Draft Environmental Assessment

Volume II – Appendices

Virgin River Bridge No. 1 (STR # 1089)
015-A(216)S
015 MO 008 H8760 01C
October 2017

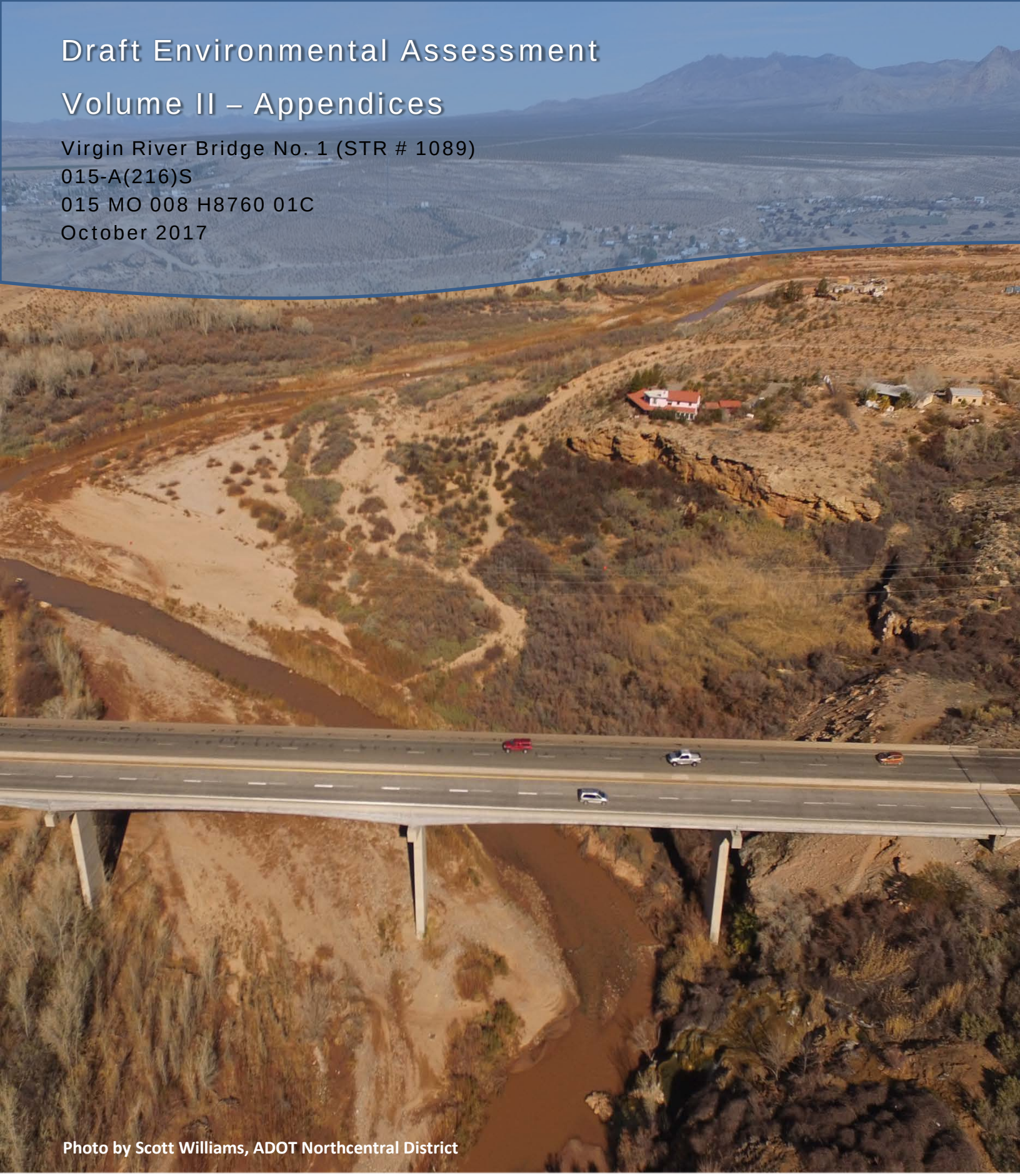

Photo by Scott Williams, ADOT Northcentral District

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Appendix A
Cultural Consultation Letters

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Cultural Resources Consultation

Agency consultation for determinations of impacts on cultural resources under Section 106 of the National Historic Preservation Act of 1966, as amended, occurred on one occasion over the duration of the study.

March 2015 Consultation

In March 2015, FHWA conducted initial consultation with appropriate agencies and tribes to gather their input and concurrence on project effect based on the results of a Class III survey completed for this project. In the March 4, 2015 consultation letter, the FHWA recommended that a finding of "no adverse effect" is appropriate for this project.

A list of agencies and tribes consulted and a summary of the responses and concurrence dates for the consultation are shown in Table A-1. All respondents concurred with the findings presented in the 03/04/2015 consultation letter. Table A-1 lists the signed agency and tribal concurrence letters.

October 2015 Consultation

During the project development, comments were received regarding the proposed access routes. As a result, additional access routes were evaluated. Cultural resources survey of the proposed access routes was conducted and continuing consultation was initiated on 10/05/2015. A list of agencies and tribes consulted and a summary of the responses and concurrence dates for the consultation are shown in Table A-2. All respondents concurred with the findings presented in the both the 03/04/2015 and 10/05/2015 consultation letters. Table A-2 lists the signed agency and tribal concurrence letters.

Table A-1. Cultural Resources Consultation and Responses

Recipient	Response Received	Date of Concurrence
Initial Consultation Letters Sent in March 2015		
Bureau of Land Management	Concurred	03/04/2015
Arizona State Historic Preservation Office	Concurred	03/09/2015
Chemehuevi Indian Tribe	No response received	
Colorado River Indian Tribes	No response received	
Havasupai Tribe	No response received	
Hopi Tribe	Concurred	03/13/2015
Hualapai Tribe	No response received	
Kaibab Tribe of Paiute Indians	No response received	
Paiute Indian Tribe of Las Vegas	No response received	
Moapa Band of Paiute Indians	Concurred	03/25/2015
Paiute Indian Tribe of Utah	No response received	
San Juan Southern Paiute Tribe	No response received	

Table A-2. Cultural Resources Consultation and Responses

Recipient	Response Received	Date of Concurrence
Continuing Consultation Letters Sent in October 2015		
Bureau of Land Management	Concurred	10/15/2015
Arizona State Historic Preservation Office	Concurred	10/27/2015
Chemehuevi Indian Tribe	No response received	
Colorado River Indian Tribes	No response received	
Havasupai Tribe	No response received	
Hopi Tribe	Concurred	10/08/2015
Hualapai Tribe	No response received	
Kaibab Tribe of Paiute Indians	No response received	
Paiute Indian Tribe of Las Vegas	No response received	
Moapa Band of Paiute Indians	No response received	
Paiute Indian Tribe of Utah	No response received	
San Juan Southern Paiute Tribe	No response received	

U.S. Department of Transportation
Federal Highway Administration

ARIZONA DIVISION

4000 North Central Avenue
Suite 1500
Phoenix, Arizona 85012-3500
Phone: (602) 379-3646
Fax: (602) 382-8998
http://www.fhwa.dot.gov/azdiv/index.htm

March 4, 2015

In Reply Refer To:

015-A(211)T
TRACS No. 015 MO 008 H8760 01L
Virgin River Bridge No. 1 (STR #1089)
Initial Section 106 Consultation
"no adverse effect"

Mr. John M. Herron, Archaeologist
Bureau of Land Management Arizona Strip Field Office
345 East Riverside Drive
St. George, Utah 84790-6714

Dear Mr. Herron:

The Federal Highway Administration (FHWA) and the Arizona Department of Transportation (ADOT) are planning a bridge rehabilitation project at the Virgin River Bridge No. 1 (Structure No. 1089) along Interstate 15 (I-15) near the unincorporated Communities of Littlefield and Beaver Dam in Mohave County. The bridge is located along I-15 at milepost (MP) 9.55. As this project is qualified for federal funding and involves federal land administered by the Bureau of Land Management (BLM), it is considered an undertaking subject to Section 106 review. Within the project limits, the land immediately adjacent to I-15 is either privately owned or under the jurisdiction of BLM. ADOT currently owns the right-of-way (ROW) or holds easement along the I-15. Consulting parties for this project include FHWA, ADOT, BLM, the State Historic Preservation Office (SHPO), the Chemehuevi Indian Tribe, the Colorado River Indian Tribes, the Havasupai Tribe, the Hopi Tribe, the Hualapai Tribe, the Kaibab-Paiute Tribe, the Las Vegas Paiute Tribe, the Moapa Band of Paiutes, the Paiute Indian Tribe of Utah, and the San Juan Southern Paiute Tribe.

The scope of work would involve the following:

- Geotechnical investigation;
- Grading two existing two-track and dirt roads to be used as access roads for construction equipment;
- Grading and filling portions of the Virgin River floodplain;
- Removing and replacing the existing bridge deck, girders, median, and exterior barriers;
- Widening the new bridge deck to provide shoulders that meet current design criteria (6-foot [ft] inside shoulders and 12-ft outside shoulders);
- Widening the roadway approaches to match the new bridge width;
- Adding new girders to support the wider bridge deck;
- Constructing at least two crane pads beneath the bridge and using a crane to place the new girders and for other bridge construction;
- Constructing a temporary bridge across the Virgin River low-flow channel, to allow construction personnel to cross the river;

- Constructing cofferdams or some sort of temporary barrier around Pier 3 as needed;
- Widening and strengthening all abutments, piers, and foundations as necessary;
- Providing scour countermeasures as required to mitigate erosion around the pier foundations; and
- Signing and striping as necessary.

The geotechnical investigation is likely to include:

- Geologic reconnaissance and surface geologic mapping of the site;
- Geophysical survey lines;
- Drilling up to 35 test borings with casing advancer (in soil) and triple-tube coring (in rock) methods to depths of 10-80 ft below existing site grades; and
- Plugging the test holes with either native materials or a cement/bentonite mixture and capping them as needed with small amounts of concrete.

Several temporary construction easements (TCEs) are anticipated for this project. The area of potential effects (APE) encompasses the existing I-15 easement and ROW between the Littlefield traffic interchange (TI) at MP 8.63 and Desert Springs TI at MP 9.84; an approximately 600-ft-long segment of County Road 91 south of the Littlefield TI; and the TCEs, which will be used for temporary construction, staging purposes, and as access roads to the area beneath Bridge No. 1. The dirt access roads will be widened.

The existing I-15 easement and ROW has been previously surveyed by ADOT (Rosenberg 1985), Plateau Mountain Desert Research (PMDR) (Spalding 1998), and Logan Simpson Design, Inc. (LSD) (Hill and Fahrni 2014). The ADOT results are reported in "*Cultural Resources Inventory Report for Project IR-15-1-134, Littlefield Access Ramp.*" The survey examined the portion of the current APE within the I-15 ROW between MP 9.80 and MP 9.84 and resulted in negative findings.

The PMDR results are reported in "*A Cultural Resources Survey of the Interstate 15 North-East and South-West Bound Lanes Right-of-Way, Milepost 7.94 and 13.12, Mohave County, Arizona*" (Spalding 1998). The PMDR survey, which examined the I-15 ROW and easement within the current APE from MP 8.63 to MP 9.84, resulted in the identification of one site, AZ A:1:11 (ASM), a prehistoric Virgin Anasazi habitation. Site avoidance was recommended by PMDR. SHPO previously concurred with the adequacy of the PMDR report (Spalding 1998) (Morgan [ADOT] to Jacobs [SHPO], March 23, 2005; SHPO concurrence April 4, 2005).

The LSD results are reported in "*A Class III Cultural Resources Survey of 583.44 Acres along Interstate 15 between the Nevada State Line (Milepost 0.00) and Milepost 12.50 near Littlefield, Mohave County, Arizona*" (Hill and Fahrni 2014). The LSD survey, which examined the I-15 ROW and easement within the current APE from MP 8.63 to MP 9.84, resulted in the relocation of the previously identified AZ A:1:11 (ASM). LSD (Hill and Fahrni 2014) expanded the site boundaries as identified by PMDR (Spalding 1998). Site avoidance was recommended by LSD. SHPO and the BLM previously concurred with the adequacy of the LSD report (Hill and Fahrni 2014) (Petty [FHWA] to Herron [BLM] and Petty [FHWA] to Jacobs [SHPO], November 17, 2014; BLM and SHPO concurrences November 20, 2014).

In addition to the reports listed above, a Class III cultural resources survey of the TCEs for the current undertaking was recently completed by Jacobs Engineering Group Inc. (Jacobs). The results are reported in "*A Class III Cultural Resources Survey of Approximately 53.0 Acres for the Virgin River Bridge No. 1 Rehabilitation Project Between Mileposts 8.63 and 9.84 along Interstate 15 in Mohave County, Arizona*" (Touchin 2014), which is enclosed for your review and comment. The survey did not examine the 600-ft-long segment of County Route 91 because only the paved roadway would be used to reach TCEs in that vicinity. Archival research completed by Jacobs indicated that four archaeological sites had been previously identified within the APE: AZ A:1:11 (ASM), AZ A:1:82 (BLM), AZ A:1:86 (ASM), and NA9209.

Site AZ A:1:11 (ASM) was relocated by Jacobs and found to be accurate with previous work (Spalding 1998; Hill and Fahrni 2014). The site has been determined eligible for inclusion in the National Register of Historic Places (NRHP) under Criterion D (Miller [SHPO] to Lindauer [ADOT], December 3, 1998). Portions of the site within and adjacent to the highway easement are heavily disturbed. Heavily disturbed areas vary from approximately 22 ft to 80 ft north and south of the existing edge of pavement. It is recommended to avoid those areas of the site that are not heavily disturbed and are within the highway easement. Those portions of the site beyond the heavily disturbed areas adjacent to the highway and within the highway easement should be flagged for avoidance. In addition, the southern boundary of the site should also be flagged for avoidance (refer to figure).

Site AZ A:1:82 (BLM) is a prehistoric habitation located south of I-15. The site was relocated by Jacobs and is recommended eligible for inclusion in the NRHP under Criterion D. Approximately 32 ft of the western portion of the site is within the current APE. It is recommended that this site be avoided and the boundaries of this site be flagged prior to commencement of construction for this project (refer to figure).

Site AZ A:1:86 (ASM) is the previously recorded historic alignment of US 91, currently in use as Mohave County Highway 91. This site is considered eligible overall for inclusion in the NRHP under Criterion D; however, this segment is recommended as non-contributing to the site's overall eligibility (Hill and Fahrni 2014). The Jacobs survey (Touchin 2014) did not examine the 600-ft-long segment of Mohave County Route 91 within the current APE because only the paved roadway would be used to reach TCEs in that vicinity. Since no work is planned to occur on the roadway segment itself, the site would not be affected and no further work is recommended.

Site NA9209, a prehistoric Virgin Anasazi habitation, was not relocated by Jacobs (Touchin 2014). The plotted location of the site is currently in the Virgin River riverbed, which has been subjected to flooding, erosion, and shifting of the river channel. Since the area is very disturbed, it is unlikely that any cultural resources in the vicinity would be intact. No further work is recommended.

Written confirmation has been obtained from the ADOT Project Manager and District that two sites will be avoided as described above during construction. Based upon this information, FHWA has determined that a finding of "no adverse effect" is appropriate for this project.

Please review the enclosed figures, report, and the information provided in this letter. If you find the report adequate and agree with FHWA's finding of "no adverse effect" determination, please

indicate your concurrence by signing below. If you have any questions or concerns, please feel free to contact David Zimmerman at (928) 779-7577 or e-mail dzimmerman@azdot.gov.

Sincerely,

MAR 16 2015

Karla S. Petty
Division Administrator

Lorraine M. Christian
Signature for BLM Concurrence
015-A(211)T

March 9, 2015
Date

Enclosures

Johnson Herrera
Archaeologist ASFO
435-688-3262

SHPO - 2015-0228 (124357)
ARIZONA STATE HISTORIC PRESERVATION OFFICE

U.S. Department of Transportation
Federal Highway Administration

ARIZONA DIVISION

4000 North Central Avenue
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Phoenix, Arizona 85012-3500
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http://www.fhwa.dot.gov/azdiv/index.htm

March 4, 2015

In Reply Refer To:

015-A(211)T
TRACS No. 015 MO 008 H8760 01L
Virgin River Bridge No. 1 (STR #1089)
Initial Section 106 Consultation
"no adverse effect"

RECEIVED
MAR 09 2015
ARIZONA STATE HISTORIC PRESERVATION OFFICE

Dr. David Jacobs, Compliance Specialist
State Historic Preservation Office
Arizona State Parks
1300 West Washington Street
Phoenix, Arizona 85007

Dear Dr. Jacobs:

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Sincerely,

for Karla S. Petty
Division Administrator

MAR 16 2015

Signature for SHPO Concurrence
015-A(211)T

9 MAR 15
Date

Enclosures

CC: David Zimmerman, ADOT

U.S. Department of Transportation
Federal Highway Administration

ARIZONA DIVISION

4000 North Central Avenue
Suite 1500
Phoenix, Arizona 85012-3500
Phone: (602) 379-3646
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March 4, 2015

In Reply Refer To:

015-A(211)T
TRACS No. 015 MO 008 H8760 01L
Virgin River Bridge No. 1 (STR #1089)
Initial Section 106 Consultation
"no adverse effect"

Mr. Leigh Kuwanwisiwma, Director
Hopi Tribe Cultural Preservation Office
P. O. 123
Kykotsmovi, Arizona 86039

Dear Mr. Kuwanwisiwma:

The Federal Highway Administration (FHWA) and the Arizona Department of Transportation (ADOT) are planning a bridge rehabilitation project at the Virgin River Bridge No. 1 (Structure No. 1089) along Interstate 15 (I-15) near the unincorporated Communities of Littlefield and Beaver Dam in Mohave County. The bridge is located along I-15 at milepost (MP) 9.55. As this project is qualified for federal funding and involves federal land administered by the Bureau of Land Management (BLM), it is considered an undertaking subject to Section 106 review. Within the project limits, the land immediately adjacent to I-15 is either privately owned or under the jurisdiction of BLM. ADOT currently owns the right-of-way (ROW) or holds easement along the I-15. Consulting parties for this project include FHWA, ADOT, BLM, the State Historic Preservation Office (SHPO), the Chemehuevi Indian Tribe, the Colorado River Indian Tribes, the Havasupai Tribe, the Hopi Tribe, the Hualapai Tribe, the Kaibab-Paiute Tribe, the Las Vegas Paiute Tribe, the Moapa Band of Paiutes, the Paiute Indian Tribe of Utah, and the San Juan Southern Paiute Tribe.

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At this time, FHWA is also inquiring whether you have any concerns regarding historic properties of religious or cultural importance to your community within the project area. If you have such concerns, any information you might provide within 30 days of receipt of this letter would be considered in the project planning. If your office opts to participate in cultural resource consultation at a later date, FHWA would make a good faith effort to address any concerns. However, such consultation would not necessitate a reconsideration of this finding of project effect.

The existing I-15 easement and ROW has been previously surveyed by ADOT (Rosenberg 1985), Plateau Mountain Desert Research (PMDR) (Spalding 1998), and Logan Simpson Design, Inc. (LSD) (Hill and Fahrni 2014). The ADOT results are reported in "*Cultural Resources Inventory Report for Project IR-15-1-134, Littlefield Access Ramp*." The survey examined the portion of the current APE within the I-15 ROW between MP 9.80 and MP 9.84 and resulted in negative findings.

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Site AZ A:1:82 (BLM) is a prehistoric habitation located south of I-15. The site was relocated by Jacobs and is recommended eligible for inclusion in the NRHP under Criterion D. Approximately 32 ft of the western portion of the site is within the current APE. It is recommended that this site be avoided and the boundaries of this site be flagged prior to commencement of construction for this project (refer to figure).

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Site NA9209, a prehistoric Virgin Anasazi habitation, was not relocated by Jacobs (Touchin 2014). The plotted location of the site is currently in the Virgin River riverbed, which has been subjected to flooding, erosion, and shifting of the river channel. Since the area is very disturbed, it is unlikely that any cultural resources in the vicinity would be intact. No further work is recommended.

Written confirmation has been obtained from the ADOT Project Manager and District that two sites will be avoided as described above during construction. Based upon this information, FHWA has determined that a finding of "no adverse effect" is appropriate for this project.

Please review the enclosed figures, report, and the information provided in this letter. If you find the report adequate and agree with FHWA's finding of "no adverse effect" determination, please indicate your concurrence by signing below. If you have any questions or concerns, please feel free to contact David Zimmerman at (928) 779-7577 or e-mail dzimmerman@azdot.gov.

Sincerely,

for Karla S. Petty
Division Administrator

Signature for Hopi Tribe Concurrence
015-A(211)T

Date

Enclosures

THE HOPI TRIBE

Herman G. Honanie
CHAIRMAN

Alfred Lomahquahu Jr.
VICE-CHAIRMAN

MAR 19 2015

March 13, 2015

Karla S. Petty, Division Administrator
Federal Highway Administration, Arizona Division
4000 North Central Ave., Suite 1500
Phoenix, Arizona 85012-3500

Re: Virgin River Bridge No. 1

Dear Ms. Petty,

Thank you for your correspondence dated March 4, 2015, with an enclosed cultural resources survey report, regarding the Federal Highway Administration (FHWA) and Arizona Department of Transportation (ADOT) planning a bridge rehabilitation project at the Virgin River No. 1 (Structure No. 1089) along Interstate 15 in Mohave County.

The Hopi Tribe claims cultural affiliation to prehistoric cultural groups in this project area. The Hopi Cultural Preservation Office supports the identification and avoidance of prehistoric archaeological sites and Traditional Cultural Properties, and we consider the archaeological sites of our ancestors to be "footprints" and Traditional Cultural Properties. Therefore, we appreciate the FHWA and ADOT's continuing solicitation of our input and your efforts to address our concerns.

The Hopi Cultural Preservation Office has reviewed the enclosed cultural resources survey report and we understand 2 identified National Register eligible prehistoric sites, AZ A:1:11 (ASM) and AZ A:1:82 (ASM), described as a Virgin Anasazi habitations, will be avoided by project activities. We also understand site NA9209, described as a prehistoric Virgin Anasazi habitation was not relocated in the Virgin River bed.

If sites AZ A:1:11 (ASM) and AZ A:1:82 (ASM) are avoided by project activities, we concur that a recommendation for a determination of no adverse effect is appropriate for this undertaking. However, we recommend that if any cultural features or deposits are encountered during project activities, these activities must be discontinued in the immediate area of the remains, and the State Historic Preservation Office must be consulted to evaluate their nature and significance. If any Native American human remains or funerary objects are discovered during construction they shall be immediately reported as required by law.

Should you have any questions or need additional information, please contact Terry Morgart at the Hopi Cultural Preservation Office. Thank you again for your consideration.

Respectfully,

Leigh J. Kuwanwisiwma, Director
Hopi Cultural Preservation Office

xc: Arizona State Historic Preservation Office
David Zimmerman, Arizona Department of Transportation

U.S. Department
of Transportation
Federal Highway Administration

ARIZONA DIVISION

4000 North Central Avenue
Suite 1500
Phoenix, Arizona 85012-3500
Phone: (602) 379-3646
Fax: (602) 382-8998
http://www.fhwa.dot.gov/azdiv/index.htm

March 4, 2015

In Reply Refer To:

015-A(211)T
TRACS No. 015 MO 008 H8760 01L
Virgin River Bridge No. 1 (STR #1089)
Initial Section 106 Consultation
"no adverse effect"

Ms. Aletha Tom, Chairwoman
Moapa Business Council
Moapa Band of Paiute Indians
P. O. Box 340
Moapa, Nevada 89025

Dear Chairwoman Tom:

The Federal Highway Administration (FHWA) and the Arizona Department of Transportation (ADOT) are planning a bridge rehabilitation project at the Virgin River Bridge No. 1 (Structure No. 1089) along Interstate 15 (I-15) near the unincorporated Communities of Littlefield and Beaver Dam in Mohave County. The bridge is located along I-15 at milepost (MP) 9.55. As this project is qualified for federal funding and involves federal land administered by the Bureau of Land Management (BLM), it is considered an undertaking subject to Section 106 review. Within the project limits, the land immediately adjacent to I-15 is either privately owned or under the jurisdiction of BLM. ADOT currently owns the right-of-way (ROW) or holds easement along the I-15. Consulting parties for this project include FHWA, ADOT, BLM, the State Historic Preservation Office (SHPO), the Chemehuevi Indian Tribe, the Colorado River Indian Tribes, the Havasupai Tribe, the Hopi Tribe, the Hualapai Tribe, the Kaibab-Paiute Tribe, the Las Vegas Paiute Tribe, the Moapa Band of Paiutes, the Paiute Indian Tribe of Utah, and the San Juan Southern Paiute Tribe.

The scope of work would involve the following:

- Geotechnical investigation;
- Grading two existing two-track and dirt roads to be used as access roads for construction equipment;
- Grading and filling portions of the Virgin River floodplain;
- Removing and replacing the existing bridge deck, girders, median, and exterior barriers;
- Widening the new bridge deck to provide shoulders that meet current design criteria (6-foot [ft] inside shoulders and 12-ft outside shoulders);
- Widening the roadway approaches to match the new bridge width;
- Adding new girders to support the wider bridge deck;
- Constructing at least two crane pads beneath the bridge and using a crane to place the new girders and for other bridge construction;

- Constructing a temporary bridge across the Virgin River low-flow channel, to allow construction personnel to cross the river;
- Constructing cofferdams or some sort of temporary barrier around Pier 3 as needed;
- Widening and strengthening all abutments, piers, and foundations as necessary;
- Providing scour countermeasures as required to mitigate erosion around the pier foundations; and
- Signing and striping as necessary.

The geotechnical investigation is likely to include:

- Geologic reconnaissance and surface geologic mapping of the site;
- Geophysical survey lines;
- Drilling up to 35 test borings with casing advancer (in soil) and triple-tube coring (in rock) methods to depths of 10-80 ft below existing site grades; and
- Plugging the test holes with either native materials or a cement/bentonite mixture and capping them as needed with small amounts of concrete.

