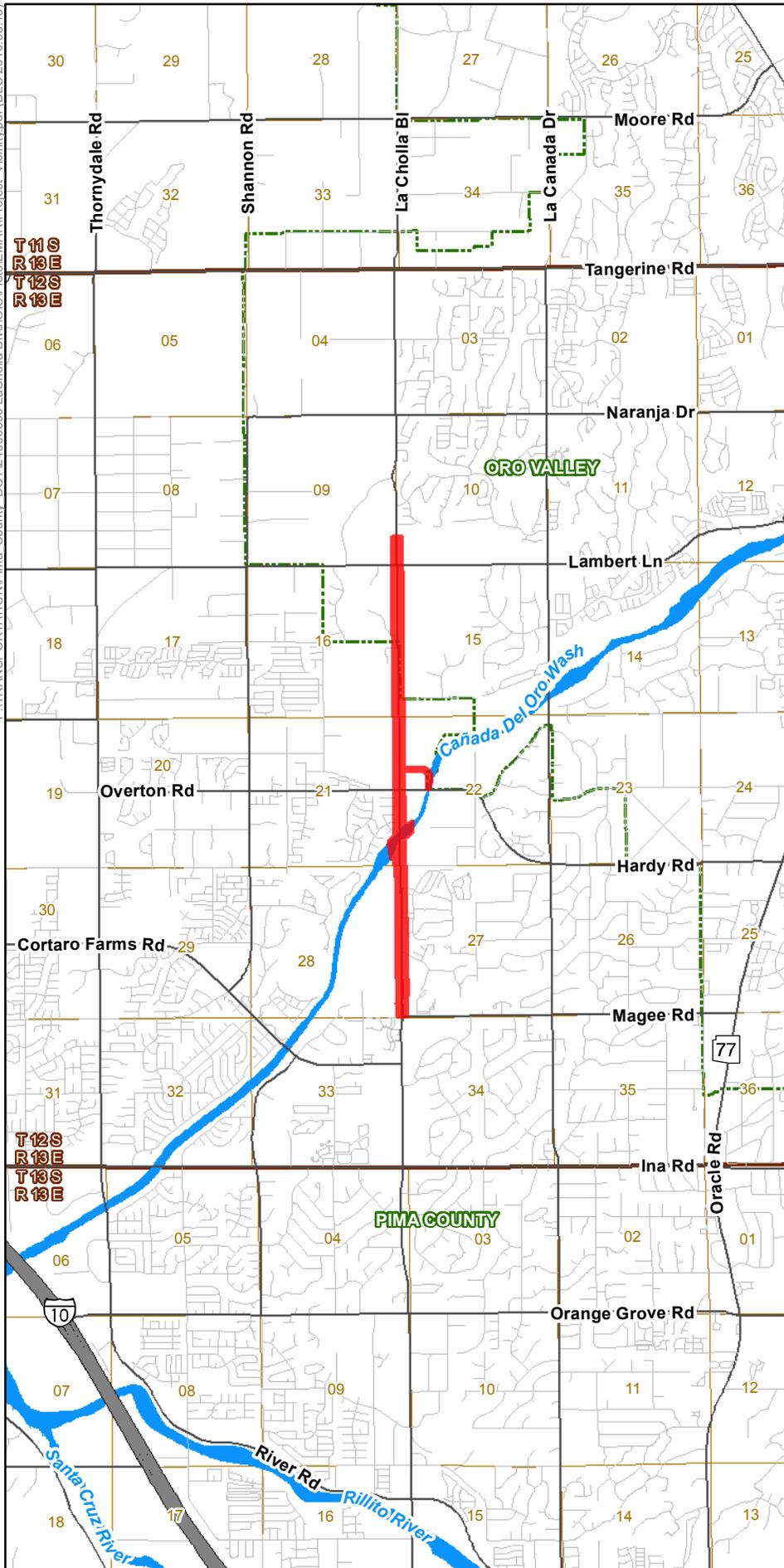


# Figure 2 Project Vicinity

La Cholla Boulevard, Magee Road to Lambert Lane Phase 1

Pima County Project Number: 4RTLTM

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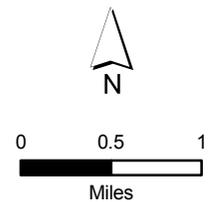
### Legend

Project Area

### General Features

- Interstate Highway
- Arterial Road
- Local Road
- Major Wash
- City Boundary
- Township and Range Boundary
- Section Boundary

Source:  
Project Area: URS 2009 - 2010  
Base Features: ADOT 2009,  
Pima County DOT 2009





## 1.0 BACKGROUND

The Pima County Department of Transportation (PCDOT) in cooperation with the Town of Oro Valley and the Regional Transportation Authority (RTA) proposes to widen approximately 5 miles of La Cholla Boulevard from a two-lane arterial roadway into a four-lane divided arterial roadway between Magee Road and Tangerine Road. The Inter-Governmental Agreement (IGA) with the RTA calls for this project to be completed in two phases. During Phase 1 of the proposed project, PCDOT will lead the preliminary roadway design for the entire corridor and will design and construct the roadway improvements from Magee Road to Lambert Lane (Figures 1 and 2). During Phase 2, the Town of Oro Valley will complete the design and construct the roadway improvements from Lambert Lane to Tangerine Road.

Phase 1 includes the conceptual design resulting in a Design Concept Report (DCR) for the roadway improvements from Magee Road to Tangerine Road and an Environmental Assessment and Mitigation Report (EAMR) for the roadway improvements from Magee Road to Lambert Lane. Construction of Phase 1 from Magee Road to Lambert Lane is planned for the 2012 to 2016 implementation period of the 20 year RTA plan. Final design and construction of the roadway from Lambert Lane to Tangerine Road is planned for the 2022 to 2026 implementation period of the 20 year RTA plan.

**Project name:** La Cholla Boulevard: Magee Road to Tangerine Road

**Pima County project number:** 4RTLTM

**Project location and limits:** 3.0 miles along La Cholla Boulevard, beginning approximately 800 feet north of Magee Road and extending north to approximately 800 feet north of Lambert Lane. The project width is approximately 150 feet. At the intersections of Overton Road and La Cholla Boulevard; and Lambert Lane and La Cholla Boulevard, the project extends east and west approximately 1,000 feet. The project is located in parts of Sections 9, 10, 15, 16, 21, 22, 27, and 28 of Township 12 South, Range 13 East.

In accordance with Pima County’s Community Participation and Mitigation Ordinance (Pima County Code § 10.560.010 et seq.), an EAMR is required for major transportation projects. This document was prepared to comply with ordinance requirements and to be consistent with EAMR guidance in the *Pima County Roadway Design Manual* (PCDOT 2003).

The environmentally sensitive roadway (ESR) designation is used by Pima County for roadways within land that is unique and ecologically or culturally sensitive (PCDOT 2003). ESRs have special design and evaluation requirements. Based on a review of the corridor characteristics, PCDOT determined that the



project area does meet the requirements for La Cholla Boulevard to be classified as an ESR; therefore, the project is subject to ESR evaluation or design requirements.

## 1.1 PROJECT COST AND FUNDING

The project’s estimated cost, based on the preliminary design, is outlined by task in Table 1. The total cost is estimated to be \$43.8 million, with a 2012 construction advertisement date. Except for those utilities that have been identified as having prior rights, utility relocations will be paid for by the individual utility companies, and therefore are not included in the project costs. The utility relocation costs that are anticipated to be borne by this project have been included in the construction costs.

**Table 1. Project Costs**

Task	Cost (\$) <sup>a</sup>
Construction Cost	26,100,000
Contingency	3,900,000
Misc. Utility Relocations	800,000
Metro Water Relocation	800,000
Artwork	350,000
Construction Administration	4,500,000
Design and Planning	4,500,000
Environmental Mitigation	400,000
Right-of-Way	2,500,000
<b>Total</b>	<b>\$43,850,000</b>

<sup>a</sup> 2010 dollars

Project funding includes: (1) sales tax revenue from the citizen-approved *Regional Transportation Plan* administered by the RTA, (2) Pima County developer impact fees, and (3) Highway User Revenue Funds (HURF). Table 2 identifies the funding sources and amounts for the project.

**Table 2. Funding Sources**

Source	Amount (\$) <sup>a</sup>
Sales tax revenues	42,233,000
Developer impact fees	5,300,000
Highway User Revenue Funds	800,000
<b>Total</b>	<b>48,333,000</b>

<sup>a</sup> 2009 dollars

## 1.2 DIRECTION BY BOARD OF SUPERVISORS

On May 16, 2006, the citizens of Pima County approved a \$2.1 billion *Regional Transportation Plan*, administered by the RTA, to be funded by a ½ cent increase in the local sales tax (RTA 2006). The approved transportation plan included improvements to La Cholla Boulevard from Magee Road to



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Tangerine Road. The Pima County Board of Supervisors approved the contract for the design of this project in January 2009. A notice to proceed was issued by the PCDOT director on April 17, 2009.

### **1.3 PROJECT DESIGN PROCESS**

The design process started in April 2009, and the following tasks have been completed:

- Three Community Advisory Committee (CAC) meetings
- One public open house
- Public involvement plan
- Quality control plan
- Traffic engineering study (draft)
- Survey and mapping report (draft)
- Stage I geotechnical report (draft)
- Pavement design report (draft)
- Initial right-of-way (R/W) acquisition requirements
- Roadway design parameters (draft)
- Bridge selection report (draft)
- Slope and wall selection report (draft)
- Utility report (draft)
- Drainage report (draft)
- Stage I roadway design plans (draft)
- Design Concept Report (draft)
- Structure selection report
- Environmental screening memorandum
- Cultural resources investigations
- Hazardous materials investigations
- Native plants survey
- Biological evaluation
- Jurisdictional delineation of waters of the United States

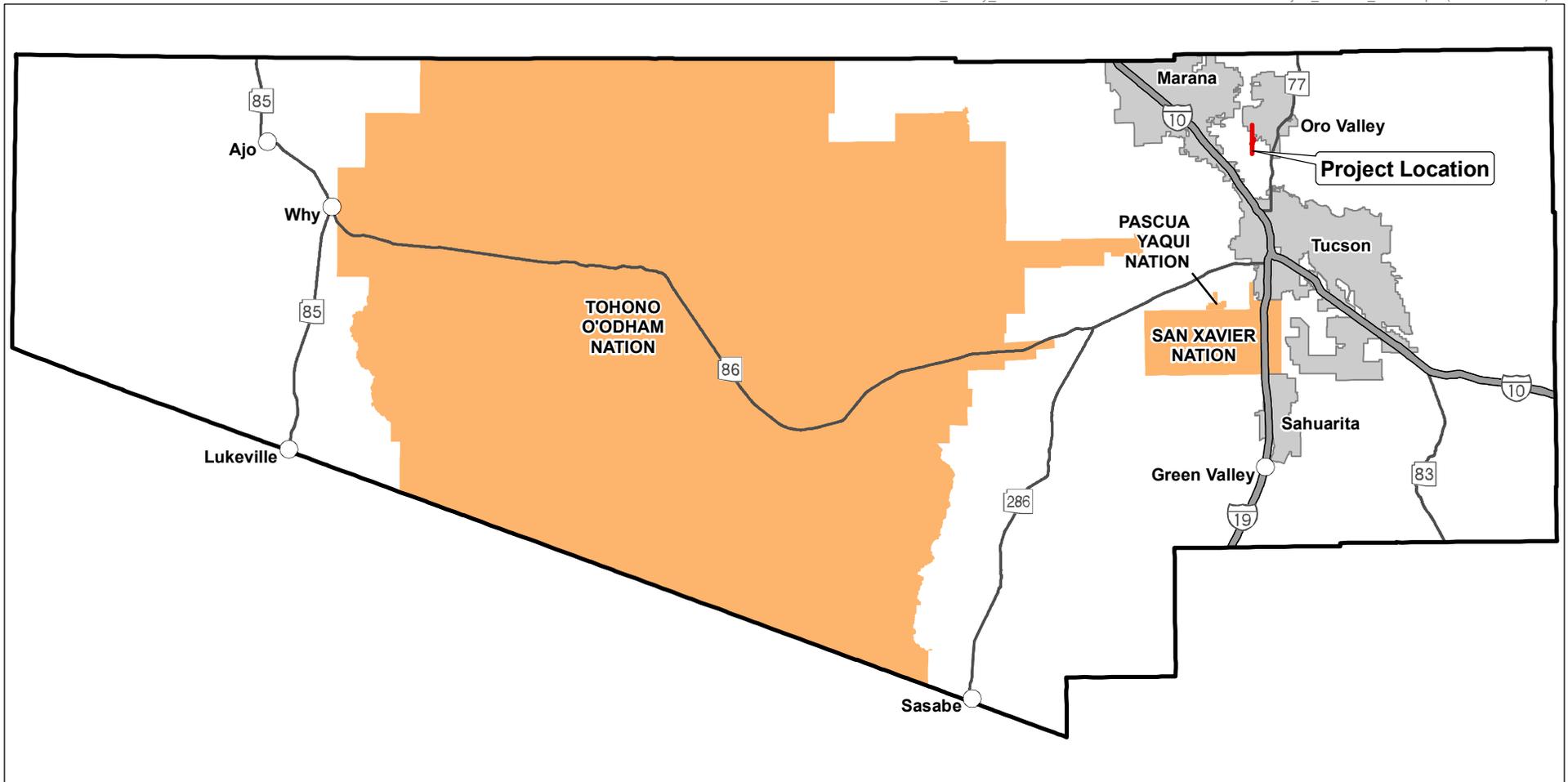


La Cholla Boulevard: Magee Road to Lambert Lane  
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- Noise impact analysis
- Visual resource inventory

Additional CAC and public meetings are planned to review the DCR and this EAMR. Please see Section 8.0, *Public Participation*, and the project website for information on public participation. Completion of the project design is planned for spring 2011, with advertisement for bids occurring in summer 2011.



**Legend**

- |  |   |
|--|---|
|  Project Location   | <b>General Features</b>   |
|  Town               |  City                |
|  Interstate Highway |  Indian Reservation |
|  State Route        |  Pima County         |

Source:  
 Project Site: URS 2009 - 2010  
 Base Map: ALRIS 2007, Pima County 2009  
 Roads: ADOT 2009

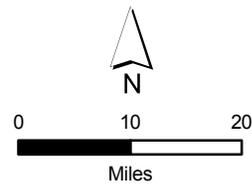


Figure 1

**Project Location**

La Cholla Boulevard, Magee Road to Lambert Lane Phase 1

Pima County Project Number: 4RTLTM

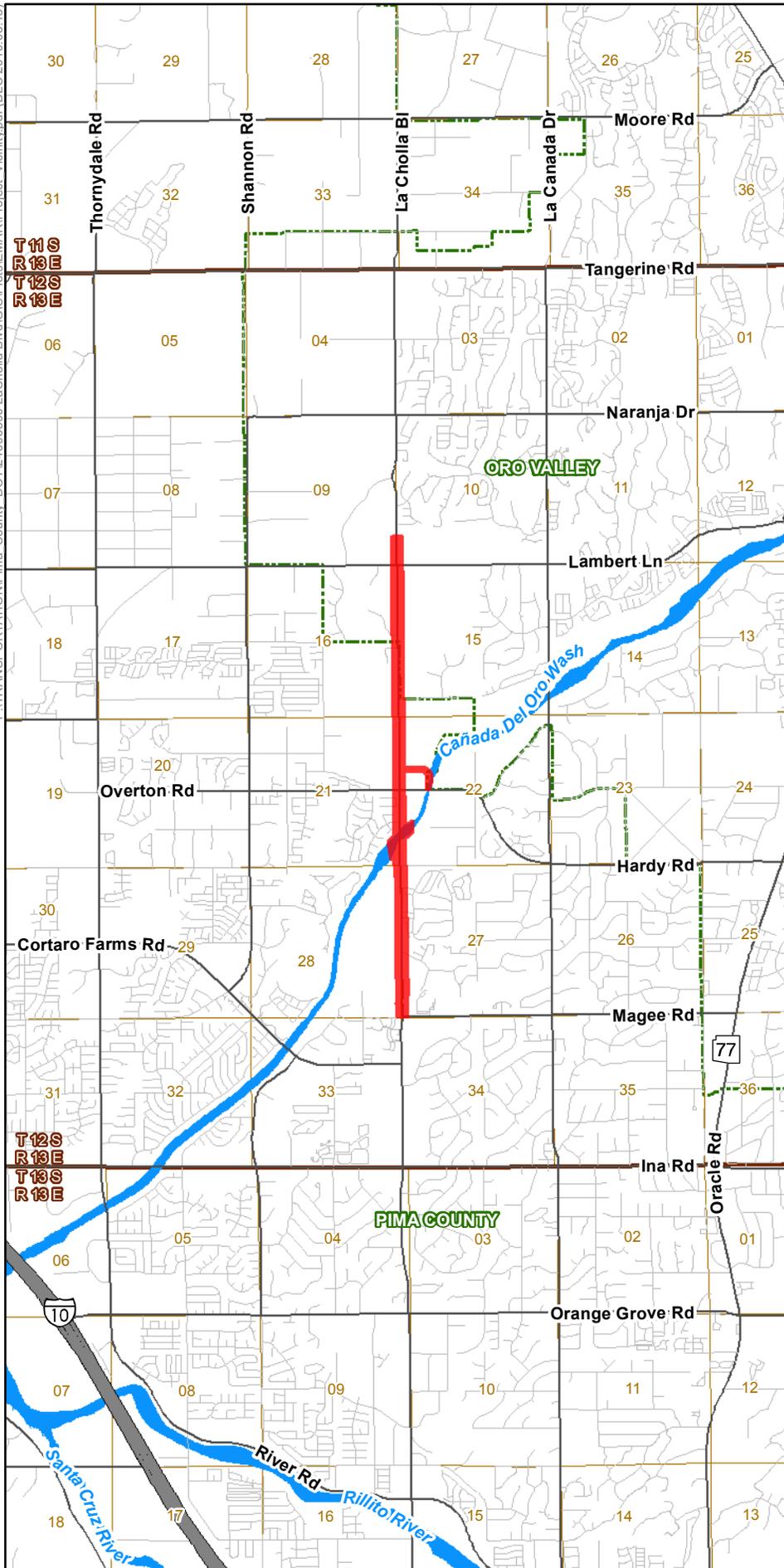


# Figure 2 Project Vicinity

La Cholla Boulevard, Magee Road to Lambert Lane Phase 1

Pima County Project Number: 4RTLTM

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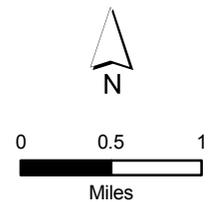
### Legend

Project Area

### General Features

- Interstate Highway
- Arterial Road
- Local Road
- Major Wash
- City Boundary
- Township and Range Boundary
- Section Boundary

Source:  
Project Area: URS 2009 - 2010  
Base Features: ADOT 2009,  
Pima County DOT 2009





## **2.0 PROJECT PURPOSE AND NEED**

The purpose of the project is to widen La Cholla Boulevard between Magee Road and Lambert Lane to a four-lane divided road to increase capacity; provide a new bridge at the Cañada del Oro (CDO) Wash; improve traffic operations; improve drainage facilities; and increase mobility through the provision of a multi-use trail and bicycle access in a manner consistent with the Regional Transportation Plan (RTA 2006), current design standards, and other policies and requirements. These goals are consistent with the RTA that identifies specific improvements to address cross-town mobility, reduce traffic congestion, improve safety and security, improve travel modes, and improve bicycle and pedestrian options in the region. The proposed project is one of 51 projects to be implemented under the plan, and is included in the projects to be implemented during the second period of the plan.<sup>1</sup>

The project will reduce heavy traffic volumes during peak travel hours and future traffic congestion on La Cholla Boulevard by providing additional capacity and efficient intersection operation. La Cholla Boulevard carries an average daily traffic volume of 9,900 to 15,800 vehicles and is projected to carry between 21,800 to 29,800 vehicles per day in 2040. Currently, La Cholla Boulevard experiences heavy traffic volumes during peak travel hours along many segments, resulting in a poor level of service that impedes the efficient movement of traffic in this area. With the proposed improvements, traffic is projected to operate at a satisfactory level of service through 2040.

The roadway currently has unlimited access, allowing vehicles to access La Cholla Boulevard north or south from any connecting local streets or driveways. Given the numerous access points along La Cholla Boulevard, traffic entering and leaving the roadway currently impedes the efficient operation of the roadway and provides a substantial number of potential high-velocity collision points. The project will construct raised medians and left-turn lanes that will concentrate turning movements at designated locations, thereby improving traffic operation and reducing the number of potential collisions along the corridor. Similarly, a frontage road will be constructed on the east side of La Cholla Boulevard in front of five residences north of Lucero Road to consolidate access to the roadway. A second frontage road will be constructed on the west side of La Cholla Boulevard in front of the Bluffs Subdivision to provide an access location that will provide safe intersection movements.

