South Mountain corridor team

Pages with information on sensitive cultural resources have been removed.

Section 4(f) and Section 6(f) Report

This report is not for public release because it contains information on sensitive cultural resources.

In support of the
Environmental Impact Statement

South Mountain Transportation Corridor in Maricopa County, Arizona

Arizona Department of Transportation
Federal Highway Administration
in cooperation with
U.S. Army Corps of Engineers
U.S. Bureau of Indian Affairs
Western Area Power Administration

ADOT

December 2012

Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L

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Abstract: This document assesses and describes the effects on Section 4(f) and Section 6(f) resources that would occur as a result of the construction and operation of the proposed South Mountain Freeway, as adopted in the 2003 *Regional Transportation Plan*. Contents of this document will be presented in Chapter 5 of the South Mountain Transportation Corridor Environmental Impact Statement.

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List of Acronyms and Abbreviations

ADOT	Arizona Department of Transportation
ASM	Arizona State Museum
BLM	Bureau of Land Management
C	Central
C.F.R.	Code of Federal Regulations
Community	Gila River Indian Community
dBA	A-weighted decibel
E	Eastern
E1	E1 Alternative
EIS	environmental impact statement
FCDMC	Flood Control District of Maricopa County
FHWA	Federal Highway Administration
FR	Full Reconstruction
I-10	Interstate 10
I-8	Interstate 8
IGA	intergovernmental agreement
LWCF	Land and Water Conservation Fund
LWCFA	Land and Water Conservation Fund Act
MAG	Maricopa Association of Governments
NPS	National Park Service
NRHP	National Register of Historic Places
PA	programmatic agreement
PR	Partial Reconstruction
RPPA	Recreation and Public Purposes Act
R/W	right-of-way
RSO	Rio Salado Oeste
SHPO	State Historic Preservation Office
SMPP	Phoenix South Mountain Park/Preserve
SMTC	South Mountain Transportation Corridor

SR	State Route
SRP	Salt River Project
TCP	traditional cultural property
TI	traffic interchange
USACE	U.S. Army Corps of Engineers
U.S.C.	United States Code
W	Western
W101CFR	W101 Alternative, Central Option, Full Reconstruction
W101CPR	W101 Alternative, Central Option, Partial Reconstruction
W101EFR	W101 Alternative, Eastern Option, Full Reconstruction
W101EPR	W101 Alternative, Eastern Option, Partial Reconstruction
W101WFR	W101 Alternative, Western Option, Full Reconstruction
W101WPR	W101 Alternative, Western Option, Partial Reconstruction
W59	W59 Alternative
W71	W71 Alternative

Glossary

affected environment	Those elements of the Study Area that may be changed by the proposed alternatives. These changes might be positive or negative in nature.
capacity	The maximum number of vehicles that a given section of roadway or traffic lane can accommodate.
constructive use	A type of use in which a transportation project's proximity impacts (as opposed to direct impacts) are so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially impaired. Examples include a substantial increase in noise level, impaired aesthetic features or attributes, restriction on access that substantially diminishes the utility of the resource, and other indirect impacts on the resource's environment or utility.
Criterion A of the National Register of Historic Places	Cultural resources associated with events that have made a significant contribution to the broad patterns of our history.
Criterion B of the National Register of Historic Places	Cultural resources associated with the lives of persons significant in our past.
Criterion C of the National Register of Historic Places	Cultural resources embodying the distinctive characteristics of a type, period, or method of construction; or representing the work of a master; or possessing high artistic values; or representing a significant and distinguishable entity whose components may lack individual distinction.
Criterion D of the National Register of Historic Places	Cultural resources that have yielded, or may be likely to yield, information important in prehistory or history. Generally, cultural resources eligible for the National Register of Historic Places under Criterion D are not eligible for protection under Section 4(f).
decibel	A logarithmic unit indicating the amount of sound energy. The approximate threshold of hearing is 0 dBA (A-weighted decibel), while the approximate threshold of pain is 140 dBA. Most suburban areas have daytime noise levels ranging from 50 to 70 dBA.
direct impacts	Changes that are caused by the action and occur at the same time and same place as the action.
Eastern Section	The portion of the Study Area located east of 59th Avenue.
eligible	Refers to properties that meet the National Park Service's criteria for eligibility for inclusion in the National Register of Historic Places.
environmental impact statement (EIS)	The project documentation prepared in accordance with the National Environment Policy Act when the project is anticipated to have a significant impact on the environment.
Federal Highway Administration (FHWA)	A branch of the U.S. Department of Transportation responsible for administering the Federal-aid Program. The program provides financial resources and technical assistance for constructing, preserving, and improving the National Highway System along with other urban and rural roads.

jurisdiction	Refers to the agency owning or administering a resource.
Land and Water Conservation Fund Act (LWCFA) and Section 6(f)	Passed by Congress in 1965, the Act established the Land and Water Conservation Fund, a matching assistance program providing grants paying half the acquisition and development cost of outdoor recreational sites and facilities. Section 6(f) of the Act prohibits the conversion of property acquired or developed with these grants to a nonrecreational purpose without the approval of the U.S. Department of the Interior National Park Service. A condition of conversion is that replacement land of equal value, location, and usefulness be provided. This means that where conversions of Section 6(f) lands are proposed for highway projects, replacement lands are required.
mitigation	An action taken to reduce or eliminate an adverse impact stemming from construction, operation, or maintenance of a proposed action alternative. Mitigation could reduce the magnitude and extent of an impact from a level of significance to a level of insignificance. Mitigation includes *avoiding* the impact altogether by not taking a certain action or parts of an action; *minimizing* impacts by limiting the degree of magnitude of the action and its implementation; *rectifying* the impact by repairing, rehabilitating, or restoring the affected environment; *reducing or eliminating* the impact over time by preservation and maintenance operations during the life of the action, and *compensating* for the impact by replacing or providing substitute resources or environments. (40 Code of Federal Regulations § 1508.20)
National Park Service (NPS)	An agency within the U.S. Department of the Interior, NPS preserves the natural and cultural resources and values of the national park system for the enjoyment, education, and inspiration of current and future generations. It is responsible for administering the National Register of Historic Places. Under Section 6(f) of the Land and Water Conservation Fund Act, NPS reviews land conversions for transportation projects that require replacement lands.
National Register of Historic Places (NRHP)	The nation's official list of cultural resources worthy of preservation. Authorized under the National Historic Preservation Act of 1966, the NRHP is part of a program to coordinate and support public and private efforts to identify, evaluate, and protect historic and archaeological resources. Properties listed in the NRHP include districts, sites, buildings, structures, and objects that are significant in American history, architecture, archaeology, engineering, and culture.
prudent and feasible	Refers to how practical an alternative is in its attempt to avoid use of a Section 4(f) resource. *Feasible* refers to whether or not a project can be built using current construction methods, technologies, and practices. *Prudent* refers to how reasonable and responsible the alternative is. The transportation agencies are obligated to choose an avoidance alternative only if it is prudent and feasible.
public	Public use entails access for more than a select group of the public at any time during normal hours of operation.
publicly owned	Property that is owned and/or operated by a public entity. If a governmental body has a proprietary interest in the land (such as fee ownership or drainage easements), it can still be considered publicly owned.

right-of-way (R/W)	Publicly owned land used or intended to be used for transportation and other purposes.
Section 106 of the National Historic Preservation Act	Under Section 106 of the National Historic Preservation Act of 1966, federal agencies are required to identify and evaluate cultural resources and consider the impact of undertakings they fund, license, permit, or assist on historic properties eligible for inclusion in the National Register of Historic Places. The federal agencies must allow the State Historic Preservation Officer and the Advisory Council on Historic Preservation the opportunity to comment on these undertakings.
Section 4(f)	A section of U.S. Department of Transportation Act of 1966. It stipulates that FHWA cannot approve the use of land from a significant publicly owned public park, recreation area, or any significant cultural resource unless there is no prudent and feasible alternative to the use of that land and unless the action includes all possible planning to minimize harm to the property resulting from its use.
State Historic Preservation Office/Officer (SHPO)	A governor-appointed position and, typically, a member of a state historic preservation agency, the SHPO provides project review and compliance with Section 106 of the National Historic Preservation Act. The U.S. Department of Transportation generally uses the Section 106 process as a method by which a cultural resource's significance is determined for a federal undertaking under Section 4(f).
Study Area	The geographic area within which action alternative solutions to the problem are developed.
substantially altered or impaired	Substantial impairment occurs only when the protected activities, features, or attributes of a resource are substantially diminished.
U.S. Department of Transportation	The agency responsible for transportation issues in the federal government. It consists of many divisions providing transportation services to the public, including FHWA, Federal Aviation Administration, and U.S. Coast Guard.
use	Generally, a *use* occurs with a U.S. Department of Transportation-approved project or program (1) when land is permanently incorporated into a transportation facility, (2) when there is a temporary occupancy of land that is adverse in terms of the Section 4(f) statute's preservationist purpose, or (3) when the proximity impacts of the transportation project—noise, visual, etc.—on the Section 4(f) site, without acquisition of land, are so great that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially impaired and result in a constructive use.
Western Section	The portion of the Study Area located west of 59th Avenue.

1. Project Description and Purpose and Need

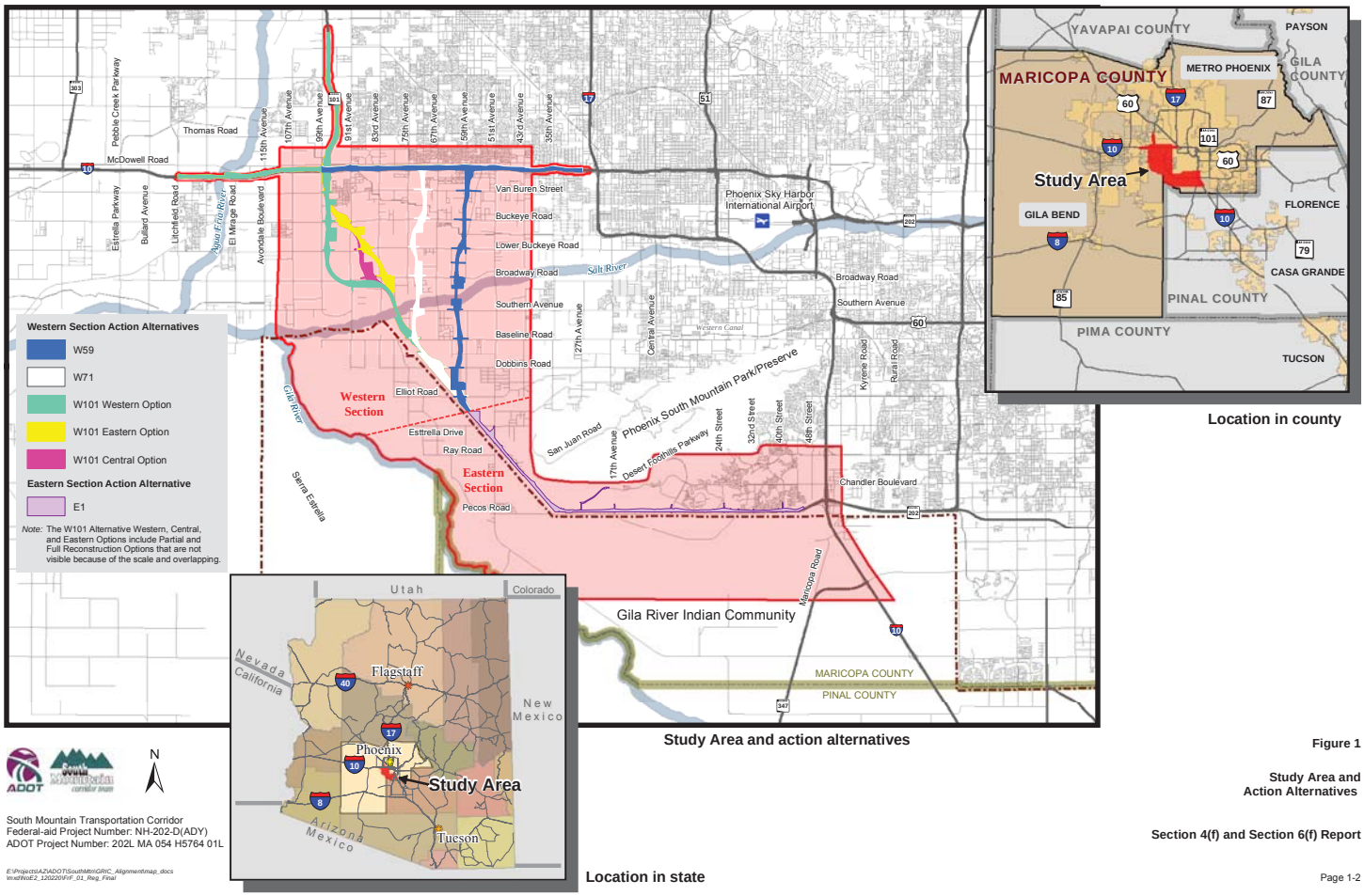
Project Description

The Arizona Department of Transportation (ADOT) is studying the South Mountain Transportation Corridor (SMTC) in southern Phoenix, Maricopa County, Arizona. The South Mountain Freeway corridor was adopted into the Maricopa Association of Governments (MAG) regional freeway system in 1985 as part of the *MAG Freeway/Expressway Plan* (MAG 1985), at which time it was placed on the state highway system by the State Transportation Board. In 1988, ADOT prepared a design concept report and a state-level environmental assessment for the project, identified at that time as the South Mountain Parkway (ADOT 1988a, 1988b). As presented then, the project would connect Interstate 10 (I-10) (Maricopa Freeway) south of Phoenix with I-10 (Papago Freeway) west of the city, following an east-to-west alignment along Pecos Road through the western tip of the Phoenix South Mountain Park/Preserve (SMPP), then north to I-10 between 59th and 99th avenues. Because of the time elapsed since those documents were approved and to secure eligibility for federal funding for a proposed project within this corridor, ADOT and the Federal Highway Administration (FHWA) are now preparing an environmental impact statement (EIS) in accordance with the National Environmental Policy Act. In November 2004, the MAG *Regional Transportation Plan* (2003) was placed before Maricopa County voters, who approved the sales tax funding the plan. The South Mountain Freeway was included in this plan.

Freeway and nonfreeway alternatives were evaluated both as individual alternatives and in combination. Nonfreeway alternatives would provide transportation system improvements in the Study Area in lieu of a new freeway facility. Nonfreeway alternatives were ultimately eliminated from further study because they did not meet the purpose and need criteria for the project; chiefly, they did not support criteria related to transportation demand and capacity deficiencies. If better-than-planned scenarios for such modal alternatives as nonfreeway planned improvements (e.g., increases in funding, increases in the number of express bus routes, increases in ridership for transit modes) were to occur, 13 percentage points of the 24 percent capacity deficiency would be accommodated; the network would still maintain an 11 percent capacity deficiency. A freeway facility was determined to best address the project purpose and need. Therefore, this report discusses the potential impacts of a proposed freeway in the SMTC.

The Study Area for the EIS encompasses more than 156 square miles and is divided into a Western Section and an Eastern Section at a location common to all action alternatives (Figure 1). The division between sections occurs just east of 59th Avenue and south of Elliot Road.

Within the Western Section, three action alternatives are being considered for detailed study. These are the W59, W71, and W101 Alternatives. The W59 Alternative would connect to I-10 at 59th Avenue, while the W71 Alternative would connect at 71st Avenue. The W101 Alternative would connect to I-10 at the existing State Route (SR) 101L (Agua Fria Freeway)/I-10 system traffic interchange (TI) and has six associated options. The W101 Alternative options vary geographically among the Western (W), Central (C), and Eastern (E) Options and would vary geometrically based on a Partial Reconstruction (PR) or a Full Reconstruction (FR) of the system TI.



Location in county

Location in state

Study Area and action alternatives

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L

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Figure 1

Study Area and Action Alternatives

Section 4(f) and Section 6(f) Report

Improvements to I-10 (Papago Freeway) would occur for each Western Section action alternative (W59, W71, and W101). Improvements to SR 101L would occur for each option associated with the W101 Alternative.

Within the Eastern Section of the Study Area, one action alternative is being considered. The E1 Alternative would begin near Elliot Road and 59th Avenue and proceed to the southeast to Pecos Road, which it would follow to the east until connecting to I-10 (Maricopa Freeway) at the Pecos Road/I-10/SR 202L (Santan Freeway) system TI.

The action alternatives and options are summarized in Table 1.

Table 1. Action Alternatives and Options

Section	Interstate 10 Connection	Action Alternative	Option – Broadway Road to Buckeye Road	Option – State Route 101L/ Interstate 10 Connection Reconstruction	Option Name
Western	59th Avenue	W59	—[a]	—	—
	71st Avenue	W71	—	—	—
	State Route 101L	W101	Western	Partial Reconstruction	W101WPR
				Full Reconstruction	W101WFR
			Central	Partial Reconstruction	W101CPR
				Full Reconstruction	W101CFR
			Eastern	Partial Reconstruction	W101EPR
				Full Reconstruction	W101EFR
Eastern	Pecos Road	E1	—	—	—

[a] not applicable

The No-Action Alternative is being considered for the entire Study Area.

Purpose and Need

An analysis of population trends, land use plans, and travel demand shows that a considerable traffic problem in the Phoenix metropolitan area is projected for the future, resulting in the need for a new freeway in the SMTC. This traffic problem is likely to worsen if plans are not made to accommodate the regional travel anticipated. The purpose of a freeway within the SMTC is to support a solution to traffic congestion. Between the early 1950s and the mid-1990s, the metropolitan area grew by over 500 percent, compared with approximately 70 percent for the United States as a whole (MAG 2001). From 1980 to 2005, the Maricopa County population more than doubled, from 1.5 million to 3.7 million. The MAG region has been one of the fastest-growing metropolitan areas in the United States; Phoenix is now the fifth-largest city in the country, and the region ranks as the 12th-largest metropolitan area in the country.

Travel demand and vehicle miles driven in the metropolitan area are expected to increase at a faster rate than the population. MAG projections (conducted in collaboration with the Arizona Department of

Economic Security) indicate Maricopa County's population will increase from 3.7 million in 2005 to 6.5 million in 2035 (MAG 2009). It is projected that in the next 25 years, daily vehicle miles traveled will increase from 101 million to 185 million.

Even with anticipated improvements in light rail service, bus service, trip reduction programs, and existing roads and freeways, vehicle traffic volumes are expected to exceed the capacity of Phoenix metropolitan area streets and highways by as much as 11 percent in 2035. A freeway within the SMTC would accommodate approximately 6 percentage points of the 11 percent of the unmet travel demand and would be part of an overall traffic solution.

2. Section 4(f) and Section 6(f) Resources

Introduction

Section 6(f) of the Land and Water Conservation Fund Act (LWCFA), administered by the Interagency Committee for Outdoor Recreation and the National Park Service (NPS), pertains to projects that would affect outdoor recreational property acquired with LWCFA assistance. The LWCFA established the Land and Water Conservation Fund (LWCF), a matching assistance program providing grants paying half the acquisition and development cost of outdoor recreation sites and facilities. Section 6(f) prohibits the conversion of property acquired or developed with these grants to a nonrecreational purpose without approval from the Interagency Committee for Outdoor Recreation and NPS. NPS must ensure replacement lands of equal value, location, and usefulness are provided as conditions of approval for land conversions (16 United States Code [U.S.C.] §§ 460l-4 through 460l-11). Section 4(f) and Section 6(f) are discussed together because it is not uncommon for recreational resources to receive LWCFA funding, making Section 6(f) at times integral to the Section 4(f) process.

Maricopa County received an LWCF grant to install signs along the Sun Circle Trail. These signs have sustained irreparable damage or are missing. Because the original signs funded are no longer in existence, protection under Section 6(f) is no longer applicable. The LWCF was used for racquetball court lighting at Tolleson Union High School; for parking lot improvements, benches, and a ramada at 95th Park; and for grading, utilities, irrigation, landscaping, and lighting at Sunridge Park. The proposed action would not affect these facilities. Portions of SMPP were acquired and developed using LWCF grants. However, none of the action alternatives would affect these facilities.

Section 4(f) of the U.S. Department of Transportation Act of 1966 states that FHWA "may approve a transportation program or project … requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if—(1) there is no prudent and feasible alternative to using that land; and (2) the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use" (49 U.S.C. 303). Section 106 of the National Historic Preservation Act is an integral part of the Section 4(f) process because it helps determine a cultural resource's significance for a federal undertaking under Section 4(f). Generally, cultural resources eligible for inclusion in the National Register of Historic Places (NRHP) under Criteria A, B, or C* are also considered eligible for Section 4(f) protection (with exceptions).

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* Criterion A: Cultural resources associated with events that have made a significant contribution to the broad patterns of our history.
Criterion B: Cultural resources associated with the lives of persons significant in our past.
Criterion C: Cultural resources embodying the distinctive characteristics of a type, period, or method of construction; or representing the work of a master; or possessing high artistic values; or representing a significant and distinguishable entity whose components may lack individual distinction

Section 4(f) also protects publicly owned lands that have been formally designated (e.g., in a general plan, or site plan) and determined to be significant for park, recreation area, or wildlife and waterfowl refuge purposes. A "use" of a Section 4(f) resource, as defined in 23 Code of Federal Regulations [C.F.R.] § 774.17 occurs: (1) when land is permanently incorporated into a transportation facility, (2) when there is a temporary occupancy of land that is adverse in terms of the statute's preservationist purpose, or (3) when there is a constructive use of land. A constructive use of a Section 4(f) resource occurs when the transportation project does not incorporate land from the Section 4(f) resource, but the project's proximity impacts are so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially impaired. Substantial impairment occurs only when the protected activities, features, or attributes of the resource are substantially diminished. For example, a constructive use can occur when:

- The projected increase in noise level attributable to the project substantially interferes with the use and enjoyment of a noise-sensitive facility of a resource protected by Section 4(f). FHWA has defined this noise level as 67 A-weighted decibels (dBA).
- The proximity of the proposed project substantially impairs aesthetic features or attributes of a resource protected by Section 4(f), where such features or attributes are considered important contributing elements to the value of the resource. An example of such an effect would be locating a proposed transportation facility in such proximity that it obstructs or eliminates the primary views of an architecturally significant historical building or substantially detracts from the setting of a park or historic site that derives its value, in substantial part, from its setting.
- The project results in a restriction on access that substantially diminishes the utility of a significant publicly owned park, recreation area, or historic site.

Section 4(f) also includes various exceptions, including temporary occupancy, that are identified in 23 C.F.R. § 774.13. A temporary occupancy of land that meets the conditions below can be considered so minimal as to not constitute a use within the meaning of Section 4(f) [23 C.F.R. § 774.13(d)].

- The occupancy is of temporary duration and results in no change in ownership of the land.
- The scope of work is minor.
- There are no anticipated permanent adverse physical impacts, nor interference with protected attributes of the property.
- The land being used must be fully restored.
- There must be documented agreement from the official with jurisdiction over the Section 4(f) resource.

This report presents the results of an evaluation examining potential use of existing and future (as documented by a site or general plan) public recreational land, historic resources, and traditional cultural properties (TCPs) by the action alternatives and options considered for the proposed SMTC. There are no wildlife or waterfowl refuges in the SMTC Study Area. This report provides the following:

- A description of each Section 4(f) and Section 6(f) resource within ¼ mile* of the action alternatives.
- A discussion of direct and proximity impacts, and a demonstration of why proximity impacts associated with the action alternatives would not constitute constructive use of any resource afforded protection under Section 4(f).
- Because prudent and feasible avoidance of direct use of some resources afforded Section 4(f) protection would not be possible, measures to minimize harm are presented. Some measures to minimize harm require further coordination on the part of ADOT and FHWA with agencies, jurisdictions, the Gila River Indian Community (Community), and possibly major user groups. Those measures, as presented, will include a discussion of future additional steps needed to fully commit to the measures.
- A discussion of alternatives considered to avoid all Section 4(f) resources and why they were determined not to be "prudent and feasible."
- Results of coordination with agencies, jurisdictions, and individuals with a vested interest in the Section 4(f) and Section 6(f) resources.

The potential measures to minimize harm discussed in this report are for ADOT and FHWA to consider as future commitments to be implemented as part of the project to avoid, minimize, or otherwise mitigate Section 4(f) and Section 6(f) impacts associated with this project. The discussion of these measures in this report does not obligate ADOT to these specific measures. ADOT, along with FHWA, may choose to modify, delete, or add measures to mitigate impacts. Results will be made available in the Final EIS.

The action alternatives and options described previously are the result of an iterative process conducted in part to avoid Section 4(f) and Section 6(f) properties to the greatest extent possible. Alignments that would have directly affected historic properties, publicly owned parks, or school district-owned public recreational facilities that would have been afforded protection under Section 4(f) were modified to avoid direct or constructive use of these resources, except in the case of SMPP and the South Mountains TCP. For example, direct impacts on the Sachs Webster Farmhouse, a property eligible for inclusion in the NRHP and, therefore, a resource afforded protection under Section 4(f), would have occurred without an alignment shift in the original W101 Alternative and Options. The original alignment was shifted approximately 230 feet east of its original position near 75th Avenue and Baseline Road to completely avoid a direct impact on the farmhouse.

All of the action alternatives and options would be located in proximity to several properties afforded protection under Section 4(f). These include NRHP-eligible historic properties eligible either as individual properties or as contributing elements of the Santa Maria Historic District; school playgrounds; public parklands and trails under the jurisdiction of the Cities of Tolleson, Avondale, and Phoenix; and Maricopa County trails. Proximity impacts associated with the action alternatives and options under

* The ¼ mile distance is used because it is the approximate maximum distance from which traffic noise would be disruptive to human or wildlife uses. All other proximity impacts, such as those to the viewshed, would be detected at distances less than ¼ mile.

consideration would generally be minor and would not constitute constructive use of any of the NRHP-eligible properties or publicly owned recreational lands. The types of proximity impacts anticipated from the action alternatives and options would be limited to noise impacts, visual impacts, or restriction to access that would impair the use of the property. This chapter will demonstrate that the proximity impacts associated with the action alternatives and options would generally be minor and would not constitute constructive use of any of the historic or publicly owned recreational properties.

Appendix A outlines potential Section 4(f) resources that, upon investigation, were determined not to be afforded protection under Section 4(f).

Description of Section 4(f) Resources Common to the Western and Eastern Sections, Impacts, and Measures to Minimize Harm

One Section 4(f) resource is common to both the Western and Eastern Sections of the Study Area: Segment Eight of the Maricopa County Regional Trails System.

Property Number 1 – Segment Eight of the Sun Circle and Maricopa Trails

Segment Eight is a part of both the Sun Circle and Maricopa trails. The Sun Circle Trail and the Maricopa Trail follow approximately the same alignment within the Study Area (Figure 2). Maricopa County has divided the trails into segments to facilitate planning, design, and construction. The Sun Circle Trail consists of approximately 140 miles of hiking and equestrian trails around the Phoenix metropolitan area, the majority of which are located along canal banks (Maricopa County 2004). In 1976, the Sun Circle Trail became part of the Arizona State Trails System and, in 1977, became part of the National Trails Systems with a designation as a National Recreational Trail (Maricopa County 2004).

Maricopa Trail, when completed, would connect the regional parks in the Maricopa County Park System (Maricopa County 2004). An informal study outlining potential designated access points to the regional trails system has been completed, but the county will not create a formal document until intergovernmental agreements (IGAs) have been initiated with land partners and funding sources have been identified. Designated trail access points would likely be placed at the intersection of segments to most efficiently share infrastructure such as parking and restrooms. Segment Eight begins at the SMPP boundary about halfway between Ray and Pecos roads.[*] Although the County is working to create designated access points, trails can be accessed anywhere along their length. The segment is currently on the Salt River Project (SRP) canal banks, but will be moved to the SRP transmission line easement along the northern boundary between the Community and Phoenix (Maricopa County 2004). The segment continues northwest until it reaches the northern bank of the Salt River. Although Maricopa County is responsible for designing, building, and maintaining most of the trails, ownership of the trails varies. For example, Segment Eight is under the jurisdiction of SRP.[†]

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[*] personal communication of Chris Coover, Maricopa County Parks and Recreation Trails Coordinator, with HDR Engineering, Inc., on September 6, 2005

[†] personal communication of Chris Coover, Maricopa County Parks and Recreation Trails Coordinator, with HDR Engineering, Inc., on September 6, 2005

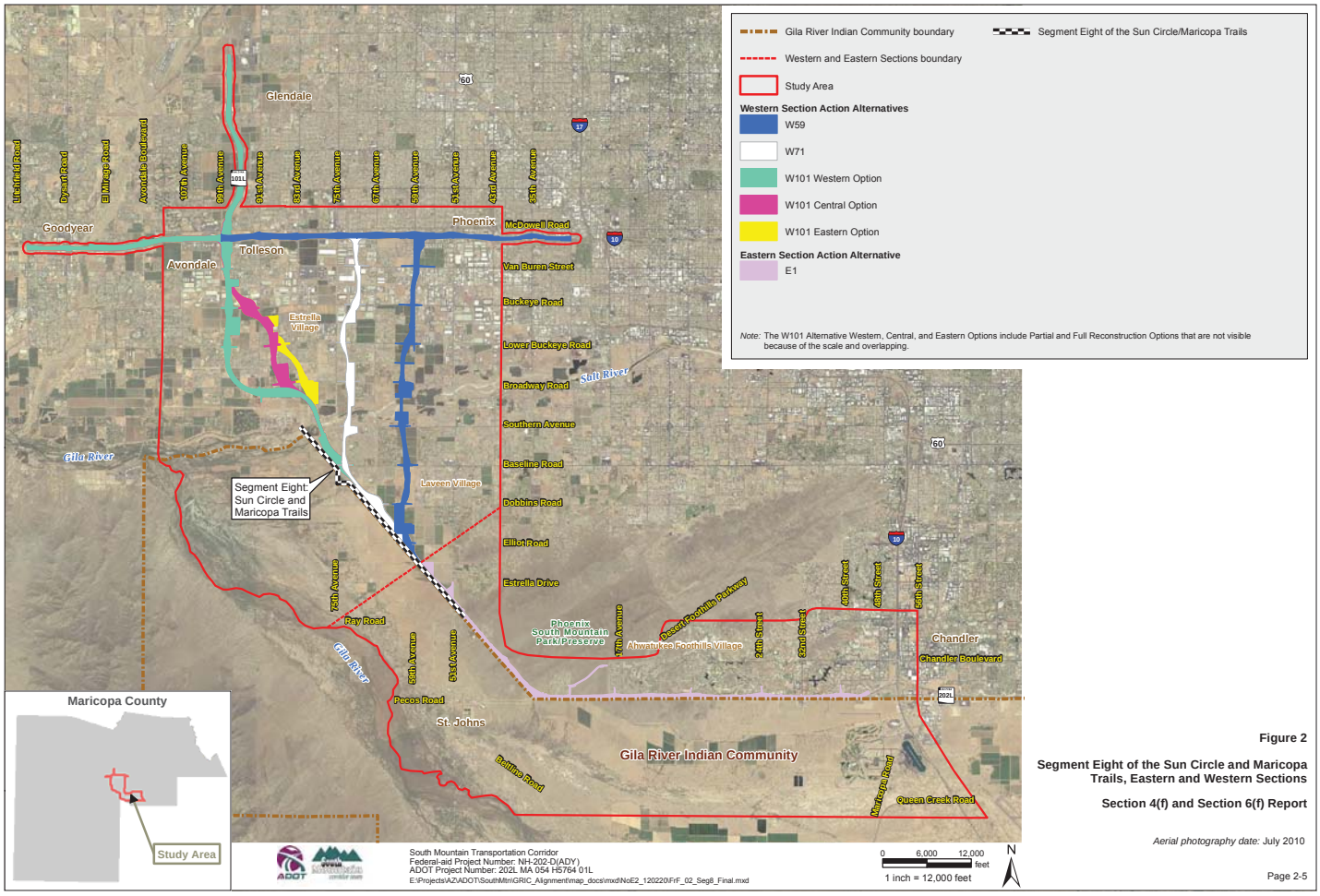

Figure 2

Segment Eight of the Sun Circle and Maricopa Trails, Eastern and Western Sections

Section 4(f) and Section 6(f) Report

Aerial photography date: July 2010

Direct Impacts

None of the action alternatives and options would result in a direct impact on Segment Eight because none of the action alternatives and options would result in use of the SRP utility easement or canal bank where Segment Eight is currently located or planned to be relocated.

During construction (if an action alternative were selected) portions of Segment Eight of the Sun Circle and Maricopa Trails that would be near potential freeway construction would be closed for limited periods of time for safety reasons. Closures would necessitate that trail users detour around construction sites to rejoin trails further along their length. These closures would constitute a temporary occupancy so minor as to not constitute use within the meaning of Section 4(f) because (1) the duration of closures, although not yet defined, would be less than the duration of freeway construction; (2) there would be no change in land ownership; (3) there would be no anticipated permanent adverse physical impacts, nor would there be interference with the activities or purpose of the trail; and (4) although no physical disturbance of the trails is anticipated, should this occur, trails would be returned to their preconstruction condition. (Maricopa County Parks and Recreation concurred on May 10, 2012.)

Proximity Impacts

Segment Eight does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). As part of the County's trailhead/public access point study, a planned access point at the junction of Segments Eight and Seven has been identified; however, the City of Phoenix is uncertain whether it will allow SMPP land to be developed into the trailhead. Funding sources for the trailhead/access point have not been identified. Access to the resource would not be substantially changed.

Measures to Minimize Harm

Because none of the action alternatives or options would result in direct or constructive use of Segment Eight, no measures to minimize harm are warranted.

The freeway would be the dominant feature in the area and would introduce forms, lines, colors, and textures distinctly different from the existing landscape. Although Section 4(f) does not require mitigation when direct or constructive use would not occur, the visual impacts of the section of freeway adjacent to Segment Eight of the Sun Circle and Maricopa Trails could be reduced by blending the color, line, and form of the freeway with the surrounding environment.

Description of Section 4(f) and Section 6(f) Resources in the Western Section, Impacts, and Measures to Minimize Harm

The following Section 4(f) and Section 6(f) resources have been identified within ¼ mile of the Western Section action alternatives and options (W59, W71, and W101). The numbered Section 4(f) properties on Figure 3 correspond to their description in the text of this section. The State Historic Preservation Office (SHPO) has concurred with the NRHP-eligibility property designations within the Study Area as part of

this study or as part of previous studies. Detailed descriptions and photographs of NRHP-eligible properties can be found in the cultural resources reports associated with this project.

Property Number 2 – Segment One of the Sun Circle Trail

Refer to *Property Number 1 – Segment Eight of the Sun Circle and Maricopa Trails* for an overall description of the Sun Circle Trail system. Segment One of the Sun Circle Trail is one of only a few segments that the Sun Circle Trail and Maricopa Trail do not have in common. Within the Study Area, Segment One is currently located in the Agua Fria riverbed, crossing under I-10 between Dysart and El Mirage roads (Figures 3 and 4). Maricopa County plans to move Segment One onto the banks of the Agua Fria River—which side of the river has not been determined. This segment's principal purpose is to create a regional planning framework for a 42-mile trail network for nonmotorized trail users (Maricopa County 2004). Segment One is under the jurisdiction of the City of Phoenix.[*]

Direct Impacts

None of the action alternatives and options would result in a direct impact on Segment One of Sun Circle Trail. The W101 Alternative and Options would be constructed to span Segment One; therefore, none of the Western Section action alternatives and options would affect Segment One.

During construction (if an action alternative were selected) portions of Segment One of the Sun Circle Trail that would be spanned or would be near potential freeway construction would be closed for limited periods of time for safety reasons. Closures would necessitate that trail users detour around construction sites to rejoin trails further along their length. These closures would constitute a temporary occupancy so minor as to not constitute use within the meaning of Section 4(f) because (1) the duration of closures, although not yet defined, would be less than the duration of freeway construction; (2) there would be no change in land ownership, (3) there would be no anticipated permanent adverse physical impacts, nor would there be interference with the activities or purpose of the trail; and (4) although no physical disturbance of the trails is anticipated, should this occur, trails would be returned to their preconstruction condition. (Maricopa County Parks and Recreation concurred on May 10, 2012.)

Proximity Impacts

Segment One does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). Maricopa County has not completed a study of potential access points to the regional trails system; therefore, designated access points are unknown.[†] Access to the resource would not be substantially changed.

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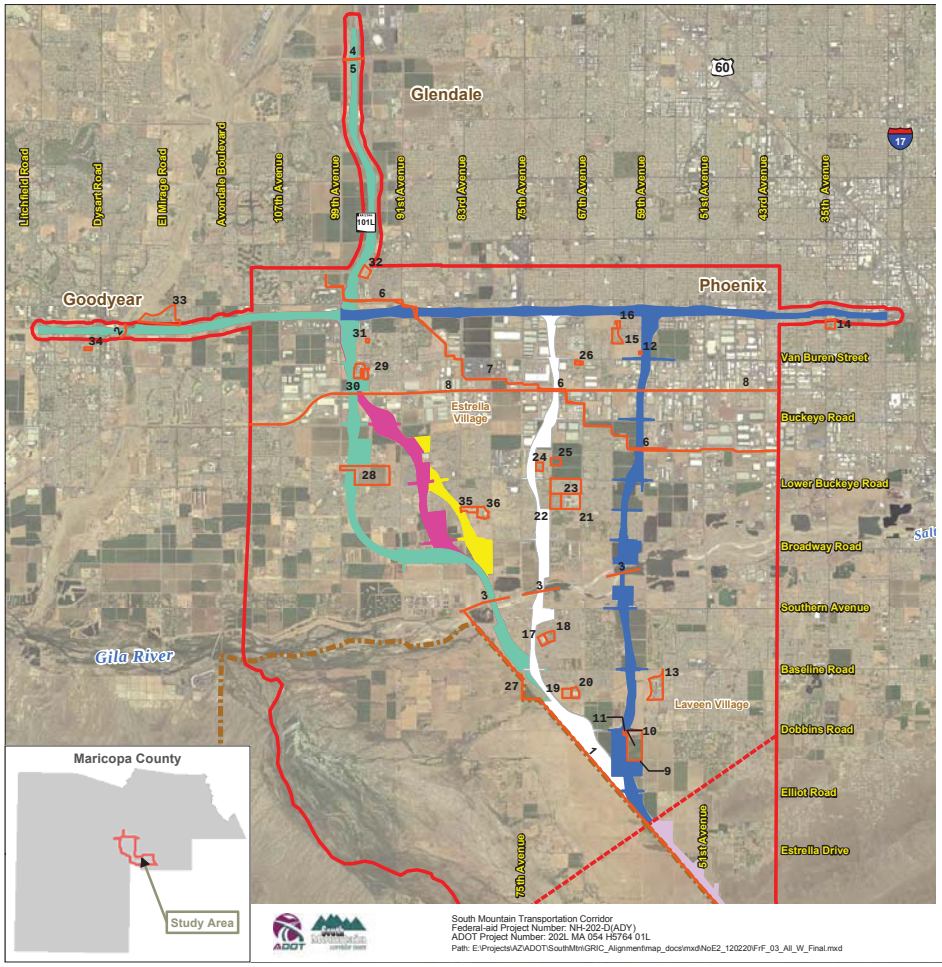
[*] personal communication of Chris Coover, Maricopa County Parks and Recreation Trails Coordinator, with HDR Engineering, Inc., on September 6, 2005

[†] personal communication of Chris Coover, Maricopa County Parks and Recreation Trails Coordinator, with HDR Engineering, Inc., on September 6, 2005



Gila River Indian Community boundary

Western and Eastern Sections boundary

Study Area

Western Section Action Alternatives

W59

W71

W101 Western Option

W101 Central Option

W101 Eastern Option

Eastern Section Action Alternative

E1

Section 4(f) property

Note: The W101 Alternative Western, Central, and Eastern Options include Partial and Full Reconstruction Options that are not visible because of the scale and overlapping.

Property Number – Property Name

1 – Segment Eight of the Sun Circle and Maricopa Trails
2 – Segment One of the Sun Circle Trail
3 – Segment Fifty-six of the Maricopa County Regional Trails System
4 – Segment Sixty-eight of the Maricopa County Regional Trails System
5 – Grand Canal
6 – Segment Sixty-nine of the Maricopa County Regional Trails System
7 – Roosevelt Canal
8 – Wellton-Phoenix-Eloy Main Line
9 – Hackin Farmstead
10 – Hudson Farm
11 – Colvin-Tyson Farmstead and Barnes Dairy Barn
12 – Ong Farmstead
13 – Betty Fairfax High School
14 – Falcon Park
15 – Sunridge Park
16 – Sunridge Elementary School
17 – Trailside Point School
18 – Trailside Point Park
19 – Laveen Commons Future Park
20 – Desert Meadows Elementary School
21 – Sierra Linda High School
22 – Santa Maria Park
23 – Santa Marie Townsite (Santa Maria)
24 – Santa Maria Middle School
25 – Fowler Elementary School District Future School
26 – Fowler Elementary School
27 – Sachs-Webster Farmhouse
28 – Estrella District Park Future Park
29 – Tolleson Union High School
30 – Cowden Park
31 – 95th Park
32 – 95th Avenue and Encanto Boulevard Future Park
33 – Friendship Park
34 – Parque de Paz
35 – 83rd Avenue and Elwood Street Future Park
36 – Tuscano Elementary School

0 3,000 6,000 feet

N

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
Path: E:\Projects\AZ\ADOT\SouthMtn\GRIC_Alignmentmap_docs\mxd\NoE2_120220\FrF_03_All_W_Final.mxd

Figure 3

Section 4(f) Resources – Western Section

Section 4(f) and Section 6(f) Report

Aerial photography date: July 2010

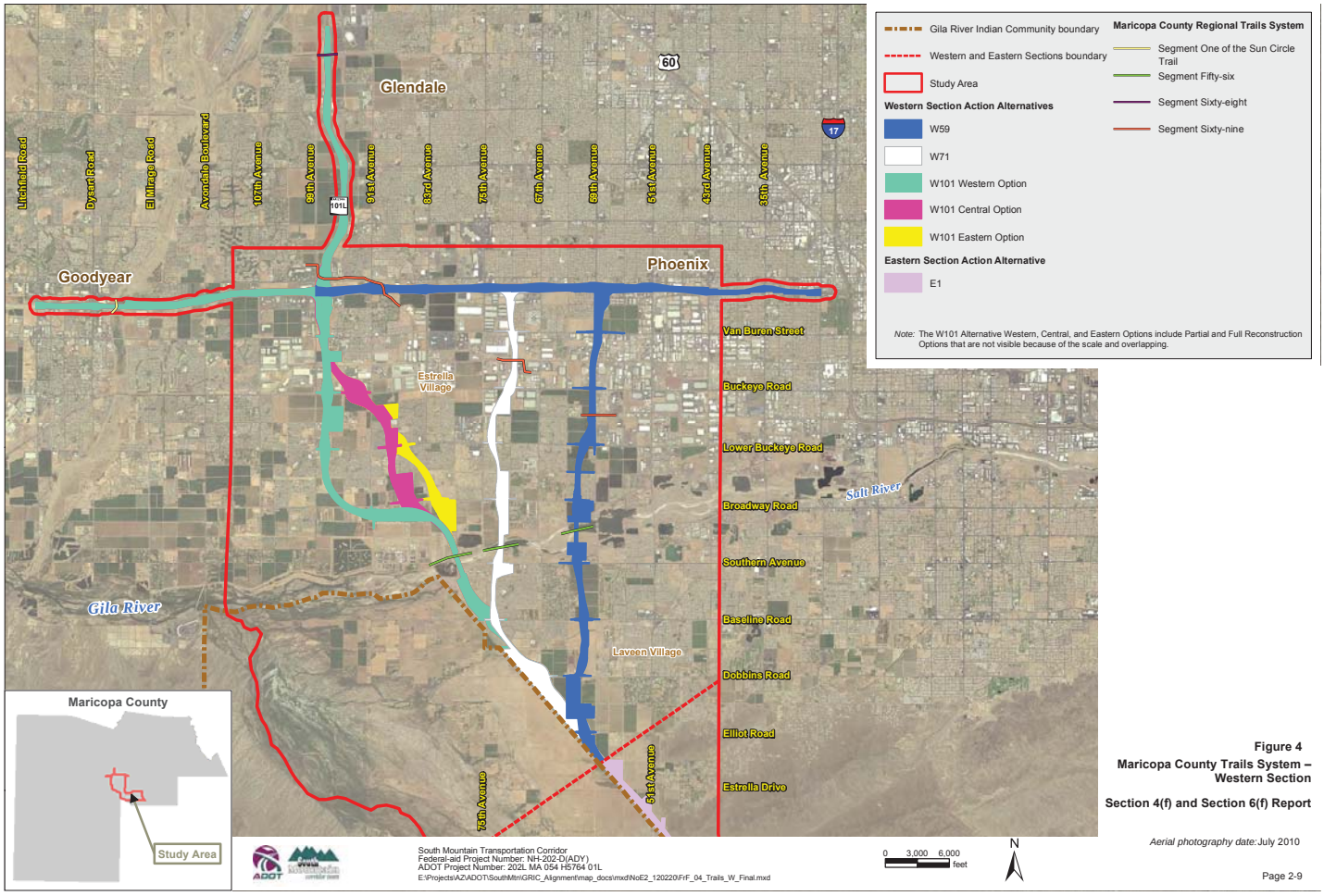


Figure 4
Maricopa County Trails System – Western Section

Section 4(f) and Section 6(f) Report

Aerial photography date: July 2010

Measures to Minimize Harm

Because none of the action alternatives or options would result in direct or constructive use of Segment One, no measures to minimize harm are warranted. Visual and noise impacts would be subtle because I-10 already exists in the area, further precluding the need for mitigation.

Property Number 3 – Segment Fifty-six of the Maricopa County Regional Trails System

Segment Fifty-six is a planned trail. Within the Study Area, Segment Fifty-six would run west within the Salt River bed from approximately 43rd Avenue to the junction of the Sun Circle Trail at 83rd and Southern avenues (Maricopa County 2004) (Figures 3 and 4). Segment Fifty-six will be designated for hiking and equestrian uses and will be under the jurisdiction of the City of Phoenix.[*]

Direct Impacts

All the Western Section action alternatives and options would cross Segment Fifty-six; however, bridges to span the Salt River and Segment Fifty-six would be included in the freeway design; therefore, none of the action alternatives and options would directly affect Segment Fifty-six. If Segment Fifty-six were to be constructed prior to construction of SMTC (if an action alternative were selected), portions of the trail that would be spanned or would be near potential freeway construction would be closed for limited periods of time for safety reasons. Closures would necessitate that trail users detour around construction sites to rejoin trails farther along their length. These closures would constitute a temporary occupancy so minor as to not constitute use within the meaning of Section 4(f) because (1) the duration of closures, although not yet defined, would be less than the duration of freeway construction; (2) there would be no change in land ownership; (3) there would be no anticipated permanent adverse physical impacts, nor would there be interference with the activities or purpose of the trail; and (4) although no physical disturbance of the trails is anticipated, should this occur, trails would be returned to their preconstruction condition. (Maricopa County Parks and Recreation concurred on May 10, 2012.)

Proximity Impacts

Segment Fifty-six will not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). Existing access to the Section 4(f) property would not be altered; therefore, access to the resource would not be impaired.

Measures to Minimize Harm

Because none of the action alternatives or options would result in direct or constructive use of Segment Fifty-six, no measures to minimize harm are warranted. The freeway could introduce forms, lines, colors, and textures distinctly different from the existing landscape.

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[*] personal communication of Chris Coover, Maricopa County Parks and Recreation Trails Coordinator, with HDR Engineering, Inc., on September 6, 2005

Although Section 4(f) does not require any mitigation when direct or constructive use does not occur, the visual impacts of the section of freeway and noise barriers (Figure 5) near Segment Fifty-six could be reduced by blending the color, line, and form of the structures with the surrounding environment. Landscape treatments, including vegetation buffers, could disguise the noise barriers and freeway.

Property Number 4 – Segment Sixty-eight of the Maricopa County Regional Trails System

Segment Sixty-eight is an existing hiking and equestrian trail that crosses under SR 101L at Bethany Home Road in Phoenix (Figures 3 and 4). Segment Sixty-eight of the Maricopa County Regional Trails System is located along the banks of the historic Grand Canal (Maricopa County 2004) (refer to *Property Number 5 – Grand Canal*). Segment Sixty-eight is under the jurisdiction of the City of Phoenix.[*]

Direct Impacts

None of the Western Section action alternatives and options would result in a direct impact on Segment Sixty-eight of the Maricopa County Regional Trails System. The W101 Alternative and Options would cross this Section 4(f) resource at Bethany Home Road and SR 101L; however, the freeway would be designed to span Segment Sixty-eight. During construction (if an action alternative were selected) portions of Segment Sixty-Eight that would be spanned or would be near potential freeway construction would be closed for limited periods of time for safety reasons. Closures would necessitate that trail users detour around construction sites to rejoin trails further along their length. These closures would constitute a temporary occupancy so minor as to not constitute use within the meaning of Section 4(f) because (1) the duration of closures, although not yet defined, would be less than the duration of freeway construction; (2) there would be no change in land ownership; (3) there would be no anticipated permanent adverse physical impacts, nor would there be interference with the activities or purpose of the trail; and (4) although no physical disturbance of the trails is anticipated, should this occur, trails would be returned to their preconstruction condition. (Maricopa County Parks and Recreation concurred on May 10, 2012.)

Proximity Impacts

Segment Sixty-eight does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). Maricopa County has not completed a trailhead study; therefore, designated access points are unknown.[†]

Measures to Minimize Harm

Because none of the action alternatives or options would result in direct or constructive use of Segment Sixty-eight, no measures to minimize harm are warranted. Visual and noise impacts would be subtle because I-10 already exists in the area, further precluding the need for mitigation.

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[*] personal communication of Chris Coover, Maricopa County Parks and Recreation Trails Coordinator, with HDR Engineering, Inc., on September 6, 2005

[†] personal communication of Chris Coover, Maricopa County Parks and Recreation Trails Coordinator, with HDR Engineering, Inc., on September 6, 2005

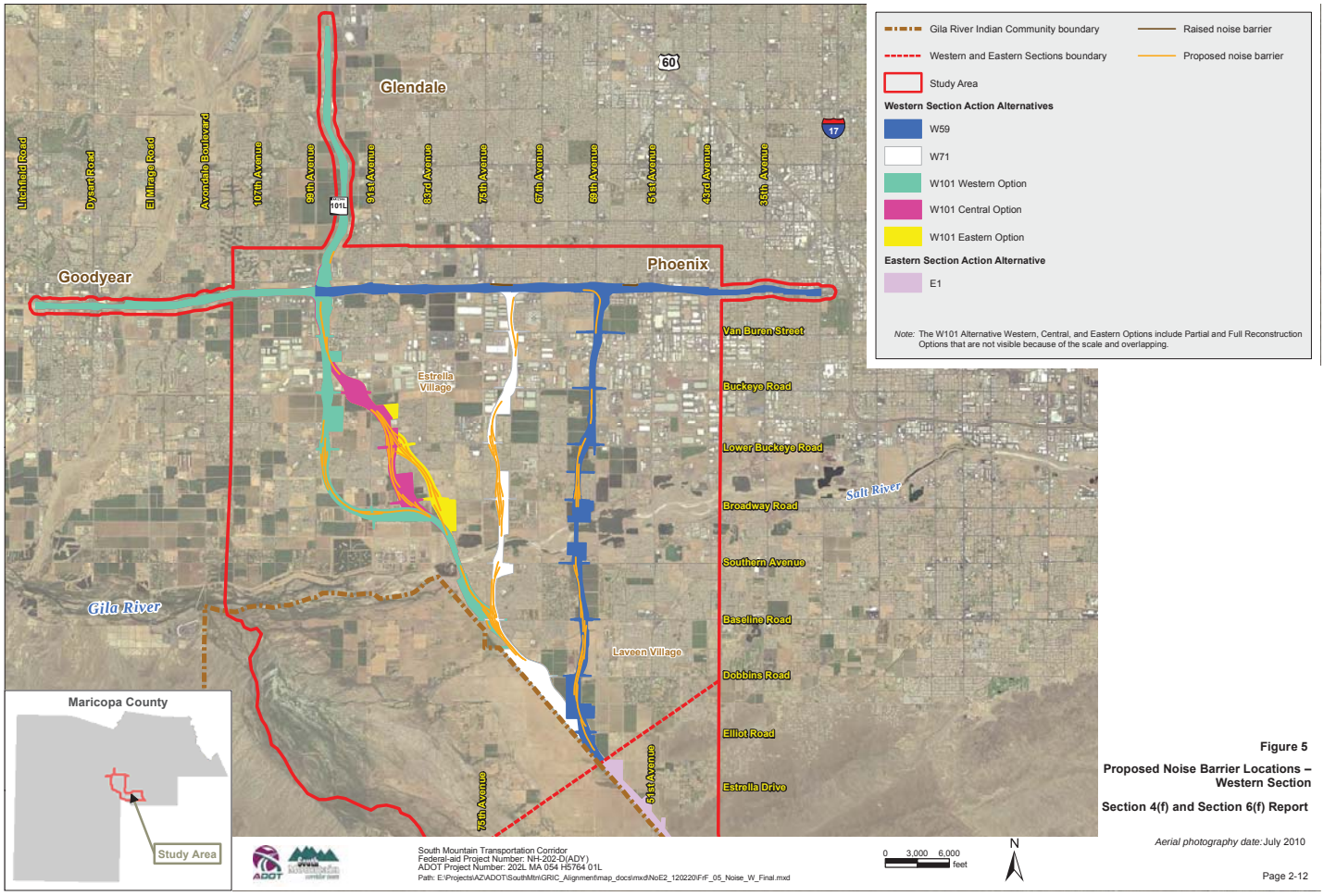

Figure 5

Proposed Noise Barrier Locations – Western Section

Section 4(f) and Section 6(f) Report

Aerial photography date: July 2010

Property Number 5 – Grand Canal

The historic Grand Canal crosses under SR 101L at Bethany Home Road in Phoenix (Figures 3 and 6). It was constructed between 1878 and 1886 by the Grand Canal Company, which was the first company devoted exclusively to the promotion of irrigation systems. This canal is one of the primary delivery canals in the SRP system and has played an important role in the development of Arizona's early agricultural industry.