Several temporary construction easements (TCEs) are anticipated for this project. The area of potential effects (APE) encompasses the existing I-15 easement and ROW between the Littlefield traffic interchange (TI) at MP 8.63 and Desert Springs TI at MP 9.84; an approximately 600-ft-long segment of County Road 91 south of the Littlefield TI; and the TCEs, which will be used for temporary construction, staging purposes, and as access roads to the area beneath Bridge No. 1. The dirt access roads will be widened.

At this time, FHWA is also inquiring whether you have any concerns regarding historic properties of religious or cultural importance to your community within the project area. If you have such concerns, any information you might provide within 30 days of receipt of this letter would be considered in the project planning. If your office opts to participate in cultural resource consultation at a later date, FHWA would make a good faith effort to address any concerns. However, such consultation would not necessitate a reconsideration of this finding of project effect.

The existing I-15 easement and ROW has been previously surveyed by ADOT (Rosenberg 1985), Plateau Mountain Desert Research (PMDR) (Spalding 1998), and Logan Simpson Design, Inc. (LSD) (Hill and Fahrni 2014). The ADOT results are reported in "*Cultural Resources Inventory Report for Project IR-15-1-134, Littlefield Access Ramp.*" The survey examined the portion of the current APE within the I-15 ROW between MP 9.80 and MP 9.84 and resulted in negative findings.

The PMDR results are reported in "*A Cultural Resources Survey of the Interstate 15 North-East and South-West Bound Lanes Right-of-Way, Milepost 7.94 and 13.12, Mohave County, Arizona*" (Spalding 1998). The PMDR survey, which examined the I-15 ROW and easement within the current APE from MP 8.63 to MP 9.84, resulted in the identification of one site, AZ A:1:11 (ASM), a prehistoric Virgin Anasazi habitation. Site avoidance was recommended by PMDR. SHPO previously concurred with the adequacy of the PMDR report (Spalding 1998) (Morgan [ADOT] to Jacobs [SHPO], March 23, 2005; SHPO concurrence April 4, 2005).

The LSD results are reported in "*A Class III Cultural Resources Survey of 583.44 Acres along Interstate 15 between the Nevada State Line (Milepost 0.00) and Milepost 12.50 near Littlefield, Mohave County, Arizona*" (Hill and Fahrni 2014). The LSD survey, which examined the I-15 ROW and easement within the current APE from MP 8.63 to MP 9.84, resulted in the relocation of the previously identified AZ A:1:11 (ASM). LSD (Hill and Fahrni 2014) expanded the site boundaries as identified by PMDR (Spalding 1998). Site avoidance was recommended by LSD. SHPO and the BLM previously concurred with the adequacy of the LSD report (Hill and Fahrni 2014) (Petty [FHWA] to Herron [BLM] and Petty [FHWA] to Jacobs [SHPO], November 17, 2014; BLM and SHPO concurrences November 20, 2014).

In addition to the reports listed above, a Class III cultural resources survey of the TCEs for the current undertaking was recently completed by Jacobs Engineering Group Inc. (Jacobs). The results are reported in "*A Class III Cultural Resources Survey of Approximately 53.0 Acres for the Virgin River Bridge No. 1 Rehabilitation Project Between Mileposts 8.63 and 9.84 along Interstate 15 in Mohave County, Arizona*" (Touchin 2014), which is enclosed for your review and comment. The survey did not examine the 600-ft-long segment of County Route 91 because only the paved roadway would be used to reach TCEs in that vicinity. Archival research completed by Jacobs indicated that four archaeological sites had been previously identified within the APE: AZ A:1:11 (ASM), AZ A:1:82 (BLM), AZ A:1:86 (ASM), and NA9209.

Site AZ A:1:11 (ASM) was relocated by Jacobs and found to be accurate with previous work (Spalding 1998; Hill and Fahrni 2014). The site has been determined eligible for inclusion in the National Register of Historic Places (NRHP) under Criterion D (Miller [SHPO] to Lindauer [ADOT], December 3, 1998). Portions of the site within and adjacent to the highway easement are heavily disturbed. Heavily disturbed areas vary from approximately 22 ft to 80 ft north and south of the existing edge of pavement. It is recommended to avoid those areas of the site that are not heavily disturbed and are within the highway easement. Those portions of the site beyond the heavily disturbed areas adjacent to the highway and within the highway easement should be flagged for avoidance. In addition, the southern boundary of the site should also be flagged for avoidance (refer to figure).

Site AZ A:1:82 (BLM) is a prehistoric habitation located south of I-15. The site was relocated by Jacobs and is recommended eligible for inclusion in the NRHP under Criterion D. Approximately 32 ft of the western portion of the site is within the current APE. It is recommended that this site be avoided and the boundaries of this site be flagged prior to commencement of construction for this project (refer to figure).

Site AZ A:1:86 (ASM) is the previously recorded historic alignment of US 91, currently in use as Mohave County Highway 91. This site is considered eligible overall for inclusion in the NRHP under Criterion D; however, this segment is recommended as non-contributing to the site's overall eligibility (Hill and Fahrni 2014). The Jacobs survey (Touchin 2014) did not examine the 600-ft-long segment of Mohave County Route 91 within the current APE because only the paved roadway would be used to reach TCEs in that vicinity. Since no work is planned to occur on the roadway segment itself, the site would not be affected and no further work is recommended.

Site NA9209, a prehistoric Virgin Anasazi habitation, was not relocated by Jacobs (Touchin 2014). The plotted location of the site is currently in the Virgin River riverbed, which

has been subjected to flooding, erosion, and shifting of the river channel. Since the area is very disturbed, it is unlikely that any cultural resources in the vicinity would be intact. No further work is recommended.

Written confirmation has been obtained from the ADOT Project Manager and District that two sites will be avoided as described above during construction. Based upon this information, FHWA has determined that a finding of "no adverse effect" is appropriate for this project.

Please review the enclosed figures, report, and the information provided in this letter. If you find the report adequate and agree with FHWA's finding of "no adverse effect" determination, please indicate your concurrence by signing below. If you have any questions or concerns, please feel free to contact David Zimmerman at (928) 779-7577 or e-mail dzimmerman@azdot.gov.

Sincerely,

for Karla S. Petty
Division Administrator

Signature for Moapa Band of Paiute Indians Concurrence 015-A(211)T

Date

Enclosures

cc:
Deanna Domingo, Chairwoman, Cultural Committee, Moapa Band of Paiute Indians, P. O. Box 340, Moapa, Nevada 89025 (w/enclosures)
Darren Daboda, Environmental Coordinator, Department of Environmental Protection, Moapa Band of Paiute Indians, P. O. Box 340, Moapa, Nevada 89025 (w/enclosures)

MOAPA BAND OF PAIUTES

MOAPA RIVER INDIAN RESERVATION
BOX 340
MOAPA, NEVADA 89025
TELEPHONE (702) 865-2787
FAX (702) 865-2875

APR 2 - 2015

March 25, 2015

US Department of Transportation
Arizona Division
4000 North Central Avenue
Suite 1500
Phoenix, Arizona 85012-3500

Re: 015-A(211)T
TRACS No. 015 MO 008 H8760 01L
Virgin River Bridge No 1 (STR #1089)
Initial Section 106 Consultation

Dear Division Administrator Karla S. Petty:

Enclosed is the signed letter on behalf of the Moapa Band of Paiute Indians agreeing with the FHWA's finding of no adverse effect regarding the planning and bridge rehabilitation project at the Virgin River Bridge No.1.

Should you have any questions or comments please do not hesitate to contact our office at (702) 865 2787.

Sincerely,

Darren Daboda, Chairman
Moapa Band of Paiute Indians

Touchin, Jewel

From: George Wallace [gwallace@azdot.gov]
Sent: February-19-15 12:48 PM
To: Touchin, Jewel; Merrick, Audra (SharePoint)
Cc: Phoebus, Elizabeth (Betsi); David Zimmerman; Chenault, Mark
Subject: RE: Virgin River Bridge No. 1 (STR #1089); 015-A(211)T; H8760 - Archaeological site avoidance

Jewel,
I am OK with the avoidance areas graphics as presented.

george

From: Touchin, Jewel [mailto:Jewel.Touchin@jacobs.com]
Sent: Friday, February 13, 2015 12:13 PM
To: Audra Merrick; George Wallace
Cc: Phoebus, Elizabeth (Betsi); David Zimmerman; Chenault, Mark
Subject: Virgin River Bridge No. 1 (STR #1089); 015-A(211)T; H8760 - Archaeological site avoidance

Good afternoon Audra and George, Jacobs submitted a Class III cultural resources report to ADOT in November 2014, and over the last few months we have coordinated with Dave Zimmerman and George Wallace on culturally sensitive areas in and around the Bridge No. 1 footprint. As a result of discussions with Dave, we are planning to recommend that two archaeological sites be avoided during construction and geotechnical work associated with this project. The sites are referred to as AZ A:1:11 (ASM) and AZ A:1:82 (BLM).

Please see the attached maps for AZ A:1:11 (ASM) located west of Bridge No. 1. We recommend that the portions of the site in yellow as shown on page 1 be avoided. The brown areas are where construction can occur; this brown area ranges from 22 feet to 80 feet north and south of the edge of highway pavement. Page 2 shows a close up of the western end of the bridge to better illustrate how the dimensions of the area where construction may occur narrow closer to the bridge. Avoidance flagging prior to construction would be placed along the edge of the brown areas north and south of I-15 and along the southern boundary of the site.

Please see the attached map for AZ A:1:82 (BLM) located southeast of the Bridge No. 1. We recommend that this site be entirely avoided. Avoidance flagging prior to construction would be placed approximately 100 feet outside the full extent of the site.

We are seeking your input and/or approval of these site avoidance areas. Please reply to David Zimmerman and me letting us know that construction will be confined as explained above. Once the avoidance areas have been confirmed, Jacobs will develop mitigation measures for Dave's review and, ultimately, inclusion in the Draft Environmental Assessment.

Thanks for your time. I look forward to hearing from you.

Jewel Touchin
Archaeologist
Jacobs Engineering Group Inc.
101 North First Avenue, Suite 2600
Phoenix, Arizona 85003
Phone: 602-530-1641
Jewel.Touchin@Jacobs.com

Touchin, Jewel

From: Rob Nelson [RNelson@azdot.gov]
Sent: February-26-15 5:13 PM
To: David Zimmerman; Touchin, Jewel; Merrick, Audra (SharePoint)
Cc: George Wallace; Phoebus, Elizabeth (Betsi); Chenault, Mark; Nathan Reisner; Brenden Foley
Subject: RE: Virgin River Bridge No. 1 (STR #1089); 015-A(211)T; H8760 - Archaeological site avoidance
Attachments: 015 MO 008 H8760 01L - ProposedAvoidanceAreas_AZ A 1 11 ASM.pdf; 015 MO 008 H8760 01L - ProposedAvoidanceAreas_AZ_A_1_82.pdf

Jewel, Dave, et. al,

I looked these two avoidance areas over and decided to talk to our development engineer and get opinions from RE's who may work on the project before commenting. My first thought was the 1 11 site was pretty large and I wasn't sure if there would be enough room to accommodate staging, etc. I got opinions from nearly all of our staff and all were the same. They all said that the pink/brown area will be sufficient for the project needs and that we can commit to avoiding the yellow area . I would ask that these sites be flagged early in the process so ADOT and the contractor know from the get go where and where not they can access.

That being said, the Flagstaff district will concur in avoiding these two areas for the project.

Rob Nelson
Flagstaff District Environmental Coordinator
1801 S. Milton
Flagstaff, AZ 86001
928-779-7547 (Office)
480-340-4871 (Cell)
rnelson@azdot.gov

From: David Zimmerman
Sent: Tuesday, February 24, 2015 11:53 AM
To: Touchin, Jewel; Audra Merrick; Rob Nelson
Cc: George Wallace; Phoebus, Elizabeth (Betsi); Chenault, Mark
Subject: RE: Virgin River Bridge No. 1 (STR #1089); 015-A(211)T; H8760 - Archaeological site avoidance

Rob,

My understanding is that you were delegated to address this and are awaiting comments from the RE. Yes?

--Dave

From: Touchin, Jewel [mailto:Jewel.Touchin@jacobs.com]
Sent: Tuesday, February 24, 2015 10:31 AM
To: Audra Merrick
Cc: George Wallace; Phoebus, Elizabeth (Betsi); David Zimmerman; Chenault, Mark
Subject: FW: Virgin River Bridge No. 1 (STR #1089); 015-A(211)T; H8760 - Archaeological site avoidance
Importance: High

Hi Audra, Can we please get your commitment re: site avoidance? We received George Wallace's okay on Thursday, February 19th. We need your okay to move forward with the rest of the cultural process. Please let me know if you have any questions ☺

From: Touchin, Jewel
Sent: February-13-15 12:13 PM
To: 'AMerrick@azdot.gov'; 'George Wallace'
Cc: Phoebus, Elizabeth (Betsi); 'David Zimmerman'; Chenault, Mark
Subject: Virgin River Bridge No. 1 (STR #1089); 015-A(211)T; H8760 - Archaeological site avoidance

Good afternoon Audra and George, Jacobs submitted a Class III cultural resources report to ADOT in November 2014, and over the last few months we have coordinated with Dave Zimmerman and George Wallace on culturally sensitive areas in and around the Bridge No. 1 footprint. As a result of discussions with Dave, we are planning to recommend that two archaeological sites be avoided during construction and geotechnical work associated with this project. The sites are referred to as AZ A:1:11 (ASM) and AZ A:1:82 (BLM).

Please see the attached maps for AZ A:1:11 (ASM) located west of Bridge No. 1. We recommend that the portions of the site in yellow as shown on page 1 be avoided. The brown areas are where construction can occur; this brown area ranges from 22 feet to 80 feet north and south of the edge of highway pavement. Page 2 shows a close up of the western end of the bridge to better illustrate how the dimensions of the area where construction may occur narrow closer to the bridge. Avoidance flagging prior to construction would be placed along the edge of the brown areas north and south of I-15 and along the southern boundary of the site.

Please see the attached map for AZ A:1:82 (BLM) located southeast of the Bridge No. 1. We recommend that this site be entirely avoided. Avoidance flagging prior to construction would be placed approximately 100 feet outside the full extent of the site.

We are seeking your input and/or approval of these site avoidance areas. Please reply to David Zimmerman and me letting us know that construction will be confined as explained above. Once the avoidance areas have been confirmed, Jacobs will develop mitigation measures for Dave's review and, ultimately, inclusion in the Draft Environmental Assessment.

Thanks for your time. I look forward to hearing from you.

Jewel Touchin
Archaeologist
Jacobs Engineering Group Inc.
101 North First Avenue, Suite 2600
Phoenix, Arizona 85003
Phone: 602-530-1641
Jewel.Touchin@Jacobs.com

U.S. Department of Transportation
Federal Highway Administration

ARIZONA DIVISION

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http://www.fhwa.dot.gov/azdiv/index.htm

October 5, 2015

In Reply Refer To:

015-A(211)T
TRACS No. 015 MO 008 H8760 01L
Virgin River Bridge No. 1 (STR #1089)
Continuing Section 106 Consultation
New Access Roads Class III Survey
"no adverse effect"

Mr. John Herron, Archaeologist
Bureau of Land Management
Arizona Strip Field Office, Arizona Strip District,
345 East Riverside Drive
St. George, Utah 84790

Dear Mr. Herron:

The Federal Highway Administration (FHWA) and the Arizona Department of Transportation (ADOT) are planning a bridge rehabilitation project at the Virgin River Bridge No. 1 (Structure No. 1089) along Interstate 15 (I-15) at milepost (MP) 9.55 near the unincorporated Communities of Littlefield and Beaver Dam in Mohave County, Arizona. The project is located in portions of Sections 3, 4, and 5, Township 40 North, Range 15 West (Gila and Salt River Baseline and Meridian). As this project is qualified for federal funding it is considered an undertaking subject to Section 106 review. The project would occur on ADOT-owned right-of-way (ROW) or easement as well as access roads and temporary construction easements (TCEs) located on public lands administered by the Bureau of Land Management (BLM) and private land. Consulting parties for this project include FHWA, ADOT, BLM, the State Historic Preservation Office (SHPO), Mohave County, the Chemehuevi Indian Tribe, the Colorado River Indian Tribes, the Havasupai Tribe, the Hopi Tribe, the Hualapai Tribe, the Kaibab Band of Paiute Indians, the Paiute Indian Tribe of Las Vegas, the Moapa Band of Paiute Indians, the Paiute Indian Tribe of Utah, and the San Juan Southern Paiute Tribe.

Previous consultation outlined the scope of work, identified consulting parties, defined the area of potential effects (APE), circulated a Class III survey report (Touchin 2014) developed by Jacobs Engineering Group Inc. (Jacobs), and resulted in a determination of "no adverse effect" (Petty [FHWA] to Jacobs [SHPO] dated March 4, 2015); SHPO concurrence with the adequacy of the report and finding of "no adverse effect," (Jacobs [SHPO] to Zimmerman [ADOT] dated March 9, 2015).

The APE has been expanded to accommodate new project access roads. The new access roads are located on Mohave County ROW, ADOT-owned ROW, and private land in portions of Sections 4 and 5, Township 40 North, Range 15 West. The new access routes would consist of:

- Approximately 750 feet of a 50-foot (ft.)-wide corridor on private land to accommodate a new dirt access road located to the west of the intersection of Anderson Lane and Anasazi Drive;
- Approximately 500 feet of a 50-ft.-wide Mohave County ROW along Anderson Lane between Anasazi and East Kokopelli drives;
- Approximately 1,850 feet of a 50-ft.-wide Mohave County ROW along Anasazi Drive located east of the intersection of Anderson Lane and Anasazi Drive;
- Approximately 1,100 feet of a 50-ft.-wide Mohave County ROW located along Fleet Street north of the I-15;

- Approximately 450 feet of a 50-ft.-wide ADOT ROW consisting of the I-15 underpass between Fleet Street and Farm Road; and,
- Approximately 1,200 feet of a 50-ft.-wide Mohave County ROW along Farm Road south of the I-15 alignment.

A Class III cultural resources survey of the new access roads was recently completed by Jacobs. The results are reported in "*A Class III Cultural Resources Addendum Survey for Additional Access Routes for the Virgin River Bridge No. 1 Rehabilitation Project , Littlefield, Mohave County, Arizona*" (Luhnow 2015). A copy of the report is enclosed for your review and comment. No cultural resources were identified by the Class III survey.

Based upon this information, FHWA has determined that a finding of "no adverse effect" is still appropriate for this project.

Please review the enclosed report, and the information provided in this letter. If you find the report adequate and agree with FHWA's determination of project effect, please indicate your concurrence by signing below. If you have any questions or concerns, please feel free to contact David Zimmerman at (928) 779-7577 or e-mail dzimmerman@azdot.gov.

Sincerely,

for Karla S. Petty
Division Administrator

OCT 19 2015

BLM – Arizona Strip Field Office Manager
Lorraine M. Christian

Oct. 15, 2015

Signature for BLM Concurrence Date

015-A(211)T

John M. Herron Archaeologist

Enclosure

cc:
Ms. Laurie Ford, Lead for Lands and Geological Sciences, Bureau of Land Management, Arizona Strip Field Office Arizona Strip District, 345 East Riverside Drive, St. George, Utah 84790 (c: letter)
Ms. Marisa Monger, Realty Specialist, Bureau of Land Management, Arizona Strip Field Office Arizona Strip District, 345 East Riverside Drive, St. George, Utah 84790 (c: letter)

SHPO - 2015-0228 (127698)
ARIZONA STATE HISTORIC PRESERVATION OFFICE

U.S. Department of Transportation
Federal Highway Administration

ARIZONA DIVISION

4000 North Central Avenue
Suite 1500
Phoenix, Arizona 85012-3500
Phone: (602) 379-3646
Fax: (602) 382-8998
http://www.fhwa.dot.gov/azdiv/index.htm

October 5, 2015

In Reply Refer To:

015-A(211)T
TRACS No. 015 MO 008 H8760 01L
Virgin River Bridge No. 1 (STR #1089)
Continuing Section 106 Consultation
New Access Roads Class III Survey
"no adverse effect"

Dr. David Jacobs, Compliance Specialist
State Historic Preservation Office
Arizona State Parks
1300 West Washington Street
Phoenix, Arizona 85007

RECEIVED
OCT 07 2015
ARIZONA STATE HISTORIC PRESERVATION OFFICE

Dear Dr. Jacobs:

The Federal Highway Administration (FHWA) and the Arizona Department of Transportation (ADOT) are planning a bridge rehabilitation project at the Virgin River Bridge No. 1 (Structure No. 1089) along Interstate 15 (I-15) at milepost (MP) 9.55 near the unincorporated Communities of Littlefield and Beaver Dam in Mohave County, Arizona. The project is located in portions of Sections 3, 4, and 5, Township 40 North, Range 15 West (Gila and Salt River Baseline and Meridian). As this project is qualified for federal funding it is considered an undertaking subject to Section 106 review. The project would occur on ADOT-owned right-of-way (ROW) or easement as well as access roads and temporary construction easements (TCEs) located on public lands administered by the Bureau of Land Management (BLM) and private land. Consulting parties for this project include FHWA, ADOT, BLM, the State Historic Preservation Office (SHPO), Mohave County, the Chemehuevi Indian Tribe, the Colorado River Indian Tribes, the Havasupai Tribe, the Hopi Tribe, the Hualapai Tribe, the Kaibab Band of Paiute Indians, the Paiute Indian Tribe of Las Vegas, the Moapa Band of Paiute Indians, the Paiute Indian Tribe of Utah, and the San Juan Southern Paiute Tribe.

Previous consultation outlined the scope of work, identified consulting parties, defined the area of potential effects (APE), circulated a Class III survey report (Touchin 2014) developed by Jacobs Engineering Group Inc. (Jacobs), and resulted in a determination of "no adverse effect" (Petty [FHWA] to Jacobs [SHPO] dated March 4, 2015); SHPO concurrence with the adequacy of the report and finding of "no adverse effect," (Jacobs [SHPO] to Zimmerman [ADOT] dated March 9, 2015).

The APE has been expanded to accommodate new project access roads. The new access roads are located on Mohave County ROW, ADOT-owned ROW, and private land in portions of Sections 4 and 5, Township 40 North, Range 15 West. The new access routes would consist of:

- Approximately 750 feet of a 50-foot (ft.)-wide corridor on private land to accommodate a new dirt access road located to the west of the intersection of Anderson Lane and Anasazi Drive;
- Approximately 500 feet of a 50-ft.-wide Mohave County ROW along Anderson Lane between Anasazi and East Kokopelli drives;
- Approximately 1,850 feet of a 50-ft.-wide Mohave County ROW along Anasazi Drive located east of the intersection of Anderson Lane and Anasazi Drive;
- Approximately 1,100 feet of a 50-ft.-wide Mohave County ROW located along Fleet Street north of the I-15;
- Approximately 450 feet of a 50-ft.-wide ADOT ROW consisting of the I-15 underpass between Fleet Street and Farm Road; and,
- Approximately 1,200 feet of a 50-ft.-wide Mohave County ROW along Farm Road south of the I-15 alignment.

A Class III cultural resources survey of the new access roads was recently completed by Jacobs. The results are reported in "*A Class III Cultural Resources Addendum Survey for Additional Access Routes for the Virgin River Bridge No. 1 Rehabilitation Project , Littlefield, Mohave County, Arizona*" (Luhnow 2015). A copy of the report is enclosed for your review and comment. No cultural resources were identified by the Class III survey.

Based upon this information, FHWA has determined that a finding of "no adverse effect" is still appropriate for this project.

Please review the enclosed report, and the information provided in this letter. If you find the report adequate and agree with FHWA's determination of project effect, please indicate your concurrence by signing below. If you have any questions or concerns, please feel free to contact David Zimmerman at (928) 779-7577 or e-mail dzimmerman@azdot.gov.

Sincerely,

OCT 13 2015

for
Karla S. Petty
Division Administrator

Signature for SHPO Concurrence
015-A(211)T

7 OCT 15
Date

Enclosure

CC: David Zimmerman, ADOT

U.S. Department of Transportation
Federal Highway Administration

ARIZONA DIVISION

4000 North Central Avenue
Suite 1500
Phoenix, Arizona 85012-3500
Phone: (602) 379-3646
Fax: (602) 382-8998
http://www.fhwa.dot.gov/azdiv/index.htm

October 5, 2015

In Reply Refer To:

015-A(211)T
TRACS No. 015 MO 008 H8760 01L
Virgin River Bridge No. 1 (STR #1089)
Continuing Section 106 Consultation
New Access Roads Class III Survey
"no adverse effect"

Mr. Leigh Kuwanwisiwma, Director
Hopi Tribe
Cultural Preservation Office
P.O. Box 123
Kykotsmovi, Arizona 86039

Dear Director Kuwanwisiwma:

The Federal Highway Administration (FHWA) and the Arizona Department of Transportation (ADOT) are planning a bridge rehabilitation project at the Virgin River Bridge No. 1 (Structure No. 1089) along Interstate 15 (I-15) at milepost (MP) 9.55 near the unincorporated Communities of Littlefield and Beaver Dam in Mohave County, Arizona. The project is located in portions of Sections 3, 4, and 5, Township 40 North, Range 15 West (Gila and Salt River Baseline and Meridian). As this project is qualified for federal funding it is considered an undertaking subject to Section 106 review. The project would occur on ADOT-owned right-of-way (ROW) or easement as well as access roads and temporary construction easements (TCEs) located on public lands administered by the Bureau of Land Management (BLM) and private land. Consulting parties for this project include FHWA, ADOT, BLM, the State Historic Preservation Office (SHPO), Mohave County, the Chemehuevi Indian Tribe, the Colorado River Indian Tribes, the Havasupai Tribe, the Hopi Tribe, the Hualapai Tribe, the Kaibab Band of Paiute Indians, the Paiute Indian Tribe of Las Vegas, the Moapa Band of Paiute Indians, the Paiute Indian Tribe of Utah, and the San Juan Southern Paiute Tribe.