The vertical alignment of La Cholla Boulevard follows the existing terrain and includes crossings near- or at-grade with several washes, including the CDO Wash. As a result, rain storms can impede area access until storm flows abate. The project will provide an all-weather travel surface through construction of a new bridge at the CDO Wash, culvert installation at washes with at-grade road crossings, and the addition of stormwater drainage channels.

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<sup>1</sup> The 20-year plan is divided into four periods: fiscal years 2007-2011, 2012-2016, 2017-2021, and 2022-2026.



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Existing culverts are undersized (or lacking) at wash crossings. During storms, water flows along roadside ditches that either overtops the roadway or flows into an alternate wash, resulting in diverted flow and ponding. The project will restore the original flow patterns and increase flow capacity through the installation or replacement of culverts. In addition, the project will reduce water flows along roadside ditches that overtops the roadway and minimize ponding through the use of drainage ditches constructed at various points in the project. The stormwater collection and conveyance system will collect water from the road surface and convey it to the appropriate culverts or pipes that outlet to the washes so that stormwater stays in its natural watershed. The project will improve mobility through the construction of bicycle, pedestrian, and equestrian improvements. The project will provide on-street bicycle access within striped bicycle lanes along paved road shoulders.



### **3.0 PROJECT SETTING**

The project area is located along La Cholla Boulevard from Magee Road to Tangerine Road, including an at-grade crossing of the CDO Wash (Figure 3). The existing project R/W width is approximately 150 feet, or 75 feet east and 75 west of the La Cholla Boulevard centerline. At the intersections with Overton Road and Lambert Lane, the project area extends east and west approximately 1,000 feet.

The existing La Cholla Boulevard roadway is uncurbed for the entire project limits. From Magee Road to Lambert Lane, the majority of the roadway contains two 12-foot travel lanes with unpaved shoulders. The area adjacent to the Bluffs Subdivision contains an additional 11-foot left-turn along with 2-foot paved outside shoulders. The areas immediately north and south of the Overton Road intersection contain a 12-foot left-turn and 2-foot paved outside shoulders. An additional 12-foot right-turn lane entrance is provided at the Alive Church. The areas immediately north and south of the Lambert Lane intersection contain an additional 12-foot left-turn areas and 4-foot paved outside shoulders. The existing surface is asphaltic concrete. There are ADA access ramps located at the Overton Road intersection. Additional roadway features such as street parking, bicycle lanes, sidewalks, or transit stops are not present in the project area. The posted speed limit is 45 miles per hour (mph).

The existing terrain varies greatly north and south of the CDO Wash. South of the CDO Wash the terrain slopes to the northwest until it meets the CDO wash where it turns to the southwest. North of the CDO Wash the terrain slopes to the southeast until it meets the CDO wash where it turns to the southwest. The elevation in the project area is 2,390 feet at Magee Road and ranges up to 2,610 feet at Lambert Lane. The low point is 2,360 feet at the CDO Wash. From the southern roadway limits at Magee Road, the grade gradually falls from the south to the CDO Wash and from the northern roadway limits at Lambert Lane, the grade gradually falls from the north to the CDO Wash.

Along the west side of La Cholla Boulevard, between Magee Road and the CDO Wash, the existing terrain drops off severely towards the Omni Tucson National Golf Course, requiring large fill slopes and retaining walls. Between Magee Road and McCarty Road, there are areas where large cut hills exist along the roadway, requiring large cut slopes and cut walls. Between Lucero Road and Lambert Lane, there are both large cut hills and drop off locations that will require both cut and fill slopes and walls.

Land use in the project area is predominantly low-density residential with some moderate- to high-density residential. Other land uses include commercial, public (Metropolitan Domestic Water Improvement District and Tucson Electric Power), church, vacant land, and flood control/wash. Between Magee Road and Overton Road, land use is primarily residential including medium- and high-density complexes at the La Cholla Hills and The Bluffs subdivisions, and The Country Club Apartments; commercial property (Omni Tucson National Resort and Golf Course); a linear park along the CDO Wash which terminates at Hardy Road; and Metro Water facilities. Land use between Overton Road and Lambert Lane is mainly



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low-density residential with the exception of two churches (Alive Christian Church and Grace Community Church) and one commercial property (Sunkist Stables). Existing utilities are found throughout the length of the project corridor, on both the east and west sides of La Cholla Boulevard and including cross streets. Facilities include distribution, transmission, storage, and service infrastructure.

Existing cross drainage improvements are generally limited to the section of La Cholla Boulevard between Magee Road and Hardy Road, and along Lambert Lane. The remaining section of the corridor uses at-grade crossings to convey drainage flows across the roadway. Large portions of the road become impassible when storm events occur, particularly during the summer monsoons. Flow typically runs from an easterly direction to the west, with the exception of the area between Overton Road and Lucero Road where the flow runs from west to east. There are no pavement drainage facilities for the exiting roadway. There are three major wash crossings of La Cholla Boulevard within the project limits: the CDO Wash, the Garfield Wash, and the Hardy Road Wash.

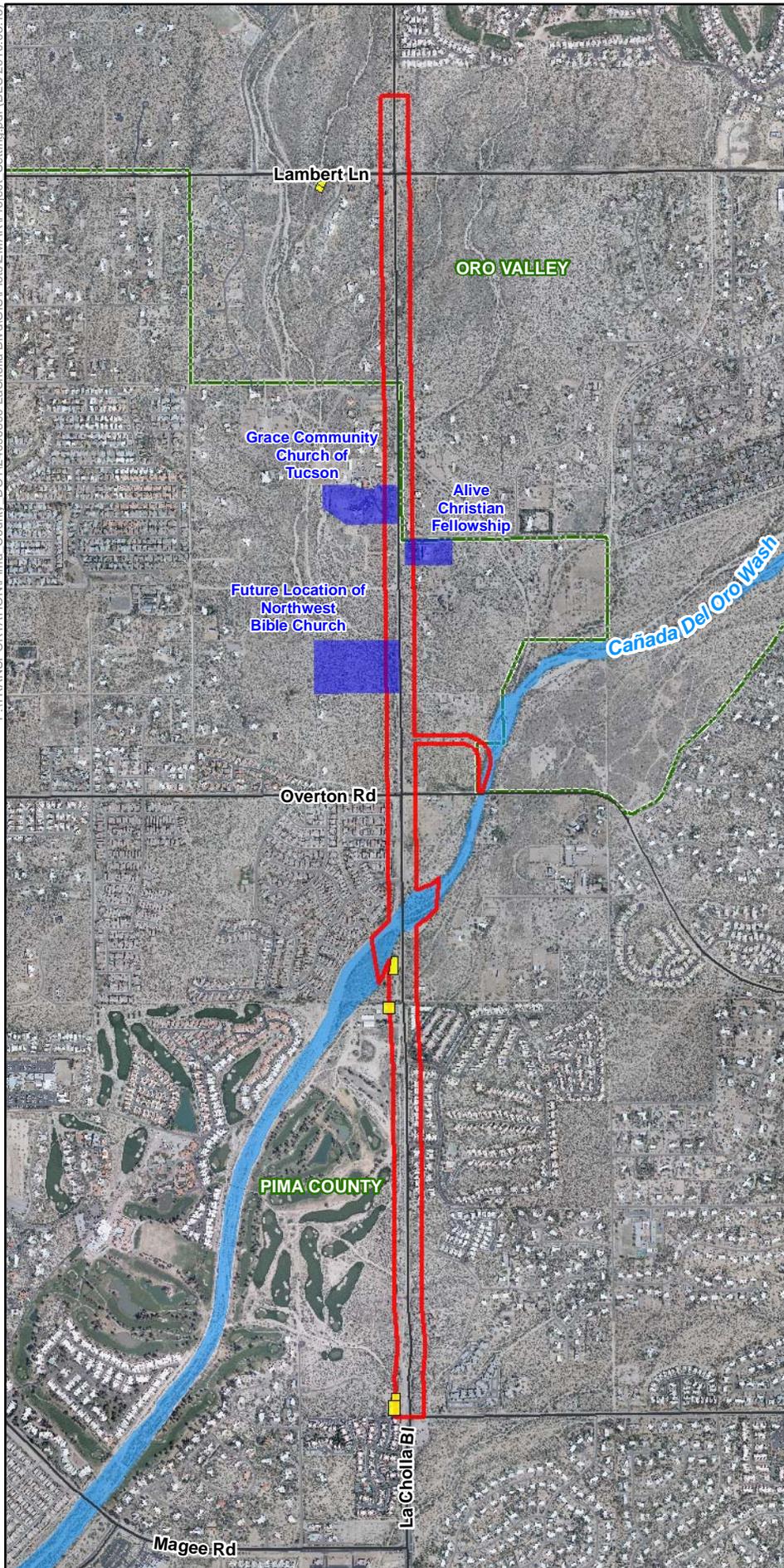
The project area includes several places that have sensitive environmental designations. La Cholla Boulevard is designated by Pima County as an environmentally sensitive roadway. Other Sensitive Environmental Resources defined by Pima County in the project area include three Conservation Land System designations: (1) Special Species Management Area for cactus ferruginous pygmy-owl located west of La Cholla Boulevard from Hardy Road to Lambert Lane; (2) Multiuse Management Area located east and west of La Cholla Boulevard from Hardy to Lambert Lane; and (3) Important Riparian Area at the CDO Wash. The CDO Wash is not considered a unique or impaired water by the State of Arizona.

More detailed description of the existing conditions related to the subjects evaluated in this report are provided in Section 6.0, *Environmental Assessment and Mitigation*, including biological resources, drainage, water quality, floodplains, air quality, noise, utilities, hazardous materials, cultural resources, visual resources, parking, neighborhoods, and parks and recreation.

### Figure 3 Project Setting

La Cholla Boulevard, Magee Road to  
Lambert Lane Phase 1

Pima County Project Number: 4RTLTM



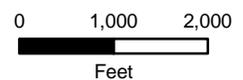
#### Legend

- Project Area
- Metropolitan Domestic Water Improvement District
- Church Site

#### General Features

- Arterial Road
- Major Wash
- City Boundary

Source:  
 Project Area: URS 2009 - 2010  
 Base Features: Pima County DOT 2009  
 Imagery: PAG 2008





## **4.0 PROPOSED PROJECT**

The project involves widening La Cholla Boulevard between Magee Road and Lambert Lane (Figure 4). The design speed for La Cholla Boulevard is 50 mph and will be posted for 45 mph. Project construction is scheduled to begin in 2012 and last 18 to 24 months. The project includes the construction of the following specific improvements:

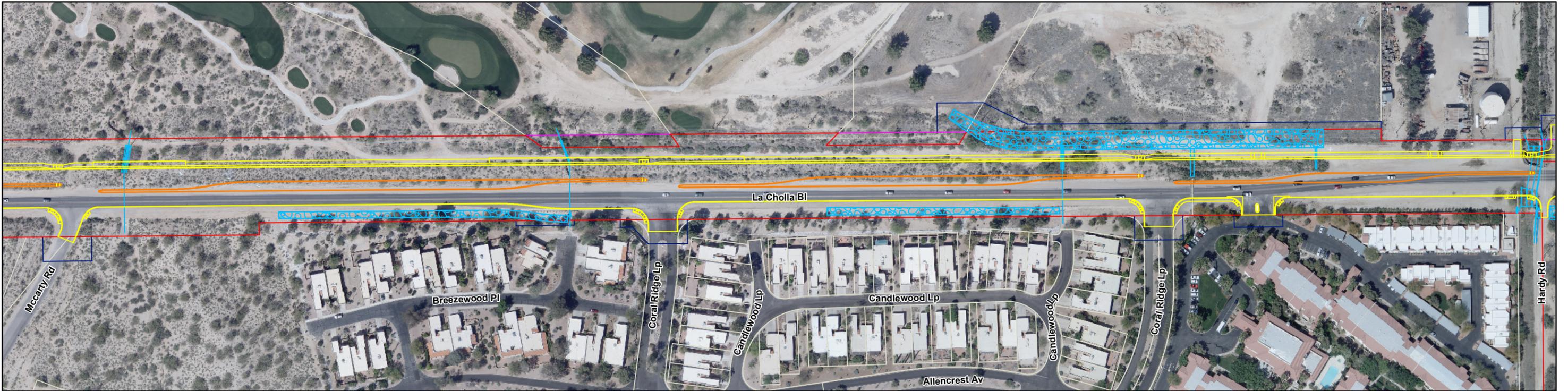
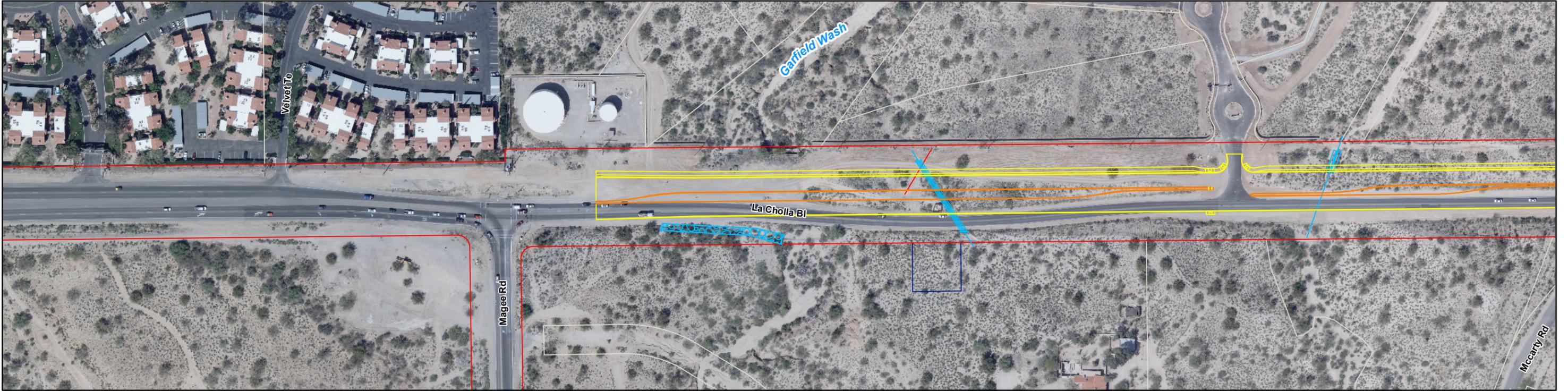
- Widen La Cholla Boulevard from a two-lane road to a four-lane divided road (two lanes northbound and two lanes southbound) between Magee Road and Lambert Lane (Figure 5). The inside travel lanes will be 11 feet wide and the outside travel lanes will be 11 feet wide for most of the corridor. Right turn lane will be 13 feet wide and the left turn lane will be 14 feet wide. The clear zone from the vehicle travel lane will be 20 feet wide.
- Replace existing at-grade crossing of the CDO Wash with a 4-lane bridge (Figure 6).
- Construct 20-foot wide raised medians and turning lanes throughout the length of the project.
- Construct an 8-foot wide unpaved multi-use trail along most of the project.
- Construct a sidewalk on the west side of frontage road between Morning Jewel Place and Tortolita Bluffs Drive.
- Provide bicycle access along the 8-foot multi-use trail and along the 6-foot paved road shoulder along most of the project.
- Construct a frontage road on the east side of La Cholla Boulevard across from Owls Peaks Place. The frontage road will be shared by four properties. A median opening would be provided at the entrance and exit of the frontage road.
- Construct a frontage road on the west side of La Cholla Boulevard at the Bluffs Subdivision. The frontage road will connect Tortolita Bluffs Drive and Morning Jewel Place. This will provide a common access point to and from La Cholla Boulevard and will establish the required sight distance from the proposed CDO Wash Bridge. A median opening would be provided at the entrance and exit of the frontage road.
- Reconstruct the La Cholla Boulevard intersection with Overton Road and Lambert Lane to provide two through lanes, a left-turn lane, a right-turn lane, and a through bike lane. The Magee intersection will be improved under a separate Pima County project.
- Construct a stormwater collection and conveyance system.



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- Replace or construct new culverts and channels at washes as follows:
  - Extend existing drainage structure between Magee Road and Hardy Road.
  - Construct 13 new drainage structures underneath La Cholla Boulevard between Hardy Road and Lambert Lane.
  - Construct a drainage channel approximately 700 feet north of Overton Road. The drainage channel would capture flow and convey under La Cholla Boulevard and continue conveying the flow directly east to the CDO Wash.
  - Construct a drainage channel on the west side of La Cholla Boulevard on the opposite side of the road from Coral Ridge Loop. The drainage channel will be used to direct flows impacting the new roadway embankment to the appropriate outfall location.
- Construct noise barriers at the following locations:
  - La Cholla Hills subdivision south of Coral Ridge Loop for the residences between La Cholla Boulevard and Brezewood Place.
  - La Cholla Hills subdivision north of Coral Ridge Loop for the residences between La Cholla Boulevard and Candlewood Loop.
- Install landscape improvements in project median, along the multi-use trail, and within the project right-of-way (R/W) limits.
- Install artwork to be incorporated into the design and landscape improvements.
- Coordinate necessary relocation of existing utilities.
- Reconstruct access points for private properties adjacent to La Cholla Boulevard to match the new road elevation.



**Legend**

- Curb, Concrete, Sidewalk and Driveway
- Median
- Drainage Features
- Existing Right-of-Way
- New Right-of-Way
- New Easement
- Parcel