The Grand Canal is eligible for inclusion in the NRHP under Criteria A and C and is under the jurisdiction of the Bureau of Reclamation (Brodbeck and Touchin 2005). Recognizing the historical importance of the canal, the Bureau of Reclamation, SRP, and SHPO have entered into a programmatic agreement (PA) to ensure proper management of the resource and to outline procedures for mitigating potential future impacts from maintenance activities and upgrades to the system. As part of the PA, SRP has completed a Historic American Engineering Record for the Grand Canal that is recognized by participating parties as adequate mitigation for future modification (Brodbeck and Touchin 2005).

Direct Impacts

None of the Western Section action alternatives and options would directly affect the Grand Canal. The W101 Alternative and Options would cross this Section 4(f) resources at Bethany Home Road and SR 101L; however, the freeway would be designed to span the Grand Canal.

Proximity Impacts

The Grand Canal does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. 774.15).

Measures to Minimize Harm

Because none of the action alternatives or options would result in direct or constructive use of the Grand Canal, no measures to minimize harm are warranted. There are no noise receivers in the area of the Grand Canal, and visual impacts would be subtle because SR 101L already exists in the location—further precluding the need for mitigation.

Property Number 6 – Segment Sixty-nine of the Maricopa County Regional Trails System

Segment Sixty-nine of the Maricopa County Regional Trails System runs along the Roosevelt Canal (refer to *Property Number 7 – Roosevelt Canal*) from approximately 43rd Avenue on the eastern edge of the Study Area to approximately Encanto Boulevard (Maricopa County 2004) (Figures 3 and 4). This hiking and equestrian trail segment is under the jurisdiction of the City of Phoenix.[*]

[*] personal communication of Chris Coover, Maricopa County Parks and Recreation Trails Coordinator, with HDR Engineering, Inc., on September 6, 2005

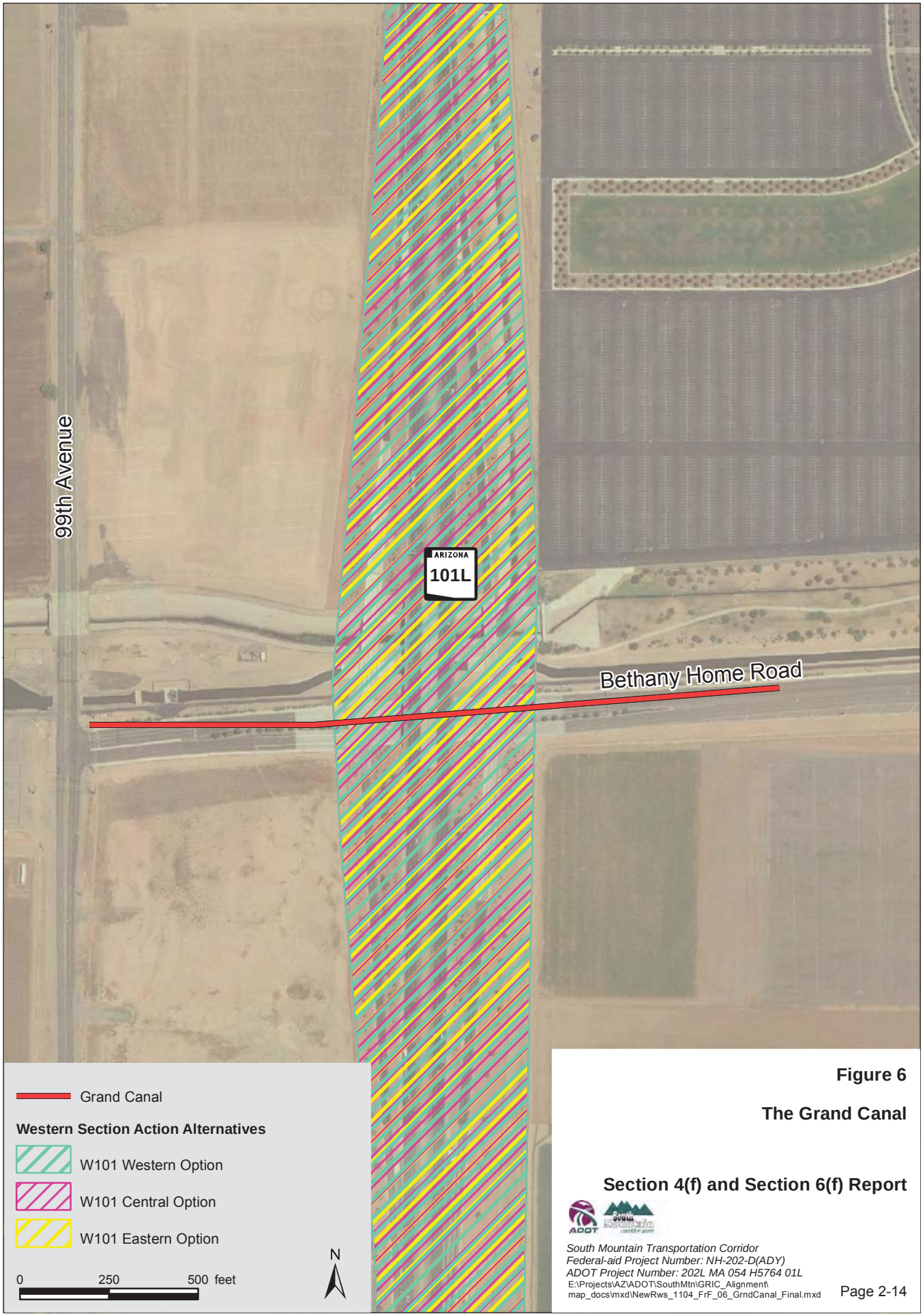

Figure 6

The Grand Canal

Direct Impacts

None of the Western Section action alternatives and options would result in a direct impact on Segment Sixty-nine. All the Western Section action alternatives and options would cross this Section 4(f) resource; however, the freeway would be designed to span the segment. Therefore, there would be no direct use of Segment Sixty-nine.

During construction (if an action alternative were selected) the portions of Segment Sixty-nine that would be spanned or would be near potential freeway construction would be closed for limited periods of time for safety reasons. Closures would necessitate that trail users detour around construction sites to rejoin trails further along their length. These closures would constitute a temporary occupancy so minor as to not constitute use within the meaning of Section 4(f) because (1) the duration of closures, although not yet defined, would be less than the duration of freeway construction; (2) there would be no change in land ownership; (3) there would be no anticipated permanent adverse physical impacts, nor would there be interference with the activities or purpose of the trail; and (4) although no physical disturbance of the trails is anticipated, should this occur, trails would be returned to their preconstruction condition. (Maricopa County Parks and Recreation concurred on May 10, 2012.)

Proximity Impacts

Segment Sixty-nine does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). Maricopa County has not completed a trailhead study; therefore, designated access points are unknown.[*]

Measures to Minimize Harm

Because none of the action alternatives or options would result in direct or constructive use of Segment Sixty-nine, no measures to minimize harm are warranted. The freeway could introduce forms, lines, colors, and textures different from the existing landscape. Although Section 4(f) does not require any mitigation when direct or constructive use does not occur, the visual impacts of the section of freeway adjacent to Segment Sixty-nine could be reduced by blending the color, line, and form of the freeway with the surrounding environment.

Property Number 7 – Roosevelt Canal

The Roosevelt Canal [AZ T:10:83 (ASM)] is a historic canal constructed by SRP in 1928 that is still used today. The canal runs from approximately 43rd Avenue on the eastern edge of the Study Area to Encanto Boulevard in the northern portion of the Study Area (Maricopa County 2004) (Figures 3 and 7). The Roosevelt Canal intersects the action alternatives in four locations.

[*] personal communication of Chris Coover, Maricopa County Parks and Recreation Trails Coordinator, with HDR Engineering, Inc., on September 6, 2005

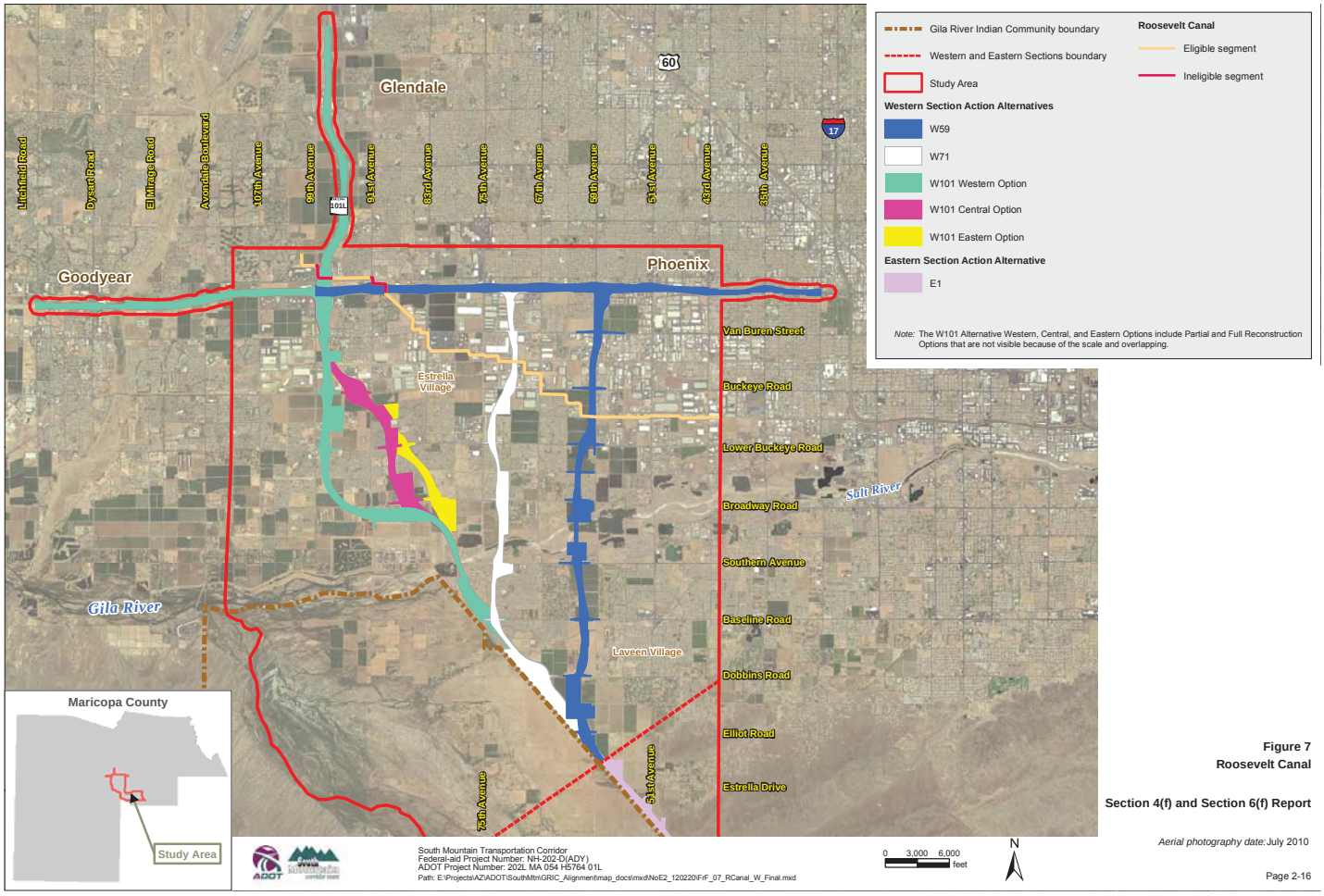

Figure 7
Roosevelt Canal

Section 4(f) and Section 6(f) Report

Aerial photography date: July 2010

The canal segments that cross the W59 and W71 Alternatives south of Van Buren Street retain integrity and are recommended eligible for inclusion in the NRHP under Criterion A for their association with the social and economic development of the Salt River Valley and the historic development of irrigation districts in Arizona (Brodbeck and Touchin 2005; Darling 2005). The canal segment crossing I-10 from 83rd Avenue to McDowell Road and the segment crossing SR 101L at McDowell Road and 99th Avenue are modern realignments lacking historical integrity and, as such, are not recommended as NRHP-eligible (SHPO concurrence: July 19, 2006).

Direct Impacts

None of the Western Section action alternatives and options would result in a direct impact on the Roosevelt Canal. All the Western Section action alternatives and options would cross this Section 4(f) resource; however, the freeway would be designed to span the canal. Therefore, there would be no direct use of the Roosevelt Canal. Only the W59 and W71 Alternatives would span individually NRHP-eligible segments of the Roosevelt Canal.

Proximity Impacts

The Roosevelt Canal does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15).

Measures to Minimize Harm

Because none of the action alternatives or options would result in direct or constructive use of the Roosevelt Canal, no measures to minimize harm are warranted. The freeway could introduce forms, lines, colors, and textures different from the existing landscape. Although Section 4(f) does not require any mitigation when direct or constructive use does not occur, the visual impacts of the section of freeway adjacent to the Roosevelt Canal could be reduced by blending the color, line, and form of the freeway with the surrounding environment.

Property Number 8 – Wellton-Phoenix-Eloy Main Line

The Wellton-Phoenix-Eloy Main Line of the Southern Pacific Railroad, now owned by Union Pacific Railroad, extends east to west across the Study Area halfway between Van Buren Street and Buckeye Road (Figures 3 and 8). The railroad, built in 1910, was originally a 39-mile-long branch line serving the west Salt River Valley and was later extended to connect with Southern Pacific Railroad's main line at Wellton and Eloy (Brodbeck and Touchin 2005). Today, the portion of the railroad in the Study Area has a single main line with numerous sidings and spurs serving the commercial and industrial developments along the corridor. The Wellton-Phoenix-Eloy Main Line is eligible for inclusion in the NRHP under Criterion A for its association with the development of Arizona's railroad network (SHPO concurrence: October 3, 2005). The spurs are not eligible for inclusion in the NRHP. The railroad has been maintained and upgraded over the years and remains an important component of Arizona's transportation network (Brodbeck and Touchin 2005).

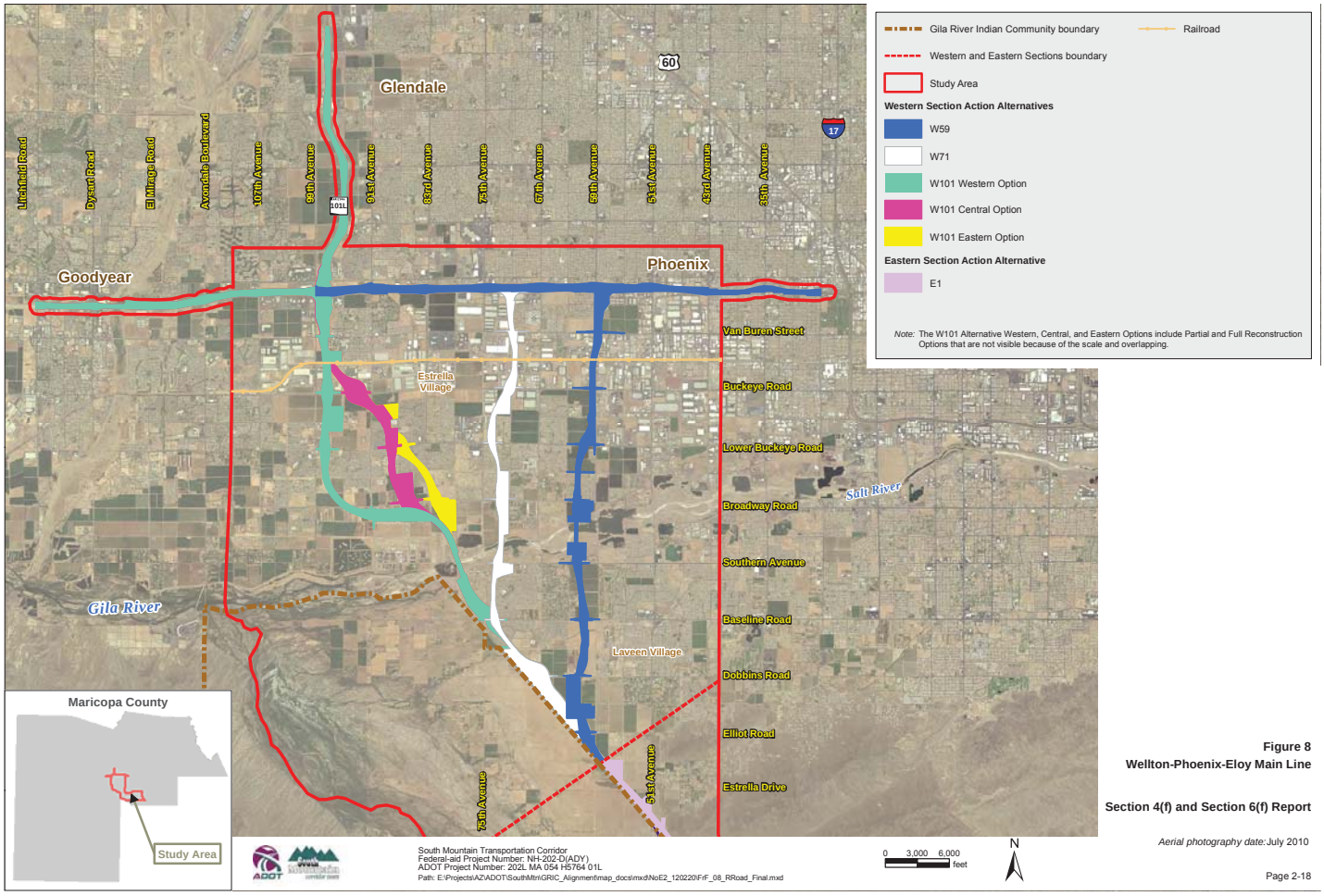

Figure 8
Wellton-Phoenix-Eloy Main Line

Section 4(f) and Section 6(f) Report

Aerial photography date: July 2010

Direct Impacts

All the Western Section action alternatives and options would cross this Section 4(f) resource; however, the freeway would be designed to span the railroad. Therefore, there would be no direct impact on the Wellton-Phoenix-Eloy Main Line.

Proximity Impacts

The Section 4(f) resource identified above does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). Existing access to the Section 4(f) property would not be altered; therefore, access to the resource would not be impaired.

Measures to Minimize Harm

Because none of the action alternatives or options would result in direct or constructive use of the Wellton-Phoenix-Eloy Main Line, no measures to minimize harm are warranted.

Property Number 9 – Hackin Farmstead

The Hackin Farmstead is at 10048 South 59th Avenue. The farmstead includes two houses, a dairy flat barn, and a modified horse barn (Figures 3 and 9) (Brodbeck and Touchin 2005). The dairy flat barn derives its name from the flat floor of the milking room where dairymen would sit on stools while milking cows. The flat barn is of a functional design lacking decorative elements. The barn has concrete block walls and a low-pitched gable roof supported by a series of wooden trusses and covered with corrugated sheet metal (Brodbeck and Touchin 2005). The farmstead and horse barn are not eligible for inclusion in the NRHP; however, the dairy flat barn is NRHP-eligible under Criterion C as a rare surviving example of a dairy flat barn used during the height of the Salt River Valley's dairy industry (SHPO concurrence: October 3, 2005). The dairy is also an example of a once-characteristic feature in Laveen's historic landscape and an integral component of its local economy. The Hackin Farmstead is one of the few remaining family-operated dairy barns in Laveen (Brodbeck and Touchin 2005). The Hackin Farmstead is accessible from 59th Avenue.

The Hackin Farmstead's eligibility was reassessed in 2012 in response to proposed alignment shifts in the area (Solliday and Macnider 2012). As a result, the prior findings were confirmed—the dairy flat barn is NRHP-eligible under Criterion C as a rare surviving example of a dairy flat barn used during the height of the Salt River Valley's dairy industry. SHPO concurrence on this reassessment was received on July 18, 2012.

Direct Impacts

None of the action alternatives and options would result in a direct use of the Hackin dairy flat barn.

Figure 9

Hackin Farmstead

Section 4(f) and Section 6(f) Report

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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Proximity Impacts

Of the Western Section action alternatives and options, the W59 Alternative would be located closest to the Hackin dairy flat barn (0.02 mile). It would not result in proximity impacts on this Section 4(f) resource; therefore, none of the Western Section action alternatives and options would result in proximity impacts on the Section 4(f) resource. This Section 4(f) resource does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15).

Existing access to the Section 4(f) property would not be altered; therefore, access to the resource would not be impaired.

Measures to Minimize Harm

To avoid direct impact on the NRHP-eligible Hackin dairy flat barn, the W59 Alternative was shifted west to avoid direct use of the property. Because none of the action alternatives or options would result in direct or constructive use of the Hackin dairy flat barn, no measures to minimize harm are warranted. A noise barrier would be constructed to mitigate noise impacts on a residential property adjacent to the W59 Alternative and near Elliot Road (Figure 5). The barrier, although not necessary mitigation under Section 4(f) when direct or constructive use does not occur, would reduce future noise levels to 58 dBA at the Hackin Farmstead.

Property Number 10 – Hudson Farm District

The Hudson Farm district, located at 9300 South 59th Avenue (Figures 3 and 10), includes a farmstead set within an 80-acre agricultural field, currently cultivated for alfalfa. The farmstead consists of a farmhouse and a variety of associated outbuildings (Figure 10). Between the road and the house is an elaborated, U-shaped entranceway lined with palm trees. The entrances to both driveways are marked by pairs of concrete piers with rock facing. West of the farmhouse is a capacity (hay) barn, a machine shop, an auto garage/apartment, a pair of concrete silos, and a concrete horse trough. The buildings and structures are placed around a central work yard (Brodbeck and Touchin 2005).

The original homestead patent for the property was issued to James R. Hughes and Samuel G. Witten in 1923 under the authority of the Homestead Relocation Act of 1902. Mr. Hughes was an Irish immigrant born in 1887. He came to Arizona in 1914 and worked as a rancher. He was never married and died of an apparent self-inflicted gunshot wound in 1933. Mr. Witten was born in Trenton, Missouri, in 1859. He moved to Arizona in 1909 and became a citrus and sheep farmer. He died in 1940 (Brodbeck and Touchin 2005).

Figure 10

Hudson Farm
district

Section 4(f) and Section 6(f) Report

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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According to the Maricopa County Index to Ownership Maps, E. E. Taylor owned the property in 1926 and by 1929 Radius and Leara Hudson had purchased the land. Radius and Leara moved from Missouri to the Laveen area in 1922 with their two children, Zona J. and Radius A. (Ray). Radius farmed the property along with 200 additional acres that he and his wife acquired. Both Zona and Ray stayed in Laveen and raised families of their own. Based on interviews with Zona Miller (Hudson) and David Hudson, son of Radius A., the center portion of the current house was the original farmhouse constructed by Mr. Taylor around 1926. It was a rectangular structure with sleeping porches on three sides and the main entrance on the southern side. The Hudson family added several additions to the house beginning in the 1940s (Brodbeck and Touchin 2005).

In the 1950s the Hudsons added the exterior stone facing. According to David Hudson, the rock used for the facing is “tufa stone” that came from a quarry at Picketpost Mountain near Superior, where his grandfather (Radius) had a mining claim. Although the house is heavily modified, the alterations occurred during the farmstead’s period of significance (1880s–1960s) (Brodbeck and Touchin 2005).

The property’s outbuildings west of the house are arranged around a central work yard. On the southern side is a machine shop constructed in the late 1940s (Figure 10). It has rock masonry walls and a medium-pitched, corrugated metal roof supported by a wood and post truss system. On the northern side of the yard is a two-door auto garage where the Hudsons kept their family trucks. According to the Hudson family, the building was constructed around 1943 and the eastern end was converted into an apartment sometime in the 1950s. A chicken coop abuts the western end. On the western side of the yard is a steel-framed capacity barn, built around 1946 (Figure 10). According to David Hudson, a large fire in the barn in the mid-1950s resulted in demolition of about a third of the structure. The remaining portion of the structure is robust and original construction, sufficient to retain its historic form and character.

Near the center of the work yard is a pair of concrete stave silos (Figure 10). The silos are shown on the 1952 U.S. Geological Survey 7.5' quadrangle map and, therefore, are contemporaneous with the other outbuildings. Both have corrugated metal roofs supported by dome-shaped wood truss supports. A concrete trough sits between the silos and the capacity barn (Brodbeck and Touchin 2005).

The Hudson farmstead is an exceptional example of a historic farmstead in the Laveen Village area because it retains a complete suite of agricultural buildings and structures from the period of significance, is in good condition, and is well-preserved. In addition, the farmstead does not have any intrusive modern buildings or structures that would detract from the historic setting and feeling (other than a large satellite dish). The farmstead’s combination and overall layout of older buildings and structures provide an inclusive picture of what a working farmstead was like in Laveen Village during the agricultural-era period of significance. The property retains integrity of location, workmanship, materials, design, and association. Furthermore, the surrounding agricultural field provides the contextual framework within which the property conveys its historic character as a farmstead. Thus, the agricultural field is an important contributing component that defines and preserves the farmstead’s integrity of setting and feeling (Brodbeck and Touchin 2005).

Currently, the Hudson Farm's fields are leased out and actively used for agriculture. The farm's outbuildings, however, do not appear to be actively used for agricultural activities. The farmhouse is used as a residence by the owner's sons (descendents of the original Hudsons who bought the farm in 1929).

The 38-acre Hudson farmstead was determined eligible for the NRHP under Criterion A as an exceptional example of a historic-period Laveen farmstead (SHPO concurrence: October 3, 2005), and the stave silos were determined individually eligible for listing in the NRHP under Criterion C as rare examples of a once-common architectural form that was a fundamental component of Laveen Village's historic agricultural landscape (SHPO concurrence: October 3, 2005).

The Hudson Farmstead's eligibility was reassessed in 2012 in response to proposed alignment shifts in the area (Solliday and Macnider 2012). As a result, the Hudson Farm district (increased to 80 acres) was determined NRHP-eligible under Criterion A for its association with Laveen's agricultural development. The cement stave silos on the Hudson Farm were determined eligible under Criterion C for their design and construction (Solliday and Macnider 2012). SHPO concurrence on this reassessment was received on July 18, 2012.

While the Hudson Farm district is also eligible for the Phoenix Historic Property Register, the property has not yet been listed in either the local or national registers. The Hudson Farm district is accessible from 59th Avenue.

Direct Impacts

None of the action alternatives and options would have a direct impact on the Hudson Farm district.

Proximity Impacts

Of the Western Section action alternatives and options, the W59 Alternative would be located closest to the Hudson Farm district (adjacent). It would not result in proximity impacts on this Section 4(f) resource; therefore, none of the Western Section action alternatives and options would result in proximity impacts on the Section 4(f) resource.

The Section 4(f) resource does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). Existing access to the Section 4(f) property would not be altered or impaired.

Measures to Minimize Harm

To avoid directly affecting the NRHP-eligible Hudson Farm district, the W59 Alternative was shifted east to approximately 62nd Avenue and was elevated to avoid direct use of the property. Because none of the action alternatives or options would result in direct or constructive use of the Hudson Farm district, no measures to minimize harm are warranted. Noise generated from the W59 Alternative would not constitute a proximity impact and, therefore, would not require mitigation under Section 4(f). Although not required under Section 4(f), noise associated with the W59 Alternative could be mitigated with a noise barrier. The proposed

noise barriers associated with this action alternative would reduce future noise levels to 58 dBA at the Hudson Farm district (Figure 5).

Property Number 11 – Colvin-Tyson Farmstead and Barnes Dairy Barn

The Colvin-Tyson Farmstead and Barnes Dairy Barn are located at 6159 West Dobbins Road (Figures 3 and 11). The farmstead is situated at the northeastern corner of a 40-acre parcel currently under cultivation. The property consists of two farmhouses and a dairy "head-to-toe" barn.

The original land patent for the property was issued to Lachoneus M. Colvin and Samuel G. Witten on July 5, 1923, under the authority of the 1902 Homestead Reclamation Act. According to death records, Mr. Witten was born in Trenton, Missouri, in 1859. He moved to Arizona in 1909 and became a citrus farmer and raised sheep. His wife was Elnora B. Witten. He died in 1940. Mr. Witten is also listed as one of the original land patentees for the Hudson farmstead property. Lachoneus Moroni Colvin moved to Laveen in 1915 with his wife Anna Melvina (Pierce) and their six children, Elsie Jane, Nathan Riley, Cecil Moroni, Wiley Raymond, Christie Oral, and Delpha Bell (Brodbeck and Touchin 2005). Four of the children were old enough to enroll at the Laveen School that same year (Brodbeck and Touchin 2005). Of their six children, four married and raised families in the Phoenix area and two died young and were never married. Elise Jane Colvin married Lafayette Hawkins. In 1928, they were living in Phoenix on South 22nd Avenue and had seven children. Delpha Bell Colvin married Philip James Walsh and in 1928 had one child and was living at South 22nd Avenue and Buckeye Road.

Christie Oral Colvin married Benjamin Howard, but no additional information was available (Brodbeck and Touchin 2005). Cecil Moroni Colvin was born July 16, 1900. He married Mary Meslen, who was born in Canada in 1901. They had at least two children, a daughter born August 8, 1923, and a daughter born March 17, 1925. Cecil worked as a farmer and rancher. He died on November 4, 1954, and was survived by his wife. No information was available for Nathan Riley Colvin other than he "died at a young age" (Brodbeck and Touchin 2005). According to county death records, Wiley Raymond Colvin died as the result of a gunshot wound on September 9, 1922, at the age of 19.

According to Maricopa County Ownership Index maps, by 1929, the property had been sold to Robert L. and L. E. Tyson. Robert L. Tyson served as trustee on the Laveen School Board from 1931 to 1935 and his son, Robert Tyson, Jr., was the president of the Laveen School Board in 1973 (Brodbeck and Touchin 2005). Members of the Hudson family, who grew up on the adjacent farm, confirmed that the Tyson family lived there in the 1930s and 1940s. Joe and Lela Barnes bought the property from the Tysons around 1950 and started a dairy operation. According to Brodbeck and Touchin (2005), Joe and Lela Barnes moved their dairy animals to Laveen in 1951 from Glendale, Arizona. They had five children: Art, Bill, Charles, Margaret, and Sally. The dairy was in operation through the 1950s and 1960s.

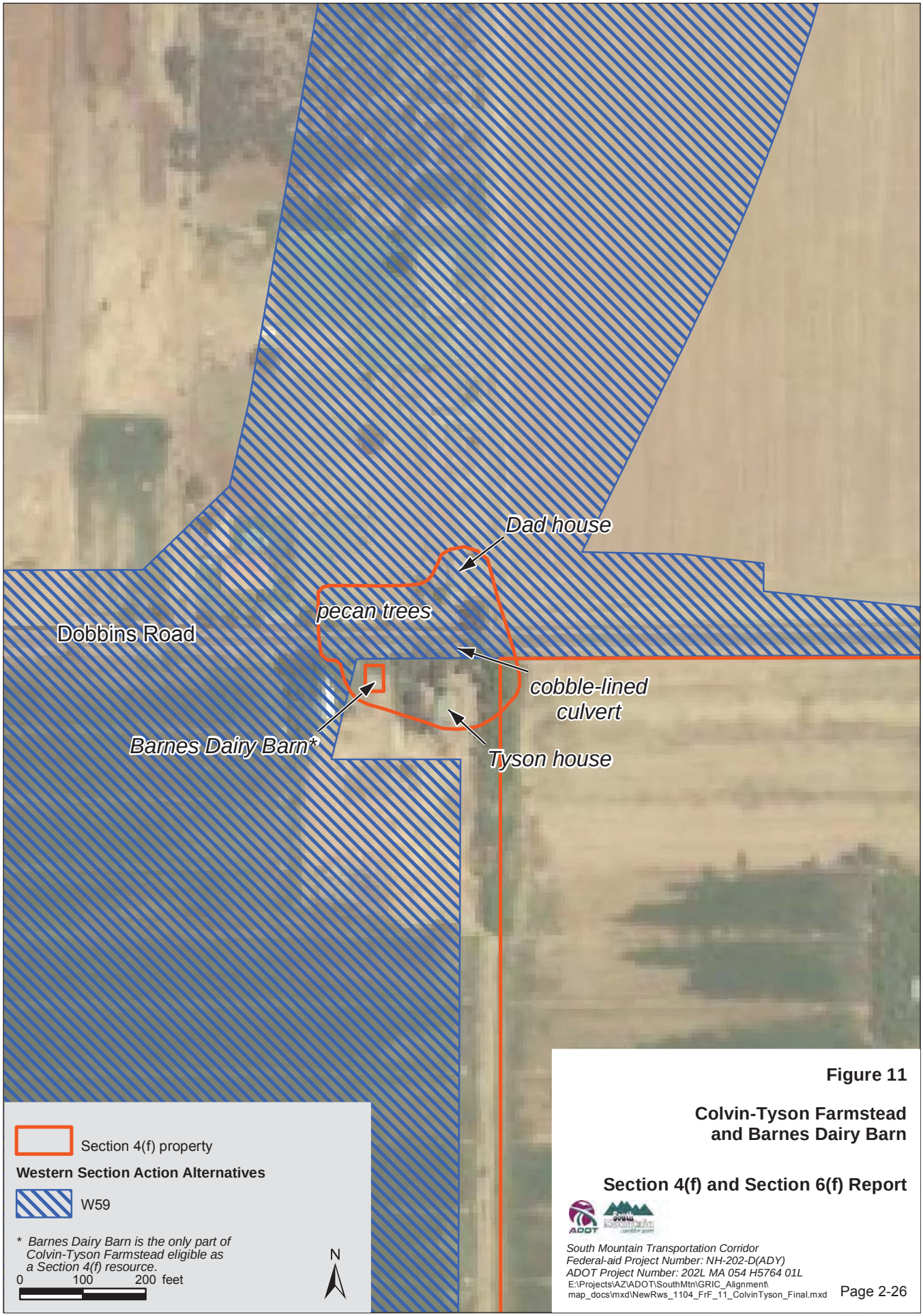

Figure 11

Colvin-Tyson Farmstead and Barnes Dairy Barn

Section 4(f) and Section 6(f) Report

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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Although three historic buildings remain on the farmstead, only the head-to-toe dairy barn, known as the Barnes Dairy Barn, is eligible for the NRHP. It was built by the Barnes family sometime in the 1950s as part of its dairy operation. The barn is of concrete block construction with a low-pitched sheet metal roof. It is on a concrete slab foundation. Its windows are multipane metal casements. The western half of the dairy barn is the milking room. The milking room is divided by a concrete wall that once supported a raised platform on which the cows stood "head-to-toe" while being milked by dairymen standing below on the east side of the room. The raised platform is also evidenced by the height of the elevated doorways at the northern and southern ends of the room where the cattle entered and exited the building. Wear marks on the top of dividing wall appear to mark the stanchion stations. The eastern half of the barn is subdivided into two rooms used for operations and storage. Overall, the barn is in fair-to-poor condition because of general deterioration of building materials.

The Colvin-Tyson Farmstead had several different owners and has undergone many transformations over the years. It began as a homesteaded farm in the 1920s with the Colvin Family. The original farmhouse is still present but in very poor condition. In the 1930s, the Tyson Family bought the farm and added the second house, which was subsequently heavily modified. In the 1950s, the Barnes family bought the property and converted it to a dairy operation. Following its abandonment as a dairy in the 1960s, the stock pens and their associated structures/buildings were destroyed; over time, much of the land was converted to agricultural fields. The Barnes Dairy Barn, at the time of this evaluation, was being used to house livestock. In general, the property lacks continuity of ownership and function and the two houses lack integrity of workmanship, materials, and design. As such, it is recommended that the property in its entirety is not eligible for the NRHP and that the two farmhouses are not eligible individually (SHPO concurrence: October 3, 2005); therefore, they are not Section 4(f) properties.

The dairy head-to-toe barn is recommended as individually eligible for the NRHP under Criterion C as a rare example of a once-common form that was a characteristic feature in Laveen Village's historic landscape and an integral component of its local economy. It is one of the few standing family-operated dairy barns in Laveen. It is also recognized as important within the broader context of the Salt River Valley's dairy industry as a surviving example of a dairy head-to-toe barn used during the height of its agricultural era (SHPO concurrence: October 3, 2005).

The eligibility of the Colvin-Tyson Farmstead and Barnes Dairy Barn was reassessed in 2012 in response to proposed alignment shifts in the area (Solliday and Macnider 2012). As a result, the prior findings were confirmed—the dairy head-to-toe barn was recommended as individually eligible for the NRHP under Criterion C as a rare example of a once-common form that was a characteristic feature in Laveen Village's historical landscape and an integral component of its local economy. SHPO concurrence on this reassessment was received on July 18, 2012.

Access to the Barnes Dairy Barn is from West Dobbins Road.

Direct Impacts

None of the action alternatives and options would directly affect the Colvin-Tyson Farmstead and Barnes Dairy Barn.

Proximity Impacts

Of the Western Section action alternatives and options, the W59 Alternative would be located closest to the Colvin-Tyson Farmstead and the Barnes Dairy Barn (adjacent). It would not result in proximity impacts on this Section 4(f) resource; therefore, none of the Western Section action alternatives and options would result in proximity impacts on the Section 4(f) resource. This Section 4(f) resource does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). Existing access to the Section 4(f) property would not be altered; therefore, access to the resource would not be impaired.

Measures to Minimize Harm

Because none of the action alternatives or options would result in direct or constructive use of the Colvin Tyson Farmstead and the Barnes Dairy Barn, no measures to minimize harm are warranted.

Property Number 12 – Ong Farm

The Ong Farm is located on the western side of 59th Avenue, about halfway between Van Buren Street to the south and Fillmore Street to the north. Today, the farm's agricultural fields are no longer used, but the original farmstead is still owned and occupied by the Ong family (Figures 3 and 12). The Ong family farm is eligible for the Phoenix Historic Property Register and the NRHP under Criterion A for its association with the historic context of Asian Americans in Phoenix, from 1870 to 1960. It is the only remaining Chinese-owned agricultural property in Phoenix dating to the historic time period. The farmstead was built in 1930.

Chinese grocer and farmer Ong Hung Yen purchased the property for his son William around 1940. William Ong operated the farm for decades, as well as a dairy. The property was an important gathering site for the Chinese American community during events such as Fourth of July celebrations.

Today, the Ong Farm is situated on an abandoned agricultural field. An active agricultural field is to the east across 51st Avenue. The Centura West subdivision, built between 1978 and 1979, is to the north beyond Fillmore Street. An industrial area, infilled from the late 1960s to the present, is to the south beyond Van Buren Street. The farmstead includes three houses (one constructed in 1930), a few small outbuildings, and a tennis court. The Ong Farm is accessible from 59th Avenue.

Figure 12

Ong Farm

Section 4(f) and Section 6(f) Report

Aerial photography date: July 2010

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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Direct Impacts

None of the action alternatives and options would have a direct impact on the Ong Farm.

Proximity Impacts

Of the Western Section action alternatives and options, the W59 Alternative would be located closest (adjacent) to the Ong Farm. It would not result in proximity impacts on this Section 4(f) resource; therefore, none of the Western Section action alternatives and options would result in proximity impacts on the Section 4(f) resource. The Ong Farm does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 771.15). The Ong Farm would be accessible from the southbound frontage road associated with the W59 Alternative.

Measures to Minimize Harm

Because none of the action alternatives or options would result in direct or constructive use of the Ong Farm, no measures to minimize harm are warranted.

Property Number 13 – Betty Fairfax High School

Betty Fairfax High School is under the jurisdiction of the Phoenix Union High School District. The school property is bounded by 59th Avenue on the west, 55th Avenue on the east, Baseline Road on the north, and South Mountain Avenue on the south (Figures 3 and 13). The recreational components of the school consist of two softball fields; two baseball fields; a football and soccer stadium; discus and shotput fields; basketball, tennis, and handball courts; and a practice field. These recreational amenities are available for public use. Access to the school is from South Mountain and 59th avenues. An additional pedestrian-only access is provided from the wash on the northern side of the school, just south of Baseline Road.[*]

Direct Impacts

None of the Western Section action alternatives and options would result in a direct impact on the high school or its recreational components.

[*] personal communication of Patrick Prince, Phoenix Union High School District Division Manager of Construction and Facilities, with HDR Engineering, Inc., on March 9, 2005

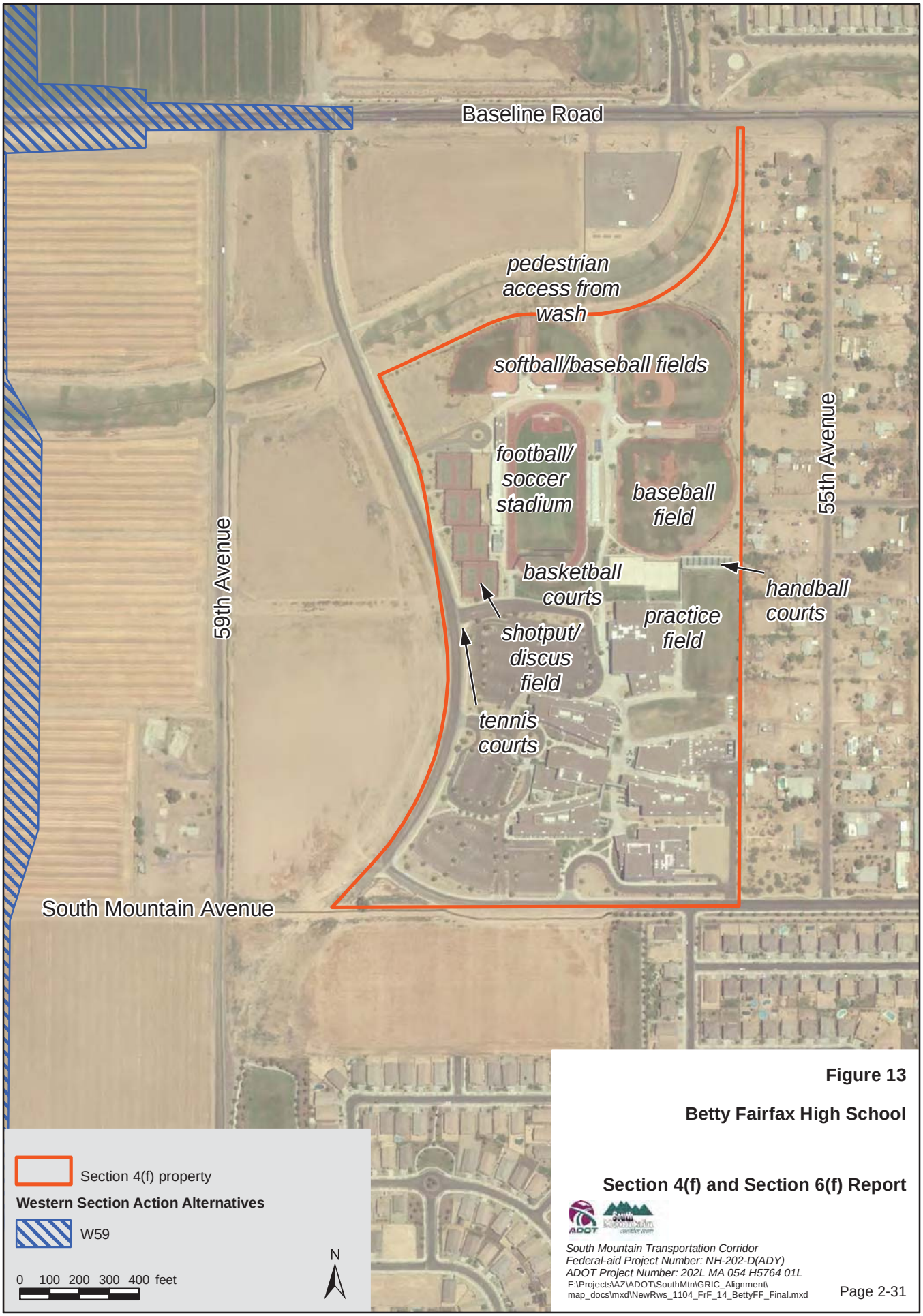

Figure 13

Betty Fairfax High School

Section 4(f) and Section 6(f) Report

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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Proximity Impacts

Of the Western Section action alternatives and options, the W59 Alternative would be located closest (0.14 mile) to Betty Fairfax High School. It would not result in proximity impacts on this Section 4(f) resource; therefore, none of the Western Section action alternatives and options would result in proximity impacts on the Section 4(f) resource.

Betty Fairfax High School does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 771.15). Existing access to the Section 4(f) property would not be altered; therefore, access to the resource would not be impaired.

Measures to Minimize Harm

Because none of the action alternatives or options would result in direct or constructive use of Betty Fairfax High School, no measures to minimize harm are warranted. A noise barrier intended to mitigate noise for residences near the W59 Alternative could provide partial noise mitigation to Betty Fairfax High School (Figure 5). This noise barrier would reduce noise levels at Betty Fairfax High School to approximately 63 dBA.

The W59 Alternative would introduce forms, lines, colors, and textures distinctly different from the existing landscape. Although Section 4(f) does not require mitigation when direct or constructive use does not occur, the visual impacts of the section of freeway near the high school could be reduced by blending the color, line, and form of the freeway with the surrounding environment.

Property Number 14 – Falcon Park

Falcon Park is located at 3420 West Roosevelt Street and is a publicly owned park, owned and operated by the City of Phoenix. Facilities include lighted baseball and softball fields, lighted basketball and volleyball courts, a children's playground including swings and a slide, a swimming pool, a ramada, and picnic areas (City of Phoenix 2005a, 2005b). The park is accessible from West Roosevelt Street (Figures 3 and 14).

Direct Impacts

None of the Western Section action alternatives and options would have a direct impact on Falcon Park.

Proximity Impacts

Of the Western Section action alternatives and options, the W59 and W71 Alternatives would be located closest to Falcon Park. The W59 Alternative, W71 Alternative, and associated improvements to I-10 would not result in proximity impacts on this Section 4(f) resource; therefore, none of the Western Section action alternatives and options would result in proximity impacts on the Section 4(f) resource.

Figure 14

Falcon Park

Section 4(f) and Section 6(f) Report

Aerial photography date: July 2010

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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Falcon Park does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). Existing access to the Section 4(f) property would not be altered; therefore, access to the resource would not be impaired.

Measures to Minimize Harm

Falcon Park is located approximately 0.10 mile from the edge of I-10. Improvements on I-10 related to the W59 and W71 Alternatives would result in only subtle noise and visual impacts on Falcon Park because of the proximity of I-10. Existing commercial and residential buildings between I-10 and Falcon Park partially shield this Section 4(f) resource from freeway noise. Because none of the action alternatives or options would result in direct or constructive use of Falcon Park, no measures to minimize harm are warranted.

Property Number 15 – Sunridge Park

Sunridge Park is located at 6201 West Roosevelt Street in the City of Phoenix. The park is owned by the City of Phoenix. Facilities include lighted basketball courts, an athletic field, a playground (including a jungle gym and slide), and ramada and picnic areas (City of Phoenix 2005a, 2005b). The park is accessible from West Roosevelt Street or 63rd Avenue (Figures 3 and 15).

In 1987, Sunridge Park was awarded an LWCF grant.[*] The grant was applied to site preparation including grading, utilities, irrigation, landscaping, and lighting.[†]

Direct Impacts

None of the Western Section action alternatives and options would have a direct impact on Sunridge Park or any features of the park acquired with LWCF grants.

Proximity Impacts

All the Western Section action alternatives would cross approximately 0.2 mile north of Sunridge Park. None of the Western Section action alternatives and options would result in proximity impacts on the Section 4(f) and Section 6(f) resources.

Sunridge Park does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). Existing access to the Section 4(f) property would not be altered; therefore, access to the resource would not be impaired.

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[*] personal communication of Pat Dutrack, Arizona State Parks, with HDR Engineering, Inc., on February 10, 2005
[†] personal communication of Mark Engelhart, City of Phoenix Parks and Recreation Western District Recreation Planner, with HDR Engineering, Inc., on May 23, 2005

Figure 15

Sunridge Park

Section 4(f) and Section 6(f) Report

Aerial photography date: July 2010

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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Measures to Minimize Harm

Sunridge Park is located approximately 0.2 mile from the edge of I-10. Improvements on I-10 related to the Western Section action alternatives and options would result in only subtle noise and visual impacts on Sunridge Park because of the current proximity of I-10. Because none of the action alternatives or options would result in direct or constructive use of Sunridge Park, no measures to minimize harm are warranted.

Property Number 16 – Sunridge Elementary School

Sunridge Elementary School is located at 6244 West Roosevelt Street in Phoenix. This public school is under the jurisdiction of the Fowler Elementary School District. Outdoor recreational facilities consist of baseball and soccer fields, basketball courts, and a playground (Figures 3 and 16). Although the school is fenced, recreational facilities are available for public use after school hours.[*] The only available entrance to the playground after school hours is through a gate in the northeastern corner of the property. This gate is reached by walking across an open area accessible from Latham Street or by walking along the school's eastern fence line, accessible from Roosevelt Street.[†]

Direct Impacts

None of the Western Section action alternatives and options would have a direct impact on Sunridge Elementary School.

Proximity Impacts

All the Western Section action alternatives and options would cross approximately 0.1 mile north of Sunridge Elementary School. None of the Western Section action alternatives and options would result in proximity impacts on the Section 4(f) resource. The Section 4(f) resource does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). Existing access to the Section 4(f) property would not be altered; therefore, access to the resource would not be impaired.

Measures to Minimize Harm

Sunridge Elementary School is located approximately 0.1 mile from the edge of I-10. Improvements on I-10 related to the Western Section action alternatives and options would result in only subtle noise and visual impacts on the school because of the current proximity of I-10. Because none of the action alternatives or options would result in direct or constructive use of Sunridge Elementary School, no measures to minimize harm are warranted.

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[*] personal communication of Randy Blecha, Fowler School District Superintendent, with HDR Engineering, Inc., on July 19, 2005

[†] personal communication of Randy Blecha, Fowler School District Superintendent, with HDR Engineering, Inc., on July 19, 2005

Figure 16

Sunridge Elementary School

Section 4(f) and Section 6(f) Report

Aerial photography date: July 2010

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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Property Number 17 – Trailside Point School

Trailside Point School is located between 75th Avenue, 67th Avenue, Baseline Road, and Southern Avenue (Figures 3 and 17) in Phoenix. This public school is under the jurisdiction of the Laveen Elementary School District. Outdoor recreational facilities available for public use after school hours include two play areas; basketball, volleyball, and tetherball courts; baseball diamonds; and a soccer field (Figure 17).[*] The school is accessible from Vineyard Road and 73rd Avenue.

Direct Impacts

None of the Western Section action alternatives and options would have a direct impact on Trailside Point School.

Proximity Impacts

Of the Western Section action alternatives and options, the W71 Alternative would be located closest to Trailside Point School. The W71 Alternative would not result in proximity impacts on this Section 4(f) resource; therefore, none of the Western Section action alternatives and options would result in proximity impacts on the Section 4(f) resource.

The Section 4(f) resource does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). Existing access to the Section 4(f) property would not be altered; therefore, access to the resource would not be impaired.

Measures to Minimize Harm

Because none of the action alternatives or options would result in direct or constructive use of Trailside Point School, no measures to minimize harm are warranted. Noise generated from the W71 Alternative would not constitute a proximity impact and, therefore, does not warrant mitigation; however, noise barriers intended to mitigate noise for residential receivers in a planned subdivision near the W71 Alternative could provide noise mitigation to Trailside Point School (Figure 5). These noise barriers would mitigate noise levels at Trailside Point School to approximately 63 dBA.

The W71 Alternative would introduce forms, lines, colors, and textures distinctly different from the existing landscape. Although Section 4(f) does not require measures to minimize harm when direct or constructive use does not occur, the visual impacts of the section of freeway near the school could be reduced by blending the color, line, and form of the freeway with the surrounding environment. The visual impacts of the planned retention basins and of the noise barriers could also be reduced by blending the color, line, and form of these structures with the surrounding environment.