Previous consultation outlined the scope of work, identified consulting parties, defined the area of potential effects (APE), circulated a Class III survey report (Touchin 2014) developed by Jacobs Engineering Group Inc. (Jacobs), and resulted in a determination of "no adverse effect" (Petty [FHWA] to Jacobs [SHPO] dated March 4, 2015); SHPO concurrence with the adequacy of the report and finding of "no adverse effect," (Jacobs [SHPO] to Zimmerman [ADOT] dated March 9, 2015).

The APE has been expanded to accommodate new project access roads. The new access roads are located on Mohave County ROW, ADOT-owned ROW, and private land in portions of Sections 4 and 5, Township 40 North, Range 15 West. The new access routes would consist of:

- Approximately 750 feet of a 50-foot (ft.)-wide corridor on private land to accommodate a new dirt access road located to the west of the intersection of Anderson Lane and Anasazi Drive;
- Approximately 500 feet of a 50-ft.-wide Mohave County ROW along Anderson Lane between Anasazi and East Kokopelli drives;
- Approximately 1,850 feet of a 50-ft.-wide Mohave County ROW along Anasazi Drive located east of the intersection of Anderson Lane and Anasazi Drive;
- Approximately 1,100 feet of a 50-ft.-wide Mohave County ROW located along Fleet Street north of the I-15;
- Approximately 450 feet of a 50-ft.-wide ADOT ROW consisting of the I-15 underpass between Fleet Street and Farm Road; and,
- Approximately 1,200 feet of a 50-ft.-wide Mohave County ROW along Farm Road south of the I-15 alignment.

A Class III cultural resources survey of the new access roads was recently completed by Jacobs. The results are reported in "*A Class III Cultural Resources Addendum Survey for Additional Access Routes for the Virgin River Bridge No. 1 Rehabilitation Project , Littlefield, Mohave County, Arizona*" (Luhnow 2015). A copy of the report is enclosed for your review and comment. No cultural resources were identified by the Class III survey.

Based upon this information, FHWA has determined that a finding of "no adverse effect" is still appropriate for this project.

Please review the enclosed report, and the information provided in this letter. If you find the report adequate and agree with FHWA's determination of project effect, please indicate your concurrence by signing below. If you have any questions or concerns, please feel free to contact David Zimmerman at (928) 779-7577 or e-mail dzimmerman@azdot.gov.

Sincerely,

OCT 13 2015

for Karla S. Petty
Division Administrator

_____ 10-8-15
Signature for Hopi Tribe Concurrence Date
015-A(211)T

Enclosure

MEMORANDUM

TO: John Wennes, Environmental Planning

FROM: David Zimmerman, Historic Preservation Team

DATE: August 01, 2017

RE: 015-A(211)T
TRACS No. 015 MO 008 H8760 01L
Virgin River Bridge No. 1 (STR #1089)
Finding: Stipulation XI.A.1. Scope change with no change to the APE or project finding of effect

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The Federal Highway Administration (FHWA) and the Arizona Department of Transportation (ADOT) are planning a bridge rehabilitation project at the Virgin River Bridge No. 1 (Structure No. 1089) along Interstate 15 (I-15) at milepost (MP) 9.55 near the unincorporated communities of Littlefield and Beaver Dam in Mohave County, Arizona. The project is located in portions of Sections 3, 4, and 5, Township 40 North, Range 15 West (Gila and Salt River Baseline and Meridian). As this project is qualified for federal funding it is considered an undertaking subject to Section 106 review. The project would occur on ADOT-owned right-of-way (ROW) or easement as well as access roads and temporary construction easements (TCEs) located on public lands administered by the Bureau of Land Management (BLM) and private land. Consulting parties for this project include FHWA, ADOT, BLM, the State Historic Preservation Office (SHPO), Mohave County, the Chemehuevi Indian Tribe, the Colorado River Indian Tribes, the Havasupai Tribe, the Hopi Tribe, the Hualapai Tribe, the Kaibab Band of Paiute Indians, the Paiute Indian Tribe of Las Vegas, the Moapa Band of Paiute Indians, the Paiute Indian Tribe of Utah, and the San Juan Southern Paiute Tribe.

Previous consultation outlined the scope of work, identified consulting parties, defined the area of potential effects (APE), circulated a Class III survey report (Touchin 2014) developed by Jacobs Engineering Group Inc. (Jacobs), and resulted in a determination of "no adverse effect" (Petty [FHWA] to Jacobs [SHPO] dated March 4, 2015); SHPO concurrence with the adequacy of the report and finding of "no adverse effect," (Jacobs [SHPO] to Zimmerman [ADOT] dated March 9, 2015).

At this time, there is a change in scope of work. ADOT and FHWA have decided that rather than rehabilitate the existing bridge, they will replace it with a new structure of similar design.

Because the new scope item does not change the APE nor the finding of project effect, I find that this scope changes fits the conditions for Stipulation XI.A.1 under the *Programmatic Agreement Pursuant to Section 106 of the National Historic Preservation Act Regarding Implementation of Federal-Aid Transportation Projects in the State of Arizona* (PA), executed December 16, 2015. This finding and Intention to utilize the PA stipulation was sent to FHWA and SHPO on February 07, 2017. An affirmative response was received from SHPO on February 08, 2017.

No additional cultural resource studies or consultation are required at this time. Additional studies or consultation may be required if project plans change. If there are any questions about the content of this memo or if the project scope of work changes please contact David Zimmerman, Historic Preservation Specialist, at (928) 779-7577 or dzimmerman@azdot.gov.

JACOBS

Memorandum

101 N. First Ave
Suite 2600
Phoenix, AZ 85003
1.602.253.1200 Fax 1.602.253.1202

Date September 13, 2017

To John Wennes, ADOT EP; Dave Zimmerman, ADOT CRP

From Glennda Luhnow, Jacobs

Subject H8760, Virgin River Bridge #1 Historic Trail Alignments

Certain historic trails have been designated as "National Historic Trails" pursuant to the National Trails System Act (P.L. 90-543, as amended through P.L. 111-11; U.S.C., Volume 16, Sections 12421 through 1251). Portions of two historic trails (The Old Spanish Trail National Historic Trail and the Jedidiah Smith Historic Trail) are plotted by archival maps held by the Bureau of Land Management Arizona Strip Field Office (BLM ASFO) and the National Park Service (NPS) as crossing portions of the project's area of potential effects (APE) (Figure 1).

The Old Spanish Trail/Old Mormon Wagon Road

The Old Spanish Trail/Old Mormon Wagon Road is an important travel corridor associated with commerce and trade during the period 1780 through 1848; and Mormon settlement during the period 1848 through 1905. The Old Spanish Trail was designated as a "National Historic Trail" by President George W. Bush in 2002. Portions of the trail through Nevada are listed in the National Register of Historic Places (NRHP) under Criteria A and D as a historic district designated as the "Old Spanish Trail-Mormon Road Historic District" (NRHP No. 01000863 and NRHP No. 08000229).

Two segments (designated as the "Armijo" and "Northern" routes) of the Old Spanish Trail/Old Mormon Wagon Road are plotted as crossing the APE in different locations by BLM ASFO and NPS data sets. Only one of these, which corresponds to a segment of County Road 91, is visible on the landscape. Previous cultural resources surveys of the APE conducted by Hill and Fahrni (2014), Spalding (1998), and Touchin (2015) have not identified any extant segments of the Old Spanish Trail/Old Mormon Road. Review of aerial imagery also does not reveal the presence of any portions of the trail in the APE.

Jedidiah Smith Historic Trail

The Jedidiah Smith Historic Trail follows the exploration routes of early American trapper and "mountain man" Jedidiah Smith. The trail crosses through portions of Idaho, Wyoming, Utah, Nevada, Arizona, California, Oregon, and Washington. The Jedidiah Smith Historic Trail was assessed as a potential national historic trail; however, it did not meet the criteria outlined in the National Trails System Act.

A segment of the Jedidiah Smith Historic Trail is plotted as crossing the APE by BLM ASFO spatial data. As plotted, this segment crosses through a steep and rugged portion of the Virgin River canyon, and is not visible on the landscape. Previous cultural resources surveys of the APE conducted by Hill and Fahrni (2014), Spalding (1998), and Touchin (2015) have not identified any extant segments of the Jedidiah Smith Historic Trail. Review of aerial imagery also does not reveal the presence of any portion of the trail in the APE. Given that this trail is not protected as a National

Historic Trail and is not physically present in the APE, no further cultural resources evaluation is required.

National Historic Trails and Section 4(f) Evaluation

As stated within the National Trails System Act, “Except for designated protected components of the trail, no land or site located along a designated national historic trail or along the Continental Divide National Scenic Trail shall be subject to the provisions of section 4(f) of the Department of Transportation Act (49 U.S.C. 1653(f)) unless such land or site is deemed to be of historical significance under appropriate historical site criteria such as those for the National Register of Historic Places." Based on review of the NPS historic trails database, there are no protected components of the Old Spanish Trail National Historic Trail within the project APE. No further cultural resources evaluation is required.

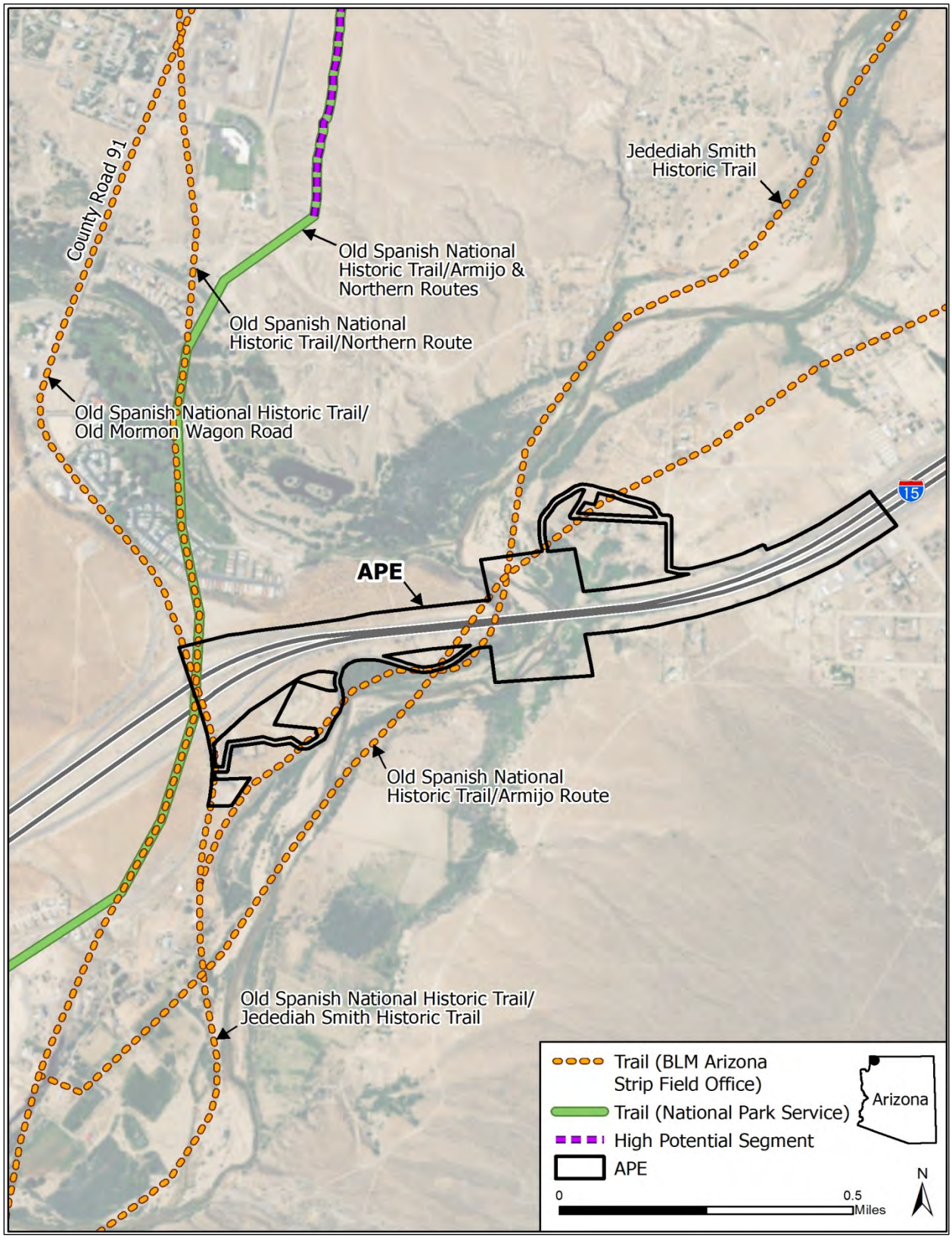

Figure 1. Location of historic trail alignments plotted in the APE.

Appendix B
Detailed Demographic Data for the Nevada-Arizona-Utah Region

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Table B-1. Racial and Ethnic Population Characteristics in the Project Area and Region

Geographical Area	Total Population	White		African American		American Indian		Asian		Pacific Islander		Other Race		Two or More Races		Hispanic[a]	
		#[b]	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Littlefield CDP	308	213	69.16	0	0.00	12	3.90	8	2.60	0	0.00	64	20.78	11	3.57	110	35.71
Beaver Dam CDP	1,962	1,579	80.48	7	0.36	23	1.17	6	0.31	2	0.01	305	15.55	40	2.04	525	26.80
Project Area Total	2,270	1,792	78.94	7	0.31	35	1.54	14	0.62	2	0.09	369	16.26	51	2.25	635	27.97
Scenic CDP	1,643	1,071	65.19	1	0.00	16	0.97	4	0.24	0	0.00	521	31.71	30	1.83	682	41.51
Mohave County, AZ[c]	200,186	173,878	86.86	1,882	0.94	4,500	2.25	2,103	1.05	341	0.17	11,989	5.99	5,493	2.74	29,569	14.77
Mesquite, NV	15,276	12,757	83.51	146	0.96	143	0.94	274	1.79	34	0.22	1,614	10.57	308	2.02	3,658	23.95
St. George, UT	72,897	63,565	87.20	530	0.73	1,124	1.54	582	0.80	741	1.02	4,451	6.11	1,904	2.61	9,302	12.76
Regional Total[d]	290,002	251,271	86.64	2,559	0.88	5,783	1.99	2,963	1.02	1,116	0.38	18,575	6.41	7,735	2.67	43,211	14.90

[a] "Hispanic" refers to ethnicity and is derived from the total population, not as a separate race (i.e., it is calculated differently from the other columns in this table).
[b] # = number, % = percent, CDP = census designated place; AZ = Arizona; NV = Nevada; UT=Utah.
[c] Mohave County data includes Beaver Dam, Littlefield, and Scenic CDPs.
[d] Total of Mesquite, Mohave County, and St. George data.
Shading represents demographic characteristics where the total for the project area is greater than the regional total.
Source: Census 2010.

Table B-2. Minority, Age, Poverty, and Female Head of Household Populations in the Project Area and Region

Area	Total Population	Total Minority[a]		Ages 60 and Older		Disabled		Total Population for Whom Poverty Status is Determined	Below Poverty Level (Estimated)		Households	Female Head of Household w/Children under 18 years	
		#[b]	%	#	%	#	%		#	%		#	%
Littlefield CDP	308	134	43.51	80	25.97	17	5.52	245	37	15.1	109	6	5.5
Beaver Dam CDP	1,962	579	29.51	756	38.53	7	0.36	977	420	43.0	814	32	3.9
Project Area Total	2,270	713	31.41	836	36.83	24	1.06	1,222	457	37.40	923	38	4.12
Scenic CDP	1,643	723	44.00	541	32.93	22	1.34	1,154	198	17.2	618	13	2.1
Mohave County, AZ[c]	200,186	40,808	20.39	63,165	31.55	17,073	8.53	194,383	36,155	18.6	82,539	4,404	5.3
Mesquite City, NV	15,276	4,380	28.67	5,963	39.04	708	4.63	15,232	2,304	15.1	6,378	267	4.2
St. George City, UT	72,897	13,175	18.07	17,415	23.89	3,122	4.28	72,305	10,783	14.9	25,520	1,348	5.3
Regional Total[d]	290,002	59,086	20.37	87,084	30.03	20,925	7.22	283,074	49,440	17.47	115,055	6,032	5.24

[a] Total Minority is composed of all people who consider themselves non-white racially plus those who consider themselves white Hispanic.
[b] # = number, % = percent, CDP = census designated place; AZ = Arizona; NV = Nevada; UT=Utah.
[c] Mohave County data includes Beaver Dam, Littlefield, and Scenic CDPs.
[d] Total of Mesquite, Mohave County, and St. George data.
Shading represents demographic characteristics where the total for the project area is greater than the regional total.
Source: Census 2010. 2012 American Community Survey

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Appendix C
Agency Correspondence

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DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, U.S. ARMY CORPS OF ENGINEERS
3636 N CENTRAL AVENUE, SUITE 900
PHOENIX, ARIZONA 85012-1939

January 12, 2016

Karla S. Petty
Division Administrator
Federal Highway Administration
4000 N. Central Ave, Ste. 1500
Phoenix, AZ 85012

Attention: Rebecca Yedlin

SUBJECT: SPL-2015-00154-KAT Virgin River Bridge 1 Permitting Approach

Dear Ms. Petty:

This letter is in response to the discussion among the Federal Highway Administration (FHWA), the Arizona Department of Transportation (ADOT) and the US Army Corps of Engineers (Corps) on December 16, 2015, regarding the Environmental Assessment (EA) to be prepared by FHWA/ADOT and the Clean Water Act Section 404 permitting approach for the subject bridge replacement project.

The project currently has a completed preliminary jurisdictional determination. However, the project does not need to be permitted prior to the finalization of the EA, due to limited design information expected at that time. The project may be reviewed for permit after ADOT has hired the Construction Manager at Risk and project design has reached the 60% design stage in order to provide sufficient information to evaluate the project.

During development of the EA, ADOT and FHWA should consider and include an analysis of alternatives to avoid and minimize impacts to Waters of the United States. This analysis should include alternatives for access routes and impacts, to be later described in the 404 permit application.

Thank you for participating in the regulatory program. If you have any questions, please contact Kathleen Tucker at 602-230-6956 or via e-mail at Kathleen.A.Tucker@usace.army.mil. Please also complete the customer survey form at http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey, which would help me to evaluate and improve the regulatory experience for others.

Sincerely,

Sallie Diebolt

Digitally signed by DIEBOLT.SARAH.D.1231388229
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=USA, cn=DIEBOLT.SARAH.D.1231388229
Date: 2016.01.12 11:17:49 -07'00'

Sallie Diebolt
Chief, Arizona Branch
Regulatory Division

Conference Call Summary

Project: **I-15 Virgin River Bridge #1 - Visual Resource Analysis**

Purpose of Call: Discuss the use of weathered steel, reconstruct bridge in place alternative, removal of "Little Jamaica," and what BLM requires for concurrence with the visual findings (report update vs. analysis in the EA)

Date: March 6, 2017

Attendance: Jon Jasper, BLM Recreation Planner, BLM Arizona Strip District Field Office (435-688-3264); John Wennes, ADOT; Nancy Shelton, Jacobs; Beth Defend, Jacobs

Call In No.: 855-209-1113, Access code: 4468201983

Project No.: H8760; Jacobs W7X96100

Summary of Conversation:

Summary of Project Changes: Introduced the proposed changes

- Use of weathered steel

  For a Class II VRM classification, changes need to be avoided or hidden.
  Using weathered steel under the bridge would not be an issue. Loraine Christian (Field Manager) has the final approval. Nancy pointed out that the girders are visible from the side of the bridge as well (note: this was confirmed after the call). Jon indicated that people will recognize a bridge for what it is and will be unlikely to note the difference in color.

- New Alternative – Reconstruct Bridge in Place

  The original bridge alternative included in the Visual Resource Analysis (VRA) that was reviewed and approved by BLM included the construction of columns on each side of the existing piers. The new preferred alternative would construct two, smaller piers that are the same general shape as the existing pier. Since there would be two, the piers are smaller in size. The existing pier would be removed once the bridge weight is supported by the two smaller piers.

  Jon indicated he preferred the two pier solution (preferred alternative).

BLM's needs to complete visual analysis

- Jon recommended a table to supplement the visual report be developed showing actual photos from 5-6 perspectives of the current bridge and a discussion of how views of the bridge will change. Use the Contrast Rating Worksheet for determining the contrast of one structure compared to the other structure and put the findings into the table. Describe if one alternative looks similar to the other and evaluate what a casual observer would see. If the visual change is controversial, visual simulations should be prepared. Most people will not notice color change or size change as long as it looks like most

other bridges. Could consider short term changes associated with construction, but Jon is more concerned with the long-term view.
- Construction views would be the same as already assessed in the VRA.
- Overall impact of the visual changes would be very low.

Little Jamaica
- Two alternatives under consideration
    - 10-foot-high “pool” fence to prevent access with gates for maintenance – fence would be of a natural color
    - Filling the pool created by sandbags with boulders
- During construction, use of Little Jamaica will be prohibited because of the safety issues in a construction zone. People will have a chance to get used to it being unavailable.
- Little Jamaica is not on BLM land and the VRA does not need to address proposed changes to Little Jamaica. Jon indicated that natural materials (boulders vs. fence) typically have less of a visual impact.
- When the area revegetates, the visual impacts from a fence or boulders will be minimized.
- The removal of Little Jamaica would diminish the number of people who recreate in this area. Consequently, a higher percentage of those who recreate in this area would float through on the river and the duration of their view would be shorter.

If ADOT determines that they want to keep Little Jamaica, there is a possibility that an agreement with BLM or AZ State Parks could be reached to manage the resource. AZ State Parks has a grant program that could potentially fund a non-government interest group to manage it. Jon indicated that he believed it will probably be easier to keep it than remove it.

John Wennes indicated that the benefits would have to be measured against the risk/liability.

Nancy mentioned that the scoping responses were split – both for and against removing Little Jamaica.

Jon stated some do not support keeping Little Jamaica because some people visiting the feature engage in activities that are not compatible with bringing kids to the area. If it were managed, some of those less desirable uses may be discouraged and make it nice enough to gain support from those that oppose the recreational feature.

Shelton, Nancy

To: Shelton, Nancy (Nancy.Shelton@jacobs.com)
Subject: FW: I-15 Bridge No 1 VRA Addendum

From: Jasper, Jonathan [mailto:jjasper@blm.gov]
Sent: Thursday, June 01, 2017 1:28 PM
To: John Wennes
Subject: Re: I-15 Bridge No 1 VRA Addendum

I am okay with it

On Thu, Jun 1, 2017 at 12:47 PM, John Wennes <JWennes@azdot.gov> wrote:

Hi Jon;

Did you have any comments on the VRA addendum? We are completing the Draft EA soon and it will be distributed to the cooperating agencies (BLM and NPS). We wanted to verify that you were ok with the addendum.

Thanks – appreciate your time.

John Wennes
Environmental Planner
ADOT Environmental Planning
1611 W. Jackson Street Mail Drop EM02
Phoenix, AZ 85007
602.712.6974
JWennes@azdot.gov

ADOT
Intermodal Transportation

From: Yedlin, Rebecca (FHWA) [mailto:Rebecca.Yedlin@dot.gov]
Sent: Monday, April 03, 2017 7:44 AM
To: jjasper@blm.gov
Cc: Ammon Heier; John Wennes; 'Wilbrink, Berwyn'
Subject: I-15 Bridge No 1 VRA Addendum

Hello. The ADOT and FHWA prepared an Addendum to the I-15 Bridge No 1 Visual Resources Analysis report (submitted to BLM in October 2015).

This addendum is provided for your review and approval. We would appreciate any comments by April 17, 2017.

If you would like me to send a hard copy as well, please let me know. Thanks, Rebecca

Rebecca Yedlin
Environmental Coordinator
FHWA - Arizona Division

4000 N. Central Ave., Suite 1500
Phoenix, AZ 85012
(602) 382-8979
rebecca.yedlin@dot.gov

--

Jon Jasper
Recreation Specialist
BLM Arizona Strip Field Office
(435) 688-3264

Shelton, Nancy

From: Shelton, Nancy
Sent: Wednesday, March 08, 2017 6:57 AM
To: Shelton, Nancy (Nancy.Shelton@jacobs.com)
Subject: FW: H8760 FW: I-15 Virgin River Bridge No 1. Environmental Assessment
Attachments: Land_Use_Fig 4.pdf

From: John Wennes
Sent: Wednesday, March 01, 2017 7:08 AM
To: 'Jasper, Jonathan'
Subject: RE: I-15 Virgin River Bridge No 1. Environmental Assessment

Hi Jonathon;

You are correct – we are looking at Class 2 and Class 3 in our project area (not Class 1) - thanks for the correction.

The Little Jamaica feature is within ADOT ROW, and is an unauthorized use. ADOT maintenance has to clean up the trash and debris left behind by the visitors. I attached a figure that shows the BLM ACEC and project limits. Privately-owned land and public land under the jurisdiction of BLM occur within the study area. East of the bridge, ADOT ROW extends 400 feet, 200 feet on each side of the I-15 centerline. On the west side of the bridge, ADOT holds a 400-foot-wide easement across BLM land to maintain and operate I-15.

Let me know if you need more information on this or other project-related matters.

Thanks for your time.

John Wennes
Environmental Planner
ADOT Environmental Planning
1611 W. Jackson Street Mail Drop EM02
Phoenix, AZ 85007
602.712.6974
JWennes@azdot.gov

From: Jasper, Jonathan [mailto:jjasper@blm.gov]
Sent: Tuesday, February 28, 2017 4:30 PM
To: John Wennes
Subject: Re: I-15 Virgin River Bridge No 1. Environmental Assessment

That all sound reasonable to me.

But to note VRM Class 1 in our office is limited to wilderness. The area is within Class 2.

I thought that Little Jamaica was privately owned. If not, I would love a map showing what extent ADOT owns. I have folks contacting occasionally asking me how they can help clean the place.

