CLIFTON – ZORILLA STREET BRIDGE PRE-SCOPING

MPD 009-16

PRE-SCOPING DOCUMENT

OCTOBER 2015

Prepared For:

ARIZONA DEPARTMENT OF TRANSPORTATION
MULTIMODAL PLANNING DIVISION

AND

THE TOWN OF CLIFTON

Prepared By

A. INTRODUCTION

The project (ADOT MPD 009-16) is located in Greenlee County within the Town of Clifton. In October 2013, ADOT Bridge Group completed a Bridge Repair Report that identified a variety of repairs that need to be completed on the Zorilla Street Bridge. The purpose of the project is to complete needed repairs to the bridge and improve overall safety and functionality for vehicular traffic and pedestrians.

B. BACKGROUND DATA

Zorilla Street Bridge was constructed in 1918 and is listed on the National Register of Historic Places. This single-span, steel truss bridge crosses the San Francisco River and provides a connection from US 191 (aka Coronado Trail) on the west side of the river to neighborhoods, parks and other community features on the east. Traffic volumes across the bridge are low (see attached 2012 traffic count data) and it has a 10 ton bridge load limit. The bridge deck is wood overlaid with asphalt. No barriers exist to separate vehicles from the streel truss members – many of which are fracture critical. Steel-plated pedestrian walkways are provided on the outside of the steel truss superstructure. Zorilla Street Bridge has previously been known by two other names - “Park Avenue Bridge” and “San Francisco River Bridge”.

Zorilla Street Bridge is vertically arched across the center limiting sight distance for lower profile vehicles at the bridge approaches. The bridge is also quite narrow for the two lanes of travel it currently provides (field measured to be 18’ from face of steel truss to face of steel truss). It is very difficult to pass vehicles side-by-side. In addition, turning movements for large vehicles are not easily accommodated when opposing traffic is present on the bridge due to the proximity of the T-intersection at Park Avenue.

Severed wood posts cut flush with the asphalt surface are present at each vertical steel truss member (see attached photo). These posts may once have served to support bridge railing inside of the steel super structure.

The existing asphalt surface is cracked and potholed. The asphalt depth is approximately 2” thick (see attached photo). Cracked nuts on the truss pins were observed in the superstructure.

Two different efforts at providing scour protection are present at the bridge abutments. One is a large masonry/rock wall running along the east bridge abutment (see included photo) and the other is dumped slag (molten rock refuse from mining operations) in and around the west abutment. The depth and sufficiency of these two ad-hoc scour protection features is unknown. However, there are no visible signs or known history of erosion around the bridge abutments, despite the occurrence of several extreme flow events during its nearly 100-year life.

Zorilla Street is under a yield condition at the intersection with Park Avenue and is stop controlled at the intersection with US 191. There is no posted speed limit on Zorilla Street.

C. PROJECT SCOPE

The improvements associated with this project are anticipated to include the following:

- Rehabilitation of the bridge deck wearing surface
- Replacement of cracked and broken pin nuts
- Removal of rust/repainting
- Installation of an inside bridge railing to protect the steel trusses
- Changing of the vertical clearance sign to 10’-3” from 10’-4”

- Sampling/testing of the wood deck to determine adequacy
- Replacement of damaged wood deck members

D. DEVELOPMENT CONSIDERATIONS

Utilities:
There are several utilities within the project limits. A Bluestake listing of utility providers is provided below:

Member Name	Facility Types	Contact Name	Phone Number	Emergency Phone
Arizona Dept. of Transportation-Safford	CULVERT, ELECTRIC	Delbert Gardner	(928) 965 - 7009	(928) 965 - 7009
Cable One - Morenci	CATV	Chuck Dunlap	(928) 651 - 5849	(800) 691 - 3978
Copper Valley Telephone Co-Op	COAXIAL, FIBER	Danny Chastain	(520) 384 - 8982	(800) 883 - 4237
Morenci Water & Electric	ELECTRIC, WATER	Jamie Dominguez	(928) 865 - 6766	(928) 792 - 8882
Southwest Gas Corporation-Morenci	GAS	Mike Burns	(928) 865 - 1082	(800) 722 - 4277
Town of Clifton	SEWER	Larry Barela	(520) 508 - 3617	(520) 508 - 3617

No utility relocations are expected in association with the proposed improvements.

Roadway:
Due to the narrow width of the bridge and the difficult turning movements at Park Avenue, consideration should be given to modifying the bridge operations to provide only a single lane of travel.

During the initial field review, concerns were raised regarding the damaged asphalt on the bridge allowing water to reach the timbers below and potentially damaging them. It was suggested that diamond steel plating with spray-on friction coating be used instead of asphalt. Steel plating would reduce the dead weight on the bridge compared to asphalt and would increase vertical clearance. Joints in the steel plating would be welded to prevent water penetration. However, additional concerns were raised with changing the decking material to steel plating. Among these concerns were the ability to adequately anchor the steel plates without impacting the bridge's structural integrity, condensation forming beneath the steel plates, and dynamic forces caused by the thermal properties of the steel. Given these considerations, the ultimate decision regarding the bridge decking material will be made during final design.

Environmental:
It is anticipated that federal funding from the Federal Highway Administration (FHWA), combined with local funding, would be used for construction and, therefore, the project would require compliance with the National Environmental Policy Act (NEPA). It is expected that this project would qualify as a Categorical Exclusion (CE). Environmental clearance would be granted by the Arizona Department of Transportation (ADOT) and the FHWA. Associated technical reports would be prepared in accordance with the guidelines and formats required by ADOT and the FHWA.

The following sections summarize the environmental issues identified to date and the additional analysis and documentation that would be undertaken if federal construction funding is to be used.

Cultural Resources:

A review of the AZSITE on-line cultural resource database and the National Register of Historic Places (NRHP) identified several archaeological sites and historic-age buildings within 0.25 mile of the bridge. Some archaeological surveys have occurred in the vicinity; however, none have occurred in the project area. The identified archaeological sites and historic-age buildings are briefly summarized below:

- **AZ W:15:19 (ASM) Clifton Casa Grande Building:** This 45-foot-wide and 55-foot-long building is reported to be the oldest in Clifton. It is constructed of rock masonry and sheathed in stucco. AZSITE indicates that the building is located on the river terrace, and does not explain the oversized site boundary that is obviously larger than a single building of the reported dimensions.
- **AZ W:5:4 (ASM) Clifton City Jail:** Historic-age structure blasted from living rock.
- **AZ W:15:1 (ASM):** Ceramic and chipped stone artifact scatter.
- **AZ W:15:2 (ASM):** Mimbres pueblo and artifact scatter. The pueblo is divided into two sections separated by a plaza, and encompassed by a wall. The walls are constructed of loose uncoursed boulders with small amounts of adobe.
- **AZ W:15:61 (ASM):** Portion of the historic-age Morenci industrial Railway and associated overpass.
- **AZ CC:3:91 (ASM):** Historic Highway US 191 alignment constructed in the early 1940s. This historic highway is a component of the Arizona Historic State Highway System.