[*] personal communication of Bill Johnson, Laveen Elementary School District Superintendent, with HDR Engineering, Inc., on December 8, 2005

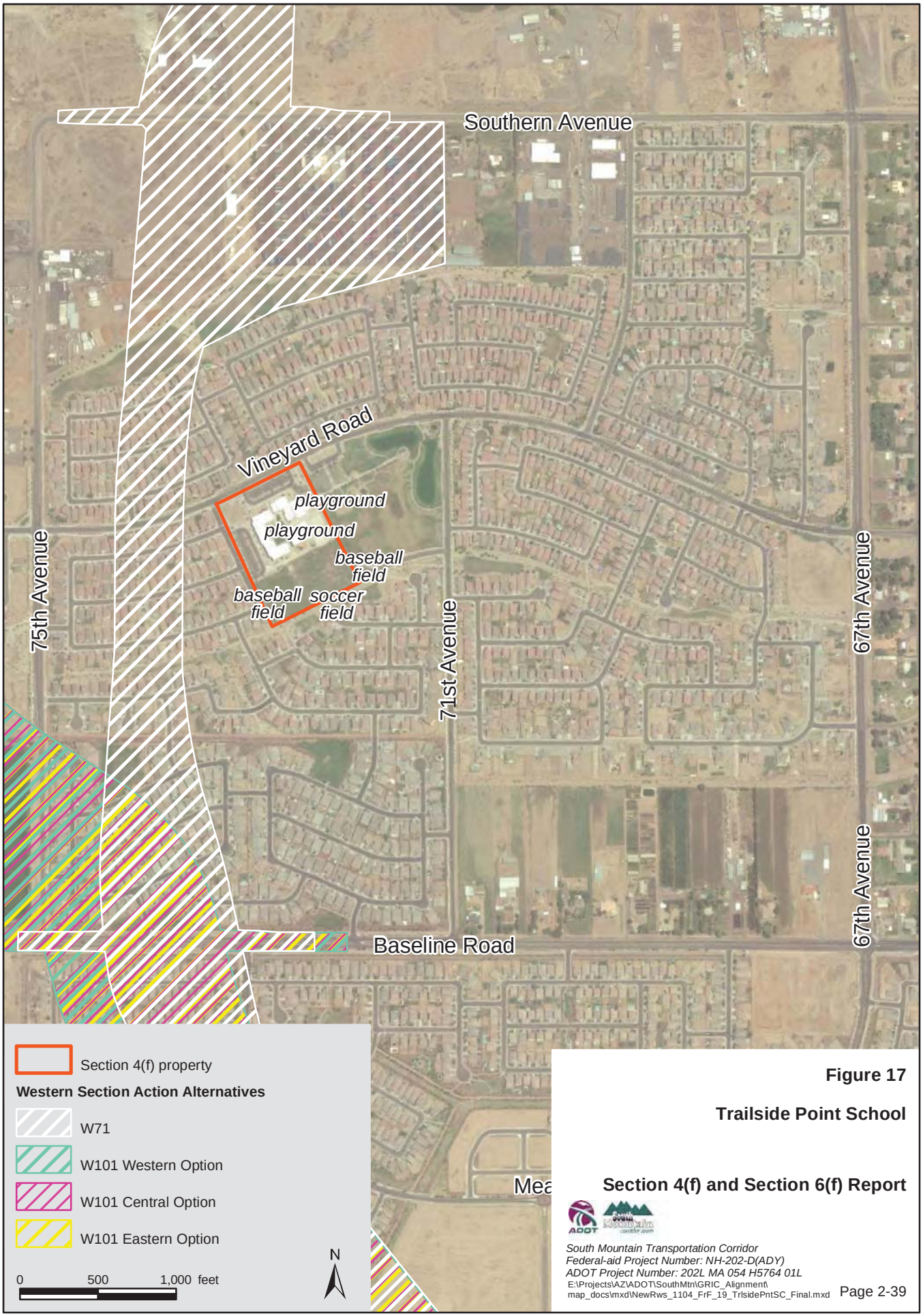

Figure 17

Trailside Point School

Section 4(f) and Section 6(f) Report

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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Property Number 18 – Trailside Point Park

The City of Phoenix's Trailside Point Park is located between 75th Avenue, 67th Avenue, Baseline Road, and Southern Avenue (Figures 3 and 18). This neighborhood park, located adjacent to Trailside Point School, is approximately 15 acres in size. Recreational amenities at the park include basketball and volleyball courts, a playground, and picnic ramadas. The park is available for use by the general public and is accessed from Vineyard Road.

Direct Impacts

None of the action alternatives and options would have a direct impact on the planned park.

Proximity Impacts

Of the Western Section action alternatives and options, the W71 Alternative would be located closest to the future park. The W71 Alternative would not result in proximity impacts on this Section 4(f) resource; therefore, none of the Western Section action alternatives and options would result in proximity impacts on the Section 4(f) resource.

The Section 4(f) resource does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). Existing access to the Section 4(f) property would not be altered; therefore, access to the resource would not be impaired.

Measures to Minimize Harm

Because none of the action alternatives or options would result in direct or constructive use of Trailside Point Park, no measures to minimize harm are warranted. Noise generated from the W71 Alternative would not constitute a proximity impact and, therefore, would not warrant mitigation. However, noise barriers intended to mitigate noise for residential receivers near the W71 Alternative could provide noise mitigation to the park (Figure 5).

The W71 Alternative would introduce forms, lines, colors, and textures distinctly different from the existing landscape. Although Section 4(f) does not require any mitigation when direct or constructive use does not occur, the visual impacts of the section of freeway near Trailside Point Park could be reduced by blending the color, line, and form of the freeway with the surrounding environment. The visual impacts of the planned retention basins and noise barriers could also be reduced by blending the color, line, and form of these structures with the surrounding environment.

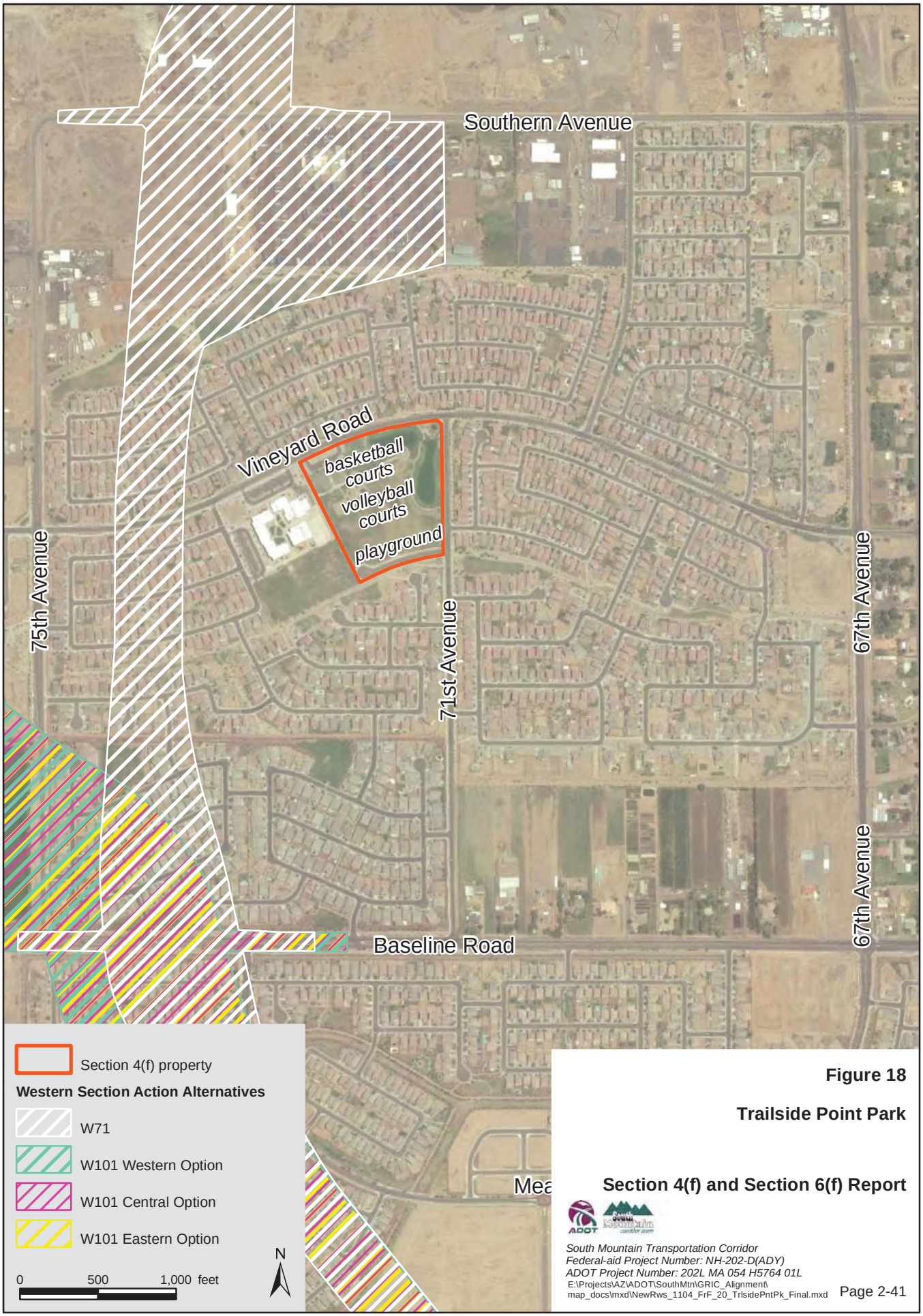

Figure 18

Trailside Point Park

Section 4(f) and Section 6(f) Report

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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Property Number 19 – Laveen Commons Future Park

The City of Phoenix is planning a public park between 71st Avenue, 67th Avenue, Baseline Road, and Dobbins Road (Figures 3 and 19), adjacent to Desert Meadows School. This neighborhood park would be approximately 15 acres in size and would be available for use by the public. A site plan for the park is currently unavailable; however, it is assumed that access to the park would be from Meadow Loop Road or 71st Avenue.

Direct Impacts

None of the action alternatives and options would have a direct impact on the planned park.

Proximity Impacts

Of the Western Section action alternatives and options, the W71 Alternative would be located closest to the Laveen Commons future park. The W71 Alternative would not result in proximity impacts on this Section 4(f) resource; therefore, none of the Western Section action alternatives and options would result in proximity impacts on the Section 4(f) resource.

The Section 4(f) resource would not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). Existing access to the Section 4(f) property would not be altered; therefore, access to the resource would not be impaired.

Measures to Minimize Harm

Because none of the action alternatives or options would result in direct or constructive use of Laveen Commons future park, no measures to minimize harm are warranted. Noise generated from the W71 Alternative would not constitute a proximity impact and, therefore, does not warrant mitigation; however, noise barriers intended to mitigate noise for residential receivers in a planned subdivision near the W71 Alternative could provide noise mitigation to Laveen Commons future park (Figure 5).

The W71 Alternative would introduce forms, lines, colors, and textures distinctly different from the existing landscape. Although Section 4(f) does not require any mitigation when direct or constructive use does not occur, the visual impacts of the section of freeway near the future park could be reduced by blending the color, line, and form of the freeway with the surrounding environment. The visual impacts of the planned noise barriers could also be reduced by blending the color, line, and form of these structures with the surrounding environment.

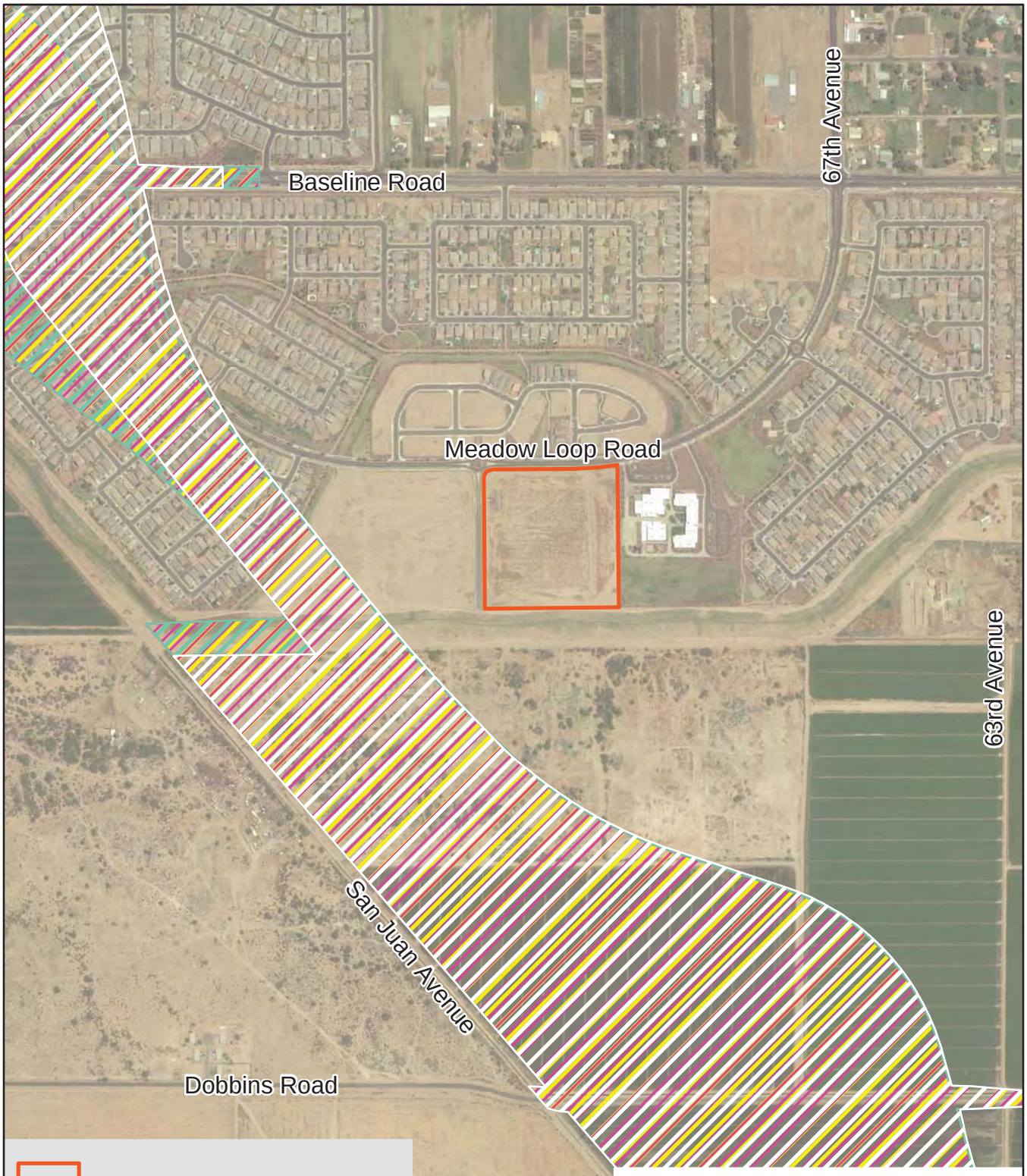

Figure 19

Laveen Commons Future Park

Section 4(f) and Section 6(f) Report

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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Property Number 20 – Desert Meadows Elementary School

Desert Meadows Elementary School is located between 75th Avenue, 67th Avenue, Baseline Road, and Dobbins Avenue (Figures 3 and 20) in Phoenix. This public school is under the jurisdiction of the Laveen Elementary School District. Outdoor recreational facilities available for public use after school hours include several play areas, basketball courts, and baseball and soccer fields.* The school is accessible from Meadow Loop Road.

Direct Impacts

None of the Western Section action alternatives and options would have a direct impact on Desert Meadows Elementary School.

Proximity Impacts

Of the Western Section action alternatives and options, the W71 Alternative would be located closest to Desert Meadows Elementary School. The W71 Alternative would not result in proximity impacts on this Section 4(f) resource; therefore, none of the Western Section action alternatives and options would result in proximity impacts on the Section 4(f) resource.

The Section 4(f) resource does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). Existing access to the Section 4(f) property would not be altered; therefore, access to the resource would not be impaired.

Measures to Minimize Harm

Because none of the action alternatives or options would result in direct or constructive use of Desert Meadows Elementary School, no measures to minimize harm are warranted. Noise generated from the W71 Alternative would not constitute a proximity impact and, therefore, does not warrant mitigation; however, noise barriers intended to mitigate noise for residential receivers in a planned subdivision near the W71 Alternative could provide noise mitigation to Desert Meadows Elementary School (Figure 5).

The W71 Alternative would introduce forms, lines, colors, and textures distinctly different from the existing landscape. Although Section 4(f) does not require mitigation when direct or constructive use does not occur, the visual impacts of the section of freeway near the elementary school could be reduced by blending the color, line, and form of the freeway with the surrounding environment. The visual impacts of the planned noise barriers could also be reduced by blending the color, line, and form of these structures with the surrounding environment.

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* personal communication of Bill Johnson, Laveen Elementary School District Superintendent, with HDR Engineering, Inc., on December 8, 2005

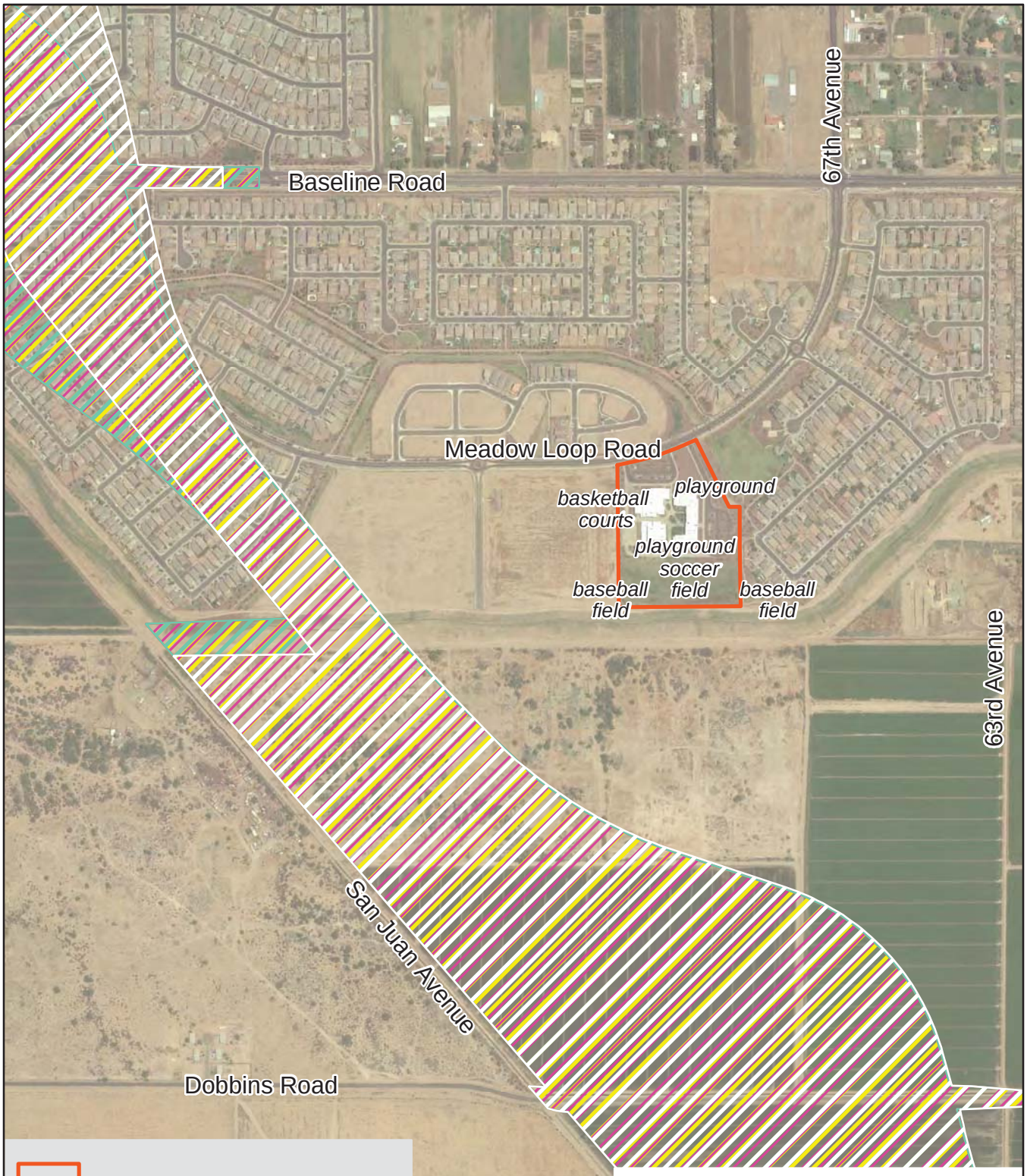

Figure 20

Desert Meadows Elementary School

Section 4(f) and Section 6(f) Report

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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Property Number 21 – Sierra Linda High School

Sierra Linda High School is located at 3434 South 67th Avenue in Phoenix and is under the jurisdiction of the Tolleson Union High School District. The school opened in August 2008. Recreational facilities at this publicly owned school are available for walk-on use by the public. Outdoor recreational facilities consist of a football field, baseball fields, a track, and tennis and basketball courts. Recreational amenities are accessible from 67th Avenue (Figures 3 and 21).

Direct Impacts

None of the Western Section action alternatives and options would have a direct impact on Sierra Linda High School.

Proximity Impacts

Of the Western Section action alternatives and options, the W71 Alternative would be located closest to Sierra Linda High School. The W71 Alternative would not result in proximity impacts on this Section 4(f) resource; therefore, implementation of any of the Western Section action alternatives and options would not result in proximity impacts on the Section 4(f) resource.

The Section 4(f) resource identified above does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). Existing access to the Section 4(f) property would not be altered; therefore, access to the resource would not be impaired.

Measures to Minimize Harm

The W71 Alternative would introduce forms, lines, colors, and textures distinctly different from the existing landscape. Although Section 4(f) does not require mitigation when direct or constructive use does not occur, the visual impacts of the section of freeway near Sierra Linda High School could be reduced by blending the color, line, and form of the freeway with the surrounding environment.

Property Number 22 – Santa Maria Park

Santa Maria Park is a City of Phoenix neighborhood park located at 71st Avenue and Elwood Street, adjacent to Sierra Linda High School. The park is approximately 28 acres in size (Figures 3 and 22). Recreational amenities at the park include lighted soccer and softball fields, basketball and volleyball courts, a playground, and a multiuse trail around the periphery of the park. This park is available for use by the public and is accessible from 71st Avenue.

Direct Impacts

None of the action alternatives and options would have a direct impact on Santa Maria Park.

Figure 21

Sierra Linda High School

Section 4(f) and Section 6(f) Report

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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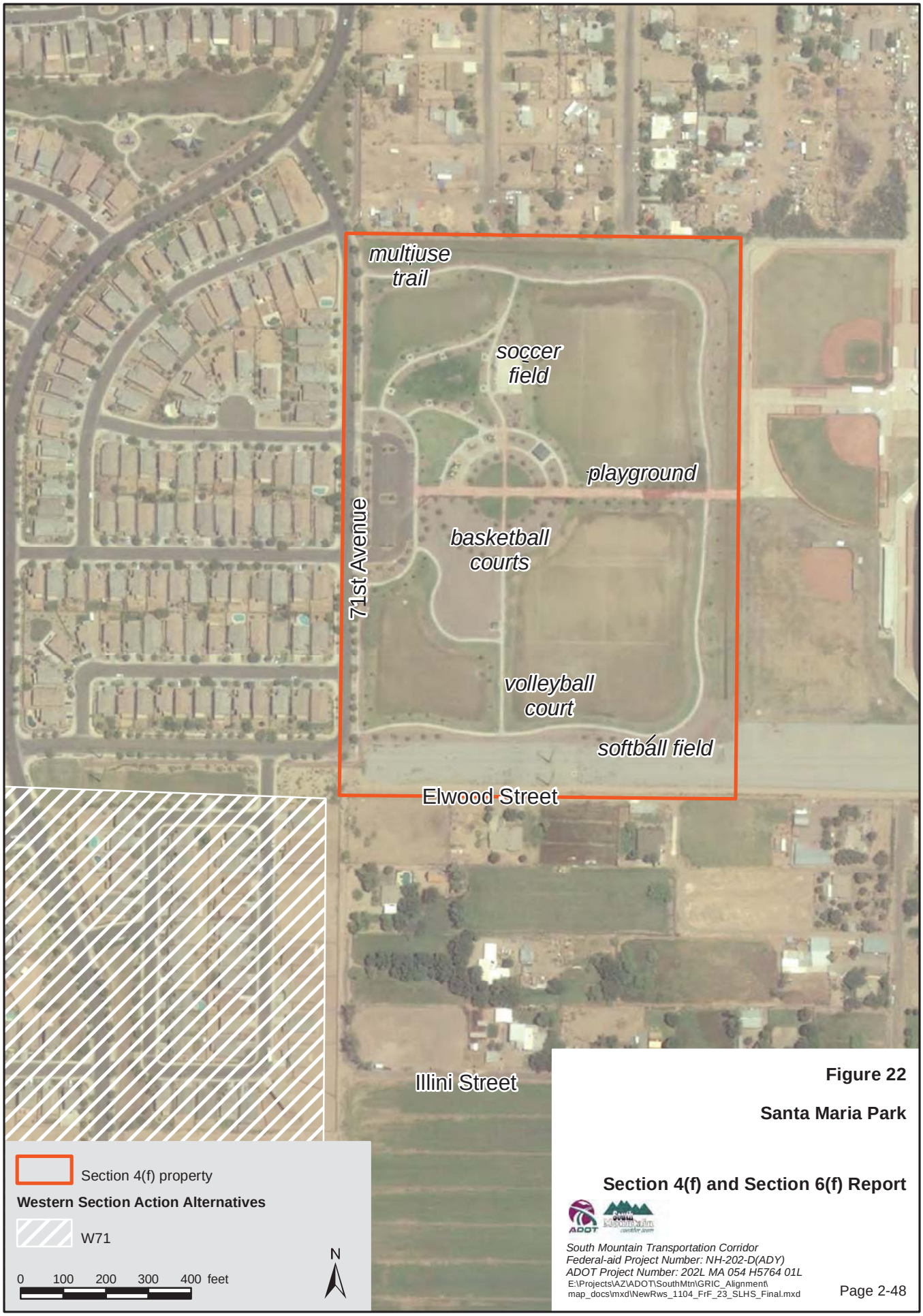

Figure 22

Santa Maria Park

Section 4(f) and Section 6(f) Report

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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Proximity Impacts

Of the Western Section action alternatives and options, the W71 Alternative would be located closest to Santa Maria Park. The W71 Alternative would not result in proximity impacts on this Section 4(f) resource; therefore, none of the Western Section action alternatives and options would result in proximity impacts on the Section 4(f) resource.

The Section 4(f) resource identified above does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). Existing access to the Section 4(f) property would not be altered; therefore, access to the resource would not be impaired.

Measures to Minimize Harm

Because none of the action alternatives or options would result in direct or constructive use of Santa Maria Park, Section 4(f) does not require mitigation. Although not required, noise generated from the W71 Alternative would be mitigated with a noise barrier. The noise barriers proposed at the W71 Alternative would reduce future noise levels at Santa Maria Park to 59 dBA (Figure 5). The visual impacts of the freeway and the noise barrier adjacent to Santa Maria Park could be reduced by blending the color, line, and form of the freeway and barrier with the surrounding environment.

Property Number 23 – Santa Marie Townsite (Santa Maria)

Santa Marie, known today as Santa Maria, is an unincorporated townsite located at the southwestern corner of Lower Buckeye Road and 67th Avenue (Figures 3 and 23). It is immediately north of Sierra Linda High School and Santa Maria Park. In 1945, after three decades of residential use, Santa Marie was officially established by Khattar Joseph Nackard. When Nackard purchased the property, a well-established tent community of Mexican immigrants was living and working the land. Nackard subdivided the property and sold it to the immigrants. From 1945 to today, the townsite of Santa Marie has thrived as a rural Hispanic community. Many of the original founding families still have a strong presence within the community. The original 62 parcels have been subdivided into 137 parcels. Today, the community retains a strong sense of its rural character with its collage of predominantly vernacular architecture, narrow streets built flush to grade without sidewalks, and aboveground utilities (Brodbeck and Touchin 2005).

Santa Marie Townsite is a living example of a historic, rural Hispanic agricultural community in the Salt River Valley. Communities such as Santa Maria had an important role in the development and operation of the Valley's agricultural industry throughout the twentieth century. In addition, the townsite has an association with Khattar Joseph Nackard, an Arizona businessman who was influential in developing and shaping the state's economic and commercial future. Therefore, Santa Marie Townsite is eligible for inclusion in the NRHP under Criteria A and B (Brodbeck and Touchin 2005) (SHPO concurrence: October 3, 2005).

Figure 23

Santa Marie Townsite (Santa Maria)

Section 4(f) and Section 6(f) Report

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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Direct Impacts

None of the action alternatives and options would have direct impact on Santa Marie Townsite.

Proximity Impacts

Of the Western Section action alternatives and options, the W71 Alternative would be located closest to Santa Marie Townsite. The W71 Alternative would not result in proximity impacts on this Section 4(f) resource; therefore, none of the Western Section action alternatives and options would result in proximity impacts on the Section 4(f) resource.

The Section 4(f) resource identified above does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). Existing access to the Section 4(f) property would not be altered; therefore, access to the resource would not be impaired.

Measures to Minimize Harm

To avoid a direct impact on the NRHP-eligible Santa Marie Townsite, the W71 Alternative was shifted west to avoid actual use of the property.

Because none of the action alternatives or options would result in direct or constructive use of Santa Marie Townsite, no other measures to minimize harm are warranted. Although not required by Section 4(f), noise generated from the W71 Alternative would be mitigated with noise barriers. The proposed barriers would reduce future noise levels to 59 dBA at the Santa Marie Townsite (Figure 5). The landscape treatments and the retention basin proposed as part of the W71 Alternative to the northwest of the townsite could be blended into the surrounding area. The visual impacts of the section of freeway and noise barrier adjacent to the Santa Marie Townsite could be reduced by blending the color, line, and form of these structures with the surrounding environment.

Property Number 24 – Santa Maria Middle School

Santa Maria Middle School is located at 7250 West Lower Buckeye Road in Phoenix. This public school is under the jurisdiction of the Fowler Elementary School District. Outdoor recreational facilities consist of soccer, baseball, and athletic fields and a basketball court. The facilities are available for public use after school hours.[*] Recreational facilities are accessible from 72nd Avenue (Figures 3 and 24).

Direct Impacts

None of the action alternatives and options would have a direct impact on Santa Maria Middle School.

[*] personal communication of Randy Blecha, Fowler School District Superintendent, with HDR Engineering, Inc., on July 19, 2005

Figure 24

Santa Maria Middle School

Section 4(f) and Section 6(f) Report

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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Proximity Impacts

Of the Western Section alternatives, the W71 Alternative would be located closest to Santa Maria Middle School. The W71 Alternative would not result in proximity impacts on this Section 4(f) resource; therefore, none of the Western Section action alternatives and options would result in proximity impacts on the Section 4(f) resource.

The school does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). Existing access to the Section 4(f) property would not be altered; therefore, access to the resource would not be impaired.

Measures to Minimize Harm

Because none of the action alternatives or options would result in direct or constructive use of Santa Marie Middle School, no measures to minimize harm are warranted. Although not required by Section 4(f), noise generated from the W71 Alternative would be mitigated by a noise barrier proposed on the eastern side of the freeway parallel to Santa Maria Middle School. The noise barrier would reduce future noise levels at Santa Maria Middle School to approximately 65 dBA. Traffic from nearby Buckeye Road would prevent further noise reduction at the school (Figure 5). The landscape treatments and the retention basin, proposed as part of the W71 Alternative to the north of the school, could be blended into the surrounding area.

The freeway and TI at Lower Buckeye Road just east of 75th Avenue would be dominant visual features in the area. The visual impacts of the section of freeway adjacent to the school and the noise barrier could be reduced by blending the color, line, and form of the freeway and noise barrier with the surrounding environment.

Property Number 25 – Fowler Elementary School District Future School

Fowler Elementary School District is planning to construct a school between 71st and 67th avenues, north of Lower Buckeye Road (Figures 3 and 25). The recreational amenities would be available for public use after school hours. Site plans and planned access points are currently unavailable.[*]

Direct Impacts

None of the action alternatives and options would have a direct impact on the Fowler Elementary School District future school.

[*] personal communication of Randy Blecha, Fowler School District Superintendent, with HDR Engineering, Inc., on February 17, 2006

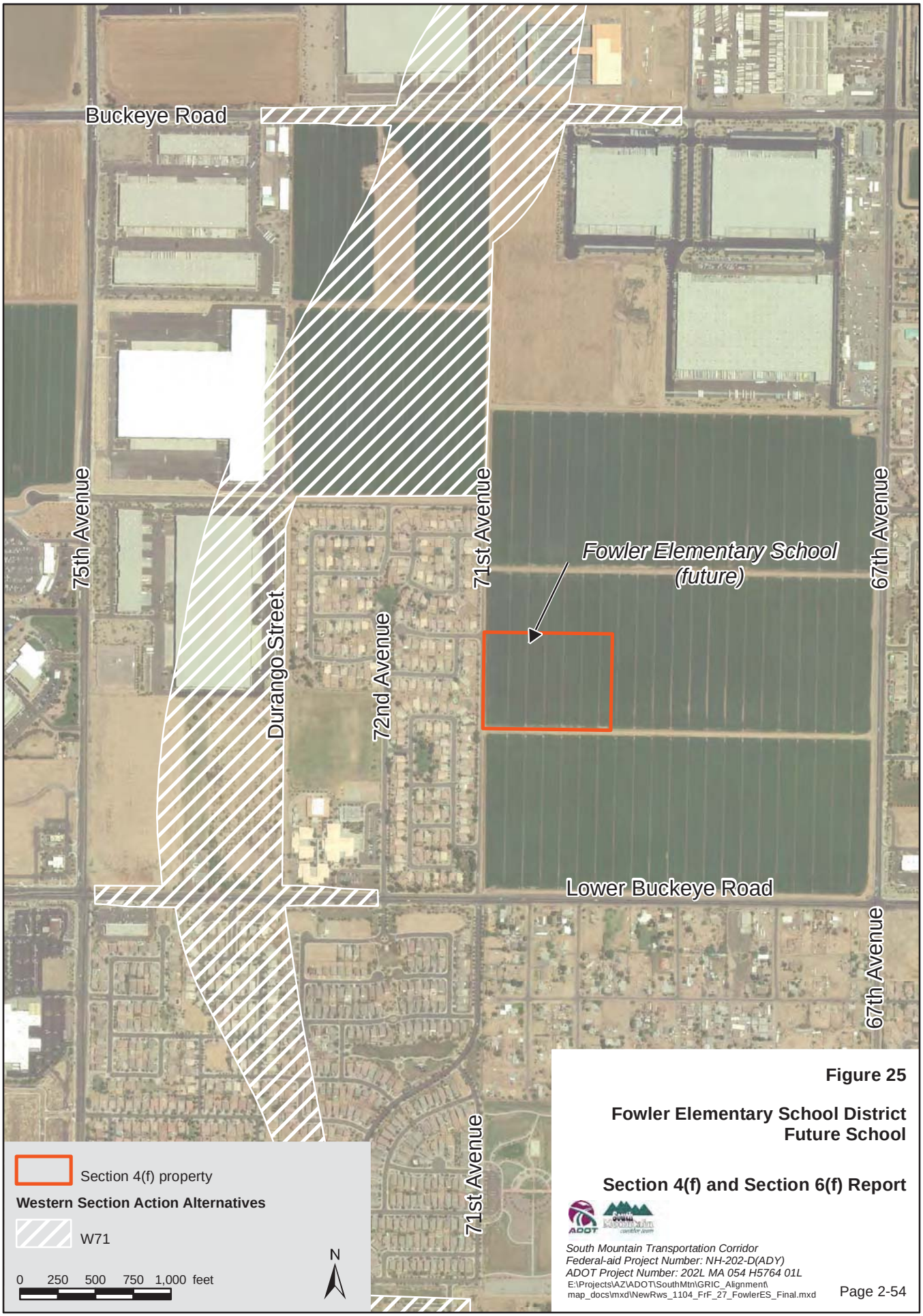

Figure 25

Fowler Elementary School District Future School

Section 4(f) and Section 6(f) Report

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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Proximity Impacts

Of the Western Section action alternatives and options, the W71 Alternative would be located closest to the Fowler Elementary School District future school. The W71 Alternative would not result in proximity impacts on this Section 4(f) resource; therefore, none of the Western Section action alternatives and options would result in proximity impacts on the Section 4(f) resource. The Section 4(f) resource does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15).

Measures to Minimize Harm

Because none of the action alternatives or options would result in direct or constructive use of the Fowler Elementary School District future school, no measures to minimize harm are warranted. Although not required by Section 4(f), noise generated from the W71 Alternative would be mitigated using a noise barrier proposed on the eastern side of the freeway. This mitigation would be intended for the residential development directly west of the future school; however, the school would also receive mitigation. Noise levels would be lowered to less than 59 dBA (Figure 5) at the Fowler Elementary School District future school. The visual impacts of the section of freeway adjacent to the school and the noise barrier could be reduced by blending the color, line, and form of the structures with the surrounding environment.

Property Number 26 – Fowler Elementary School

Fowler Elementary School is located at 6707 West Van Buren Street in Phoenix. This public school is under the jurisdiction of the Fowler Elementary School District. Outdoor recreational facilities consist of baseball fields, basketball courts, general athletic fields, and covered playgrounds that include jungle gyms, swings, and slides (Figures 3 and 26). Recreational facilities are available for public use after school hours and are accessible from 67th Avenue.[*]

Direct Impacts

None of the action alternatives and options would have a direct impact on Fowler Elementary School.

Proximity Impacts

The W71 Alternative would be located closest to Fowler Elementary School. It would not result in proximity impacts on this Section 4(f) resource; therefore, none of the Western Section action alternatives and options would result in proximity impacts on the Section 4(f) resource. The school does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). Existing access to the Section 4(f) property would not be altered; therefore, access to the resource would not be impaired.

[*] personal communication of Randy Blecha, Fowler School District Superintendent, with HDR Engineering, Inc., on July 19, 2005

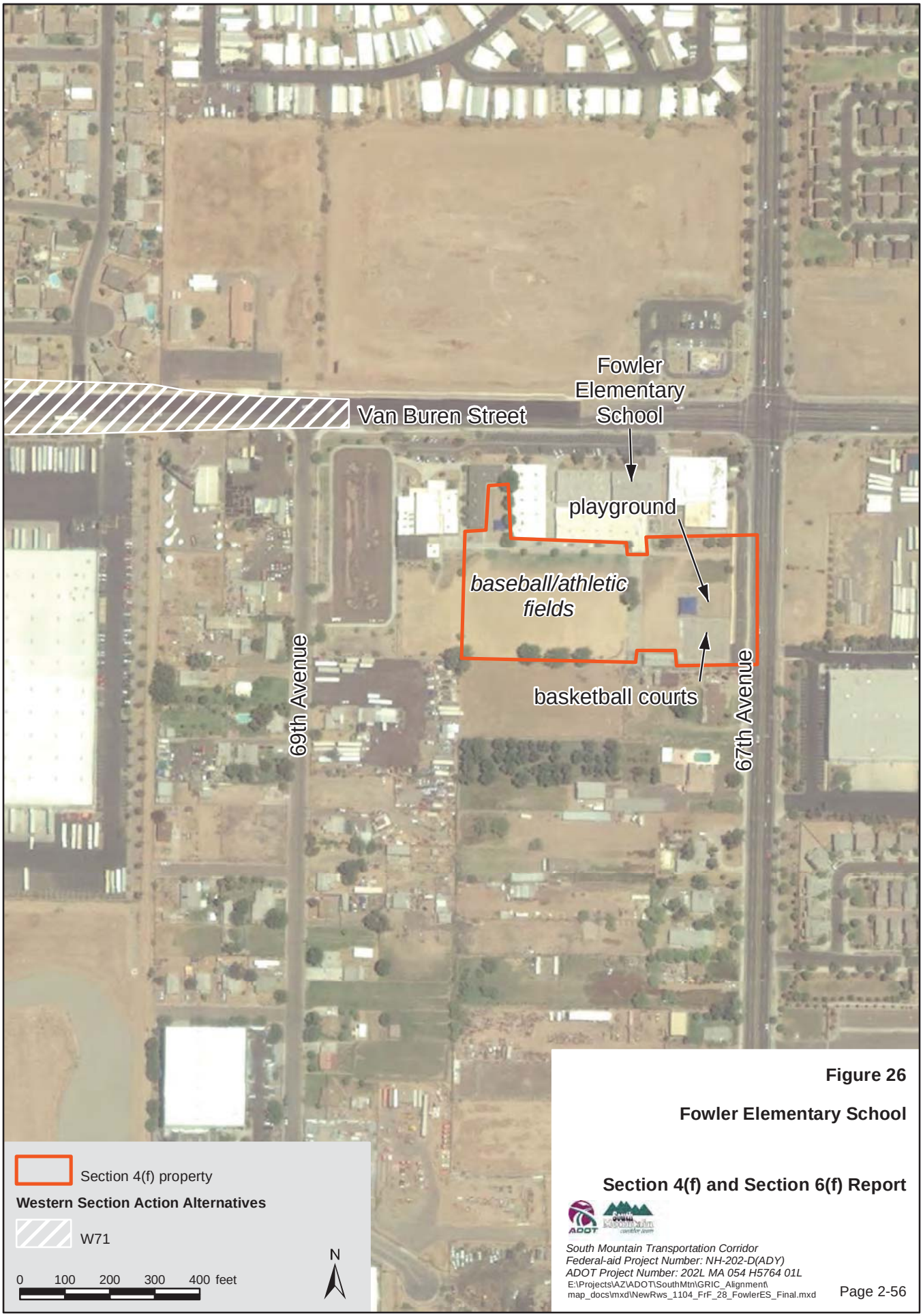

Figure 26

Fowler Elementary School

Section 4(f) and Section 6(f) Report

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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Measures to Minimize Harm

Because none of the action alternatives or options would result in direct or constructive use of Fowler Elementary School, no measures to minimize harm are warranted. A residential district adjacent to the W71 Alternative could receive a noise barrier to minimize noise from the W71 Alternative. Fowler Elementary School is to the east of this residential area; therefore, the barrier would reduce noise levels at the school to below 59 dBA (Figure 5). Although not required by Section 4(f) when direct or constructive use does not occur, the visual impacts of the noise barrier and section of freeway adjacent to Fowler Elementary School could be reduced by blending the color, line, and form of these structures with the surrounding environment.

Property Number 27 – Sachs-Webster Farmhouse

The Sachs-Webster Farmhouse is located at 7517 West Baseline Road on land owned by the Flood Control District of Maricopa County (FCDMC) (Figures 3 and 27). The Sachs-Webster Farmhouse possesses the characteristics of the Pyramid Cottage style. It is a one-story structure with a cross-wing floor plan consistent with the simplicity of the style. The farmhouse has a belcast, hipped roof with a centered gable and a front porch. The walls and chimney are constructed of rusticated concrete blocks, and the roof is clad with composition shingles with clay tiles along the ridgelines. The porch piers are Ionic order columns made of concrete; they support a frame porch roof clad with horizontal wood siding (Brodbeck and Touchin 2005). The farmhouse is eligible for inclusion in the NRHP under Criterion C for its architectural merit (SHPO concurrence: October 3, 2005). The Sachs-Webster Farmhouse embodies the Pyramid Cottage or Neo-Classic bungalow style house. Surviving Pyramid Cottage style houses are rare in Phoenix and few possess as many of the hallmark attributes of this style as the Sachs-Webster Farmhouse (Brodbeck and Touchin 2005). Existing access to the Sachs-Webster Farmhouse is from Baseline Road just west of 75th Avenue.

Direct Impacts

None of the action alternatives and options would have a direct impact on the Sachs-Webster Farmhouse.

Proximity Impacts

The W101 Alternative and Options would be closest to this Section 4(f) property. The W101 Alternative and Options would obstruct the existing Baseline Road access to this Section 4(f) property. Obstructed access would constitute a proximity impact; however, an alternative access to the Sachs-Webster Farmhouse would be constructed farther west. Therefore, access to the Section 4(f) property would not be substantially impaired and would not be of a magnitude to constitute a constructive use.

The Sachs-Webster Farmhouse does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15)

Figure 27

Sachs-Webster Farmhouse

Measures to Minimize Harm

An alternative access to the Sachs-Webster Farmhouse would be provided farther west of the current access point on Baseline Road prior to freeway construction. The location of the new access point would be determined during final design in coordination with the owner of the Sachs-Webster Farmhouse, FCDMC. Because none of the action alternatives or options would result in direct or constructive use of Sachs-Webster Farmhouse, no additional measures to minimize harm are warranted.

Although not required by Section 4(f) when direct or constructive use does not occur, the proposed noise barriers associated with W101 Alternative and Options would reduce future noise levels at the Sachs-Webster Farmhouse to 63 dBA. Noise levels associated with the W71 Alternative would be reduced to 61 dBA at the Sachs-Webster Farmhouse (Figure 5). Furthermore, the landscape treatments and the proposed retention basin (as part of the W71 Alternative) to the northeast of the Sachs-Webster Farmhouse could be blended into the surrounding area. The visual impacts of the section of freeway and noise barrier adjacent to the Sachs-Webster Farmhouse could be reduced by blending the color, line, and form of the freeway and noise barrier with the surrounding environment.

Property Number 28 – Estrella District Park Future Park

Estrella District Park would be located at 99th Avenue and Lower Buckeye Road. This 100-acre park is being planned as part of a larger 180-acre Southwest Services Complex (Figures 3 and 28).[*] Estrella District Park would be under the jurisdiction of the City of Phoenix and would be available for use by the public. Recreational amenities included as part of the park would be softball and soccer fields, playgrounds, basketball courts, a skate park, and swimming pool.

Approximately 10 acres of the park would be dedicated to retention/open space.[†] The retention areas would serve both the park and the municipal facilities that are part of the Southwest Services Center. Because the retention areas would not be primarily recreational, and because they would serve both recreational and nonrecreational areas, they are not afforded Section 4(f) protection. Planned access points to the park from Lower Buckeye Road would be approximately 0.47 mile and 0.66 mile east of the Lower Buckeye Road and 99th Avenue intersection and access from 99th Avenue would be approximately 0.34 mile north of the intersection.[‡]

Direct Impacts

None of the action alternatives and options would have direct impact on the primarily recreational areas of the Estrella District Park. The W101WPR and W101WFR Options for the W101 Alternative would have a direct impact on the retention area of the park; however, because the retention area serves nonrecreational municipal facilities, the retention area is not afforded protection under Section 4(f).

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[*] personal communication of Boyd Winfrey, City of Phoenix Parks and Recreation Department, with HDR Engineering, Inc., on May 19, 2005

[†] personal communication of Jeff Anderson, Carter-Burgess, Inc., with HDR Engineering, Inc., on March 28, 2005

[‡] personal communication of Daniel Chambers, Carter-Burgess, Inc., with HDR Engineering, Inc., on March 20, 2006

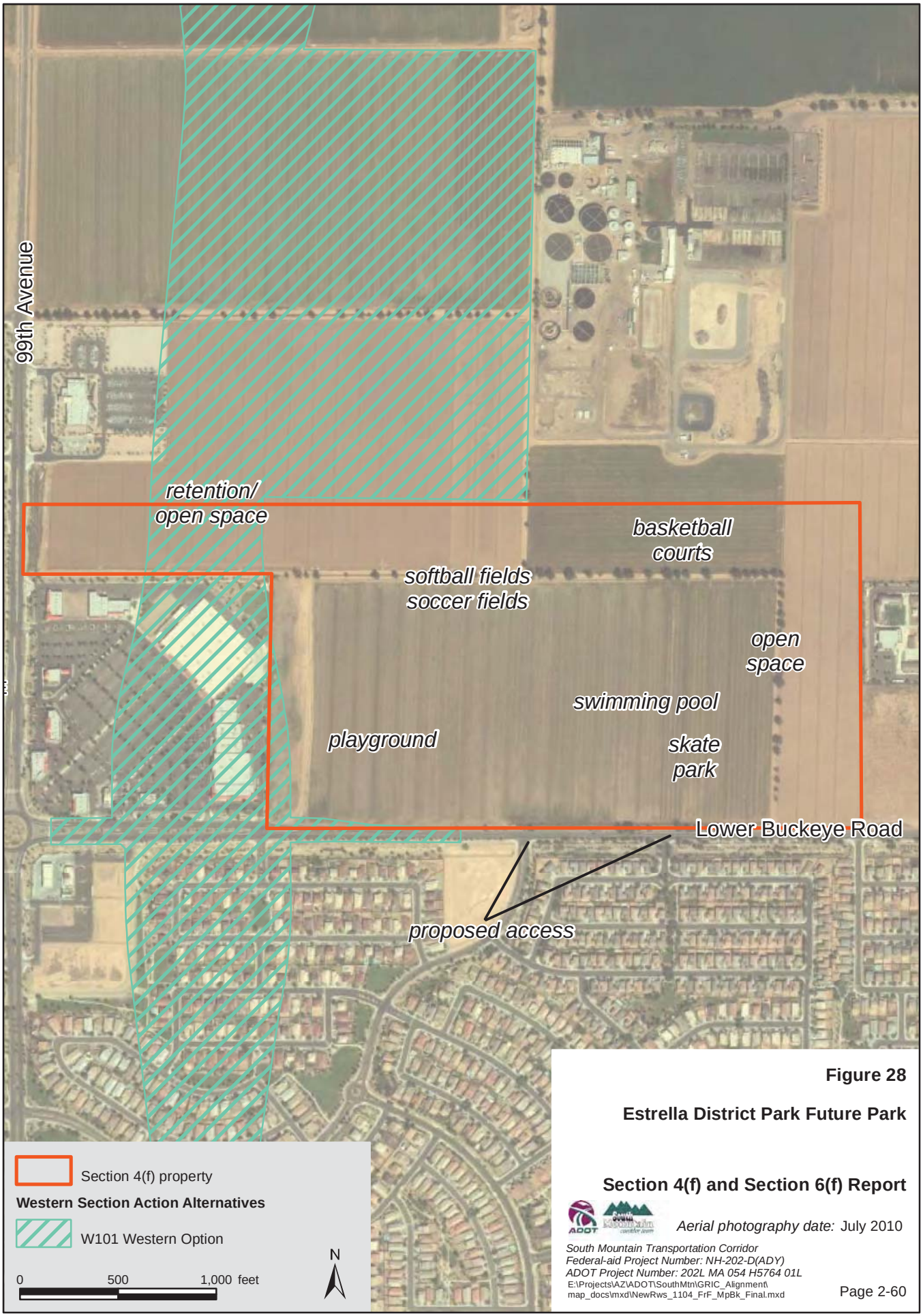

Figure 28

Estrella District Park Future Park

Section 4(f) and Section 6(f) Report

Aerial photography date: July 2010

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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Proximity Impacts

The W101WPR and W101WFR Options for the W101 Alternative would be located closest to the future Estrella District Park of any of the Western Section action alternatives and options. Near the future Estrella District Park, these options would be located in approximately the same location. Planned access to the park would not be obstructed because of the planned TI at 99th Avenue and Lower Buckeye Road.

Estrella District Park does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15).

Measures to Minimize Harm

Because none of the action alternatives or options would result in direct or constructive use of Estrella District Park, no additional measures to minimize harm are warranted. Although unnecessary under Section 4(f), noise generated from the W101WPR and W101WFR Options for the W101 Alternative could be mitigated with noise barriers. The noise barriers proposed at W101WPR and W101WFR would reduce future noise levels to 65 dBA at the Estrella District Park future park (Figure 5). The visual impacts of the section of freeway and noise barrier adjacent to the park could be reduced by blending the color, line, and form of these structures with the surrounding environment.

Property Number 29 – Tolleson Union High School

Tolleson Union High School is located at 9419 West Van Buren Street in Tolleson and is under the jurisdiction of Tolleson Union High School District. This public school is adjacent to Cowden Park and includes outdoor recreational facilities consisting of football, baseball, and general athletic/practice fields; tennis and racquetball courts; and a track. The facilities are available for public use after school hours.[*] The recreational areas of the school are accessible from four locations on Van Buren Street and from locations on Jefferson Street (Figures 3 and 29). Tolleson Union High School received LWCF monies for racquetball court lighting.

Direct Impacts

None of the action alternatives and options would have a direct impact on Tolleson Union High School, including the racquetball court lighting acquired with LWCF monies.

Proximity Impacts

Of the Western Section action alternatives and options, the W101 Alternative and Options would be located closest to Tolleson Union High School. Near the high school, these options would be located in approximately the same location. The W101 Alternative and Options would not result in proximity impacts on this Section 4(f) resource; therefore, none of the Western Section action alternatives and options would result in proximity impacts on the Section 4(f) resource.