--

Jon Jasper
Recreation Specialist
BLM Arizona Strip Field Office
(435) 688-3264

On Tue, Feb 28, 2017 at 12:28 PM, John Wennes <JWennes@azdot.gov> wrote:

Hello Jonathon;

I just wanted to follow up on my phone call a few minutes ago (I left you a voice mail).

With the recently proposed alternative - replacing the existing bridge with one new bridge in the current location – The Visual Resource Analysis (abbreviated edition attached) will be updated.

Just a few highlights on adding the bridge replacement option;

1. Plan on using weathered steel for preferred bridge alternative

2. Will have the revised VRA in current Draft EA

3. Build-in-place option; same project footprint as existing bridge, (unlike constructing two new bridges option)

4. Little Jamaica (unauthorized recreational water feature). Will use open fencing to close off this area; color
will minimize contrast with surrounding area.

5. Option 1 (bridge rehabilitation) and 2 (bridge replacement) are consistent w/VRM objectives for Class I and II

We are currently updating the Draft EA to include the new option of bridge replacement. BLM will be receiving the draft EA later this spring after FHWA reviews and comments.

If you want to give me a call or email to let me know you have received the email and want to discuss further, I am in typically 700 AM to 330 PM daily.

Thanks

John Wennes
Environmental Planner
ADOT Environmental Planning
1611 W. Jackson Street Mail Drop EM02
Phoenix, AZ 85007
602.712.6974
JWennes@azdot.gov

ADOT
Intermodal Transportation

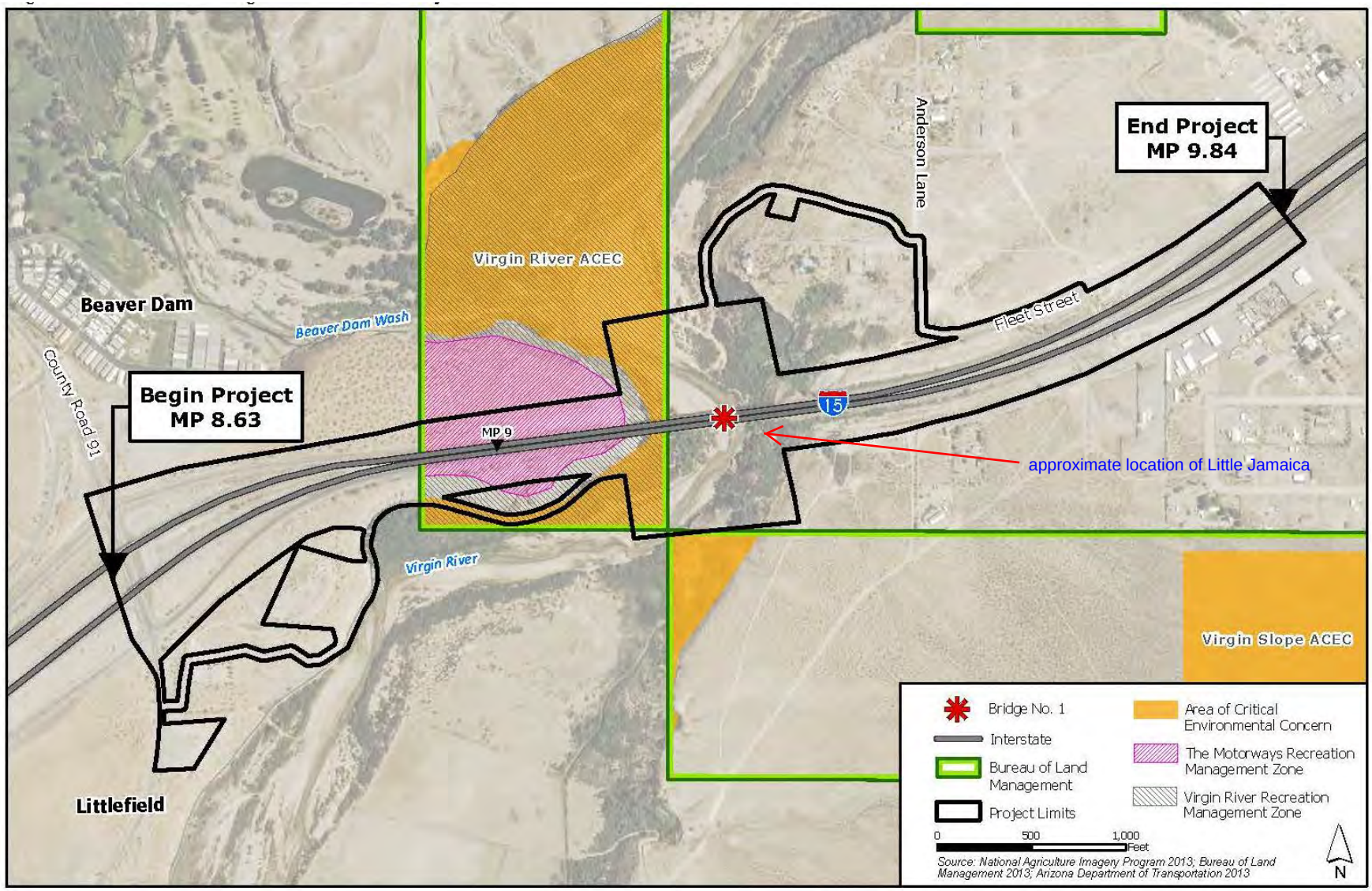


Figure 6. Land Use Designations in the Project Area

Shelton, Nancy

From: Shelton, Nancy
Sent: Thursday, June 01, 2017 10:55 AM
To: Shelton, Nancy
Subject: FW: H8760 I-15 Virgin River Bridge 1 - Visual Resources Rpt.

From: Jasper, Jonathan [mailto:jjasper@blm.gov]
Sent: Monday, February 22, 2016 10:13 AM
To: John Wennes
Subject: Re: FW: I-15 Virgin River Bridge 1 - Visual Resources Rpt.

It would be Transportation. The recreation use would be visiting Little Jamaica which is not on BLM land. We haven't designated any Special Recreation Management Areas for this area. From a BLM prospective I would expect, wildlife would be of a higher concern due to the presence T&E species in and near the Virgin River.

--
Jon Jasper
Recreation Specialist
BLM Arizona Strip Field Office
(435) 688-3264

From: John Wennes
Sent: Monday, February 22, 2016 9:21 AM
To: Jon Jasper
Subject: I-15 Virgin River Bridge 1 - Visual Resources Rpt.

Hi Jon;

A follow up question for you;

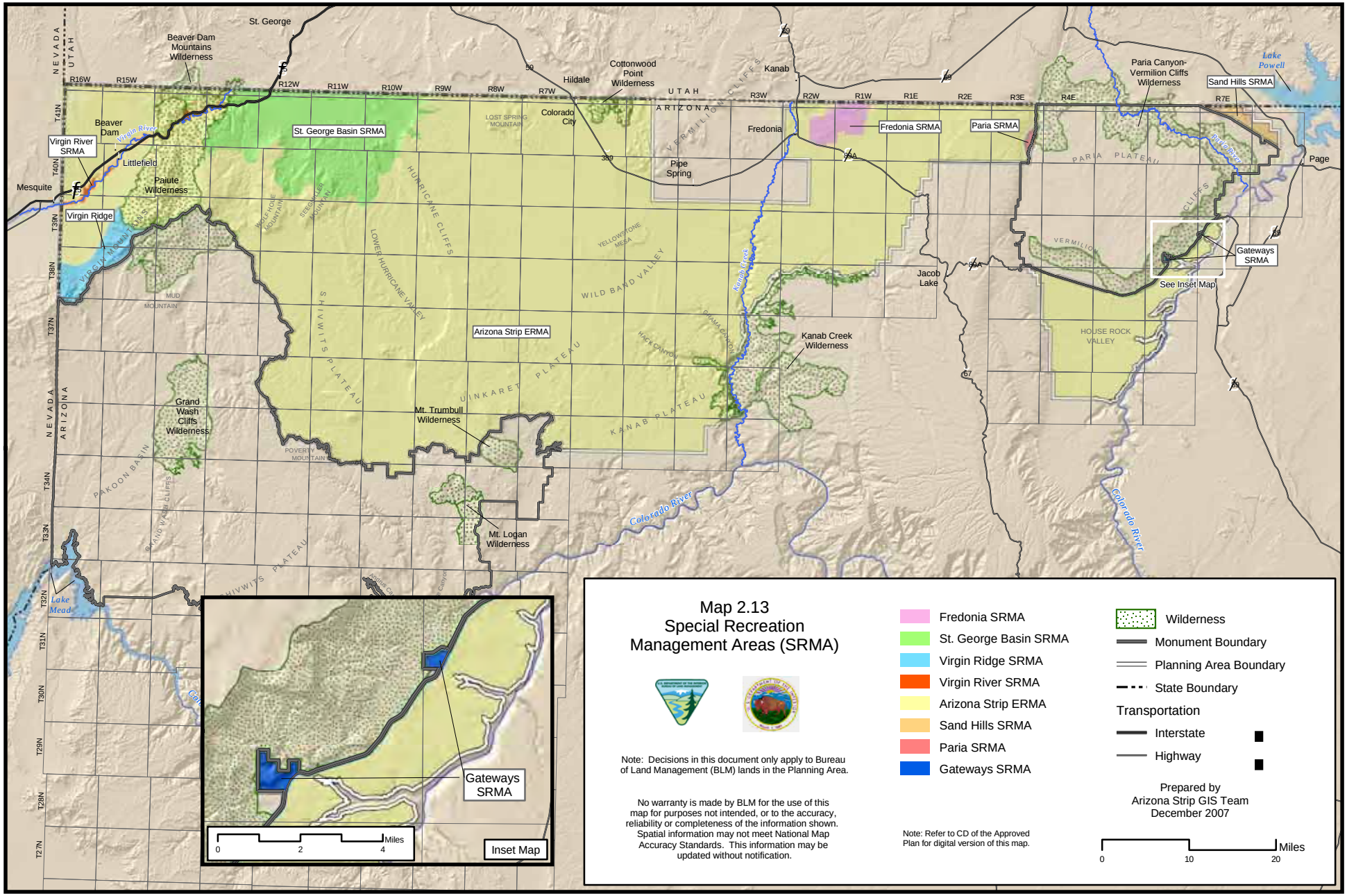
Is the area of Bridge No. 1's primary purpose considered to be *recreational* or *transportation*?

Looking at the 2008 BLM Resource Mgmt Plan, it does not appear to be in a designated recreation management area (Map 2.13) and no recreation setting is prescribed (Map 2.15).

Bridge No. 1 is at Milepost 9.2

Thanks for your time.

John Wennes
Environmental Planner
ADOT Environmental Planning
1611 W. Jackson Street Mail Drop EM02
Phoenix, AZ 85007
602.712.6974
JWennes@azdot.gov



Map 2.13 Special Recreation Management Areas

From: Jasper, Jonathan
To: John Wennes
Subject: Re: I-15 Virgin River Bridge 1 - Visual Resources Rpt.
Date: Thursday, February 04, 2016 9:53:22 PM

I relooked at the project. I really don't see any problems. The bridge will be in the same form, so I see it as a no change.

On Thu, Feb 4, 2016 at 2:38 PM, John Wennes <JWennes@azdot.gov> wrote:

> Hi Jonathon;
>
> Have you had a chance to look at this Visual Resources Inquiry on this bridge rehabilitation project?
>
> Thanks -
>
> **John Wennes**
>
> **Environmental Planner**
>
> ADOT Environmental Planning
>
> 1611 W. Jackson Street Mail Drop EM02
>
> Phoenix, AZ 85007
>
> 602.712.6974
>
> JWennes@azdot.gov
>
> ADOT Intermodal Transportation
>
> **From:** Jasper, Jonathan [mailto:jjasper@blm.gov]
> **Sent:** Friday, January 15, 2016 9:38 AM
> **To:** John Wennes
> **Subject:** Re: I-15 Virgin River Bridge 1 - Visual Resources Rpt.

I'm on leave until next Thursday. I don't recall any issues since it is simply expanding the deck in the same style. I'll look at it more when I get back.

On Friday, January 15, 2016, John Wennes <JWennes@azdot.gov> wrote:

Hi Jonathon;

Charles Beck has left ADOT and I am the new NEPA Planner assigned to this Bridge Rehabilitation project. I wanted to follow up on an earlier request from Charles to you on the Visual Resources report. Have you had an opportunity to review/respond to ADOT yet? I attached an earlier email from Charles to you and the VRA report for reference.

Thanks for your time.

John Wennes

Environmental Planner

ADOT Environmental Planning

1611 W. Jackson Street Mail Drop EM02

Phoenix, AZ 85007

602.712.6974

JWennes@azdot.gov

--
Jon Jasper

Recreation Specialist

BLM Arizona Strip Field Office

(435) 688-3264

--
Jon Jasper
Recreation Specialist
BLM Arizona Strip Field Office
(435) 688-3264

2015-0228 (137981)

JUL 26 2017

U.S. Department of Transportation
Federal Highway Administration

ARIZONA DIVISION

4000 North Central Avenue
Suite 1500
Phoenix, Arizona 85012-3500
Phone: (602) 379-3646
Fax: (602) 382-8998
http://www.fhwa.dot.gov/azdiv/index.htm

July 19, 2017

In Reply Refer To:

015-A(211)T
TRACS No. 015 MO 008 H8760 01L
Virgin River Bridge No. 1 (STR #1089)
Section 4(f) consultation

Dr. David Jacobs, Compliance Specialist
State Historic Preservation Office
Arizona State Parks
1100 West Washington Street
Phoenix, Arizona 85007

Dear Dr. Jacobs:

The Federal Highway Administration (FHWA) and the Arizona Department of Transportation (ADOT) are planning a bridge rehabilitation project at the Virgin River Bridge No. 1 (Structure No. 1089) along Interstate 15 (I-15) at milepost (MP) 9.55 near the unincorporated communities of Littlefield and Beaver Dam in Mohave County, Arizona. The project is located in portions of Sections 3, 4, and 5, Township 40 North, Range 15 West (Gila and Salt River Baseline and Meridian). As this project is qualified for federal funding it is considered an undertaking subject to Section 106 review. The project would occur on ADOT-owned right-of-way (ROW) or easement as well as access roads and temporary construction easements (TCEs) located on public lands administered by the Bureau of Land Management (BLM) and private land. Consulting parties for this project include FHWA, ADOT, BLM, the State Historic Preservation Office (SHPO), Mohave County, the Chemehuevi Indian Tribe, the Colorado River Indian Tribes, the Havasupai Tribe, the Hopi Tribe, the Hualapai Tribe, the Kaibab Band of Paiute Indians, the Paiute Indian Tribe of Las Vegas, the Moapa Band of Paiute Indians, the Paiute Indian Tribe of Utah, and the San Juan Southern Paiute Tribe.

Pursuant to Section 4(f) of the US Department of Transportation Act of 1966, as amended (23 CFR 774), FHWA has determined that Site AZ A:1:11(ASM) qualifies for the exception in 23 CFR 774.13(b):

> (b) Archeological sites that are on or eligible for the National Register when:
> (1) The Administration concludes that the archeological resource is important chiefly because of what can be learned by data recovery and has minimal value for preservation in place. This exception applies both to situations where data recovery is undertaken and where the Administration decides, with agreement of the official(s) with jurisdiction, not to recover the resource; and
> (2) The official(s) with jurisdiction over the Section 4(f) resource have been consulted and have not objected to the Administration finding in paragraph (b)(1) of this section.

This site was previously determined eligible for the National Register under Criterion D, and will not be adversely affected by the proposed undertaking. Previous consultation addressed both the

eligibility of the site and the effects of the proposed undertaking on it, and BLM and SHPO both concurred with those findings (Herron [BLM] to Petty [FHWA] 09 March 2015; Jacobs [SHPO] to Petty [FHWA] 09 March 2015).

Site AZ A:1:11(ASM) is a habitation site that prior to the construction of I-15 was recorded as containing a Puebloan roomblock, plaza, pithouses, artifact concentrations, undefined features, bedrock mortars, and petroglyphs. According to the ASM site card, the habitation features were recorded in 1965 during highway salvage work and were destroyed during highway construction (Vivian and Hammack 1965; Wade 1967). Data recovery by Ward in 1967 north of the current I-15 involved the excavation of 81 trenches placed on the north side of the site which resulted in the identification of 21 pit houses, 22 storage cists, 4 isolated hearths, 3 nebulous features, 14 human burials, 1 dog burial, and 3 areas of bedrock mortars; with one of the bedrock mortars associated with petroglyphs. The site is important chiefly because of what could be learned through data recovery. As the site has been subject to previous disturbance and partial data recovery, it has minimal value for preservation in place. FHWA has determined that additional data recovery is not warranted in conjunction with this project, because no project activities will occur within undisturbed portions of the site.

The regulations in 23 CFR 774.13(b) cited above require that FHWA consult with the officials with jurisdiction over properties regarding its finding that any resource is excepted from the requirement for approval under Section 4(f), and that the officials with jurisdiction not object to the finding. If you object to any of the findings in this letter, please notify FHWA within 15 days.

If you have any questions or concerns regarding this Section 4(f) finding please contact Rebecca Yedlin, FHWA Environmental Coordinator, at Rebecca.yedlin@dot.gov, or 602-382-8979; or David Zimmerman, ADOT Historic Preservation Specialist, at dzimmerman@azdot.gov or 928-779-7577.

Sincerely,

CONCUR

21 JUL 17

Arizona State Historic Preservation Office

Karla S. Petty
Division Administrator

ecc:
RYedlin
DZimmerman

JUL 26 2017

cc: David Zimmerman, ADOT

U.S. Department of Transportation
Federal Highway Administration

ARIZONA DIVISION

4000 North Central Avenue
Suite 1500
Phoenix, Arizona 85012-3500
Phone: (602) 379-3646
Fax: (602) 382-8998
http://www.fhwa.dot.gov/azdiv/index.htm

July 19, 2017

In Reply Refer To:

015-A(211)T
TRACS No. 015 MO 008 H8760 01L
Virgin River Bridge No. 1 (STR #1089)
BLM Serial Number AZA-01885
Section 4(f) consultation

Mr. David Van Alfen
Arizona Strip Field Office Archaeologist
Bureau of Land Management, Arizona Strip Field Office
345 E. Riverside Drive
St. George, UT 84790

Dear Mr. Van Alfen:

The Federal Highway Administration (FHWA) and the Arizona Department of Transportation (ADOT) are planning a bridge rehabilitation project at the Virgin River Bridge No. 1 (Structure No. 1089) along Interstate 15 (I-15) at milepost (MP) 9.55 near the unincorporated communities of Littlefield and Beaver Dam in Mohave County, Arizona. The project is located in portions of Sections 3, 4, and 5, Township 40 North, Range 15 West (Gila and Salt River Baseline and Meridian). As this project is qualified for federal funding it is considered an undertaking subject to Section 106 review. The project would occur on ADOT-owned right-of-way (ROW) or easement as well as access roads and temporary construction easements (TCEs) located on public lands administered by the Bureau of Land Management (BLM) and private land. Consulting parties for this project include FHWA, ADOT, BLM, the State Historic Preservation Office (SHPO), Mohave County, the Chemehuevi Indian Tribe, the Colorado River Indian Tribes, the Havasupai Tribe, the Hopi Tribe, the Hualapai Tribe, the Kaibab Band of Paiute Indians, the Paiute Indian Tribe of Las Vegas, the Moapa Band of Paiute Indians, the Paiute Indian Tribe of Utah, and the San Juan Southern Paiute Tribe.

Pursuant to Section 4(f) of the US Department of Transportation Act of 1966, as amended (23 CFR 774), FHWA has determined that Site AZ A:1:11(ASM) qualifies for the exception in 23 CFR 774.13(b):

> (b) Archeological sites that are on or eligible for the National Register when:
> (1) The Administration concludes that the archeological resource is important chiefly because of what can be learned by data recovery and has minimal value for preservation in place. This exception applies both to situations where data recovery is undertaken and where the Administration decides, with agreement of the official(s) with jurisdiction, not to recover the resource; and
> (2) The official(s) with jurisdiction over the Section 4(f) resource have been consulted and have not objected to the Administration finding in paragraph (b)(1) of this section.

This site was previously determined eligible for the National Register under Criterion D, and will not be adversely affected by the proposed undertaking. Previous consultation addressed both the eligibility of the site and the effects of the proposed undertaking on it, and BLM and SHPO both concurred with those findings (Herron [BLM] to Petty [FHWA] 09 March 2015; Jacobs [SHPO] to Petty [FHWA] 09 March 2015).

Site AZ A:1:11(ASM) is a habitation site that prior to the construction of I-15 was recorded as containing a Puebloan roomblock, plaza, pithouses, artifact concentrations, undefined features, bedrock mortars, and petroglyphs. According to the ASM site card, the habitation features were recorded in 1965 during highway salvage work and were destroyed during highway construction (Vivian and Hammack 1965; Wade 1967). Data recovery by Ward in 1967 north of the current I-15 involved the excavation of 81 trenches placed on the north side of the site which resulted in the identification of 21 pit houses, 22 storage cists, 4 isolated hearths, 3 nebulous features, 14 human burials, 1 dog burial, and 3 areas of bedrock mortars; with one of the bedrock mortars associated with petroglyphs. The site is important chiefly because of what could be learned through data recovery. As the site has been subject to previous disturbance and partial data recovery, it has minimal value for preservation in place. FHWA has determined that additional data recovery is not warranted in conjunction with this project, because no project activities will occur within undisturbed portions of the site.

The regulations in 23 CFR 774.13(b) cited above require that FHWA consult with the officials with jurisdiction over properties regarding its finding that any resource is excepted from the requirement for approval under Section 4(f), and that the officials with jurisdiction not object to the finding. If you object to any of the findings in this letter, please notify FHWA within 15 days.

If you have any questions or concerns regarding this Section 4(f) finding please contact Rebecca Yedlin, FHWA Environmental Coordinator, at Rebecca.yedlin@dot.gov, or 602-382-8979; or David Zimmerman, ADOT Historic Preservation Specialist, at dzimmerman@azdot.gov or 928-779-7577.

Sincerely,

Karla S. Petty
Division Administrator

ecc:
RYedlin
DZimmerman

Shelton, Nancy

From: David Zimmerman <dzimmerman@azdot.gov>
Sent: Tuesday, June 06, 2017 12:53 PM
To: John Wennes
Subject: FW: H8760 Virgin River Bridge #1 Section 4(f) Finding

This makes both of them ☺

From: Van Alfen, David [mailto:dvanalfe@blm.gov]
Sent: Tuesday, June 06, 2017 12:45 PM
To: David Zimmerman
Subject: Re: H8760 Virgin River Bridge #1 Section 4(f) Finding

Dear Mr. Zimmerman,

I concur with the previous determinations of site AZ A:1:11(ASM) Eligibility status and finding of No Adverse Effect and have no objection to the Section 4(f) exception from requirement for approval.

Sincerely,

David Van Alfen
Archaeologist
Arizona Strip District
Bureau of Land Management
345 East Riverside Drive
St George, Utah 84790
435.688.3224 (phone)

On Fri, Jun 2, 2017 at 10:11 AM, David Zimmerman <dzimmerman@azdot.gov> wrote:

Dear Mr. Van Alfen,

Pursuant to Section 4(f) of the US Department of Transportation Act of 1966, as amended (23 CFR 774), FHWA has determined that Site AZ A:1:11(ASM) qualifies for the exception in 23 CFR 774.13(b). This site was previously determined eligible for the National Register under Criterion D, and will not be adversely affected by the proposed undertaking. Previous consultation addressed both the eligibility of the site and the effects of the proposed undertaking on it, and BLM and SHPO both concurred with those findings (Herron [BLM] to Petty [FHWA] 09 March 2015; Jacobs [SHPO] to Petty [FHWA] 09 March 2015). Both concurrences are attached for your information.

Site AZ A:1:11(ASM) is a habitation site that prior to the construction of Interstate 15 was recorded as containing a Puebloan roomblock, plaza, pithouses, artifact concentrations, undefined features, bedrock mortars, and petroglyphs. According to the ASM site card, the habitation was

recorded in 1965 during highway salvage work and was destroyed during highway construction (Vivian and Hammack 1965; Wade 1967). Data recovery by Ward in 1967 north of the current I-15 involved the excavation of 81 trenches placed on the north side of the site which resulted in

the identification of 21 pit houses, 22 storage cists, 4 isolated hearths, 3 nebulous features, 14 human burials, 1 dog burial, and 3 areas of bedrock mortars; with one of the bedrock mortars was associated with petroglyphs. The site is important chiefly because of what could be learned through data recovery. As the site has been subject to previous disturbance and partial data recovery, it has minimal value for preservation in place. FHWA has determined that additional data recovery is not warranted in conjunction with this project, because no project activities will occur within undisturbed portions of the site.

The regulations in 23 CFR 774.13 cited above require that FHWA consult with the officials with jurisdiction over properties regarding its finding that any resource is excepted from the requirement for approval under Section 4(f), and that the officials with jurisdiction not object to the finding. If you object to any of the findings in this email please notify me within 15 days.

Because Section 4(f) is a part of the Department of Transportation Act, compliance with the Section applies to agencies within the US Department of Transportation (e.g. FHWA) and is not a common part of many agencies cultural resource management practice. If you have any questions or concerns regarding this email or its purpose under Section 4(f) please do not hesitate to contact me.

Sincerely,

David Zimmerman

Historic Preservation Specialist

ADOT Environmental Planning

1801 S. Milton Rd.

Flagstaff, AZ. 86004

MD 500

(928) 779-7577

dzimmerman@azdot.gov

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Appendix D
Methodology Limitations for Assessing Health Impacts of Mobile Source Air Toxics

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Unavailable Information for Project-specific MSAT Impact Analysis

The project's environmental document includes a basic analysis of the likely MSAT emission impacts of this project. However, available technical tools do not enable us to predict the project-specific health impacts of the emission changes associated with this study corridor. When an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in a NEPA analysis and there is incomplete or unavailable information, the agency would always make clear that such information is lacking. Because of these limitations, the following discussion is included in accordance with President's Council of Environmental Quality (CEQ) regulations (40 CFR 1502.22[b]) regarding incomplete or unavailable information.