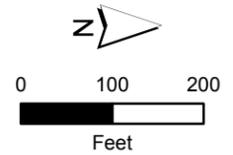
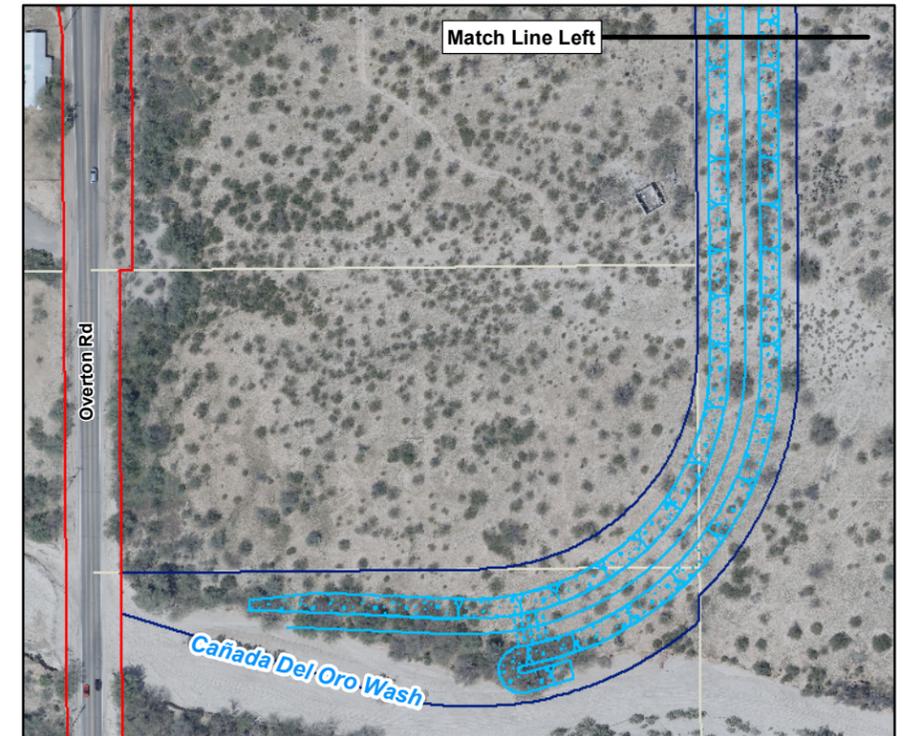
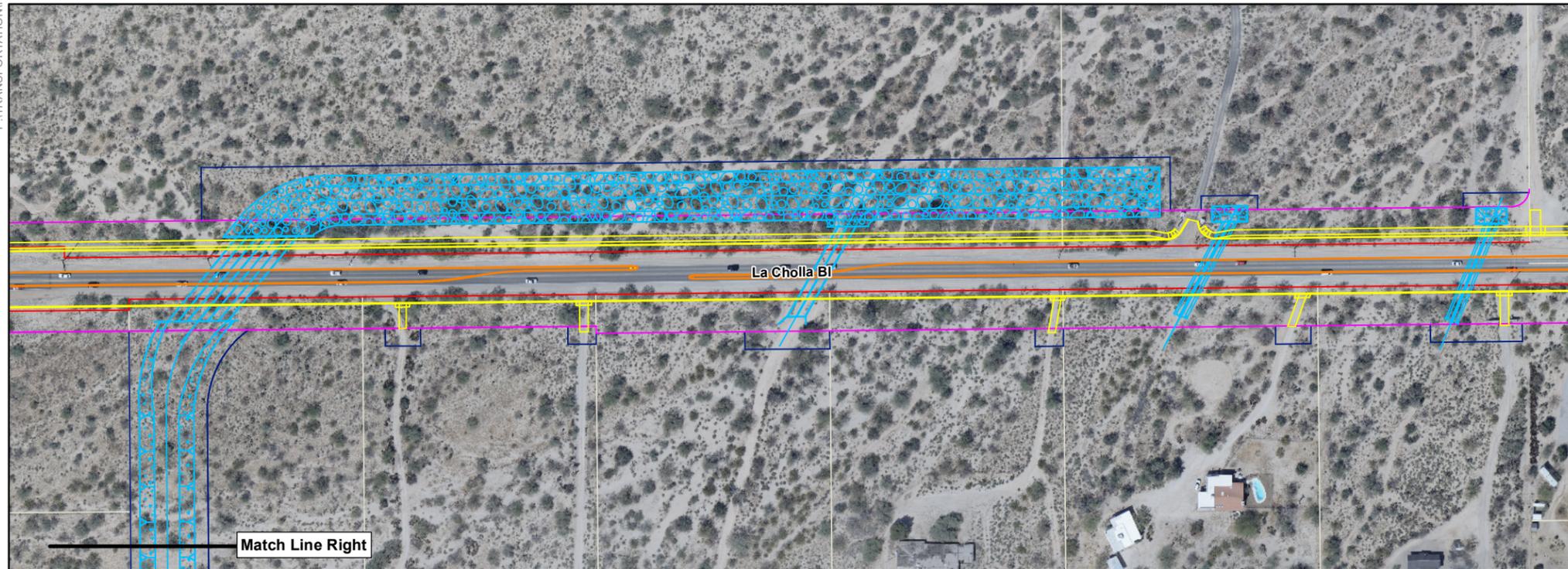
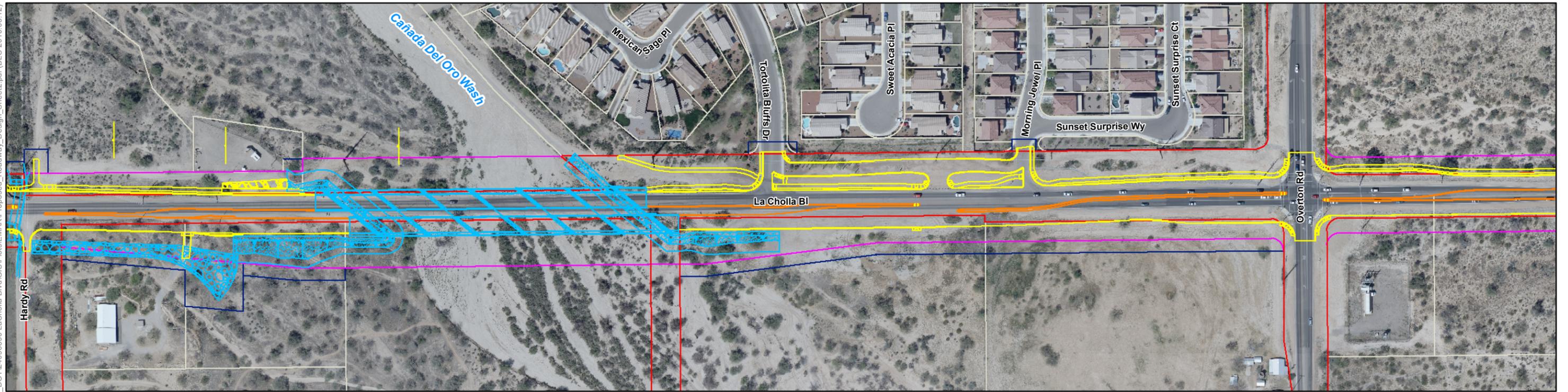


Figure 4  
Sheet 1 of 3

**Proposed Roadway Design**

La Cholla Boulevard, Magee Road to  
Lambert Lane Phase 1  
Pima County Project Number: 4RTLTM





**Legend**

- Curb, Concrete, Sidewalk and Driveway
- Median
- Drainage Features
- Existing Right-of-Way
- New Right-of-Way
- New Easement
- Parcel

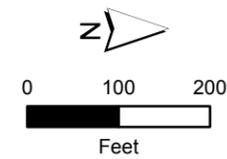
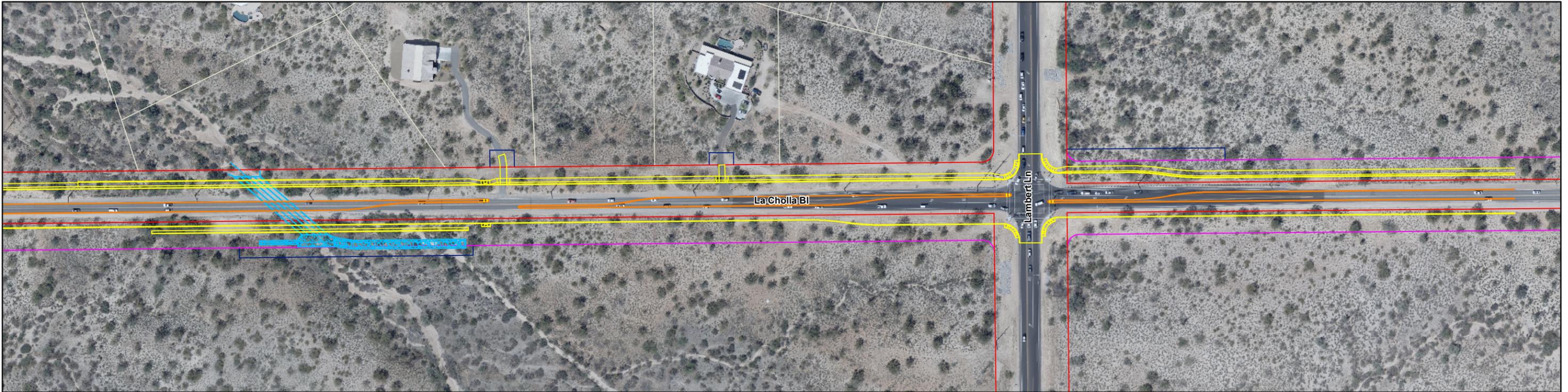
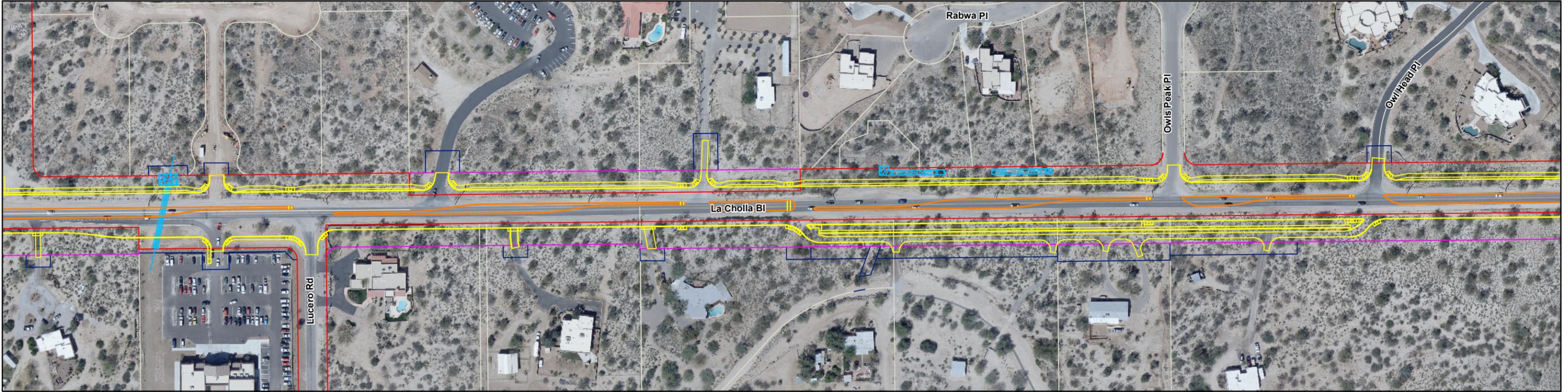


Figure 4  
Sheet 2 of 3

**Proposed Roadway Design**

La Cholla Boulevard, Magee Road to  
Lambert Lane Phase 1  
Pima County Project Number: 4RTLTM





**Legend**

- Curb, Concrete, Sidewalk and Driveway
- Median
- Drainage Features
- Existing Right-of-Way
- New Right-of-Way
- New Easement
- Parcel

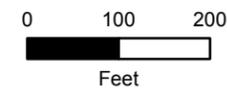


Figure 4  
Sheet 3 of 3

**Proposed Roadway Design**

La Cholla Boulevard, Magee Road to  
Lambert Lane Phase 1  
Pima County Project Number: 4RTLTM

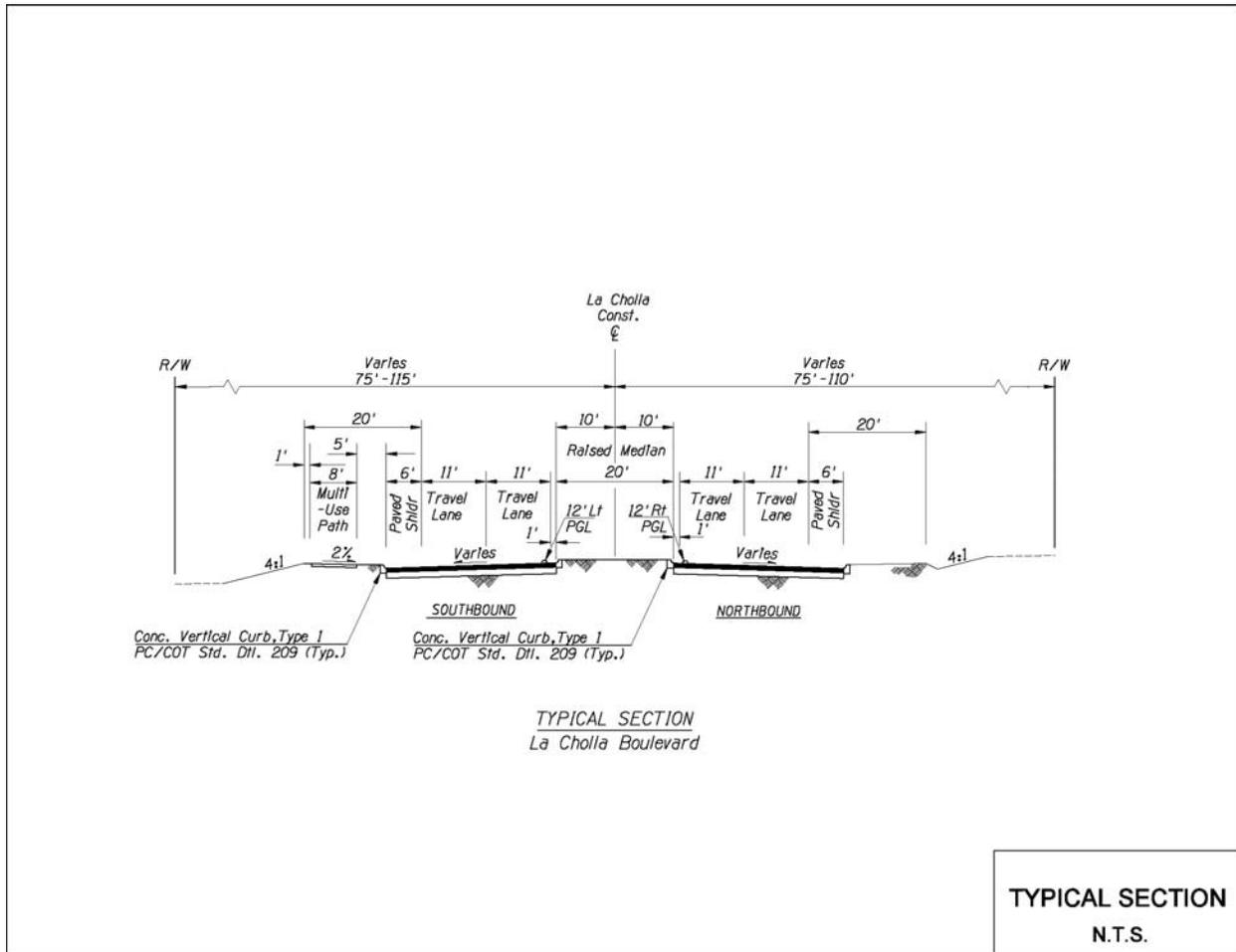




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Figure 5. La Cholla Boulevard Typical Road Section

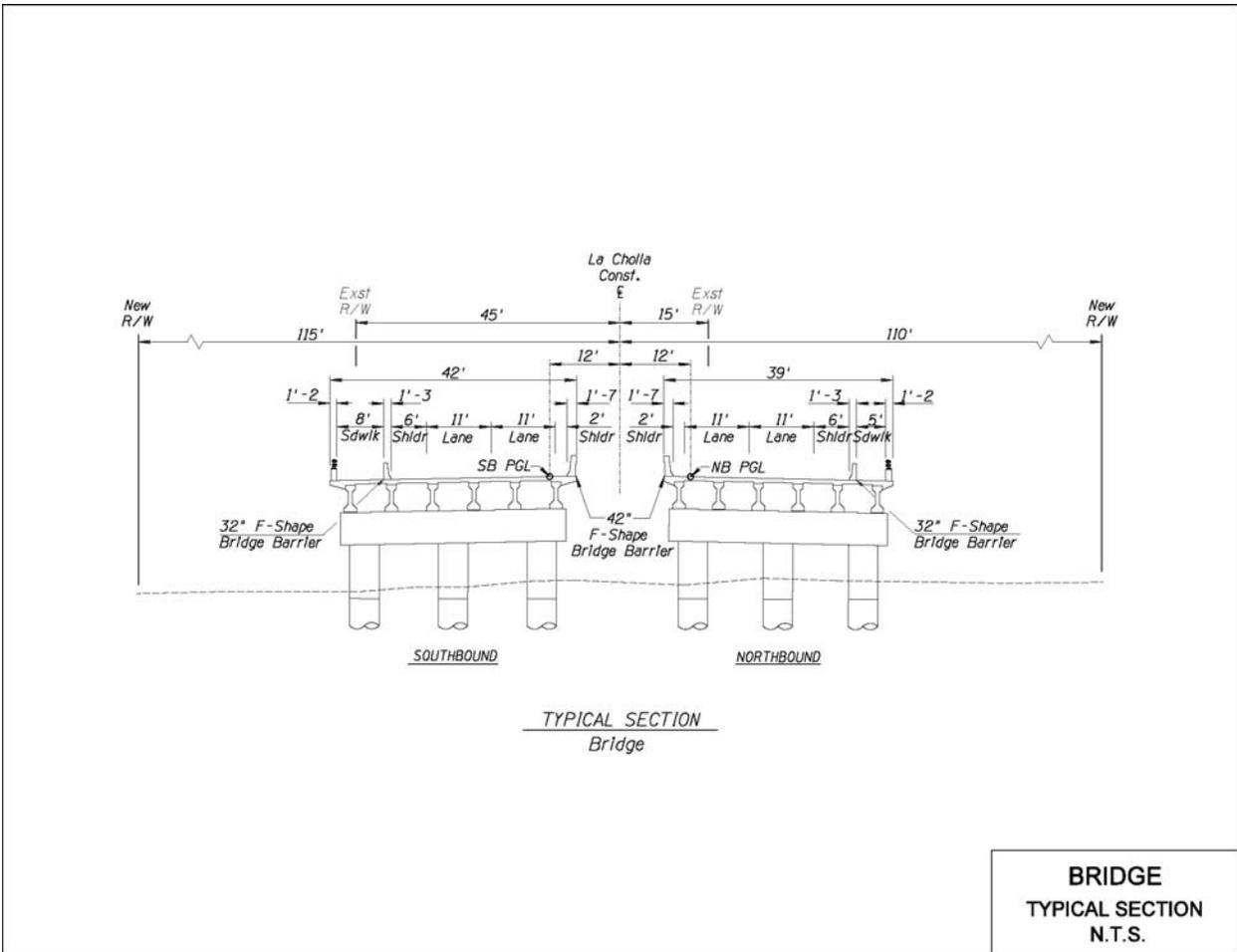




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Figure 6. Typical Bridge Section





## **5.0 ENVIRONMENTAL SCREENING**

An environmental screening memorandum was completed in August 2009 (PCDOT 2009a). Environmental screening is conducted early in the project development to identify environmental conditions requiring consideration in the environmental review and project design process, including anticipated permit requirements and environmental investigation needs. This process involves determining areas of impact (through completion of the PCDOT questionnaire, Environmental Screening: Questionnaire for Establishing Potential Areas of Impact) and summarizing environmental categories that may be affected in a matrix. The environmental screening process considered the construction and operation activities related to the proposed improvements to La Cholla Boulevard and identified potential impacts to the following environmental categories: waters of the United States, biological resources, air quality, noise, utilities, hazardous materials, cultural resources, and neighborhoods/social conditions. Several specific issues were identified:

- A noise analysis will be needed to evaluate changes resulting from increased traffic capacity and a wider roadway. Because the project will include portions of the Town of Oro Valley, the noise evaluation criteria will need to meet Town of Oro Valley evaluation requirements (see Section 6.1.5, Noise).
- The project will affect waters of the United States and be subject to Clean Water Act (CWA) Section 404 requirements. Additionally, compliance with Section 401 of the CWA will be required (see Section 6.1.2, Drainage and Clean Water Act).
- The project will affect washes identified by Pima County Regional Flood Control District as regulated riparian resources. A riparian impact assessment will be developed to address impacts to these resources (see Section 6.1.2, Drainage and Clean Water Act).

A project traffic study (PCDOT 2009b), cultural resource report (Cox and others 2010, Kirvan and others 2009), preliminary jurisdictional delineation (PCDOT 2010a), biological evaluation (PCDOT 2010b) and a hazardous materials report (PCDOT 2009c) were initiated or completed during the environmental screening process. These resource investigations and reports provided preliminary information for determining design objectives and constraints.

The following technical environmental documents are also part of the project: Noise Report (PCDOT 2009d), DCR (PCDOT 2010c), drainage report (PCDOT 2010d), and native plant inventory (PCDOT 2010e).

Based on the environmental screening, a jurisdictional determination has been prepared to determine the extent of waters of the United States in the project area. Documentation will be prepared for a Section 404 permit application. A riparian impact assessment will be developed to address impacts to Pima County



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regulated riparian habitat. The following section discusses environmental impacts and potential mitigation measures for each resource area. Refer to Section 9.0, Conclusions and Recommendations, for a summary table of environmental impacts and recommended mitigation measures.



## 6.0 ENVIRONMENTAL ASSESSMENT AND MITIGATION

### 6.1 NATURAL / PHYSICAL ENVIRONMENT

#### 6.1.1 Biological Resources

This section evaluates impacts to biological resources, based on a biological evaluation (Pima County 2010b), a review of the species listed in the Sonoran Desert Conservation Plan (SDCP) (Pima County 2009), and a native plant inventory (Pima County 2010e) conducted for the project area. These documents and their supporting field surveys were conducted and prepared to document the conditions and potential impacts to species listed as threatened, endangered, proposed, or candidate species in the vicinity; and protected native plants.

#### Existing Conditions

Vegetation in the project area includes Sonoran paloverde-mixed cactus desert scrub and Sonoran creosote triangle-leaf bursage desert scrub (USGS, National GAP Analysis Program 2004). Sonoran paloverde-mixed cacti deserts scrub typically includes foothills palo verde (*Parkinsonia microphyllum*), blue palo verde (*Parkinsonia floridum*) and catclaw acacia (*Acacia greggii*), with occasional saguaro (*Carnegiea gigantea*) and ocotillo (*Fouquieria splendens*). Creosote bush triangle-leaf bursage deserts scrub (creosote scrub) occurred in level lowland parts of the project area where soils were arid and fine-textured and includes creosote bush (*Larrea tridentata*), white bursage (*Ambrosia dumosa*), or triangle-leaf bursage. Other typical species include desert broom (*Baccharis sarothroides*), broom snakeweed (*Gutierrezia sarothrae*), various cacti (e.g., *Opuntia* sp., *Cylindropuntia* sp., *Ferocactus* sp., *Mammillaria* sp.) and grasses. Buffelgrass (*Pennisetum ciliare*), a nonnative invasive grass species occurs at several disturbed sites along La Cholla Boulevard and in some washes. Table 3 lists plant species documented during native plant surveys for the project.