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[*] personal communication of Tim O'Brien, Tolleson Union High School District Director of Operations, with HDR Engineering, Inc., on March 9, 2005

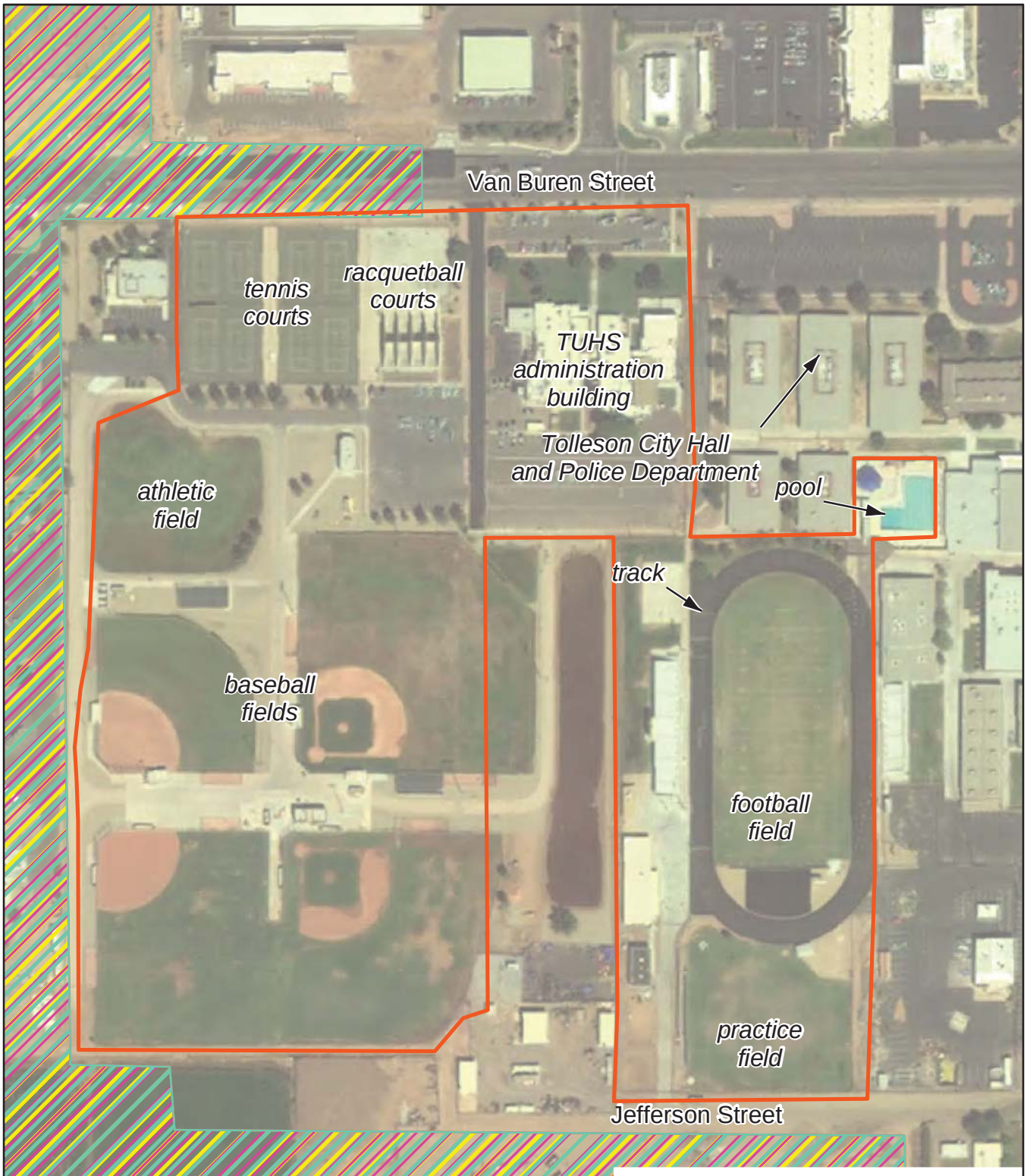

Figure 29

Tolleson Union High School

Section 4(f) and Section 6(f) Report

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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The Section 4(f) resource does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). Existing access to the Section 4(f) property would not be altered because the W101 Alternative and Options would include a TI at Van Buren Street; therefore, access to the resource would not be impaired.

Measures to Minimize Harm

Because none of the action alternatives or options would result in direct or constructive use of Tolleson Union High School, no measures to minimize harm are warranted. Although no measures to minimize harm are required, noise generated from the Western Section action alternatives and options would be mitigated with noise barriers. The noise barriers proposed at the W101WPR, W101WFR, W101EPR, and W101EFR Options would reduce future noise levels at Tolleson Union High School to 63 dBA (Figure 5).

The landscape treatments and retention basin to the south of the high school, as proposed by the W101 Alternative and Options, could be blended into the surrounding area. The visual impacts of the section of freeway adjacent to the school and the noise barrier could be reduced by blending the color, line, and form of these structures with the surrounding environment.

Property Number 30 – Cowden Park

Cowden Park is a neighborhood and school park located at 9555 West Van Buren Street in Tolleson. The park is located behind Tolleson's City Hall and Police Department and is adjacent to Tolleson Union High School. The City and Tolleson Union High School have an IGA allowing Tolleson residents to use the high school's facilities (City of Tolleson 1996) (refer to *Property Number 29 – Tolleson Union High School*).[*] Managed by the City of Tolleson, available facilities at the park include a playground, ramadas, and picnic tables (Figures 3 and 30). The park is accessible from Van Buren Street.

Direct Impacts

None of the action alternatives and options would have a direct impact on Cowden Park.

Proximity Impacts

All the Options for the W101 Alternative would be located closest to Cowden Park. Near the park, these options would be located in approximately the same location. The W101 Alternative and Options would not result in proximity impacts on this Section 4(f) resource; therefore, none of the Western Section action alternatives and options would result in proximity impacts on the Section 4(f) resource.

[*] personal communication of Ralph Velez, City of Tolleson City Manager, with HDR Engineering, Inc., on March 4, 2005

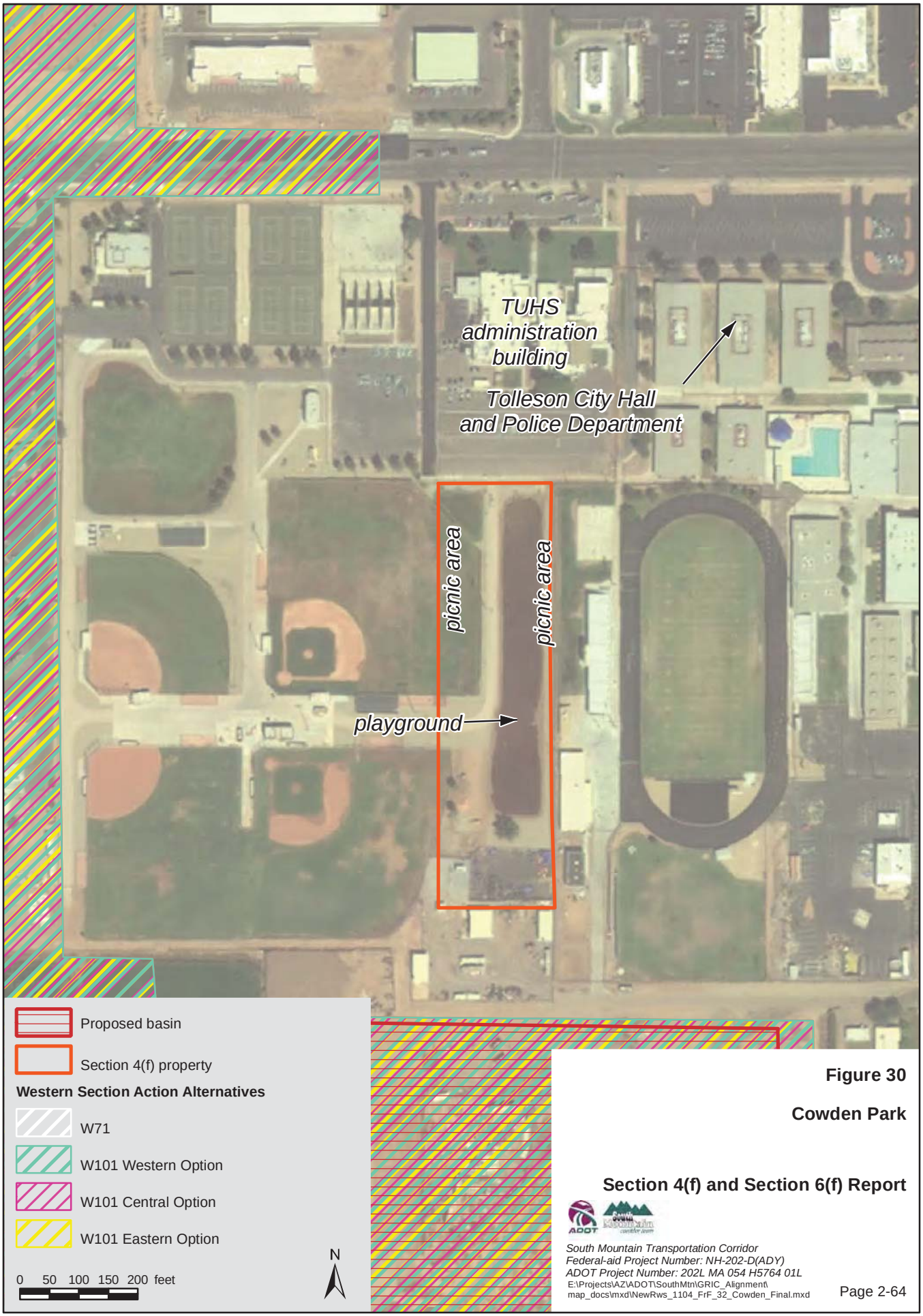

Figure 30

Cowden Park

Section 4(f) and Section 6(f) Report

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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The Section 4(f) resource does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). Existing access to the Section 4(f) property would not be substantially altered because the W101 Alternative would include a TI at Van Buren Street; therefore, access to the resource would not be impaired.

Measures to Minimize Harm

Because none of the action alternatives or options would result in direct or constructive use of Cowden Park, no measures to minimize harm are warranted. Although no measures to minimize harm are required when direct or constructive use does not occur, noise generated from the Western Section action alternatives and options would be mitigated with noise barriers. The noise barriers proposed at the W101WPR, W101WFR, W101EPR, and W101EFR Options would reduce future noise levels at Cowden Park to 63 dBA (Figure 5).

The landscape treatments and the planned retention basin south of the park could be blended into the surrounding area. The visual impacts of the section of freeway and noise barrier adjacent to the park could be reduced by blending the color, line, and form of the freeway and noise barrier with the surrounding environment.

Property Number 31 – 95th Park

The 95th Park is located on 95th Circle and Garfield Street in the City of Tolleson. This 2-acre park is owned by the City of Tolleson and contains basketball courts, playgrounds, and a ramada (City of Tolleson 1996) (Figures 3 and 31). The park is accessible from Garfield Street.

LWCF grants were used for parking lot improvements and the installation of benches and the ramada at this park (Arizona State Parks 2003).[*]

Direct Impacts

None of the action alternatives and options would have a direct impact on 95th Park or any features of the park acquired with LWCF grants.

Proximity Impacts

Of the Western Section action alternatives and options, the W101WPR and W101CPR Options for the W101 Alternative would be located closest to 95th Park. Near the park, these options would be located in approximately the same location. The W101WPR and W101CPR Options of the W101 Alternative would not result in proximity impacts on this Section 4(f) resource; therefore, none of the Western Section action alternatives and options would result in proximity impacts on the Section 4(f) resource.

[*] personal communication of Ralph Velez, City of Tolleson City Manager, with HDR Engineering, Inc., on March 4, 2005

Figure 31

95th Park

Section 4(f) and Section 6(f) Report

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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The Section 4(f) resource does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). Existing access to the Section 4(f) property would not be altered.

Measures to Minimize Harm

Because none of the action alternatives or options would result in direct or constructive use of 95th Park, no measures to minimize harm are warranted.

Although not required when direct or constructive use does not occur, noise generated from the W101EPR, W101CPR, and W101WPR Options of the W101 Alternative would be mitigated with noise barriers. The noise barriers proposed at the W101EPR, W101CPR, and W101WPR Options would reduce future noise levels at 95th Park to approximately 59 dBA (Figure 5).

The visual impacts of the section of freeway and noise barrier adjacent to the park could be reduced by blending the color, line, and form of these structures with the surrounding environment.

Property Number 32 – 95th Avenue and Encanto Boulevard Future Park

95th Avenue and Encanto Boulevard Park is identified in the City of Phoenix *General Plan* as a future neighborhood park (City of Phoenix 2005c). The City of Phoenix *General Plan* identifies planning radii versus discrete parcels. Discussions during a meeting with the City of Phoenix Parks and Recreation Department on April 6, 2005, indicated that the City had acquired a parcel for a park at 95th Avenue and Encanto Boulevard. The park would be approximately 10 acres (Figures 3 and 32).

To date, programming for the park has not been completed; therefore, a site plan is unavailable. Access to the park is anticipated to be from Encanto Boulevard and/or 95th Avenue.

Direct Impacts

None of the action alternatives and options would have a direct impact on the 95th Avenue and Encanto Boulevard Park.

Proximity Impacts

The W101 Alternative and Options would be located closest to the park of any of the Western Section action alternatives. All of the options for the W101 Alternative, north of I-10, would be in approximately the same location. Although the W101 Alternative is located close to the park, it would not result in proximity impacts on this Section 4(f) resource; therefore, none of the Western Section action alternatives and options would result in proximity impacts on the Section 4(f) resource.

Figure 32

95th Avenue and Encanto Boulevard Future Park

Section 4(f) and Section 6(f) Report

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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The Section 4(f) resource does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). Future access to the Section 4(f) property would not be altered; therefore, access to the resource would not be impaired. Access will be confirmed when a site plan for the park becomes available.

Measures to Minimize Harm

Because none of the action alternatives or options would result in direct or constructive use of the 95th Avenue and Encanto Boulevard Park, no measures to minimize harm are warranted. Although not required when a direct or constructive use does not occur, noise generated from the W101 Alternative and Options would be mitigated with a noise barrier. The proposed noise barrier would be intended to mitigate noise for the Sheely Farms Parcel 5 residential development; however, the barrier would extend along the western boundary of the park and offer incidental, partial noise mitigation (Figure 5).

The visual impacts of the section of freeway and noise barrier adjacent to the park could be reduced by blending the color, line, and form of these structures with the surrounding environment.

Property Number 33 – Friendship Park

Friendship Park is located at 12325 West McDowell Road in Avondale. This 55-acre park is owned by the City of Avondale (City of Avondale 2002).[*] Facilities include softball, baseball, soccer, football, and multiuse fields; basketball and tennis courts; playgrounds; ramadas; and a Japanese garden (Figures 3 and 33) (City of Avondale 2002, 2005). The park is accessible from West McDowell Road.

Direct Impacts

None of the action alternatives and options would directly affect Friendship Park.

Proximity Impacts

Of the Western Section action alternatives and options, the W101 Alternative and Options would be located closest to the park. All of the options for the W101 Alternative, west of I-10 and SR 101L, would be in approximately the same location. Although the W101 Alternative and Options are approximately 0.1 mile from the park, they would not result in proximity impacts on this Section 4(f) resource; therefore, none of the Western Section action alternatives and options would result in proximity impacts on the Section 4(f) resource.

[*] personal communication of Dan Davis, City of Avondale Director of Community Recreation Services, with HDR Engineering, Inc., on February 2, 2005

Figure 33

Friendship Park

Section 4(f) and Section 6(f) Report

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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The Section 4(f) resource does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). Existing access to the Section 4(f) property would not be altered; therefore, access to the resource would not be impaired.

Measures to Minimize Harm

Friendship Park is located approximately 0.1 mile from the edge of existing I-10. The I-10 corridor is well-established; therefore, potential visual and noise impacts on the park would be subtle. Because none of the action alternatives or options would result in direct or constructive use of Friendship Park, no measures to minimize harm are warranted.

Property Number 34 – Parque de Paz

Parque de Paz is a neighborhood park located at1600 North Calle Adobe Lane in Goodyear. The park is owned by the City of Goodyear. Facilities include a basketball court, playground area, picnic tables, and open space (Figures 3 and 34) (City of Goodyear 2005). The eastern end of the park and the majority of the periphery serve as retention areas. The park is accessible from Calle Adobe Lane, Palo Verde Drive, Via Elena Street, and Manzanita Drive.

Direct Impacts

None of the action alternatives and options would have a direct impact on Parque de Paz.

Proximity Impacts

Of the Western Section action alternatives and options, the W101 Alternative and Options would be located closest to the park. All of the options for the W101 Alternative, west of I-10 and SR 101L, would be in approximately the same location. Although the W101 Alternative and Options would be less than 0.25 mile from the park, they would not result in proximity impacts on this Section 4(f) resource; therefore, none of the Western Section action alternatives and options would result in proximity impacts on the Section 4(f) resource.

The Section 4(f) resource does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). Existing access to the Section 4(f) property would not be altered; therefore, access to the resource would not be impaired.

Figure 34

Parque de Paz

Section 4(f) and Section 6(f) Report

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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Measures to Minimize Harm

The existing I-10 freeway corridor is well-established; therefore, potential visual and noise impacts on the park would be subtle. Because none of the action alternatives or options would result in direct or constructive use of Parque de Paz, no measures to minimize harm are warranted.

Property Number 35 – 83rd Avenue and Elwood Street Future Park

The future City of Phoenix park at 83rd Avenue and Elwood Street would be approximately 8.5 acres in size (Figures 3 and 35). Programming for this park has not been completed. Access to the park is anticipated to be from 83rd Avenue and/or Elwood Street. The primary purpose of the southwestern portion of the park is stormwater retention, not recreation; therefore, the southwestern portion of the park is not eligible for protection under Section 4(f).

Direct Impacts

None of the action alternatives and options would result in a direct impact on the future park at 83rd Avenue and Elwood Street.

Proximity Impacts

Of the Western Section action alternatives and options, the W101EPR and W101EFR Options for the W101 Alternative would be located closest to the future park at 83rd Avenue and Elwood Street. Near the future park, these options would be located in approximately the same location. Although the W101EPR and W101EFR Options of the W101 Alternative would be located adjacent to the future park, they would not result in proximity impacts on this Section 4(f) resource; therefore, none of the Western Section action alternatives and options would result in proximity impacts on the Section 4(f) resource.

The Section 4(f) resource does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). Future access to the park would not be altered; therefore, access to the resource would not be impaired. Access will be confirmed when a site plan for the park becomes available.

Measures to Minimize Harm

Because none of the action alternatives or options would result in direct or constructive use of the future park at 83rd Avenue and Elwood Street, no measures to minimize harm are warranted. Although not required, the landscape treatments and the retention basin to the southwest of the park could be blended into the surrounding area. Noise generated from W101EPR and W101EFR Options would be mitigated with noise barriers. The noise barriers proposed at these locations to reduce noise levels at the surrounding residential development would provide incidental noise mitigation to the 83rd Avenue and Elwood Street park, reducing future noise levels to 62 dBA (Figure 5).

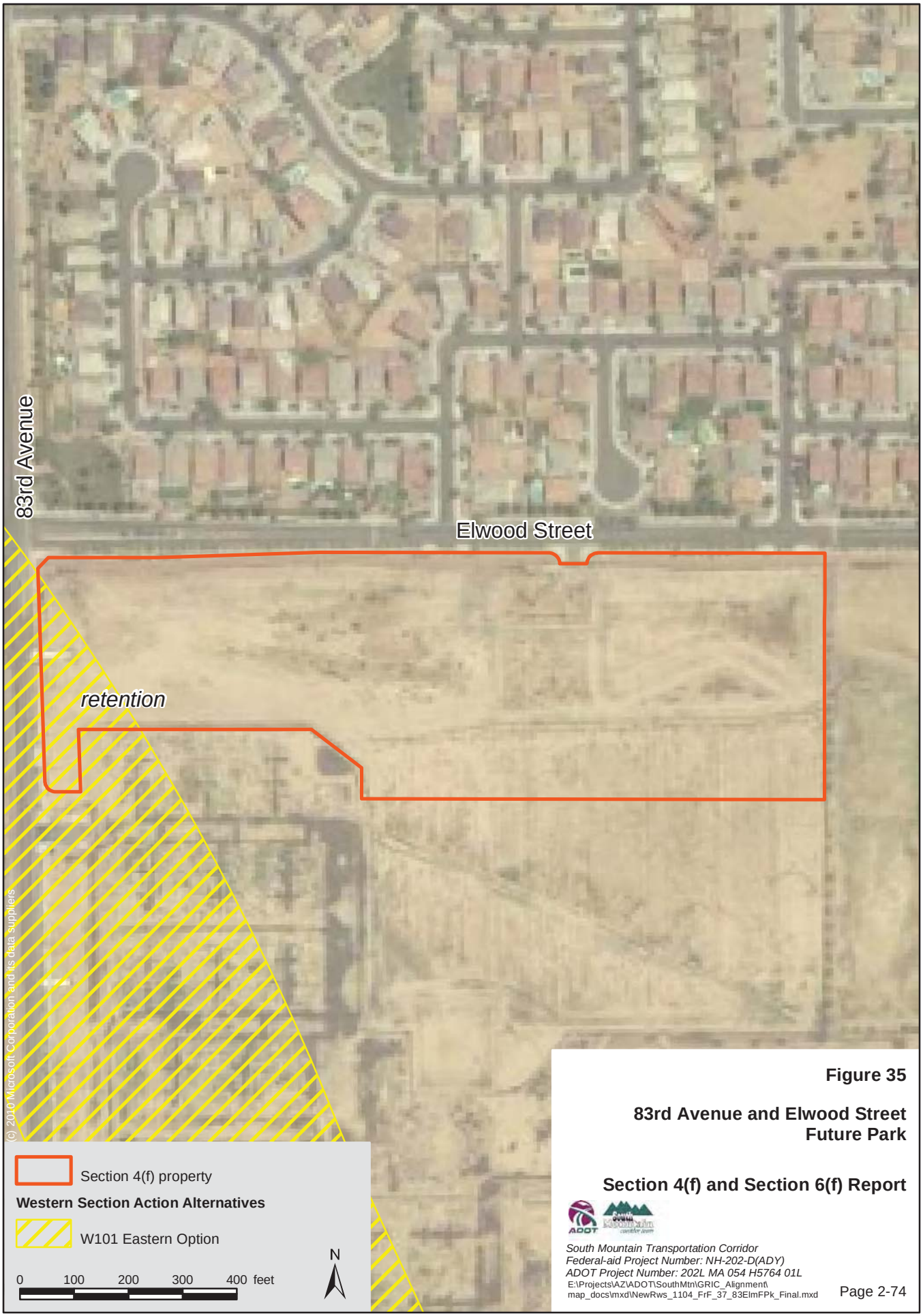

Figure 35

83rd Avenue and Elwood Street Future Park

Section 4(f) and Section 6(f) Report

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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The visual impacts of the section of freeway and noise barrier adjacent to the park could be reduced by blending the color, line, and form of the freeway and noise barrier with the surrounding environment.

Property Number 36 – Tuscano Elementary School

Tuscano Elementary School is located at 3850 South 79th Avenue in Phoenix (Figures 3 and 36). This public school is under the jurisdiction of the Fowler Elementary School District. Outdoor recreational facilities available for public use after school hours include a soccer field, general athletic field, basketball courts, and playgrounds. The school is accessible from 79th Avenue and Odeum Lane.

Direct Impacts

None of the Western Section action alternatives and options would have a direct impact on Tuscano Elementary School.

Proximity Impacts

Of the Western Section action alternatives and options, the W101EPR and W101EFR Options for the W101 Alternative would be located closest to Tuscano Elementary School. Near the school, these options would be located in approximately the same location. Although the W101EPR and W101EFR Options of the W101 Alternative would be located approximately 0.19 mile from the school, they would not result in proximity impacts on this Section 4(f) resource; therefore, none of the Western Section action alternatives and options would result in proximity impacts on the Section 4(f) resource.

The Section 4(f) resource does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). Access to the Section 4(f) property would not be altered; therefore, access to the resource would not be impaired.

Measures to Minimize Harm

Because none of the action alternatives or options would result in direct or constructive use of Tuscano Elementary School, no measures to minimize harm are warranted. Noise generated from the W101EPR and W101EFR Options would be mitigated with noise barriers. The noise barriers proposed at these action alternatives would reduce future noise levels to 60 dBA (Figure 5). The visual impacts of the section of freeway and noise barrier could be reduced by blending the color, line, and form of the freeway and noise barrier with the surrounding environment.

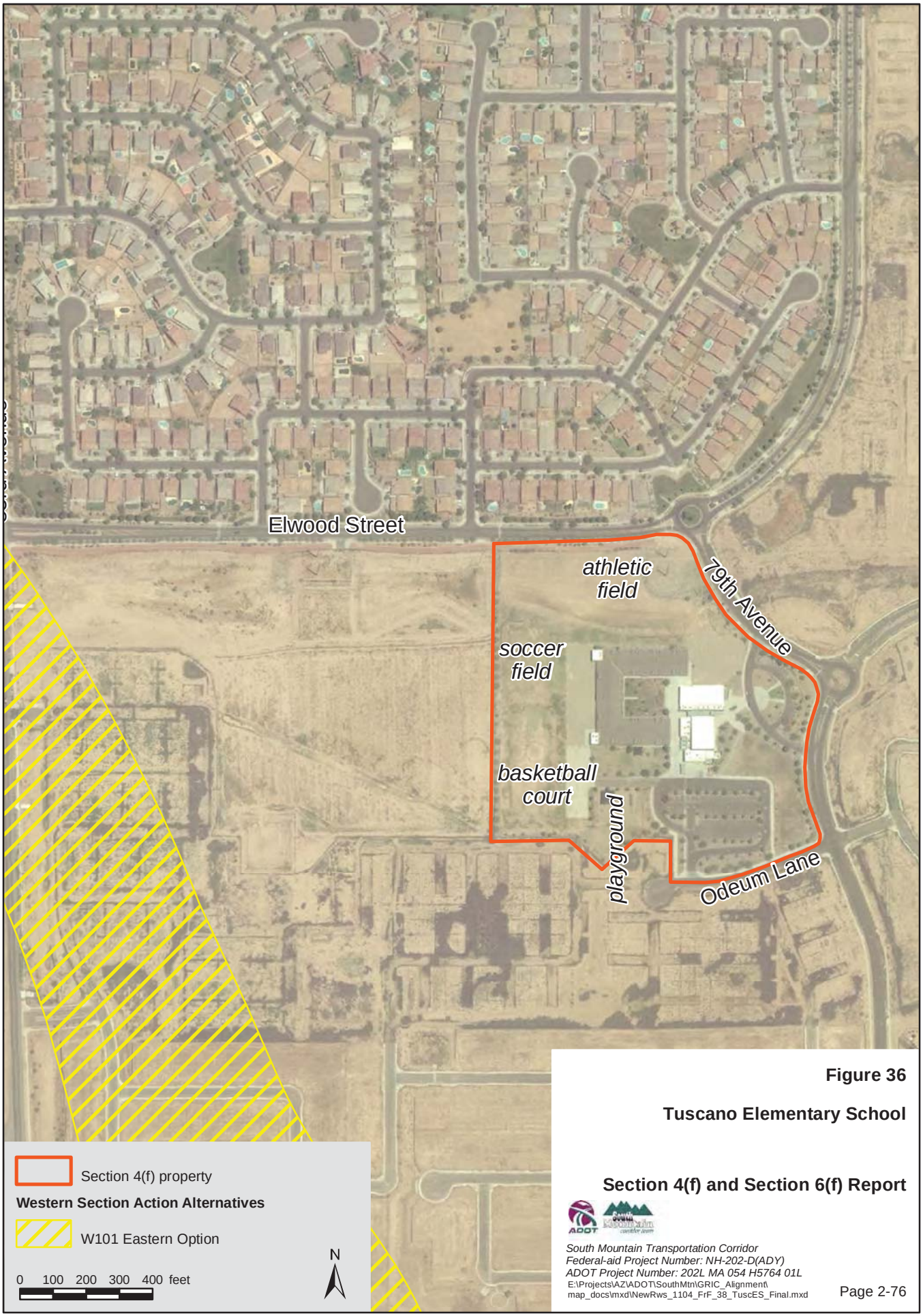

Figure 36

Tuscano Elementary School

Section 4(f) and Section 6(f) Report

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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Description of Section 4(f) Resources in the Eastern Section, Impacts, and Measures to Minimize Harm

The following Section 4(f) resources have been identified within ¼ mile of the E1 Alternative in the Eastern Section of the Study Area (Figure 37). The numbered Section 4(f) properties on Figure 37 correspond to their description in the text of this section. The SHPO and Tribal Historic Preservation Officer, as appropriate, have concurred with the NRHP-eligibility property designations within the Study Area as part of this study or as part of previous studies.

Property Number 37 – Pecos Park

Pecos Park is located in the Ahwatukee Foothills Village area of Phoenix at 48th Street and Pecos Road. This 66-acre park is owned by the City of Phoenix. Thirty-six acres of the park are a retention basin, designed by FCDMC, to hold water from the Chandler Boulevard and 48th Street intersection, Pecos Road, and the park. This area is also used for ball fields, basketball courts, athletic fields, and other recreational facilities (Figures 37 and 38). The remaining 30 acres of the park contain other amenities including a skateboard plaza, picnic areas, an aquatic center, and a community center (City of Phoenix 2005a, 2005b). The park is accessible from 48th Street.

Direct Impacts

The E1 Alternative would not directly affect Pecos Park or its associated retention area.

Proximity Impacts

Pecos Park does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). Existing access to the Section 4(f) property would not be altered; therefore, access to the resource would not be impaired.

Measures to Minimize Harm

Because none of the action alternatives or options would result in direct or constructive use of Pecos Park, no measures to minimize harm are warranted. Although not required, the visual impacts of the section of freeway adjacent to the park could be reduced by blending the color, line, and form of the freeway with the surrounding environment.

Figure 38

Pecos Park

Section 4(f) and Section 6(f) Report

Aerial photography date: July 2010

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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Property Number 38 – Kyrene de los Lagos Elementary School

Kyrene de los Lagos Elementary School is located at 17001 South 34th Way in Ahwatukee Foothills Village. This public school is under the jurisdiction of the Kyrene Elementary School District. Outdoor recreational facilities consist of a baseball field, basketball court, and playground equipment. According to a revised letter from the school district received on August 28, 2008, outdoor recreational facilities are available for walk-on public use by individuals. Recreational amenities are accessible through the parking lot on Liberty Lane and from a pull-out off Pecos Road (Figures 37 and 39).

Direct Impacts

Implementation of any of the action alternatives and options would cause no direct impact on Kyrene de los Lagos Elementary School.

Proximity Impacts

The E1 Alternative would be located adjacent to Kyrene de los Lagos Elementary School, but would not result in proximity impacts on this Section 4(f) resource.

The Section 4(f) resource does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). The primary access to the Section 4(f) property would not be altered; therefore, access to the resource would not be impaired.

Measures to Minimize Harm

Because implementation of any of the action alternatives or options would not result in direct or constructive use of Kyrene de los Lagos Elementary School, no measures to minimize harm are warranted.

A noise barrier intended to mitigate noise for residences near the E1 Alternative could provide partial noise mitigation to Kyrene de los Lagos Elementary School (Figure 5). This noise barrier would mitigate noise levels at Kyrene de los Lagos Elementary School to approximately 63 dBA.

Property Number 39 – Kyrene Akimel A-al Middle School and Kyrene de la Estrella Elementary School

Kyrene Akimel A-al Middle School and Kyrene de la Estrella Elementary School share recreational facilities. The middle school is located at 2720 East Liberty Lane and the elementary school is located at 2620 East Liberty Lane; both of these public schools are in Ahwatukee Foothills Village and are under the jurisdiction of the Kyrene Elementary School District. Outdoor recreational facilities consist of baseball fields, a track, tennis and basketball courts, and playground equipment (Figures 37 and 40).

Figure 39

Kyrene de los Lagos Elementary School

Section 4(f) and Section 6(f) Report

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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Figure 40

Kyrene Akimel A-al Middle School and Kyrene de la Estrella Elementary School

Section 4(f) and Section 6(f) Report

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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According to a revised letter received on August 28, 2008, from the Kyrene Elementary School District, outdoor recreational facilities are available for walk-on public use by individuals. Recreational amenities are accessible through the parking lots on Liberty Lane.

Direct Impacts

Implementation of any of the action alternatives and options would cause no direct impact on Kyrene Akimel A-al Middle School or Kyrene de la Estrella Elementary School.

Proximity Impacts

The E1 Alternative would be located adjacent to Kyrene Akimel A-al Middle and Kyrene de la Estrella Elementary schools, but would not result in proximity impacts on this Section 4(f) resource.

The Section 4(f) resource does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). Existing access to the Section 4(f) property would not be altered; therefore, access to the resource would not be impaired.

Measures to Minimize Harm

Because implementation of any of the action alternatives or options would not result in any direct or constructive use of Kyrene Akimel A-al Middle School or Kyrene de la Estrella Elementary School, no measures to minimize harm are warranted.

A noise barrier intended to mitigate noise for residences near the E1 Alternative could provide partial noise mitigation to Kyrene Akimel A-al Middle School and Kyrene de la Estrella Elementary School (Figure 5). This noise barrier would mitigate noise levels at Kyrene Akimel A-al Middle School and Kyrene de la Estrella Elementary School to approximately 62 dBA.

Property Number 40 – Future City of Phoenix Park

The future City of Phoenix neighborhood park at 17th Avenue and Liberty Lane would be 7.2 acres in size (Figures 37 and 41). This park is identified in the City of Phoenix's 5-year plan for the *Phoenix Parks and Preserve Initiative Program Plan*, which remains in effect until fiscal year 2013–2014. According to Juan Rodriguez, parks supervisor for the City of Phoenix's South Division, the City has acquired the land for the park, but funding is currently unavailable to begin the master planning process. Recreational amenities and access determinations would be part of the master planning process.[*]

[*] personal communication of Juan Rodriguez, City of Phoenix South Division Parks Supervisor, with HDR Engineering, Inc., on January 16, 2009

Figure 41

Future City of Phoenix Park

Section 4(f) and Section 6(f) Report

Aerial photography date: July 2010

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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Direct Impacts

Implementation of any of the action alternatives and options would cause no direct impact on the City of Phoenix future park.

Proximity Impacts

The E1 Alternative would be located adjacent to the future park, but would not result in proximity impacts on this Section 4(f) resource.

The Section 4(f) resource does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15). Existing access to the Section 4(f) property would not be altered; therefore, access to the resource would not be impaired.

Measures to Minimize Harm

Because implementation of any of the action alternatives or options would not result in any direct or constructive use of the City of Phoenix future park, no measures to minimize harm are warranted.

A noise barrier intended to mitigate noise for residential receivers near the E1 Alternative could provide partial noise mitigation to the future City of Phoenix park (Figure 5). This noise barrier would mitigate noise levels at the park to approximately 64 dBA.

Property Number 41 – Future City of Phoenix Park (South Mountain 620)

The future City of Phoenix neighborhood park at 35th Avenue and Chandler would be an approximately 75-acre park. The land for this park was recently purchased from the Arizona State Land Department and was formerly known as the South Mountain 620 parcel. A 165-acre portion of the South Mountain 620 parcel is dedicated to SMPP. The remaining acreage is planned as playfields, open turf, picnic areas, a trailhead, and parking (Figures 37 and 42). The City of Phoenix conceptual planning for the recently acquired State Trust Land shows 50 feet of right-of-way (R/W) adjacent to the northern side of Chandler Boulevard dedicated for a road.[*]

Direct Impacts

In addition to the 50-foot R/W the City of Phoenix has dedicated for a roadway, the Arizona State Land Department has dedicated 50 feet of R/W adjacent to the southern side of Chandler Boulevard for a transportation corridor. Although engineering has not progressed to a level showing the proposed footprint of the Chandler Extension (survey boundary is currently shown), it is anticipated that the five-lane ultimate roadway will be able to be constructed within the 100-foot R/W dedicated for a transportation corridor.

[*] personal communication of Cynthia Peter, City of Phoenix, with HDR Engineering, Inc., on February 15, 2011

Figure 42

Future City of Phoenix Park (South Mountain 620)

Section 4(f) and Section 6(f) Report

Aerial photography date: July 2010

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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Therefore, implementation of any of the action alternatives and options would not directly affect the future City of Phoenix park (South Mountain 620 parcel). Access to the park would be from Chandler Boulevard.

Proximity Impacts

The E1 Alternative's Chandler Extension would be close to the future City of Phoenix park. The design of the Chandler Extension would ensure similar access to the future park off Chandler Boulevard.

The Section 4(f) resource does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15).

Measures to Minimize Harm

Because implementation of any of the action alternatives or options would not result in any direct or constructive use of the future City of Phoenix park, no measures to minimize harm are warranted.

Property Number 42 – Phoenix South Mountain Park/Preserve

SMPP (Figures 37 and 43) is afforded protection under Section 4(f) because its primary purpose is recreation and because it is an NRHP-eligible historic property. Additionally, SMPP is part of a larger TCP important to several Native American groups. Because the TCP extends beyond the boundaries of SMPP, it is treated as a separate entity (see *Property Number 43 – South Mountains Traditional Cultural Property*).

Recreational Attributes

SMPP is an approximately 16,600-acre park operated and maintained by the City of Phoenix (City of Phoenix 1989, 2005a, 2009). The City of Phoenix recently purchased 247 acres of Arizona State Trust Land (formerly known as the South Mountain 620 parcel), of which 165 acres were added to SMPP. The main entrance to SMPP is located at 10919 South Central Avenue in Phoenix. SMPP is arguably the largest municipal park in the United States and is the centerpiece of the Phoenix Mountain Preserves. SMPP offers the public the opportunity for recreation, contact with the natural Sonoran Desert environment, and wildlife habitat (City of Phoenix 1989). It is estimated that SMPP receives over three million visitors per year (City of Phoenix 1989).

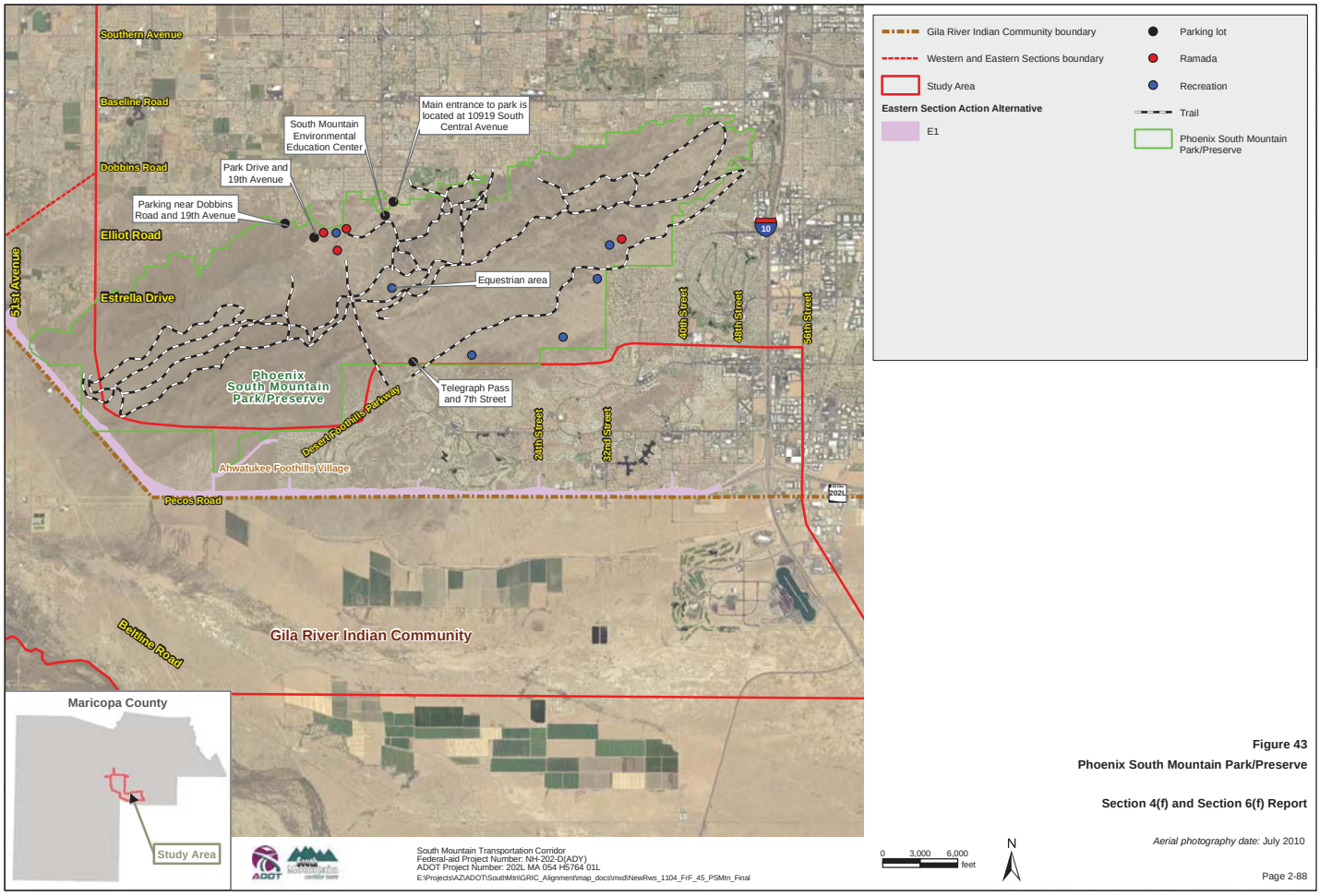

Figure 43

Phoenix South Mountain Park/Preserve

Section 4(f) and Section 6(f) Report

Aerial photography date: July 2010

SMPP contains portions of three mountain ranges, the Ma Ha Tauk, Gila, and Guadalupe (Maricopa County 2004). Traversing these three ranges are 58 miles of trails for horseback riding, hiking, and mountain biking (City of Phoenix 2005a). In addition to trails, the park offers approximately 20 ramadas for picnicking and an activity center that includes restrooms, a stage/dance platform, and a kitchen (City of Phoenix 2005a). The primary access point for SMPP is at 10919 South Central Avenue, south of Dobbins Road. Other access points into the park exist, but they are outside the Study Area. The majority of the trailheads and associated parking lots are located within the park. Two parking lots are located outside of but adjacent to the official park boundary: one at 7th Street and Telegraph Pass and the other at Dobbins Road and 19th Avenue.

In 1985, the City of Phoenix adopted provisions in its City Charter prohibiting the construction of a roadway through a designated mountain preserve unless approved by a majority of voters (City of Phoenix 1985). The Arizona legislature ratified the City's voter approval requirement for the alienation of mountain preserve land for a roadway under Arizona Revised Statutes § 28-7047. However, this requirement does not apply to a state route that is proposed to be constructed within a designated mountain preserve that is in the state highway system on or before August 15, 1990. SMTC was in the state highway system plan prior to 1990 and is, thus, exempt from voter approval requirements under this statute. Further records leading up to the adoption of this statute suggest that the primary reason for the exception was to allow SMTC to go through SMPP. The legislative history of this statue does not mention a specific corridor for SMTC because it is the purview of the State Transportation Board, not the legislature, to determine the precise alignment of state highways. It was the intent of the legislature to allow SMTC to go through SMPP, not to indicate its precise alignment.

On April 11, 1989, the *South Mountain Park Master Plan*, prepared by the City's Parks, Recreation, and Library Department, was adopted by the Phoenix City Council. The master plan shows the 1988 alternative of SMTC on all planning maps, designated as "planned southwest loop." The freeway is discussed in the circulation section of the master plan. The plan states, "It is highly recommended that the Southwest Loop be realigned around South Mountain Park. The selected alternative would have all possible environmental mitigation measures implemented to lessen the impact on the Park" (City of Phoenix 1989). However, the Circulation Element of the City of Phoenix *General Plan* (Goal 1, Policy 7) clearly supports the timely construction of SMTC (City of Phoenix 2005c).

Historical Attributes

SMPP is also an NRHP-eligible historic property. The park's origins began in 1924 when prominent local citizens, aided by Senator Carl Hayden, purchased 13,000 acres from the federal government. NPS developed the original master plan for the park in 1934, which represented the largest municipal park planning effort in the United States. The development of the park from 1933 to 1942 was the direct result of President Franklin D. Roosevelt's New Deal programs, which provided relief from the Depression by employing the Civilian Conservation Corps to build the park facilities from 1934 through 1942. Today, the park retains many of its original Civilian Conservation Corps-constructed buildings, structures, and facilities, and it retains its master-planned layout and design. In 1989, the City of Phoenix listed SMPP on

the City of Phoenix Historic Property Register as a Nonresidential Historic District. The City of Phoenix Historic Preservation Office is currently in the process of nominating SMPP for inclusion in the NRHP.

While independently surveying and evaluating SMPP is beyond the scope of the SMTC study, information derived from the 1989 City of Phoenix Historic Preservation Commission Staff Recommendation for listing the property on the Phoenix Register and from a draft NRHP nomination form prepared by the City of Phoenix Historic Preservation Office indicates that SMPP would be eligible for inclusion in the NRHP under Criterion A for its association with NPS and the Civilian Conservation Corps New Deal programs in Phoenix during the Depression era and under Criterion B for its association with Senator Carl Hayden. Additionally, the park is recommended eligible under Criterion C for its overall sensitive design that set historical precedent in planning natural parks and implementing NPS design standards for improvements in wilderness area parks. It is also recommended eligible under Criterion D. Concurrence from SHPO regarding SMPP eligibility for the NRHP is outstanding.

SMPP is afforded protection under Section 4(f) for the following reasons:

- It is a publicly owned park of local significance.
- The City of Phoenix is in the process of nominating SMPP to the NRHP. The park dates to 1924 and is associated with the development of the city and with a prominent local citizen, Carl Hayden, who purchased the first park parcels. It is anticipated the park would be nominated under Criteria A, B, and C of Section 106 of the National Historic Preservation Act.
- The South Mountains, which include the Ma Ha Tauk, Gila, and Guadalupe mountain ranges, encompass SMPP. The South Mountains extend beyond SMPP into the Community and into foothills in South Mountain and Ahwatukee Foothills villages. The South Mountains are associated with the creation stories of several Native American groups and continue to play an important role in their cultural and community identity (refer to *Property Number 43 – South Mountains Traditional Cultural Property*). Therefore, the South Mountains are considered a TCP and eligible for inclusion in the NRHP under Criteria A and B.

Portions of SMPP were acquired and developed using LWCF grants. Land acquisitions expanding the park occurred in 1971, 1972, 1978, and 1981; these parcels are located on the eastern side of the park away from the action alternatives. In 1965 and 1966, an LWCF grant was used to develop Park Drive, restrooms, and 10 ramadas.[*]

Direct Impacts

The E1 Alternative would directly affect property on the far southwestern side of SMPP (Figure 44). This portion of SMPP is remote and undeveloped. The total acreage directly affected by the E1 Alternative would be 31.3 acres.

[*] personal communication of Pat Dutrack, Arizona State Parks, with HDR Engineering, Inc., on February 10, 2005

LWCF parcels in SMPP are not located near the park's southwestern corner—the only area that could be directly affected by the action alternatives. Therefore, the action alternatives would not directly affect any land purchased or improved with LWCF monies.

Since 2001, FHWA and ADOT have been coordinating with the Community to include Eastern Section action alternatives on tribal lands that would avoid SMPP. The Community has officially indicated that it is opposed to consideration of an action alternative on its land.

Proximity Impacts

The E1 Alternative would result in a direct use of SMPP. When a direct use of a Section 4(f) resource would occur, proximity impact analysis to determine whether constructive use of the resource would occur is no longer applicable (23 C.F.R. § 774.15). However, measures to minimize harm are proposed as part of the proposed action to further reduce impacts in proximity to the Section 4(f) resource.

Avoidance Alternatives

Alternatives to avoid use of SMPP were evaluated and determined not to be prudent and feasible. Discussions pertaining to avoidance alternatives for all Section 4(f) resources are contained in Chapter 3, *Avoidance Alternatives*, of this technical report.

Measures to Minimize Harm

Some measures to minimize harm to SMPP have already been undertaken. These measures were undertaken as a result of conscious design decisions or of past, related actions. Some measures require further coordination on the part of ADOT and FHWA with agencies, jurisdictions, and possibly major user groups. Those measures, as presented, will include a discussion of future additional steps needed to commit to the measures.

- The 1988 alignment of SMTC would have resulted in a direct use of 40.5 acres of SMPP (ADOT 1988b). As a measure to minimize harm, the footprint of the E1 Alternative was reduced. The E1 Alternative would result in an actual use of 31.3 acres of SMPP, 9.2 acres less than the 1988 alignment (Figure 45).
- The alignment of the South Mountain Freeway, as planned in 1988, was located to avoid bisecting SMPP and to avoid the creation of remnant parcels of parkland. As such, the alignment was placed on SMPP and Community boundary lines
- In the mid-1980s, as plans progressed to design and construct the South Mountain Freeway, ADOT purchased land adjacent to the then-SMPP boundaries and turned a remnant over to the City of Phoenix; the intent was to replace parkland that would be converted to freeway use. The approximately 16-acre property is located on the western side of the current SMPP boundaries (Figure 44).
- Excess property associated with future SMTC R/W acquisitions, where appropriate, could be used as replacement lands for parkland taken by the freeway.

Measures to address the conversion of SMPP land to a transportation use would include:

- During the design phase, ADOT would consult directly with the Phoenix City Manager's office to identify and implement other design measures, when possible, to further reduce land requirements for the proposed action. The City Manager's office represents its constituents, including the Sonoran Preserve Advisory Committee, Phoenix Mountains Preservation Council, Mountain Bike Association of America, and Arizona Horsemen's Association.
- During the design phase, ADOT would consult directly with the Phoenix City Manager's office in representing City of Phoenix interests to enter into an IGA to identify and purchase replacement land. Replacement land would not exceed a 1:1 ratio (minus previously purchased replacement land) unless ADOT and the City of Phoenix determine jointly that exceeding the 1:1 ratio would be in the best interests of both parties. Pursuant to state law, ADOT cannot purchase land for the sole purpose of transferring it to other ownership. Therefore, under provisions set forth in the IGA entered into by both ADOT and the City of Phoenix, the City would be responsible for identification of replacement land. Once agreed upon under the terms of the IGA, ADOT would issue payment to the City of Phoenix for the acquisition of replacement land. Provisions of the IGA would ensure commitment of the transaction would be solely for the purposes of timely acquisition of parkland for public use within Phoenix.
- The City of Phoenix, under the provisions set forth in the Phoenix Mountain Preserve Act, would not be able to sell SMPP land to ADOT for the proposed action. Therefore, ADOT would undertake the condemnation process to obtain the land for the proposed action. Because replacement land would be provided as a measure to minimize harm, ADOT would request City of Phoenix-written and published support prior to beginning the condemnation process.

Several measures were analyzed to entirely avoid or further reduce impacts associated with cuts through the three ridgelines (two of which are located within SMPP). After careful deliberation, these measures were dropped from further consideration as discussed in Chapter 3, *Avoidance Alternatives*.

Other measures to minimize the alteration of the SMPP landscape would include:

- Because of the potential for the ridgeline cuts to introduce forms, lines, colors, and textures distinctly different from the existing ridgelines, design measures would be implemented to blend the appearance of the cuts with the surrounding natural environment, as feasible. The degree of slope treatment would depend on the interaction of two primary factors:
  - the angle of the cut slope
  - the receptivity of the cut rock to rock sculpting and rounding to mimic existing contours and allow for staining, revegetation, and other related measures to blend the slope with the South Mountains' natural setting. As an example, if the cut rock were not conducive to desired slope treatments, flattening the slopes could increase the receptiveness of the cut rock; this would, however, increase the land requirements necessary for the proposed action.