The *Arizona Historic Bridge Inventory* states that the Zorilla Street Bridge (referred to in the inventory as the Park Avenue Bridge, ADOT Structure No. 09633) was constructed in 1918 and is a well preserved example of a steel pin connected through truss bridge. It is considered to be one of Arizona's most important early vehicular spans, and is listed in the NRHP under Criteria A and C.

As a NRHP listed property, the bridge is protected under Section 106 of the National Historic Preservation Act and Section 4(f) of the U.S. Department of Transportation Act (Section 4[f]). If the bridge rehabilitation is conducted in accordance with Secretary of the Interior Standards for Rehabilitation and the State Historic Preservation Office (SHPO) concurs with a *de minimis* finding of impact, then a finding of *No Adverse effect* could be possible. An architectural historian would need to work with the bridge engineers to ensure that the materials and methods used for the rehabilitation are appropriate (in accordance with the Secretary of Interior Standards). The architectural historian's participation in the project is anticipated to consist of a trip to Clifton with the bridge engineers for a visual inspection of the bridge, attendance at bridge design meetings in the Phoenix area, and review and comment on bridge design plans at each design stage (e.g., Stage I, II, III, and IV). The proposed details of the rehabilitation would be described in a letter for use in Section 106 consultation with SHPO, which would include a recommendation of effect for the proposed undertaking.

If a *de minimis* finding is not possible, the project would be considered a *direct use* of a resource protected under Section 4(f) and FHWA funding would likely be jeopardized.

An ADOT Historic Preservation Team Consultation Initiation Form and draft cultural consultation letters would be prepared. At this time, it is assumed that an assessment of eligibility of the historic age buildings within 0.25 mile of the project would not be required.

Section 4(f) of the US Department of Transportation Act:

Section 4(f) states that the Secretary of Transportation:

"…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 …there is no prudent and 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 United States Code [U.S.C.] 303[c]).

A "use" of a Section 4(f) resource, as defined in Code of Federal Regulations Title 23, Part 771.135(p) occurs:

a) when property is permanently incorporated into a transportation facility;

b) when there is a temporary occupancy of land that is adverse in terms of the statute's preservation purpose; or

c) when there is a constructive use of a Section 4(f) property.

Recreation/park properties within 0.25 mile of the project area that have the potential to be protected under Section 4(f) of the US Department of Transportation Act include the City-owned Al Fernandez Park, located adjacent to the east side of the river, and the new City-owned Splash Park, located approximately 0.2 miles south of the bridge on the east side of the river. No direct take or constructive use of park property is anticipated with this project, though coordination in writing between the Federal Highway Administration and the official(s) with jurisdiction over the park resources (City of Clifton) will be required in compliance with Section 4(f).

The Zorilla Street Bridge is protected under Section 4(f) as previously noted. Compliance with Section 4(f) will be required. Bridge rehabilitation must be conducted in accordance with the Secretary of the Interior Standards for Rehabilitation. The project, as planned, is not expected to result in a Section 4(f) use of any of the historic-age buildings nearby, nor result in a constructive use of these buildings (e.g., auditory or visual impact). Coordination in writing between the FHWA and the SHPO will be required in compliance with Section 4(f).

Section 6(f) of the Land and Water Conservation Fund Act:

The Land and Water Conservation Fund Act (LWCFA) of 1965 regulates user fees at certain recreational areas and establishes a fund in the US Department of the Treasury to subsidize governmental acquisition of lands and waters for recreational and conservation purposes (16 U.S.C. 460l-4 et seq.). Under Section 6(f) of the LWCFA, any conversion to nonrecreational uses for recreational lands and waters that used LWCFA funds during facility acquisition, establishment, or improvements requires the prior approval of the National Park Service and Arizona State Parks. A review of the National Park Service-LWCF website did not indicate any Section 6(f) funded projects within 0.25 mile of the project area.

Floodplain Encroachment:

A review of the Federal Emergency Management Agency Flood Insurance Rate Map (Map number: 04011C0616D) indicated that a 100-year floodplain (Floodway Zone AE) crosses the project alignment along the San Francisco River. Coordination with the Floodplain Administrator will be required.

Sections 404 and 401 of the Clean Water Act:

The San Francisco River is a Waters of the US and falls under the jurisdiction of the US Army Corps of Engineers. Any work within the jurisdictional limits of the San Francisco River would require compliance with the Clean Water Act, Sections 404 and 401.

Section 404 or 401 permitting would not be required if the bridge can be rehabilitated without disturbance to Waters of the US (i.e., no work within the river channel, no access would be needed into the river, and measures can be employed to prevent construction debris and contaminants from falling into the river). A delineation of Waters of the US would be prepared.

Section 402 of the Clean Water Act/Arizona Pollutant Discharge Elimination System:

Project construction would not disturb one or more acres of land; therefore, a Clean Water Act Section 402 Stormwater Pollution Prevention Plan and Arizona Pollutant Discharge Elimination System construction general permit would not be required.

Biological Resources:

The Arizona Game and Fish Department (AGFD) On-line Environmental Review Tool and the US Fish and Wildlife Service (USFWS) Information, Planning, and Conservation System (IPaC) website were accessed on August 10, 2015, to determine whether sensitive species and/or habitats potentially occur in the project area and to obtain an unofficial list of federally protected species that have the potential to occur within the project limits. Recent aerial photography was also reviewed.

The study area is Designated Critical Habitat for two Endangered fish species: spikedace and loach minnow. The study area is Proposed Critical Habitat for the narrow-headed gartersnake. Based on the current scope of work, no removal of trees or other vegetation suitable for use by breeding birds would be necessary.