Washes cross or parallel the project area at multiple localities. Three of these are named; the largest wash in the project area is the CDO Wash and two smaller washes are the Garfield Wash and Hardy Wash. Most of the unnamed washes are tributaries of CDO Wash. Vegetation in these slightly wetter areas included velvet mesquite (*Prosopis velutina*), white thorn acacia (*Acacia constricta*), catclaw acacia (*Acacia greggii*), desert willow (*Chilopsis linearis*), and salt cedar (*Tamarix* sp.) in addition to many of the species found in the surrounding upland sites. Plant cover in most washes was typically denser and more diverse than the upland sites.

The wildlife in the project area is typical of similar sites in this part of the Sonoran Desert that occur at the “urban wildland interface.” The urban wildland interface is where urban landscapes are mixed with natural landscapes. As a result, wildlife species common to both urban and natural landscapes occur in these places. Typical wildlife species may include zebra-tailed lizard (*Callisaurus draconoides*), desert



spiny lizard (*Sceloporus magister*), common king snake (*Lampropeltis getula*), gopher snake (*Pituophis melanoleucus*), red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), mourning dove (*Zenaida macroura*), Gambel’s quail (*Callipepla gambelii*), desert cottontail (*Sylvilagus audubonii*), round-tailed ground squirrel (*Spermophilus tereticaudus*), collared peccary (*Tayassu tajacu*) and coyote (*Canis latrans*).

**Table 3. Plant Species List**

Common Name	Scientific Name	Common Name	Scientific Name
Trees and Large Shrubs		Shrubs, forbs, and grasses	
Blue paloverde	<i>Parkinsonia floridum</i>	Bahia	<i>Bahia absinthifolia</i>
Catclaw acacia	<i>Acacia greggii</i>	Buffelgrass	<i>Pennisetum ciliare</i>
Creosote bush	<i>Larrea tridentata</i>	Burrow weed	<i>Isocoma tenuisecta</i>
Foothill paloverde	<i>Parkinsonia microphyllum</i>	Canyon ragweed	<i>Ambrosia ambrosioides</i>
Ironwood	<i>Olneya tesota</i>	Desertbroom	<i>Baccharis sarothroides</i>
Velvet mesquite	<i>Prosopis velutina</i>	Desert globemallow	<i>Sphaeralcea ambigua</i>
Whitethorn acacia	<i>Acacia constricta</i>	Desert zinnia	<i>Zinnia acerosa</i>
Desert willow	<i>Chilopsis linearis</i>	Coyote gourd	<i>Cucurbita digitata</i>
Salt Cedar	<i>Tamarix</i> sp.	Flame flower	<i>Talinum aurantiacum</i>
Cactus		Fluff grass	<i>Dasychloa pulchella</i>
Barrel cactus	<i>Ferocactus wislizenii</i>	Purple threeawn	<i>Aristida purpurea</i>
Cane cholla	<i>Opuntia spinosior</i>	Rabbit brush	<i>Ericameria ciliare</i>
Chain-fruit cholla	<i>Opuntia fulgida</i>	Rattlesnake weed	<i>Euphorbia albomarginata</i>
Desert Christmas cactus	<i>Opuntia leptocaulis</i>	Sand dropseed	<i>Sporobolus cryptandrus</i>
Engelmann’s prickly pear	<i>Opuntia engelmannii</i>	Silverleaf nightshade	<i>Solanum elaeagnifolium</i>
Fendler hedgehog	<i>Echinocereus fendleri</i>	Six-weeks needle grama	<i>Bouteloua aristidoides</i>
Saguaro	<i>Carnegiea gigantea</i>	Spider grass	<i>Aristida ternipes</i>
Staghorn cholla	<i>Opuntia versicolor</i>	Tanglehead	<i>Heteropogon contortus</i>
Teddy-bear cholla	<i>Opuntia bigelovii</i>	Three-awn	<i>Aristida</i> sp.
		Triangleleaf bursage	<i>Ambrosia deltoidea</i>
		Vine mesquite	<i>Panicum obtusum</i>
		White ratany	<i>Krameria grayi</i>

Habitat Connectivity

The Tucson - Tortolita - Santa Catalina Mountains Link is a primary wildlife corridor that is documented within three miles north of the project area. The CDO Wash runs southwesterly through Oro Valley and likely serves as an important landscape feature that facilitates movement of upland species through the valley. Other washes in the project area likely help to maintain habitat connectivity and facilitate movement and dispersal of numerous species. These can be primary dispersal features for game species like mule deer.

Sensitive Habitats

The project area includes several places that have sensitive environmental designations. La Cholla Boulevard is designated by Pima County as an environmentally sensitive roadway. Other sensitive



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environmental resources as defined by Pima County that are located in the project area include three Conservation Land System designations: (1) Special Species Management Area for cactus ferruginous pygmy-owl located west of La Cholla Boulevard from Hardy Road to Tangerine Road; (2) Multiuse Management Area located east and west of La Cholla Boulevard from Hardy to Lambert Lane; and (3) Important Riparian Area at the CDO Wash (Pima County 2004). The CDO Wash is not considered a unique or impaired water by the State of Arizona.

### Sensitive Species

One federally listed species and one species proposed for federal re-listing occur or have the potential to occur in the project area. The lesser long-nosed bat (*Leptonycteris yerbabuena*), an endangered species, has been documented by AGFD as using night roosts and feeding at hummingbird feeders, exotic cacti, and planted agave in housing developments east of La Cholla and at the Omni Tucson National Resort (Ingraldi 2009). The cactus ferruginous pygmy owl (*Glaucidium brasilianum cactorum*), a species proposed for relisting, has potentially adequate habitat in the project area and project vicinity. The project limit does not currently support any designated critical habitat; however, previously designated critical habitat for the cactus ferruginous pygmy owl (CFPO) occurs on the western side of the project area from Hardy Road to Lambert Lane (USFWS 1999). This area is currently managed by Pima County as a Special Species Management Area.

A few species listed as species of concern by AGFD have potential to occur in the project area or have been documented within three miles of its boundary. A project evaluation report by AGFD (AGFD 2009) indicates that the Fulvous whistling-duck (*Dendrocygna bicolor*), Tumamoc globeberry (*Tumamoca macdougallii*), CFPO, and a non-species specific bat colony are documented as occurring within 3 miles of the project area. AGFD did not include specific concerns related to this project. Based on the lack of specific concerns from the AGFD, no protection of sensitive species is necessary for this work.

- Fulvous whistling-duck habitat includes wetlands, marches and shallow lakes. This species most likely would occur in association with the Omni Tucson National Resort. This is a USFWS species of concern.
- Tumamoc globeberry is a state restricted plant species, and is a focal species for vegetation sampling and documentation as part of ongoing environmental studies. Avoidance, salvage, and relocation efforts could offset impacts to this species.
- There are no known CFPO territories within 20 miles of the project area. Owls were not detected during survey periods in 2009 (SWCA 2009).
- A bat colony has been documented in this area. There was no evidence of any bat colonies within the project area. General mitigation measures should be adequate to avoid any adverse impacts to this resource.



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The Sonoran desert tortoise (*Gopherus agassizii*) may occur infrequently in the project area. It has been documented extensively throughout Pima County, but adequate habitat is infrequent along La Cholla Boulevard. The soils often contain too much coarse material to make the site adequate for burrow construction. But the species could utilize cut banks along CDO Wash or its tributaries for burrowing or shelter sites. The most adequate habitat for the desert tortoise likely occurs in the vicinity of Lambert Lane, where development is less prevalent, the plant composition is more diverse, and the distance to upland montane areas is smaller. The flood plain along CDO Wash also may serve as a conduit for migrant individuals to move from highland areas to the east and west of the project area. No signs or individual tortoises were observed during reconnaissance wildlife surveys of the project site.

Suitable habitat for the western burrowing owl (*Athene cunicularia hypugaea*), protected under the Migratory Bird Treaty Act, is located within the open desert areas near and within the CDO Wash, and the Omni Tucson National Golf Course. Results from the Arizona Game and Fish Department Online Environmental Review indicated no documented occurrence of burrowing owls within a 3-mile vicinity of the project area. No signs or individual burrowing owls were observed during reconnaissance wildlife surveys of the project site.

### **Potential Impacts**

The project will widen La Cholla Boulevard, encroaching on some areas that currently have native vegetation. A Landscaping Plan is being developed; it identifies plants to be preserved in place, salvaged and relocated, or mitigated. Drainage improvements will affect designated riparian habitat protected under the Pima County Regional Flood Control District Riparian Ordinance. Impacts to regulated riparian habitat will be assessed and, if needed, mitigation will be developed in cooperation with the Regional Flood Control District. Regarding the washes, the project involves the installation of culverts to raise the roadway above washes. Selected culverts will be sized to allow wildlife passage (i.e., coyotes, javelina).

Implementation of the project Landscape Plan will include placement of new and salvaged vegetation, including saguaros, ironwoods, and riparian plant species. The landscape plan is expected to match the vegetation density of the undisturbed surrounding areas and approximate the mitigation densities of Pima County's ESR guidelines.

A biological evaluation was prepared to evaluate impacts to the lesser long-nosed bat and the cactus ferruginous pygmy owl (PCDOT 2010b). Based on the absence of roosting sites in the project area, negative survey results for the cactus ferruginous pygmy owl and revegetation of native vegetation, the biological evaluation supports a finding that the project "is not likely to adversely effect" the lesser long-nosed bat or cactus ferruginous pygmy-owl.



## **Mitigation Measures**

The following mitigation is recommended to address impacts to native vegetation and to mitigate the effect the proposed activities will have on potential forage habitat, nesting habitat, or movement corridors for the lesser long-nosed bat, cactus ferruginous pygmy-owl, and SDCP vulnerable species:

- Replace removed or destroyed native vegetation within the project R/W.
- Removed or destroyed vegetation will be replaced in densities matching the surrounding undisturbed areas.
- Saguaros will be replaced within the project area to maintain potential food sources or nesting habitat on a 1:1 basis.
- Removed or destroyed vegetation in the washes will be mitigated to replace existing densities, thus maintaining migratory corridors or dispersal corridors between forage areas and between forage areas and roosting sites.

The following measure is recommended for compliance with the Arizona Native Plant Law:

- Pima County will file a Notice of Intent with the Arizona Department of Agriculture for the removal or salvage of applicable native plants. The Notice of Intent will be filed 60 days prior to the removal or salvage of native plants.

If needed, mitigation measures will be developed in cooperation with the Pima County Regional Flood Control District to compensate for impacts to regulated riparian habitat.

## **Permits**

Pima County will file a Notice of Intent to clear land with the Arizona Department of Agriculture 60 days prior to the removal or salvage of native plants.

### **6.1.2 Drainage and Clean Water Act**

This section identifies major washes, existing stormwater and cross drainage facilities, and evaluates the project impacts to washes and facilities. This section also addresses washes regulated under Section 404 of the CWA and regulated by the U.S. Army Corps of Engineers (Corps) and project activities subject to Sections 401 and 402 of the CWA.



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## **Existing Conditions**

This project area is located within the Upper Santa Cruz and Avra Basin. Sixteen wash crossings occur along La Cholla Boulevard. The most prominent drainage feature in the project area is the CDO Wash, which crosses La Cholla Boulevard approximately 1,400 feet south of Overton Road.

The CDO Wash has a drainage area of approximately 547 square miles, upstream of La Cholla Boulevard. It drains the western portion of the Santa Catalina Mountains, the southern portion of the Tortolita Mountains, as well as several hundred square miles of desert. Watershed elevations range from 2,190 at the confluence with the Santa Cruz River to 9,080 feet at the drainage headwaters in the Santa Catalina Mountains. Watershed slopes range from less than 1% to almost vertical relief in the mountains.

La Cholla Boulevard crosses the CDO Wash at grade. At this crossing CDO Wash is a 300-foot-wide ephemeral stream with lined banks downstream of La Cholla Boulevard and natural banks upstream. The streambed is comprised of medium to coarse sand with some gravel and cobbles. The bed is vegetated with a typical assortment of desert vegetation. During moderate to large storms, the roadway is inundated, limiting access for residents, businesses, and emergency vehicles.

In addition to the CDO Wash, sixteen wash crossings occur along La Cholla Boulevard and Lambert Lane. La Cholla Boulevard crosses seven washes at grade between Overton Road and Lambert Lane. The location of the washes is described below:

- Garfield wash approximately 700 feet north of Magee Road
- Un-named wash approximately 500 feet south of McCarty Road
- Concrete channel directly south of the intersection of Hardy Road and La Cholla Boulevard
- Canada del Oro Wash approximately 900 feet north of Hardy Road
- Concrete channel approximately 50 feet southwest of the intersection of Overton Road and La Cholla Boulevard
- Un-named wash parallel to the west of La Cholla Boulevard between approximately Overton Road and Linda Vista Boulevard
- Un-named wash approximately 1,500 feet north of Overton Road
- Un-named wash approximately 1,100 feet south of Lucero Road
- Un-named wash approximately 700 feet south of Lucero Road
- Lomas de Oro wash approximately 600 feet south of Owl Peak Place and east of La Cholla Boulevard
- Un-named wash approximately 800 feet north of Owl Head Place
- Un-named wash approximately 1,100 feet north of Owl Head Place
- Un-named wash approximately 900 feet west of the intersection of Lambert Lane and La Cholla Boulevard



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- Un-named wash approximately 300 feet west of the intersection of Lambert Lane and La Cholla Boulevard
- Un-named wash approximately 200 feet east of the intersection of Lambert Lane and La Cholla Boulevard
- Un-named wash approximately 550 feet east of the intersection of Lambert Lane and La Cholla Boulevard

### **Potential Impacts**

The proposed improvements include replacement of the at-grade crossing of the CDO wash with an elevated bridge, installation of a storm drain system and culverts with 100-year storm flow carrying capacity. At the current dip crossings, the road will be raised and culverts will be placed under the road, providing all-weather access for vehicles during inclement weather. As a result, La Cholla Boulevard will provide improved access for emergency services, residents, and business customers. Culverts will be designed to manage flow velocities and transport sediment to minimize future maintenance.

A drainage channel will be required for the unnamed wash crossing at La Cholla Boulevard immediately south of Linda Vista Boulevard (unsigned dirt road). The wash currently crosses La Cholla Boulevard at a dip crossing. A box culvert will be installed at the road crossing and the developed channel will be extended to La Cholla Boulevard. Substantial downstream channel work would be required. Other washes will require box culverts or pipe culverts.

A storm drain system will be constructed along La Cholla Boulevard, thus removing water flow from the roadway. The storm drains will outlet at the appropriate cross drainage culverts, so stormwater will remain in its natural watershed. Project construction will temporarily disturb and expose soil along the R/W and temporarily introduce potential stormwater pollutants associated with construction equipment and materials. Soil disturbance and excavation will also occur in washes during installation of flood control features (culverts, intake structures, etc.).

Raising the roadway to eliminate dip crossings at washes will decrease soil erosion and water pollution associated with wind, water, and vehicle disturbance.

### **Mitigation Measures**

The following mitigation measures address pertinent regulatory requirements:

- Pima County will obtain a CWA Section 404 Nationwide Permit No. 14 and comply with the permit conditions. This permit will provide conditional water quality certification for the jurisdictional washes in the project area in compliance with Section 401 of the CWA.



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- Pima County and the contractor, in compliance with Section 402, will file a Notice of Intent to use the statewide Construction General Permit (CGP AZG 2008-001) with the Arizona Department of Environmental Quality (ADEQ) and prepare and implement a Stormwater Pollution Prevention Plan (SWPPP).

## **Permits**

A Preliminary Jurisdiction (PJD) for the project was provided to the Corps in January 2010. The PJD determined that 13 drainages are Waters of the U.S. and under the jurisdiction of the Clean Water Act, including the CDO Wash. Depending on the extent of impacts to Waters of the U.S.; Pima County will either obtain a Section 404 Individual Permit or work using a Section 404 Nationwide Permit. Project impacts to Waters of the U.S. are currently being evaluated. Should more than 500 feet of bank stabilization, or a Section 404 Individual Permit be required, PCDOT would obtain a Section 401 Individual Water Quality Certification from the ADEQ before construction commences. The terms and conditions of the Section 401 Water Quality Certification from the ADEQ would be followed by the contractor for work affecting jurisdictional waters within the project area. If an individual 404 Permit is needed, PCDOT will obtain a Section 401 Individual Water Quality Certification from the ADEQ. Otherwise, a general 401 certification would apply.

Under Section 402 of the CWA, construction disturbing one acre or more of land during excavation and/or grading activities must comply with the Arizona Pollutant Discharge Elimination System (AZPDES) General Construction Permit held by the ADEQ. To comply with the Construction General Permit, both Pima County and the contractor will notify the ADEQ and receive authorizations for construction. A Stormwater Pollution Prevention Plan (SWPPP) will be prepared by the PCDOT. The SWPPP will include temporary and permanent sediment and erosion control measures, and good housekeeping practices to control and prevent the release of potential water pollutants.

### **6.1.3 Floodplain**

This section evaluates potential impacts to Federal Emergency Management Agency (FEMA) floodplain areas as defined on FEMA Flood Insurance Rate Maps, and other areas that may be subject to inundation.

### **Existing Conditions**

Two Flood Insurance Rate Maps (FEMA 1999a, FEMA 1999b) were reviewed and showed that the project is in areas designated as Zone A AE, and X, as described in Table 4.



**Table 4. Floodplain Designation in the Project Area**

Zone	Description	Locations
A	Areas within the 100-year flood zone where no base flood elevations have been determined	<ul style="list-style-type: none"> <li>• La Cholla Boulevard from Overton Road north to 200 feet south of Lucero Road.</li> <li>• La Cholla Boulevard unnamed wash crossing 800 feet north of Owl Head Place.</li> <li>• Overton Road west of intersection of La Cholla Boulevard to project boundary.</li> <li>• Lambert Lane unnamed wash crossing 400 feet east of intersection of La Cholla Boulevard.</li> <li>• Lambert Lane unnamed wash crossing 800 feet west of intersection of La Cholla Boulevard.</li> <li>• Lambert Lane crossing of Lomas de Oro Wash</li> </ul>
AE	Areas within the 100-year flood zone where flood elevations have been determined	<ul style="list-style-type: none"> <li>• La Cholla Boulevard from 200 feet south of Hardy Road to the north bank of CDO Wash.</li> <li>• La Cholla</li> <li>• East side of La Cholla Boulevard from north bank of the CDO Wash to Overton Road.</li> <li>• Overton Road from intersection of La Cholla Boulevard to project boundary.</li> </ul>
X <sup>a</sup>	Areas within the 500-year flood zone	<ul style="list-style-type: none"> <li>• La Cholla Boulevard from Coral Ridge to 200 feet south of Hardy Road.</li> <li>• West side of La Cholla Boulevard from north bank of CDO Wash to Overton Road.</li> <li>• La Cholla Boulevard from Magee Road to Coral Ridge.</li> <li>• La Cholla Boulevard from Lucero Road to Lambert Lane excluding wash crossing.</li> <li>• Lambert Lane excluding wash crossings.</li> </ul>

Source: FEMA FIRM Map No. 04019C1610K (February 8, 1999) and 04019C1020K (February 8, 1999).

<sup>a</sup> Floodplain designated as X were differentiated through shading of the area within the 500-year flood zone on the FIRM map, with no shading for areas outside the 500-year flood zone.

**Potential Impacts**

The project includes the replacement of the at-grade crossing of the CDO Wash with two side-by-side bridges. The profile of the bridge and the shape, width, and length of the piers will create drag and displace floodwater at the bridge. The increase in water surface elevation will result in a reduction of freeboard between the top of the bank protection during a 100-year storm. Although the new bridge will raise the water surface, the water surface will remain over one foot below the top of the bank protection, which is adequate because the bank protection is not a levee. In addition, the freeboard between the lowest girder and the water surface elevation will be approximately three feet.

No adverse impacts to floodplains have been identified. However, parcels 225-06-0360, 225-06-042A, 225-06-0440, 225-06-0450, 225-24-5620, and 225-24-5640 will experience a slight raise in flood elevation of approximately 0.1 foot but will remain in compliance with FEMA and Pima County Flood



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Control Regulations. Property owners were notified individually in writing by Pima County To address the slight raise in flood elevation, PCDOT has filed Conditional Letter of Map Revision application with the FEMA.

Road design changes which may affect floodplains are intended to reduce flooding risks to vehicular traffic and adjacent properties. Compliance with the Pima County Floodplain and Erosion Hazard Management Ordinance will be achieved.

The project includes replacing dip crossings with culverts, which requires that the roadway be raised above 100-year storm flows, thereby improving access to the project area. The inlet and outlet design of culverts will protect upstream and downstream properties from any impacts due to potential changes in flow patterns.

### **Mitigation Measures**

While no adverse impacts to floodplains have been identified, designated riparian habitat will be affected.