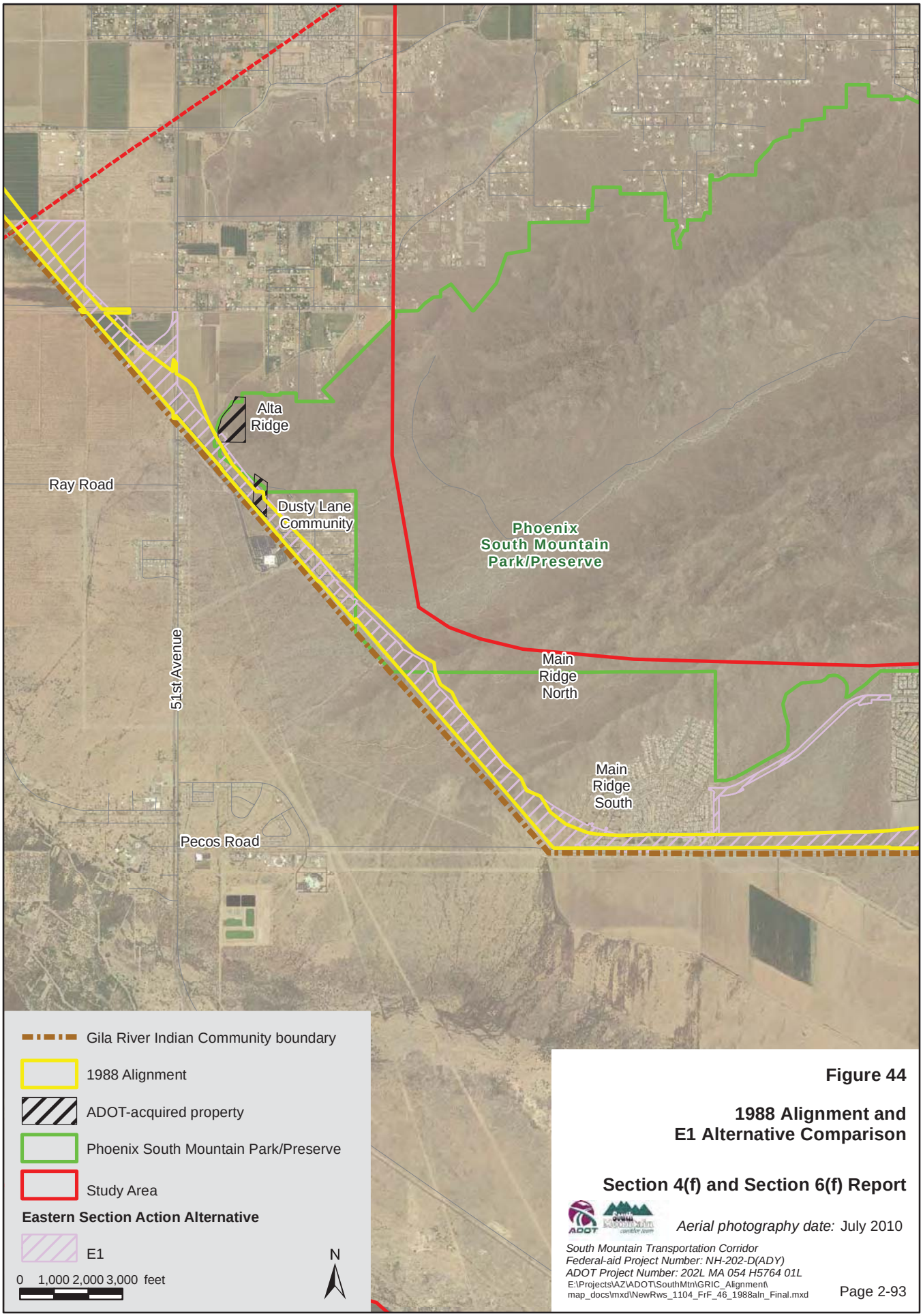

Figure 44

1988 Alignment and E1 Alternative Comparison

Section 4(f) and Section 6(f) Report

Aerial photography date: July 2010

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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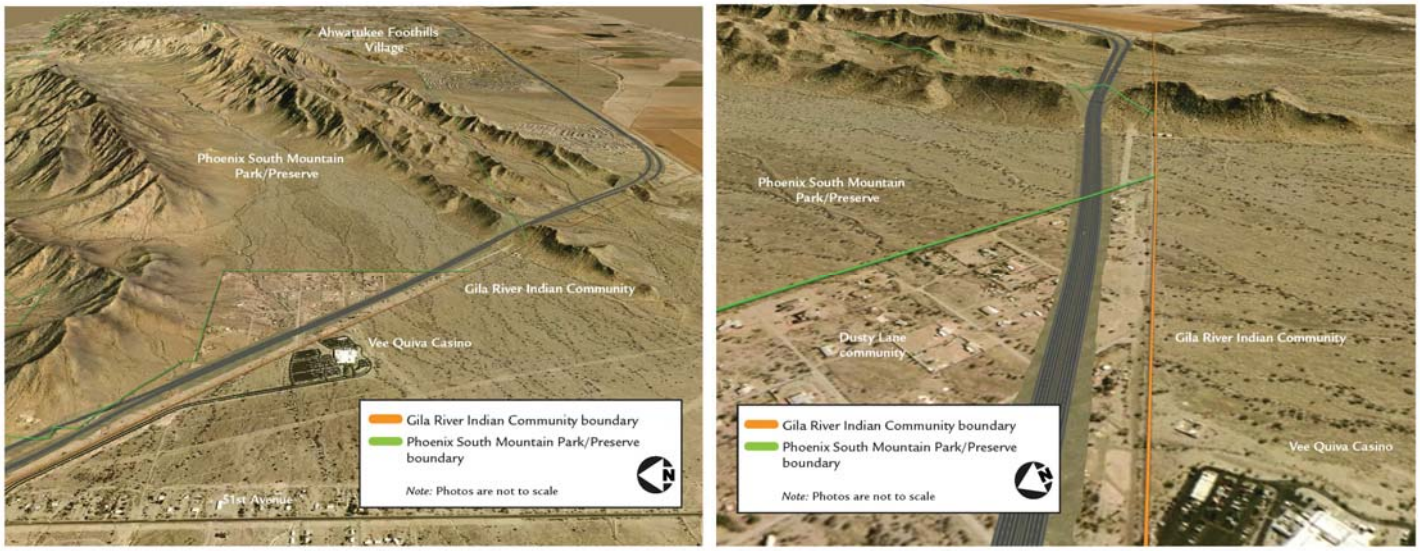
- Figure 45 illustrates the proposed slope angles for cuts through the mountain ridgelines. ADOT would undertake additional geotechnical investigation during the design phase to determine, in part, how receptive the proposed slope angles would be to slope treatments. During this period, ADOT would consult directly with the Phoenix City Manager's office in representing City of Phoenix interests and on behalf of the Sonoran Preserve Advisory Committee and Phoenix Mountains Preservation Council in establishing a slope treatment plan for cut slopes through the ridgelines, with the clear intent to blend as well as would be possible the cut slopes with the South Mountains' natural setting.

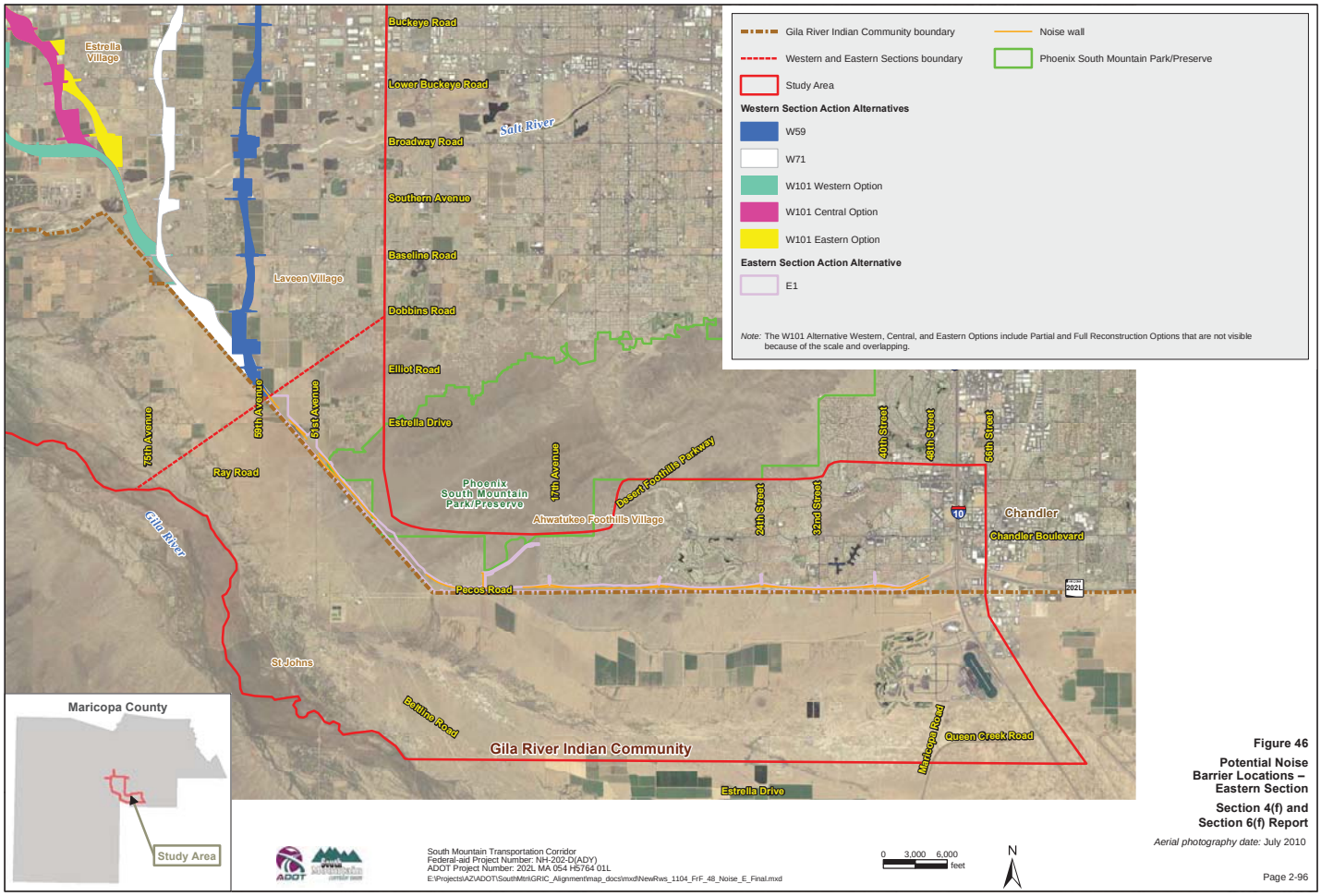
Measures to minimize intrusion on SMPP would include:

- Barriers proposed to mitigate noise impacts on neighboring residential developments (near the Foothills Reserve residential development and Dusty Lane residential area), while not specifically intended to mitigate noise intrusion into SMPP, would provide incidental noise mitigation (Figure 46).
- Visual intrusions caused by the introduction of the built aspects of the proposed action on the natural setting of SMPP would be reduced by a number of measures where appropriate:
  - Vegetation buffers would be used to screen views of the freeway from SMPP.
  - Saguaros, mature trees, and larger shrubs likely to survive the transplanting and settling-in period would be transplanted in relatively natural areas near the proposed action to blend with the existing landscape (see the *Biological Resources Report* for additional information regarding native plant salvaging requirements for the proposed action).
  - Clustering or grouping plant material in an informal pattern to break up the linear form of the freeway would be undertaken where appropriate to "naturalize" areas within the R/W.
  - Landscape treatments using native plants on the periphery of R/W areas at overpass locations and areas near residential developments would be installed where appropriate.
  - Aesthetic treatments and patterning would be applied to noise barriers and other structures (lighting standards, overpasses, abutments, and retaining and screening walls).
- As general practice, ADOT's Roadside Development team would work with a local jurisdiction to develop a theme for landscaping and structures from the standard approved ADOT applications. Once a theme were selected, Roadside Development would design the aesthetic treatment. However, for the proposed action through SMPP, ADOT would consult directly with the Phoenix City Manager's office in representing City of Phoenix interests and on behalf of the Sonoran Preserve Advisory Committee and the Phoenix Mountains Preservation Council and with Community representatives to develop the aesthetic treatment of landscaping and structures through the park/preserve. Treatments may or may not include ADOT standard applications.

Figure 45. Cross Section, Proposed Roadway Cuts through Ridges of the South Mountains



The cuts shown to accommodate the proposed freeway include no slope treatments or other mitigation measures. The perspective is drawn from a point above the western end of SMPP near the Dusty Lane community southeast through the main ridges of the South Mountains.



South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
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Figure 46

Potential Noise Barrier Locations – Eastern Section

Section 4(f) and Section 6(f) Report

Aerial photography date: July 2010

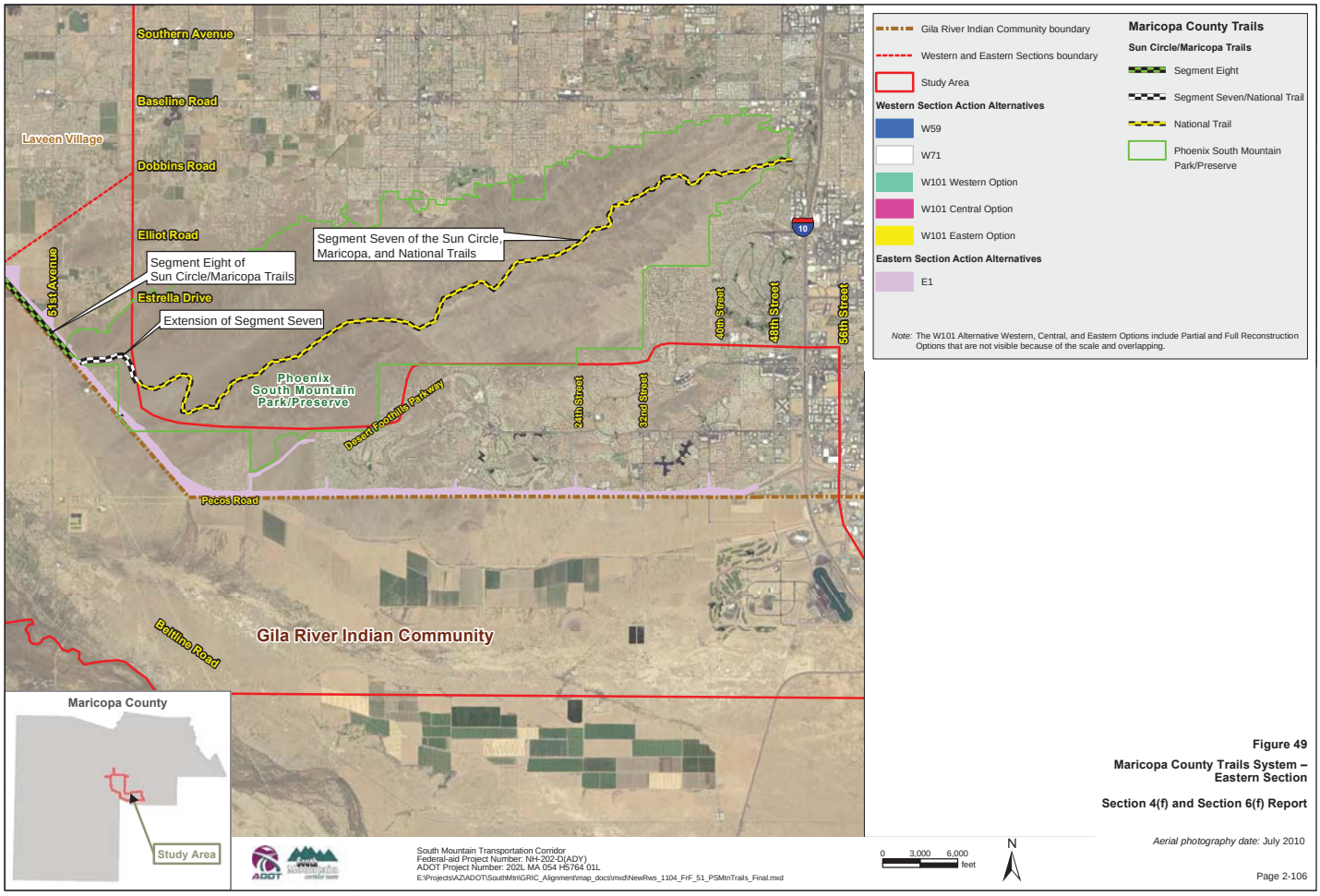


Figure 49

Maricopa County Trails System – Eastern Section

Section 4(f) and Section 6(f) Report

Aerial photography date: July 2010

Proximity Impacts

Currently, there is no designated access point onto Segment Seven; however, Maricopa County trails can be accessed anywhere along their length. Informal access to the trails system near the E1 Alternative would be maintained by designing the freeway to span the trail. Therefore, existing access to the Section 4(f) property would not be substantially altered and access to the resource would not be impaired.

Segment Seven does not have noise-sensitive activities or viewshed characteristics that contribute to its importance as a Section 4(f) resource. Therefore, no further analysis of these proximity impacts to determine whether they would substantially impair the resource is necessary (23 C.F.R. § 774.15).

Measures to Minimize Harm

The E1 Alternative would be designed to span Segment Seven through the use of a bridge.

Because none of the action alternatives or options would result in direct or constructive use of Segment Seven, no additional measures to minimize harm are warranted. Although not required, intermittent noise barriers along the E1 Alternative would provide partial noise mitigation for Segment Seven as it extends out of SMPP to San Juan Avenue (Figure 49).

The freeway would be the dominant human-made feature in the area and would introduce forms, lines, colors, and textures distinctly different from the existing landscape. Although not required, the visual impacts of noise barriers and the section of freeway adjacent to Segment Seven could be reduced by blending the color, line, and form of the freeway and noise barriers with the surrounding environment.

Maricopa County would like to participate in the final design process, as it relates to impacts on trails, once the preferred action alternative is identified.*

Alternative Summary

Table 2 summarizes the action alternatives and options and affected Section 4(f) properties. In this table, a "B" indicates Section 4(f) properties located within the ¼-mile buffer surrounding the action alternative, while an "X" indicates Section 4(f) properties directly affected by the action alternative.

No-Action Alternative

There would be no impacts on Section 4(f) or Section 6(f) resources as part of the No-Action Alternative.

* personal communication of Chris Coover, Maricopa County Parks and Recreation Trails Coordinator, with HDR Engineering, Inc., on September 6, 2005

Table 2. Summary of Affected Properties, by Action Alternative

Section 4(f) Property	Action Alternative								
	E1	W59	W71	W101WPR	W101WFR	W101CPR	W101CFR	W101EPR	W101EFR
Eastern and Western Sections									
Property Number 1 – Segment Eight of the Sun Circle and Maricopa Trails	—[a]	B	B	B	B	B	B	B	B
Western Section									
Property Number 2 – Segment One of the Sun Circle Trail	—	—	—	B	B	B	B	B	B
Property Number 3 – Segment Fifty-six of the Maricopa County Regional Trails System	—	B	B	B	B	B	B	B	B
Property Number 4 – Segment Sixty-eight of the Maricopa County Regional Trails System	—	—	—	B	B	B	B	B	B
Property Number 5 – Grand Canal	—	—	—	B	B	B	B	B	B
Property Number 6 – Segment Sixty-nine of the Maricopa County Regional Trails System	—	B	B	B	B	B	B	B	B
Property Number 7 – Roosevelt Canal	—	B	B	B	B	B	B	B	B
Property Number 8 – Wellton-Phoenix-Eloy Main Line	—	B	B	B	B	B	B	B	B
Property Number 9 – Hackin Farmstead	—	B	—	—	—	—	—	—	—
Property Number 10 – Hudson Farm district	—	B	—	—	—	—	—	—	—
Property Number 11 –Tyson Farmstead and Barnes Dairy Barn	—	B	—	—	—	—	—	—	—
Property Number 12 – Ong Farm	—	B	—	—	—	—	—	—	—
Property Number 13 – Betty Fairfax High School	—	B	—	—	—	—	—	—	—
Property Number 14 – Falcon Park	—	B	B	—	—	—	—	—	—
Property Number 15 – Sunridge Park	—	B	B	B	B	B	B	B	B
Property Number 16 – Sunridge Elementary School	—	B	B	B	B	B	B	B	B
Property Number 17 – Trailside Point School	—	—	B	—	—	—	—	—	—
Property Number 18 – Trailside Point Park	—	—	B	—	—	—	—	—	—
Property Number 19 – Laveen Commons Future Park	—	—	B	—	—	—	—	—	—
Property Number 20 – Desert Meadows Elementary School	—	—	B	—	—	—	—	—	—
Property Number 21 – Sierra Linda High School	—	—	B	—	—	—	—	—	—
Property Number 22 – Santa Maria Park	—	—	B	—	—	—	—	—	—
Property Number 23 – Santa Marie Townsite (Santa Maria)	—	—	B	—	—	—	—	—	—
Property Number 24 – Santa Maria Middle School	—	—	B	—	—	—	—	—	—
Property Number 25 – Fowler Elementary School District Future School	—	—	B	—	—	—	—	—	—
Property Number 26 – Fowler Elementary School	—	—	B	—	—	—	—	—	—
Property Number 27 – Sachs-Webster Farmhouse	—	—	B	B	B	B	B	B	B
Property Number 28 – Estrella District Park Future Park	—	—	—	B	B	—	—	—	—
Property Number 29 – Tolleson Union High School	—	—	—	B	B	B	B	B	B
Property Number 30 – Cowden Park	—	—	—	B	B	B	B	B	B
Property Number 31 – 95th Park	—	—	—	B	B	B	—	B	—
Property Number 32 – 95th Avenue and Encanto Boulevard Future Park	—	—	—	B	B	B	B	B	B
Property Number 33 – Friendship Park	—	—	—	B	B	B	B	B	B

3. Avoidance Alternatives

To avoid impacts on Section 4(f) resources, alignments within and outside of the Study Area, as well as the action alternatives and options under consideration in both the Western and Eastern Sections, were investigated. The viability of the new alignments and the modifications to the action alternatives and options currently under consideration as prudent and feasible were then considered to determine whether there would be unique problems or unusual factors associated with the revised action alternatives or whether the cost; social, economic, and environmental impacts; or community disruption resulting from avoiding the Section 4(f) resource would be of extraordinary magnitude (23 C.F.R. § 774.31). The results of the evaluation are presented below.

Avoidance Alternatives Deemed Not Prudent and Feasible for Phoenix South Mountain Park/Preserve and South Mountains Traditional Cultural Property

No-Action Alternative

The No-Action Alternative would not result in proposed action-related effects on properties afforded protection under Section 4(f). However, the No-Action Alternative would not prevent nonfederal projects (e.g., private developments, locally and state-funded infrastructure projects) from adversely affecting properties afforded protection under Section 4(f). The No-Action Alternative would not meet the proposed project's stated purpose and need. Specifically, the No-Action Alternative would not:

- provide the facility needed to accommodate projected traffic volumes or satisfy regional transportation capacity and demand as presented in Chapter 1
- relieve the traffic congestion that would continue to increase on the arterial street network
- complete a vital project included in the MAG-approved *Regional Transportation Plan*

Therefore, the No-Action Alternative is not prudent.

Gila River Indian Community Alternatives

All action alternatives under study lie outside Community land. The Community has not granted permission to ADOT and FHWA to develop alternatives within Community boundaries that may avoid SMPP; the South Mountains TCP; and sites AZ T:12:197 (ASM), AZ T:12:198 (ASM), and AZ T:12:112 (ASM). As a sovereign nation, the Community must grant permission to the State before any alternatives crossing Community land can be planned.

ADOT and FHWA have sought permission to develop alternatives on Community land. Coordination among ADOT, FHWA, and the Community regarding permission has occurred since project inception; however, despite those efforts, FHWA and ADOT have determined that an alternative alignment on Community land is not feasible.

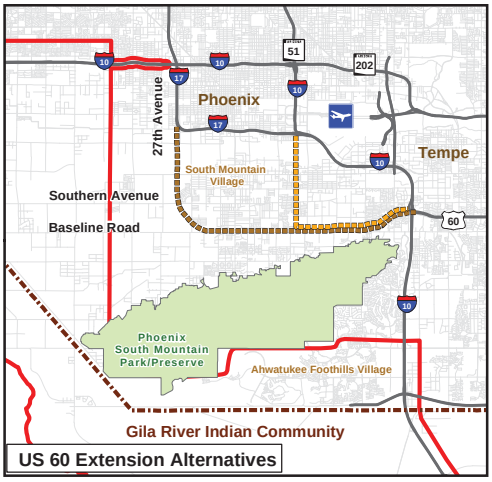
US 60 Extension Alternative

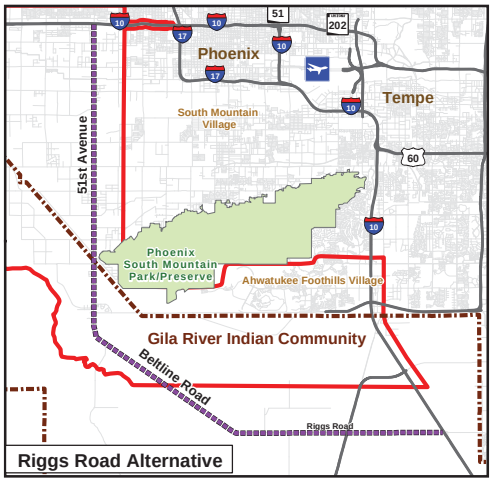
From the west, U.S. Route 60 (US 60) enters the Phoenix metropolitan area from the northwest as Grand Avenue (an arterial street). US 60 joins I-10 (Papago Freeway) at 19th Avenue, and the two routes run concurrently until US 60 separates and travels east as the Superstition Freeway, south of Southern Avenue and north of Baseline Road.

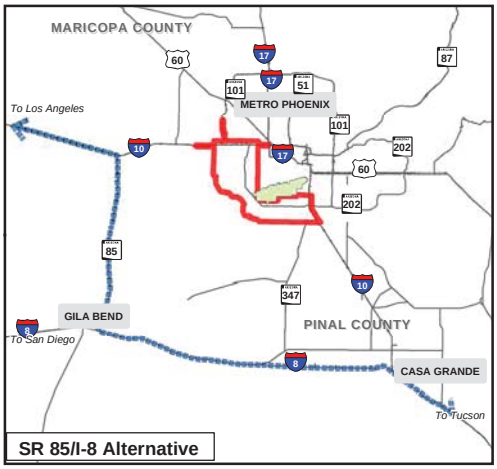
The US 60 Extension Alternative was developed to avoid use of SMPP, site AZ T:12:112 (ASM), and the South Mountains TCP. Figure 50 illustrates the location of the alternative in relation to SMPP. The alternative would have provided for additional capacity on the regional freeway system as well as congestion relief along portions of I-10 (Maricopa Freeway) that experience excessive delays during the morning and evening commutes. However, the US 60 Extension Alternative would not meet the project's stated purpose and need of improved regional mobility and would be coupled with adverse impacts, specifically:

- ► undesirable impacts on traffic operations on I-10 (Maricopa Freeway) between SR 202L (Santan Freeway) and US 60 (Superstition Freeway)
- ► undesirable impacts on traffic operations on US 60 (Superstition Freeway) and SR 101L (Price Freeway), resulting in increased congestion
- ► substantial impacts on existing residential developments (including schools and public parks) from I-10 to 27th Avenue (the eastern and western limits of the alternative)
- ► disruption to community cohesion (this alternative would divide South Mountain Village)
- ► costs associated with partial or full reconstruction of the existing I-10/US 60 system TI and capacity improvements needed along I-10, US 60, and SR 101L in addition to what is already planned
- ► potential R/W limitations along Interstate 17 (Black Canyon Freeway) created by a depressed freeway with steep side slopes bordered by a frontage road system with extensive commercial and industrial development
- ► additional R/W needs for ramp and overpass reconstruction to accommodate freeway widening given the proximity of adjacent service TIs and the I-10 (Maricopa Freeway)/Interstate 17 (Black Canyon Freeway) system TI

For these reasons, the US 60 Extension Alternative would not be prudent and feasible.







South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L

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Study Area

Gila River Indian Community boundary

Phoenix South Mountain Park/Preserve

Avoidance Alternatives

US 60 Extension Alternative

I-10 Spur Alternative

Riggs Road Alternative

SR 85/I-8 Alternative

Figure 50
Avoidance Alternatives

Section 4(f) and Section 6(f) Report

Aerial photography date: July 2010

I-10 Spur Alternative (and Options)

The I-10 Spur Alternative and its options would add a fourth roadway to the I-10 (Maricopa Freeway)/Interstate 17 (Black Canyon Freeway) system TI near Phoenix Sky Harbor International Airport and extend south across the Salt River. This freeway "spur" is a variation of the US 60 Extension Alternative (Figure 50) and would connect with it near Baseline Road. The alternative and its options would not be prudent and feasible for the same reasons cited for the US 60 Extension Alternative.

Riggs Road Alternative

The Riggs Road Alternative, as shown in Figure 50, would replace 51st Avenue to the south of its connection to I-10 (Papago Freeway) for approximately 21 miles. It would then replace Beltline Road and Riggs Road in an easterly direction. At the Riggs Road and SR 347 intersection, the alternative would replace Riggs Road to a connection at I-10 (Maricopa Freeway) at the existing I-10/Riggs Road service TI. Nearly two-thirds of the alternative would be on Community land.

The RTP identifies the proposed action as a critical link in the Regional Freeway System, both in completing it and in optimizing overall system performance as well as that of specific links such as SR 202L (Santan Freeway) and SR 30. The Riggs Road Alternative would not complete the loop system as part of SR 202L, thereby causing substantial out-of-direction travel for motorists. Additionally, projected traffic volumes on the Riggs Road Alternative are substantially less than alternatives that connect to I-10 at SR 202L (Santan Freeway). Compared with these alternatives, the Riggs Road Alternative would not provide additional regional mobility, would not shift regional trips from arterial streets to freeway facilities, would not reduce the capacity deficiency, and would not improve travel times. In summary, it would not operate as planned in the context of the Regional Freeway System.

The alternative would not be prudent and feasible because it would not meet the proposed action's purpose and need.

SR 85/Interstate 8 Alternative

The SR 85/Interstate 8 (I-8) Alternative, as shown in Figure 50, would begin at I-10 approximately 32 miles west of downtown Phoenix and would either replace or widen SR 85 to the south before connecting to I-8 in Gila Bend. The alternative would then require replacement or widening of I-8 for approximately 63 miles to the east before reconnecting with I-10 at Casa Grande, approximately 56 miles south of downtown Phoenix. SR 85 is currently being reconstructed as a four-lane, divided highway with limited-access control, and I-8 is a four-lane, divided interstate freeway with full-access control. Existing signs at each terminus designate the route as a truck bypass of downtown Phoenix. The alternative would not be prudent and feasible because it would not meet the proposed action's purpose and need as part of the regional transportation network.

Tunnel Alternatives

Tunnel alternatives were investigated as design options (Figure 51). They were studied to:

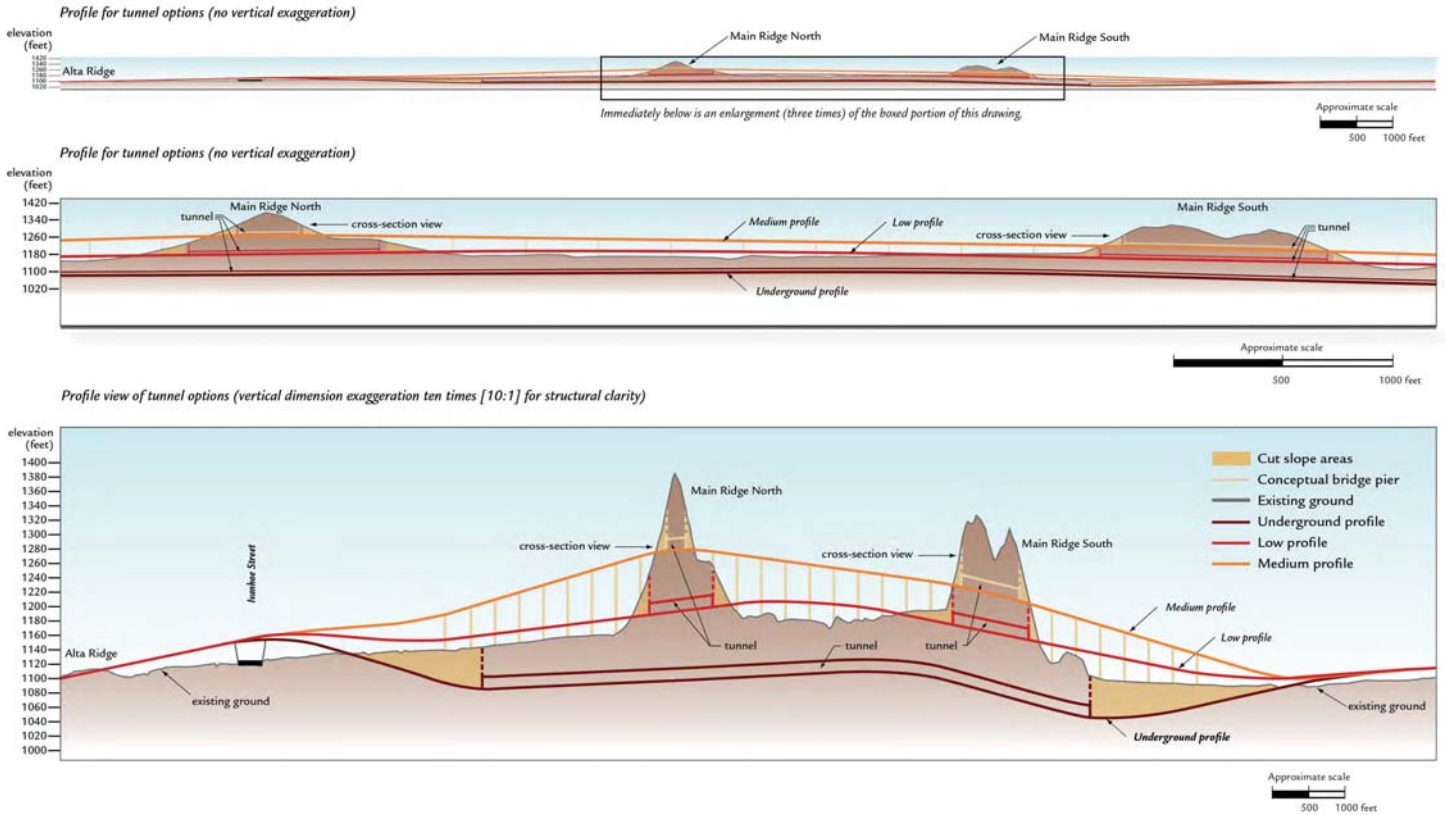
- avoid the use of SMPP, the South Mountains TCP [including sites AZ T:12:197 (ASM), AZ T:12:198 (ASM), and AZ T:12:112 (ASM)]
- avoid use-related impacts of landscape alteration, visual intrusion, access, and habitat connectivity

Based on the analyses, the options were eliminated from detailed study. The alternatives are not prudent and feasible because:

- The desired effects from the tunnel alternatives—to avoid access and other use-related impacts such as landscape alteration and visual intrusion—would not be achieved. Necessary bridge structures, cut slopes for the tunnel entrances, fill slopes for the approaches, and potential ventilation shafts would all cause use-related impacts.
- There are security concerns with tunnels on urban freeways being considered potential terrorist targets (American Association of State and Highway Transportation Officials 2003).
- ADOT and FHWA have determined the tunnels, at a minimum, must accommodate the three general purpose lanes; desirably, they would accommodate four lanes. This requirement is based on safety concerns of diverging or splitting freeway-speed traffic going in a single direction. Current construction techniques would allow for tunnels that accommodate only three lanes in one direction.
- The potential exists that the entire segment of the proposed freeway would have signs installed warning that transportation of hazardous cargo is prohibited. Therefore, hazardous cargo would have to be routed onto Interstate 17 or surface streets; this is contrary to the intent of the proposed action.
- Costs to construct the tunnels—estimated to be between approximately $215 million (20 percent of total construction cost) and $1.9 billion (1.7 times the total construction cost) depending on length and excavation method—were determined to be of an extraordinary magnitude and would not be prudent. The use of a tunnel would not completely avoid impacts on the South Mountains resource. All tunnel alternatives would result in the use of the resources because of the need for cut slopes, potential ventilation shafts, and/or structures (e.g., bridges, retaining walls).
- Costs to maintain and operate the tunnel—estimated to be between $1.5 million and $2 million a year—are of extraordinary magnitude and are not prudent. Costs include full-time staffing of ventilation buildings, major equipment repairs, and tunnel rehabilitation.

These factors alone were determined to be of extraordinary magnitude and, therefore, no further analysis (e.g., assessment of long-term maintenance costs) was warranted. Based on the costs of extraordinary magnitude and inability to avoid direct use of resources afforded protection under Section 4(f), the tunnel alternatives would not be prudent and feasible.

Figure 51. Tunnel Alternatives



Bridge Alternatives

Bridge alternatives were also investigated (Figures 52 and 53) in an effort to achieve the same results as the tunnel alternatives. As with the tunnel alternatives, various designs were analyzed. Based on the analysis, bridge alternatives would not be prudent and feasible because:

- Costs to construct the bridges—estimated to be between approximately $232 million (21 percent of total construction cost) and $323 million (29 percent of total construction cost)—would be of an extraordinary magnitude.
- The desired effects from the bridge alternatives—to avoid access and other use-related impacts such as landscape alteration and visual intrusion—would not be achieved. In many ways, the bridge alternatives would cause greater impacts by increasing intrusion, further limiting Community access, and possibly inhibiting habitat connectivity.
- Construction of many piers for the bridge alternatives would result in scarring of the ridgelines and continued need for R/W, thus not eliminating impacts on the South Mountains resource.

These factors alone were determined to be of extraordinary magnitude and, therefore, no further analysis (e.g., assessment of long-term maintenance costs) was warranted. Based on costs of extraordinary magnitude and the inability to avoid direct use (and direct use-related impacts) of the Section 4(f) resources, the bridge alternatives would not be prudent and feasible.

For more information about the bridge and tunnel alternatives, see Appendix B.

Figure 52. Profile, Medium Bridge Alternatives

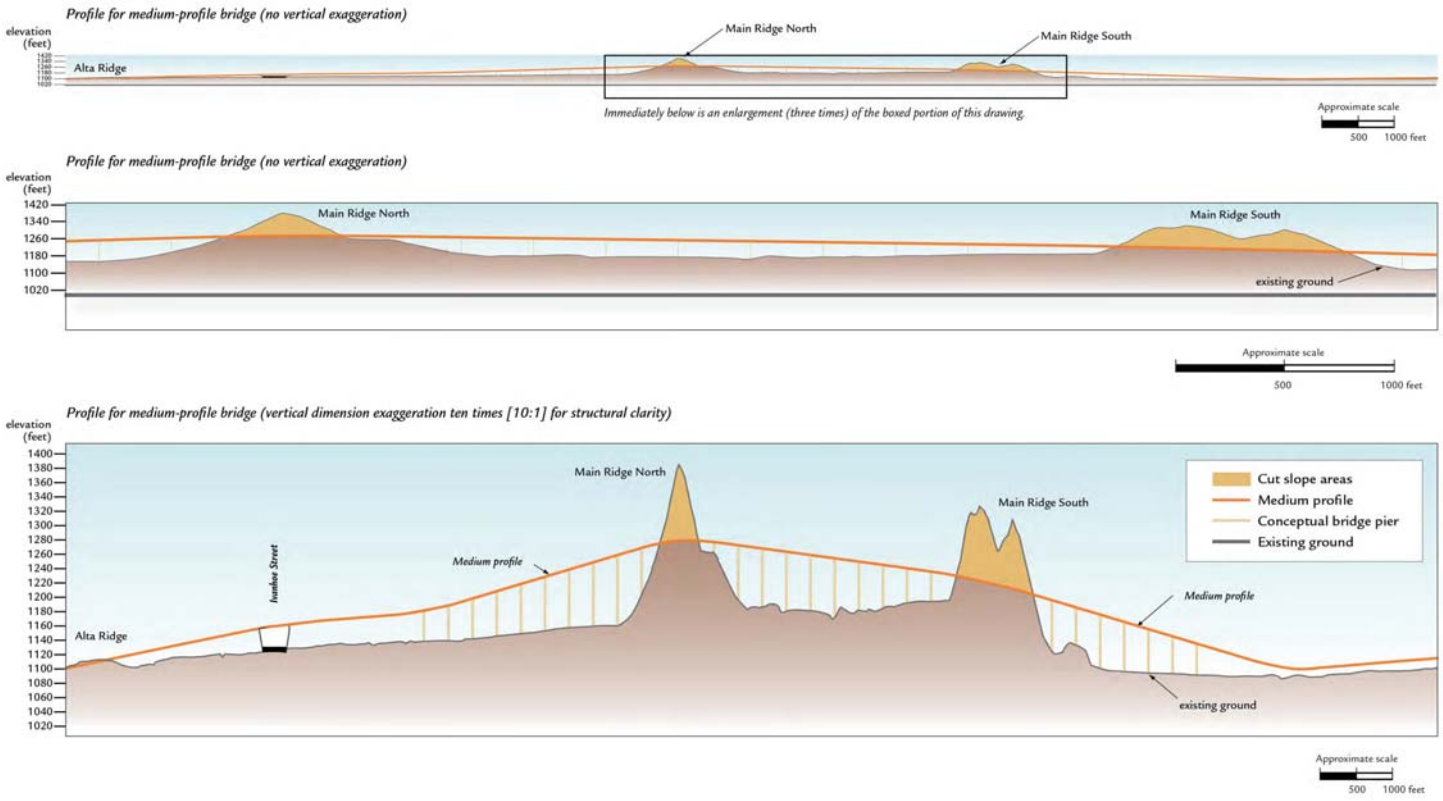
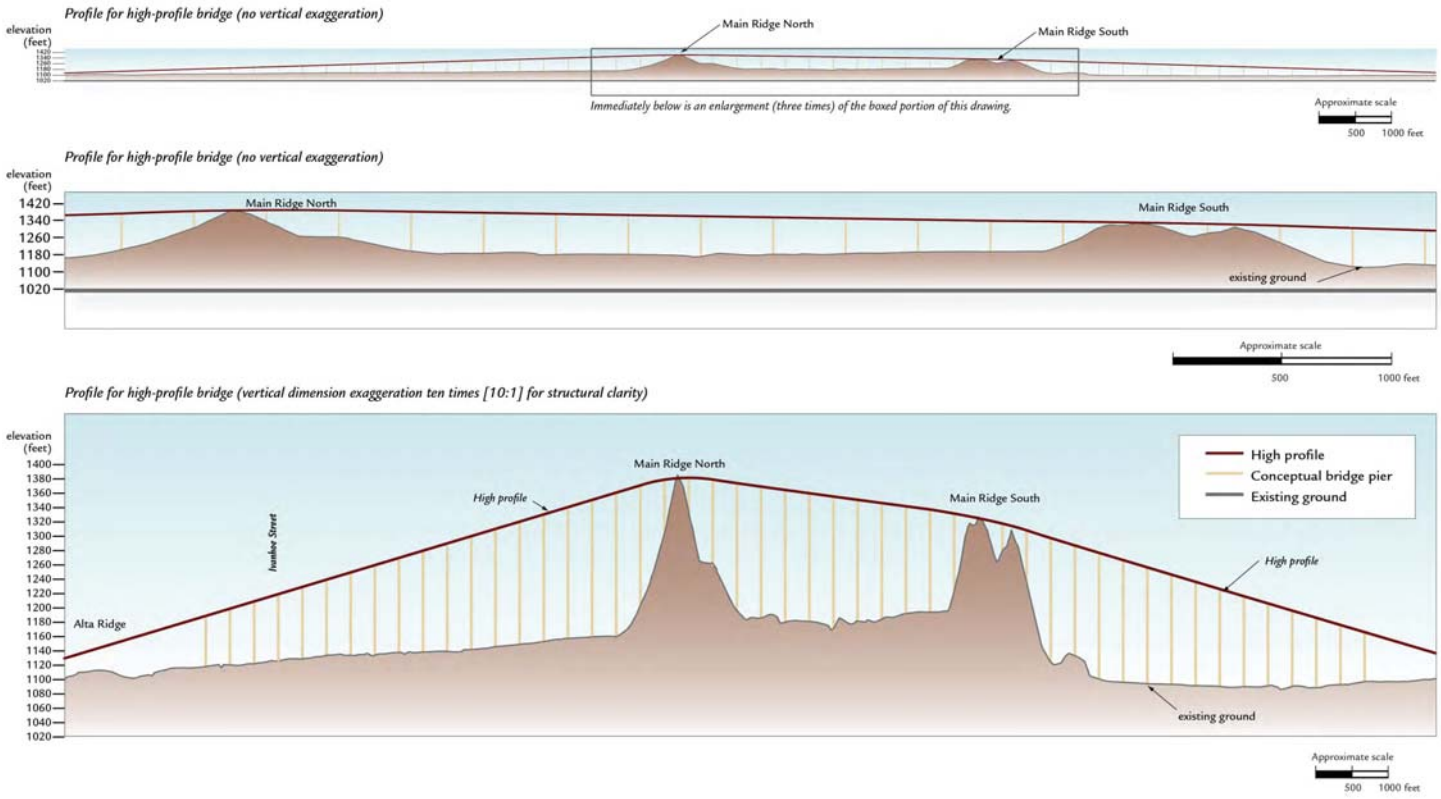


Figure 53. Profile, High Bridge Alternatives



4. Coordination

Cultural resources discussed in this technical report were determined to be Section 4(f) resources from either previous inclusion in the NRHP or through discussions and completed consultations with SHPO.

Discussions between representatives of SHPO and the project team identified potential conflicts between the freeway action alternatives and important cultural resources. These discussions resulted in the development of alignment shifts and mitigation measures to protect these resources for future generations.

Coordination with agencies, jurisdictions, and individuals with a vested interest in the Section 4(f) resources has been ongoing. In February 2005, ADOT sent letters to the school districts within the Study Area asking for information regarding existing and planned schools within the Study Area. In December 2005, FHWA sent registered letters asking for similar information.

Coordination with the City of Phoenix and SMPP stakeholders through correspondence and meetings discussing measures to minimize harm to SMPP have occurred and will continue to occur. Coordination with the Community regarding the South Mountains TCP is ongoing.

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Appendix A

Potential Section 4(f) Properties Excluded from Consideration

Rio Salado Oeste

Description

The planned Rio Salado Oeste (RSO) project is an approximately 8-square-mile (3,315 acres) habitat restoration, flood control, and recreation project. RSO is located within the 100-year floodplain of the Salt River between 19th and 83rd avenues (Figure A-1) in Phoenix. When completed, RSO would connect two similar types of projects: Rio Salado at 19th Avenue and Tres Rios at 83rd Avenue. Together, the three projects would support the restoration of approximately 20 miles of riverbed.

Currently, the U.S. Army Corps of Engineers (USACE) and the City of Phoenix are preparing a Draft EIS to support the RSO feasibility study. This study will investigate feasibility alternatives to examine native riparian habitat restoration in conjunction with flood control, water quality, and passive recreation in the form of multiuse trails (Federal Register 2001; U.S. House of Representatives 2003). The draft was released in May 2006.

Impacts

All Western Section action alternatives would cross the Salt River and would directly affect the planned RSO project. The E1 Alternative would not affect RSO. USACE and the City of Phoenix have anticipated a freeway crossing RSO and view it as an opportunity to direct stormwater runoff from the freeway to support irrigation of the river habitat. USACE indicated that any footprint impacts related to footings could be addressed further in the design process of the South Mountain Transportation Corridor.[*]

Section 4(f) Eligibility

Section 4(f) of the Department of Transportation Act of 1966 protects three basic types of resources: publicly owned parks and recreation areas, publicly owned wildlife and waterfowl refuges, and historic sites. Upon detailed review, it was determined that RSO should not be considered a Section 4(f) property under these designations for reasons explained below.

Although plans for RSO include a recreation element, this is neither the sole nor the primary use of the project and, therefore, would exclude RSO as a resource afforded protection under Section 4(f). According to USACE, "the Feasibility Study for Rio Salado Oeste is to determine whether environmental restoration and flood damage reduction with incidental recreation in this reach of the Salt River in Phoenix, Arizona meets Federal Objectives."[†]

[*] personal communication of Scott Estergard, USACE Water Resource Planner, with HDR Engineering, on May 16, 2005
[†] personal communication of Scott Estergard, USACE Water Resource Planner, with HDR Engineering, on May 16, 2005

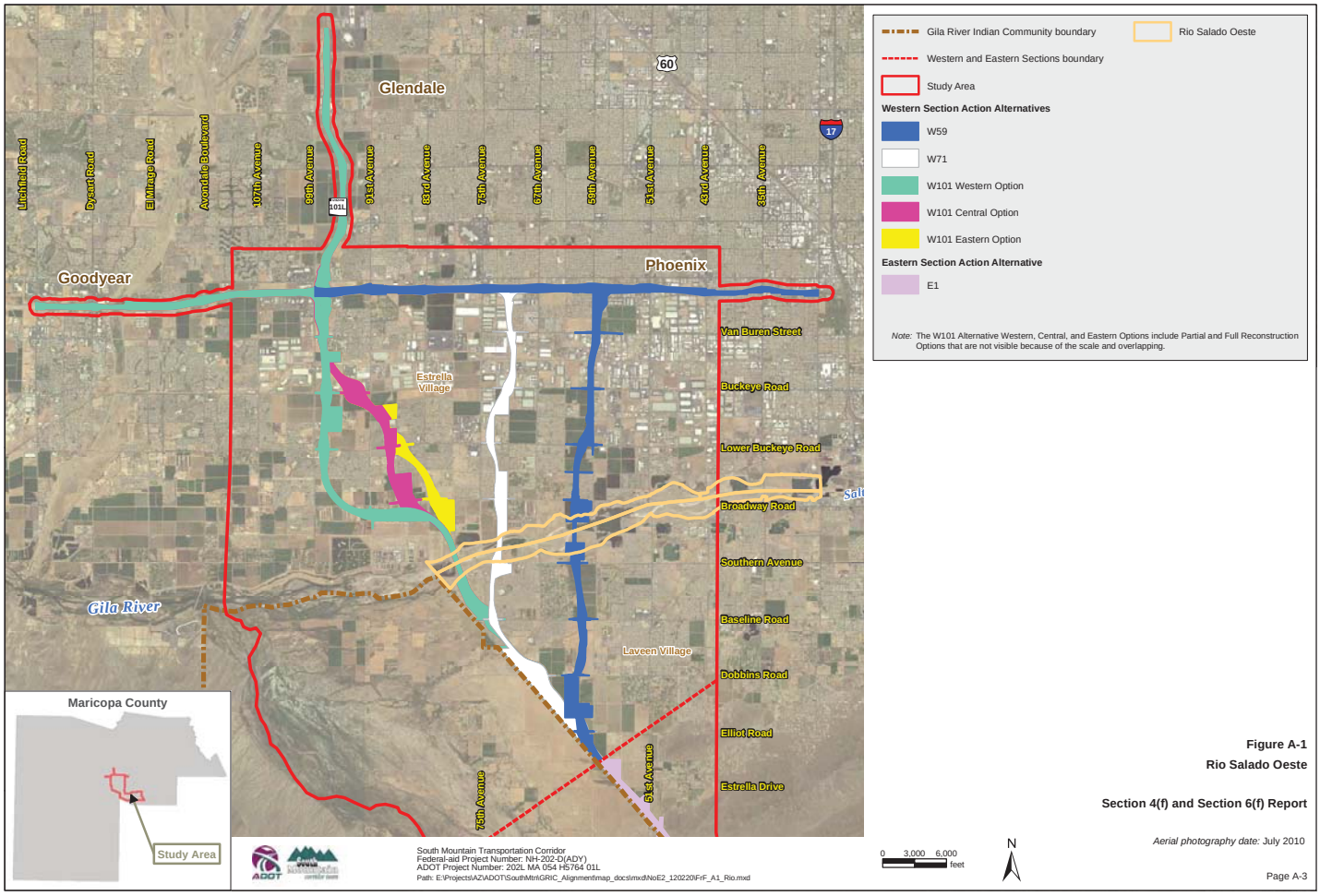

Figure A-1
Rio Salado Oeste

Section 4(f) and Section 6(f) Report

Aerial photography date: July 2010

Further, USACE policy mandates that, "Recreation development at an ecosystem restoration project should be totally ancillary" (USACE 1998, 1999). USACE has instituted a 10 percent limit rule stating that the level of financial participation in recreation development by USACE may not increase the federal cost to the ecosystem restoration by more than 10 percent without prior approval (USACE 1998, 1999). RSO will follow the 10 percent rule.* RSO's primary purpose is habitat restoration, not recreation; therefore, it is not eligible for Section 4(f) consideration under this criterion.

Publicly owned wildlife and waterfowl refuges are also eligible for consideration under Section 4(f); however, RSO has not been officially designated as such by a federal, state, or local agency and, therefore, is not eligible for Section 4(f) consideration under this criterion (U.S Fish and Wildlife Service 2005).

Recreation and Public Purposes Act Parcel

Description

On May 18, 2004, the City of Phoenix received a Recreation and Public Purposes Act (RPPA) lease from the Bureau of Land Management (BLM) for a 159.32-acre parcel of land located in the Salt River channel between 67th and 59th avenues (Figure A-2). The legal location of this parcel is N½, SE¼, NE¼, SW¼, and Lot 3 of Section 30 of Township 1 North, Range 2 East (BLM 2004a). The RPPA parcel was leased to the City of Phoenix as an addition to the Rio Salado Habitat Restoration Project (BLM 2004b, 2004c).

According to the environmental assessment undertaken by BLM for the lease, the City of Phoenix would use the land for restoring native vegetation, environmental education, and recreation. The City would improve and manage the land in accordance with the plan of development and management submitted by the City entitled *Proposed Rio Salado Oeste Habitat Restoration Project* (BLM 2004d).

Impacts

The W59 Alternative would cross the Salt River and would, thus, directly affect the RPPA parcel.

Section 4(f) Eligibility

Upon review, the RPPA parcel, as a part of RSO, should not be considered a Section 4(f) property. The environmental assessment indicates that RSO would include multiuse trails, scenic overlooks, wildlife viewing blinds, interpretive signage, an environmental education facility with outdoor classrooms, water wells and reservoirs, irrigation system, park maintenance facility, intermittent stream, native riparian habitat, and erosion control structures.