Information that is Unavailable or Incomplete

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health effects due to changes in MSAT emissions associated with a proposed set of highway study corridors. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health effects directly attributable to MSAT exposure associated with a proposed corridor.

Evaluating the environmental and health impacts from MSATs on a proposed highway project involves several key elements, including emissions modeling, dispersion modeling in order to estimate ambient concentrations resulting from the estimated emissions, exposure modeling in order to estimate human exposure to the estimated concentrations, and a final determination of health impacts based on the estimated exposure. Each step is encumbered by technical shortcomings or uncertain science that prevents a more complete determination of the project's MSAT health impacts.

Exposure Levels and Health Effects

It is difficult to quantify exposure because there are too many uncertainties, such as accurate calculations of annual concentrations of MSATs near roadways and determinations of the portion of a year that people are actually exposed to those concentrations at a specific location. These limitations are then magnified when extrapolated for 70-year cancer assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which impacts emission rates) over a 70-year period.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSATs, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by the Health Effects Institute (HEI 2014). As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The U.S. EPA (EPA 2014) and the HEI (HEI 2009) have not established a basis for quantitative risk assessment of diesel PM in ambient settings.

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by EPA as provided by the CAA to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires EPA to determine an "acceptable" level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk

determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld EPA's approach to addressing risk in its two-step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than deemed acceptable.

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities, plus improved access for emergency response, that are better suited for quantitative analysis.

For each alternative in the EA, the amount of MSATs emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables such as fleet mix are the same for each corridor.

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Appendix E
Biological Evaluation and Correspondence

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Intermodal Transportation

Arizona Department of Transportation

Environmental Planning

Biological Evaluation

Virgin River Bridge #1 (STR #1089)

015-A(211)T
015 MO 008 H8760 01L

April 26, 2016
Submittal Number 5

Biological Evaluation

FOR

Virgin River Bridge #1 (STR #1089)

015-A(211)T
015 MO 008 H8760 01L

Prepared for:

Arizona Department of Transportation
Environmental Planning
1611 West Jackson Street, EM02
Phoenix, Arizona 85007

Prepared by:

Jacobs Engineering Group Inc.
101 North 1st Avenue, Suite 2600
Phoenix, Arizona 85003

April 26, 2016

TABLE OF CONTENTS

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1. PROJECT LOCATION

The Arizona Department of Transportation (ADOT), in association with the Federal Highway Administration (FHWA), is planning to rehabilitate Virgin River Bridge No. 1 (Bridge No. 1) located on Interstate 15 (I-15) near Littlefield, Arizona at milepost (MP) 9.55. The project would begin at MP 8.63 and end at MP 9.84. The project limits are located adjacent to the unincorporated communities of Beaver Dam and Littlefield in Mohave County, Arizona (Figure 1–State Location Map and Figure 2–Project Vicinity).

Within the project limits, I-15 crosses and is adjacent to both privately owned land and public lands under the jurisdiction of the Bureau of Land Management (BLM). ADOT holds an easement in areas under BLM jurisdiction and owns the right-of-way adjacent to privately owned land to construct, maintain, and operate the interstate. The primary land uses adjacent to the project limits are scattered rural development, including residential, commercial, and light industrial uses. The Virgin River is used for informal recreation in the vicinity of Bridge No. 1. The project is located on the Littlefield, AZ, United States Geological Survey (USGS) 7.5' topographic quadrangle in Township 40 North, Range 15 West, Section 4, Gila and Salt River Base Line and Meridian.

Throughout this Biological Evaluation (BE) the term "project limits" is used to represent the construction footprint (potential disturbance area), while the term "project area" also includes surrounding lands, outside but adjacent to the project limits. The term "project vicinity" is used to denote a more expansive landscape context.

2. PROJECT DESCRIPTION

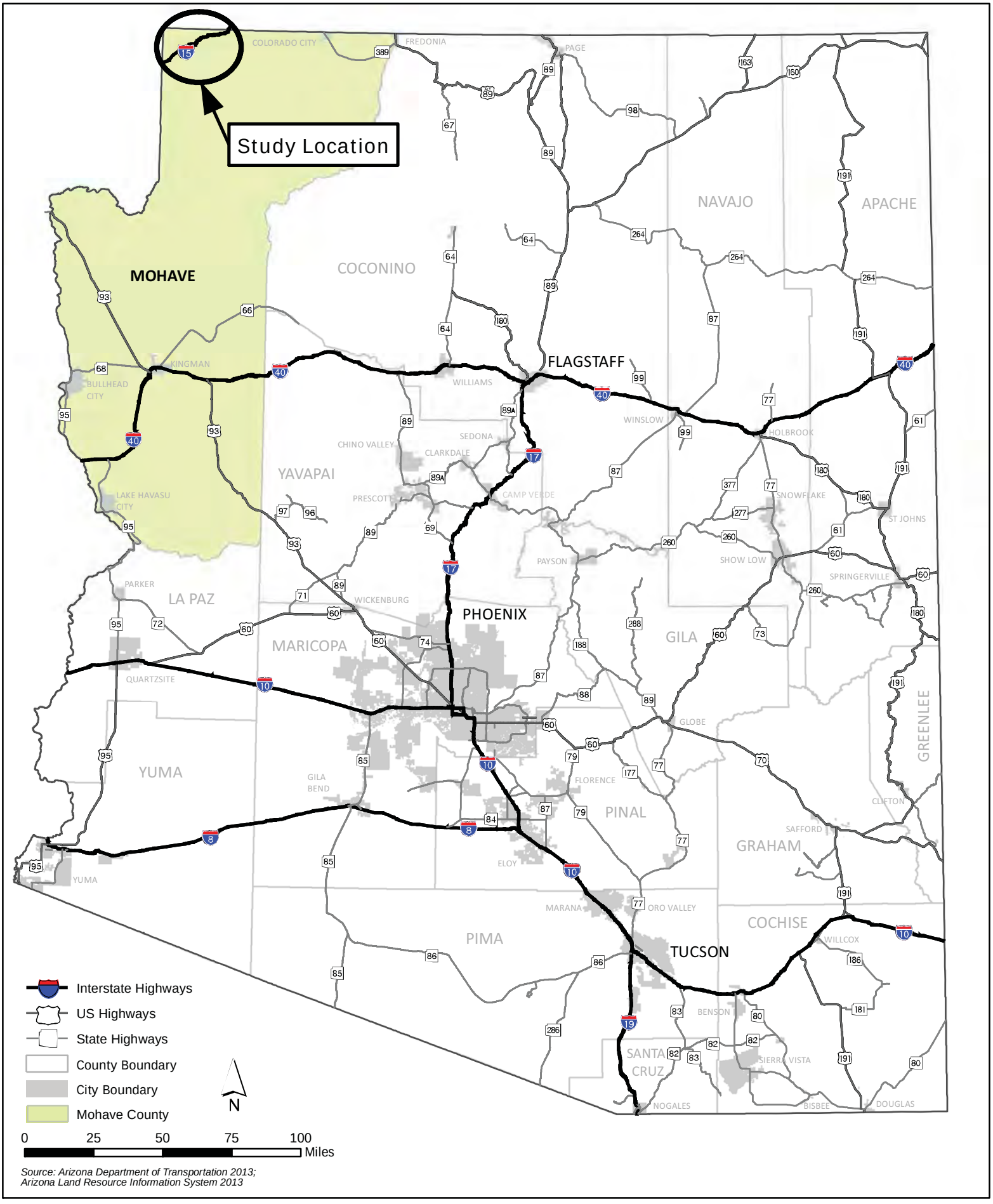
I-15 spans 29.4 miles across the northwest corner of Arizona and provides a vital link between the states of California, Nevada, Arizona, Utah, and beyond. The Arizona portion of I-15 includes seven bridges over the Virgin River, all constructed in the 1960s and 1970s; Bridge No. 1 was constructed in 1964. Within the project limits, I-15 has four 12-foot-wide travel lanes (two northbound and two southbound) with shoulders of varying widths. This stretch of interstate carries a high percentage of truck traffic (as high as 38 percent) and is the only road in Arizona permitted to carry triple tractor trailers. As I-15 ages, truck traffic can increase the rate at which the roadway pavement and bridge infrastructure deteriorates. In addition, the outside shoulders within the project limits are as narrow as 4 feet wide, and do not allow room for trucks or other vehicles to pull off the road.

The purpose of the project is to maintain I-15 as a regional transportation facility, allowing the movement of people, goods, and services through this vital corridor. Additionally, the project would help ADOT meet its long-range goal of maintaining I-15 as an essential trade and truck route linking Nevada, Arizona, and Utah.

The following list provides a general summary of the construction activities involved in rehabilitating Bridge No. 1. Expanded descriptions of the proposed construction activities follow the list.

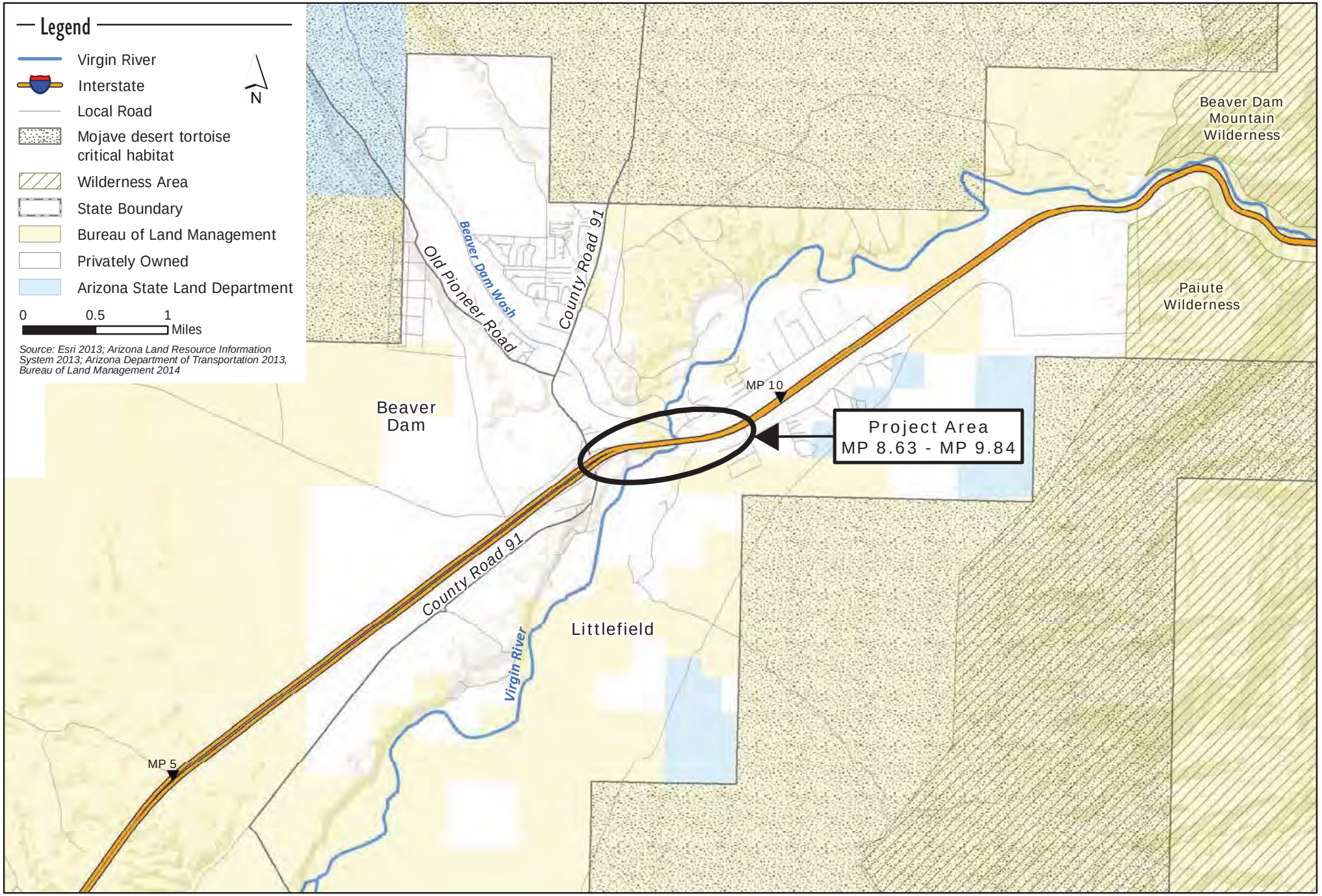
- Geotechnical investigation
- Grading two existing two-track and dirt roads to be selected from five options and used as access routes for construction equipment
- Grading and filling portions of the Virgin River 100-year floodplain (or the area with a 1 percent likelihood of flooding any given year)

Figure 1. State Location Map



Source: Arizona Department of Transportation 2013; Arizona Land Resource Information System 2013

Figure 2. Project Vicinity



- Constructing a temporary bridge across the Virgin River low-flow channel (or channel containing the active water flow between flood events), to allow construction personnel to cross the river
- Constructing cofferdams or diversion structures around Pier 3 as needed
- Constructing at least two temporary crane pads beneath the bridge and using a crane to place the new girders and for other bridge construction
- Providing scour countermeasures as required to mitigate future erosion around the pier foundations
- Widening the new bridge deck to provide shoulders that meet current design criteria (4-foot inside shoulders and 10-foot outside shoulders)
- Widening the roadway approaches to match the new bridge width
- Adding new girders to support the wider bridge deck
- Removing and replacing existing bridge deck, girders, median, and exterior barriers
- Widening and strengthening all abutments, piers, and foundations as necessary
- Signing and striping as necessary

The project would include the primary elements listed below. No new permanent easement or drainage easements would be required for project construction or operation. Temporary construction easements (TCEs) would be required for construction outside of the existing easement or right-of-way. Project construction would occur over a period of about two years and would be limited to daylight hours, except for setting the girders and pouring the deck, which may require temporary night work. Construction is anticipated to start in Fiscal Year (FY) 2019. As no blasting will be required for this project, noise impacts would be restricted to heavy machinery required for construction, such as cranes, drill rigs, backhoes, and graders.

Preliminary plan sheets for this proposed action are not currently available because design is not scheduled to begin until FY 2017. The following discussion of activities is accurate according to the current knowledge of this project and should be assumed as likely to occur. This BE is intended to discuss activities and impacts over a comprehensive resource area that would encompass all on-site alternatives that could be considered in the National Environmental Policy Act (NEPA) documents for the study. If an off-site alternative is selected, consultation with the U.S. Fish and Wildlife Service (USFWS) would be re-initiated.

Geotechnical Investigation

Prior to construction on the bridge or highway, a geotechnical investigation would be performed to collect subsurface data at the bridge site to support development of geotechnical engineering recommendations for the proposed widening of the existing bridge. The geotechnical investigation is anticipated to start in FY 2017, with an approximate duration of one month of work in the field. This investigation is likely to include:

- Geologic reconnaissance and surface geologic mapping of the site;
- Geophysical survey lines;
- Drilling up to 35 test borings with casing advancer (in soil) and triple-tube coring (in rock) methods to depths of 10 to 80 feet below existing site grades; and
- Plugging the test holes with either native materials or a cement/bentonite mixture and capping them as needed with small amounts of concrete.

The geologic reconnaissance and geophysical survey would not result in any ground disturbance. Ground disturbance and vegetation removal would occur to allow the drill rig to access the

boring locations under the bridge and to maneuver around each boring location. Boring locations adjacent to I-15 would be accessed directly from the outside travel lanes. Boring locations within the Virgin River floodplain would be required. These would occur on the north and south side of each pier no more than 30 feet away from the pier. Access to the piers within the floodplain should be gained from both sides of the river using the existing dirt access routes, where possible. No impacts to the low-flow channel are anticipated from either equipment access and maneuvering or boring locations. Additional vegetation removal for accessing boring locations where existing dirt access routes do not exist may be required. No construction would be required on the existing dirt access routes to accommodate the track-mounted drill rig. Up to roughly 2 acres of total ground disturbance would likely be required along access routes and at boring locations. This assumes each of the 35 borings would require about 1,600 square feet for equipment maneuvering, as well as disturbance for any vegetation removal required along the dirt access routes. Any borings done within wetland areas or adjacent to streams would require the drill rig to be placed on rubber mats as part of the requirements for the Clean Water Act (CWA) permit. All geotechnical investigation activities would avoid springs, seeps, and the low-flow channel. Assuming an 8-inch boring diameter and 35 borings plugged and capped with a cement/bentonite mixture, approximately 12 square feet of permanent impacts would be expected.

Temporary Access and Equipment in the Floodplain

All equipment needed to operate in the floodplain, such as cranes, excavators, drill rigs, and manlifts, would use two of five proposed access paths that take advantage of existing dirt roads. The first proposed path is located southwest of Bridge No. 1, connecting to County Road 91 (CR 91) south of the Littlefield traffic interchange (TI). The second path would be selected from four possible routes northeast of Bridge No. 1 (Figure 3–Project Limits). These paths would be cleared, graded, and likely widened prior to work on Bridge No. 1; and it is likely that temporary fill would be placed to create a consistent width down into the bottom of the river corridor. The greatest potential impacts from construction of a southwest access route and the longest of four northwest access route options is roughly 13 acres. It is anticipated that equipment would operate and maneuver in all four quadrants beneath Bridge No. 1 to access all the piers. Therefore, roughly 17 acres within the 100-year floodplain would could be graded or otherwise disturbed during construction. In conjunction with the access routes, the contractor would implement best management practices (BMPs), as described below. These would apply to all construction activities, including the geotechnical investigation.

To protect the free-flowing nature of the Virgin River through the project area, no temporary culverts or other drainage structures may be installed in the low-flow channel. Therefore, if construction equipment is required to cross the river, a temporary bridge would be constructed in the floodplain such that it would sit above the river channel and maintain typical flows. Fill, such as rip-rap, would likely be placed on both sides of the low-flow channel as part of the temporary abutments and the abutments would likely require drilled shafts up to 20 feet deep to remain stable. As part of the BMPs, this fill would be contained to minimize debris from entering the river during high flows. Due to the width of the low-flow channel at Bridge No. 1, up to two sets of temporary piers, and possibly portions of the temporary abutments, may be required to be constructed within the low-flow channel. Any abutments within the low-flow channel would be sufficiently reinforced so as to prevent the temporary bridge from washing out during a high-flow event, resulting in debris entering the river. It would be constructed such that it could be picked up by a crane to move the temporary deck and girders in the event of high flows, although abutments from the temporary bridge would remain in place until the temporary bridge is no

longer needed. If temporary piers are required, cofferdams would be constructed in the low-flow channel to provide a dry work area.

Placing the new girders may require a crane. However, operating a traditional crane from on top of Bridge No. 1 is not feasible due to the weight of the girders, so either a gantry crane would be constructed over the top of the bridge, or the cranes could operate in the floodplain below the bridge. With the latter option, at least two temporary crane pads would be constructed and they would be fortified to minimize debris from breaking off and entering the river during high flows. While the crane pads may be constructed within dry areas of the jurisdictional limits and/or the 100-year floodplain of the Virgin River, no crane pad construction would occur within the low-flow channel.

All temporary construction and fills, including crane pads, and the temporary bridge, would be removed in their entirety and the affected areas returned to preconstruction conditions. All requirements for the CWA Section 401 and Section 402 permits will be followed.

Piers and Cofferdams

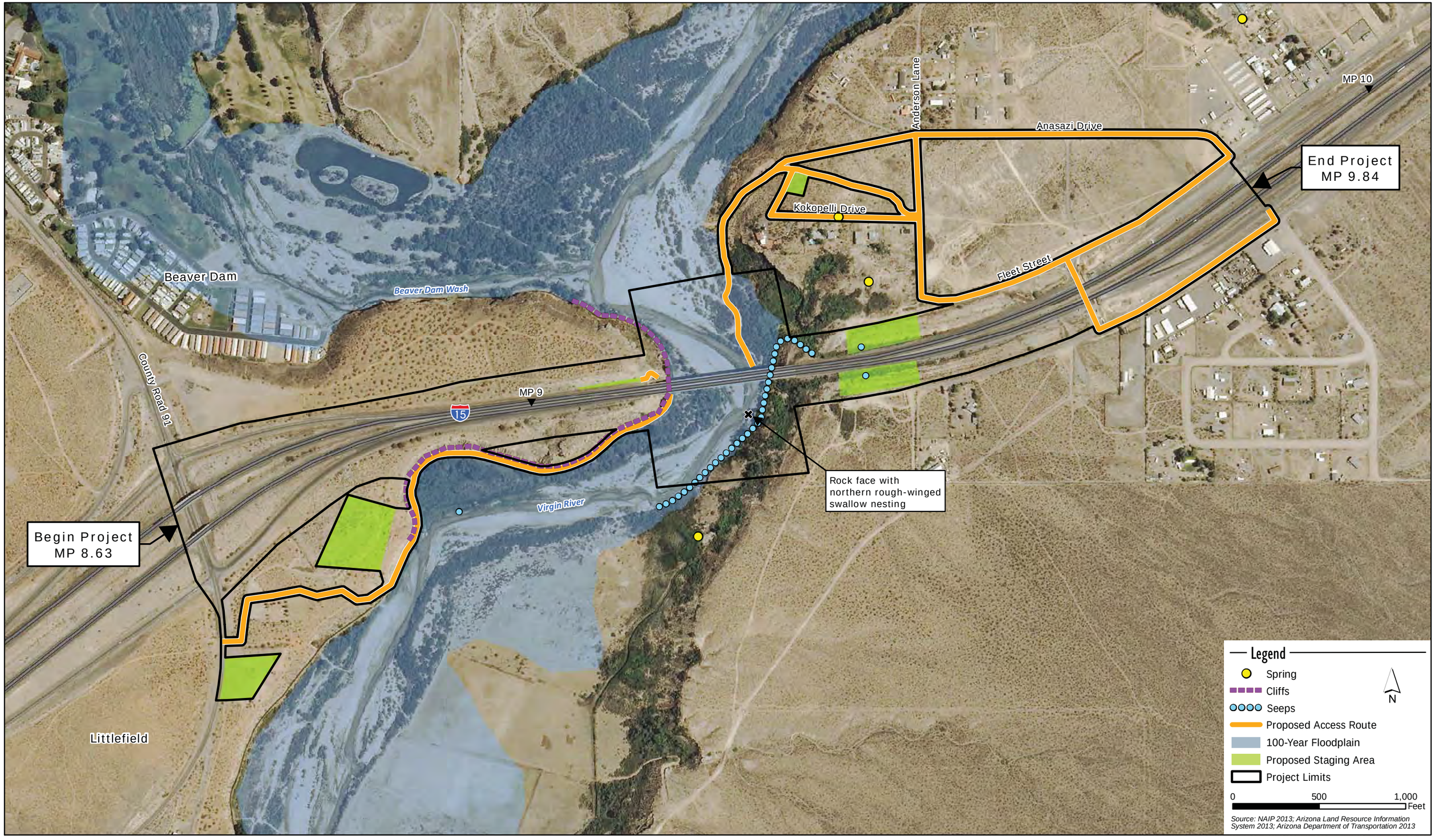
The existing bridge is supported by four piers running west to east underneath Bridge No. 1. All four piers lie in the 100-year floodplain. Pier 3 lies closest to (but outside of) the current low-flow channel, with the river flowing to its east (Appendix A, Photo 2).

Prior to reconstructing and widening the bridge deck, one new column would be constructed on either side of the existing columns (two new columns per pier) to support the added width and increase the load-bearing ability of Bridge No. 1. The existing pier caps at the top of the columns would be widened after the new columns are complete.

Pier widening and foundation work would extend up to 30 feet in either direction from the existing piers, and would use mechanical excavation equipment (likely track-excavators) and possibly finish with a backhoe-mounted hoe-ram. No blasting would occur on this, or any, phase of construction. However, rock removal may be required to construct the additional columns at Piers 1 and 4. Jackhammers or drills may be used for rock removal in these locations. If the foundation area requires additional anchoring, anchors would be drilled into the rock and tied to the foundations to secure the wider footings.

At Piers 2 and 3, it is likely that drilled shaft supports will be required for each column, extending beneath the river bed approximately up to 70 feet to bedrock and connecting to rock sockets drilled approximately 10 feet into the bedrock. Therefore, construction at these piers would extend approximately 80 feet below the river bottom to drill a new shaft for each new column and drill extensions directly into solid rock to reinforce the foundation. As a scour countermeasure, a concrete curtain wall that connects the columns would likely be constructed between the new columns to stabilize the pier. The new sections of the curtain wall would be constructed above the low-flow elevation to reduce the deflection of streamflow.

Figure 3. Project Limits



The current low-flow channel occurs just east of Pier 3. Pier 3 construction could require cofferdams – or some other type of concrete barrier – to be constructed around the foundation to maintain an adequately sized, dry work zone if flows are high enough, although pier construction could be phased to occur when flows are lower and the area around the pier is dry. If cofferdams or barriers are necessary, they would be constructed as a roughly 20-foot perimeter around the north, east, and south sides of the new, wider pier footprint. The area inside the dams would be dewatered and the dams strengthened to minimize any debris from breaking off and flowing downstream. The river water would be screened and filtered as it is pumped out of the work area and then returned to the river channel. Because the dams would be pervious to some degree and groundwater could infiltrate the dry work area, dewatering would occur throughout the duration of the use of the cofferdams.

The CWA Section 401 and Section 402 regulatory compliance would apply to pier construction. Excess materials resulting from the construction of the new pier foundations or drilled shafts would be removed from the floodplain, and disturbed areas within the floodplain would be returned to their preconstruction condition. Construction within the low-flow channel would require approximately three months.