- A riparian impact assessment will be prepared and, if needed, mitigation will be developed in conjunction with the Pima County Regional Flood Control District to compensate for impacts to regulated riparian habitat.

### **Permits**

The project will not affect floodplains. However, the project will affect greater than one-third acre of designated riparian areas which will require the project to comply with PCRFCO "Watercourse and Riparian Habitat Protection and Mitigation Requirements" (Article 16.30 of the Floodplain & Erosion Hazards Management Ordinance). Impacts to regulated riparian habitat will be evaluated and, if needed, mitigation will be developed in cooperation with the Regional Flood Control District.

### **6.1.4 Air Quality**

The U.S. Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) for six criteria pollutants: ground-level ozone (O<sub>3</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), particulate matter (PM<sub>2.5</sub> and PM<sub>10</sub>), and lead. This section evaluates the project impacts related to these criteria pollutants. It also discusses compliance with the National Emission Standards for Hazardous Air Pollutants (NESHAP), specifically with regard to project demolition activities that may release asbestos or lead into the air.

### **Existing Conditions**

The Pima County Department of Environmental Quality (PCDEQ) has jurisdiction over air quality programs in Pima County, including the project area. The PCDEQ operates a series of air quality



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monitoring stations throughout Pima County to monitor the criteria air pollutants, except lead. The closest monitoring station to the project corridor is the Orange Grove monitoring station located on the corner of Orange Grove Road and Camino de la Tierra. This station only monitors particulate matter, therefore the Children’s Park location, at the confluence of the Rillito River and Pima Wash, was used for the CO, O<sub>3</sub>, and NO<sub>2</sub> data. The following table presents the federal standards and the averaging period over which the standard is measured for the pollutants listed. The table also compares the results from the sites in 2008 to the NAAQS.

**Potential Impacts**

The proposed project is located within an area that is in attainment for all criteria pollutants. Construction-related soil disturbance and operation of heavy equipment would produce an increase in particulate matter during roadway construction, but these impacts would be short-term in nature and mitigated. The long-term impacts of the project on air quality will be positive. The project will relieve heavy traffic volume during peak travel hours and projected traffic congestion on area roadways. Decreasing traffic congestion would result in lower emissions from stop-and-go traffic and idling vehicles, which would otherwise negatively affect air quality. In addition, pedestrian and bicycle access within the area would be improved and could reduce vehicle emissions.

**Table 5. Air Quality Monitoring Data**

<b>Pollutant</b>	<b>Averaging period</b>	<b>Federal Standard</b>	<b>Monitored 2008 value</b>
Particulate matter (PM <sub>2.5</sub> )	24-hour Average	65 µg/m <sup>3</sup> <sup>a</sup>	18.3 µg/m <sup>3</sup>
	Annual Average	15 µg/m <sup>3</sup>	5.72 µg/m <sup>3</sup>
Carbon monoxide (CO)	1-hour Average	35 ppm <sup>b</sup>	1.5 ppm
	8-hour Average	9 ppm	1.0 ppm
Ozone (O <sub>3</sub> )	1-hour Average	0.12 ppm	0.084 ppm
	8-hour Average	0.075 ppm	0.069 ppm
Nitrogen dioxide (NO <sub>2</sub> )	Annual arithmetic mean concentration	0.053 ppm	0.0111 ppm

Sources: Pima County Department of Environmental Quality (2006); U.S. Environmental Protection Agency (49 Code of Federal Regulations 50)

<sup>a</sup> micrograms per cubic meter

<sup>b</sup> parts per million

The proposed project would have only temporary, short-term, and minimal impacts to particulate levels during project construction. The project would improve long-term air quality by decreasing traffic congestion, improving alternative modes of transportation, and reducing particulate emissions associated dust generation from vehicle travel on roadway shoulders with exposed soil.



## **Mitigation Measures**

Prior to initiating any earthmoving, trenching, or road construction, the contractor will obtain an Air Quality Activity Permit from the PCDEQ. The contractor will limit the amount of dust generated to a maximum standard opacity of 20 percent. The contractor will follow the PCDOT standard specifications for dust suppression during construction and will comply with the SWPPP prepared for this project.

## **Permits**

An Air Quality Activity Permit from PCDEQ will be required prior to initiating any construction activities, and it will require dust control measures. PCDEQ will issue a permit for both Pima County and Oro Valley portions of the project.

### **6.1.5 Noise**

Noise is unwanted sound that interferes with normal activities or otherwise diminishes the quality of the environment. This section evaluates potential noise impacts to sensitive properties in Pima County based on a project-specific traffic noise report (PCDOT 2009d) that models existing and future noise levels along La Cholla Boulevard, using the proposed design plans for the project and future 2040 traffic forecasts. The noise report is consistent with the PCDOT procedure on Traffic Noise Analysis and Mitigation Guidance for Major Roadway Project (PCDOT 2008), commonly referred to as the Pima County Noise Abatement Procedure, or PCNAP. Potential noise impacts for sensitive noise receptors in Town of Oro Valley are addressed in the project traffic noise report (PCDOT 2009d).

According to the PCNAP, noise abatement should be considered if noise levels reach 66 decibels (dBA) or higher at noise-sensitive properties. Additionally, mitigation measures will be considered for noise-sensitive properties if predicted traffic noise levels substantially exceed existing levels. "Substantially exceed" is defined as a 15-dBA increase between the existing noise levels and the future noise levels.

The PCNAP provides criteria for use of noise walls for noise abatement mitigation based on consideration of the following conditions:

- The cost of the noise abatement shall not exceed \$35,000 per benefited receiver, at \$25 per square foot of constructed barrier.
- The noise barrier will benefit more than one sensitive property.
- The noise barrier will provide a 5-dBA noise reduction without being more than 10 feet high.



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The PCNAP includes a provision for the use of rubberized asphalt, which reduces roadway noise. Rubberized asphalt will be used for this project, and a 3-dBA credit is taken for its use consistent with the PCNAP.

**Existing Conditions**

Noise sensitive properties within the project area are predominantly single-family homes. Some multifamily residential areas are located in the southern portion of the project area. Churches are also considered noise sensitive properties.

The dominant noise source during peak traffic hours in the project area is roadway noise. Field readings were taken at 20 locations along La Cholla Boulevard to measure existing noise conditions during peak-hour traffic flows and to compare them with the predicted sound levels using the noise model. Noise was measured during peak AM traffic hours on Tuesday, October 13, 2009, Wednesday, October 14, 2009 and Thursday, October 15, 2009, from 7 to 9 AM and during peak PM traffic hours on Tuesday, November 17, 2009 and Wednesday, November 18, 2009, from 5 to 7 PM. These times were selected to represent peak traffic hours.

Existing noise levels were modeled for 20 sensitive receiver locations. Existing noise levels range from 54 to 67 dBA. Modeled existing noise levels exceeded PCNAP criteria at three locations.

**Potential Impacts**

Traffic volumes on La Cholla Boulevard are expected to increase because of regional growth and expanded roadway capacity associated with the improvements, as indicated in Table 6. The increase in traffic volumes will result in an increase in traffic noise along the roadway. Likewise, adding lanes to the road will move traffic closer to noise sensitive properties, thus increasing traffic noise levels at these properties. The project will use rubberized asphalt, which lessens the noise produced by traffic on the road.

**Table 6. Existing (2009) and Future (2040) Peak-hour Traffic Volumes**

<b>Location</b>	<b>2009</b>	<b>2040</b>	<b>Increase</b>
La Cholla Boulevard (between Magee Road and Overton Road)	2,776	5,066	2,290
La Cholla Boulevard (between Overton Road and Lambert Lane)	2,021	4,490	2,469

Source: Pima County Department of Transportation (2009a)

Future (2040) noise levels were predicted at 20 locations. These locations included residential properties and churches. Future peak-hour noise levels will range from 53 to 66 dBA. At ten locations the predicted future noise levels are the same or lower than the existing noise levels. Predicted future noise levels are 1 dBA to 2 dBA higher than existing noise levels at nine locations. Predicted future noise levels exceed



the PCNAP criteria at three locations. See Section 6.1.8, Construction Activities, regarding construction noise impacts.

**Mitigation Measures**

Predicted future noise levels exceed the noise abatement criteria at three locations. The provision of noise barriers was evaluated for feasibility and reasonableness for all of these locations. The locations were evaluated for noise barriers (Table 7). Figure 7 depicts the locations where a noise barrier meets the feasible and reasonable criteria.

**Table 7. Noise Barrier Evaluation**

<b>Location</b>	<b>Length/ Height</b>	<b>Benefited Receivers</b>	<b>Cost per Benefited Receiver</b>	<b>Consistency with PCNAP Criteria</b>
<b>Location #4</b> – La Cholla Hills Subdivision South of Coral Ridge Loop for the residences between La Cholla Boulevard and Breezewood Place.	745 feet/ 10 feet	10	\$16,763	Yes
<b>Location #5 &amp; #7</b> - La Cholla Hills subdivision north of Coral Ridge Loop for the residences between La Cholla Boulevard and in front of the residences west of Candlewood Loop.	915 feet/ 10 feet	12	\$17,156	Yes

Source: PCDOT 2009d

The noise analysis results show that noise barriers meet PCNAP criteria at two locations and are warranted. Noise barriers are warranted on the east side of La Cholla Boulevard at the La Cholla Hills Subdivision for residences on the west side of Breezewood Place and Candlewood Loop. Noise barriers would be constructed at these locations should a 51% majority of affected residences vote in favor of construction.

**6.1.6 Utilities**

This section identifies the utilities present in the project area, describes potential impacts to utility customers, anticipated utility relocation, and the party responsible for notifying utility customers regarding any service interruptions.

**Existing Conditions**

Numerous utilities are located within the project R/W, as summarized in Table 8.



**Table 8. Existing Utilities**

<b>Provider</b>	<b>Utility</b>
Metropolitan Water District	Potable and reclaimed water lines varying in size from 4” to 30”, well sites and storage reservoirs
Oro Valley Water	Potable and reclaimed water lines varying in size from 4” to 24”
Tucson Electric Power (TEP)	46kV and 14kV transmission lines, 3 phase and single phase primary overhead and underground
Southwest Gas (SWG)	Gas lines that vary in size from ½“ service lines to 8” distribution feeders
Pima County Regional Wastewater Reclamation Department	Sanitary gravity sewer systems from 8” to 30” lines, and a 24” reclaimed line
Comcast Cable	Cable & fiber optic TV & communication
Qwest Communications	Coaxial, copper, fiber optic telecommunications
Private- Offsite Sewer	8” sanitary sewer
Omni Tucson Golf Course	Private water well site

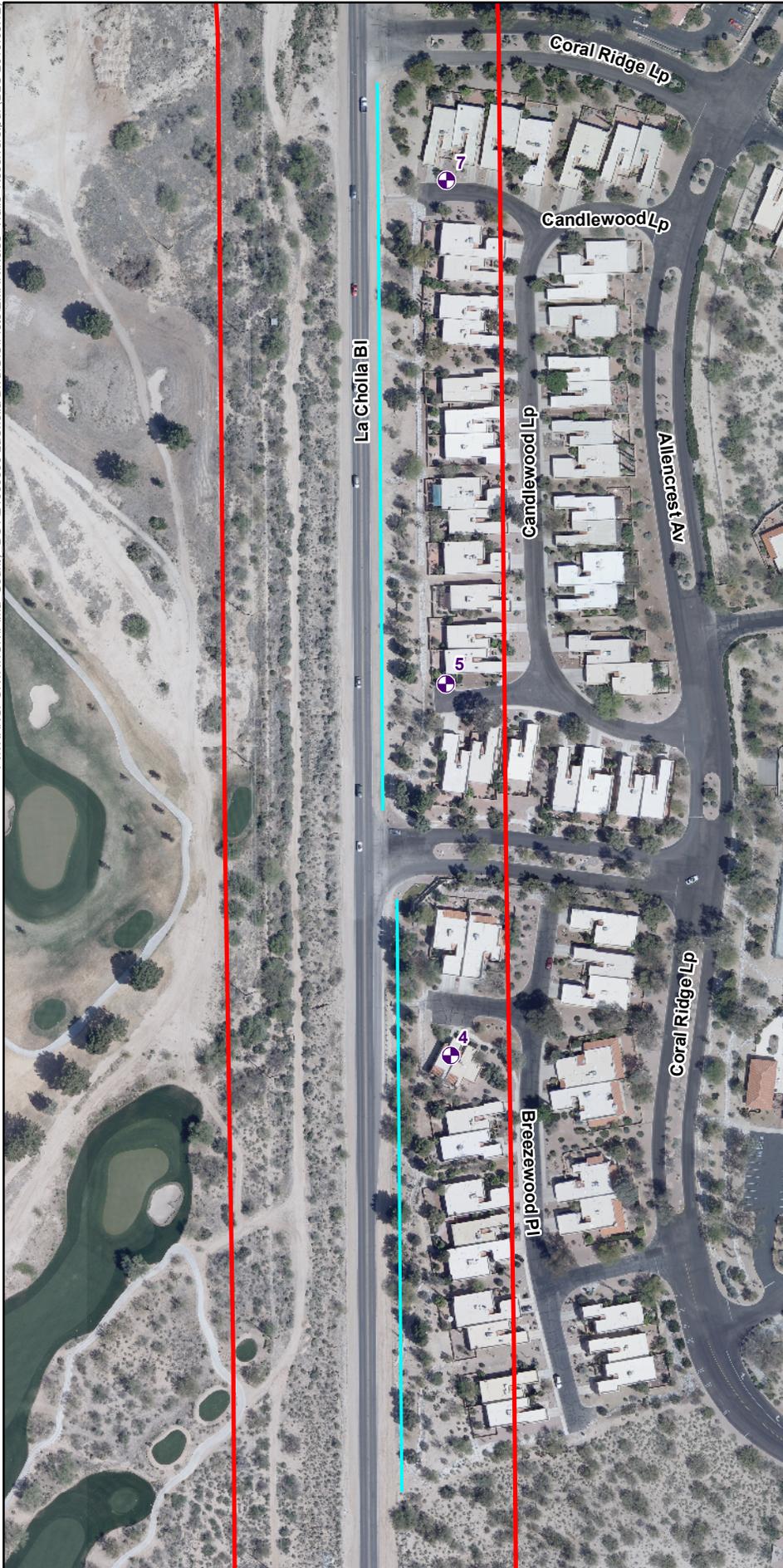
Source: PCDOT 2010c

**Potential Impacts**

Throughout the project, utilities such as overhead eclectic, communications and cable lines, and a well site will be impacted by roadway widening; alignment adjustments both vertically and horizontally; cut and fill sections; drainage structures and retaining walls. Underground utilities such as gas, potable and reclaimed water, wastewater, power, fiber optic duct structures, copper and cable communications will be impacted by drainage and bridge structures, fill heights, cut sections and retaining walls.

The location of utilities within the project R/W will be indentified in order to assess potential conflicts and design mitigation solutions. All available and appropriate design options will be used to mitigate conflicts and relocation work to the extent possible. It is anticipated that extensive relocation of underground and overhead utilities will be required for most companies. There are planned utility system upgrades which will be coordinated with the project team and other utility companies to eliminate design and construction conflicts and maximize the use of limited R/W.

Overhead utilities will need to be relocated outside the future travel lanes for the project. A Metro Water well site will be relocated outside of the future La Cholla Boulevard alignment. Some of the underground utilities will need to be relocated to accommodate drainage facilities, changes in grade for the new roadway, and to allow future access to utilities for repairs or maintenance. Utilities located at the CDO Wash will need to be relocated to accommodate the new bridge. The relocation of gas, telephone, cable, and overhead electric lines will be conducted in advance of roadway construction by the utility providers. Any necessary relocation of high-voltage electric lines, high-pressure gas lines, and water lines may be conducted during months when demand for these services is lower.



### Figure 7 Noise Wall Location

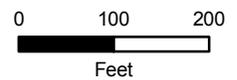
La Cholla Boulevard, Magee Road to  
Lambert Lane Phase 1

Pima County Project Number: 4RTLTM

#### Legend

- Project Area
- Potential Noise Wall
- ⊕ Noise Receiver Location

Source:  
 Noise Wall: URS 2009 - 2010  
 Noise Receiver: Sound Solutions 2009  
 Project Area: URS 2009 - 2010  
 Base Features: Pima County DOT 2009  
 Imagery: PAG 2008





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Utility relocation may result in temporary short-term service interruptions to area residents and businesses. The utility provider will notify customers in advance of an interruption. Utilities that may be temporarily impacted include water, gas, electric, wastewater and cable communications. Utility providers endeavor to minimize service interruptions and will reroute service where feasible. Service interruptions can generally be limited to a few non-peak hours per day, over a few days, or a half-day interruption. Some utility work may be conducted at night when service demand is low to minimize effects on customers; this will reduce direct utility impacts, but may result in a temporary noise impacts during relocation.

### **Mitigation Measures**

As discussed above, utility service interruptions will be minimized, but some service interruptions are unavoidable and may result in temporary impacts to residents and businesses. Utilities or the contractor will notify utility customers in advance of any utility service interruptions.

### **Permits**

For any work related to the municipal sewer system, a public sewer construction permit will be required from Pima County Regional Wastewater Reclamation District and will provide for construction coordination, as well as reporting, coordination, and guidance for cleanup in the event of any wastewater release.

Prior to utility relocation, utilities companies must obtain a Pima County Right-of-Way Use Permit. Utility relocation is not covered by PCDOT permits obtained for road construction (i.e. Section 404 permit).

#### **6.1.7 Hazardous materials**

This section evaluates the project impacts related to hazardous materials based on a hazardous materials investigation including a Preliminary Initial Site Assessment (PISA) (PCDOT 2009c).

### **Existing Conditions**

A PISA was conducted to identify potential recognized environmental conditions (RECs) associated with individual parcels within the project area, and to identify those properties requiring more detailed investigation. The PISA included the following activities: a site reconnaissance and photo documentation, and a review of federal and state environmental records.

Land uses along the project corridor include residential properties (single-family homes and townhome complexes), Omni Tucson National Resort and Golf Course, institutional (Alive Christian Fellowship and Grace Community Church), vacant land, and flood control/river.



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All parcels located within the project corridor were considered to be Low Priority for further hazardous materials investigations. No RECs have been identified in the project corridor.

### **Potential Impacts**

The project includes excavation and earthmoving activities. Based on the hazardous materials investigations, subsurface hazardous materials issues associated with past contamination are not anticipated.

No buildings would be demolished under the proposed design. Two areas of concrete (block) debris, a decorative block wall, and numerous concrete culverts (beneath La Cholla Boulevard) were observed during the site reconnaissance. Concrete manufactured prior to 1985 may contain asbestos. All suspect asbestos-containing concrete debris and existing concrete culverts installed prior to 1985; and any structures containing suspect lead-based paint (LBP) materials should be assessed for asbestos and lead prior to demolition or removal. Should properties be acquired, PCDOT will complete a Phase I Environmental Site Assessment of the subject properties in order to provide Pima County adequate due diligence prior to property acquisition.

### **Mitigation Measures**

The following mitigation measures are recommended to address hazardous materials conditions:

If any suspected hazardous materials are encountered during construction, work shall cease at the location and the Pima County Engineer shall be contacted to arrange for proper assessment, treatment, or disposal of those materials.

Prior to demolition or disposal of structures, an Asbestos Hazard Emergency Response Act Certified Building Inspector should conduct sampling on all suspect asbestos-containing concrete debris and existing concrete culverts installed prior to 1985; as well as sampling any suspect LBP materials. If asbestos-containing materials (ACM) or LBP are present, a certified asbestos abatement contractor shall develop and implement an Asbestos Removal and Disposal Plan for the removal of all identified LBP and ACM.

### **Permits**

No permits relating to hazardous materials have been identified.

### **6.1.8 Construction Activities**

This section evaluates impacts that may result from construction activities associated with the project such as traffic control, dust generation, and noise.



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## **Existing Conditions**

Land uses along the project corridor include residential properties (single-family homes and townhome complexes), Omni Tucson National Resort and Golf Course, institutional (Alive Christian Fellowship and Grace Community Church), vacant land, and flood control/river.

## **Potential Impacts**

Project construction is expected to begin in 2012 and last from 18 to 24 months. A traffic control plan will be implemented by the contractor in conjunction with PCDOT's Field Engineering Division, and will employ measures such as construction signs, cones, and reduced speed limits. A temporary road may be required during construction of the CDO Wash Bridge. No detours or other temporary roads are anticipated. Although access will be maintained, traffic control measures are likely to temporarily slow traffic during construction. Some drivers may avoid this route in favor of alternate routes, resulting in a temporary increase in traffic on other routes during the La Cholla Boulevard construction.

Earthmoving, grading, and demolition activities will temporarily generate dust within the project area (see Section 6.1.4, Air Quality).