Because the RPPA parcel would include multiple uses within the context of RSO, the USACE 10 percent rule would apply and recreation, as defined by Section 4(f), would not be the sole or primary use of the property. Therefore, the RPPA parcel as part of RSO would not be afforded Section 4(f) consideration.

* personal communication of Scott Estergard, USACE Water Resource Planner, with HDR Engineering, on May 16, 2005

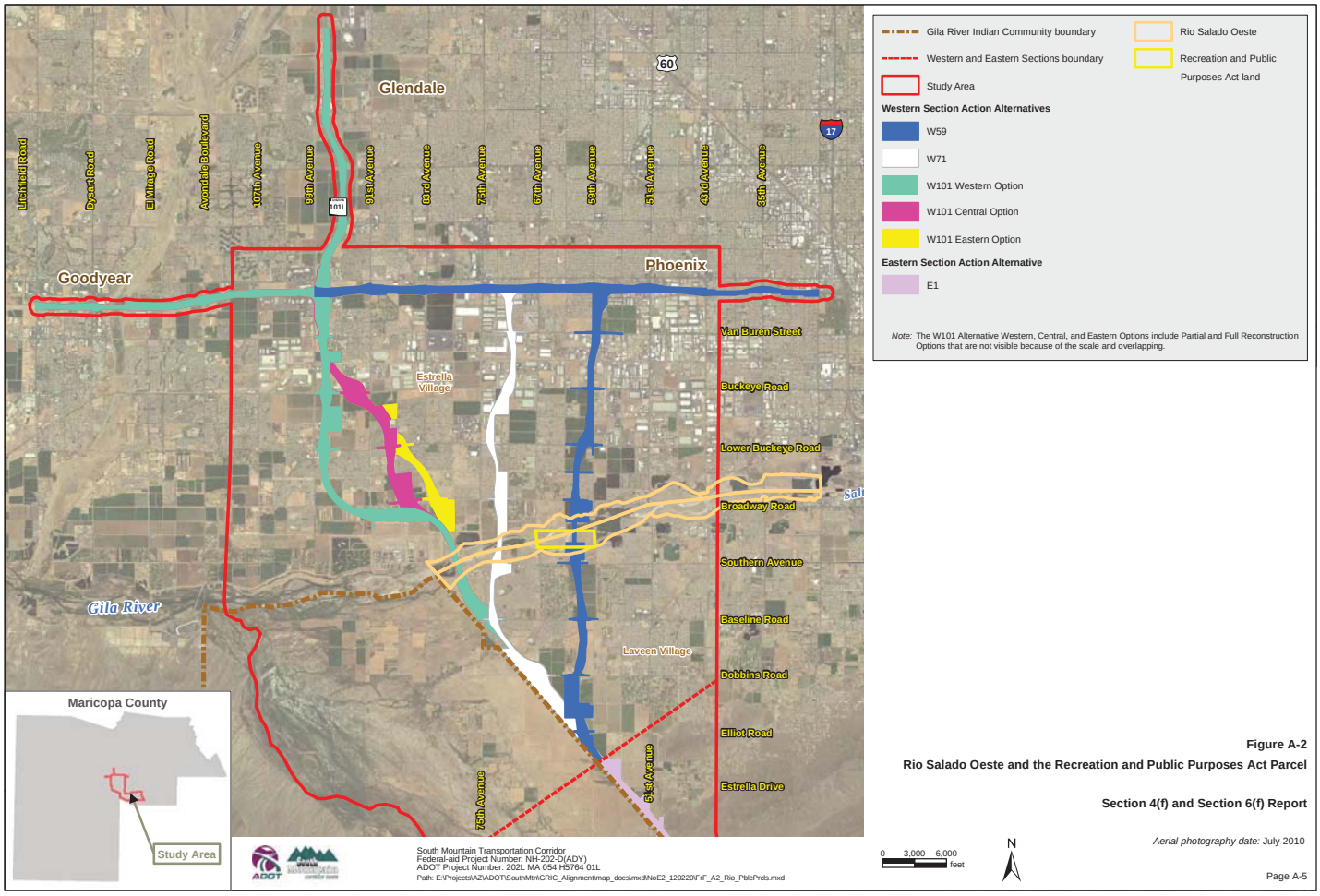

Figure A-2

Rio Salado Oeste and the Recreation and Public Purposes Act Parcel

Section 4(f) and Section 6(f) Report

Aerial photography date: July 2010

The RPPA parcel has not been designated as a wildlife and waterfowl refuge by a federal, state, or local agency and, therefore, is not eligible for Section 4(f) consideration under this criterion (U.S. Fish and Wildlife Service 2005).

The RPPA of 1954, as amended (43 U.S.C. 869, et seq.) authorizes the sale or lease of public lands for recreational or public purposes to state and local governments or qualifying nonprofit organizations. Examples of typical uses under the RPPA are historic monument sites, campgrounds, schools, fire stations, municipal facilities, landfills, hospitals, and parks (BLM 2004a). Roads, unless within a state park, are not an authorized public purpose under the RPPA (43 U.S.C. Title 23, § 2741.7), therefore, none of the action alternatives and options would be an acceptable use under the RPPA.

Salt River Project 99th Avenue Lateral

Description

The Salt River Project (SRP) 99th Avenue lateral is a segment of open, unlined SRP canal that extends from Lower Buckeye Road for 0.5 mile along the eastern side of 99th Avenue (Figure A-3). The SRP system is recognized as National Register of Historic Places (NRHP)-eligible under Criterion A for its important association with the development of irrigation agriculture in the Salt River Valley. Earthen canals such as the 99th Avenue lateral were once common irrigation features throughout the Salt River Valley, but are becoming increasingly rare as they have been lined and piped underground to accommodate urban development (Brodbeck and Touchin 2005).

Impacts

The W101WPR and W101WFR Options would directly affect the SRP 99th Avenue lateral (Figure A-3).

Section 4(f) Eligibility

The SRP 99th Avenue lateral is eligible for consideration as an historic property. However, the SRP 99th Avenue lateral should not be considered a Section 4(f) property. The SRP 99th Avenue lateral is being converted to an underground pipe in response to urban development. The southern half of the canal is in the process of being piped underground as part of the Pecan Promenade development project on the northeastern corner of 99th Avenue and Lower Buckeye Road. The northern half is slated to be piped underground as part of the City of Phoenix's Estrella District Park (see *Property Number 28 – Estrella District Park Future Park*).

Bonds to fund construction of Estrella District Park passed in March 2006; however, there is currently no information regarding the timing and dispersal of funds. To date, the City of Phoenix has not requested that SRP pipe the northern portion of the 99th Avenue lateral.[*]

[*] personal communication of Byron Sampson, Carter-Burgess, Inc., Unit Leader of Urban Design and Planning, with HDR Engineering, Inc., on September 16, 2005

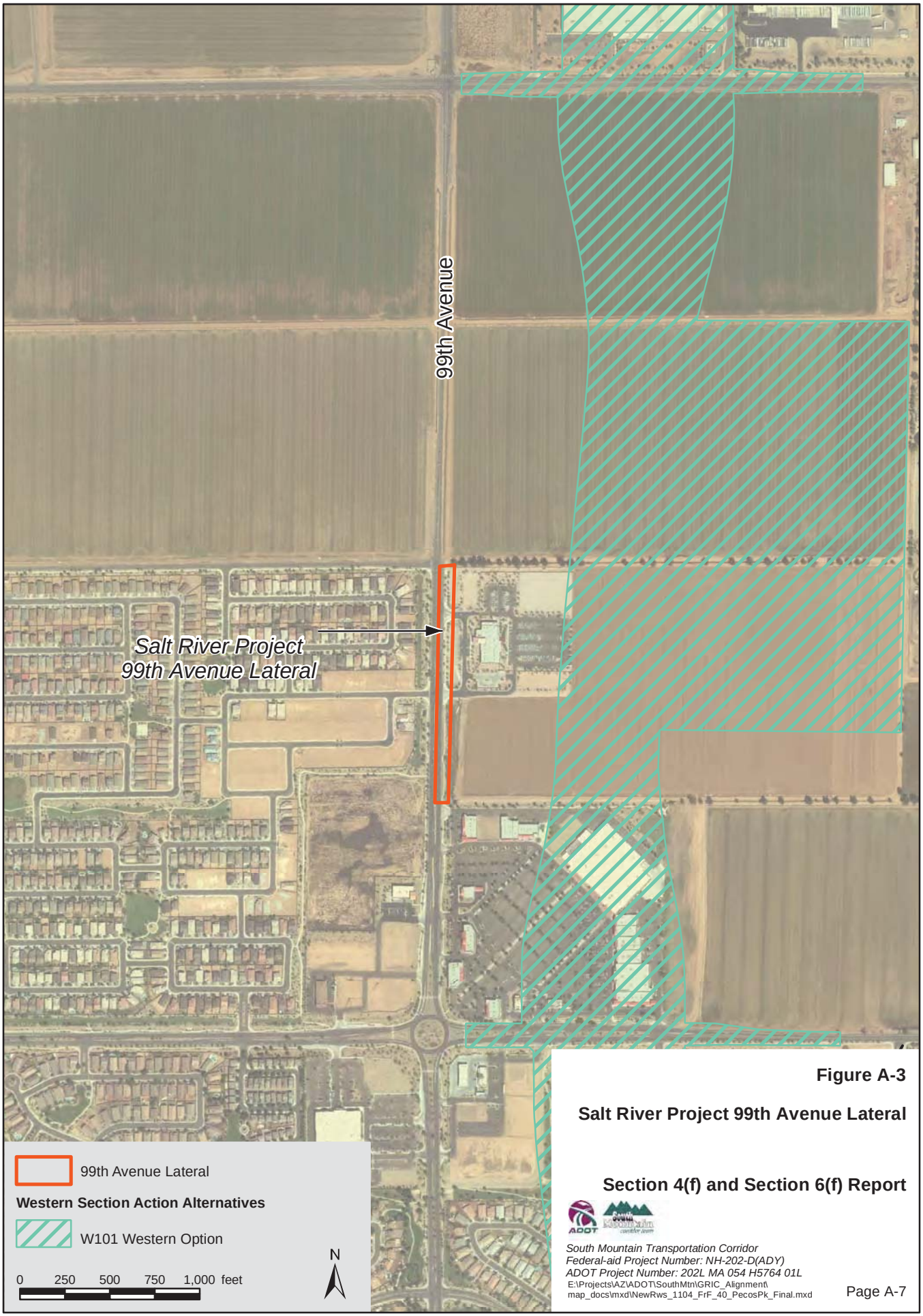

Figure A-3

Salt River Project 99th Avenue Lateral

Section 4(f) and Section 6(f) Report

South Mountain Transportation Corridor
Federal-aid Project Number: NH-202-D(ADY)
ADOT Project Number: 202L MA 054 H5764 01L
E:\Projects\AZ\ADOT\SouthMtn\GRIC_Alignment\map_docs\mxd\NewRws_1104_FrF_40_PecosPk_Final.mxd

SRP and the Bureau of Reclamation are preparing a report for the canal—documenting its history and engineering as a form of mitigation. Upon completion of these projects, the 99th Avenue lateral will no longer be considered a contributing component to the overall eligibility of the SRP irrigation network. As previously discussed, the timing of the piping of the northern portion of the 99th Avenue lateral is dependent on the timing and dispersal of bond funding, which has not been determined.

It is anticipated that the 99th Avenue lateral will not be eligible for Section 4(f) protection for the following reasons: (1) piping is planned as part of Estrella District Park—once piped, the lateral will no longer be NRHP-eligible; and (2) SRP and the Bureau of Reclamation are mitigating the canal impacts.

City of Phoenix Trails System

Description

The 2001 City of Phoenix *General Plan* shows an extensive network of existing and planned trails throughout the city (Figure A-4). According to the *General Plan*, "the trail alternatives and crossing locations are conceptual and must remain flexible to accommodate future development" (City of Phoenix 2005).

Impacts

The Eastern and Western Section action alternatives and options would result in a direct use of several City of Phoenix trails.

Section 4(f) Eligibility

The City of Phoenix trails would be eligible for consideration as recreation areas. However, these trails should not be considered Section 4(f) resources for reasons explained below.

According to Goal 4 in the Circulation Element of the *General Plan*, "Since approximately 40 percent of all trips are less than two miles in length, bicycling and walking can help relieve roadway congestion. Bicycling and walking can be practical for all types of trips, such as to the grocery store, the video rental store and school. These trips can be made either on roads or off roads on separate paths" (City of Phoenix 2005). This statement in the *General Plan* indicates that pedestrian trails maintained by the City of Phoenix are used for transportation and, thus, are not primarily recreational.

The Recreation Element of the *General Plan* further indicates that the City, in cooperation with private developers, is working to provide trails. If trails are built on private land and maintained by developers, the trails would not be subject to Section 4(f) protection.

The City of Phoenix has received Transportation Enhancement Activities funds for development and improvement of its trails. These funds are not available for trails that are solely recreational; therefore, these trails would not be considered Section 4(f) resources.

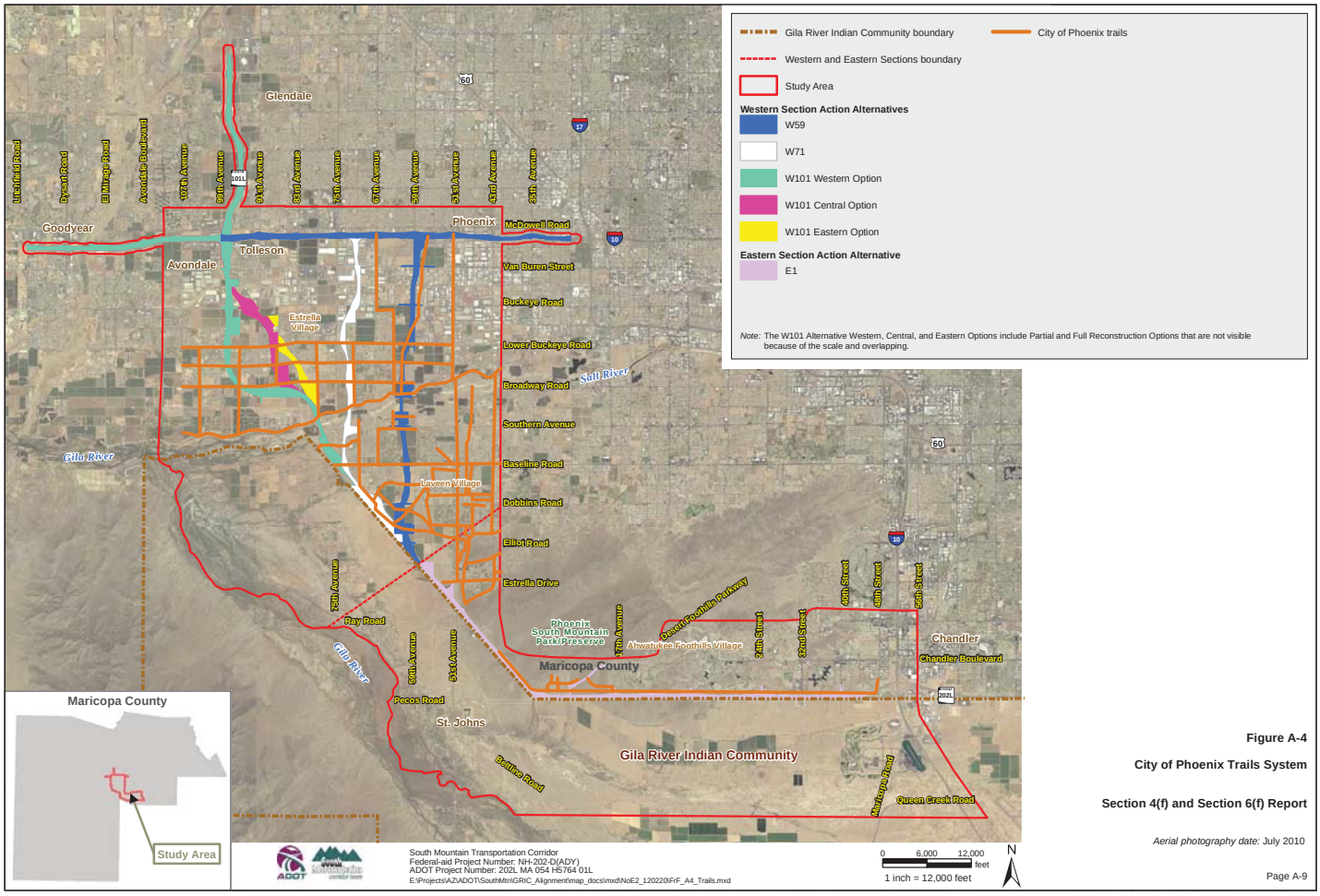

Figure A-4

City of Phoenix Trails System

Section 4(f) and Section 6(f) Report

Aerial photography date: July 2010

Schools Excluded from Section 4(f) Consideration

Public schools whose recreation areas are accessible to the public for walk-on activity are considered Section 4(f) resources. Schools determined not to provide walk-on activity to the public are not provided protection under Section 4(f).

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Appendix B

Bridge and Tunnel Avoidance Alternative Analysis Memorandum

HDR | ONE COMPANY *Many Solutions*℠

DRAFT Memo

To:	South Mountain Project Team
From:	Ben Spargo Amy Edwards
Project:	South Mountain EIS & L/DCR
CC:	Project File
Date:	May 12, 2006 **Updated: December 1, 2006**
Job No:	

RE: Phoenix South Mountain Park/Preserve and Traditional Cultural Property Avoidance (Ridge Bridge – Tunnel) Analysis

INTRODUCTION

The E1 Alternative would connect I-10 (Maricopa Freeway) and SR-202L (Santan Freeway) to any of the alternatives being considered in the Western Section of the Study Area. To make this connection, a portion of the E1 Alternative travels through Phoenix South Mountain Park/Preserve (SMPP) as well as a Traditional Cultural Property (TCP), both resources afforded protection under Section 4(f) of the U.S. Department of Transportation Act. An aerial location map of the E1 Alternative and SMPP is presented in Figure 1. Due to the sensitive nature of the TCP, its boundary is not shown; however it does expand beyond the limits of the SMPP. The E1 Alternative is within the SMPP boundary from approximately station 2550+00 to 2580+00 and station 2635+00 to 2645+00 for a total distance of 4000 feet. The three mountain ridges that the E1 Alternative crosses are Main Ridge South, from station 2495+00 to 2515+00, Main Ridge North, from Station 2545+00 to 2560+00, and Alta Ridge from station 2630+00 to 2648+00. For the analysis, it is assumed these ridges are afforded protection under Section 4(f).

At this point in the study process, there are no feasible and prudent alternatives to avoiding direct impacts to SMPP or the TCP. Consequently, the Study Team has looked at ways to minimize harm to the resource.

This technical memorandum presents the potential options for crossing Main Ridge North and Main Ridge South while minimizing impacts on the Section 4(f) resources of SMPP and TCP. Included in the discussion are the adverse and beneficial impacts of each option.

DESIGN CRITERIA

The overall design criteria used in the development of the options for passing through the ridges is the ADOT Roadway Design Guidelines. Portions of the guidelines are repeated here as they pertain to the specifics of the designs. Additionally, the tunnel design criteria were based on comparable tunnels and coordination with Hatch Mott McDonald, a leading tunnel design and construction firm.

Open Cut

The width of the open cut option has been minimized to reduce right-of-way required and ultimately impacts. This option includes a rock fall containment ditch and cut slopes of ¾:1. Flatter cut slopes and benching could be considered, but would increase the amount of right-of-way necessary and ultimately impacts. The ultimate slopes would depend on the geotechnical constraints encountered during construction.

Tunnel

In evaluating tunnel options, two methods were considered: the boring method and Sequential Excavation Method (SEM)/New Austrian Tunneling Method (NATM).

3200 East Camelback Road
Suite 350
Phoenix, Arizona 85018
Phone (602) 522-7700
Fax (602) 522-7707
www.hdrinc.com

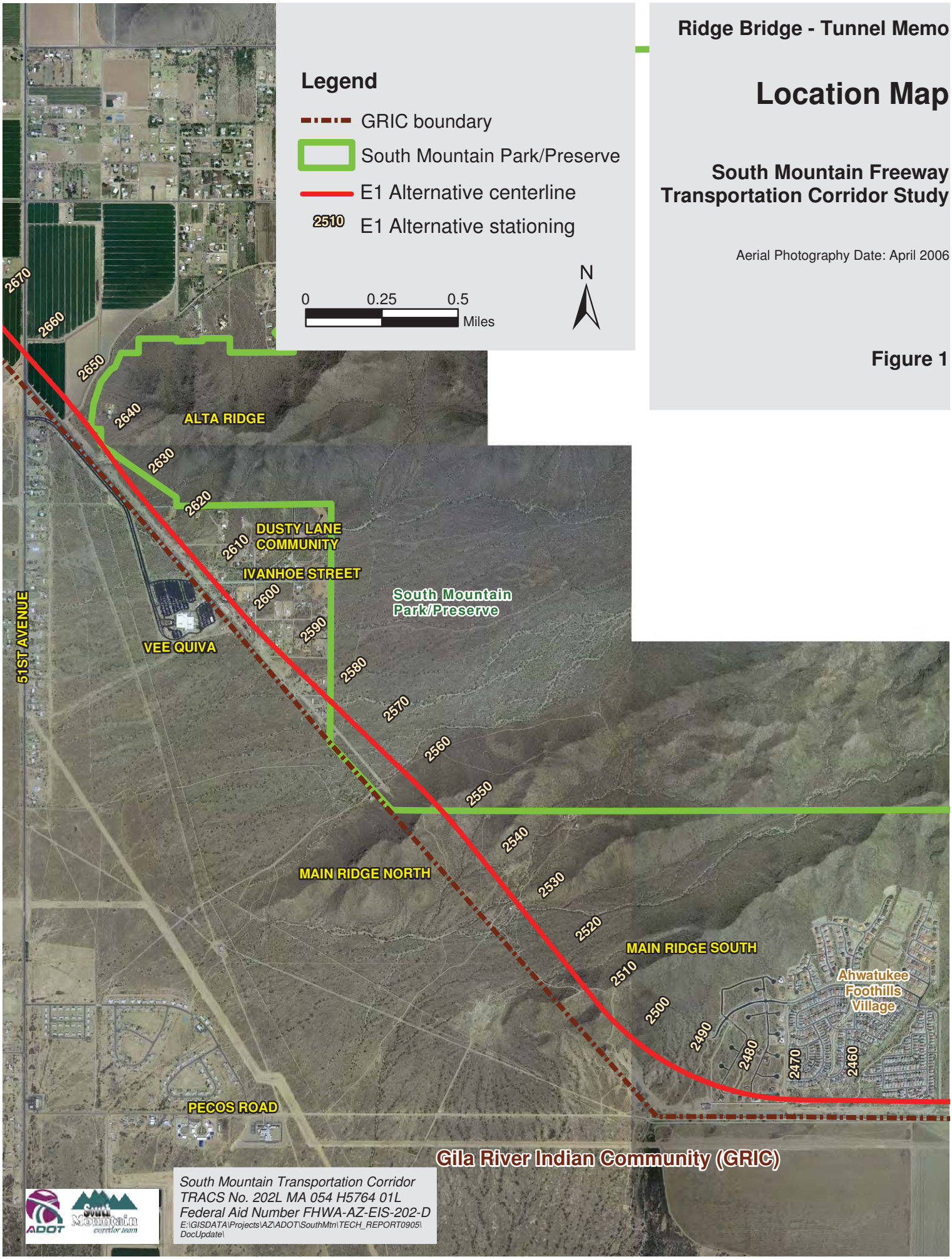
Ridge Bridge - Tunnel Memo

Location Map

South Mountain Freeway Transportation Corridor Study

Aerial Photography Date: April 2006

Figure 1



South Mountain Transportation Corridor
TRACS No. 202L MA 054 H5764 01L
Federal Aid Number FHWA-AZ-EIS-202-D
E:\GISDATA\Projects\AZ\ADOT\SouthMtn\TECH_REPORT0905\DocUpdate

Boring Method

Technical memos discussing the preliminary assessment of feasibility and cost for the boring method are included as an appendix to this document. Some of the major design items are listed below:

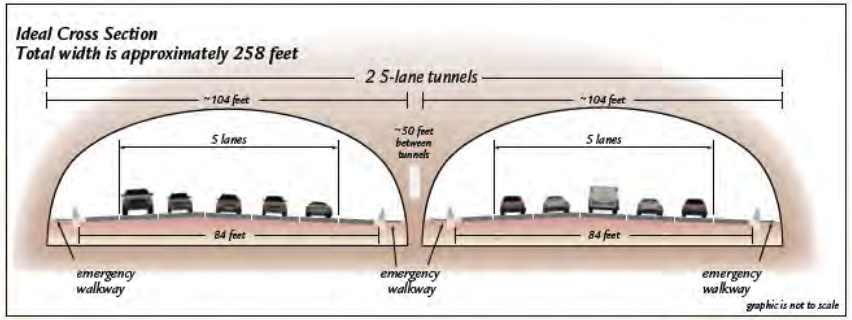
- The tunnel design would include five two-lane bores (each 44 feet wide) in order to accommodate the ultimate lane configuration of four general purpose lanes and one high-occupancy vehicle (HOV) lane in each direction. Two lane bores are a commonly accepted practice in the U.S., although some three lane bores do exist.
- Since each tunnel bore requires a bedrock pillar between itself and another tunnel bore of a width equal to the bore width, the total width of the tunnel section would be approximately 380 feet.
- Each tunnel would provide minimum vertical clearance of 16 feet and a minimum of 40 feet of rock mass above the crown where the bore daylights resulting in a total profile grade depth of 56 feet.
- Other safety issues required for tunnels include traffic control, fire detection systems, ventilation systems, exhaust systems, drainage systems, maintenance crossovers between tunnel bores, fire doors, an emergency response plan, and full-time operational personnel.
- Tunnel scarring could result at the portals as shown in the photo of the US 60 Queen Creek Tunnel. However, without detailed geotechnical information, it is not possible to estimate the extent of the scarring.

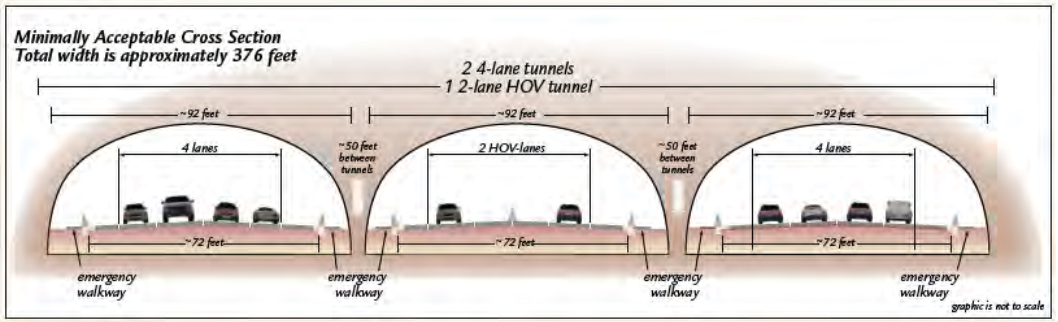
US 60 Queen Creek Tunnel: approximately 50' wide, carries 4-lanes of traffic, scarring to the ridge for the construction of the portal.

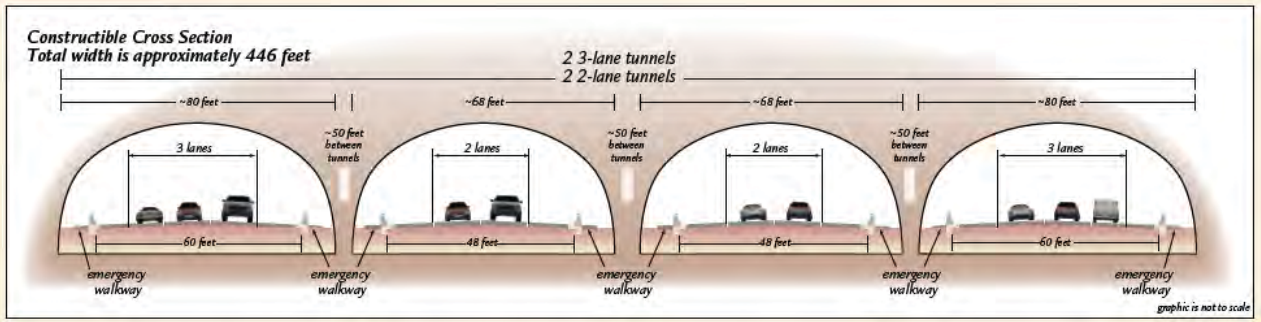
SEM/NATM

- SEM/NATM often is applied to larger tunnels where considerations of practicality and face stability require that staged excavation be performed.
- Preliminary analysis of this approach yielded a significant construction cost savings over the boring approach. The costs included mechanical and electrical requirements, including lighting, fire detection systems, ventilation systems, exhaust systems and other safety features.
- For purposes of preliminary feasibility analysis, assumed tunnel dimensions (accomplished using staged excavation) of width 66 feet and height 34 feet. These tunnel dimensions reflected an assumption of 3 general purpose lanes in a single tunnel. For the ultimate build-out of 10 lanes, this approach would require two 3-lane tunnels and two 2-lane tunnels as shown in Figure 2.
- While larger tunnel excavations may be possible, there are no known examples of larger freeway tunnel excavations within the U.S.

Tunnel Cross Sections







ADOT South Mountain corridor team

Tunnel Cross Sections
Ridge Bridge – Tunnel Memo

Figure 2

Bridge versus Embankment
For the Medium and High Profile options, consideration was given to the economic and engineering feasibility of embankment versus bridge structure. As an alignment profile rises above the existing ground, it requires more embankment material to gain elevation, which results in a wider footprint. Additionally, there comes a point with the cost of the embankment material becomes more expensive than the cost of bridge structures. In coordination with ADOT Valley Project Management and ADOT District Maintenance, it was determined that approximately 40 feet is the height at which the embankment/bridge structure transition would need to occur on this project.

Roadway Grade
The maximum grade based on ADOT Roadway Design Guidelines for a freeway facility is three percent. This constraint will dictate how far in advance of the ridges the freeway must start its incline and decline.

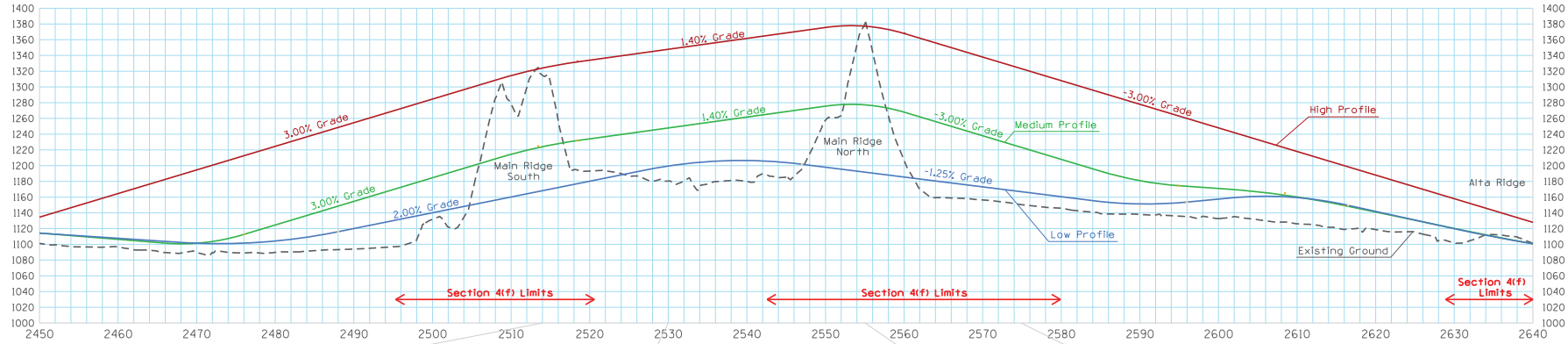
PROFILE OPTIONS
When designing options for passage from one side of the mountain ridges to the other, consideration was given to the following approaches:

- ***Underground Profile*** - Tunneling under the mountain ridges entirely, from the northwestern side of Main Ridge North to the southeastern side of Main Ridge South. For safety and tunnel stability, the top of the tunnel must have 40 feet of soil above it at the portal. As such, at the northwestern side of Main Ridge North and the southeastern side of Main Ridge South, the profile for this option has the top of the tunnel 40 feet below existing ground per the design criteria. The remainder of the profile is developed maintaining the 40 feet of cover and per the design criteria.
- ***Low Profile*** - Low profile is essentially on existing ground except where elevated at specific locations to allow passage of drainage, wildlife crossing, and pedestrian access. The profile for this option was developed using the design criteria.
- ***Medium Profile*** - Elevated to pass through approximately the mid-height of each of the ridge lines. This profile option is essentially on existing ground until it begins to rise to pass through the mid-height of each of the ridges. As the elevation of the roadway above existing ground approaches 40 feet, the roadway transitions from embankment onto bridge structures per the design criteria. The alignment remains on bridge structures following the profile design criteria between the ridges, before beginning its descent on the other side. When the alignment is approximately 40 feet above the existing ground, it transitions from bridge structures to embankment and continues down to existing ground per the design criteria.
- ***High Profile*** - Elevated to pass over the top of each of the ridges. This profile option begins on existing ground and rises to pass over the top of both ridge lines per the design criteria. As the elevation of the alignment becomes approximately 40 feet above the existing ground, it transitions from embankment to bridge structures. It remains on bridge structures until it passes over both ridges and transitions back down toward existing ground. When it is approximately 40 feet above existing ground, it transitions from bridge structures to embankment and continues on down to existing ground per the design criteria.

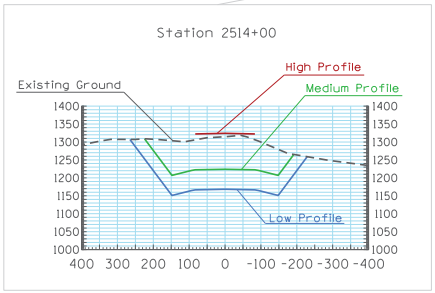
Figure 3 shows the profiles for the Low, Medium and High Profile options. Figure 4 shows the profiles for the Underground, Low and Medium Profile options.

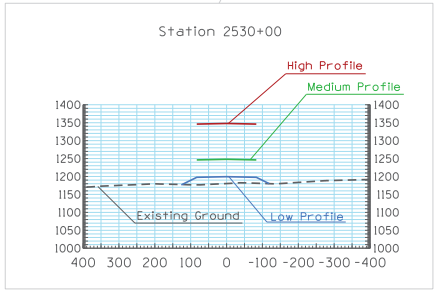
DESIGN OPTIONS
For the Low and Medium Profile options, as the alignment passes through the ridge lines, it can either pass through in an open cut section or tunnel section. The open cut or tunnel sections are considered design options. They are based on the design criteria previously discussed. Concept drawings of each design option are presented in Figure 5.

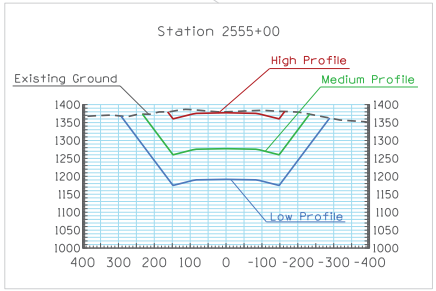
Open Cut Profiles

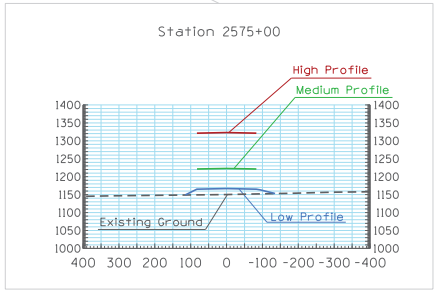


Open Cut Cross-sections





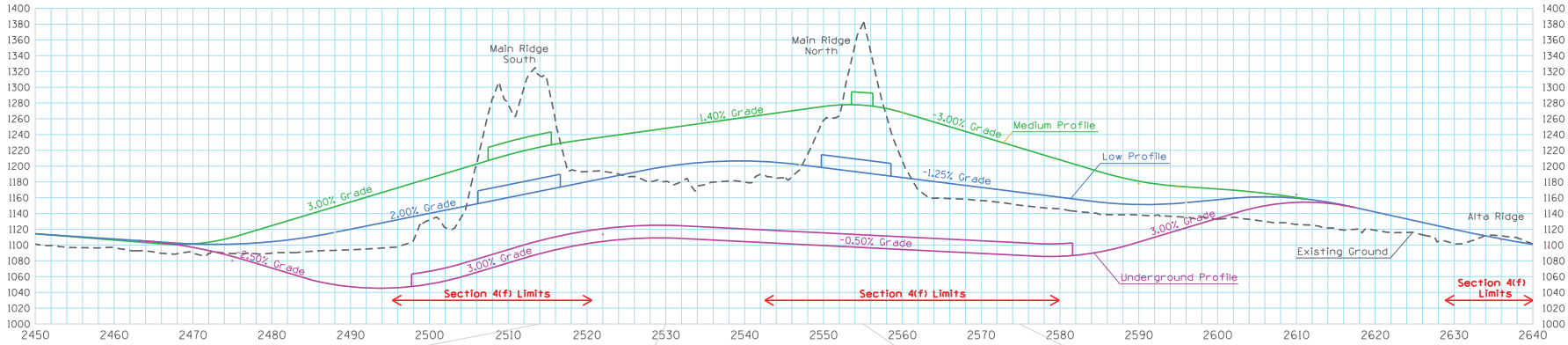




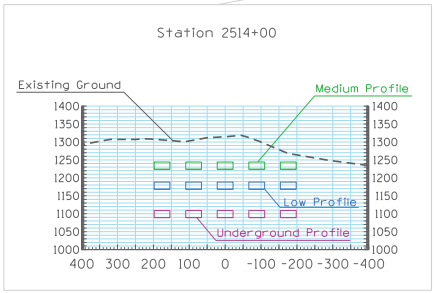
Open Cut Profiles and Cross–sections
Ridge Bridge – Tunnel Memo
E1 Alternative – Station 2450+00 to Station 2640+00

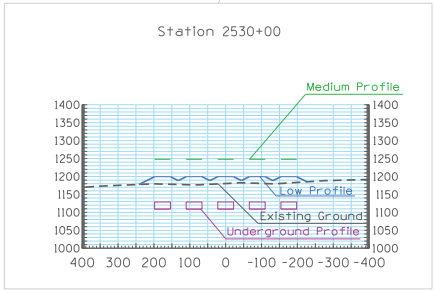
Figure 3

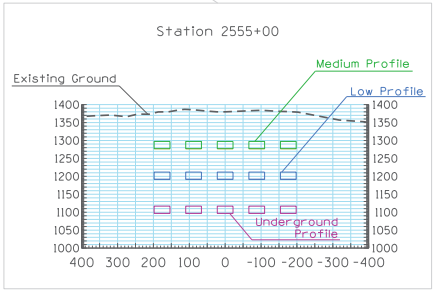
Tunnel Profiles

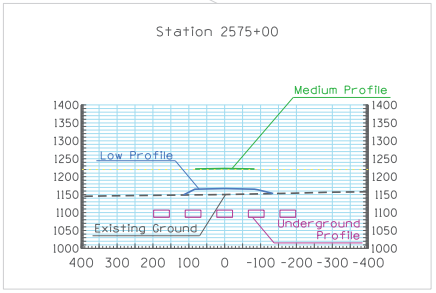


Tunnel Cross-sections





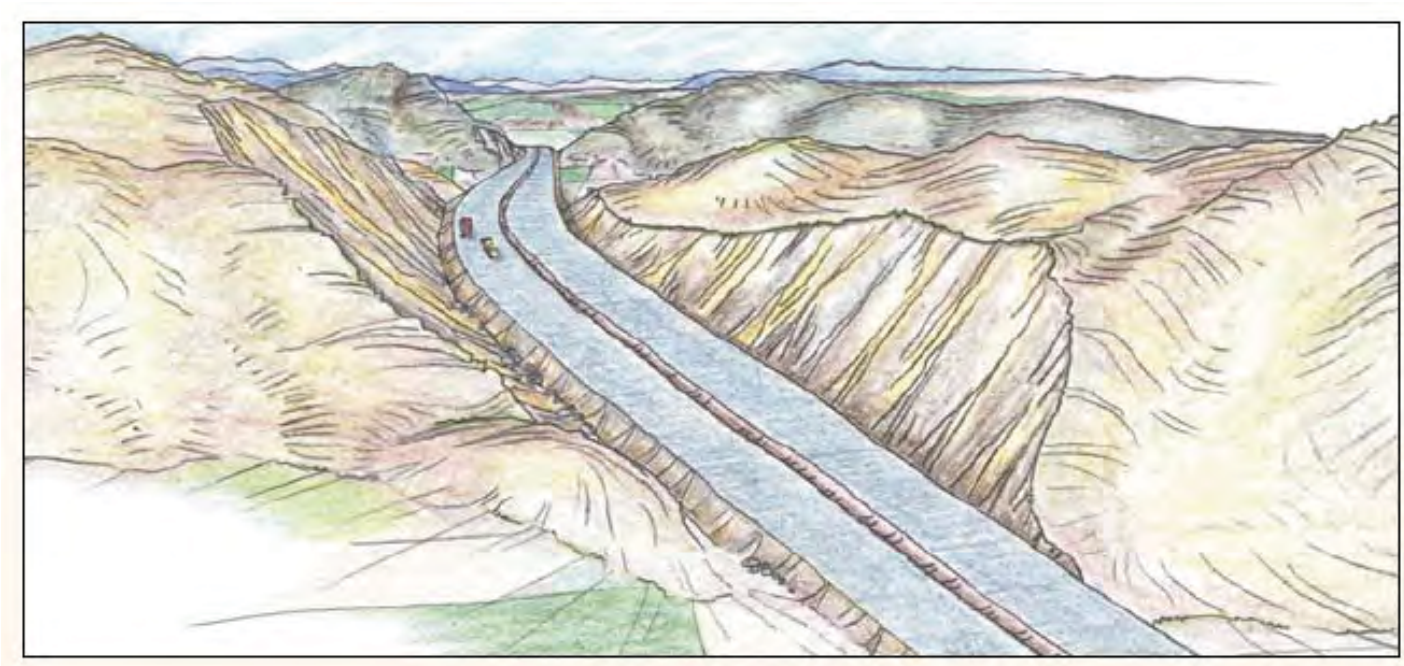




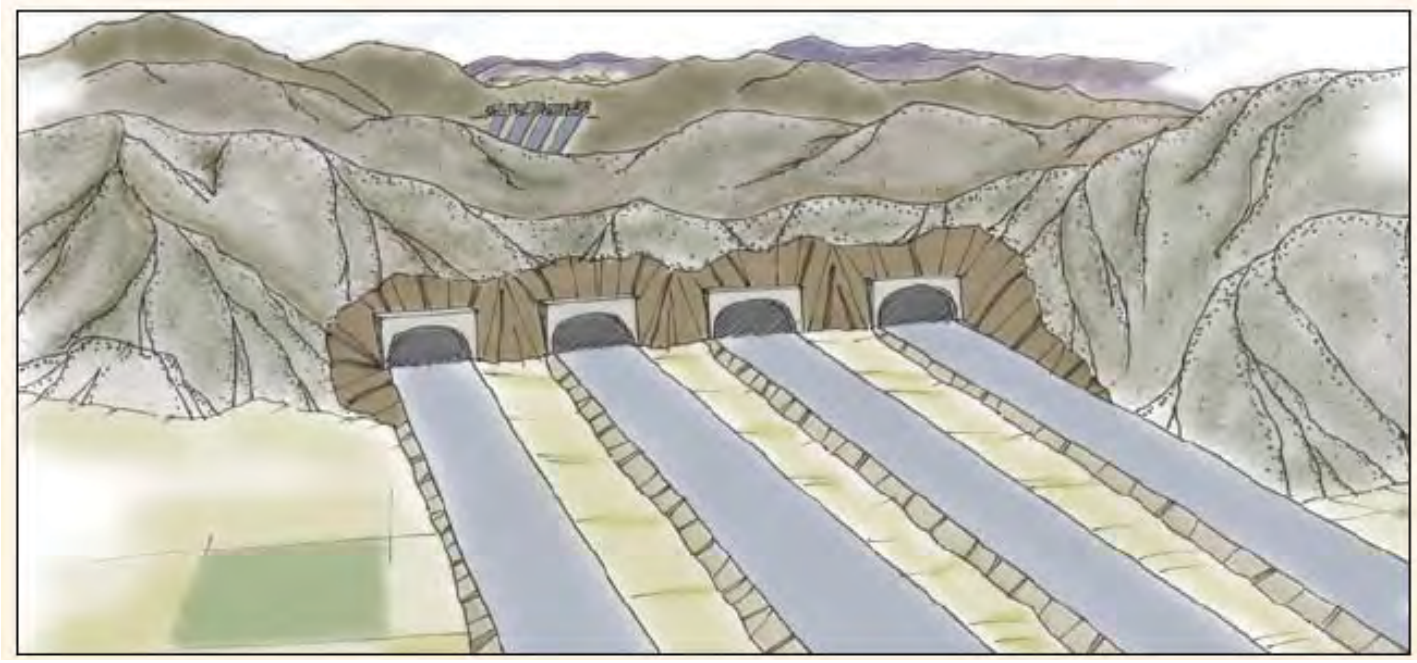
Tunnel Profiles and Cross–sections
Ridge Bridge – Tunnel Memo
E1 Alternative – Station 2450+00 to Station 2640+00

Figure 4

Open Cut Design Option – Artist Sketch



Tunnel Design Option – Artist Sketch



ADOT South Mountain corridor team

Open Cut and Tunnel Artist Sketches
Ridge Bridge – Tunnel Memo

Figure 5

UNDERGROUND PROFILE

This option would tunnel under the mountain ridges entirely, from the northwestern side of Main Ridge North to the southeastern side of Main Ridge South. The profile and specific cross sections are shown in Figure 4. The horizontal location of the option is shown in Figure 6.

Potential Impacts and/or Benefits

Potential affects to habitat, wildlife connectivity, Section 4(f), visual, safety, hazardous material transport and homeland security were investigated.

Habitat

Habitat is maintained within the limits of the tunnels, except in areas of potential ventilation shafts and maintenance facilities.

Wildlife Connectivity

Wildlife connectivity is maintained within the limits of the tunnels, but not at the portal approaches. As the alignment approaches the portals, it is between 55 and 60 feet below existing ground. Within these areas, there is no wildlife connectivity.

Section 4(f)

While this option best reduces potential impacts to the Section 4(f) properties, it does not avoid them entirely. This is due to potential ventilation shafts, maintenance facilities and access roadways. Also, the Community has stated that tunneling under the mountain ridges would not mitigate harm to the TCP's associated with the mountains.

Visual

The Underground Profile would remove the freeway from view in the vicinity of the mountain ridges with the exception of the portals. However, the potential exists for scarring to the ridges to result from construction of the portals. These disturbed areas could have slope treatment applied as well as vegetation to better blend with the surrounding areas. Also, ventilation locations, maintenance facilities, and access roads would be required and could impact the visual setting of the ridges.

Safety

Efforts have been made to analyze different tunnel options in response to requests from the public, elected officials and city staff. The tunnel configurations presented earlier in this document, for both the boring method and SEM/NATM, required multiple tunnels to accommodate the ultimate build-out of 10 lanes. In the case of the boring method, research indicated that reasonable accommodations could be made for 2 lanes in a bore. Larger bores to accommodate more lanes are not a commonly accepted practice within the U.S. For the SEM/NATM method, research indicated that in theory wide excavations are possible, within the U.S., however, the largest excavations were less than 70 feet in width.

Discussions with ADOT and FHWA resulted in concurrence that due to safety concerns for the traveling public, the tunnels must accommodate a minimum of 4 lanes in each tunnel and preferably 5 lanes. With less than 5 lanes of traffic in a tunnel, directional traffic would diverge into separate tunnels, which is a safety concern at freeway speeds. As shown in Figure 2, accommodation of 4 lanes of traffic would require a tunnel width of 92 feet (includes 12 foot lanes, 12 foot shoulders, barriers, and pedestrian walkways on both sides) and 5 lanes would require a tunnel width of 104 feet (same as 4 lane tunnel with the addition of a 12 foot HOV lane).

Underground Profile Tunnel Option

South Mountain Freeway Transportation Corridor Study

Aerial Photography Date: April 2006

Figure 6

South Mountain Transportation Corridor
TRACS No. 202L MA 054 H5764 01L
Federal Aid Number FHWA-AZ-EIS-202-D
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Hazardous Material Transport
If a tunnel is selected, this portion of the South Mountain Freeway would prohibit use by vehicles carrying hazardous materials. These vehicles would need to use alternate routes, either I-17 through downtown Phoenix or surface streets on the Gila River Indian Community or within the City of Phoenix.

Homeland Security
Tunnels on a metropolitan freeway system are being recognized by the Department of Homeland Security as potential terrorist targets.

Detour Routing
In the case of tunnel maintenance, the facility could be closed for a weekend or more. Consideration would need to be given for maintenance of traffic.

Construction Cost Estimate
Following are construction cost estimates for the two methods of tunneling considered in the Underground Profile option, boring (Table 1) and SEM/NATM (Table 2). With these alternatives, additional drainage is needed to accommodate the flows interrupted by the depressed portal approaches and the below ground nature of the tunnel. This drainage is assumed to be accommodated by a pump station at each portal.

Table 1: Construction Cost for Underground Profile – Boring Method of Tunneling
Station 2450+00 to Station 2640+00

ITEM	MEASURE	QUANTITY	UNIT COST	TOTAL
Embankment	Cubic yard	690,000	-	-
Excavation	Cubic yard	1,650,000	$7	$11,550,000
Borrow	Cubic yard	(960,000)	$5	-
Bridge	Square foot	0	$95	0
Pavement	Square yard	350,000	$40	$14,000,000
Tunnel	Linear Foot	8,400	$300,000	$2,520,000,000
Pump Stations	Each	2	$5,000,000	$10,000,000
TOTAL				**$2,555,550,000**

Table 2: Construction Cost for Underground Profile – SEM/NATM Tunneling
Station 2450+00 to Station 2640+00

ITEM	MEASURE	QUANTITY	UNIT COST	TOTAL
Embankment	Cubic yard	690,000	-	-
Excavation	Cubic yard	1,650,000	$7	$11,550,000
Borrow	Cubic yard	(960,000)	$5	-
Bridge	Square foot	0	$95	0
Pavement	Square yard	350,000	$40	$14,000,000
Tunnel	Linear Foot	8,400	$132,000	$1,102,200,000
Pump Stations	Each	2	$5,000,000	$10,000,000
TOTAL				**$1,144,350,000**

With this profile option, there are additional long term operation and maintenance costs not experienced by non-tunnel options. These costs include:

- $1-1.5 million per year for maintenance of the tunnel facilities
- $0.5 million per year for rehab and repair of mechanical and electrical systems associated with the tunnel facilities

LOW PROFILE

This option maintains a low profile, essentially on existing ground except where elevated at specific locations to allow passage of drainage, wildlife crossing, and pedestrian access. The profile and specific cross sections are shown in Figure 3 (Open cut) and Figure 4 (Tunnel). The horizontal location of the option is shown in Figure 7.

Potential Impacts and/or Benefits

Potential affects to habitat, wildlife connectivity, Section 4(f), visual, safety, hazardous materials transport and homeland security was investigated. The results are indicated in the following and are defined by both the open cut and tunnel options for Low Profile.

Habitat

Open Cut – Habitat within the right-of-way footprint would be gone as a result of construction of the roadway embankment or removal of the ridges in open cut.

Tunnel - Habitat is maintained within the limits of the tunnels, except in areas of potential ventilation shafts and maintenance facilities.

Wildlife Connectivity

Open Cut – Wildlife connectivity is maintained in up to six areas through the use of bridge or large box culvert structures. In areas away from these facilities, wildlife connectivity is not maintained.

Tunnel - Wildlife connectivity is maintained within the limits of the tunnels.

Section 4(f)

Open Cut – The resources afforded protection under Section 4(f) are directly affected by construction of the roadway embankment or open cut sections.

Tunnel – The resources afforded protection under Section 4(f) are directly affected by construction of the roadway embankment sections, as well as tunnel support facilities such as ventilation shafts, maintenance facilities and access roads. Also, the Community has stated that tunneling under the mountain ridges would not mitigate harm to the TCP's associated with the mountains.