The biological investigation would include a review and evaluation of the AGFD On-line Environmental Review Tool and USFWS IPaC website, a site visit conducted by a qualified biologist, and agency coordination. With the potential to impact designated critical habitat of federally listed species, it is anticipated that the biological technical report would need to be in the form of a Biological Evaluation.

Based on the current scope of work, all work will be on the bridge and no work will occur within the river channel. However, with the presence of lead-based paint (LBP), measures would need to be employed to prevent contaminants from falling into the river during rehabilitation activities. Consultation with the USFWS under the Endangered Species Act would be required. The USFWS would have up to 135 days to complete this consultation if “formal” consultation is required. The USFWS may specify conservation measures to be implemented during rehabilitation.

Wetlands and Riparian Areas:

The National Wetlands Inventory shows wetlands in the area of the bridge. The project would not be expected to affect wetlands if they are present in the project area because no work would occur in the San Francisco River or on the river banks.

Potential Contaminants:

Archaeological Consulting Services, Ltd., conducted an assessment of online regulatory resources (listed below) to preliminarily determine the presence or likely presence of hazardous materials impacts located within the Zorilla Street Bridge project area.

The Arizona Department of Environmental Quality eMaps website review (site accessed August 10, 2015) did not identify any hazardous materials sites located within the Zorilla Street Bridge project area. The Arizona Copper Co. Remediation Area is located approximately 200 feet southwest of the project area, on the southwest side of Coronado Boulevard. An underground storage tank and leaking UST (LUST) site is located approximately 1,000 feet northwest of the project area. The LUST case is closed, however the Remediation Area is listed as active. Based on the distance from the project area and the initial project scope, these sites are not anticipated to impact the project. The impacts of these sites should be reevaluated after the construction scope of work is available.

The U.S. Environmental Protection Agency (EPA) NEPAassist website review (site accessed August 10, 2015) did not identify any hazardous materials sites located within the Zorilla Street Bridge project area. A water discharger site was identified approximately 700 feet northwest of the project area, but no violations were listed for the facility. This site is not anticipated to impact the project based on the initial project scope.

The EPA Enforcement and Compliance History Online (ECHO) website review (site accessed August 10, 2015) did not identify any hazardous materials sites located within, or immediately adjacent to, the Zorilla Street Bridge project area.

A Preliminary Initial Site Assessment (PISA) would be prepared for the project. The PISA would include a site visit by a qualified hazardous materials specialist and a review of the results of a hazardous materials database record search. A LBP and asbestos assessment will be made during the site visit and samples collected for testing, as warranted. The results of any sampling would be summarized in a separate report. At the kick-off meeting/field review, it was stated that there is known LBP on the bridge. Sampling of the painted surfaces of the bridge would be needed to determine the actual level of lead in the paint.

The level of LBP, the condition of the existing paint, and the scope of the bridge repairs are some of the factors that would need to be considered during design to determine the appropriate level of LBP mitigation warranted. Depending on the condition of the paint, it may be acceptable to encapsulate the LBP with a new coating of paint. If the existing paint is rusting, spalling, or peeling in isolated areas only, the paint on the affected areas could likely be removed before the bridge is repainted. For any approach, measures would need to be employed to prevent contaminants and construction debris from falling into the river.

Social and/or Economic Impacts:

Title VI of the Civil Rights Act of 1964 and related statutes assure that individuals are not excluded from participation in, denied the benefit of, or subjected to discrimination under any program or activity receiving federal financial assistance on the basis of race, color, national origin, age, sex, and disability. Executive Order 12898 on environmental justice (EJ), dated February 11, 1994, directs that programs, policies, and activities not have a disproportionately high and adverse human health or environmental effect on minority and low-income populations.

The project is in a fully developed urban setting. In accordance with current ADOT guidance, the presence of Title VI/EJ populations may not need to be determined because the project would have

no new effects on the residents or on the surrounding area. The need for additional analysis would be evaluated during the environmental clearance process.

Scenic or Historic Road:

Based on ADOT and FHWA websites, the closest scenic road to the project area is the Coronado Trail National Scenic Byway, which begins in Morenci at the junction of US 191 and Burro Alley and extends to Springerville. No historic roads are within the project limits.

Land Use:

The project limits are a fully developed urban area. Adjacent land uses include an outdoor recreation area, retail commercial buildings, transportation facilities, and open space.

Air Quality and Noise:

Air quality regulations are based on the National Ambient Air Quality Standards (NAAQS). The concentrations of criteria pollutants in the project area are below the levels established by the NAAQS and, therefore, the project area is considered in "attainment" of air quality standards. The project site is within the Morenci Sulfur Dioxide Maintenance Area. The project would not modify the existing roadway alignment or increase roadway traffic capacity; therefore, no quantitative air quality or noise analyses would be required for the project. Qualitative air quality and noise analyses would be conducted as part of the environmental clearance process.

Sole Source Aquifers:

Based on recent EPA mapping, the project is not within the boundaries of any sole source aquifer.

Prime and Unique Farmland:

Based on a review of aerial photography and field investigation, no agricultural land is in the project area.

Survey/Right-of-Way:
It is anticipated that the construction will be confined within the right-of-way boundaries and no new right-of-way or temporary construction easements will be required.

E. SCHEDULE

An anticipated project schedule is attached to this document. At the beginning of the design phase (within three weeks of the design kick-off meeting), the project manager in consultation with the design team shall develop a customized project schedule that will reflect the full scope of work. Upon request, ADOT's Program and Project Management Section will provide the technical support to the project team in this effort.

F. ESTIMATED CONSTRUCTION COST

In order to assist the Town in pursuing adequate funding for the project, two high-level cost estimates have been prepared. One assumes installing a steel-plated bridge deck and the other replacing the existing asphalt. The itemized estimates are included in this report and are summarized in the following table.

	With Steel Plate Decking	With Asphalt Decking
Bridge Rehabilitation	$573,344	$387,126
Design, contingency, review costs, etc.	$340,738	$255,078
Total Construction Cost	$914,082	$642,205

The estimated unit costs are based upon current unit prices obtained from ADOT's "Construction Costs Data Base" and the 2013 Chevelon Creek steel truss bridge rehabilitation project in northern Arizona.