Construction of the proposed improvements will cause temporary impacts associated with the operation of construction equipment during site clearing, earthwork/grading, foundation preparation, and base preparation. Construction noise will be intermittent, with the highest noise levels occurring during the grading/earthwork phase. The types of construction equipment used for this project will typically generate noise levels of 80 to 90 dBA at a distance of 15 meters (50 feet) while the equipment is operating. Construction equipment operations can vary from intermittent to fairly continuous, with multiple pieces of equipment operating concurrently. Table 9 shows the noise levels produced by various types of construction equipment.

Noise impacts from construction equipment may be minimized through use of properly designed equipment, good maintenance of equipment, and placement of equipment away from noise sensitive properties. The contractor will comply with Pima County's Noise Ordinance (Pima County Code Chapter 9.30.070), which sets the construction start and stop times in order to avoid noise disruptions at night. If nighttime work is required, the contractor will need to obtain a permit from Pima County.

## **Mitigation Measures**

The following mitigation measures are recommended to address construction impacts:

- The contractor shall maintain access to businesses and residences.
- The contractor shall provide signs to identify business access during construction.



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- The contractor will comply with Pima County’s Noise Ordinance (Pima County Code Chapter 9.30.070), which sets the construction start and stop times in order to avoid noise disruptions at night. If nighttime work is required, the contractor will need to obtain a permit from Pima County.
- Exhaust systems for construction equipment will be kept in good working order. Equipment will be maintained on a regular basis, and may be subject to inspection.
- Properly designed engine enclosures and intake silencers will be used where appropriate.
- New equipment will be subject to new product noise emission standards.
- Stationary equipment will be located as far away from sensitive receivers as possible.

**Table 9. Construction Equipment Noise**

Type of Equipment	Noise levels in dBA at 50 feet
Bulldozer	80
Front Loader	72-84
Jack Hammer or Rock Drill	81-98
Crane with Headache Ball	75-87
Backhoe	72-93
Scraper and Grader	80-93
Electric Generator	71-82
Concrete Pump	81-83
Concrete Vibrator	76
Concrete and Dump Trucks	83-90
Air Compressor	74-87
Pile Drivers (Peaks)	95-106
Pneumatic Tools	81-98
Roller (Compactor)	73-75
Saws	73-82

Source: PCDOT 2009d

**Permits**

Prior to initiating construction activities such as earthmoving, trenching, or road construction that affect 1 acre or more, the contractor will obtain an Air Quality Activity Permit from PDEQ. The contractor will limit the amount of dust generated to a maximum opacity of 20 percent. The contractor will follow PCDOT standard specifications for dust suppression during construction and will implement the SWPPP prepared for this project.



### **6.1.9 Cultural Resources**

This section discusses potential impacts to cultural resources based on a project-specific cultural resources assessment conducted in accordance with Section 106 of the National Historic Preservation Act by URS Corporation (Cox and others 2010, Kirvan and others 2009). The report presents the results of a records check and pedestrian survey, evaluates the potential impacts of the project to cultural resources, and recommends mitigation to reduce impacts to cultural resources.

#### **Existing Conditions**

An intensive cultural resource survey was conducted to cover a corridor 415 feet wide along La Cholla Boulevard between Magee Road and Lambert Lane, and corridors of similar width for 1,000 feet to either side of the major intersections that will be improved at Overton Road and Lambert Lane. The survey also covered extra work space extending 500 feet upstream and downstream of the La Cholla Boulevard crossing of the CDO Wash, a corridor for a drainage channel northeast of the intersection of La Cholla Boulevard and Overton Road, and two potential staging areas on the east and west sides of La Cholla Boulevard south of the CDO Wash crossing (Cox and others 2010; Kirvan and others 2009).

The surveys identified a roasting pit feature at one previously recorded and tested aboriginal archaeological site; discovered six historical archaeological sites and 15 isolated occurrences of artifacts and features; and recorded and evaluated two previously unrecorded historic-age buildings (Table 10). The Pima County Cultural Resources and Historic Preservation Office, in consultation with the State Historic Preservation Office and other interested agencies and tribes, determined that all nine of those resources, as well as fifteen isolated occurrences of artifacts and features, lack historical significance and are not eligible for the Arizona Register of Historic Places or National Register of Historic Places. None of the archaeological sites and historic-age properties appear to be within those parts of the project that are under the purview of the Corps pursuant to Section 404 of the Clean Water Act.

#### **Potential Impacts**

Final design of the proposed roadway improvements has not been completed and the need for new R/W has not yet been precisely determined, but all nine of the recorded cultural resources are likely to be disturbed to only a minor degree, if at all, by construction of the roadway improvements. Regardless, none of the resources warrant further consideration because they have been evaluated as ineligible for the Arizona and National Registers of Historic Places.



**Table 10. Cultural Resources in the Project Area<sup>1</sup>**

	Site Name /Site Number	Site Type, Features	Affiliation, Age
<i>Previously Recorded Archaeological Site</i>			
1	Darla Site, AZ AA:12:826(ASM)	5 roasting pits without artifacts	aboriginal, period not determined
<i>Newly Discovered Archaeological Sites</i>			
2	AZ AA:12:1072(ASM)	artifact scatter, household debris	Euro-American, 1940s to 1950s
3	AZ AA:12:1073(ASM)	artifact scatter, household debris	Euro-American, 1950s to 1960s
4	AZ AA:12:1074(ASM)	artifact scatter, household debris	Euro-American, 1940s to 1950s
5	AZ AA:12:1075(ASM)	artifact scatter, household debris	Euro-American, 1930s to 1950s
6	AZ AA:12:1076(ASM)	shed with animal pen, and construction and household debris	Euro-American, 1940s to 1950s
7	AZ AA:12:1093(ASM)	ruins of a small concrete block house, and associated features including a cellar and water well and pump	Euro-American, 1940s to 1950s
<i>Previously Unrecorded Historic-Age Buildings</i>			
8	2055 West Overton Road, parcel 22506025A	farmstead with residence and several outbuildings	Euro-American, 1952, 1967
9	8751 North La Cholla Boulevard, parcel 225250020	metal shade structure associated with cotton farm	Euro-American, 1953

<sup>1</sup> The Pima County Cultural Resources and Historic Preservation Office, in consultation with the State Historic Preservation Officer and other interested agencies and tribes, has determined that all the resources are not eligible for the Arizona Register of Historic Places or National Register of Historic Places.

### Mitigation Measures

Because no properties listed in or eligible for the Arizona or National Registers of Historic Places will be affected, the Pima County Cultural Resources and Historic Preservation Office has made a determination of no historic properties affected, and no mitigation measures are warranted.

### Permits

The Pima County cultural resources consultation process has been completed and no further consideration of cultural resources or cultural resource permits is required. The construction specifications should stipulate that if previously unidentified archaeological resources or human remains are found during construction, ground-disturbing activities should cease in the vicinity of the discovery and reasonable measures should be taken to protect the discovery in place. The Pima County Cultural Resources and Historic Preservation Office should be contacted immediately (telephone 520-740-6598) to make arrangements to notify the State Historic Preservation Office, Arizona State Museum, and other agencies as appropriate to evaluate the discovery and determine appropriate treatment.



### **6.1.10 Visual resources**

This section describes characteristics of various viewsheds within the project area including the level of development, drainage features, vegetation, and topography. This section evaluates the project impacts on visual resources, with photographs illustrating typical views in the project area. Photograph locations are identified in Figure 8, with the project area views shown in Photographs for Key Observation Points (KOPs) 1 through 7. For this assessment, a KOP is a location where viewers may experience a degradation of scenic quality caused by the introduction of the proposed project within their viewshed and includes both viewers from the roadway and to the roadway.

#### **Existing Conditions**

The project area is visually characterized by developed land uses, native vegetation, varying topography, and washes. The photographs illustrating typical views in the project area from each KOP is described using the following distance zones:

- Foreground - < ¼ mile from observer
- Middleground - ¼ to 1 mile from observer
- Background views - beyond 1 mile from observer

The setting of the project, outlined in Chapter 4 of the Pima County Roadway Design Manual, may be defined as either developed or natural. The setting of the La Cholla Boulevard study area would fall under the developed category due to the moderate level of development adjacent to the project area.

#### Development

The general area of the project, between the intersections of La Cholla Boulevard with Lambert Lane and West Magee Road, is dominated by suburban residential uses, with recreational and institutional uses interspersed in the foreground and middleground. La Cholla Boulevard, a defined roadway, has two travel lanes but lacks medians, curbs, sidewalks, and in most areas roadside landscaping (KOP 1 through KOP 7).

The existing public R/W is wide, but only a small proportion of it is used by the existing two-lane road. As a result, much of the development has the appearance of having a large setback. The existing R/W adjacent to the roadway is predominantly unpaved and lacks vegetation and developed features. A high voltage transmission line parallels portions of La Cholla Boulevard between Lambert Lane and Overton Road (KOPs 2 and 3). The area between Lambert Lane and Overton Road also has more natural vegetation and larger setbacks from the road and the residential and institutional development resulting in a more open feel with expansive middleground and background views. Land use between Overton Road



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and Lambert Lane is predominantly single-family residential on approximately 1-acre lots (KOP 1, 2, and 3).

Views west at the Fairways at Tucson National and adjacent Omni Tucson National Golf Course are expansive, with views of the adjacent open space, developed course with highly manicured landscape features, native and landscaped vegetation and the roadway. The east side of La Cholla Boulevard is bordered by suburban development (KOP 5). Apartment buildings exist on the southern boundary of the project area, adjacent to KOP 7, where there is more commercial development in the surrounding area.

### Dominant Visual Features

The topography in the project area is gently rolling with dissecting washes sloping toward the CDO Wash. Vegetation is relatively dense throughout the project area but native vegetation is limited to undeveloped areas. Non-native vegetation is mainly concentrated in and adjacent to the Omni Tucson National Golf Course. The CDO Wash is the major drainage feature. The Table and Bighorn Mountains can be seen in the background from most of the project area as well as Mount Lemmon and Mount Kimball (KOP 4). The Tortolita Mountains can be seen in the background from many views north along La Cholla Boulevard (KOPs 6 and 7). Looking southward from the project R/W, Tumamoc Hill and Sentinel Peak can be observed in the background (KOP 2).

### Views

Foreground views predominantly consist of the unpaved R/W, moderate- and low-density housing, and undeveloped land in some areas. Middle ground views encompass the foreground views, as well as additional landscaped areas, manicured landscape features, native vegetation areas, washes, and overhead utility lines. Background views include the Table, Tortolita, and Bighorn Mountains, the focal points of Mount Lemmon and Kimball as well as the background views of Tumamoc Hill and Sentinel Peak.

### **Potential Impacts**

The project will involve the full development of a 3-mile segment of La Cholla Boulevard, between Magee Road and Lambert Lane, which would involve the conversion (widening) from the existing two travel lanes, up to three lanes in places, and unpaved R/W to a four lane divided cross-section with a raised median, left turn bays, frontage roads, two noise barriers, 6-ft wide multi-use lanes, and a 5-foot multi-use path on the west side. Additionally, the project would propose a new 600-foot bridge to be constructed over the CDO Wash. The bridge would raise the road profile approximately 20-feet in height for the crossing.

The proposed design of the project would consist of 26 significant fill areas and 10 significant cut locations along La Cholla Boulevard. The profile of the roadway will be raised in many areas resulting in the need for significant cut and fill. The southern end of the project site, where the Omni Tucson National



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Golf Course is located, will have fill slopes up to 24 feet in height. The project will also feature a landscape plan, artwork, and aesthetic treatments. The landscape plan will integrate the roadway project with the proposed CDO Wash Bridge. The landscape plan will also address landscaped medians and sidewalk areas. The art and aesthetic program will be further developed in conjunction with the project team, the CAC, and the public, but may include aesthetic improvements at the bridge, landscaped areas, and retaining/noise walls.

Foreground and middle ground views from the perspective of those traveling through the corridor at KOPs 2, 3, and 6 would experience the most change because of the replacement of unpaved R/W with hardscape, which includes vertical elements (noise barriers and retaining walls), and impacts to form, line, color, and texture resulting from possible cut and fill scarring. Vegetative treatments proposed in the landscape plan will somewhat soften the edge conditions of many views. A series of slope and wall treatments have been proposed in the Slope and Wall Type Selection Report ranging from the use of riprap to Mechanically Stabilized Earth (MSE) walls in order to reduce the visual impacts of cut and fill related to the proposed project. If the two noise walls are constructed they will be viewed by commuters and travelers along the southern segment of the proposed project. The revetment treatments would be visible from various locations throughout the project area. Background views will be largely unaffected.

Foreground and middle ground views from adjacent properties toward the roadway will also experience a high level of change because of the replacement of unpaved R/W with hardscape which includes the introduction of new geometric forms (e.g., bridge, medians, and noise barriers). Vegetative treatments proposed in the landscape plan will somewhat soften the edge conditions of many views. If the two noise walls are constructed they will be viewed by residences at KOP 5-The Country Club Apartments. The proposed south noise barrier would be approximately 10-feet in height located on the slope approximately 5 feet west of the R/W line. The proposed north noise barrier would also be approximately 10-feet in height located closer to the roadway and further from residences. It is anticipated that the combination of two separate walls would screen possible views of the proposed highway improvements. Most of the background views will be largely unaffected throughout the project area. The background views of residences where the noise barriers are installed would be impacted by the walls, depending on final design and how close the barriers are sited. Noise walls may provide opportunity for aesthetic treatments such as public art or patterns which soften the wall surface and are considered aesthetically pleasing to the community.

Most impacts to viewers in the project area, and more specifically from each selected KOP, were considered low to moderate with the exception of KOP 5. It was assumed that the introduction of two noise barriers within the foreground view of a sensitive residential viewer would result in high visual impacts to that viewer and similar viewers in the adjacent vicinity; however, if the walls are located far enough from the viewer as to block views of La Cholla Boulevard but not the background views it would likely only result in a moderate visual impact to residences at KOP 5. The widening of La Cholla Boulevard would likely create a noticeable but not substantial change in scenic quality.



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## **Mitigation Measures**

The following measures are recommended to soften the hardscape and improve the aesthetic appeal of the project area:

- Include landscape plantings in front of noise walls and in project medians where practical to soften the hardscape.
- New noise barriers should use either a public art treatment, local architectural styles, or match the texture and/or color of the surrounding landscape elements to the greatest extent possible in order to reduce contrast.
- Incorporate aesthetic treatments for the proposed bridge design.
- A naturally appearing transition should be provided between graded slopes and existing landforms.
- Surface and slope treatments such as rip rap, MSE walls, or wire-enclosed rock (gabions) use local rocks or the colors of the surrounding landscape to blend cut and fill areas in with the natural topography and lower potential project contrast.
- In areas requiring cut/fill over a 3:1 slope, such as 2:1 slope, a slope plating technique such as riprap should be used to blend excessive fill into the surrounding landscape except in certain areas where it has been identified to use MSE wall.
- If MSE walls are used for slope stabilization the pattern/style/color of the wall should blend the fill slope as much as possible to match the surrounding landscape elements and reduce contrast.
- Cut and fill slopes of a 3:1 may also be landscaped with local vegetation to reduce contrast.

## **Permits**

No permits pertaining to visual resources have been identified for the proposed project.

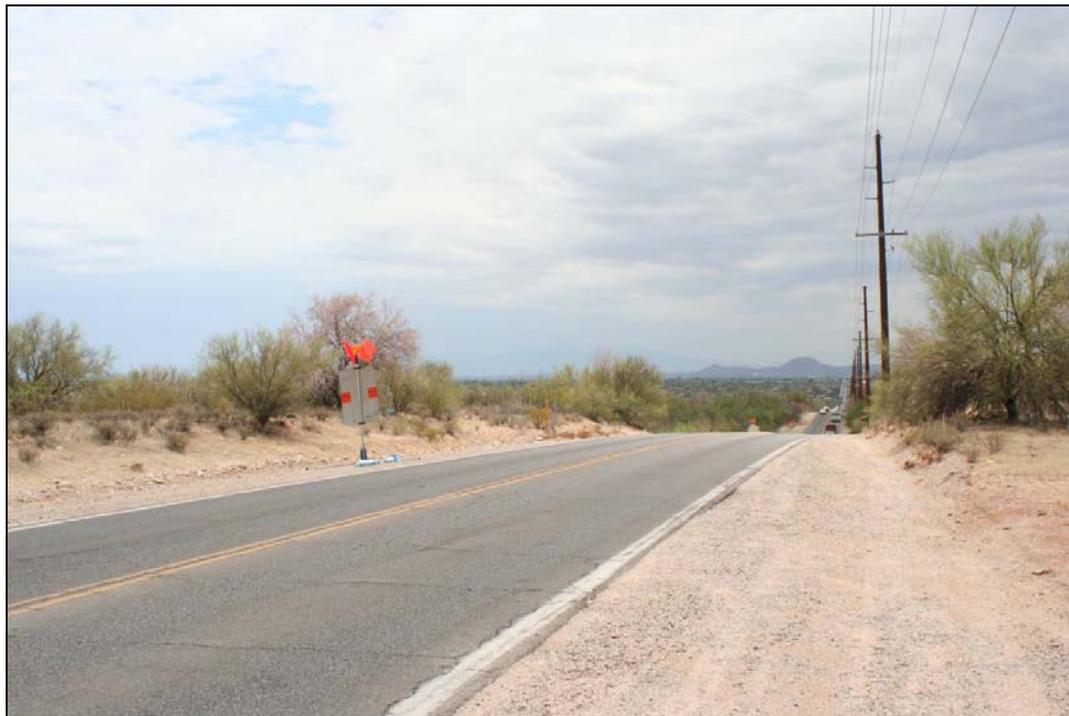


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Photograph 1. Intersection of La Cholla Boulevard and Lambert Lane,  
looking southeast from the northwest corner of the intersection



Photograph 2. La Cholla Boulevard south of Lambert Lane,  
Looking south from the west side of La Cholla Boulevard





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Photograph 3. Alive Christian Church entrance at La Cholla Boulevard,  
Looking northwest from the east side of La Cholla Boulevard



Photograph 4. The Bluffs Subdivision entrance at La Cholla Boulevard,  
Looking east from the east side of La Cholla Boulevard





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Photograph 5. La Cholla Hills Subdivision at La Cholla Boulevard,  
Looking west from the east side of La Cholla Boulevard



Photograph 6. Intersection of La Cholla Boulevard and McCarty Road,  
Looking north from the east side of La Cholla Boulevard





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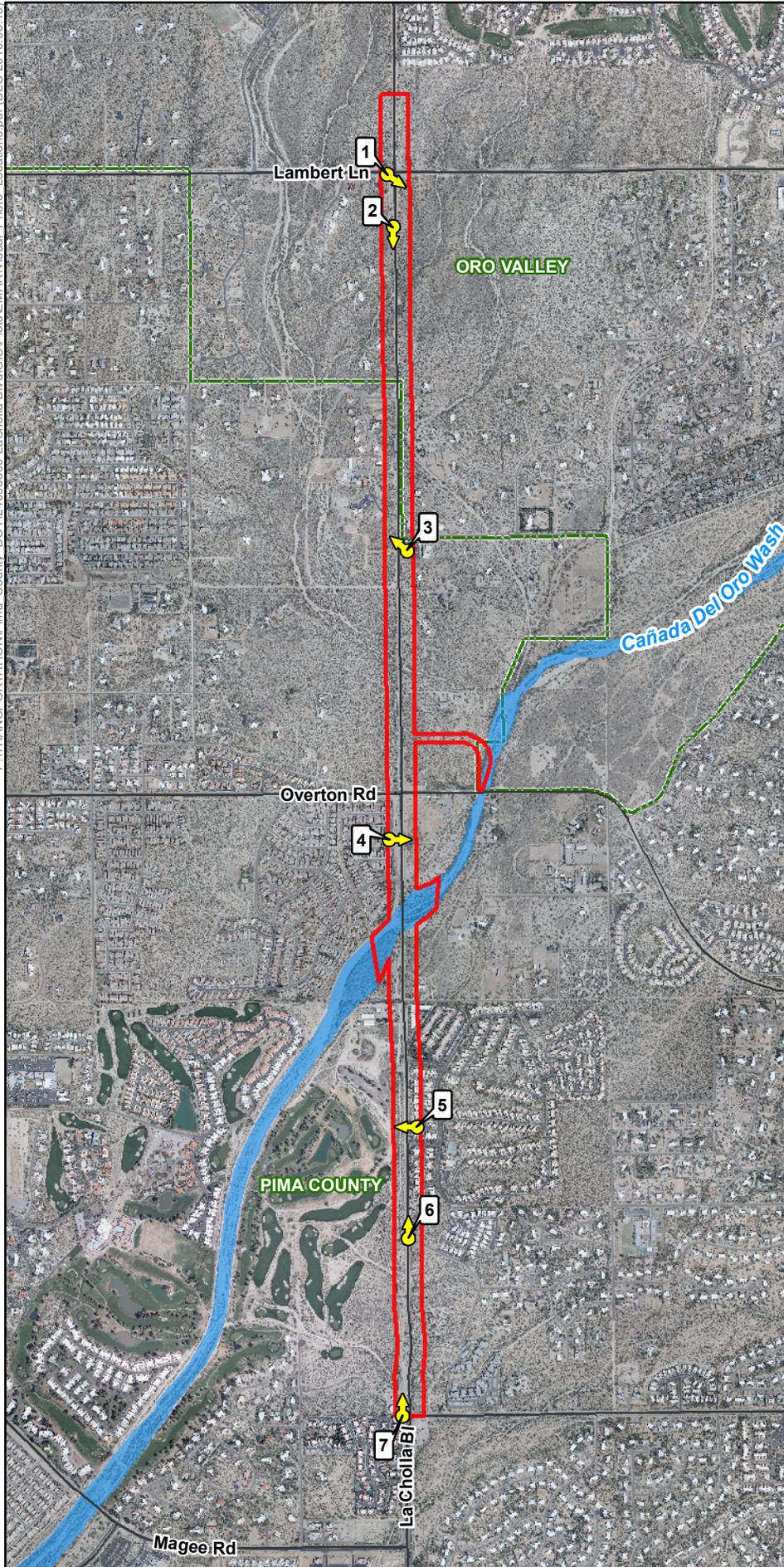
Photograph 7. Intersection of La Cholla Boulevard and Magee Road,  
Looking north from the west side of La Cholla Boulevard



# Figure 8 Visual Analysis Photograph Locations

La Cholla Boulevard, Magee Road to  
Lambert Lane Phase 1

Pima County Project Number: 4RTLTM



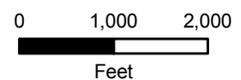
### Legend

- Project Area
- Photograph Location and Number

### General Features

- Arterial Road
- Major Wash
- City Boundary

Source:  
Project Area: URS 2009 - 2010  
Photograph Locations: URS 2009  
Base Features: Pima County DOT 2009  
Imagery: PAG 2008





## **6.2 NEIGHBORHOOD / SOCIAL ENVIRONMENT**

This section evaluates impacts to the neighborhood and social environment, including R/W acquisition and displacement, temporary and permanent access and parking, neighborhood disruption, parks and recreational areas, and consistency with other plans.