Bridge Deck, Girders, and Barriers

After the new columns are constructed and the foundations are widened and strengthened, the work on the bridge deck and girders would start. To widen the bridge deck, the existing deck, girders, median barriers, and exterior barriers would be removed and replaced. Construction would occur in one section of Bridge No. 1 at a time, such that different portions of the deck, girders, and barriers would be removed and replaced in separate phases. The center portion would be removed and replaced at the same width. Widening would occur when the eastern and western portions of Bridge No. 1 are removed and replaced. Additional girders would be installed east and west of the existing girders to support the wider deck. The abutments at each end of Bridge No. 1 would also be widened to support the additional girders and wider bridge deck. The new abutments would extend no further than 30 feet beyond the existing abutments. Ultimately, the new bridge deck would be restriped to provide two 12-foot travel lanes in each direction, with wider inside and outside shoulders that meet current design criteria.

An abutment-to-abutment containment system would be required to minimize to the greatest extent possible dust, chemicals, oils, construction materials, cliff-swallow nest removal (Appendix C), and debris from falling into the low-flow channel (as required under the Endangered Species Act [ESA] for rivers containing protected species) or the 100-year floodplain (as required by the CWA Section 404 permit) below Bridge No. 1. When possible, the containment system will utilize wind breaks to minimize the amount of dust and other small debris from blowing into the active channel and the 100-year floodplain. If blowing dust and debris become a problem, water or vacuum trucks will be used to minimize the amount of dust blowing off the bridge. Any debris from cliff swallow nest removal from the underside of the bridge deck that is unable to be contained would be addressed in the CWA Section 404 permit. All regulatory compliance would also apply to construction on and around the bridge deck.

Roadway and Ancillary Construction

Following the deck reconstruction, the existing I-15 roadway approaches would be widened and restriped to match the new bridge width and lane configuration. The roadway would taper back

to the existing cross-section at MP 8.63 west of Bridge No. 1, and at MP 9.84 east of the bridge. This project would not include any blasting.

Finally, existing guardrail would be removed and replaced, and signing and striping would be removed, replaced, or installed as necessary.

Six potential staging areas have been proposed as shown on Figure 3:

- South of the Littlefield TI;
- Southeast of the Littlefield TI;
- Immediately west of Bridge No. 1, north of I-15[1]
- West of the Anderson Lane/Kokopelli Drive intersection;
- East of Bridge No. 1, north of I-15; and
- East of Bridge No. 1, south of I-15.

When traffic is shifted to one side of Bridge No. 1 during construction, the closed portion of the roadway on the other side could also be used as a staging area. Any staging areas would be considered part of the regulated work area and, therefore, would be subject to BMPs to control dust and spills, including a temporary containment system that includes a berm or excavated ditches to impound potential leaks or spills. Contractor offices, and parking for privately owned vehicles, and materials and equipment not scheduled for imminent use would likely be staged south or southeast of the Littlefield TI.

TCEs would be required for project construction, but no new permanent easements or new right-of-way would be required for operation. Vegetation removal or disturbance would occur due to geotechnical testing, project construction, access, and equipment work zones, and removal or disturbance would be restricted to areas within the existing ADOT easement or TCEs. Disturbance from geotechnical testing, access, grading, temporary structures, bridge construction, roadway widening, and staging areas could include up to approximately 15 acres of upland desertscrub habitat outside of the existing right-of-way, approximately 19 acres of vegetated riparian habitat (both within and above the floodplain), and approximately 9 acres of non-vegetated habitat within the floodplain (sandbars and open water).

Traffic Control

Traffic during construction would be managed by detailed traffic control plans adhering to the procedures and guidelines specified in the *Traffic Control Manual for Highway Construction and Maintenance* (ADOT 1989) and the *Manual for Uniform Traffic Control Devices* (FHWA 2009). The final construction phasing and traffic control plans would be prepared during final design, anticipated in FY 2017. The Littlefield and Desert Springs TIs on I-15 connect to the proposed access paths to the Virgin River corridor and the construction and staging areas. Therefore, the contractor would use I-15 and the access paths to enter and exit the construction zone.

To provide an adequate work zone, traffic approaching Bridge No. 1 would be reduced to at least one 12-foot-wide travel lane in each direction throughout construction, with concrete traffic control barriers to separate the travel lanes. It is likely that the traffic control barriers would extend up to 0.50 mile north and south of the project limits. The travel lanes would shift on Bridge No. 1 to accommodate various construction phases. The available lane width would

[1] During a 2012 ADOT project, this staging area was included within a site determined to have sensitive cultural resources that was set aside as an avoidance area; however, due to its highly disturbed state, ADOT has approved the use of this staging area.

accommodate vehicles up to 10 feet wide through the construction zone. Vehicles wider than 10 feet would be required to use a wide-load truck detour following US 93 and SR 319 in Nevada and SR 56 in Utah. ADOT and FHWA are evaluating this detour as part of the continuing NEPA compliance for the Virgin River Bridge No. 6 reconstruction project at I-15 MP 15.58 (Appendix B). Potential impacts from the detour are subject to continuing Section 7 consultation with USFWS (USFWS File No. 02EAAZ00-2013-F-0061), will be documented in a re-evaluation of the Bridge No. 6 Environmental Assessment, and will subsequently be incorporated by reference in the NEPA documents for the Bridge No. 1 reconstruction project.

Other Environmental Permitting and Compliance Requirements

Project construction, including the proposed access routes and staging areas, would exceed 1 acre of ground disturbance; therefore, an Arizona Pollutant Discharge Elimination System (AZPDES) General Construction permit and Stormwater Pollution Prevention Plan (SWPPP) would be required. Additional BMPs would be added as required for dust control and to minimize erosion and sedimentation to protect water quality. The project would also require a CWA Section 404 permit, which is regulated by the U.S. Army Corps of Engineers (Corps). New, permanent impacts to jurisdictional waters and wetlands are anticipated.

Pre-finalized field data from the jurisdictional and wetland delineation conducted in June 2014 indicates that riverine wetlands are likely present along the Virgin River throughout the project area; however, the jurisdictional/wetland determination for this project has not yet been completed. It is likely that an Individual Permit would be prepared for Corps review and approval because of the presence of jurisdictional wetlands and/or permanent impacts in excess of 0.50 acre within the jurisdictional limits of the Virgin River. This reach of the Virgin River, downstream of Beaver Dam Wash, is impaired for selenium, suspended sediments, and *E. coli*. Therefore, an Individual Section 401 Water Quality Certification application would be prepared for review and approval by the Arizona Department of Environmental Quality (ADEQ). ADEQ would also review and approve the SWPPP.

The project described herein includes the maximum extent of construction proposed to rehabilitate Bridge No. 1, and at least one of the build alternatives evaluated in the future NEPA document will include all of these construction activities. By addressing the maximum extent of construction, this BE covers potential impacts from the range of reasonable on-site alternatives that could be carried forward for detailed analysis in the NEPA document. As discussed above, if an off-site alternative is chosen for detailed analysis, Section 7 consultation with USFWS would be re-initiated.

3. LOCATION DESCRIPTION

The project area is located in warm temperate desert land areas within the Mojave desertscrub biotic community (Turner 1982; Brown et al. 2007). I-15 traverses the northwest corner of Arizona (Figure 1–State Location Map), crossing over the Virgin River at seven locations. The Virgin River enters Arizona from Utah, flows through the Virgin River Gorge and flows out of the gorge into the Virgin Valley. The Virgin Valley runs generally north and south between the Nevada-Arizona border and the Beaver Dam and Virgin mountain ranges. The Virgin River runs generally southwest through the project area. Elevation in the project area ranges from roughly 1,784 to 1,905 feet above mean sea level (amsl). Appendix A presents ground photographs of the area around Bridge No. 1.

Bridge No. 1 is located at milepost MP 9.20, about 0.50 mile east of the unincorporated communities of Beaver Dam and Littlefield in Mohave County, Arizona (Figure 2–Project Vicinity). Bridge No. 1 is about 10 miles northeast of Mesquite, Nevada (Mesquite), and 30 miles southwest of St. George, Utah (St. George). The project limits for the proposed bridge rehabilitation begin at MP 8.63 and end at MP 9.84, for a total length of 1.21 miles.

Throughout the Virgin River Gorge and portions of the Virgin Valley, ADOT holds an easement across public lands managed by BLM or owns the right-of-way in areas of private ownership to maintain and operate the interstate. Within the project limits, ADOT's right-of-way/easement varies from 400 to 1,400 feet wide. No new right-of-way or permanent easements are anticipated; however, TCEs would be required along the new access routes, for staging areas, and for other construction areas outside of the existing right-of-way/easement.

The land in the project area is either privately owned or is public land under BLM jurisdiction. The primary land use adjacent to the project limits is scattered rural development, including residential and commercial uses. BLM manages adjacent areas for multiple uses such as habitat preservation in riparian and semi-wet meadows and recreation along the Virgin River corridor. However, any recreational use of the Virgin River in the project area is informal. Existing use of dirt roads to access informal recreation areas under and around Bridge No. 1 would be temporarily interrupted for the duration of construction.

Water

Water in the Virgin River is derived from runoff via rainfall and snowmelt, and from groundwater entering via seeps and springs. The water from snowmelt makes up the largest percentage of streamflow and usually causes the highest monthly flows to occur in March through May, while most low-flow periods occur from June through October (Glancy and Van Denburgh 1969). Within the project limits, the Virgin River is considered perennial (ADWR 2014), and flowing water was observed during multiple site visits from 2012 to 2014, most recently during the site reconnaissance survey on June 11 and 12, 2014. However, upstream areas have been observed to dry up during periods of low flow during the site reconnaissance survey on June 11 and 12, 2014. Beaver Dam Wash begins as an intermittent waterway, becomes a perennial waterway at the town of Beaver Dam (about 1 mile northwest of Bridge No. 1), and flows into the Virgin River about 0.25 mile upstream from Bridge No. 1. Beaver Dam Wash is the largest tributary in the Virgin River Basin (ADWR 2014).

In recent years, effluent has been released from the St. George wastewater treatment plant into the Virgin River upstream of Arizona, which can increase the amount of water flowing through the project limits. The only fish barrier in the project vicinity is roughly 7.5 river-miles upstream of Bridge No. 1. The USGS maintains a gauging station[2] roughly 0.4 river-mile downstream from Bridge No. 1; data for this station are available on the USGS web site.[3] This gaging station measures several parameters including peak flow and turbidity. In regard to turbidity, eight measures were taken from October 2012 through July 2014; turbidity ranged from 45 to 800 Nephelometric Turbidity Ratio Units (NTRU). The turbidity scale ranges from 0 to 4,000, with readings of 3,070 equating to opaque. During these same measurements, water flow ranged from 66 to 223 cubic feet per second.

Within the project area, the Virgin River is bordered by tall sedimentary rock bluffs composed of sandstone or limestone which contain natural seeps on the eastern side of the river (Photo 4,

[2] The fish barrier and gauging station shown on Figure 6–Virgin River Fish Monitoring Reaches between Virgin River Gorge, Arizona and Halfway Wash, Nevada.

[3] http://nwis.waterdata.usgs.gov/az/nwis/qwdata/?site_no=09415000&agency_cd=USGS.

Appendix A). These seeps produce enough water that a small stream flows from the seeps into the Virgin River. This stream on the eastern bank is not substantial enough to provide habitat for any of the species addressed in this BE, with one exception. Therefore, this waterway is not mentioned in any of the species analyses except the desert springsnail.

Additionally, recreational users of the area have stacked sandbags at the base of the spring southeast of Bridge No. 1, forming a large pool. The pool is heavily used by local residents who access it both from the river bottom and a trail that originates at the top of the bluff southeast of I-15.

A constructed ditch carrying water flows under Bridge No. 1 on the west border of the floodplain. This waterway is bordered by weedy species, Bermuda grass (*Cynodon dactylon*), along with a few wetland obligate plant species. It is not considered in the species analyses because it is not large enough or high quality enough to provide adequate habitat, and is thus not included in the discussion for any species analyzed in this BE.

Vegetation

Two vegetation communities occur in the project area: (1) riparian habitat and (2) Mojave desertscrub habitat. The riparian vegetation in the project area is patchy and diverse and occurs within the floodplain, intermixed with open water and sandbars, as well as above the floodplain in spring and seep areas. The Mojave desertscrub habitat occurs in drier upland sites away from the river.

Directly adjacent to the low-flow channel of the Virgin River throughout the project area is a narrow band of vegetation consisting of narrowleaf willow (*Salix exigua*), southern cattail (*Typha domingensis*), and, occasionally young salt cedar (*Tamarix chinensis*) and common reed (*Phragmites australis*). The seep areas contain extensive walls of common maidenhair (*Adiantum capillus-veneris*) growing on the cliffs with seaside brookweed (*Samolus parviflorus*), yerba mansa (*Anemopsis californica*), salt heliotrophe (*Heliotropium curassavicum*), cattail, velvet ash (*Fraxinus velutina*), and annual rabbitsfoot grass (*Polypogon monspeliensis*). Adjacent to the seep areas, there are monotypic patches of canyon grape (*Vitis arizonica*), and a large expanse of common reed at the base of the seep just northeast of the bridge (Photo 4, Appendix A).

Just west of the large common reed stand is a mature band of salt cedar, approximately 180 feet wide in one area (Figure 4–Designated Critical Habitat and Potentially Suitable Southwestern Willow Flycatcher and Yuma Clapper Rail Habitat; Appendix A, Photo 3). Most salt cedar in the project area were defoliated by the tamarisk leaf beetle (*Diorhabda carinulata*; released in 2001) and were brown and defoliated during field reconnaissance in June 2012; however, these salt cedar were green and appeared healthy during the site visit on June 12, 2014. Moreover, salt cedar does not usually die from a single defoliation by the tamarisk beetles, but repeated defoliation can lead to severe dieback and death of the tree within several years. Biological control by the tamarisk leaf beetle does not eradicate salt cedar, but it has the potential to suppress salt cedar populations by 75 to 85 percent, after which the two species usually reach equilibrium at lower levels.

A thin band of young to mature Fremont cottonwood (*Populus fremontii*) trees occurs directly underneath the bridge on the western side of the river with salt cedar, common reed, and an occasional Goodding's willow (*Salix gooddingii*) in the understory. Another larger grove of mature cottonwoods with little understory occurs south (approximately 0.25 mile) of Bridge No. 1 and adjacent to the access route at the cliff base. Just south of this cottonwood grove is a large cattail marsh, apparently fed by a cold-water underground seep (Photo 6, Appendix A).

This marsh exhibited recent signs of beaver (*Castor canadensis*) activity and contained additional species of wetland plants such as watercress (*Nasturtium officinale*), alkali Indian paintbrush (*Castilleja minor*), and water speedwell (*Veronica anagallis-aquatica*).

The Mojave desertscrub habitat in the project area consists of a low to moderate density of various perennial plants that include creosotebush (*Larrea tridentata*), burrobush (*Hymenoclea salsola*), saltbush (*Atriplex* sp.), white bursage (*Ambrosia dumosa*), blackbrush (*Coleogyne ramosissima*), Mormon tea (*Ephedra* sp.), snakeweed (*Gutierrezia sarothrae*), grizzlybear pricklypear (*Opuntia polyacantha* var. *erinacea*), silver cholla (*Cylindropuntia echinocarpa*), rabbitbrush (*Chrysothamnus* sp.), jimsonweed (*Datura* sp.), and desert straw (*Stephanomeria pauciflora*).

Soils

Substrate in and immediately adjacent to the project limits varies from fine sand to fine sandy loam. The soil survey for the project limits yielded five soil types:

- Arada fine sand, 2 to 8 percent slopes;
- Vinton fine sandy loam;
- Riverwash;
- Toquop fine sand, 0 to 2 percent slopes; and
- Bard very gravelly fine sandy loam, 2 to 15 percent slopes.

Soils in the Arada series are deep and somewhat excessively drained, forming on fan piedmonts, sand sheets, terraces, and alluvial fans. Vinton series soils are deep, somewhat excessively-drained soils on floodplains. Riverwash soils refer to non-vegetated sandbars found in the main channel of the river. Soils in the Toquop series are typically pink, calcareous fine sands more than 5 feet deep occurring typically on smooth, nearly level broad terraces adjacent to perennial streams and alluvial fans. Bard series soils are found on valley fill terraces, alluvial fans, and fan remnants and include shallow, over-cemented material derived primarily from limestone and dolomite (NRCS 2014a; NRCS 2014b).

Nesting and Roosting

Bridge No. 1 was examined for evidence of use by bats or swallows during the site visits on June 11 and 12, 2014. No evidence of bats was observed on the underside of this bridge deck; however, bat presence or absence could not be confirmed due to the distance from the view point to the underside of the bridge. Cliff swallow (*Petrochelidon pyrrhonota*) nesting was observed under this bridge during this site visit (Photo 8, Appendix A). In addition, northern rough-winged swallows (*Stelgidopteryx serripennis*) were observed nesting within holes in the cliff face just south of Bridge No. 1 on the east side of the river (Photos 7 and 8, Appendix A). A preconstruction survey to visually identify bats roosting beneath the bridge, as well as bird species nesting on cliff faces that could be affected by project activities would be conducted. If nesting birds or roosting bats are identified, further mitigation measures would be implemented to minimize potential for impacts (see Appendix C for more detail).

Wildlife Linkages

The Arizona Wildlife Linkages Workgroup (AWLW) is a cooperative effort among ADOT, USFWS, BLM, the Arizona Game and Fish Department (AGFD), and several other federal and state agencies, academic institutions, and conservation organizations. This workgroup identified 152 potential wildlife linkage zones in Arizona that are important to wildlife, two of which intersect the project vicinity: the Beaver Dam Slope–Virgin Slope linkage to the west and the Beaver Dam–Virgin Mountains linkage to the east. The Beaver Dam Slope–Virgin Slope linkage

runs from the Nevada-Arizona border to roughly MP 8.20 (about 0.50 mile west of the project limits), and the Beaver Dam–Virgin Mountains linkage runs from roughly MP 12.15 (about 2.4 miles northeast east of the project limits) to near the Utah border at roughly MP 29.40 (AGFD 2014a; AWLW 2006). Although both wildlife linkage zones lie outside of the project limits, the presence of the floodplains along the Virgin River and its confluence with Beaver Dam Wash make the area around Bridge No. 1 a natural wildlife corridor.

Desert habitats that typically have limited cover, such as the project area, combined with structures, roads, and the associated traffic, noise, and fencing can restrict movement by large mammals and other species seeking to disperse across the project area. Most of these species typically use corridors such as riparian areas, canyons, and washes to move across the terrain. Movement across roadways can also occur via underpasses and box culverts, but some individuals are also likely to use open roadways that lack crossing structures, which increases the potential for vehicle-wildlife collisions. Several species such as desert bighorn sheep (*Ovis canadensis*), mountain lion (*Felis concolor*), mule deer (*Odocoileus hemionus*), Mojave desert tortoise (*Gopherus agassizii*), and several species of bats have been identified as using both linkage zones (AWLW 2006).

The AWLW also ranked linkages within Arizona by scoring each potential linkage zone in two dimensions: biological value versus threat and opportunity. The highest priority linkages were determined to be those that were the most biologically important that also had the highest associated threat. Twenty-eight linkages were categorized in the highest priority group, indicating that these linkages were in the highest need for more detailed planning and conservation actions prior to any roadway development or expansion. Early consideration of these linkages creates the opportunity to resolve environmental issues pertaining to wildlife connectivity and wildlife-vehicle collisions while reducing development costs for the project. The Beaver Dam–Virgin Mountains potential linkage zone was included in the highest priority group (AWLW 2006).

4. SPECIES IDENTIFICATION

The USFWS list of federally protected species for the project area (USFWS 2014b), AGFD's Heritage Database Management System (HDMS), and the BLM Arizona Strip Field Office's most recent list of sensitive species (BLM 2010) were reviewed by qualified biologists (Melissa Weber, Jacobs Engineering Group Inc. [Jacobs] and Tracy McCarthey, Archaeological Consulting Services, Ltd. [ACS]) to determine the potential for these species and/or suitable habitat to occur in the project area. Seven federally protected species, one species protected under a Conservation Agreement, and an additional eight species listed as BLM sensitive species have the potential to occur in the project area. For this reason, the following species are analyzed in detail in this document:

Common Name	Scientific Name	Status
California condor	*Gymnogyps californianus*	Endangered, MBTA*
Mojave desert tortoise	*Gopherus agassizii*	Threatened
Southwestern willow flycatcher	*Empidonax traillii extimus*	Endangered, MBTA
Virgin River chub	*Gila seminuda*	Endangered
Woundfin	*Plagopterus argentissimus*	Endangered
Yellow-billed cuckoo	*Coccyzus americanus*	Threatened, MBTA
Yuma clapper rail	*Rallus longirostris yumanensis*	Endangered, MBTA*

Common Name	Scientific Name	Status
Virgin spinedace	*Lepidomeda mollispinis mollispinis*	Conservation Agreement
Allen's big-eared bat	*Idionycteris phyllotis*	BLM Sensitive
American peregrine falcon	*Falco peregrinus anatum*	BLM Sensitive, MBTA*
California leaf-nosed bat	*Macrotus californicus*	BLM Sensitive
Desert springsnail	*Pyrgulopsis deserta*	BLM Sensitive
Desert sucker	*Catostomus clarki*	BLM Sensitive
Flannelmouth sucker	*Catostomus latipinnis*	BLM Sensitive
Speckled dace	*Rhinichthys osculus*	BLM Sensitive
Golden eagle	*Aquila chrysaetos*	BLM Sensitive, MBTA, BGA*
Silverleaf sunray	*Enceliopsis argophylla*	BLM Sensitive
Spotted bat	*Euderma maculatum*	BLM Sensitive
Townsend's big-eared bat	*Corynorhinus townsendii*	BLM Sensitive

*MBTA = Migratory Bird Treaty Act; BGA = Bald and Golden Eagle Protection Act

Species included in the USFWS list of protected species for project area and the BLM list of sensitive species, but excluded from further evaluation, are addressed in Table 1. This project and the associated SWPPP would have no effect to the species listed in this table.

Table 1. Special status species excluded from further analysis.

Species Common Name *(Scientific Name)*	**Status***	**Habitat Requirements**	**Exclusion Justification**
Federally listed species			
Arizona cliffrose (*Purshia subintegra*)	E HS	White limestone soils derived from tertiary lakebed deposits; < 4,000 feet	No white limestone soils observed in project area; outside of geographic range which is restricted to extreme southeastern Mohave County
Bonytail chub (*Gila elegans*)	E WSC	Warm, swift, turbid mainstream rivers of the Colorado River basin, and reservoirs in lower basin; <4,000 feet	Not occurring in Virgin River; outside of species geographic range
California least tern (*Sterna antillarum browni*)	E MBTA	Open, bare or sparsely vegetated sand, sandbars, gravel pits, or exposed flats along shorelines of inland rivers, lakes, reservoirs, or drainage systems; <2,000 feet	Only recorded breeding population in Arizona is located within the freeway ponds of County Road 101 near Glendale Exit, Maricopa County.
Fickeisen plains cactus (*Pediocactus peeblesianus* var. *fickeiseniae*)	E HS	Shallow soils derived from exposed layers of Kaibab limestone. Found on canyon margins, well-drained hills in Navajoan Desert, or Great Plains grassland; 4,000-5,950 feet	No Kaibab limestone or Navajoan Desert; project area is outside the species elevation range
Gierisch mallow (*Sphaeralcea gierischii*)	E	Found only on gypsum outcrops associated with Harrisburg member of Kaibab Formation; <5,000 feet	Occurs locally near the Arizona-Utah border and I-15 near the Black Rock Traffic Interchange at MP 28.50; no suitable habitat occurs within the project area

Table 1. Special status species excluded from further analysis.

Species Common Name *(Scientific Name)*	Status*	Habitat Requirements	Exclusion Justification
Holmgren milk vetch (*Astragalus holmgreniorum*)	E HS	Typically on the skirt edges of hill and plateau formations slightly above or at the edge of drainage areas where the cover averages 15% of the landscape; grows in draws on gravelly clayey hills where water runoff occurs	Occurs locally along I-15 near Arizona-Utah border; outside of species geographic range
Hualapai Mexican vole (*Microtus mexicanus hualpaiensis*)	E WSC	Moist, grass-sedge habitats along permanent or semi-permanent waters in Ponderosa pine dominated habitats (springs or seeps); 3,100-8,400 feet	Subspecies restricted to areas south of Grand Canyon; outside of subspecies geographic range
Humpback chub (*Gila cypha*)	E WSC	Large, warm turbid rivers, especially canyon areas with deep fast water; <4,000 feet	Not occurring in Virgin River; outside of species geographic range
Jones cycladenia (*Cycladenia humilis* var. *jonesii*)	T HS	Gypsiferous, sandy silty soil on clay hills that form the steep side slopes and bases of mesas in canyons; within Great Basin desertscrub and pinyon-juniper woodland; 4,390-6,000 feet	Great Basin desertscrub is limited to relatively flat creosote habitat near the extreme northeastern portion of project area; project area is outside the species elevation range
Mexican spotted owl (*Strix occidentalis lucida*)	T WSC MBTA	Nests in canyons and dense forests with multi-layered foliage structure; 4,100-9,000 feet	Dense forest vegetation not present in or near project area; project area is outside the species elevation range
Sonoran desert tortoise (*Gopherus morafkai*)	C WSC	Primarily rocky (often steep) hillsides and bajadas of Mojave and Sonoran desertscrub but may encroach into desert grassland, juniper woodland, interior chaparral habitats, and even pine communities; washes and valley bottoms may be used in dispersal	Species restricted to areas south of Grand Canyon; outside of species geographic range
Razorback sucker (*Xyrauchen texanus*)	E WSC	Riverine and lacustrine areas, generally not in fast moving water and may use backwaters; <6,000 feet	No recent records in Virgin River; outside of species current geographic range
Relict leopard frog (*Lithobates* [*Rana*] *onca*)	C WSC	Permanent streams, springs, and spring-fed wetlands with open shorelines and available pools; <2,000 feet	The nearest historical occurrence was near Beaver Dam Wash, but that population was extirpated during recent floods. Reintroduction is not anticipated due to numerous bullfrogs and modification of habitat for recreational use (Jacobs 2014)
Roundtail chub (*Gila robusta*)	C WSC	Cool to warm waters of rivers and streams; often occupy the deepest pools and eddies of large streams; 1,000-7,500 feet	Not occurring in Virgin River; outside of species geographic range
Siler pincushion cactus (*Pediocactus sileri*)	T HS	Desertscrub transitional areas of Navajo, sagebrush and Mojave Deserts; occurs on gypsiferous soils at 2,800-5,400 feet	No suitable soils or geologic formations

Source: USFWS 2014.