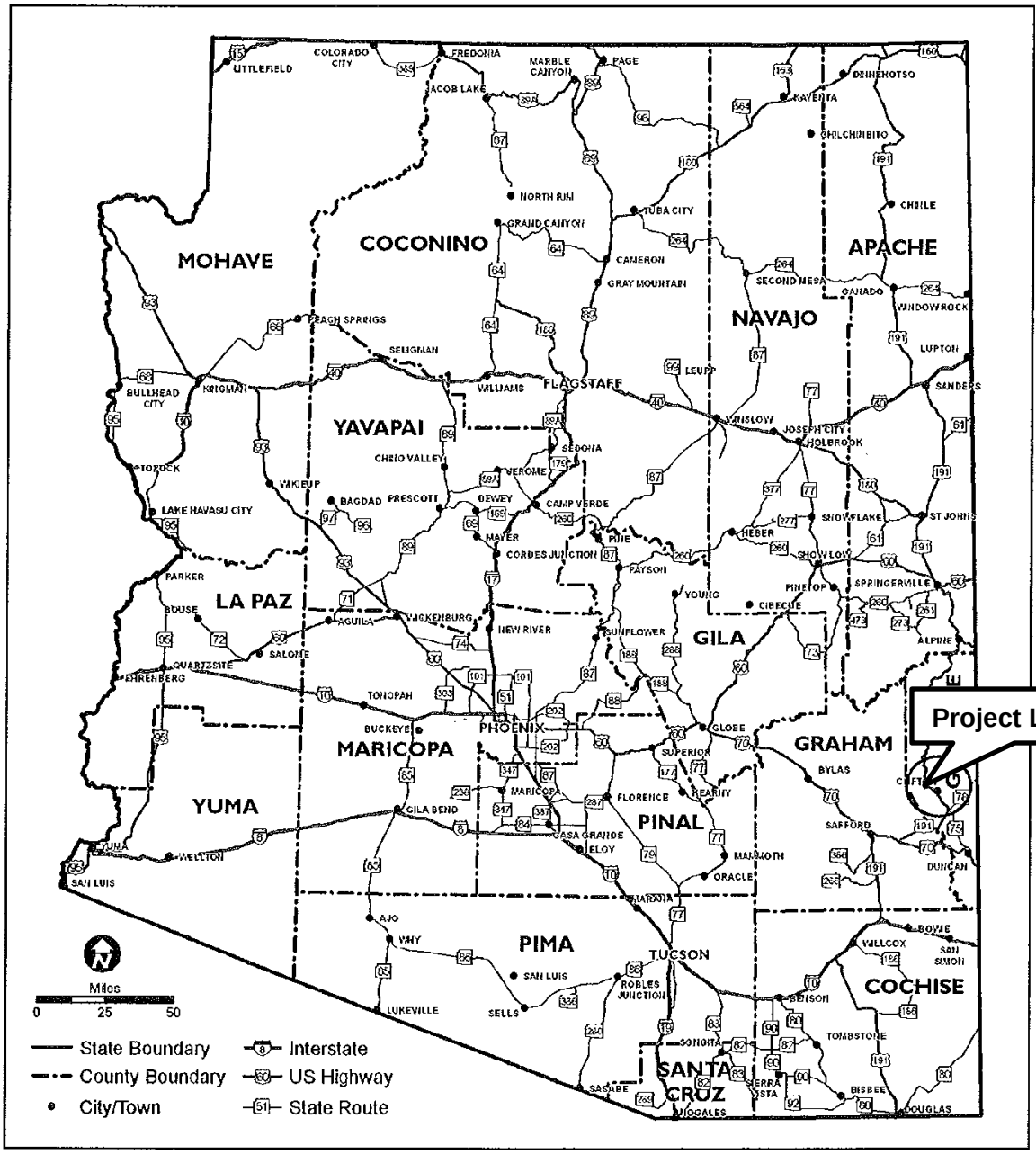
Clifton: Zorilla Street Bridge
Estimated Engineering Construction Cost - Steel Plate Bridge Decking

Item Number	Item Description	Unit	Quantity	Unit Price	Amount
2020029	Removal Of Asphaltic Concrete Pavement	SY	420	$100.00	$42,000
2020053	Remove Sign	EA	1	$200.00	$200
2020153	Remove (Lead Paint And Pack Rust)	Lsum	1	$100,000.00	$100,000
6010504	Bridge Repair (Pin Nut Replacement)	EA	4	$3,000.00	$12,000
6011114	Combination Pedestrian-Traffic Bridge Railing	LF	420	$120.00	$50,400
6040002	Structural Steel (Deck Plating)	LB	57881	$2.50	$144,703
6080050	Sign Panel	SF	9	$40.00	$360
6100021	Paint Steel Structure	Lsum	1	$60,000.00	$60,000
9240050	Sampling/Testing Existing Wood Decking	Lsum	1	$2,000.00	$2,000
9240051	Replacement of Damaged Wood Deck Members	Lsum	1	$8,000.00	$8,000
				SUBTOTAL =	**$419,663**
	Miscellaneous Work	Cost	20%		$83,933
				SUBTOTAL =	**$503,596**
	Construction Surveying & Layout	Cost	1%		$5,036
	Erosion Control & Pollution Prevention	Cost	1%		$5,036
	Dust Palliative	Cost	1%		$5,036
	Maintenance & Protection of Traffic	Cost	0.5%		$2,518
				SUBTOTAL =	**$521,222**
	Mobilization	Cost	10%		$52,122
				SUBTOTAL =	**$573,344**
	Design	Cost	9%		$51,601
	Construction Engineering	Cost	15%		$86,002
	Utility Relocation	Cost	2%		$11,467
	Contingency	Cost	20%		$114,669
	Environmental Clearance	Lsum	1	$47,000.00	$47,000
	ADOT Design Review	Lsum	1	$30,000.00	$30,000
				PROJECT TOTAL =	**$914,082**

Clifton: Zorilla Street Bridge
Estimated Engineering Construction Cost - Ashpalt Bridge Decking