Visual

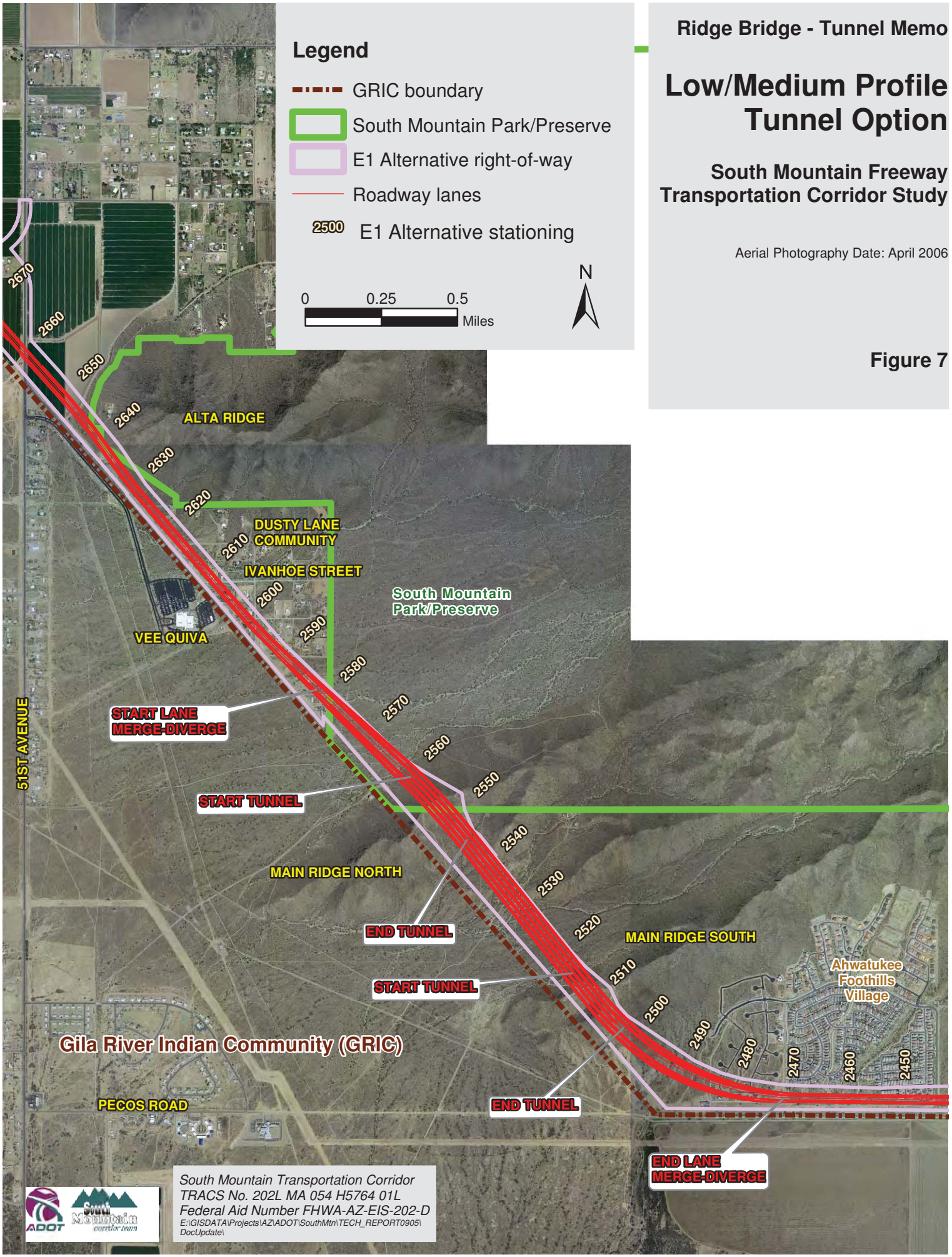
Open Cut – Cut slopes could have slope treatment applied to better blend with the surrounding area. Vegetation would be used on all exposed surfaces. However, the open cut sections would disrupt the natural appearance of the existing ridges.

Tunnel – Vegetation would be used on all exposed roadway embankment surfaces. Potential scarring could result to the ridge faces as a result of portal construction. This scarring could have slope treatment applied to better blend with the surrounding area. Also, ventilation locations, maintenance facilities, and access roads would be required and could impact the visual setting of the ridges.

Safety

Open Cut – Rock fall containment facilities are provided for in the roadway cross section.

Tunnel - Efforts have been made to analyze different tunnel options in response to requests from the public, elected officials and city staff. The tunnel configurations presented earlier in this document, for both the boring method and SEM/NATM, required multiple tunnels to accommodate the ultimate build-out of 10 lanes. In the case of the boring method, research indicated that reasonable accommodations could be made for 2 lanes in a bore. Larger bores to accommodate more lanes are not a commonly accepted practice within the U.S. For the SEM/NATM method, research indicated



Ridge Bridge - Tunnel Memo

Low/Medium Profile Tunnel Option

South Mountain Freeway Transportation Corridor Study

Aerial Photography Date: April 2006

Figure 7

that in theory wide excavations are possible, within the U.S., however, the largest excavations were less than 70 feet in width.

Discussions with ADOT and FHWA resulted in concurrence that due to safety concerns for the traveling public, the tunnels must accommodate a minimum of 4 lanes in each tunnel and preferably 5 lanes. With less than 5 lanes of traffic in a tunnel, directional traffic would diverge into separate tunnels, which is a safety concern at freeway speeds. As shown in Figure 2, accommodation of 4 lanes of traffic would require a tunnel width of 92 feet (includes 12 foot lanes, 12 foot shoulders, barriers, and pedestrian walkways on both sides) and 5 lanes would require a tunnel width of 104 feet (same as 4 lane tunnel with the addition of a 12 foot HOV lane).

Hazardous Materials Transport
Open Cut – There would be no restrictions on the transport of hazardous materials with the Open Cut option.

Tunnel – This portion of the South Mountain Freeway would prohibit use by vehicles carrying hazardous materials. These vehicles would need to use alternate routes, either I-17 through downtown Phoenix or surface streets on the Gila River Indian Community or within the City of Phoenix.

Homeland Security
Open Cut –There is no abnormally high risk to homeland security with the Open Cut option.

Tunnel - Tunnels on a metropolitan freeway system are being recognized by the Department of Homeland Security as potential terrorist targets.

Detour Routing
Tunnel - In the case of tunnel maintenance, the facility could be closed for a weekend or more. Consideration would need to be given for maintenance of traffic.

Construction Cost Estimate
Following are construction cost estimates for the open cut option (Table 3) and two methods of tunneling considered in the Low Profile option, boring (Table 4) and SEM/NATM (Table 5).

Table 3: Construction Cost for Low Profile – Open Cut
Station 2450+00 to Station 2640+00

ITEM	MEASURE	QUANTITY	UNIT COST	TOTAL
Embankment	Cubic yard	2,030,000	-	-
Excavation	Cubic yard	4,110,000	$7	$28,770,000
Borrow	Cubic yard	(2,080,000)	$5	-
Bridge	Square foot	0	$95	0
Pavement	Square yard	350,000	$40	$14,000,000
Tunnel	Linear Foot	0	$300,000	0
TOTAL				**$42,770,000**

Table 4: Construction Cost for Low Profile – Boring Method of Tunneling
Station 2450+00 to Station 2640+00

ITEM	MEASURE	QUANTITY	UNIT COST	TOTAL
Embankment	Cubic yard	2,030,000	-	-
Excavation	Cubic yard	0	$7	-
Borrow	Cubic yard	2,030,000	$5	$10,150,000
Bridge	Square foot	0	$95	0
Pavement	Square yard	350,000	$40	$14,000,000
Tunnel	Linear Foot	1,930	$300,000	$579,000,000
TOTAL				**$603,150,000**

Table 5: Construction Cost for Low Profile – SEM/NATM Tunneling
Station 2450+00 to Station 2640+00

ITEM	MEASURE	QUANTITY	UNIT COST	TOTAL
Embankment	Cubic yard	2,030,000	-	-
Excavation	Cubic yard	0	$7	-
Borrow	Cubic yard	2,030,000	$5	$10,150,000
Bridge	Square foot	0	$95	0
Pavement	Square yard	350,000	$40	$14,000,000
Tunnel	Linear Foot	1,930	$132,000	$254,760,000
TOTAL				**$278,910,000**

With the tunnel options, there are additional long term operation and maintenance costs not experienced by the non-tunnel option. These costs include:

- $1-1.5 million per year for maintenance of the tunnel facilities
- $0.5 million per year for rehab and repair of mechanical and electrical systems associated with the tunnel facilities

MEDIUM PROFILE

This option is elevated to pass through approximately the mid-height of each of the ridge lines. The profile and specific cross sections are shown in Figure 3 (Open cut) and Figure 4 (Tunnel). The horizontal location of the option is shown in Figure 7. The limits of the bridges necessary for this option are shown in Figure 8.

Potential Impacts and/or Benefits

Potential affects to habitat, wildlife connectivity, Section 4(f), visual, safety, hazardous materials transport and homeland security was investigated. The results are indicated in the following and are defined by both the open cut and tunnel options for Medium Profile.

Habitat

Open Cut – Habitat within the right-of-way footprint would be gone as a result of construction of the roadway embankment or removal of the ridges in open cut. However, post construction, habitat would return to the areas under the bridges.

Tunnel – Habitat within the right-of-way footprint for the portion of the alignment on embankment would be lost. Habitat is maintained within the limits of the tunnels, except in areas of potential ventilation shafts and maintenance facilities. Post construction, habitat would return to the areas under the bridges.

Wildlife Connectivity

Open Cut – Wildlife connectivity is maintained in the areas where bridge structures are used to approach the ridge crossings.

Tunnel - Wildlife connectivity is maintained within the limits of the tunnels and the bridge structures used to approach the portals.

Section 4(f)

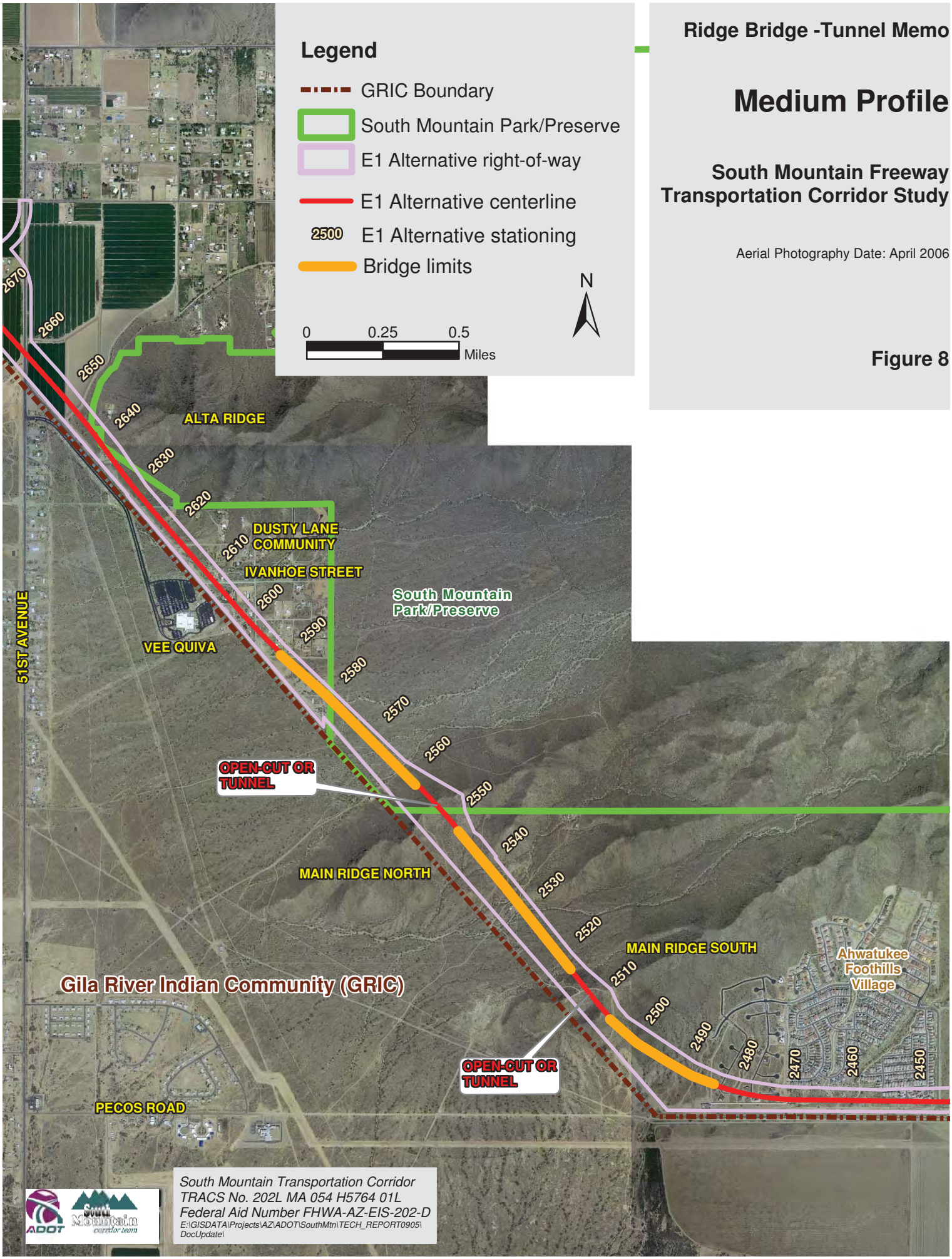
Open Cut – The resources afforded protection under Section 4(f) are directly affected by construction of the roadway embankment or open cut sections. There would also be impacts from bridge pier locations.

Tunnel – The resources afforded protection under Section 4(f) are directly affected by construction of the roadway embankment sections and bridge piers, as well as tunnel support facilities such as ventilation shafts, maintenance facilities and access roads.

Visual

Open Cut – Cut slopes could have slope treatment applied to better blend with the surrounding area. Vegetation would be used on all exposed surfaces. However, the open cut sections would disrupt the natural appearance of the existing ridges. As the alignments passed out of the ridges in both the northwest and southeast, the freeway would be elevated approximately 20 to 40 feet above existing ground, fully visible to the residences in the Dusty Lane community, Ahwatukee Foothills Village, and Gila River Indian Community.

Tunnel – Vegetation would be used on all exposed roadway embankment surfaces. Potential scarring could result to the ridge faces as a result of portal construction. This scarring could have slope treatment applied to better blend with the surrounding area. As the alignments passed out of the ridges in both the northwest and southeast, the freeway would be elevated approximately 20 to 40 feet above existing ground, fully visible to the residences in the Dusty Lane community, Ahwatukee Foothills Village, and Gila River Indian Community.



Ridge Bridge -Tunnel Memo

Medium Profile

South Mountain Freeway Transportation Corridor Study

Aerial Photography Date: April 2006

Figure 8

South Mountain Transportation Corridor
TRACS No. 202L MA 054 H5764 01L
Federal Aid Number FHWA-AZ-EIS-202-D
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Safety
Open Cut – Rock fall containment facilities are provided for in the roadway cross section.

Tunnel - Efforts have been made to analyze different tunnel options in response to requests from the public, elected officials and city staff. The tunnel configurations presented earlier in this document, for both the boring method and SEM/NATM, required multiple tunnels to accommodate the ultimate build-out of 10 lanes. In the case of the boring method, research indicated that reasonable accommodations could be made for 2 lanes in a bore. Larger bores to accommodate more lanes are not a commonly accepted practice within the U.S. For the SEM/NATM method, research indicated that in theory wide excavations are possible, within the U.S., however, the largest excavations were less than 70 feet in width.

Discussions with ADOT and FHWA resulted in concurrence that due to safety concerns for the traveling public, the tunnels must accommodate a minimum of 4 lanes in each tunnel and preferably 5 lanes. With less than 5 lanes of traffic in a tunnel, directional traffic would diverge into separate tunnels which is a safety concern at freeway speeds. As shown in Figure 2, accommodation of 4 lanes of traffic would require a tunnel width of 92 feet (includes 12 foot lanes, 12 foot shoulders, barriers, and pedestrian walkways on both sides) and 5 lanes would require a tunnel width of 104 feet (same as 4 lane tunnel with the addition of a 12 foot HOV lane).

Hazardous Materials Transport
Open Cut – There would be no restrictions on the transport of hazardous materials with the Open Cut option.

Tunnel – This portion of the South Mountain Freeway would prohibit use by vehicles carrying hazardous materials. These vehicles would need to use alternate routes, either I-17 through downtown Phoenix or surface streets on the Gila River Indian Community or within the City of Phoenix.

Homeland Security
Open Cut –There is no abnormally high risk to homeland security with the Open Cut option.

Tunnel - Tunnels on a metropolitan freeway system are being recognized by the Department of Homeland Security as potential terrorist targets.

Detour Routing
Tunnel - In the case of tunnel maintenance, the facility could be closed for a weekend or more. Consideration would need to be given for maintenance of traffic.

Construction Cost Estimate
Following are construction cost estimates for the open cut option (Table 6) and two methods of tunneling considered in the Medium Profile option, boring (Table 7) and SEM/NATM (Table 8).

Table 6: Construction Cost for Medium Profile – Open Cut
Station 2450+00 to Station 2640+00

ITEM	MEASURE	QUANTITY	UNIT COST	TOTAL
Embankment	Cubic yard	1,450,000	-	-
Excavation	Cubic yard	1,070,000	$7	$7,490,000
Borrow	Cubic yard	380,000	$5	$1,900,000
Bridge	Square foot	1,394,400	$95	$132,468,000
Pavement	Square yard	200,000	$40	$8,000,000
Tunnel	Linear Foot	0	$300,000	0
TOTAL				**$149,858,000**

Table 7: Construction Cost for Medium Profile – Boring Method of Tunneling
Station 2450+00 to Station 2640+00

ITEM	MEASURE	QUANTITY	UNIT COST	TOTAL
Embankment	Cubic yard	1,450,000	-	-
Excavation	Cubic yard	0	$7	0
Borrow	Cubic yard	1,450,000	$5	$7,250,000
Bridge	Square foot	1,394,400	$95	$132,468,000
Pavement	Square yard	200,000	$40	$8,000,000
Tunnel	Linear Foot	1,070	$300,000	$321,000,000
TOTAL				**$468,718,000**

Table 8: Construction Cost for Medium Profile – SEM/NATM Tunneling
Station 2450+00 to Station 2640+00

ITEM	MEASURE	QUANTITY	UNIT COST	TOTAL
Embankment	Cubic yard	1,450,000	-	-
Excavation	Cubic yard	0	$7	0
Borrow	Cubic yard	1,450,000	$5	$7,250,000
Bridge	Square foot	1,394,400	$95	$132,468,000
Pavement	Square yard	200,000	$40	$8,000,000
Tunnel	Linear Foot	1,070	$132,000	$141,240,000
TOTAL				**$288,958,000**

With this tunnel options, there are additional long term operation and maintenance costs not experienced by the non-tunnel option. These costs include:

- $1-1.5 million per year for maintenance of the tunnel facilities
- $0.5 million per year for rehab and repair of mechanical and electrical systems associated with the tunnel facilities

HIGH PROFILE

This option is elevated to pass over the top of each of the ridges. The profile and specific cross sections are shown in Figure 3. The horizontal location of the option is shown in Figure 9.

Potential Impacts and/or Benefits

Potential affects to habitat, wildlife connectivity, Section 4(f), visual, safety, hazardous materials transport and homeland security was investigated. The results are indicated in the following and are defined by both the open cut and tunnel options for High Profile.

Habitat

Habitat within the right-of-way footprint would be gone as a result of construction of the roadway embankment. However, post construction, habitat would return to the areas under the bridges.

Wildlife Connectivity

Wildlife connectivity is maintained in the areas where bridge structures are used.

Section 4(f)

The resources afforded protection under Section 4(f) are directly affected by construction of the roadway embankment and bridge piers.

Visual

Vegetation would be used on all exposed surfaces. As the alignments passed over the ridges in both the northwest and southeast, the freeway would be elevated approximately 150 feet above existing ground, fully visible to the residences in the Dusty Lane community, Ahwatukee Foothills Village, and Gila River Indian Community. The profile would be elevated above existing ground from approximately 51st Avenue to 25th Avenue.

Safety

This profile results in bridge structures approximately 5 miles long. This increases the complexity of incident management.

Hazardous Materials Transport

Consideration would be need to be given to transport of hazardous materials across the 5 mile long bridges, given that topography of the area would have spills flowing immediately onto the Gila River Indian Community, unless a drainage containment system is used.

Homeland Security

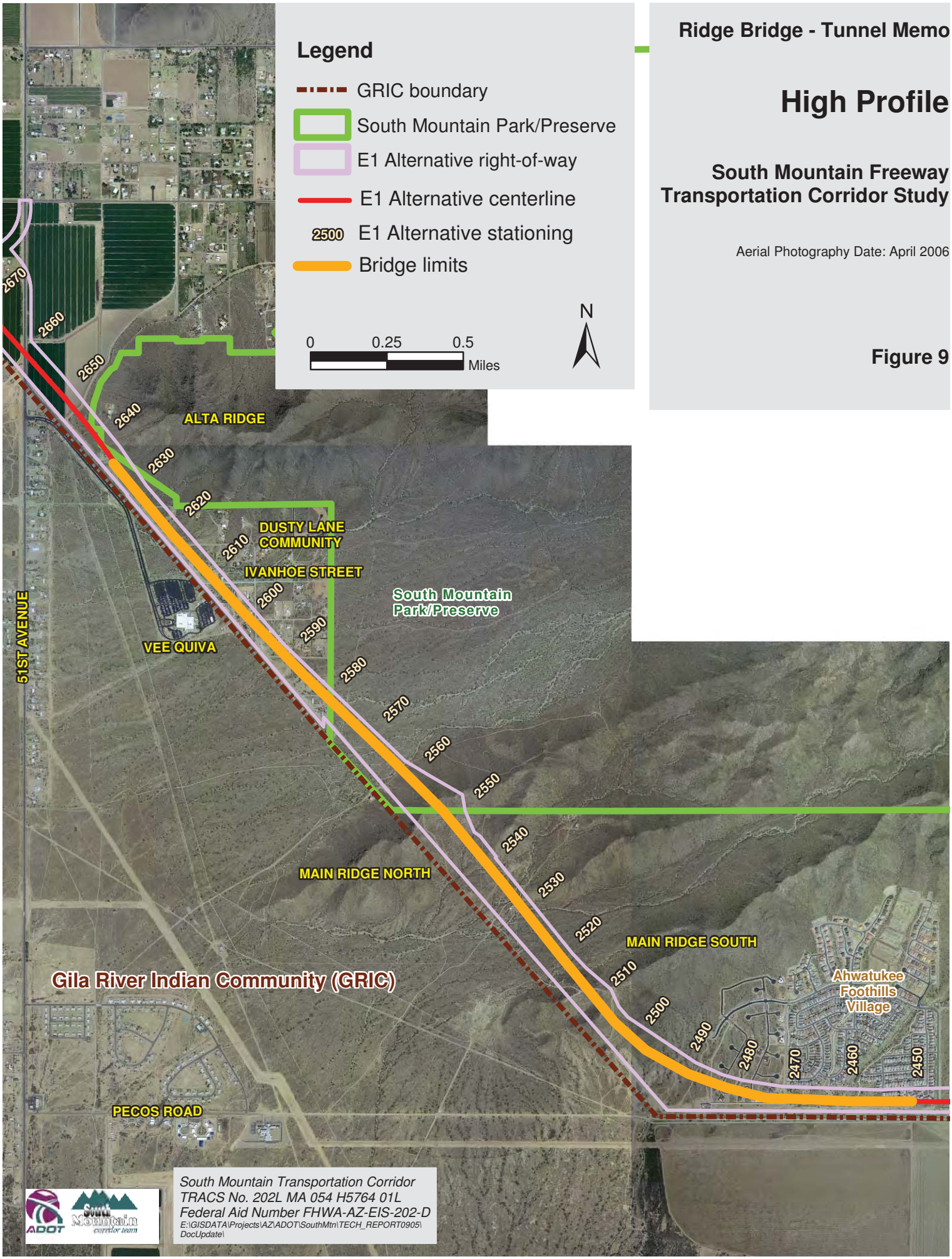
The potential exists that bridges of this length on a regional freeway system could be terrorist targets.

Construction Cost Estimate

Following is a construction cost estimates for the High Profile option (Table 9).

Table 9: Construction Cost for High Profile
Station 2450+00 to Station 2640+00

ITEM	MEASURE	QUANTITY	UNIT COST	TOTAL
Embankment	Cubic yard	3,260,000	-	-
Excavation	Cubic yard	4,000	$7	$28,000
Borrow	Cubic yard	3,256,000	$5	$16,280,000
Bridge	Square foot	3,071,000	$95	$291,745,000
Pavement	Square yard	10,000	$40	$400,000
TOTAL				**$308,453,000**


Legend
GRIC boundary
South Mountain Park/Preserve
E1 Alternative right-of-way
E1 Alternative centerline
2500 E1 Alternative stationing
Bridge limits
0 0.25 0.5 Miles
N
Ridge Bridge - Tunnel Memo
High Profile
South Mountain Freeway
Transportation Corridor Study
Aerial Photography Date: April 2006
Figure 9
2670
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2470
2460
2450
ALTA RIDGE
DUSTY LANE COMMUNITY
IVANHOE STREET
VEE QUIVA
51ST AVENUE
South Mountain Park/Preserve
MAIN RIDGE NORTH
MAIN RIDGE SOUTH
Gila River Indian Community (GRIC)
Ahwatukee Foothills Village
PECOS ROAD
South Mountain Transportation Corridor
TRACS No. 202L MA 054 H5764 01L
Federal Aid Number FHWA-AZ-EIS-202-D
E:\GISDATA\Projects\AZ\ADOT\SouthMtn\TECH_REPORT0905\DocUpdate\

CONCLUSIONS

A variety of options were investigated to minimize or eliminate impacts to the Section 4(f) properties as well as maintain drainage, wildlife connectivity, and habitat. Evaluation of these options results in a recommendation of the Low Profile (Open Cut) for continued study and elimination of the Underground Profile, Medium Profile (Open Cut and Tunnel), and High Profile. Table 10 details the reasons for this recommendation.

Table 10: Evaluation of Options

Profile Option	Design Option	Impact/Benefit Summary	Construction Cost	Study Status
Underground	***Tunnel***			
	Boring Method	▪ Reduced Section 4(f) affect ▪ Maintains habitat and wildlife connectivity of ridges	$2,555,550,000*	***Eliminated*** due to non-avoidance of Section 4(f) resources, traffic safety concerns and construction costs.
	SEM/NATM	▪ Reduced visual impact ▪ Safety concerns splitting traffic ▪ Homeland security concerns	$1,144,350,000*	***Eliminated*** due to non-avoidance of Section 4(f) resources, traffic safety concerns and construction costs.
Low	***Open Cut***	▪ Affect on Section 4(f) resources ▪ Visual impacts to ridges ▪ Loss of wildlife connectivity on ridges ▪ Maintain wildlife connectivity, drainage and access with structures	$42,770,000	***Further study*** in DEIS
	Tunnel			
	Boring Method	▪ Reduced Section 4(f) affect ▪ Maintains habitat and wildlife connectivity of ridges	$603,150,000*	***Eliminated*** due to non-avoidance of Section 4(f) resources, traffic safety concerns and construction costs.
	SEM/NATM	▪ Reduced visual impact ▪ Safety concerns splitting traffic ▪ Homeland security concerns ▪ Does not mitigate TCP	$278,910,000*	***Eliminated*** due to non-avoidance of Section 4(f) resources, traffic safety concerns and construction costs.

Table 10: Evaluation of Options Continued

Profile Option	Design Option	Impact/Benefit Summary	Construction Cost	Study Status
Medium	***Open Cut***	▪ Affect on Section 4(f) resources ▪ Visual impacts to ridges ▪ Loss of wildlife connectivity on ridges ▪ Maintain wildlife connectivity, drainage and access with structures	$149,858,000	***Eliminated*** due to non-avoidance of Section 4(f) resources, visual impacts and construction costs.
	Tunnel			
	Boring Method	▪ Reduced Section 4(f) affect ▪ Maintains habitat and wildlife connectivity of ridges	$468,718,000*	***Eliminated*** due to non-avoidance of Section 4(f) resources, traffic safety concerns and construction costs.
	SEM/NATM	▪ Reduced visual impact ▪ Safety concerns splitting traffic ▪ Homeland security concerns ▪ Does not mitigate TCP	$288,958,000*	***Eliminated*** due to non-avoidance of Section 4(f) resources, traffic safety concerns and construction costs.
High	-	▪ Reduced Section 4(f) affect ▪ Maintains habitat and wildlife connectivity on ridge slopes ▪ Increased visual impact ▪ Homeland security concerns	$308,453,000	***Eliminated*** due to non-avoidance of Section 4(f) resources, visual impact and construction costs.

* All tunnel options require $1.5 – 2.0 million in annual maintenance, repair and rehab costs.

HDR | ONE COMPANY *Many Solutions*℠

DRAFT Memo

To: South Mountain Project Team	
From: Ben Spargo	Project: South Mountain EIS & L/DCR
CC: Project File	
Date: December 18, 2009	Job No:

RE: ADDENDUM TO:
Phoenix South Mountain Park/Preserve and Traditional Cultural Property Avoidance (Ridge Bridge – Tunnel) Analysis (2006)

INTRODUCTION

For the first time in the history of the ½ cent sales tax, the year-over-year revenue comparison declined between 2007 and 2008. The economic recession, which began in the fall of 2007, has significantly affected sales tax revenues through 2009. This has resulted in a major reduction to the projected total funding available for transportation projects in the MAG region. Compounding this issue is the fact that project costs have increased greatly when compared to the original estimates in the RTP.

In response, MAG and ADOT studied methods to reduce freeway project costs and balance the program. The general recommended changes included changes to the scope of projects (reduced lanes, value engineering) and deferral of projects beyond the funding horizon. Acknowledging community concerns regarding residential and business impacts and addressing declining revenues, two major changes were recommended for the South Mountain Freeway by the MAG Regional Council when it adopted the revised RTP including:

- reduce the proposed freeway to eight lanes (from the previous 10-lane concept) thereby reducing the right-of-way needed
- shift the Western Section alignment between Lower Buckeye Road and I-10 to connect at 59th Avenue (rather than 55th Avenue)

Due to the changes in the basic assumptions used in the original memo, this addendum has been developed to evaluate the impacts of the changes on the conclusions reached. Other notable items that have been incorporated into the analysis include:

- The previous 10-lane freeway was planned to be constructed in two phases. The first phase would have included 6 general purpose lanes and the second phase would have included an additional general purpose lane and an HOV lane. In the current plan, all of the lanes, including the HOV lane, will be constructed at the same time.
- Unit costs for some materials have increased, decreased, or remained the same during the time since the original memo. As a result, the cost estimates will be adjusted for the changes in scope as well as changes in the marketplace to reflect current practice.

3200 East Camelback Road
Suite 350
Phoenix, Arizona 85018
Phone (602) 522-7700
Fax (602) 522-7707
www.hdrinc.com

DESIGN CRITERIA

The design criteria would be the same as previously reported.

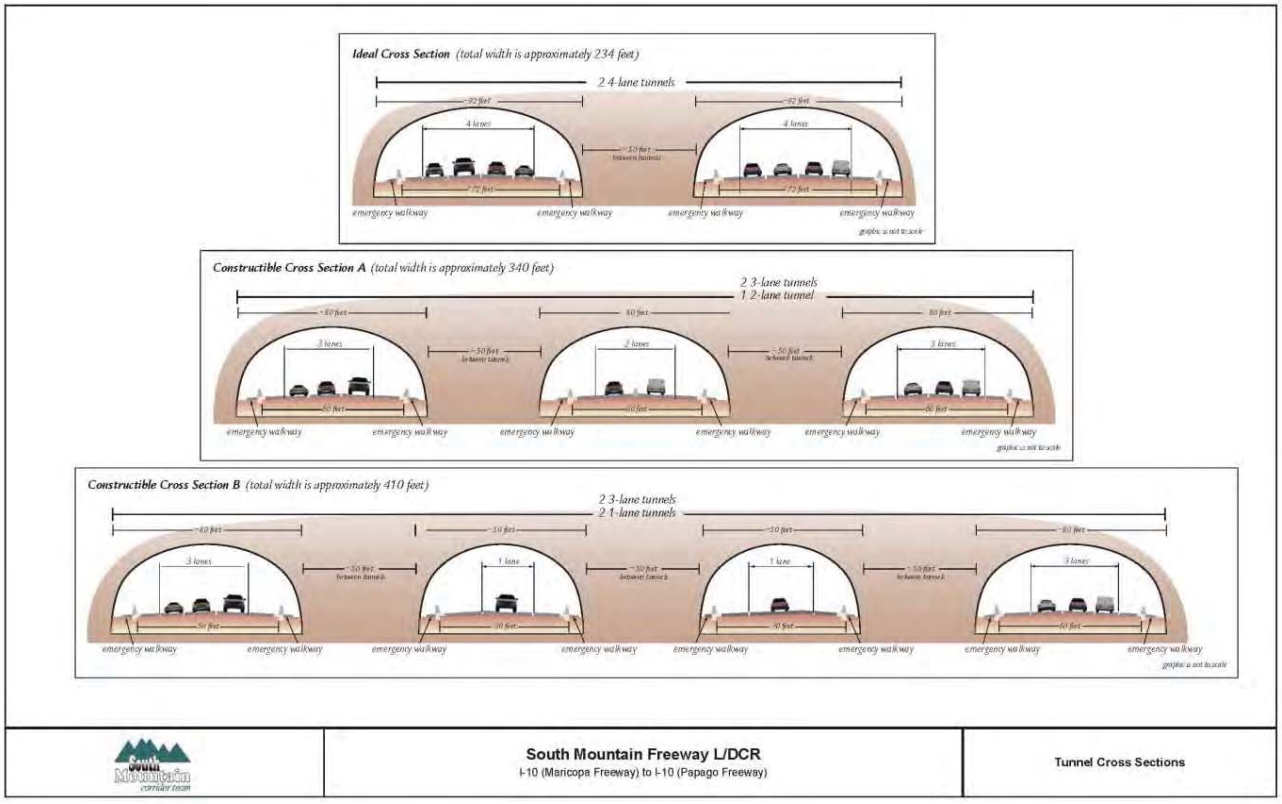
It is reiterated that the cost information presented in this memo only includes the major differentiating items for construction. The actual cost of the section for any of the options evaluated would increase

PROFILE OPTIONS

No Change

DESIGN OPTIONS

Due to the reduction in the number of lanes being constructed, additional tunnel configurations were developed. The ideal cross section would allow all of the travel lanes in one direction to be in a single tunnel. This would require a tunnel approximately 92 feet wide, which is believed to be greater than what is possible under current technology and rock conditions. There are two constructible options that would limit any one tunnel to 80 feet or less. Option A splits the HOV traffic in each direction into a third, center tunnel. Option B splits the HOV traffic in each direction into two individual tunnels. The cost estimate information presented in subsequent sections assumes Option A would be constructed.



UNDERGROUND PROFILE

This option would tunnel under the mountain ridges entirely, from the northwestern side of Main Ridge North to the southeastern side of Main Ridge South

Potential Impacts and/or Benefits
The potential impacts and benefits would be the same as previously reported.

Construction Cost Estimate
Following are construction cost estimates for the two methods of tunneling considered in the Underground Profile option, boring (Table 1) and SEM/NATM (Table 2).

The main changes to the cost estimates included reducing the pavement area for the reduction from 10 lanes to 8 lanes and reducing the tunnel unit cost to reflect a reduced number of tunnels required from four to three.

Table 1: Construction Cost for Underground Profile – Boring Method of Tunneling
Station 2450+00 to Station 2640+00

ITEM	MEASURE	QUANTITY	UNIT COST	TOTAL
Embankment	Cubic yard	690,000	-	-
Excavation	Cubic yard	1,650,000	$7	$11,550,000
Borrow	Cubic yard	(960,000)	$5	-
Bridge	Square foot	0	$100	0
Pavement	Square yard	305,000	$40	$12,200,000
Tunnel	Linear Foot	8,400	$225,000	$1,890,000,000
Pump Stations	Each	2	$5,000,000	$10,000,000
TOTAL				**$1,923,750,000**

Table 2: Construction Cost for Underground Profile – SEM/NATM Tunneling
Station 2450+00 to Station 2640+00

ITEM	MEASURE	QUANTITY	UNIT COST	TOTAL
Embankment	Cubic yard	690,000	-	-
Excavation	Cubic yard	1,650,000	$7	$11,550,000
Borrow	Cubic yard	(960,000)	$5	-
Bridge	Square foot	0	$95	0
Pavement	Square yard	305,000	$40	$12,200,000
Tunnel	Linear Foot	8,400	$100,000	$840,000,000
Pump Stations	Each	2	$5,000,000	$10,000,000
TOTAL				**$873,750,000**

LOW PROFILE

This option maintains a low profile, essentially on existing ground except where elevated at specific locations to allow passage of drainage, wildlife crossing, and pedestrian access.

Potential Impacts and/or Benefits
The potential impacts and benefits would be the same as previously reported.

Construction Cost Estimate
Following are construction cost estimates for the open cut option (Table 3) and two methods of tunneling considered in the Low Profile option, boring (Table 4) and SEM/NATM (Table 5).

The main changes to the cost estimates included reducing the pavement area for the reduction from 10 lanes to 8 lanes and reducing the tunnel unit cost to reflect a reduced number of tunnels required from four to three.

Table 3: Construction Cost for Low Profile – Open Cut
Station 2450+00 to Station 2640+00

ITEM	MEASURE	QUANTITY	UNIT COST	TOTAL
Embankment	Cubic yard	2,030,000	-	-
Excavation	Cubic yard	4,110,000	$7	$28,770,000
Borrow	Cubic yard	(2,080,000)	$5	-
Bridge	Square foot	0	$100	0
Pavement	Square yard	305,000	$40	$12,200,000
Tunnel	Linear Foot	0	$300,000	0
TOTAL				**$40,970,000**

Table 4: Construction Cost for Low Profile – Boring Method of Tunneling
Station 2450+00 to Station 2640+00

ITEM	MEASURE	QUANTITY	UNIT COST	TOTAL
Embankment	Cubic yard	2,030,000	-	-
Excavation	Cubic yard	0	$7	-
Borrow	Cubic yard	2,030,000	$5	$10,150,000
Bridge	Square foot	0	$100	0
Pavement	Square yard	305,000	$40	$12,200,000
Tunnel	Linear Foot	1,930	$225,000	$434,250,000
TOTAL				**$456,600,000**

Table 5: Construction Cost for Low Profile – SEM/NATM Tunneling
Station 2450+00 to Station 2640+00

ITEM	MEASURE	QUANTITY	UNIT COST	TOTAL
Embankment	Cubic yard	2,030,000	-	-
Excavation	Cubic yard	0	$7	-
Borrow	Cubic yard	2,030,000	$5	$10,150,000
Bridge	Square foot	0	$100	0
Pavement	Square yard	305,000	$40	$12,200,000
Tunnel	Linear Foot	1,930	$100,000	$193,000,000
TOTAL				**$215,350,000**

MEDIUM PROFILE

This option is elevated to pass through approximately the mid-height of each of the ridge lines.

Potential Impacts and/or Benefits

The potential impacts and benefits would be the same as previously reported.

Construction Cost Estimate

Following are construction cost estimates for the open cut option (Table 6) and two methods of tunneling considered in the Medium Profile option, boring (Table 7) and SEM/NATM (Table 8).

Table 6: Construction Cost for Medium Profile – Open Cut
Station 2450+00 to Station 2640+00

ITEM	MEASURE	QUANTITY	UNIT COST	TOTAL
Embankment	Cubic yard	1,450,000	-	-
Excavation	Cubic yard	1,070,000	$7	$7,490,000
Borrow	Cubic yard	380,000	$5	$1,900,000
Bridge	Square foot	1,115,000	$100	$111,500,000
Pavement	Square yard	160,000	$40	$6,400,000
Tunnel	Linear Foot	0	$225,000	0
TOTAL				**$127,290,000**

Table 7: Construction Cost for Medium Profile – Boring Method of Tunneling
Station 2450+00 to Station 2640+00

ITEM	MEASURE	QUANTITY	UNIT COST	TOTAL
Embankment	Cubic yard	1,450,000	-	-
Excavation	Cubic yard	0	$7	0
Borrow	Cubic yard	1,450,000	$5	$7,250,000
Bridge	Square foot	1,115,000	$100	$111,500,000
Pavement	Square yard	160,000	$40	$6,400,000
Tunnel	Linear Foot	1,070	$225,000	$240,750,000
TOTAL				**$365,900,000**

Table 8: Construction Cost for Medium Profile – SEM/NATM Tunneling
Station 2450+00 to Station 2640+00

ITEM	MEASURE	QUANTITY	UNIT COST	TOTAL
Embankment	Cubic yard	1,450,000	-	-
Excavation	Cubic yard	0	$7	0
Borrow	Cubic yard	1,450,000	$5	$7,250,000
Bridge	Square foot	1,115,000	$100	$111,500,000
Pavement	Square yard	160,000	$40	$6,400,000
Tunnel	Linear Foot	1,070	$100,000	$107,000,000
TOTAL				**$232,150,000**

HIGH PROFILE

This option is elevated to pass over the top of each of the ridges.

Potential Impacts and/or Benefits

The potential impacts and benefits would be the same as previously reported.

Construction Cost Estimate

Following is a construction cost estimates for the High Profile option (Table 9).

Table 9: Construction Cost for High Profile
Station 2450+00 to Station 2640+00

ITEM	MEASURE	QUANTITY	UNIT COST	TOTAL
Embankment	Cubic yard	3,260,000	-	-
Excavation	Cubic yard	4,000	$7	$28,000
Borrow	Cubic yard	3,256,000	$5	$16,280,000
Bridge	Square foot	2,456,800	$125	$307,100,000
Pavement	Square yard	8,000	$40	$320,000
TOTAL				**$323,728,000**

CONCLUSIONS

The proposed changes to the lane configuration of the proposed freeway did not significantly change the potential impacts, benefits, or costs of the options evaluated in this document.

Table 10: Evaluation of Options

Profile Option	Design Option	Impact/Benefit Summary	Construction Cost	Study Status
Underground	***Tunnel***			
	Boring Method	No Change	**$1,923,750,000***	***Eliminated*** (No Change
	SEM/NATM		**$873,750,000***	***Eliminated*** (No Change
Low	***Open Cut***	No Change	**$40,970,000**	***Further study*** in DEIS (No Change)
	Tunnel			
	Boring Method	No Change	**$456,600,000***	***Eliminated*** (No Change
	SEM/NATM		**$215,350,000***	***Eliminated*** (No Change
Medium	***Open Cut***	No Change	**$127,290,000**	***Eliminated*** (No Change
	Tunnel			
	Boring Method	No Change	**$365,900,000***	***Eliminated*** (No Change)
	SEM/NATM		**$232,150,000***	***Eliminated*** (No Change)
High	**-**	No Change	**$323,728,000**	***Eliminated*** (No Change

* All tunnel options require $1.5 – 2.0 million in annual maintenance, repair and rehab costs.

Appendix C

Correspondence Regarding Section 4(f) Properties

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
ARIZONA STATE OFFICE
3707 N. 7TH STREET
P.O. BOX 16563
PHOENIX, ARIZONA 85011

TAKE PRIDE IN AMERICA

IN REPLY REFER TO:
2740 (931)

April 20, 1989

Mr. John L. Louis, P.E.
Urban Highway Section
Arizona Department of Transportation
Highways Division
206 South Seventeenth Avenue
Phoenix, Arizona 85007

Dear Mr. Louis:

We have received your request for permission of the Secretary of the Interior to authorize construction of the South Mountain Freeway through the Phoenix South Mountain Park. The South Mountain Park lands were conveyed to the City of Phoenix by a grant under the provisions of the Recreation and Public Purposes Act (R&PP) on September 29, 1927. The grant specified that the lands were to be "used for municipal, park, recreation, playground or public convenience purposes".

The Bureau procedure, in response to such requests as yours, is to make a determination that the proposed third party facility is appropriate. Upon a written determination by the authorized officer that the third party facility is appropriate, the patentee may then authorize the facility. The Bureau has no further role in authorizing the facility.

We have evaluated your proposal and find it consistent with the purposes for which the lands were conveyed and that the facility is in furtherance of a public purpose. Our determination is that the proposed facility is appropriate. This determination does not relieve the patentee of any responsibility for proper use and control of the lands or the risks involved in improper use.

If I can be of further assistance, please feel free to contact me.

Sincerely,

Lynn Engdahl
Associate State Director

cc: Phoenix City Council

ARIZONA DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
206 South Seventeenth Avenue Phoenix, Arizona 85007

ROSE MOFFORD
Governor
CHARLES L. MILLER
Director

THOMAS A. BRYANT, II
State Engineer

June 20, 1989

City of Phoenix Historic Preservation Commission
C/O City Planning Department
125 E. Washington, Third Floor
Phoenix AZ 85004

ATTENTION: Ms. Vicki Vanhoy

SUBJECT: South Mountain Park
Historic Preservation Zoning

Dear Ms. Vanhoy:

The Arizona Department of Transportation (ADOT) has adopted an alignment for the South Mountain Freeway. A portion of this alignment passes through the southwest end of South Mountain Park (see attached drawing).

This alignment has gone through a Location and Preliminary Design Public Hearing and has had a Final Environmental Assessment prepared. The alignment was approved by the Phoenix City Council on February 3, 1987 and adopted by ADOT in August 1987.

The Bureau of Land Management has determined that the South Mountain Freeway is consistent with the purposes for which the land was conveyed to the City of Phoenix and that the facility is in furtherance of a public purpose. ADOT has initiated the acquisition process for the area within South Mountain Park (see attached letters).

Rezoning Application Number 39-89-8 indicates that the portion of South Mountain Park which is required for the South Mountain Freeway is within the limits of the proposed Historic District.

ADOT respectfully requests that the limits of the proposed Historic District be revised in this area to exclude the area of the park needed for construction of the South Mountain Freeway. This area is shown in detail on the attached drawing.

Thank you for your consideration. Please contact me or George Wallace at 255-7545 if we can assist in any way.

Sincerely,

C. DENNIS GRIGG
Urban Highway Engineer
Urban Highway Section

CDG:GW:vlb

cc: John L. Louis

Attachment

Arizona Department of Transportation

Intermodal Transportation Division

206 South Seventeenth Avenue Phoenix, Arizona 85007-3213

Janet Napolitano
Governor

Victor M. Mendez
Director

Michael J. Ortega
State Engineer

February 11, 2005

Ms. Valdez
Principal
Alta E. Butler Elementary School
3843 West Roosevelt Street
Phoenix, AZ 85009

Re: Project Name: So Mountain Freeway
ADOT TRACS No.: 202 MA 54 H5764 01L
Project No.: RAM-202-C-200

Dear Ms. Valdez:

In coordination with the Federal Highway Administration (FHWA), the Arizona Department of Transportation (ADOT) is preparing an Environmental Impact Statement (EIS) to evaluate alternatives for a proposed South Mountain Freeway alignment and includes portions of the cities of Phoenix, Tolleson, the communities of Laveen and Ahwatukee, and the Gila River Indian Community (Figure 1 and Figure 2). As part of the EIS, an analysis of Section 4(f) properties must be completed. Section 4(f) properties are any publicly owned parks and recreation areas, waterfowl and wildlife refuges and historic sites considered to have national, state, or local significance.

To ascertain if the schools within the study area are considered Section 4(f) recreational areas, we would appreciate a response to the following questions:

- What recreational amenities are available at the school?
- What groups, other than your students, have access to the school grounds and for what recreational activities? (i.e. Little League, business tournaments, exercise classes, etc.) What is the approximate frequency and duration of these activities? Approximately how many users/visitors use these facilities?
- How are recreational amenities accessed? For instance, what streets provide access? Do people have to cross a parking lot to access the recreational amenity?
- Are the school grounds locked after hours? Do after hours activities have to be scheduled in advance?

This information is necessary to complete the environmental studies. Comments should be addressed to Audrey Unger, HDR Engineering, Inc. via US Mail at 3200 East Camelback Road, Suite 350, Phoenix, Arizona 85018; by email at Audrey.Unger@hdrinc.com; or by telephone at 602-522-4323. **A response received by March 11, 2005 or sooner would be greatly appreciated.** Thank you in advance for your cooperation.

Sincerely,

Maria Deeb-Roberge
Environmental Planner III
Environmental & Enhancement Group

Kyrene de los Lagos Elementary School

17001 S. 34th Way, Phoenix, AZ 85048 (480) 783-1400 Fax (480) 759-5560

ADMINISTRATION

Mr. Jim Strogen, Principal

Mrs. Pam Nephew, Assistant Principal

February 23, 2005

HDR Engineering, Inc.
3200 East Camelback Road, Suite 350
Phoenix, AZ 85018

Re: Project Name: So. Mountain Freeway

Dear Ms. Unger,

This letter is being written in response to questions concerning the proposed South Mountain Freeway alignment and it's impact.

During the school year, we have approximately 570 students using the playground facilities and grounds each week day. We currently have after school activities every day of the week when school is in session. Lagos has two different after school programs (City of Phoenix Parks and Recreation & Kyrene Kids Club) that meet until 6:00 PM with over 120 children attending the programs. Scouts meet five to six times a week sometimes until approximately 8:00 PM with as many as 75 students present after school. ASU holds a class here every week until 7:30 PM with approximately 25 students. The Ahwatukee Little League holds practices and games after school until 7:30 PM and on Saturdays until 4:30 from mid Feb. through June with approximately one hundred people participating. During the summer, one of the City of Phoenix Summer Program sites is Lagos with approximately 150 students attending daily from 6:00 AM until 6:00 PM.

Activities at the school and on our grounds are accessed by either using Lakewood Parkway or 34th Way and the two parking lots that are adjacent to both streets.

After school activities do have to be scheduled in advance and the school itself is locked after hours but the fields are not.

Our primary play area is directly adjacent to the south property line along Pecos Road. The portables that house some of our after school programs are within 14 feet of the fence line. Our school building is 85 feet from the property line. If any more information is needed, please feel free to contact me at (480) 783-1481.

Sincerely,

Jim Strogen
Principal

TOLLESON UNION HIGH SCHOOL DISTRICT

ADMINISTRATIVE CENTER
9419 West Van Buren Street
Tolleson, Arizona 85353
623.478.4001
FAX 623.936.5048
WEB www.tuhsd.org

February 24, 2005

Ms. Maria Deeb-Roberge
Arizona Department of Transportation
Intermodal Transportation Division
206 South Seventeenth Avenue
Phoenix, Arizona 85007-3213

Dear Ms. Deeb-Roberge:

The Tolleson Union High School District #214 established a community and school partnership with the City of Tolleson dating back to FY1983. The partnership makes all facilities and playing fields available to all community members before and after school hours, weekends and holidays and most of the summer months. These facilities include, but are not limited to, the school's indoor gymnasiums, tennis and racquetball courts, baseball and softball fields and both game and practice football fields.

The groups that have access to these facilities include Pop Warner Football leagues, Little League Associations that range from minor leagues to Babe Ruth, men and women softball leagues, girls youth softball leagues, church leagues, basketball leagues, adult and youth tournaments, annual City of Tolleson events that may include carnivals and games, as well as, all athletic tournaments.

Recreational amenities can be accessed through the City of Tolleson Complex during non-school hours or Tolleson Union High School during school hours. An Intergovernmental Agreement (IGA) by the city and school district was created in 1985 and is approved on an annual basis to work collaboratively to provide constituents with parking lots for both entities. A telephone call is normally all that is necessary to make streets and parking lots available to school and city sponsored events.

All school grounds are locked and secured by school personnel. School staff clean and maintain the facilities and fields and the City of Tolleson pays for lights and water for the facilities. The district requests that all after school activities be scheduled one week in advance.

If you need additional information, please call me at 623-478-4001.

Respectfully,

Kino V. Flores, Ed.D.,
Superintendent

KVF/lcl

cc: Mr. Ralph Velez, City Manager
City of Tolleson

Mr. Harold Crenshaw, Principal
Tolleson Union High School

Kyrene School District

Mission Statement

We are committed to the achievement of individual academic excellence through high quality teaching, learning, and community involvement which results in students being well prepared to meet future educational challenges and to contribute to society.

March 8, 2005

Audrey,

Following is the information you requested.
Groups that have access to these school facilities include any outside organization (e.g., athletic leagues, churches, home owner's associations, universities, recreational programs) that requests and is granted the use of the facilities. Each organization's use of the facility varies in frequency and duration. Estrella's use is approximately 7000 hours per year; Lagos's use is approximately 3100 hours per year. In each hour of use, I would estimate there are 100 people present.

Amenities at each school are accessed by parking and walking on to campus (both interior and exterior facilities). Lagos' parking lots are accessed off of 34th Way or Lakewood Parkway. Estrella's parking lots are accessed from Liberty Lane. Both schools have on-site security that monitor the locking of perimeter doors and redirect organizations who have not received approved use of the facility (not individuals) off campus. Both schools have available for use library, ramada, multipurpose room, outdoor fields and courts, and multiple classrooms.

'Organized' after-hours activities must be scheduled in advance by requesting use of the facility on district-provided forms (which are submitted to the school at least 10 days in advance of the requested use). You may want to read the details of the reservation process at www.kyrene.org/facilitiesuse.

If I can be of further assistance, please reach me at bpomus@kyrene.org.