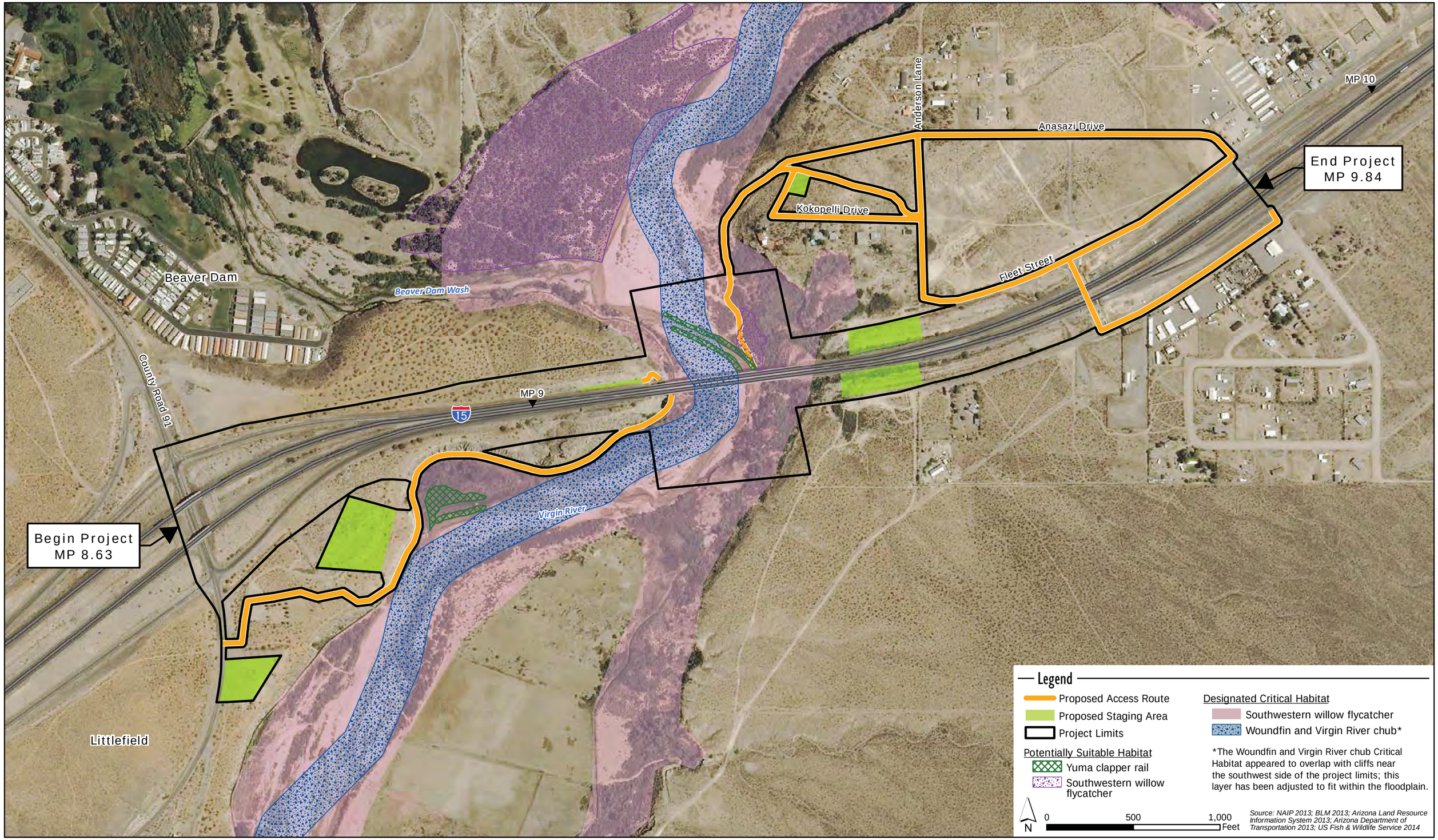
* E = Listed as Endangered under the Endangered Species Act; T = Listed as Threatened under the Endangered Species Act; C = Candidate species under the Endangered Species Act; PE = Proposed Endangered under the Endangered Species Act; MBTA

= Migratory Bird Treaty Act; WSC = Wildlife of Special Concern in Arizona: species whose occurrence in Arizona is or may be in jeopardy, or with known or perceived threats or population declines; HS = Highly safeguarded under Arizona Native Plant Law.

Federally designated Critical Habitat occurs in the project limits for the endangered Virgin River chub, the endangered woundfin, and the endangered southwestern willow flycatcher. In the project area, federally designated Critical Habitat for the threatened Mojave desert tortoise is located approximately 0.58 mile southeast of Bridge No. 1 and 1.64 miles north of Bridge No. 1 (Figure 4–Designated Critical Habitat and Potentially Suitable Southwestern Willow Flycatcher and Yuma Clapper Rail Habitat). Designated Critical Habitat consists of specific geographical areas:

- currently occupied by a species at the time it is listed; these areas include physical or biological features that:
    - are essential to the conservation of the species
    - may require special management considerations or protection
- outside areas occupied by a species at the time it is listed, upon a determination by the Secretary that such areas are essential for the conservation of the species (50 CFR 424.02[d]).

Figure 4. Designated Critical Habitat and Potentially Suitable Southwestern Willow Flycatcher and Yuma Clapper Rail Habitat



In addition to the designated Critical Habitat, the project area contains proposed Critical Habitat for the threatened yellow-billed cuckoo. This proposed Critical Habitat falls within the project limits (Figure 5–Proposed Critical Habitat and Potentially Suitable Yellow-billed Cuckoo Habitat). It is anticipated that the final rule for this proposed Critical Habitat will pass before construction would commence on this project.

5. SPECIES EVALUATION – FEDERALLY PROTECTED SPECIES

Sections 5 and 6 present evaluations of the 16 federally protected and BLM sensitive species listed at the beginning of Section 4, Species Identification. These species are analyzed in detail as they have the potential to occur in the project area. To determine the possible effects the proposed project may have on the federally protected species in the project area, information was reviewed on historical species accounts, recent species accounts, and recent field survey data as methods of analysis. A field habitat assessment was conducted to evaluate the constituent elements required to sustain the species. The summary of those actions and an evaluation of the ecology and biology of these species are discussed below. Life history, survey history, and habitat evaluation and suitability are discussed for federally protected species with potential to occur within the project area, followed by a section on the analysis and effects determination for each species. The effects are analyzed for both the geotechnical investigation (anticipated to occur during FY 2017) and construction activities (anticipated to occur beginning in FY 2019).

California Condor (*Gymnogyps californianus*)

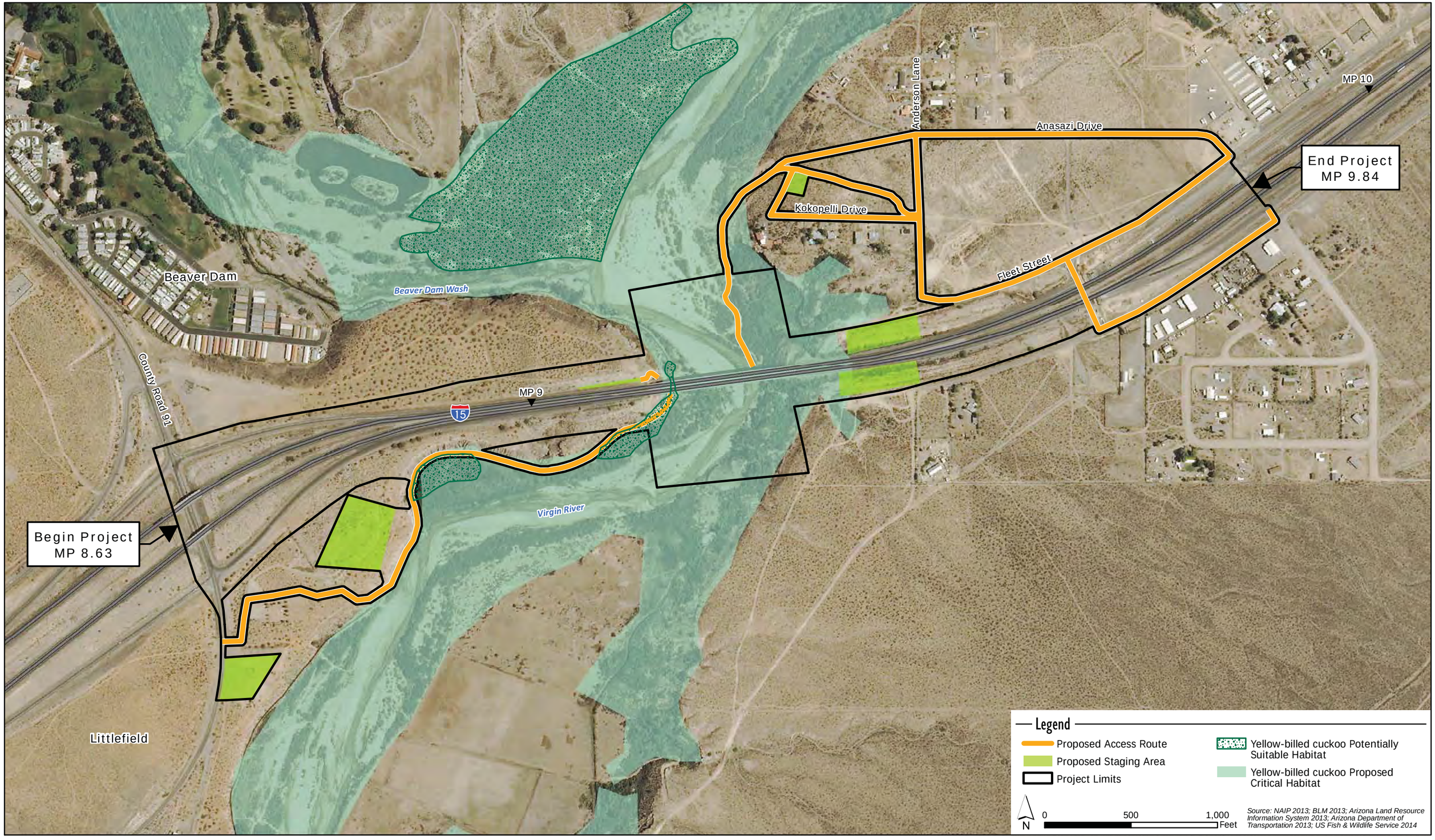
Life History

The California condor is the largest flying land bird in North America. When European settlers arrived, the geographic distribution of California condors appears to have consisted of a narrow strip along the Pacific Ocean from southern Canada to northern Mexico. By 1987, their distribution had contracted to a wishbone-shaped area in south-central and southwestern California (Southwest Condor Recovery Team 2012). In Arizona, California condors roost and nest in steep terrain with rock outcroppings, cliffs, and caves at elevations that range from 2,000 to 6,500 feet amsl. Condors require high perches from which strong updrafts provide the lift needed for flight. Most foraging occurs over open grasslands or savannahs (AGFD 2008).

Nesting occurs in various types of rock formations that include crevices, overhung ledges, a sheltered cave, or a hole in a cliff with a sand bottom. Females normally lay a single egg between late January and early April. Both parents incubate the egg, which hatches after approximately 56 days. Both parents feed the nestling, with the chick fledging in about six months, and flying well at 10 months (AGFD 2008; Southwest Condor Recovery Team 2012). Individuals appear to become sexually mature after six to eight years. Pairs are monogamous for life, and individuals probably live 50 to 60 years. California condors are opportunistic scavengers that feed on the carcasses of large wild and domestic animals (e.g., elk, pronghorn antelope, deer, cattle, sheep, etc.). Food is typically found via long-distance reconnaissance flights (AGFD 2008; Southwest Condor Recovery Team 2012).

The California condor had an extensive range across much of North America in prehistoric times, but both the geographic range and the numbers of condors decreased substantially following the Pleistocene era (approximately 10,000 years ago). In recent times, the number of California condors has been consistently low, with estimates from the 1930s to 1960s usually estimating a minimum population size of about 40 to 60 individuals. Their numbers continued to decline, with minimum population estimates as low as nine individuals in 1985 (Southwest Condor Recovery Team 2012).

Figure 5. Proposed Critical Habitat and Potentially Suitable Yellow-billed Cuckoo Habitat



Because of their low numbers, the California condor was recognized by the federal government as endangered in 1967, but the first specific federal legal protection did not occur until 1972. To enhance their recovery, all wild condors were brought into captivity to begin a captive breeding program; the last wild condor was captured in April 1987. The captive breeding program has been successful, with individuals subsequently released back into the wild in northern Arizona and southern Utah; the current number of California condors in the wild is estimated at about 230 individuals (Peregrine Fund 2012). Prior to the start of this reintroduction program, the reintroduced individuals were designated as a nonessential experimental population (Section 10[j] under the ESA), which are not afforded protection under the ESA (USFWS 1996). In Arizona, the nonessential experimental population occurs from I-15 south to I-40 and west to the Arizona-Nevada state line; the species is listed as endangered, and thereby protected under the ESA, in areas north of I-15 (USFWS 1996). Hence, the project area includes both nonessential experimental populations and endangered protected populations. Threats to California condors include poisoning, shooting, habitat destruction, and collection of eggs.

Survey History

The Peregrine Fund monitors habitat use and nesting activities by California condors in the Virgin River Gorge area. According to USFWS, recent telemetry data suggests that California condors have not been documented in or near the project area recently (Spangle 2014).

Habitat Evaluation and Suitability

Habitat within the project area consists of suitable foraging habitat for California condors including open desertscrub habitat with several bluffs. The project area does not provide ideal nesting habitat for California condors, as the bluffs are not high enough to support the strong updrafts necessary to provide the lift needed for flight, nor did they contain caves or crevices suitable for a bird the size of a California condor.

Analysis and Determination of Effects

Direct Effects: Based on coordination with USFWS, California condors are not known to occur or nest within 3 miles of the project area (Jacobs 2014). The project area would only potentially be used as foraging habitat by California condors as they search for and feed on carcasses of large wild or domestic animals. If reconnaissance flights and foraging on carcasses in the project area bring individual California condors near project activities, mitigation measures would be implemented to preclude impacts to condors. Therefore, no direct impacts to California condors are anticipated.

Indirect Effects: This proposed project would involve a geotechnical investigation, construction on Bridge No. 1, and modifications to the approach segments. The project area would only potentially be used as foraging habitat by California condors. Foraging by California condors is not associated with water, but rather involves hunting terrestrial animals in open country. Geotechnical and construction activities would be localized along the Virgin River over a period of about two years, and, over this time period, would be likely to generate trash that could potentially attract condors to the project area. Mitigation measures would be put in place to ensure that the work areas are kept clean and that no trash is stored onsite. The project would not otherwise affect foraging by California condors. Additionally, the CWA Section 401 permit would include a vehicle fluid-leakage and spill plan to prevent water contamination for all vehicles. The plan would include provisions for immediate clean-up of any substance, and would define how each substance would be treated in case of leakage or spill. Consequently, the proposed geotechnical and construction activities would not affect baseline conditions for California condors that occur in the project area. Therefore, it is unlikely that indirect effects

such as habitat degradation or temporary loss of habitat would result from this project. No indirect impacts to California condors are anticipated.

Interrelated and Interdependent Actions: No interrelated or interdependent actions with this project are anticipated.

Cumulative Effects: Cumulative effects include the effects of future non-federal actions (i.e., state, local, or private actions) that are reasonably certain to occur in the project area. Future federal actions are subject to the consultation requirements established under Section 7 of the ESA and, therefore, are not considered cumulative in the proposed action. Some activities on private or state lands may require federal permits, e.g., a CWA Section 404 permit, and thus will be subject to Section 7 consultation. Several other projects are planned along the Virgin River corridor of I-15 in Arizona, but none of these projects are scheduled at this time. All of these projects are likely to have a federal nexus and therefore are not considered to contribute to cumulative impacts with respect to this project. Some minor residential development on private lands in the project area is possible. No commercial development in the project area is anticipated. Overall, no cumulative effects on California condors are anticipated.

Determination: No direct, indirect, or cumulative effects are anticipated as result of this project. Therefore, this project will have no effect to the California condor or its habitat.

Mojave Desert Tortoise (*Gopherus agassizii*)

Life History

The desert tortoise was recently split into two species, *Gopherus morafkai* in the Sonoran Desert and *G. agassizii* in the Mojave Desert (Murphy et al. 2011). The distribution of the Mojave desert tortoise includes the Mojave Desert in areas west and north of the Colorado River in California, Nevada, and Arizona, including the Virgin River area. The species occupies various habitats that include flats and slopes that are often characterized by creosotebush and white bursage at lower elevations and rocky slopes in blackbrush scrub and juniper habitat at higher elevations. However, they are most common on gently sloping terrain with sandy-gravelly soils where sparse cover allows growth of herbaceous plants. Occupied areas have soils that are friable enough to dig burrows, but firm enough so that the burrows do not collapse (USFWS 1994).

Mojave desert tortoises maintain home ranges that vary in size depending on location and habitat conditions. Territories can range up to 200 acres, and individuals can use up to 1.5 square miles over their lifetime. Females lay up to three clutches of from 1 to 10 eggs per year in the soil. The young often have low survival rates because of high predation rates. Mojave desert tortoises are active from spring through late fall, and hibernate in burrows during the winter. Their diet consists of winter annuals and herbaceous perennials that are present after they emerge from winter hibernation (USFWS 1994).

The numbers of Mojave desert tortoise have decreased substantially since historic times. Most of the decline has resulted from vandalism, raven predation, habitat loss or modification, and disease. As a result, Mojave desert tortoise was listed as threatened under the ESA in 1990 (USFWS 1990). In 1994, USFWS designated Critical Habitat for the Mojave desert tortoise, which included areas approximately 0.45 mile southeast and 1.40 miles north of Bridge No. 1 (Figure 2–Project Vicinity; USFWS 2014a).

Survey History

No formal surveys are known for the project area, but there have been numerous studies on tortoises along the slopes of Beaver Dam Wash in Arizona and Utah (Grover and DeFalco 1995) and Mojave desert tortoises have been documented in the project area (Spangle 2014; AGFD 2014b).

Habitat Evaluation and Suitability

Mojave desert tortoises typically occupy flats and gently sloping terrain. While Critical Habitat for the Mojave desert tortoise does not occur within 0.45 mile of the project limits, roughly 15 acres of suitable habitat does occur in undeveloped upland areas of the project limits (Spangle 2014).

Analysis and Determination of Effects

Direct Effects: The HDMS search indicated that Mojave desert tortoises are known to occur within 3 miles of the project limits (AGFD 2014b), and individual Mojave desert tortoises have been documented in the project area. While Critical Habitat is not present in the immediate project area, it is located approximately 0.45 mile southeast of the project limits (Figure 2– Project Vicinity).

The proposed temporary access routes and staging areas located in upland desertscrub habitat could occur in occupied habitat for Mojave desert tortoise individuals. Temporary vegetation removal could occur along proposed access routes during the geotechnical investigation, and would occur along the access routes during project construction when they are stabilized and widened for construction access. These activities could cause injury or death to Mojave desert tortoise individuals either by direct collision or from collapse of underground burrows resulting from soil compaction. Temporarily increased traffic of vehicles and construction equipment from both the geotechnical investigation and bridge construction through these areas presents a potential for injury or death by direct collision.

Mitigation measures would be implemented to minimize potential for direct impacts to Mojave desert tortoise individuals. These measures include:

- Conducting Mojave desert tortoise surveys of all potentially suitable habitat areas that would be disturbed prior to ground-disturbing activities;
- Installing desert tortoise fencing around work and staging areas within Mojave desert tortoise habitat; and
- Educating on-site personnel regarding the protected status of this species.

With implementation of these mitigation measures, direct impacts to the Mojave desert tortoise are not anticipated.

Indirect Effects: Any access routes, staging areas, or other areas of disturbance within the up to roughly 15 acres of suitable habitat would temporarily remove that area from the currently available foraging, breeding, and migrating habitat for the Mojave desert tortoise for the duration of the project. Suitable Mojave desert tortoise habitat within the project limits is up to roughly 15 acres. Increased disturbance in these areas could introduce noxious and invasive plants, decreasing the habitat quality for this species. Noxious and invasive plant introduction would be minimized by requiring that vehicles leaving and entering the project site be inspected and cleaned of all attached vegetation or soil debris. Habitat within these roughly 15 acres could be affected during both the geotechnical investigation and project construction.

Interrelated and Interdependent Actions: No interrelated or interdependent actions with this project are anticipated.

Cumulative Effects: Cumulative effects include the effects of future non-federal actions (i.e., state, local, or private actions) that are reasonably certain to occur in the project area. Future federal actions are subject to the consultation requirements established under Section 7 of the ESA and, therefore, are not considered cumulative in the proposed action. Some activities on private or state lands may require federal permits, e.g., a CWA Section 404 permit, and thus will be subject to Section 7 consultation. Several other projects are planned along the Virgin River corridor of I-15 in Arizona, but none of these projects are scheduled at this time. All of these projects are likely to have a federal nexus and therefore are not considered to contribute to cumulative impacts with respect to this project. Some minor residential development on private lands in the project area is possible. No commercial development in the project area is anticipated. Overall, no cumulative effects on Mojave desert tortoise are anticipated.

Determination: It is anticipated that this project may affect the Mojave desert tortoise, but is not likely to adversely affect the Mojave desert tortoise or its habitat.

Southwestern Willow Flycatcher (*Empidonax traillii extimus*)

Life History

The willow flycatcher consists of several subspecies; the southwestern willow flycatcher (*E. traillii extimus*) is the only subspecies that breeds in Arizona. The geographic distribution for this subspecies includes southern Nevada, southern Utah, and from southern California east to western Texas. The southwestern willow flycatcher has a restricted distribution in Arizona, as it only occurs in mature riparian habitats such as along parts of the Little Colorado, Colorado, Salt, Gila, Verde, San Pedro, and San Francisco rivers (AGFD 2002a). These flycatchers have also been recorded along the Virgin River at the confluence with Beaver Dam Wash.

Southwestern willow flycatchers are migratory, arriving in Arizona by late April to early May, and then migrating south in August and September. Preferred nesting habitat is mature riparian habitat that consists of cottonwood-willow forests or salt cedar thickets along still or slow-moving watercourses at elevations that range from 75 to 9,180 feet amsl. Nests consist of a compact cup built of various types of vegetation. Females lay eggs from May through July. Incubation lasts 12 to 13 days, and the nestlings fledge at 12 to 14 days. Only one brood is usually produced per year. Southwestern willow flycatchers are aerial insectivores that typically fly out from a perch to capture their prey, though other foraging methods are used occasionally (AGFD 2002a).

Both the geographic range and numbers of southwestern willow flycatchers have decreased substantially since historic time because of the loss of suitable riparian habitats. Because of habitat loss and population declines, the southwestern willow flycatcher was listed as endangered under the ESA in 1995 (USFWS 1995). Critical Habitat was designated in 2002, and the most recent revisions to Critical Habitat were made in 2011 (USFWS 2011a). The Virgin River was not known to be occupied by the southwestern willow flycatcher at the time of listing; however, territories along the Virgin River were detected beginning in 1995. Seven breeding sites and 43 territories along the Virgin River in Utah, Arizona, and Nevada were identified in 2007 (USFWS 2011a). The most recent revisions to the southwestern willow flycatcher's Critical Habitat include the approximate width of the 100-year floodplain of the Virgin River from the Utah border to Nevada border, including in the project area (USFWS 2011a). Current threats to southwestern willow flycatchers include loss of riparian habitat and brood parasitism by brown-headed cowbirds.

Survey History

Surveys in and around the Beaver Dam Wash and Virgin River area for the southwestern willow flycatcher have been abundant and the results well recorded. Surveys were conducted by AGFD during 11 years between 1994 and 2006 (1999 was not surveyed) in an area along the Virgin River between Littlefield, Arizona, and roughly 0.25 mile north of Bridge No. 1. During that time span only four years resulted in any southwestern willow flycatcher observations at this site: 1997 (one bird, status unknown), 2001 (one resident adult), 2003 (one migrant), and 2004 (three resident adults, one nesting pair, and two nests). The surveys for 2005 and 2006 both resulted in no southwestern willow flycatcher observations at this site (Ellis et al. 2008).

Surveys were also conducted for the southwestern willow flycatcher on behalf of Bureau of Reclamation (Reclamation; McLeod et al. 2008; McLeod and Pellegrini 2013). From 2003 to 2005 and in 2007, surveys were conducted along the Virgin River downstream of Bridge No. 1 (near Littlefield) and/or at the confluence of Beaver Dam Wash and the Virgin River. The surveys resulted in the following observations, all within the upstream site: three breeding adults (2004) and two males (2005). The winter of 2004 to 2005 resulted in flooding that removed understory vegetation and resulted in the cancelation of future surveys at both sites starting in 2006, with the exception of a 2007 survey at the upstream site (no observations; McLeod et al. 2008). Due to a 2007 southwestern willow flycatcher siting along Beaver Dam Wash upstream of the CR 91 Bridge (about 1 mile north of Bridge No. 1), surveys from 2007 to 2010 focused on this site (McLeod et al. 2008; McLeod and Pellegrini 2013). Here, individuals were observed in 2007 (unpaired resident male), 2008 (one adult), 2009 (four resident adults, breeding), and 2010 (three resident adults, breeding). Flooding altered the vegetation and hydrology in this new survey area in 2010 such that it no longer resembled typical southwestern willow flycatcher breeding habitat and surveys in this area were discontinued. It is expected that this site will be reassessed for survey recommencement at a future time (McLeod and Pellegrini 2013). No reassessment efforts have been published to date for any of the Beaver Dam Wash or Virgin River near Littlefield sites.