Item Number	Item Description	Unit	Quantity	Unit Price	Amount
2020029	Removal Of Asphaltic Concrete Pavement	SY	420	$100.00	$42,000
2020053	Remove Sign	EA	1	$200.00	$200
2020153	Remove (Lead Paint And Pack Rust)	Lsum	1	$100,000.00	$100,000
4060023	Asphaltic Concrete (Bridge Deck Paving)	SY	420	$20.00	$8,400
6010504	Bridge Repair (Pin Nut Replacement)	EA	4	$3,000.00	$12,000
6011114	Combination Pedestrian-Traffic Bridge Railing	LF	420	$120.00	$50,400
6080050	Sign Panel	SF	9	$40.00	$360
6100021	Paint Steel Structure	Lsum	1	$60,000.00	$60,000
9240050	Sampling/Testing Existing Wood Decking	Lsum	1	$2,000.00	$2,000
9240051	Replacement of Damaged Wood Deck Members	Lsum	1	$8,000.00	$8,000
				SUBTOTAL =	**$283,360**
	Miscellaneous Work	Cost	20%		$56,672
				SUBTOTAL =	**$340,032**
	Construction Surveying & Layout	Cost	1%		$3,400
	Erosion Control & Pollution Prevention	Cost	1%		$3,400
	Dust Palliative	Cost	1%		$3,400
	Maintenance & Protection of Traffic	Cost	0.5%		$1,700
				SUBTOTAL =	**$351,933**
	Mobilization	Cost	10%		$35,193
				SUBTOTAL =	**$387,126**
	Design	Cost	9%		$34,841
	Construction Engineering	Cost	15%		$58,069
	Utility Relocation	Cost	2%		$7,743
	Contingency	Cost	20%		$77,425
	Environmental Clearance	Lsum	1	$47,000.00	$47,000
	ADOT Design Review	Lsum	1	$30,000.00	$30,000
				PROJECT TOTAL =	**$642,205**

Project Location Map




Project Map
Fisco Ave
San Francisco River
Park Ave
Highline Rd
Chase Creek
Zorilla Street Bridge
Zorilla St
Coronado Trail
San Francisco River
Metcalf Dr
Park Ave
North

PROJECT PHOTOS

Zorilla Street Bridge – Looking East

West Abutment – Poured mine slag used as scour protection (Gas main shown)

East Abutment – Rock wall built in front of abutment

Wood Bridge Deck – Looking up from below

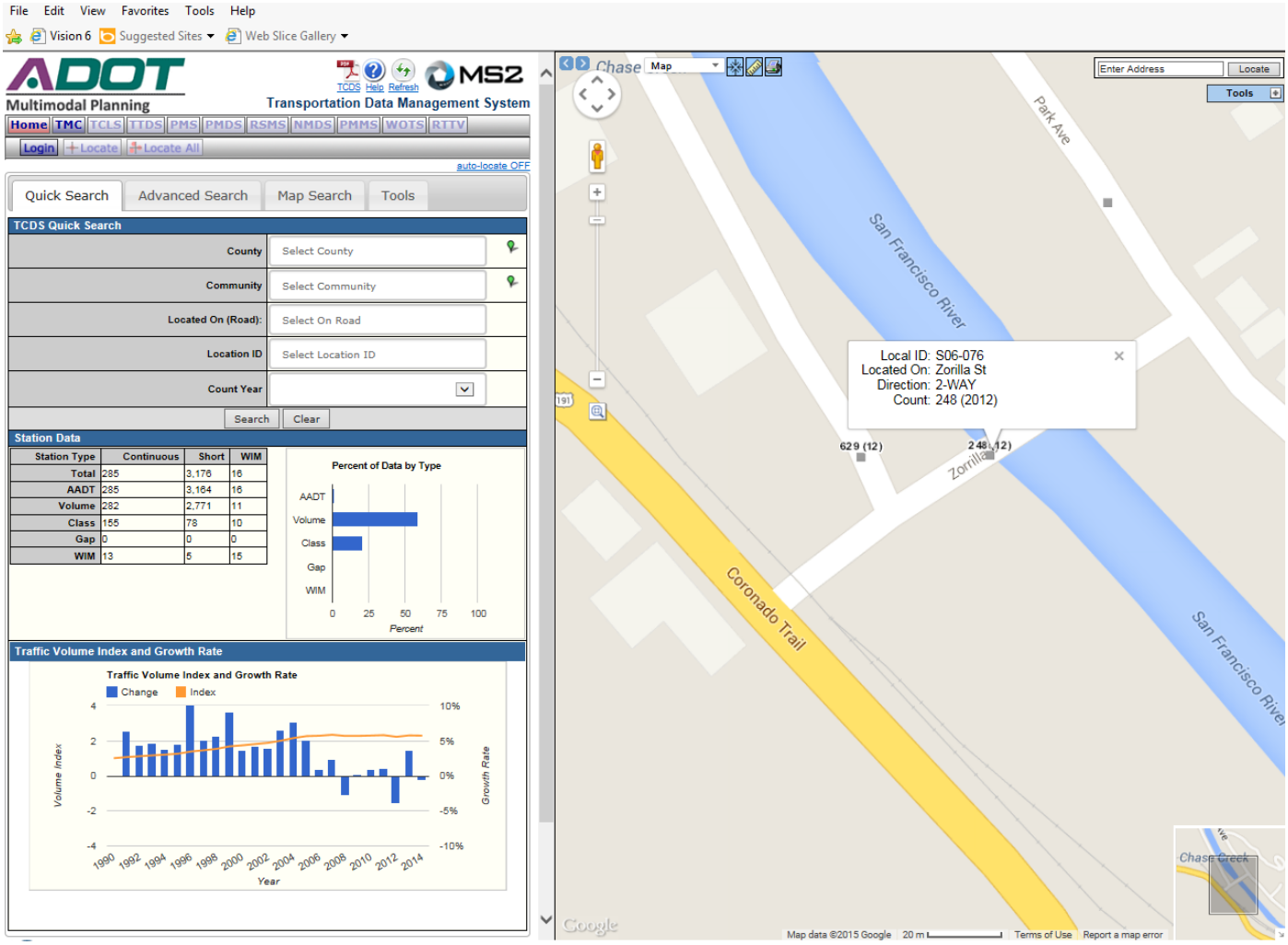
Zorilla Street Bridge – Looking Southwest