### **6.2.1 Right-of-way acquisition and displacement**

This section describes the existing land use, zoning, and planned development in the project area, and evaluates the potential impacts resulting from acquisition of new R/W and drainage easements for the project, including displacement of uses.

#### **Existing Conditions**

Land use in the project area includes residential (single-family homes and townhome complexes), commercial (Omni Tucson National Resort and Golf Course), institutional (Alive Christian Fellowship and Grace Community Church), public (Metropolitan Domestic Water Improvement District and Tucson Electric Power), horse property (Sunkist Stables), vacant land, and flood control/washes. Zoning in the project area is predominantly Single Residence (CR-1), Transitional Zone (TR), and Single Ranch (SR). The density of development in the area is consistent with a suburban setting.

#### **Potential Impacts**

The proposed project will construct a road that requires more space than the existing road. New R/W is needed to accommodate the widened road, additional turning lanes, and a multi-use trail. Drainage easements are needed to support the construction of the improved drainage along La Cholla Boulevard. Temporary construction easements are needed to accommodate project construction and temporary impacts that may extend beyond the R/W limits.

Property acquisition from 34 properties, totaling approximately 22.04 acres, is needed to achieve the proposed roadway improvements (Table 11). Due to the linear nature of the project, additional R/W required for the project is typically a narrow strip of land adjacent to the existing roadway. No total acquisition of properties is required. The balance of the R/W acquisitions are relatively minor; averaging less than 0.5 acre each, and they would not affect continued use or development of these properties.

Drainage improvements, including culverts, have been designed to minimize acquisition requirements and impacts to residences. Nonetheless, some acquisition for drainage easements will be required to construct improvements and provide maintenance access. Drainage easements will be needed from 18 property owners, totaling approximately 6.79 acres. The drainage easement acquisitions are relatively minor; most



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of them would be less than 0.2 acre and would not affect continued use or development of these properties. Drainage easement for the proposed drainage channel at parcel 225-06-0140 would require 2.23 acres of the subject parcel's 9.85 acres.

**Table 11. Right-of-way acquisition acreage**

Assessor Number	Owner	Acquisition Type	Area (Acres)
225-21-0100 225-21-0090	Metro Water	Utility Easement (Metro Water Well Site)	0.23
225-25-2110	TNR & S Acquisitions Inc.	New R/W Take	0.17
225-24-4310	Fairfield-La Cholla Hills HOA	Drainage Easement	0.03
225-25-210A	TNR & S Acquisitions Inc.	New R/W Take (Dedication TBD)	0.15
225-25-112C 225-25-2290	Title Security Agency Of AZ	Drainage Easement	0.46
225-04-025J	Pima County FCD	New R/W Take	0.59
225-06-041C	Marana Properties LLC.	New R/W Take Drainage Easement	0.34 0.15
225-06-041B	Pima County FCD	New R/W Take Drainage Easement	0.66 0.28
225-04-9570	Pima County FCD	New R/W Take	0.93
225-06-0360	Gilmore	New R/W Take	1.38
225-06-0310	Weinrib	New R/W Take Drainage Easement	1.00 0.36
225-06-025A	Neffson	New R/W Take Drainage Easement	0.57 0.35
225-04-003D	Harbour	New R/W Take Drainage Easement	1.28 0.96
225-06-018A	Unisource Energy Corporation	New R/W Take	0.15
225-06-017A	TEP	New R/W Take	0.27
225-06-0200	Neffson	Drainage Easement	0.28
225-06-0210	Pima County FCD	Drainage Easement	1.61
225-06-0140	Keen	New R/W Take Drainage Easement	0.34 2.23
225-06-016B	Borquez	New R/W Take	0.34
225-06-0080	Powell	New R/W Take Drainage Easement	0.42 0.07
225-06-0070	Powell	New R/W Take	0.42
225-04-002B	Northwest Bible Church	New R/W Take (Dedication TBD) Drainage Easement	0.76 1.14
225-04-001A	Khan	New R/W Take Drainage Easement	0.76 0.26
225-06-0060	Miller	New R/W Take	0.45
225-06-005D	9590 La Cholla LLC	New R/W Take	0.38
224-39-0160	Ellzey	New R/W Take	0.37
224-39-0110	Stephenson	New R/W Take	0.33
224-39-0250	Blankenship	New R/W Take	0.02
224-39-0100	Kingsford	New R/W Take	0.33
224-41-008B	Grace Community Church	New R/W Take	0.49
224-41-005D	Hernandez	New R/W Take	0.34
224-39-0130	Bryans	New R/W Take	0.66



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Assessor Number	Owner	Acquisition Type	Area (Acres)
		Drainage Easement	0.04
224-41-0230	Tecolote De Oro LLC.	Drainage Easement	0.03
224-39-0050	Bauer	New R/W Take	0.43
224-41-0110	Reynolds	Drainage Easement	0.06
224-41-0100	Qureshi	Drainage Easement	0.06
224-41-0090	Patel	Drainage Easement	0.06
224-39-0040	Vandick	New R/W Take	0.29
224-39-0030	Dickerson	New R/W Take	0.29
224-39-0020	Future Arizona Inc.	New R/W Take	3.24
		Drainage Easement	0.22
224-23-001A	JMK Family Properties	New R/W Take	2.00
		Drainage Easement	0.03

Source: PCDOT 2010c

No commercial or residential displacement would result from the project, and no adverse impacts associated with acquisitions have been identified.

Property owners will be compensated for the use of their property. Damage to any property amenities (driveways, mailboxes, landscaping, etc.) will either be compensated or repaired/replaced as part of project construction.

**Mitigation Measures**

The following mitigation measure is recommended:

A property acquisition program would be implemented in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646), the Uniform Relocation Act Amendments of 1987 (Public Law 100-17), Title VI of the Civil Rights Act of 1964, and Arizona law. Private property owners would be compensated at fair market value for land to be acquired for project R/W and easements.

**Permits**

No permits are needed.

**6.2.2 Temporary and Permanent Access and Parking Impacts**

This section evaluates the potential impacts to access and parking resulting from the project, including access for cars, buses, pedestrians, and bicyclists, as well as compliance with ADA requirements.



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## **Existing Conditions**

### Vehicle Access and Parking

La Cholla Boulevard is currently a two-lane, uncurbed undivided arterial roadway with traffic signals at the intersections of Overton Road and Lambert Lane. Overton Road and Lambert Lane are also two-lane, uncurbed undivided roads. Currently, access to La Cholla Boulevard is unrestricted throughout the project area. Vehicles originating from residences and businesses can access northbound and southbound La Cholla Boulevard from existing side streets and driveways.

There is a portion of La Cholla Boulevard and some residential driveways north of Overton Road that are steep in elevation. Approximately 4 driveways, primarily residential, are directly accessed from La Cholla Boulevard and are steep in elevation.

La Cholla Boulevard does not accommodate on-street parking. There is one undesignated gravel parking area on the west side of La Cholla Boulevard at Hardy Road that provides access to the CDO Multi-Use Path trailhead.

### Pedestrian, Equestrian, Bicycle, and Bus Transit Facilities

La Cholla Boulevard does not accommodate pedestrians or bicyclists. There are no sidewalks or designated bicycle lanes. Equestrian uses cross La Cholla Boulevard at McCarty Road and Lucero Road in order to access the CDO Wash, a popular riding area. There are no existing public transit facilities along La Cholla Boulevard. There are undesignated school bus stops along La Cholla Boulevard.

## **Potential Impacts**

The project will construct raised medians with designated left-turn lanes, thus controlling turning movements. Drivers along the project area will no longer be allowed to make certain turning movements, resulting in drivers executing U-turns at the median openings or using alternate routes to access neighborhoods and driveways. The concentrated turning movements will improve traffic operation and reduce the number of potential collision points along the corridor. Medians will generally be evenly spaced, with openings favoring cross streets with the greatest traffic volumes.

Results of the traffic analysis indicate that additional traffic signals are not warranted. Should future conditions necessitate it, a further analysis of traffic conditions may be conducted at the La Cholla Hills subdivision.

A frontage road will be constructed on the east side of La Cholla Boulevard in front of five residences north of Lucero Road to consolidate access to the roadway. A second frontage road will be constructed on



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the west side of La Cholla Boulevard in front of the Bluffs Subdivision to provide an access location that will provide safe intersection movements.

The project will provide a multi-use trail, and bicycle access along the paved road shoulder. Crosswalks and access ramps will be ADA compliant. A new crosswalk will be constructed at Lucero Road to accommodate equestrian use. The multi-use trail is also approved for equestrian use. The multi-use trail will connect area washes, some of which are designated as trails by Pima County. Roadway construction will temporarily affect bicycle, pedestrian and equestrian use of the roadway corridor. During construction, pedestrians, bicyclists, and equestrians may be rerouted.

A new bridge over the CDO Wash will improve access by providing all-weather travel across the wash for residences, businesses, and emergency vehicles. The vertical alignment of the roadway currently follows the terrain, crossing the numerous washes near- or at-grade. As a result, rain storms can impede area access until storm flows abate. The installation and replacement of culverts, as proposed by the project, will provide an all-weather travel surface, thereby improving emergency service access and commuter reliability.

The project will have no impact on parking because there is sufficient parking on connecting side streets and on adjacent residential properties. Commercial and school parking will not be affected. Access to businesses and residences will be maintained during construction.

### **Mitigation Measures**

No substantial adverse impacts on parking have been identified. However, access will be changed because of the addition of raised medians throughout the project corridor.

- Access to residences, churches, and businesses will be maintained throughout the project corridor during construction.
- Adjacent residences and businesses will be notified in advance of the construction start date and will be notified of any access changes.
- During construction, the contractor shall designate pedestrian, bicyclist, and equestrian routes around the work zone where possible.

### **Permits**

No permits are required.



### **6.2.3 Neighborhood Disruption**

This section evaluates potential impacts to the neighborhood in which the project is located. Neighborhood disruption is largely related to construction, access, noise, and other topics that were previously addressed in this report. Key impacts covered in those sections will be summarized in this section.

#### **Existing Conditions**

Land uses in the project area include residential, commercial, public (Metropolitan Domestic Water Improvement District and Tucson Electric Power), churches, vacant land, and flood control/washes. Residential properties occur along the majority of the project corridor, including an apartment complex located at the southeastern corner of Hardy Road and La Cholla Boulevard. The commercial properties are interspersed along the corridor. Metropolitan Domestic Water Improvement District is located on the western side of La Cholla Boulevard, between Magee Road and Hardy Road. Tucson Electric Power substation is located on La Cholla Boulevard, northeast of Overton Road. In addition, two churches are located in the project corridor.

Vehicular access from intersecting roads to La Cholla Boulevard is currently unrestricted. The existing roadway corridor lacks pedestrian amenities such as sidewalks. (*See also Sections 6.15, Noise; Section 6.1.8, Construction Activities; and Section 6.2.2, Temporary and Permanent Access and Parking Impacts*).

#### **Potential Impacts**

Project construction will temporarily produce dust, noise, and traffic delays within the project area. Traffic across the CDO Wash will be maintained during bridge construction. Access to businesses, churches and residences will be maintained throughout the construction period. Standard measures to control noise and dust will be implemented during construction. With regard to construction noise, the contractor will comply with Pima County's Noise Ordinance, which will require a permit for instances when nighttime work is required. While these activities will be somewhat disruptive, they will be temporary (see Section 6.1.8, Construction Activities, for further discussion).

Traffic volumes on the road are expected to increase because of regional growth and expanded roadway capacity associated with the improvements, resulting in an increase in traffic noise along the roadway. Rubberized asphalt will be applied to the new roadway, and two noise barriers are proposed to abate traffic noise at the adjacent properties.

The installation of a raised median along La Cholla Boulevard will improve safety and operations at turning points, but will also modify access. Vehicle operators may choose to use alternate routes to access



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neighborhoods and driveways. Traffic seeking alternate routes through neighborhoods on other roads is not anticipated to be a significant concern.

The widened road and R/W, as well as the addition of two frontage roads, will create a greater partition between properties on either side of La Cholla Boulevard. However, the project will also promote overall connectivity by improving pedestrian and bicycle facilities and constructing a multi-use trail. Equestrian crossing striping and signs will be installed at Lucero Road to promote recreational use of the area. Bicycle access will be provided along the paved road shoulders. The multi-use trail will be expanded to connect area washes and the associated Pima County designated trails. These improvements to pedestrian and bicycle amenities will make non-vehicular transportation safer and more convenient. The frontage roads will provide separation between residences and La Cholla Boulevard travel lanes.

### **Mitigation Measures**

No substantial adverse impacts on parking have been identified. However, a number of mitigation measures have been identified to enhance neighborhood amenities.

- Access to residences, churches, and businesses will be maintained throughout the project corridor during construction.
- Access across the CDO Wash will be maintained throughout the project corridor during construction.
- A post-construction assessment will be conducted by PCDOT to ensure the effectiveness of mitigation efforts.
- The project will include the installation of landscape improvements in accordance with PCDOT Landscape and Irrigation Design Guidelines and the Pima County Roadway Design Manual. The project landscape plan will include:
  - Drought-tolerant, low-maintenance trees, shrubs, and accent plants
  - Landscape grading for water harvesting in selected locations if possible
  - Surface and slope treatments such as decomposed granite, rock, rip rap, sidewalks, and walls

### **Permits**

No permits are required



#### **6.2.4 Parks and Recreation Areas**

This section identifies parks and recreation areas adjacent to the project including parks, trails, and school facilities, and evaluates any resulting impacts on these facilities. These facilities are illustrated in Figure 9.

##### **Existing Conditions**

The CDO Trail is a primary multiple use trail that runs from northeast to southwest. A small undesignated gravel parking area provides access to the trailhead and a paved portion of the trail begins just west of La Cholla Boulevard between Magee and Overton Road and runs along the CDO Wash then southwest along the Omni Tucson National Golf Course located northwest of Magee Road and southwest of Hardy Road and La Cholla Boulevard. Recreation opportunities on the paved portion of the trail include walking and biking. The unpaved portion of the trail, the CDO Wash, is used for walking and horseback riding.

Results from an equestrian survey indicate that equestrians use McCarty Road to access the CDO Trail. They travel west on McCarty Road and cross La Cholla Boulevard and move north along an existing dirt utility road until they cross West Hardy Road and then move west along an existing undesignated dirt road until they reach the CDO trail. Equestrians also access the CDO trail from Lucero Road. Equestrians cross La Cholla Boulevard from Lucero Road and move south east through both public and private land until they reach the CDO trail.

The Honey Bee Loop Trail is an unimproved designated multi-use unpaved trail that crosses La Cholla Boulevard approximately 1,700 feet north of Overton Road. Results from the equestrian survey indicate that this trail is not used by equestrians. A planned signed equestrian crossing is not needed at this location.

Results from the equestrian survey indicate the equestrians are accessing trails in the area at Lucero Rd. and McCarty Rd. Lucero Rd. is used by equestrians on the west side of La Cholla Boulevard, particularly from Sunkist Stables or they drive horse trailers to Lucero Road and access the CDO Wash via the Lucero Wash. At McCarty Road, users cross La Cholla Boulevard and access a gravel utility access road to reach the CDO Wash. The heaviest use appears to be at Lucero Road. To provide access for equestrian users, median openings at La Cholla Boulevard and Lucero Road and at La Cholla Boulevard and McCarty Road will be signed and striped for equestrian crossings.

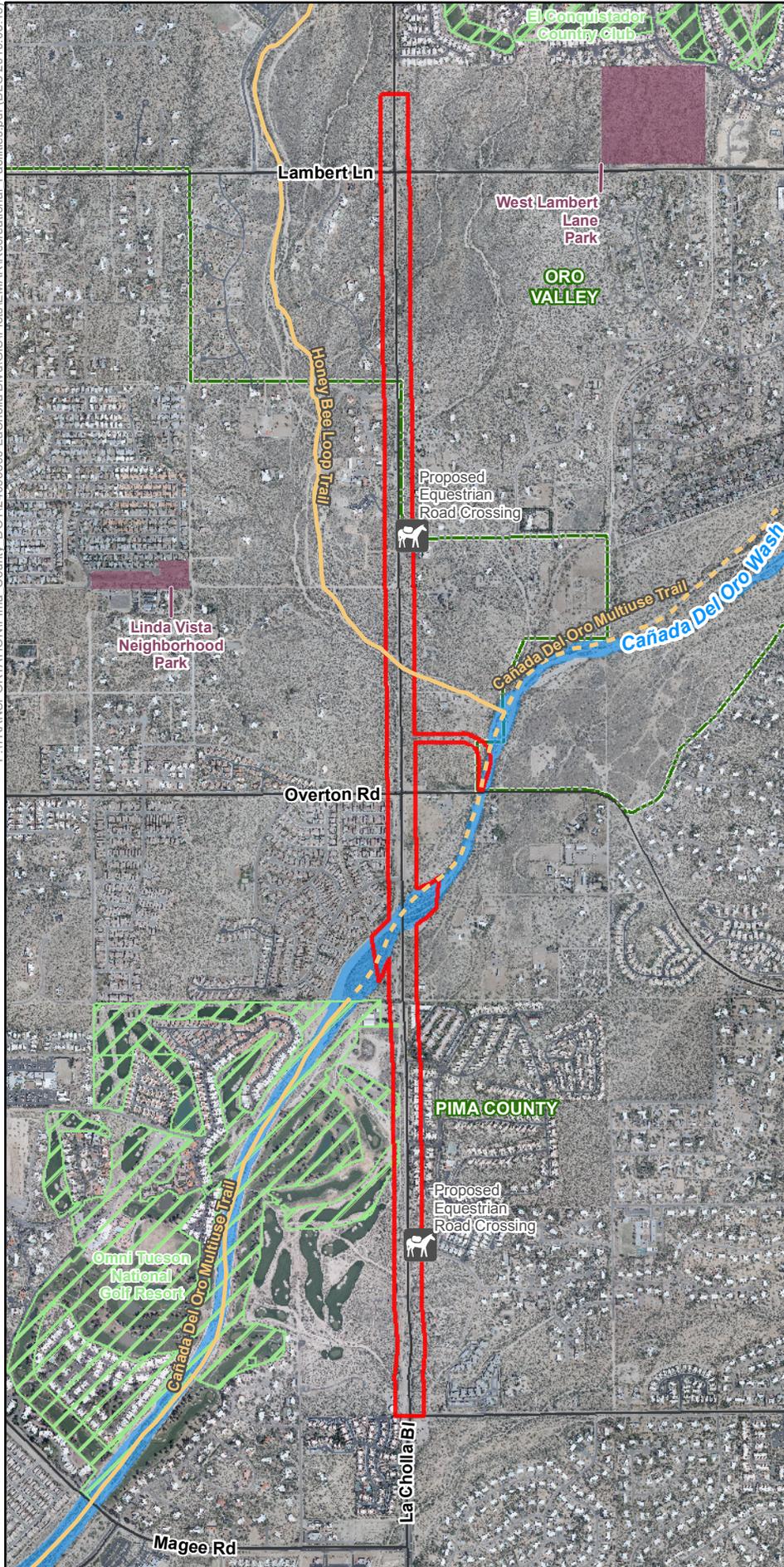
##### **Potential Impacts**

The multi-use unpaved Honey Bee Loop Trail crosses La Cholla Boulevard north of Overton Road and then merges with the CDO Trail. Roadway construction associated with the widening of La Cholla Boulevard would not impact the trail as this is not often used to access the CDO trail. Also, the trail ends at La Cholla Boulevard and does not have the characteristics of a trail east of La Cholla Boulevard.