Bonni Pomush
Assistant Director
Auxiliary Student Services

U.S. Department
of Transportation
**Federal Highway
Administration**

**Arizona Division
400 East Van Buren Street
One Arizona Center Suite 410
Phoenix, Arizona 85004-2264**

April 5, 2005

In Reply Refer To: HOP-AZ
STP 202-D(ADY)
TRACS No. 202MA 054 H5764 01L
South Mountain Freeway

Mr. LB Scacewater, Director
Phoenix Parks, Recreation, and Library Department
Phoenix City Hall
200 W. Washington Street, 16th Floor
Phoenix, Arizona 85003

Dear Mr. Scacewater:

The Federal Highway Administration (FHWA) and the Arizona Department of Transportation (ADOT) are serving as lead agencies in the project development for the South Mountain Freeway. As part of project development, an Environmental Impact Statement studying potential human and natural environmental impacts due to the proposed action will be prepared concurrently with the preparation of a Design Concept Report.

As currently proposed, the South Mountain Freeway would connect with I-10 at the existing I-10/Santan Freeway traffic interchange and would extend westward around the southern side of South Mountain Park/Preserve and connect with I-10 somewhere between 51st Avenue and the I-10/Agua Fria Freeway traffic interchange. A map is attached depicting the alternatives under study. As shown on the map, all alternatives have a common alignment along the Pecos Road alignment in the eastern portion of the study area and all alternatives would pass through the southern portion of the South Mountain Park/Preserve. Section 4(f) of the U.S. Department of Transportation Act of 1966 states that the FHWA "may approve a transportation program or project requiring publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or land of a historic site of national, state, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if there is no prudent or feasible alternative to using that land and the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use" (49 U.S.C. 303).

A 'use' of a Section 4(f) resource, as defined in 23 CFR 771.135 (p), occurs:

1. when land is permanently incorporated into a transportation facility,
2. when there is a temporary occupancy of land that is adverse in terms of the statute's preservationist purposes, or
3. when there is a constructive use of land.

A constructive use of a Section 4(f) resource occurs when the transportation project does not incorporate land from the Section 4(f) resource, but the project's proximity impacts are so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially impaired. For example, a constructive use can occur when:

- The projected increase in noise level attributable to the project substantially interferes with the use and enjoyment of a noise-sensitive facility of a resource protected by Section 4(f);
- The proximity of the proposed project substantially impairs aesthetic features or attributes or a resource protected by Section 4(f), where such features or attributes are considered important contributing elements to the value of the resource. An example of such an effect would be locating a proposed transportation facility in such proximity that it obstructs or eliminates the primary views of an architecturally significant historical building, or substantially detracts from the setting of a park or historic site which derives its value in substantial part due to its setting; and/or
- The project results in a restriction on access that substantially diminishes the utility of a significant publicly-owned park, recreation area, or historic site.

This issue requires a coordinated effort with the City of Phoenix to come to terms as to the degree of impact that would occur on the park and if necessary, what types of measures could be undertaken to reduce those impacts. We are requesting a meeting with you and other City officials you deem appropriate be held to initiate the coordination for this effort. At that meeting, we can present to you our current understanding of how the freeway would affect the park and also present a list of concept-level measures we have identified to reduce the potential impacts.

We would like to schedule this meeting as soon as possible. A representative of ADOT will be contacting you directly. If you have any questions in the meantime, please contact Steve Thomas at 602-379-3645, x-117.

Sincerely,

STEPHEN D. THOMAS

Robert E. Hollis
Division Administrator

Enclosure
cc.
SThomas ,BVachon, Deeb-Roberge (619E),Ellis (614E), Bruder (609E), Amy Edwards (HDR), Jack Allen (HDR)
SDThomas:cdm

Arizona Department of Transportation

Intermodal Transportation Division

206 South Seventeenth Avenue Phoenix, Arizona 85007-3213

Janet Napolitano
Governor

Victor M. Mendez
Director

John A. Bogert
Chief of Staff

May 19, 2005

Mr. L.B. Scacewater
Director of Parks and Recreation
City of Phoenix Parks and Recreation Department
Phoenix City Hall
200 W. Washington Street, 16th Floor
Phoenix, AZ 85003

Re: Project Name: South Mountain Transportation Corridor
ADOT TRACS No.: 202 MA 054 H5764 01L
Project No.: RAM-202-C-200

Dear Mr. Scacewater:

In coordination with the Federal Highway Administration (FHWA), the Arizona Department of Transportation (ADOT) is preparing an Environmental Impact Statement (EIS) to evaluate alternatives for a proposed South Mountain Transportation Corridor alignment. The proposed alignments go through portions of the cities of Phoenix and Tolleson, the communities of Laveen and Ahwatukee, and the Gila River Indian Community. As part of the EIS, an analysis of Section 4(f) properties will be completed. Section 4(f) properties are any publicly owned parks and recreation areas, waterfowl and wildlife refuges and historic sites considered to have national, state, or local significance.

HDR Engineering, Inc is assisting FHWA and ADOT with the EIS and has been in communication with the City of Phoenix Parks and Recreation Department since February 2, 2005. Because specific Section 4(f) resource coordinates/locations are needed, a request for using the Parks and Recreation Department's GIS system was made on February 2, 2005. Mr. Boyd Winfrey denied our request for use of the GIS for bikeways, trails, and parks since the information is incomplete and /or not been formally adopted. Mr. Winfred indicated that we would have to use the City of Phoenix General Plan. The graphics and text in the General Plan are not detailed enough to allow for accurate digitizing and analysis.

While using the City of Phoenix General Plan for information, in it the Bicycling Element describes bicycling as a "popular and efficient method of transportation...." Could you please indicate whether all the City's bikeways are primarily for transportation? If not, please indicate which portions of the bikeways are ***primarily*** for recreation.

In our meeting on April 6, 2005, we discussed the City of Phoenix's trails system and it was explained that trails within the City of Phoenix were primarily recreational and not located within the

City of Phoenix's roadway right-of-way. If this is not the case, please indicate trails that are ***primarily*** recreational and those that are ***solely*** recreational.

This information is necessary to complete the environmental studies. Comments should be addressed to Audrey Unger, HDR Engineering, Inc. via US Mail at 3200 East Camelback Road, Suite 350, Phoenix, Arizona 85018; or by email at Audrey.Unger@hdrinc.com. Please feel free to call me at 602-522-4323 should you have any questions. **A written response received by May 30, 2005 or sooner would be greatly appreciated.** Thank you for your continued assistance.

Sincerely,

Ralph Ellis
Environmental Planner
Environmental & Enhancement Group

cc: Marsha Wallace, Deputy City Manager
Boyd Winfrey, Parks Development

Arizona Department of Transportation

Intermodal Transportation Division

206 South Seventeenth Avenue Phoenix, Arizona 85007-3213

Janet Napolitano
Governor

Victor M. Mendez
Director

David P. Jankofsky
Deputy Director

June 13, 2005

Ms. Terri Raml
Phoenix Field Office Manager
Bureau of Land Management
21605 N. 7th Avenue
Phoenix, Arizona 85027

Attn: Jim Andersen

Re: Request to participate in a coordination meeting to address issues related to the South Mountain Freeway Environmental Impact Statement

Dear Ms. Raml:

The Federal Highway Administration and the Arizona Department of Transportation, as joint lead agencies, are preparing a Location/Design Concept Report (L/DCR) and Environmental Impact Statement (EIS) regarding the proposed South Mountain Freeway located between I-10 west of Phoenix and I-10 southeast of Phoenix, in Maricopa County, Arizona. The L/DCR will identify and the EIS will evaluate a range of reasonable alternatives, including the no-build alternative, and their potential impacts upon the environment.

Background information:

The South Mountain Freeway is an integral element of the Maricopa Association of Governments' Regional Transportation Plan, and is included in the National Highway System.

A Notice of Intent to Prepare an EIS was published in the Federal Register in 2001. During the data-gathering phase of this effort, it was identified that property owned by the Bureau of Land Management (BLM) has been leased to the City of Phoenix under the regulations set forth in the Recreation and Public Purposes Act. The property is located between 59th and 67th Avenues north of Southern Avenue within the City of Phoenix. One of the proposed project alternatives, the W55 Alternative, under detailed study in the EIS would pass through this property also known as the Rio Salado Oeste. Through the lease, the City plans to use the property as part of the Rio Salado Oeste, a planned linear project for the purposes of wildlife habitat, recreational trails, and flood conveyance.

Request:

I request that FHWA, the Army Corp of Engineers (COE), ADOT, BLM and the City of Phoenix meet to resolving the following issues:

- Is Rio Salado Oeste afforded protection under Section 4(f)?
- Is there a way for the patented BLM parcel to be returned to BLM and reacquired by the City of Phoenix or ADOT under some other method? If so, would this remove the need to protect under 4(f)?

Your participation in this meeting is important, and I request that you or a member of your staff set time aside for this coordination meeting. Please let me know your availability during the week of July 18-22, 2005. Give 3 choices of dates and times you are available for this meeting. Please contact me by phone and/or email or you can notify my office, in writing, of your decision. We appreciate your cooperation to date, and look forward to working with you on this essential project. If you have any questions, please fell free to contact me.

Sincerely,

Maria A. Deeb-Roberge, PE, MEP.
Valley Environmental Team Leader
Environmental & Enhancement Group, ADOT
(602)-712-8641 phone
(602)-712-3352 direct fax
(602)-712-3066 main office fax
MDeeb-Roberge@azdot.gov

c. Ralph Ellis, ADOT EEG
Mike Bruder, ADOT VPM
Project File

City of Phoenix
PARKS AND RECREATION DEPARTMENT

June 22, 2005

Audrey Unger
HDR Engineering, Inc.
3200 East Camelback Road, Suite 350
Phoenix, AZ 85018

Dear Ms. Unger:

Re: South Mountain Transportation Corridor, ADOT Tracs No.: 202 MA 054 H5764 OIL, Project No.: RAM-202-C-200

A functional network of urban trails is planned throughout the city that is multipurpose, easily accessible, and convenient, connects parks, major open spaces, and village cores.

Multipurpose recreational trails are intended to serve equestrians, pedestrians, and bicyclists. The City, in cooperation with private developers, is working to create or construct multi-use trails. These natural-surface recreational trails are intended to accommodate a variety of nonmotorized uses.

These trails are primarily used for recreation and are located in pedestrian easements adjacent to public rights-of-way, and in privately owned open spaces. They are vital nonmotorized links within the community.

Regardless of which transportation corridor is selected by ADOT, the existing and proposed trails should be accommodated by providing wider bridges, pedestrian equestrian tunnels, and other accommodations to preserve the proposed and established trails network.

Sincerely,

Boyd C. Winfrey
Landscape Architect II

cjp/S:\2005 Carolyn Files\Boyd\Audrey Unger 062205.doc

c: Ralph Ellis, ADOT
James Burke, PRD

U.S.Department
of Transportation
Federal Highway Administration

Arizona Division
400 East Van Buren Street
One Arizona Center Suite 410
Phoenix, Arizona 85004-2264

December 15, 2005

In Reply Refer To: NH-202-D(ADY)
TRACS No.: 202L: MA 054 H5764 01L
South Mountain Transportation Corridor

Mr. Rick Conrad
Superintendent for Finance
Cartwright Elementary School District
3401 North 67th Avenue
Phoenix, Arizona 85033

Dear Mr. Conrad:

The Arizona Department of Transportation (ADOT), in coordination with the Federal Highway Administration (FHWA) is preparing an Environmental Impact Statement (EIS) to evaluate alternatives for a proposed South Mountain Freeway alignment (Figure 1). We are in the process of finalizing information on Section 4(f) properties gathered from your school district to date.

Section 4(f) properties are publicly owned parks and recreation areas, waterfowl and wildlife refuges, and historic sites considered to have national, state, or local significance. Schools within the study area may be considered Section 4(f) recreational areas if they are available for walk-on public use during off-school hours. We have not identified any existing or planned Cartwright Elementary District within ¼ mile of the proposed South Mountain Transportation corridor alignments:

To ensure that the above information is correct please indicate whether the information is still current or if there are change. Please respond in writing to Audrey Unger, HDR Engineering, Inc. via US Mail at 3200 East Camelback Road, Suite 350, Phoenix, Arizona 85018 or by email at Audrey.Unger@hdrinc.com. **A response received by January 14, 2005 or sooner would be greatly appreciated.** Thank you for your continued assistance.

Sincerely yours,

STEPHEN D. THOMAS

Robert E. Hollis
Division Administrator

Enclosure

cc:
SThomas
BVachon
REllis (619E)
AUnger (HDR)
SDThomas:cdm

Celebrating 50 Years 1956 2006 Eisenhower Interstate System

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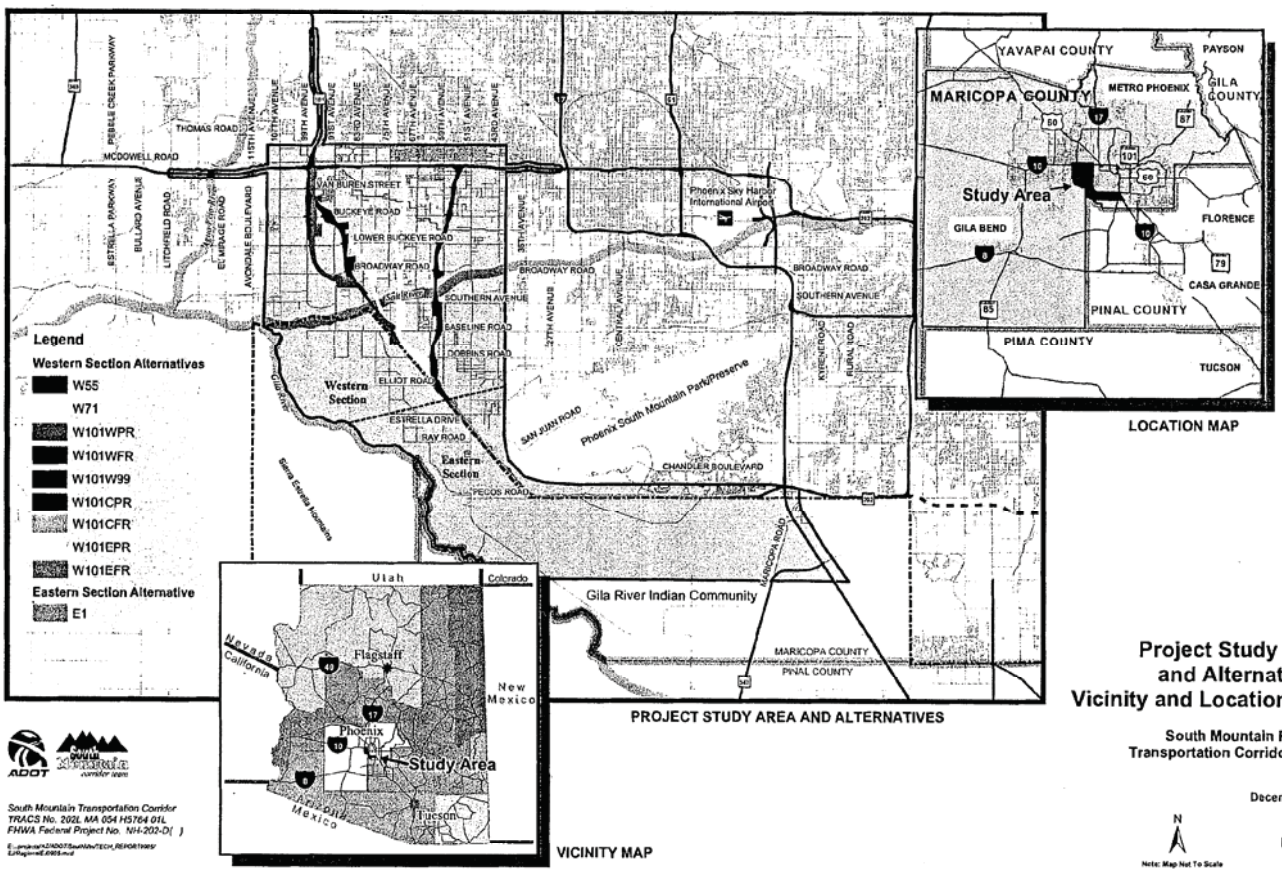

South Mountain Transportation Corridor
TRACS No. 202L MA 054 H5764 01L
FHWA Federal Project No. NH-202-D( )

Project Study Area and Alternatives, Vicinity and Location Map

South Mountain Freeway
Transportation Corridor Study

December 2005

Figure 1

Note: Map Not To Scale

U.S. Department
of Transportation
Federal Highway Administration

Arizona Division
400 East Van Buren Street
One Arizona Center Suite 410
Phoenix, Arizona 85004-2264

December 15, 2005

In Reply Refer To: NH-202-D(ADY)
TRACS No.: 202L: MA 054 H5764 01L
South Mountain Transportation Corridor

Dr. Randy Blecha, Superintendent
Fowler Elementary School District
1617 South 67th Avenue
Phoenix, Arizona 85043

Dear Dr. Blecha:

The Arizona Department of Transportation (ADOT), in coordination with the Federal Highway Administration (FHWA) is preparing an Environmental Impact Statement (EIS) to evaluate alternatives for a proposed South Mountain Freeway alignment (Figure 1). We are in the process of finalizing information on Section 4(f) properties gathered from your school district to date.

Section 4(f) properties are publicly owned parks and recreation areas, waterfowl and wildlife refuges, and historic sites considered to have national, state, or local significance. Schools within the study area may be considered Section 4(f) recreational areas if they are available for walk-on public use during off-school hours. We have identified the following Fowler Elementary District schools/planned schools within ¼ mile of the proposed South Mountain Transportation corridor alignments:

- Santa Maria Middle School
- Sunridge Elementary School

During previous conversations, the following planned schools were identified; however, these schools are not currently within ¼ mile of any of the proposed alignments:

- Western Valley Middle and Elementary Schools (Same Site)
- Sun Canyon Elementary School
- Tuscano Elementary School (County Assessor Parcel Number 104-49-001B)
- 71st Avenue and Elwood (County Assessor Parcel Number 104-49-001B)
- 79th Avenue and Elwood (County Assessor Parcel Number 104-53-001B)
- 71st Avenue and Durango (County Assessor Parcel Number 104-36-001A)

Based on earlier conversations and correspondence, school grounds are available for individuals during off-school hours; however, groups must register and fill out a facilities use agreement.

To ensure that the above information is correct please indicate whether the information is still current or if there are changes. Please respond in writing to Audrey Unger, HDR Engineering, Inc. via US

Mail at 3200 East Camelback Road, Suite 350, Phoenix, Arizona 85018 or by email at Audrey.Unger@hdrinc.com. **A response received by January 14, 2005 or sooner would be greatly appreciated.** Thank you for your continued assistance.

Sincerely yours,

STEPHEN D. THOMAS

Robert E. Hollis
Division Administrator

Enclosure

cc:
SThomas
BVachon
R Ellis (619E)
AUnger (HDR)
SDThomas:cdm

U.S. Department
of Transportation
Federal Highway Administration

Arizona Division
400 East Van Buren Street
One Arizona Center Suite 410
Phoenix, Arizona 85004-2264

December 15, 2005

In Reply Refer To: NH-202-D(ADY)
TRACS No.: 202L: MA 054 H5764 01L
South Mountain Transportation Corridor

Mr. Mark Busch
Executive Director of Support Services
Issac School District
3348 West McDowell Road
Phoenix, Arizona 85009

Dear Mr. Busch:

The Arizona Department of Transportation (ADOT), in coordination with the Federal Highway Administration (FHWA) is preparing an Environmental Impact Statement (EIS) to evaluate alternatives for a proposed South Mountain Freeway alignment (Figure 1). We are in the process of finalizing information on Section 4(f) properties gathered from your school district to date.

Section 4(f) properties are publicly owned parks and recreation areas, waterfowl and wildlife refuges, and historic sites considered to have national, state, or local significance. Schools within the study area may be considered Section 4(f) recreational areas if they are available for walk-on public use during off-school hours. We have identified the following Issac District schools/planned schools within ¼ mile of the proposed South Mountain Transportation corridor alignments:

- Moya Elementary School
- Udall School
- Esperanza Elementary and Preschools
- Sutton Elementary School
- Zito Elementary School
- Mitchell Elementary School
- Issac Middle School
- Carl T. Smith Middle School

Based on earlier conversations, schools within the Issac School District are fenced and locked and prior arrangements need to be made to use these facilities during non-school hours. No other schools planned or otherwise have been identified.

To ensure that the above information is correct please indicate whether the information is still current or if there are change. Please respond in writing to Audrey Unger, HDR Engineering, Inc. via US Mail

at 3200 East Camelback Road, Suite 350, Phoenix, Arizona 85018 or by email at Audrey.Unger@hdrinc.com. **A response received by January 14, 2005 or sooner would be greatly appreciated.** Thank you for your continued assistance.

Sincerely yours,

STEPHEN D. THOMAS

Robert E. Hollis
Division Administrator

Enclosure

cc:
SThomas
BVachon
R Ellis (619E)
AUnger (HDR)
SDThomas:cdm

U.S. Department
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Federal Highway Administration

Arizona Division
400 East Van Buren Street
One Arizona Center Suite 410
Phoenix, Arizona 85004-2264

December 15, 2005

In Reply Refer To: NH-202-D(ADY)
TRACS No.: 202L: MA 054 H5764 01L
South Mountain Transportation Corridor

Ms. Bonni Pomush, Assistant Director
Auxiliary Student Services
Kyrene School District
8700 South Kyrene Road
Tempe, Arizona 85284-2197

Dear Ms. Pomush:

The Arizona Department of Transportation (ADOT), in coordination with the Federal Highway Administration (FHWA) is preparing an Environmental Impact Statement (EIS) to evaluate alternatives for a proposed South Mountain Freeway alignment (Figure 1). We are in the process of finalizing information on Section 4(f) properties gathered from your school district to date.

Section 4(f) properties are publicly owned parks and recreation areas, waterfowl and wildlife refuges, and historic sites considered to have national, state, or local significance. Schools within the study area may be considered Section 4(f) recreational areas if they are available for walk-on public use during off-school hours. We have identified the following Kyrene District schools/planned schools within ¼ mile of the proposed South Mountain Transportation corridor alignments:

- Kyrene Akimel A-all Middle School
- Kyrene de los Lagos Elementary School
- Kyrene de la Estrella Elementary School

Based on earlier conversations and correspondence, school grounds are locked after hours and on-site security will redirect individuals who have not received approved use of the facilities. Kyrene Schools Districts is not currently planning any new schools.

To ensure that the above information is correct please indicate whether the information is still current or if there are change. Please respond in writing to Audrey Unger, HDR Engineering, Inc. via US Mail at 3200 East Camelback Road, Suite 350, Phoenix, Arizona 85018 or by email at Audrey.Unger@hdrinc.com. **A response received by January 14, 2005 or sooner would be greatly appreciated.** Thank you for your continued assistance.

Sincerely yours,

STEPHEN D. THOMAS

Robert E. Hollis
Division Administrator

Enclosure
cc: SThomas, BVachon , R Ellis (619E) , AUnger (HDR)
SDThomas:cdm

Celebrating 50 Years 1956 2006 Eisenhower Interstate System

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Federal Highway Administration

Arizona Division
400 East Van Buren Street
One Arizona Center Suite 410
Phoenix, Arizona 85004-2264

December 15, 2005

In Reply Refer To: NH-202-D(ADY)
TRACS No.: 202L: MA 054 H5764 01L
South Mountain Transportation Corridor

Dr. Bill Johnson, Assistant Superintendent
Laveen Elementary School District
P. O. Box 29
9401 South 51st Avenue
Laveen, Arizona 85339

Dear Dr. Johnson:

The Arizona Department of Transportation (ADOT), in coordination with the Federal Highway Administration (FHWA) is preparing an Environmental Impact Statement (EIS) to evaluate alternatives for a proposed South Mountain Freeway alignment (Figure 1). We are in the process of finalizing information on Section 4(f) properties gathered from your school district to date.

Section 4(f) properties are publicly owned parks and recreation areas, waterfowl and wildlife refuges, and historic sites considered to have national, state, or local significance. Schools within the study area may be considered Section 4(f) recreational areas if they are available for walk-on public use during off-school hours. We have identified the following Laveen District schools/planned schools within ¼ mile of the proposed South Mountain Transportation corridor alignments:

- Laveen Farms Future School
- Laveen Meadows Future School

Based on earlier conversations, these schools were originally planned to be fenced and locked after school hours and were not yet owned by the school district. Due to funding limitations these plans have changed and the schools will not be fenced and the intent is to now permit pedestrian access to recreational areas during off-school hours.

To ensure that the above information is correct please indicate whether the information is still current or if there are change. Please respond in writing to Audrey Unger, HDR Engineering, Inc. via US Mail at 3200 East Camelback Road, Suite 350, Phoenix, Arizona 85018 or by email at Audrey.Unger@hdrinc.com. **A response received by January 14, 2005 or sooner would be greatly appreciated.** Thank you for your continued assistance.

Sincerely yours,

STEPHEN D. THOMAS

Robert E. Hollis
Division Administrator

Enclosure
cc: SThomas, BVachon, R Ellis (619E), AUnger (HDR)
SDThomas:cdm

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Phoenix, Arizona 85004-2264

December 15, 2005

In Reply Refer To: NH-202-D(ADY)
TRACS No.: 202L: MA 054 H5764 01L
South Mountain Transportation Corridor

Mr. Gene Gardner, Business Manager
Littleton Elementary School District
P.O. Box 280
Cashion, Arizona 85329

Dear Mr.: Gardner

The Arizona Department of Transportation (ADOT), in coordination with the Federal Highway Administration (FHWA) is preparing an Environmental Impact Statement (EIS) to evaluate alternatives for a proposed South Mountain Freeway alignment (Figure 1). We are in the process of finalizing information on Section 4(f) properties gathered from your school district to date.

Section 4(f) properties are publicly owned parks and recreation areas, waterfowl and wildlife refuges, and historic sites considered to have national, state, or local significance. Schools within the study area may be considered Section 4(f) recreational areas if the recreational facilities are available for walk-on public use during off-school hours. We have identified the following Littleton Elementary District schools/planned schools within ¼-mile of the proposed South Mountain Transportation corridor alignments:

- Trend site: Cocopah Street and 118th Avenue; South of Buckeye between El Mirage and Avondale Blvd.
- Farmington Glen: South of Broadway between 99th Ave and 95th Ave.
- Roy's Place: North of Buckeye between Avondale and 107th Ave (property not yet purchased)

The following schools have been set aside by the developer for schools, however the District and developer have not entered into the one-year opting period. During the opting period the District can reject a property unsuitable as a school site.

- Pylman Dairy: South of Lower Buckeye between El Mirage and Avondale Blvd.
- Evergreen: South of Broadway and 111th Ave
- Lakin Cattle Ranch: 2 properties South of Broadway between Avondale Blvd and Dysart Road
- Del Rio Vista: North of Lower Buckeye East of El Mirage

Based on earlier conversations, school grounds are fenced and locked during non-school hours and pre-arrangement of after hour's activities is necessary. This policy will also apply to future schools.

To ensure that the above information is correct please indicate whether the information is still current or if there are change. Please respond in writing to Audrey Unger, HDR Engineering, Inc. at 3200 East Camelback Road, Suite 350, Phoenix, Arizona 85018 or by email at Audrey.Unger@hdrinc.com. **A response received by January 13, 2005 or sooner would be greatly appreciated.** Thank you for your continued assistance.

Sincerely yours,

STEPHEN D. THOMAS

Robert E. Hollis
Division Administrator

Enclosure

cc:
SThomas
BVachon
R Ellis (619E)
AUnger (HDR)
SDThomas:cdm

U.S. Department
of Transportation
Federal Highway Administration

Arizona Division
400 East Van Buren Street
One Arizona Center Suite 410
Phoenix, Arizona 85004-2264

December 15, 2005

In Reply Refer To: NH-202-D(ADY)
TRACS No.: 202L: MA 054 H5764 01L
South Mountain Transportation Corridor

Dr. Ron Richards, Superintendent
Pendergast School District
3802 North 91st Avenue
Phoenix, Arizona 85037

Dear Dr. Richards:

The Arizona Department of Transportation (ADOT), in coordination with the Federal Highway Administration (FHWA) is preparing an Environmental Impact Statement (EIS) to evaluate alternatives for a proposed South Mountain Freeway alignment (Figure 1). We are in the process of finalizing information on Section 4(f) properties gathered from your school district to date.

Section 4(f) properties are publicly owned parks and recreation areas, waterfowl and wildlife refuges, and historic sites considered to have national, state, or local significance. Schools within the study area may be considered Section 4(f) recreational areas if they are available for walk-on public use during off-school hours. We have identified the following Pendergast School District schools/planned schools within ¼ mile of the proposed South Mountain Transportation corridor alignments:

- Pendergast Elementary School

Based on earlier conversations and correspondence with Carolyn Buechler at the District and David Morales at Facilities, the schools in the Pendergast District are fenced and locked during non-school hours. School facilities are available to the community provided arrangements are made in advance. No planned schools were identified.

To ensure that the above information is correct please indicate whether the information is still current or if there are change. Please respond in writing to Audrey Unger, HDR Engineering, Inc. via US Mail at 3200 East Camelback Road, Suite 350, Phoenix, Arizona 85018 or by email at Audrey.Unger@hdrinc.com. **A response received by January 14, 2005 or sooner would be greatly appreciated.** Thank you for your continued assistance.

Sincerely yours,

STEPHEN D. THOMAS

Robert E. Hollis
Division Administrator

Enclosure

cc: SThomas, BVachon, R Ellis (619E), AUnger (HDR)
SDThomas:cdm

U.S. Department
of Transportation
Federal Highway Administration

Arizona Division
400 East Van Buren Street
One Arizona Center Suite 410
Phoenix, Arizona 85004-2264

December 15, 2005

In Reply Refer To: NH-202-D(ADY)
TRACS No.: 202L: MA 054 H5764 01L
South Mountain Transportation Corridor

Dr. Gregory Cooper
Assistant Superintendent for Information and Technology Services
Phoenix Union High School District
4502 North Central Avenue
Phoenix, Arizona 85012

Dear Dr. Cooper:

The Arizona Department of Transportation (ADOT), in coordination with the Federal Highway Administration (FHWA) is preparing an Environmental Impact Statement (EIS) to evaluate alternatives for a proposed South Mountain Freeway alignment (Figure 1). We are in the process of finalizing information on Section 4(f) properties gathered from your school district to date.

Section 4(f) properties are publicly owned parks and recreation areas, waterfowl and wildlife refuges, and historic sites considered to have national, state, or local significance. Schools within the study area may be considered Section 4(f) recreational areas if they are available for walk-on public use during off-school hours. We have identified the following Phoenix Union High Schools District schools/planned schools within ¼ mile of the proposed South Mountain Transportation corridor alignments:

- Carl Hayden High School
- Comprehensive High School (Future School)

Based on earlier conversations with several individuals, including the Carl Hayden High School Athletic Director, and Patrick Prince, the Division Manager of Construction and Facilities, Carl Hayden High School is fenced and locked and arrangements must be made to use the recreational facilities during non-school hours. It is currently unknown whether Comprehensive High School will be fenced or locked. No other planned schools were identified.

To ensure that the above information is correct please indicate whether the information is still current or if there are change. Please respond in writing to Audrey Unger, HDR Engineering, Inc. via US Mail at 3200 East Camelback Road, Suite 350, Phoenix, Arizona 85018 or by email at Audrey.Unger@hdrinc.com. **A response received by January 14, 2005 or sooner would be greatly appreciated.** Thank you for your continued assistance.

Sincerely yours,

STEPHEN D. THOMAS

Robert E. Hollis
Division Administrator

Enclosure
cc: SThomas, BVachon, R Ellis (619E), AUnger (HDR)
SDThomas:cdm

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Federal Highway Administration

Arizona Division
400 East Van Buren Street
One Arizona Center Suite 410
Phoenix, Arizona 85004-2264

December 15, 2005

In Reply Refer To: NH-202-D(ADY)
TRACS No.: 202L: MA 054 H5764 01L
South Mountain Transportation Corridor

Mr. Jack Bliss, Superintendent
Riverside Elementary School District
1414 South 51st Avenue
Tempe, Arizona 85284-2197

Dear Mr. Bliss:

The Arizona Department of Transportation (ADOT), in coordination with the Federal Highway Administration (FHWA) is preparing an Environmental Impact Statement (EIS) to evaluate alternatives for a proposed South Mountain Freeway alignment (Figure 1). We are in the process of finalizing information on Section 4(f) properties gathered from your school district to date.

Section 4(f) properties are publicly owned parks and recreation areas, waterfowl and wildlife refuges, and historic sites considered to have national, state, or local significance. Schools within the study area may be considered Section 4(f) recreational areas if they are available for walk-on public use during off-school hours. We have identified the following Riverside Elementary School District schools/planned schools within ¼ mile of the proposed South Mountain Transportation corridor alignments:

- Riverside Elementary School
- Kings Ridge School
- Future school site, still in developer ownership and no active school planning yet.

Based on earlier conversations school grounds are fenced and locked during non-school hours and use of recreational facilities need to be arranged in advance. This policy will apply to future schools as well.

To ensure that the above information is correct please indicate whether the information is still current or if there are change. Please respond in writing to Audrey Unger, HDR Engineering, Inc. via US Mail at 3200 East Camelback Road, Suite 350, Phoenix, Arizona 85018 or by email at Audrey.Unger@hdrinc.com. **A response received by January 13, 2005 or sooner would be greatly appreciated.** Thank you for your continued assistance.

Sincerely yours,

STEPHEN D. THOMAS

Robert E. Hollis
Division Administrator

Enclosure
cc: SThomas, BVachon, R Ellis (619E), AUnger (HDR)
SDThomas:cdm

U.S. Department
of Transportation
Federal Highway Administration

Arizona Division
400 East Van Buren Street
One Arizona Center Suite 410
Phoenix, Arizona 85004-2264

December 15, 2005

In Reply Refer To: NH-202-D(ADY)
TRACS No.: 202L: MA 054 H5764 01L
South Mountain Transportation Corridor

Mr. Joe McDonald, Superintendent
Tempe Union High School District
500 West Guadalupe Road
Tempe, Arizona 85283-3599

Dear Mr. McDonald:

The Arizona Department of Transportation (ADOT), in coordination with the Federal Highway Administration (FHWA) is preparing an Environmental Impact Statement (EIS) to evaluate alternatives for a proposed South Mountain Freeway alignment (Figure 1). We are in the process of finalizing information on Section 4(f) properties gathered from your school district to date.

Section 4(f) properties are publicly owned parks and recreation areas, waterfowl and wildlife refuges, and historic sites considered to have national, state, or local significance. Schools within the study area may be considered Section 4(f) recreational areas if they are available for walk-on public use during off-school hours. We have identified Desert Vista High School within ¼ mile of the proposed South Mountain Transportation corridor alignments.

Previous conversations with high school staff and the District Business office indicate that the school is fenced and locked and a security guard will direct those who are not authorized to be on campus off the school grounds. Although the District owns land in the study area, there are no schools actively being planned.

To ensure that the above information is correct please indicate whether the information is still current or if there are change. Please respond in writing to Audrey Unger, HDR Engineering, Inc. via US Mail at 3200 East Camelback Road, Suite 350, Phoenix, Arizona 85018 or by email at Audrey.Unger@hdrinc.com. **A response received by January 14, 2005 or sooner would be greatly appreciated.** Thank you for your continued assistance.

Sincerely yours,

STEPHEN D. THOMAS

Robert E. Hollis
Division Administrator

Enclosure

cc: SThomas, BVachon, REllis (619E), AUnger (HDR)
SDThomas:cdm

Celebrating 50 Years 1956 2006 Eisenhower Interstate System

BUCKLE UP AMERICA

U.S. Department
of Transportation
Federal Highway Administration

Arizona Division
400 East Van Buren Street
One Arizona Center Suite 410
Phoenix, Arizona 85004-2264

December 15, 2005

In Reply Refer To: NH-202-D(ADY)
TRACS No.: 202L: MA 054 H5764 01L
South Mountain Transportation Corridor

Mr. Bill Christensen
Administrator for Business Services
Tolleson Elementary School District
9261 West Van Buren Street
Phoenix, Arizona 85353

Dear Mr. Christensen:

The Arizona Department of Transportation (ADOT), in coordination with the Federal Highway Administration (FHWA) is preparing an Environmental Impact Statement (EIS) to evaluate alternatives for a proposed South Mountain Freeway alignment (Figure 1). We are in the process of finalizing information on Section 4(f) properties gathered from your school district to date.

Section 4(f) properties are publicly owned parks and recreation areas, waterfowl and wildlife refuges, and historic sites considered to have national, state, or local significance. Schools within the study area may be considered Section 4(f) recreational areas if they are available for walk-on public use during off-school hours. We have identified the following Tolleson Elementary Schools District schools/planned schools within ¼ mile of the proposed South Mountain Transportation corridor alignments:

- Porfirio H. Gonzales Elementary School
- Sheely Farms Elementary School
- 8803 West McDowell Road (Future School)
- Arizona Desert Elementary School (Future School)

Based on our earlier conversations, schools within the Tolleson Elementary School District are fenced and locked after hours and prior arrangements need to be made to access recreational facilities. This policy will also apply to future schools.

To ensure that the above information is correct please indicate whether the information is still current or if there are change. Please respond in writing to Audrey Unger, HDR Engineering, Inc. via US Mail at 3200 East Camelback Road, Suite 350, Phoenix, Arizona 85018 or by email at Audrey.Unger@hdrinc.com. **A response received by January 14, 2005 or sooner would be greatly** assistance **appreciated.** Thank you for your continued assistance.

Sincerely yours,

STEPHEN D. THOMAS

Robert E. Hollis
Division Administrator

Enclosure
cc: SThomas, BVachon, R Ellis (619E), AUnger (HDR)
SDThomas:cdm

Celebrating 50 Years 1956 2006 Eisenhower Interstate System

BUCKLE UP AMERICA

U.S.Department
of Transportation
Federal Highway Administration

Arizona Division
400 East Van Buren Street
One Arizona Center Suite 410
Phoenix, Arizona 85004-2264

December 15, 2005

In Reply Refer To: NH-202-D(ADY)
TRACS No.: 202L: MA 054 H5764 01L
South Mountain Transportation Corridor

Mr. Tim O'Brien, Director of Operations
Tolleson Union School District
9419 West Van Buren Street
Tolleson, Arizona 85353

Dear Mr. O'Brien:

The Arizona Department of Transportation (ADOT), in coordination with the Federal Highway Administration (FHWA) is preparing an Environmental Impact Statement (EIS) to evaluate alternatives for a proposed South Mountain Freeway alignment (Figure 1). We are in the process of finalizing information on Section 4(f) properties gathered from your school district to date.

Section 4(f) properties are publicly owned parks and recreation areas, waterfowl and wildlife refuges, and historic sites considered to have national, state, or local significance. Schools within the study area may be considered Section 4(f) recreational areas if they are available for walk-on public use during off-school hours. We have identified Tolleson Union High School as being within ¼ mile of the proposed South Mountain Transportation corridor alignments. Tolleson Union High School District has not indicated that there are any planned schools within ¼ mile of the proposed alignments.

Previous conversation with the District has indicated that recreational amenities west of the school building and football stadium are open for public use during non-school hours; this includes the tennis, basketball and handball courts and the ball fields. Prior arrangements need to made to use all other recreational facilities.

To ensure that the above information is correct please indicate whether the information is still current or if there are change. Please respond in writing to Audrey Unger, HDR Engineering, Inc. via US Mail at 3200 East Camelback Road, Suite 350, Phoenix, Arizona 85018 or by email at Audrey.Unger@hdrinc.com. **A response received by January 14, 2005 or sooner would be greatly appreciated.** Thank you for your continued assistance.

Sincerely yours,

STEPHEN D. THOMAS

Robert E. Hollis
Division Administrator

Enclosure
cc: SThomas, BVachon, R Ellis (619E), AUnger (HDR)
SDThomas:cdm

U.S. Department
of Transportation
Federal Highway Administration

Arizona Division
400 East Van Buren Street
One Arizona Center Suite 410
Phoenix, Arizona 85004-2264

December 15, 2005

In Reply Refer To: NH-202-D(ADY)
TRACS No.: 202L: MA 054 H5764 01L
South Mountain Transportation Corridor

Mr. Justin Greene, Superintendent
Union Elementary School District
3834 South 91st Avenue
Phoenix, Arizona 85353

Dear Mr. Greene:

The Arizona Department of Transportation (ADOT), in coordination with the Federal Highway Administration (FHWA) is preparing an Environmental Impact Statement (EIS) to evaluate alternatives for a proposed South Mountain Freeway alignment (Figure 1). We are in the process of finalizing information on Section 4(f) properties gathered from your school district to date.

Section 4(f) properties are publicly owned parks and recreation areas, waterfowl and wildlife refuges, and historic sites considered to have national, state, or local significance. Schools within the study area may be considered Section 4(f) recreational areas if they are available for walk-on public use during off-school hours. We have identified the following Union Elementary District schools/planned schools within ¼ mile of the proposed South Mountain Transportation corridor alignments:

- Union Elementary School
- Hurly Ranch Elementary School (Future School)
- 87th Avenue and Durango (Future School)

Based on earlier conversations the, school grounds are fenced and locked during non-school hours and pre-arrangement of after hours activities is necessary. This same policy applies to Hurly Ranch Elementary and the future school at 87th Avenue and Durango

To ensure that the above information is correct please indicate whether the information is still current or if there are change. Please respond in writing to Audrey Unger, HDR Engineering, Inc. via US Mail at 3200 East Camelback Road, Suite 350, Phoenix, Arizona 85018 or by email at Audrey.Unger@hdrinc.com. **A response received by January 14, 2005 or sooner would be greatly appreciated.** Thank you for your continued assistance.

Sincerely yours,

STEPHEN D. THOMAS

Robert E. Hollis
Division Administrator

Enclosure
cc: SThomas, BVachon, REllis (619E), AUnger (HDR)
SDThomas:cdm

Celebrating 50 Years 1956 2006 Eisenhower Interstate System

BUCKLE UP AMERICA

U.S. Department
of Transportation
Federal Highway Administration

Arizona Division
400 East Van Buren Street
One Arizona Center Suite 410
Phoenix, Arizona 85004-2264

January 3, 2006

In Reply Refer To: NH-202-D(ADY)
TRACS No.: 202L: MA 054 H5764 01L
South Mountain Transportation Corridor

Mr. Jack Bliss, Superintendent
Riverside Elementary School District
1414 South 51st Avenue
Phoenix, Arizona 85043

Dear Mr. Bliss:

The Arizona Department of Transportation (ADOT), in coordination with the Federal Highway Administration (FHWA) is preparing an Environmental Impact Statement (EIS) to evaluate alternatives for a proposed South Mountain Freeway alignment (Figure 1). We are in the process of finalizing information on Section 4(f) properties gathered from your school district to date.

Section 4(f) properties are publicly owned parks and recreation areas, waterfowl and wildlife refuges, and historic sites considered to have national, state, or local significance. Schools within the study area may be considered Section 4(f) recreational areas if they are available for walk-on public use during off-school hours. We have identified the following Riverside Elementary School District schools/planned schools within ¼ mile of the proposed South Mountain Transportation corridor alignments:

- Riverside Elementary School
- Kings Ridge School
- Future school site, still in developer ownership and no active school planning yet.

Based on earlier conversations school grounds are fenced and locked during non-school hours and use of recreational facilities need to be arranged in advance. This policy will apply to future schools as well.

To ensure that the above information is correct please indicate whether the information is still current or if there are change. Please respond in writing to Audrey Unger, HDR Engineering, Inc. via US Mail at 3200 East Camelback Road, Suite 350, Phoenix, Arizona 85018 or by email at Audrey.Unger@hdrinc.com. **A response received by February 3, 2006 or sooner would be greatly appreciated.** Thank you for your continued assistance.

– Sincerely yours,

STEPHEN D. THOMAS

Robert E. Hollis
Division Administrator

Enclosure
cc: SThomas, BVachon, R Ellis (619E), AUnger (HDR)
SDThomas:cdm

Celebrating 50 Years 1956 2006 Eisenhower Interstate System

BUCKLE UP AMERICA

Arizona Department of Transportation

Intermodal Transportation Division

206 South Seventeenth Avenue Phoenix, Arizona 85007-3213

Janet Napolitano
Governor

Victor M. Mendez
Director

Sam Elters
State Engineer

January 19, 2006

Mr. Chris Coover
Maricopa Trail Manager
Maricopa County Parks and Recreation Department
411 N. Central Ave., Suite 470
Phoenix, AZ 85004

Re: Project Name: South Mountain Transportation Corridor
ADOT TRACS No.: 202 MA 54 H5764 01L
Project No.: RAM-202-C-200

Dear Mr. Coover

On September 6, 2005, a meeting was held with your agency and our consultant, HDR Engineering Inc., to discuss potential impacts on Maricopa County trails as a result of the various South Mountain Transportation Corridor (SMTC) alternatives. At that time, the Maricopa County Trails Commission requested participation in the planning/design of the preferred SMTC alternative as it relates to impacts on trails.

The Arizona Department of Transportation (ADOT) and the Federal Highway Administration (FHWA) welcome your participation, and anticipate that through this cooperative effort the potential SMTC will not adversely affect the activities, features, or attributes of Maricopa County Trails. When reaching this conclusion, we would request that the official(s) with jurisdiction over the trails agree in writing that the trails will not be adversely affected, in order to support the National Environmental Policy Act (NEPA) process.

The following bullets represent portions of the meeting minutes emailed to you on September 8, 2005. These items could serve as a starting point for planning trail mitigation.

- Designated access points to the trails are currently not known. A trailhead study has not yet been completed. It is likely that trailheads will be located at the juncture of two or more trails in order to make the most efficient use of infrastructure such as parking, restrooms, etc.
- The Maricopa County Trails Commission has indicated that their primary concern is the development of a continuous trail from South Mountain to the Salt River. Their preference is Segment Eight on the north side of proposed alternatives versus having the trail cross the freeway and proceed under the lattice towers on the south side. The preference is for the trail (Segment Seven and Eight) to cross from City of Phoenix-owned land to SRP-owned land, and not to cross private property.
- Currently Segment Seven starts at the South Mountain Park/Preserve boundary and does not connect to the National Trail. The National Trail crosses through South Mountain Park/Preserve. The Maricopa County Trails Commission has entered into an Intergovernmental Agreement (IGA) to connect Segment Seven to the National Trail.

Comments should be addressed to Audrey Unger, HDR Engineering, Inc. via U.S. Mail at 3200 East Camelback Road, Suite 350, Phoenix, Arizona 85018 or by email at Audrey.Unger@hdrinc.com. A **response received by February 6, 2006 or sooner would be greatly appreciated.** Thank you in advance for your cooperation.

Sincerely,

Ralph K. Ellis

Ralph Ellis
Environmental Planner
Environmental & Enhancement Group

Enclosure: Project Study Area and Alternatives, Vicinity and Location Map

U.S. Department of Transportation
Federal Highway Administration

ARIZONA DIVISION

4000 North Central Avenue
Suite 1500
Phoenix, Arizona 85012-3500
(602) 379-3646
Fax: (602) 382-8998
http://www.fhwa.dot.gov/azdiv/index.htm

May 8, 2012

In Reply Refer To:
NH-202-D(ADY)
HOP-AZ

NH-202-D(ADY)
TRACS No. 202L MA 054 H5764 01L
South Mountain Freeway (Loop 202)
Section 4(f) Consultation
"temporary occupancy of trails"

Mr. Chris Coover, Regional Trail Coordinator
Maricopa County Parks and Recreation Department
234 North Central Avenue, Suite 6400
Phoenix, Arizona 85004

Dear Mr. Coover:

In coordination with the Federal Highway Administration (FHWA), the Arizona Department of Transportation (ADOT) is preparing an Environmental Impact Statement (EIS) to evaluate alternatives for the proposed South Mountain Freeway. The alternatives under study would pass through the cities of Phoenix and Tolleson, and the communities of Laveen and Ahwatukee. As part of the EIS, an analysis of properties eligible for protection under Section 4(f) of the U.S. Department of Transportation Act of 1966 (49 U.S.C. 303) must be completed. Section 4(f) properties are any publicly owned parks and recreation areas (including trails), waterfowl and wildlife refuges and historic sites considered to have national, state, or local significance. A number of Maricopa County trails that are eligible for Section 4(f) protection have been identified in the South Mountain Study Area (see attached figure).

If the South Mountain Freeway were built, there would be no permanent impacts to the Maricopa County Trails System as a result of the project. All proposed build alternatives would span existing and proposed trails to avoid impacts. However, during construction (if a build alternative were selected), trails that would be spanned or would be near potential freeway construction would be closed for limited periods of time due to safety reasons. Closures would necessitate that trail users detour around construction sites to rejoin trails further along their length.

Under 23 C.F.R. 774.13 the various exceptions to the requirements of Section 4(f) are identified. Subsection (d) details that "temporary occupancies of land that are so minimal as to not constitute a use within the meaning of Section 4(f)" would be an exception if the following conditions are met:

(1) temporary duration and no change in ownership of the land;
(2) scope of work must be minor;

(3) there are no anticipated permanent adverse physical impacts, nor interference with the protected activities of the property;
(4) the land being used must be fully restored; and
(5) there must be documented agreement of the official with jurisdiction over the Section 4(f) resource.

FHWA believes that potential impacts to the trails constitute a temporary occupancy of this resource and therefore qualifies under the Section 4(f) exception because:

- Although the exact duration has not yet been defined, the duration of closures would be short - less than the duration of freeway construction
- There would be no change in land ownership
- There would be no permanent changes to the trails.
- There would be no anticipated permanent adverse physical impacts, nor would there be interference with the activities or purpose of the trails
- Although no physical disturbance of the trails is anticipated, should this occur, trails would be returned to pre-construction conditions

If you agree with FHWA's determination that temporary closure of portions of the trails would constitute temporary occupancy and qualify for the exception under Section 4(f), please indicate your concurrence by signing below. If you have any questions or concerns, please feel free to contact Rebecca Swiecki at 602-382-8979 or e-mail Rebecca.Swiecki@dot.gov or Ralph Ellis with ADOT at 602-712-7973 or e-mail rellis@azdot.gov.

Sincerely yours,

MAY 21 2012

for Karla S. Petty
Division Administrator

5/10/12

Signature for Maricopa County Parks and Recreation Department Concurrence
NH-202-D(ADY)

Date

Enclosure

Arizona State Parks
AZStateParks.com

October 25, 2012

Karla Petty, Arizona Division Administrator
Federal Highway Administration, U.S Department of Transportation
4000 North Central Avenue, Suite 1500
Phoenix, AZ 85012-3500

Attention: Rebecca Swiecki

RE: NH-202-D(ADY), TRACS #202L MA H5764 01L
SR 202L, South Mountain Freeway DCR and EIS
AZ T:12:9 (ASM) aka Villa Buena & AZ T:12:52 (ASM) aka Pueblo del Alamo
Continuing Section 106 Consultation
Section 4(f)
SHPO-2003-1890 (108557)

Ms. Petty:

Thank you for consulting with the Arizona State Historic Preservation Office [SHPO] pursuant to the National Historic Preservation Act as implemented by 36 CFR Part 800 regarding the Federal Highway Administration [FHWA] proposed alternative alignments of the South Mountain Freeway in the Maricopa County, Arizona. Your most recent letter [dated October 23, 2012] addresses the qualities of two sites as traditional cultural properties [TCPs], and their potential to be affected by the construction of the South Mountain Freeway. We have reviewed the submitted materials and offer the following comments.

Your recent letter proposes that in the event of freeway construction an alternative strategy be adopted to prevent potential adverse effects to the two sites [Villa Buena and Pueblo del Alamo] as they pertain to Criterion A of the National Register of Historic Places [NRHP]. This strategy is that upon completion of the Environmental Impact Statement review process, a TCP Enhancement Plan will be developed and implemented; this shall serve to prevent or eliminate the potential for adverse effects to Villa Buena and Pueblo del Alamo under Section 106 of the NRHP as it pertains to Criterion A of the NRHP. The Gila River Indian Community has concurred that the TCP Enhancement Plan is an adequate precondition for their concurrence with the FHWA recommendation for a finding of "no adverse effect" under Criterion A.

Additionally, your most recent letter proposes the determination under Section 4(f) that the portions of the Villa Buena and Pueblo del Alamo TCPs that would be used by the proposed alignment alternatives under consideration are chiefly important because of what can be learned by data recovery and have

minimal value for preservation in place. This determination allows FHWA to apply the Section 4(f) exception [23 CFR 774.13] to the use of these properties.

Our office supports the above Section 4(f) determination by FHWA. Our office also concurs that the only impacts to AZ T:12:9 (ASM) aka Villa Buena and AZ T:12:52 (ASM) aka Pueblo del Alamo involve NRHP eligibility under Criterion D. We appreciate your continued cooperation in complying with federal historic preservation requirements. If you have any questions or concerns, please feel free to contact me at 602/542-7140 or e-mail me at djacobs@azstateparks.gov.

Sincerely,

David Jacobs
Compliance Specialist/Archaeologist
Arizona State Historic Preservation Office

CC: Linda Davis, ADOT