Zorilla Street Bridge –Looking West

Asphalt Pavement Deck - ~2" Thickness

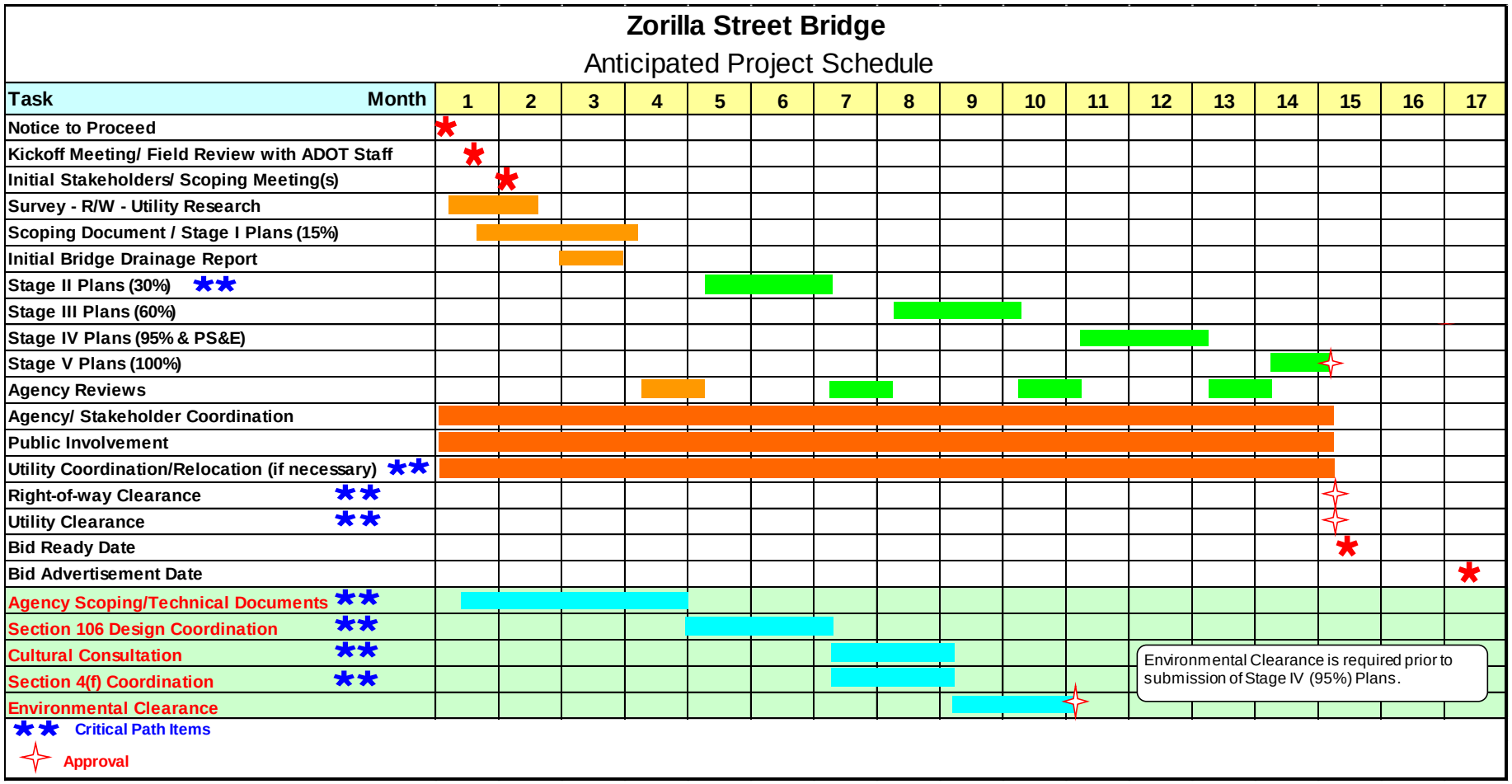
Severed Wood Post Next to Wooden Pavement Edge

ADOT Traffic Count Data



Zorilla Street Bridge

Anticipated Project Schedule



Meeting Minutes

Clifton: Zorilla Street Bridge Pre-Scoping
Kickoff Meeting/ Field Review
MPD 009-16
August 11, 2015
Clifton Train Depot

Attendees:

Name	Organization	Phone	Email
Paul David*	ADOT Safford District	928-651-5800	pdavid@azdot.gov
Patrice Brun*	ADOT Geotech	602-712-8099	pbrun@azdot.gov
Mark Hoffman*	ADOT MPD	602-712-7454	mhoffman@azdot.gov
Xuefan Xu*	ADOT Bridge	602-712-8601	xxu@azdot.gov
Ian McGaughey*	Town of Clifton	928-865-4146	ian@townofclifton.com
Nathan Palmer*	Structural Grace	602-228-3714	npalmer@structuralgrace.com
Elijah Williams*	EPS Group Inc.	480-503-2250	elijah.williams@epsgroupinc.com
Leslie Stafford*	EcoPlan	480-733-6666	Lstafford@ecoplanaz.com

*Participated in Field Review following the meeting.

The meeting began with introductions of the attendees. An agenda was distributed to everyone present.

Background:

Zorilla Street Bridge was constructed in 1918 and is listed on the National Register of Historic Places. This single-span, steel truss bridge crosses the San Francisco River and provides a connection from US 191 (aka Coronado Trail) on the west side of the river to neighborhoods, parks and other community features on the east. Traffic volumes across the bridge are low and it has a 10 ton bridge load limit. The bridge deck is wood overlaid with asphalt. No barriers exist to separate vehicles from the streel truss members – many of which are fracture critical. Pedestrian walkways are provided on the outside of the steel truss superstructure. Zorilla Street Bridge has previously been known by two other names - “Park Avenue Bridge” and “San Francisco River Bridge”.

Project Scope:

Elijah explained the Pre-scoping effort associated with the Zorilla Street Bridge. Primary deliverables include a pre-scoping document, schedule, and high level cost estimate.

These items will be delivered in an accelerated fashion (~6 weeks) and are intended to assist the Town in pursuing adequate funding and project development.

In October 2013, ADOT Bridge Group completed a Bridge Repair Report that identified a variety of repairs that need to be completed on the Zorilla Street Bridge. Among other things, these repairs included: rehabilitating the bridge deck wearing surface, replacing cracked and broken pins and nuts, removing rust/repainting, providing an inside bridge railing to protect the steel trusses, and changing the vertical clearance sign to 10'-3" from 10'-4". In addition, Paul David suggested that the wood deck should be sampled/tested to determine if it's still adequate or in need of replacement due to deterioration, dry rot, etc.

Zorilla Street Bridge is quite narrow for the two lanes of travel it currently provides (field measured to be 18' from face of steel truss to face of steel truss). Paul David noted that he had driven this bridge on many past occasions and found it very difficult to pass vehicles side-by-side. He also noted that due to the proximity of the T-intersection at Park Avenue, turning movements for large vehicles are not easily accommodated when opposing traffic is present on the bridge. It was agreed that, consideration should be given to modifying the bridge operations to provide only a single lane of travel.