# Figure 9 Parks and Recreational Facilities

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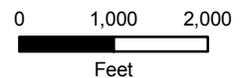
### Legend

- Project Area
- Existing Trail
- Future Trail
- Golf Course
- Park

### General Features

- Arterial Road
- Major Wash
- City Boundary

Source:  
Project Area: URS 2009 - 2010  
Recreational Facilities:  
Pima County DOT 2006-2009, URS 2009  
Base Features: Pima County DOT 2009  
Imagery: PAG 2008





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A striped and signed equestrian crossing will be constructed at Lucero Road and McCarty Road. This will provide a designated crossing of La Cholla Boulevard for equestrian uses and minimize conflicts with motorists.

Provide an un-landscaped area along the west right of way of La Cholla Boulevard between Magee Road and Lambert Lane to increase access for pedestrians, bicyclists, and equestrians and improve safety. Roadway construction will temporarily affect access to the undesignated gravel parking area used to access the CDO trailhead.

### **Mitigation Measures**

During construction, the contractor shall designate a pedestrian, bicyclist, and equestrian route around the work zone where necessary and when possible.

- Add an equestrian crosswalk and adequate signage at Lucero Road and McCarty Road to improve safety and access.
- Provide an unlandscaped area along the west right of way of La Cholla Boulevard between Magee Road and Lambert Lane to increase access for pedestrians, bicyclists, and equestrians and improve safety.
- Maintain access to the undesignated parking area at the CDO trailhead by providing a curb opening.

### **Permits**

No permits are required.

### **6.2.5 Consistency with Other Plans**

This section evaluates the project's consistency with applicable Pima County plans including the Pima County Comprehensive General Plan Update (Pima County 2004), the Regional Transportation Plan (RTA 2006), and the Pima County Roadway Design Manual (PCDOT 2003).

#### **Consistency with the Regional Transportation Plan**

The purpose of the project is to implement improvements to La Cholla Boulevard consistent with the Regional Transportation Plan, which provides for widening La Cholla Boulevard between Magee Road and Tangerine Road to a four-lane divided arterial road, providing a multi-use trail, access for bicycle use, and completing drainage improvements. This project will involve the construction of improvements to La Cholla Boulevard between Magee Road and Lambert Lane. Equestrian use will be accommodated



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with designated equestrian crossings. Construction of La Cholla Boulevard between Lambert Lane and Tangerine Road will be completed by Oro Valley as a separate project.

**Consistency with the Pima County Roadway Design Manual and Environmentally Sensitive Roadway Guidelines**

The project has been designed and evaluated consistent with the Pima County Roadway Design Manual and Environmentally Sensitive Roadway Guidelines (PCDOT 2003), and no design exceptions are anticipated. Additionally, the project design conforms to American Association of State Highway and Transportation Officials design criteria.

**Consistency with the Pima County Comprehensive General Plan Update**

Policies from the Circulation Element of the Comprehensive General Plan Update are the most applicable to the project. An evaluation of the project's consistency with key policies is provided below.

Policy B of the Circulation Element states:

“Environment—Roadway and transportation infrastructure shall be designed in an environmentally- or context-sensitive manner to the greatest extent feasible.”

Because of the characteristics of the project area, PCDOT has determined that ESR design requirements are applicable for the project. Thus, the context for design and evaluation of the project is predominantly a low- to medium-density residential area with native vegetation and moderate sized washes as considerations. The primary environmental factors are: (1) the presence of sensitive land uses (residences and churches), (2) recreational access (multi-use trails and equestrian access to washes), (3) native vegetation, and (4) important riparian area and other washes.

With regard to sensitive land uses, the project will use rubberized asphalt, which produces less roadway noise than standard materials. All feasible and reasonable noise mitigation will be implemented consistent with the PCNAP.

Regarding access, the project will improve overall connectivity in the project area through the construction of bicycle lanes, designated equestrian crossings, and a multi-use path.

With regard to native vegetation, an inventory of Pima County protected native plants and Arizona Native Plant Act protected native plants was conducted for this project. Removed or destroyed protected plants will be replaced to match adjacent, undisturbed densities. Saguaros will be mitigated at a 1:1 ratio. The replacement native plants will be incorporated into the landscaping plans for this project.

Regarding the washes, the project involves the installation of culverts to raise the roadway above washes. Selected culverts will be sized to allow wildlife passage (i.e., coyotes, javelina). CWA requirements



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(Sections 401 and 404, AZPDES) provide protection for the washes during project construction. However, permanent impacts to washes are anticipated, including removal of some vegetation and replacement with flood control structures. These impacts are necessary to accommodate 100-year storm flows. The project will affect washes identified by Pima County Regional Flood Control District as regulated riparian resources. A riparian impact assessment will be developed to address impacts to these resources. Based on these considerations, the project is moderately consistent with Policy B.

Policy C of the Circulation Element states:

“Neighborhoods—Existing residential areas shall be mitigated from vehicular traffic impacts to the greatest extent feasible when roadway improvements occur.”

The primary vehicular traffic impact on neighborhoods is traffic noise; another is cut-through traffic. As discussed previously, the project will use rubberized asphalt, which reduces roadway noise, and will implement all feasible and reasonable mitigation consistent with the PCNAP. The project will improve safety at the minor neighborhood roads, but will also modify access. Therefore, the project is generally consistent with Policy C.

Policy D of the Circulation Element states:

“Alternative Modes—Multi-modal transportation infrastructure shall balance the needs of all users and provide viable alternatives to driving where appropriate and to the greatest extent feasible.”

The project will provide striped bicycle lanes, designated equestrian crossings, and a multi-use trail. Therefore, the project improves and supports multimodal transportation and is consistent with Policy D.

Policy H of the Circulation Element states:

“Pima County standards for roadway design may be modified by the Board of Supervisors if the design provides substantial environmental protection and meets minimum safety standards.”

The project is consistent with County standards for roadway design. Therefore, the project is consistent with Policy H.

Policy K1 of the Circulation Element states:

“All arterial and collector streets which are part of the Regional Bikeway Plan shall be constructed according to the classification shown on the plan. All other major streets should have sufficient pavement width to accommodate bicycle travel.”



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The Pima Association of Governments Regional Bicycle Facilities Map (2001) is considered the Regional Bikeway Plan and classifies La Cholla Boulevard in the project area as a bike route with a striped shoulder, bike route signs, a white edge line, and a 4- to 10-foot-wide shoulder (Pima Association of Governments 2001). The project will provide striped bicycle lanes along the 6-foot paved road shoulder on both sides of La Cholla Boulevard along most of the corridor. Therefore, the project is consistent with the Regional Bikeway Plan and with Policy K1.

Policy L of the Circulation Element states:

“The development shall provide pedestrian facilities necessary for linkages to the regional trail system and for safe access to community facilities, employment centers, schools, and adjacent commercial nodes.”

Two trails were identified in the project area using the Eastern Pima County Trail System Master Plan (dated August 1989), the Eastern Pima County Trail System Master Plan Revised Master Trails List (dated August 1996), and the online Pima County MapGuide Map (accessed on December 16, 2009). The trails are: Honey Bee Loop Trail and CDO Multiuse Trail (see Figure 9). The proposed improvements to La Cholla Boulevard would include an equestrian crossings and landscaped areas along the western side of the road through the project. This would facilitate linkages to the regional trail system and other facilities along the road. Therefore, the proposed project is consistent with Policy L.



## **7.0 AGENCY COORDINATION**

This section provides a description of agency coordination. Pima County has and will continue to coordinate with several agencies for this project. These efforts include:

- Pima County is coordinating with the RTA, which is providing funding and conducting business outreach for the project.
- Pima County is coordinating with the Town of Oro Valley, which is a partner in this project through an IGA with Pima County and the RTA.
- Pima County consulted the Pima Association of Governments Regional Bicycle Facilities Map (2001) to determine designated bicycle facilities in the project area.
- Pima County is coordinating with private and municipal utilities regarding impacts to facilities within the project limits.
- Pima County is coordinating with the Corps to obtain a Section 404 CWA permit for work in jurisdictional waters of the United States.
- Pima County is coordinating with ADEQ regarding AZPDES Construction General Permit compliance. AZPDES will require preparation of a SWPPP and filing of a Notice of Intent to comply with the Statewide Construction Permit with ADEQ.
- The project involves the removal of native plants and will comply with the Pima County Environmentally Sensitive Roadway Design Guidelines.
- AGFD was contacted through a scoping letter requesting concerns pertaining to special status plants and animals that may occur within the project area. AGFD response did not include specific concerns related to this project.
- PCDOT coordinated with AGFD on potential wildlife movement corridors and possible road design to accommodate wildlife movement through and within the project area.
- PCDOT coordinated with Pima Trails Association on equestrian access within the project area.
- USFWS was contacted through a scoping letter requesting concerns pertaining to federal threatened and endangered species that may occur within the project area.



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- In addition, PCDOT is coordinating with the following Pima County departments: Cultural Resources and Historic Preservation; Environmental Quality; Natural Resources, Parks, and Recreation; Regional Flood Control District; and Regional Wastewater Reclamation.



## **8.0 PUBLIC PARTICIPATION**

A summary of the public participation process is included in this section.

### **8.1 PUBLIC PARTICIPATION PLAN**

This plan includes public information meetings, selection and development of a CAC, ongoing contact with affected parties, media relations, development of informational materials, development and implementation of a project website and the maintenance of an interdepartmental project files. The goals of the plan are to educate the public about the project's purpose and need, solicit the public's comments on the project, review public comments and adjust the roadway design concept to address the public concerns to the greatest extent possible and within the constraints of the project, including safety and cost.

### **8.2 COMMUNITY ADVISORY COMMITTEE**

#### **Community Advisory Committee Meetings**

The CAC was formed to provide PCDOT with input throughout the design process. Property owners and residents within a 0.5-mile radius of La Cholla Boulevard were invited to express interest in joining the CAC. Fourteen members of the local community were selected.

CAC meetings have been held on the following dates and for the purposes outlined below:

- June 6, 2009 – organizational meeting to introduce project team members, present a project improvement overview, and review the responsibilities and role of the CAC.
- October 27, 2009 – meeting focusing on the artist selection process, traffic, roadway, bridge, drainage, environmental, project update question/answer session, introduction to the process of noise analysis, selection of CAC chair, and project schedule.
- December 8, 2009 – meeting was held to review the results of the draft noise study report.
- February 16, 2010 – meeting focusing on Phase 1 roadway design, drainage design, and traffic engineering.
- March 16, 2010 – meeting focusing on the Draft DCR, Draft EAMR, and the recommendation letter to be prepared by the CAC
- April 6, 2010 – meeting discussing public art, landscape design and CAC's EAMR review letter.



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The minutes from these meetings can be found on the project website. Future CAC meetings will be held to obtain input on artwork, aesthetic treatments, and advanced design plans.

### **Community Advisory Committee Concerns**

The CAC has provided positive feedback on widening La Cholla Boulevard to a four lane divided roadway with a center median, paved shoulders, pedestrian trail, landscaped medians, and safety features such as improvements in sight distance, drainage, intersection geometry, and pedestrian ways. Early in the project the CAC raised issues such as traffic volumes, access, noise, property values, and environmental concerns. The Stage I Design Plans, DCR, and EAMR explain how each of these issues is being addressed in the project. The top priority of the CAC is to see a bridge constructed over the CDO Wash as soon as possible.

### **8.3 PUBLIC MEETINGS**

Public open houses were held on December 1, 2009 and March 30, 2010. Fifty people attended the December 1 open house and 80 people attended the March 30 open house. The public meetings were publicized through news releases distributed to the appropriate media and through display advertisements placed in the Daily Territorial and Arizona Daily Star a minimum of 15 days prior to each meeting. Meeting announcements are mailed to the project contact list of approximately 2,300 addresses, which comprise potentially affected residents, businesses and interested parties, as well as elected officials. Corresponding information is posted on the project Web site. Sign-in sheets are provided to record attendance at the meetings, and attendees are asked to submit comments on the forms provided at the meetings. Comments submitted during a two-week period following each meeting are documented and summarized on the project website.

At the December 1 open house, the project team provided aerial maps showing the roadway design and comment forms to encourage attendees to submit comments regarding the project. At the March 30 meeting, the project team presented the proposed roadway design and draft versions of the DCR and EAMR. People were invited to provide comments on the project.

A public hearing of the EAMR will be held before a meeting of the Pima County Board of Supervisors.

### **8.4 COMMUNITY COMMENTS**

Key subjects of community comments arising from public involvement activities are outlined below, followed by Pima County's responses. The responses are based on feedback previously provided to the CAC or public and specific information on the project design.



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**Noise barriers.** The County has received differing opinions on the desirability of noise barriers, with many residents favoring the provision of noise barriers between the roadway and residences. A noise study was conducted for the project and, based on the study, noise barriers are warranted in two areas:

- La Cholla Hills Subdivision South of Coral Ridge Loop for the residences between La Cholla Boulevard and Breezewood Place.
- La Cholla Hills subdivision north of Coral Ridge Loop for the residences between La Cholla Boulevard and in front of the residences west of Candlewood Loop

**Drainage.** Issues at individual properties being affected by drainage design are being addressed with consideration for property owner concerns. Drainage has been designed to make La Cholla Boulevard all-weather-access by directing flow under the road. Concrete box culverts, smaller culverts, and drainage channels are proposed to improve hydraulic performance.

**Access.** Residents have expressed concern about convenient access to their properties once the raised medians have been constructed. Raised medians consolidate access, but also reduce the potential for collisions, by controlling turning movements and lane crossover, and improve operations. U-turns will be allowed at median openings to facilitate access to local streets. Frontage roads will concentrate access to La Cholla Boulevard from existing properties that currently access directly to La Cholla Boulevard.

**Right-of-way and easement acquisition.** Property owners have raised concerns about easements that need to be acquired for the project. The proposed design maximizes use of the existing R/W and existing drainage easements. Additional easements are necessary to provide an adequate buffer for facilities and construction activities and maintenance. No total acquisition of properties is required to accommodate the proposed roadway alignment.

**Vegetation.** Residents have expressed concern about the loss of native vegetation along the project corridor. Native and landscaped vegetation will be affected by construction activities. A native plant survey has been conducted in accordance with Pima County's Environmental Sensitive Roadway Design Guidelines. Permanent easements and Pima County property within washes and R/W will be revegetated and irrigated according to the landscape and irrigation plans. Post-construction plant density will be similar to the adjacent density of undisturbed areas.

**Equestrian use.** Equestrian users commented on the need for designated crossing of La Cholla Boulevard. Two signed crossings of La Cholla Boulevard with median openings are provided to access for equestrian use. In addition, an un-landscaped area along the west right of way of La Cholla Boulevard between Magee Road and Lambert Lane is provided to increase access for pedestrians, bicyclists, and equestrians and improve safety.



## 9.0 CONCLUSION AND RECOMMENDATIONS

This section summarizes the rationale and recommendations for the roadway improvements. Summarizes how the proposed solutions correct the roadway safety issues.

This section provides a summary of proposed mitigation from Section 5.0

**Table 12. Impact and mitigation summary**

Potential Impacts	Recommended Mitigation	Agency coordination and consultation	Parties responsible for implementation
Removal of native plants	Comply with Arizona Native Plant Law and Pima County Environmentally Sensitive Roadway Design Guidelines; mitigate removed or relocated protected native plants to match existing densities of adjacent, undisturbed areas. Saguaros will be mitigated at a 1:1 ratio.	Arizona Department of Agriculture	Pima County and Contractor
	File a Notice of Intent with the Arizona Department of Agriculture 60 days prior to the removal or salvage of applicable native plants.	Arizona Department of Agriculture	Pima County and Contractor
Impacts to waters of the United States	The County will obtain a CWA Section 404 Individual Permit, if needed, or operate using a 404 Nationwide Permit and comply with permit conditions. In addition, a CWA Section 401 water quality permit may be required from the Arizona Department of Environmental Quality (ADEQ) and will be determined at time of permitting.	United States Army Corps of Engineers Arizona Department of Environmental Quality	Pima County and Contractor
Regulated riparian habitat impacts	A riparian impact assessment will be prepared and, if needed, mitigation will be developed in conjunction with the Pima County Regional Flood Control District to compensate for impacts to regulated riparian habitat.	Pima County Regional Flood Control District	Pima County and Contractor
Stormwater impacts resulting from soil erosion and dust	The County and Contractor will file a separate Notice of Intent to use the Arizona Pollutant Discharge Elimination System Construction General Permit with the ADEQ. PCDOT will prepare and implement a Stormwater Pollution Prevention Plan. Utilities are responsible for preparing separate SWPPPs and getting NOIs for their activities.	Arizona Department of Environmental Quality	Pima County and Contractor



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<b>Potential Impacts</b>	<b>Recommended Mitigation</b>	<b>Agency coordination and consultation</b>	<b>Parties responsible for implementation</b>
Dust during construction	Implement standard specifications for dust suppression and comply with the Stormwater Pollution Prevention Plan (referenced above). Obtain an Air Quality Activity Permit from the Pima County Department of Environmental Quality.	Pima County Department of Environmental Quality	Pima County and Contractor
Traffic noise	Construct noise barriers as identified in the traffic noise report.	Pima County Department of Transportation	Pima County
Construction Noise	Construction equipment will be maintained in good working order, intake silencers will be used where appropriate, new equipment will be subject to new product noise emission standards, stationary equipment will be located as far away from sensitive receivers as possible, and construction activities adjacent to residential areas will be limited to daylight hours to maximum extent practicable. The contractor will comply with Pima County's Noise Ordinance (Pima County Code Chapter 9.30.070), which sets the construction start and stop times in order to avoid noise disruptions at night. If nighttime work is required, the contractor will need to obtain a permit from Pima County.	Pima County Department of Transportation	Contractor
Utility service interruptions	Customers will be notified when needed and when possible of any planned utility service interruptions.	Applicable utility	Utility or contractor
Exposure of unanticipated hazardous materials	If suspected hazardous materials are encountered during construction, work shall cease at the location and the Pima County Engineer shall be contacted to arrange for proper assessment, treatment, or disposal of those materials.	Pima County Department of Transportation	Contractor
Asbestos and lead emissions	An Asbestos Hazard Emergency Response Act Certified Building Inspector will complete asbestos and lead testing of the structures, and conduct lead/asbestos abatement if needed.	Pima County Department of Transportation	Pima County
Residential, church and business access during construction	The contractor shall maintain access to schools, businesses, and residences. The contractor shall provide signs to identify business and school access during construction.	Pima County Department of Transportation	Contractor
Pedestrian, bicyclist, and equestrian routing during construction	During construction, the contractor shall designate a pedestrian, bicyclist, and equestrian route around the work zone when needed and when possible.	Pima County Department of Transportation	Contractor



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<b>Potential Impacts</b>	<b>Recommended Mitigation</b>	<b>Agency coordination and consultation</b>	<b>Parties responsible for implementation</b>
Disturbance of cultural resources	If site features or previously unidentified cultural resources are encountered during construction at any location other than the monitored locations, the contractor should stop work immediately at that location, take all reasonable steps to secure the preservation of those resources, and contact the archaeological monitor.	Arizona State Museum Applicable tribes State Historic Preservation Office Pima County Cultural Resources and Historic Preservation Office	Contractor
Visual impact associated with road construction	Include landscaping plantings in front of noise barriers and in project medians where practicable to soften the appearance of the hardscape.	Pima County Department of Transportation	Pima County
Permanent acquisition and temporary use of property	The county will compensate property owners at fair market value for the permanent or temporary use of property as mitigation consistent with federal and state law.	Pima County Department of Real Property	Pima County



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