Given the 10 ton bridge load limit, it was discussed whether the potential improvements could strengthen the bridge sufficiently to increase this load limit. Ian McGaughey explained that the Town only desires to keep the bridge functionality at its current/historic level. There is no need to retrofit the bridge to accommodate heavier vehicles.

Mark Hoffman explained that the potential funding associated with this bridge project would typically limit construction/repair costs to about $1 million. While there is currently no prioritization process for these funds, it may be coming soon.

Field Review Notes:

Town different types of scour protection were observed at the bridge abutments. This protection included a large masonry/rock wall running along the east bridge abutment (see included pho and dumped slag (molten rock refuse from mining operations) in and around the east abutment. The depth of these two scour protection features is unknown. No visible signs of erosion around the bridge abutments were noted.

Zorilla Street Bridge is vertically arched across the center limiting sight distance for lower profile vehicles at the bridge approaches.

Severed wood posts cut flush with the asphalt surface were noted at each vertical steel truss member (see attached photo). It appeared that these posts may once have served to support bridge railing inside of the steel super structure.

The existing asphalt surface is cracked and potholed. The asphalt depth was observed to be about 2" thick (see attached photo).

Bridge handrails at the approaches were in disrepair. Mark Hoffman noted that the funding associated with this type of bridge repair project does not include approach work.

Cracked nuts on the truss pins were observed in the superstructure.

Utilities:

There are numerous utilities around and/or mounted on the bridge. A Bluestake listing of utility providers is provided below:

Member Name	Facility Types	Contact Name	Phone Number	Emergency Phone
Arizona Dept. of Transportation-Safford	CULVERT, ELECTRIC	Delbert Gardner	(928) 965 - 7009	(928) 965 - 7009
Cable One - Morenci	CATV	Chuck Dunlap	(928) 651 - 5849	(800) 691 - 3978
Copper Valley Telephone Co-Op	COAXIAL, FIBER	Danny Chastain	(520) 384 - 8982	(800) 883 - 4237
Morenci Water & Electric	ELECTRIC, WATER	Jamie Dominguez	(928) 865 - 6766	(928) 792 - 8882
Southwest Gas Corporation-Morenci	GAS	Mike Burns	(928) 865 - 1082	(800) 722 - 4277
Town of Clifton	SEWER	Larry Barela	(520) 508 - 3617	(520) 508 - 3617

Utility relocations are expected to be minor in association with the proposed improvements due to the bridge remaining in place. Potential relocations may include utilities impacted by the construction of scour protection at the west abutment (gas).

Environmental Considerations:

Cultural Resources. The Zorilla Street Bridge is listed on the National Register of Historic Places. It is considered one of Arizona's most important vehicular spans. It is protected under the National Historic Preservation Act (NHPA) and Section 4(f) of the US DOT Act. If the bridge rehabilitation is conducted in accordance with Secretary of the Interior Standards for Rehabilitation (Standards) and the State Historic Preservation Office (SHPO) concurs with a *de minimis* finding of impact, then a finding of *No Adverse effect* could be possible. An Architectural Historian would work with the bridge engineers to

ensure that the materials and methods used for rehabilitation are in accordance with the Standards. If a de minimis finding is not possible, the project would be considered a direct use of a resource protected under Section 4(f) and FHWA funding would likely be jeopardized. A cultural resources survey may be required for the project.

Section 4(f) of the US Department of Transportation Act. In addition to the Zorilla Street Bridge, it was noted in the kickoff meeting that Fernandez Park is in close proximity to the bridge. Publicly owned and open to the public, this outdoor park is protected under Section 4(f). Ian McGaughey, Town of Clifton, noted that he did not believe that any land would need to be acquired from the park property.

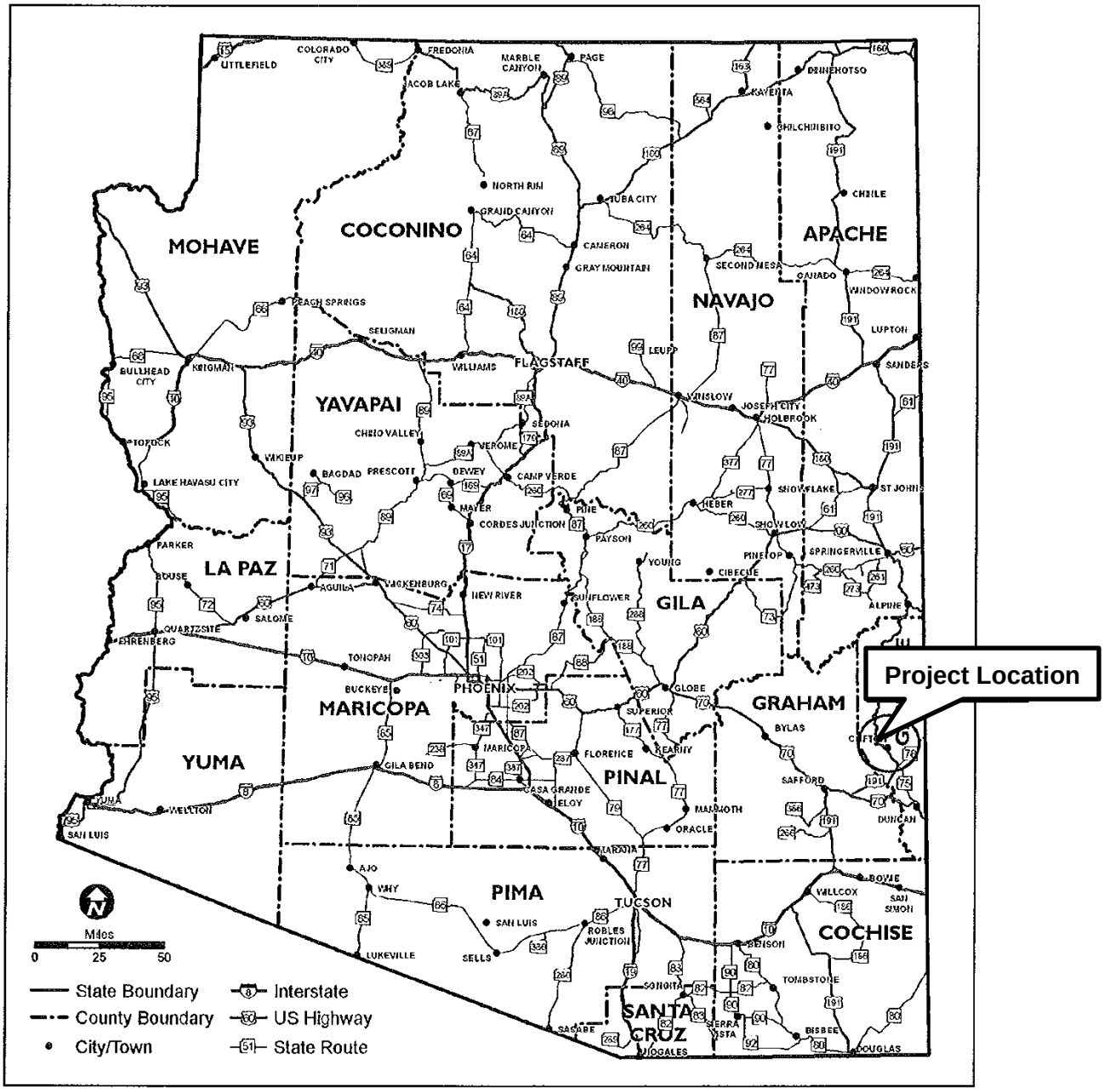
Floodplain and Clean Water Act. The San Francisco River is considered *Waters of the US* and falls under the jurisdiction of the US Army Corps of Engineers. Work within the San Francisco River would require compliance with the Clean Water Act, Sections 404 and 401. A 100-year floodplain follows the river.

Biological Resources. The study area is Designated Critical Habitat for two endangered fish species: spikedace and loach minnow. The study area is also Proposed Critical Habitat for the narrow-headed gartersnake. Work in the San Francisco River would require consultation with the US Fish and Wildlife Service in accordance with the Endangered Species Act. If the project requires the removal of any trees or other vegetation suitable for use by breeding birds, compliance with the Migratory Bird Treaty Act would be required during construction.

Wetlands. The National Wetlands Inventory shows wetlands in the area of the bridge. The area may not meet the criteria for "wetlands" as established by the Corps but a wetlands delineation will be required to document their presence.

Hazardous Materials. The ADOT bridge inspection report notes that there is lead in the existing bridge paint. Preparation of a lead abatement plan will likely be required for the bridge rehabilitation. A containment system will need to be installed during restoration activities to ensure that no construction debris drops into the river.

Project Location Map




Frisco Ave
San Francisco River
Park Ave
Highline Rd
Chase Creek
Zorrilla St
Coronado Trail
San Francisco River
Metcalf Dr
Park Ave

ARIZONA DEPARTMENT OF TRANSPORTATION
KICKOFF/FIELD REVIEW SIGN-IN SHEET
Clifton - Zorilla Street Bridge

Meeting Location: Clifton Train Depot **Meeting Date:** August 11, 2015

Attendees

Initials	Organization	Name	Phone	Email
XXu	ADOT Bridge	Xuefan Xu	602-712-8601	XXu@azdot.gov
	ADOT Drainage	Weiwei Mu		
	ADOT EPG	Ralph Ellis		
PB	ADOT Geotech	Patrice Brun	602 712 8099	pbrun@azdot.gov
	ADOT Safford District	Paul David	928 651 5800	pdavid@azdot.gov
MA	ADOT MPD	Mark Hoffman		
IM	Town of Clifton	Ian McGaughey	928 865 4146	ian@townofclifton.com
EW	EPS Group	Elijah Williams	480-503-7250	ELIJAH.WILLIAMS@EPSGROUP.COM
	EcoPlan	Leslie Stafford	480-733-6602 x138	lstafford@ecoplanaz.com
NJP	Structural Grace	Nathan Palmer	602-228-3714	npalmer@structuralgrace.com

ADOT Bridge - Field Review Checklist

Project #: Pre-Scoping Name: Clifton Zorilla St. Bridge Date: 8/12/2015
Project Limits:

BRIDGE DESIGN FIELD REVIEW FORM

BRIDGE NO. 9833

To 'check' boxes, double click and select 'checked' in the Default value box

ITEM	ITEM NEEDED YES	NO	MAYBE	NOTES (Quantity/Cost estimate and other comments)
Replace Bridge[b]	☐	☒	☐	
Span Bridge	☐	☒	☐	
Box Culvert	☐	☒	☐	
Unique Structure	☒	☐	☐	
Replace Bridge Deck	☐	☐	☒	After Remove the overlay, Inspect the Deck condition
Widen	☐	☒	☐	
Rail/Sidewalk Barrier	☐	☐	☒	Need add side rail to protect the TRUSS member
Corrosion Protection	☒	☐	☐	
Structural Repairs	☒	☐	☐	
Deck	☒	☐	☐	
Superstructure	☒	☐	☐	
Substructure	☐	☒	☐	Suspect to
Concrete Wearing Course	☒	☐	☐	well asphalt
Expansion Joints	☒	☐	☐	
Approach Panels	☐	☒	☐	
Erosion/Scour Protection	☐	☒	☐	
Painting	☒	☐	☐	
Over Water?	☒	☐		
Utility accommodation	☐	☒	☐	
Need Asbestos Assessed?	☐	☒	☐	
Removals	☐	☒	☐	
Br Inventory Sheet indicates that Accelerated Bridge Construction (ABC) should be considered?	☐ Yes ☒ No			If yes, Project Manager should complete Stage 2 ABC selection process.
Other[a]	☐	☐	☐	
Other[a]	☐	☐	☐	
Concur by C.O. Bridge	Yes ☐	No ☐	Date:	

([a] these items and any other out-of-the ordinary major quantity item needs a quantity and cost estimate) ([b] include bridge materials)

Note: For bridge projects, the District Bridge Engineer should forward this Scoping Worksheet to CO Regional Bridge Engineer for their comments.

RETURN FORM TO PROJECT MANAGER BY:

PROJECT PHOTOS

Zorilla Street Bridge – Looking East

West Abutment – Poured mine slag used as scour protection (Gas main shown)

East Abutment – Rock wall built in front of abutment

Wood Bridge Deck – Looking up from below

Zorilla Street Bridge – Looking Southwest

Zorilla Street Bridge –Looking West

Asphalt Pavement Deck - ~2″ Thickness

Severed Wood Post Next to Wooden Pavement Edge