In August 2014, an additional large flood event further altered the vegetation and hydrology at the confluence of the Beaver Dam Wash and the Virgin River.

Habitat Evaluation and Suitability

In August of 2014, flooding occurred along the Virgin River. Due to the flood-adapted habitat within the floodplain, any habitat disturbed by the August 2014 flood event is expected to reestablish before anticipated construction for this project in 2019. Therefore, the pre-flood habitat calculations and descriptions that follow will remain in place for the sake of the analysis in this BE.

During a site visit made in June 2014, habitat within the project limits and adjacent project area (approximately 500 to 1,000 feet outside of the project limits) was evaluated for suitability for the southwestern willow flycatcher. The area generally consisted of dispersed patches of riparian trees and shrubs interspersed with open water and sandbars. A few areas with mixed native and exotic riparian vegetation patches are not considered suitable habitat for the southwestern willow flycatcher due to their low vegetation density, and are not discussed below.

Potentially suitable habitat, with a cottonwood/willow overstory and salt cedar understory, was found within the project area at the confluence of Beaver Dam Wash and the Virgin River. This area provides the largest contiguous patch of habitat. Just north of the bridge on the east bank is a small, approximately 0.90-acre patch of salt cedar, which is the only habitat within the actual project limits dense enough to be used by willow flycatchers.

Approximately 0.25 mile northwest of the bridge, at the confluence of Beaver Dam Wash and the Virgin River (Figure 4–Designated Critical Habitat and Potentially Suitable Southwestern Willow Flycatcher and Yuma Clapper Rail Habitat; Appendix A, Photo 3), is the largest patch of potentially suitable habitat in the project area. This area is approximately 30 acres. While southwestern willow flycatchers have been documented at this location, breeding has not been documented since 2004; and presence has not been observed since 2005 (Ellis et al. 2008; McLeod et al. 2008; McLeod and Pellegrini 2013). This patch is likely to only be used for migratory stopover or foraging habitat. This site lies outside of the project limits by approximately 250 feet at its closest point.

The site just north of Bridge No. 1 on the east bank is about 0.90 acres and lies entirely within the project limits. This habitat consists of one small patch of salt cedar (Appendix A, Photo 3). Much of the density of this patch has been reduced from tamarisk beetle infestation. Due to its small size and compromised vegetation density from the tamarisk beetle, this habitat patch is considered insufficient as breeding habitat but could provide migratory stopover and foraging habitat.

Critical Habitat for the southwestern willow flycatcher lies within the project limits along the Virgin River (USFWS 2011a). Primary constituent elements (PCEs) for the southwestern willow flycatcher Critical Habitat comprise: (1) dense riparian vegetation with thickets of trees and shrubs, or dense patches of riparian forests that are interspersed with small openings of open water or marsh areas with shorter and sparser vegetation, and (2) habitats that support a high availability of their flying insect prey (USFWS 2011a). These are further defined as:

1) Riparian habitat in a dynamic successional riverine environment (for nesting, foraging, migration, dispersal, and shelter) that comprises:
    a) Trees and shrubs that include, but are not limited to, willow species, box elder, tamarisk, Russian olive, cottonwood, stinging nettle, alder, ash, poison hemlock, blackberry, oak, rose, false indigo, Pacific poison ivy, grape, Virginia creeper, Siberian elm, and walnut;
    b) Dense riparian vegetation with thickets of trees and shrubs ranging in height from 6 to 98 feet. Lower-stature thickets (6 to 13 feet tall) are found at higher elevation riparian forests, and tall-stature thickets are found at middle- and lower-elevation riparian forests;
    c) Areas of dense riparian foliage at least from the ground level up to approximately 13 feet above ground or dense foliage only at the shrub level, or as a low, dense tree canopy;
    d) Sites for nesting that contain a dense tree and/or shrub canopy (the amount of cover provided by tree and shrub branches measured from the ground) (i.e., a tree or shrub canopy with densities ranging from 50 percent to 100 percent); or
    e) Dense patches of riparian forests that are interspersed with small openings of open water or marsh, or shorter/sparser vegetation that creates a mosaic that is not uniformly dense. Patch size may be as small as 0.1 hectare (0.25 acre) or as large as 175 acres.
2) A variety of insect prey populations found within or adjacent to riparian floodplains or moist environments, including: flying ants, wasps, and bees; dragonflies; flies; true bugs; beetles; butterflies/moths and caterpillars; and spittlebugs.

A variety of river features are identified as the physical or biological features of Critical Habitat such as broad floodplains, water, saturated soil, hydrologic regimes, elevated groundwater, fine sediments, etc., which help develop and maintain these constituent elements (USFWS 2011a).

Approximately 25 acres of mapped Critical Habitat lie within the project limits (Figure 4–Designated Critical Habitat and Potentially Suitable Southwestern Willow Flycatcher and Yuma Clapper Rail Habitat). This Critical Habitat consists of patches of riparian vegetation of various heights and densities interspersed with open water and sandbars.

Analysis and Determination of Effects

Direct effects: Potentially suitable migratory stopover and foraging habitat is present within the project area (Figure 4–Designated Critical Habitat and Potentially Suitable Southwestern Willow Flycatcher and Yuma Clapper Rail Habitat; Appendix A, Photo 3 and Photo 7). Previously occupied habitat is present in the project area upstream at the confluence of Beaver Dam Wash and the Virgin River and downstream near Littlefield, Arizona. Geotechnical investigation and project construction activities would involve work within and adjacent to potentially suitable habitat within the project limits. These activities are discussed in the project description, along with conservation measures that would be used to minimize potential impacts within these areas.

Roughly 0.90 acre of potentially suitable southwestern willow flycatcher habitat occurs within the project limits that could be temporarily disturbed due to geotechnical investigation or construction activities, including a salt cedar grove (Figure 4–Designated Critical Habitat and Potentially Suitable Southwestern Willow Flycatcher and Yuma Clapper Rail Habitat). As vegetation within the floodplain is adapted to a flood-regime, it would be expected to recover from temporary disturbance after completion of construction just as it would from a flood event. Also, due to the small size and suboptimal quality of this habitat within the project limits, southwestern willow flycatchers would likely prefer the more intact habitat available approximately 1 mile away near where the CR 91 bridge crosses Beaver Dam Wash.

The only potential for permanent impacts would occur from extension of the permanent bridge abutments; however, these abutments would not extend more than 30 feet beyond the existing Bridge No. 1 abutments. There is no suitable habitat for the southwestern willow flycatcher within 30 feet of these existing abutments.

Due to the potential to directly impact individuals of the southwestern willow flycatcher present within these salt cedar trees during tree removal, vegetation removal will take place outside of the Migratory Bird Treaty Act (MBTA) breeding season (March 1 to August 31). Direct impacts, therefore, are expected to be minimal.

Indirect effects: Potential indirect effects of project activities to the southwestern willow flycatcher include: (1) removal of about 1 acre of vegetation that provides potential southwestern willow flycatcher migratory stopover and foraging habitat, (2) noise and high levels of activity by vehicles and equipment over the two year construction period, and (3) temporary, localized changes in the stream flow and path.

The removal of about 1 acre of salt cedar trees from impacts during the geotechnical investigation and project construction could temporarily remove potentially suitable areas available for foraging. Due to: (1) the relatively small amount of habitat removed in relation to remaining available foraging habitat in the project area and vicinity, (2) the initially small size of the salt cedar patch, (3) the low numbers of observed flycatchers in the area, and (4) the expected revegetation of temporarily impacted areas after construction, the removal of approximately 0.90 acre of salt cedar trees within the project limits is not expected to harm southwestern willow flycatchers.

Baseline noise conditions in the project area are considered elevated due to the proximity of the I-15 corridor and the associated traffic noise. A temporary access route through the salt cedar grove would increase noise from the baseline level through this area and potentially disturb any

flycatchers using the remaining trees in this grove during geotechnical investigation or construction. However, temporary removal of vegetation in this area for access routes would reduce the already small amount of potentially suitable habitat such that use of it during construction or geotechnical investigation would be highly unlikely due to its size. Additionally, due to superior habitat available in the project vicinity (e.g., along Beaver Dam Wash), flycatchers are not expected to occur in or rely on resources within the project limits. Project activities would take approximately two years to complete, such that activities could deter unlikely visitors from using the area during migration. Any vegetation removal from geotechnical investigation or construction activities would occur outside of the MBTA breeding season (March 1 to August 31). Indirect impacts would be temporary because the noise level and vehicle activity would return to pre-project levels after completion of the project and lost vegetation is expected to regrow. Therefore, neither geotechnical investigation nor project construction activities are anticipated to harm or harass flycatchers.

Finally, the small, localized changes in the stream flow path resulting from this bridge project are not expected to affect hydrologic regime, number of potential insect prey, or the pattern or density of riparian vegetation that would re-establish following completion of the project.

Due to the proximity of relatively recent nesting in the project area and the small areas of vegetation within potentially suitable habitat expected to be removed, there is a potential for indirect impacts to the southwestern willow flycatcher.

CRITICAL HABITAT:

As previously described, in the final rule designating southwestern willow flycatcher Critical Habitat, the USFWS determined that southwestern willow flycatcher habitat consists of the following PCEs: (1) riparian habitat in a dynamic successional riverine environment (for nesting, foraging, migration, dispersal, and shelter); and (2) a variety of insect prey populations found within or adjacent to riparian floodplains or moist environments, including: flying ants, wasps, and bees; dragonflies; flies; true bugs; beetles; butterflies/moths and caterpillars; and spittlebugs.

A variety of river features are identified as the physical or biological features of Critical Habitat such as broad floodplains, water, saturated soil, hydrologic regimes, elevated groundwater, fine sediments, etc., which help develop and maintain these constituent elements (USFWS 2011a).

Approximately 25 acres of mapped Critical Habitat lie within the project limits (Figure 4– Designated Critical Habitat and Potentially Suitable Southwestern Willow Flycatcher and Yuma Clapper Rail Habitat). This Critical Habitat consists of patches of riparian vegetation of various heights and densities interspersed with open water and sandbars.

Direct effects to Critical Habitat for southwestern willow flycatcher could include removal of riparian vegetation within this dynamic successional riverine environment. Of the roughly 25 acres that lie within the project limits that could be temporarily disturbed by project activities, only roughly 1 acre is potentially suitable southwestern willow flycatcher habitat. Other vegetation potentially disturbed within Critical Habitat does not meet the density and height preferred by this species. Temporary removal of potentially suitable southwestern willow flycatcher habitat within Critical Habitat could occur within the roughly 0.90-acre salt cedar stand due to the proposed northern access route as well as construction activities within the channel. Approximately 0.20 acre would be removed for the access route; the remaining roughly 0.70 acre of this stand could also be temporarily disturbed from other construction activities.

The small, localized nature of this project is not expected to affect the hydrologic regime or the pattern or density of riparian vegetation. The flood-regime of the Virgin River results in frequent

vegetation removal and reestablishment from flooding. Once construction is completed, the temporarily disturbed vegetation is expected to recover, as from a flood event. Features that help develop and maintain this constituent element are not expected to change, and it is anticipated that direct impacts to PCE 1 would be temporary.

Minor impacts to the insect prey populations within these riparian areas could occur due to the geotechnical investigation and project construction activities, but would be temporary and expected to recover after the project was completed. Features that help develop and maintain this constituent element are not expected to change and it is anticipated that direct impacts to PCE 2 would be minor.

Interrelated and Interdependent Actions: No interrelated or interdependent actions with this project are anticipated.

Cumulative Effects: Cumulative effects include the effects of future non-federal actions (i.e., state, local, or private actions) that are reasonably certain to occur in the project area. Future federal actions are subject to the consultation requirements established under Section 7 of the ESA and, therefore, are not considered cumulative in the proposed action. Some activities on private or state lands may require federal permits, e.g., a CWA Section 404 permit, and thus will be subject to Section 7 consultation. Several other projects are planned along the Virgin River corridor of I-15 in Arizona, but none of these projects are scheduled at this time. All of these projects are likely to have a federal nexus and therefore are not considered to contribute to cumulative impacts with respect to this project. Some minor residential development on private lands in the project area is possible. No commercial development in the project area is anticipated. Overall, no cumulative effects on southwestern willow flycatchers are anticipated.

Determination: No cumulative effects to southwestern willow flycatchers are anticipated as result of this project. However, this project may result in direct and indirect effects to the southwestern willow flycatcher and temporary removal of its designated Critical Habitat; therefore, the following determination statements apply:

- This project may affect the southwestern willow flycatcher, and is likely to adversely affect the southwestern willow flycatcher or its habitat.
- This project may affect and is likely to adversely affect Critical Habitat of the southwestern willow flycatcher.

Virgin River Chub (*Gila seminuda*)

Life History

The Virgin River chub has a localized distribution that is restricted to the mainstream Virgin River in Utah, Arizona, and Nevada, and in the Moapa River, Nevada (USFWS 1989; Minckley and Marsh 2009) at elevations that range from 1,540 to 2,360 feet amsl. However, few individuals have been caught in the Virgin River in areas downstream of Mesquite since the 1970s. Individuals do not disperse into tributaries except near their confluence with the mainstream. Virgin River chubs are always associated with flowing water, with preferred habitat consisting of the deepest available water, especially where holes have been scoured in soft sediment (AGFD 2001a; Minckley and Marsh 2009).

Little is known about reproductive biology of the Virgin River chub other than observations that females are gravid from April-June. Individuals display a gradient of habitat preference with age; small individuals up to approximately 3.1 inches total length (TL) used average depths >7 inches, medium-sized individuals (3.1 to 4.4 inches TL) used average depths >12 inches,

while the largest individuals (>5.5 inches TL) used average depths >24 inches. The smallest individuals also tended to occur in areas with lower water velocities (Minckley and Marsh 2009). The diet of Virgin River chubs varies by size. The young feed almost exclusively on macroinvertebrates, while adults eat filamentous algae and debris (AGFD 2001a; Minckley and Marsh 2009).

Both the geographic range and numbers of Virgin River chub have decreased substantially since historic times. Much of the decrease occurred from 1860 to 1900 when many of the present water diversions were constructed. These diversions and the formation of Lake Mead following construction of Hoover Dam destroyed approximately 75 of the 134 miles (56 percent) of the stream habitat in which the Virgin River chub occurred historically. Virgin River chubs were listed as endangered under the ESA in 1989 (USFWS 1989). In 2000, USFWS designated Critical Habitat for the Virgin River chub, which included an 87.5-mile section of the Virgin River and its associated 100-year floodplain; Critical Habitat extends from Pah Tempe Hot Springs[4], Utah, to Halfway Wash[5], Nevada (Figure 4–Designated Critical Habitat and Potentially Suitable Southwestern Willow Flycatcher and Yuma Clapper Rail Habitat) (USFWS 2000). Current threats to the species include modification and reduction of habitat, increased temperature, salinity, and turbidity, disease, floods, toxic spills, and competition with non-native fish (USFWS 1989; AGFD 2001a).

Survey History

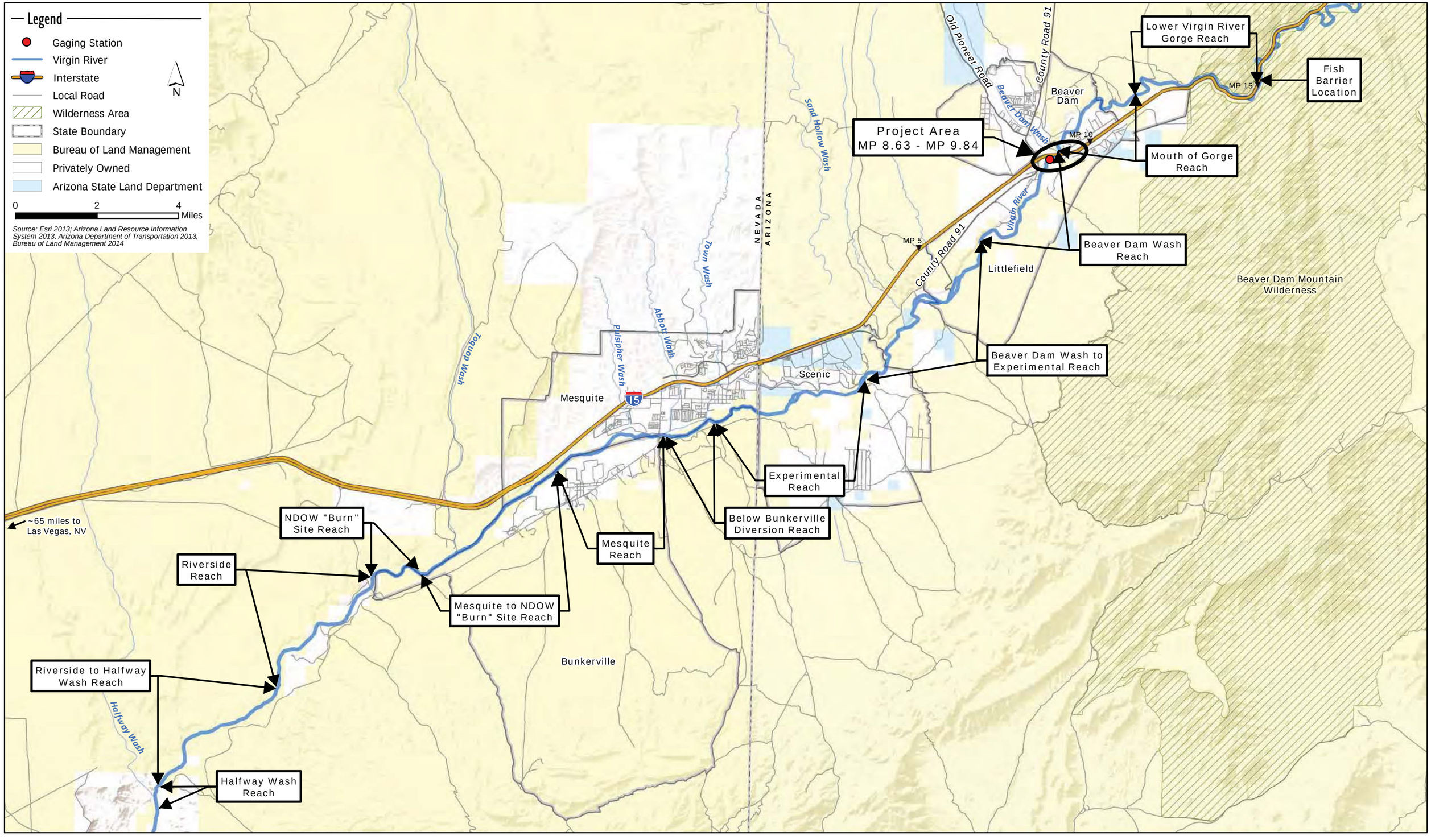
Surveys were conducted near the Beaver Dam Wash and CR 91 bridge (about 1 mile northwest of Bridge No. 1) during August 2010 as part of a program to monitor impacts of construction activities to endangered fish species. No Virgin River chub were captured during this effort (Liebfried 2011). Long-term monitoring of native fish (1996 to 2012) also occurred near the project vicinity in the lower Virgin River Gorge downstream into Nevada (Golden and Holden 2004; referenced in Kegeries and Albrecht 2012). Results from more recent surveys (2009 to 2012) indicate that Virgin River chub were present at most sampling sites during each sampling period, though they were not captured at several sites further downstream (Kegeries and Albrecht 2012). The most recent surveys, in June and August 2012, sampled several reaches of the Virgin River from the Lower Gorge to Halfway Wash in Nevada (Figure 6-Virgin River Fish Monitoring Reaches between Virgin River Gorge, Arizona and Halfway Wash, Nevada).

The June 2012 survey captured a total of 464 Virgin River chub, mostly in areas upstream of Mesquite (capture sites and quantities along the Virgin River from upstream to downstream: 93 in Lower Gorge, 134 at Mouth of Gorge, 171 at Beaver Dam Wash, 64 in the Experimental reach [near Mesquite], and two individuals further downstream).

[4] Pah Tempe Hot Springs is north of Hurricane, Utah. This location is not depicted on a figure as it is approximately 35 miles northeast of the project area. Only Critical Habitat potentially affected by the project activities is depicted on Figure 4.

[5] Halfway Wash can be seen on Figure 6. It is not depicted on Figure 4 as only Critical Habitat potentially affected by the project activities is depicted on Figure 4.

Figure 6. Virgin River Fish Monitoring Reaches between Virgin River Gorge, Arizona and Halfway Wash, Nevada



The August 2012 survey captured a total of 16 Virgin River chub: 15 in the Experimental reach and 1 in the Below Bunkerville Diversion reach, which is immediately west of the Experimental reach (B. Wooldridge, USFWS, email to K. Gade, ADOT, October 9, 2012). Relative to the project area, the closest current records for Virgin River chub in the Virgin River are from the June 2012 surveys at the Beaver Dam Wash site. Virgin River chubs are known to occur in the Virgin River in Utah down to the Arizona state line (K. Wilson, Utah Division of Wildlife Resources, pers. comm. to B. Johnson, Jacobs, October 18, 2012).

Habitat Evaluation and Suitability

Virgin River chubs are known to occur in the Virgin River in western Nevada, Arizona, and southern Utah (Minckley and Marsh 2009; AGFD 2014b). An HDMS search indicated that Virgin River chubs occur within 3 miles of the project limits (AGFD 2014b) and appear to occur throughout the Virgin River within Arizona (Minckley and Marsh 2009). Within the project area, the Virgin River is perennial, aided by flows from Beaver Dam Wash. Rainfall, snowmelt, and effluent released upstream provide additional sources of water. Virgin River chubs are likely to be present in the project area. The Virgin River, up to and including the 100-year floodplain, and portions of the project limits are designated as Critical Habitat for the Virgin River chub (USFWS 2000).

The PCEs of Critical Habitat determined necessary for the survival and recovery of the Virgin River chub are (1) water, (2) physical habitat, and (3) biological environment.

Water – A sufficient quantity and quality of water (e.g., temperature, dissolved oxygen, contaminants, nutrients, turbidity, etc.) that is delivered to a specific location in accordance with a hydrologic regime that is identified for the particular life stage for the species. This includes the following:

1) water quality characterized by natural seasonally variable temperature, turbidity, and conductivity;
2) hydrologic regime characterized by the duration, magnitude, and frequency of flow events capable of forming and maintaining channel and in-stream habitat necessary for particular life stages at certain times of the year; and
3) flood events inundating the floodplain necessary to provide or support the nutrient and food sources for the species.

Physical Habitat – Areas of the Virgin River that are inhabited or potentially habitable by a particular life stage for the species, for use in spawning, nursing, feeding, and rearing, and corridors between such areas. For the Virgin River chub those areas include:

1) river channels, side channels, secondary channels, backwaters, springs, and other areas that provide access to these habitats; and
2) areas with slow to moderate velocities, within deep runs or pools, with predominantly sand substrates (particularly habitats that contain boulders or other in-stream cover).

Biological Environment – Food supply, competition, and predation are important elements of the biological environment and are considered components of this constituent element. Components of this constituent element include the following:

1) seasonally flooded areas that contribute to the biological productivity of the river system by producing allochthonous organic matter (i.e., produced outside of the river and brought into the river) which provides and supports much of the food base of the Virgin River chub; and
2) few or no predatory or competitive non-native species present (USFWS 2000).

The Analysis and Determination of Effects section for the Virgin River chub and woundfin follows the general information for the woundfin.

Woundfin (*Plagopterus argentissimus*)

Life History

The woundfin is currently restricted to an approximately 50-mile reach of the Virgin River in Utah, Arizona, and Nevada at elevations that range from 1,900 to 3,000 feet amsl. Woundfins live in swift parts of silty streams, and appear to avoid clear waters. They are seldom found in quieter pools, but rather occupy the main channel of seasonally swift, highly turbid, and extremely warm streams, with constantly shifting sandy substrates. Adult and juvenile woundfin are most often caught in runs and quiet water adjacent to riffles, with younger fish usually occupying slower, deeper sites than those used by adults. Woundfins occur in heavily mineralized waters, and can tolerate high turbidity (AGFD 2000; Minckley and Marsh 2009).

Woundfin become sexually mature in their second year, with longevity rarely exceeding three years. Most spawning occurs in April through July, and appears to be triggered by water temperatures of about 14.5 degrees Celsius. After hatching, the larvae congregate in backwaters or other low-velocity areas along the shore, often in areas where there are beds of filamentous algae. The species is omnivorous, with diet appearing to shift in response to food availability. Most foraging occurs at or near the bottom, with ingested items including filamentous algae, detritus, terrestrial seeds, and numerous types of aquatic insect larvae (AGFD 2000; Minckley and Marsh 2009).

Both the geographic range and numbers of woundfin have decreased substantially since historic times. Historically, woundfin occurred in low-desert streams from central Arizona to the lower Colorado River near Yuma, Arizona, northward to the Virgin River, and presumably in the Colorado River delta in Mexico (AGFD 2000; Minckley and Marsh 2009). Human impacts, including fragmentation, dewatering for agriculture, mining, and urbanization, and the introduction of non-native species, caused historic habitat loss. In the Virgin River, flows have been depleted by municipal and agricultural withdrawals. Woundfins were listed as endangered under the ESA in 1970 (USFWS 1970). In 2000, the USFWS designated Critical Habitat for the woundfin, which included an 87.5-mile section of the Virgin River and its associated 100-year floodplain; Critical Habitat extends from Pah Tempe Hot Springs, Utah, to Halfway Wash, Nevada (Figure 4–Designated Critical Habitat and Potentially Suitable Southwestern Willow Flycatcher and Yuma Clapper Rail Habitat; USFWS 2000). Current threats to the woundfin include water withdrawal as well as non-native fish and associated parasites that were previously unknown to woundfin. Red shiners, a baitfish, is rapidly expanding its range in the Virgin River, and this species appears to be causing declines in remaining woundfin populations (AGFD 2000; Minckley and Marsh 2009).

Survey History

Surveys were conducted near the Beaver Dam Wash and CR 91 bridge (about 1 mile northwest of Bridge No. 1) during August 2010 as part of a program to monitor impacts of construction activities to endangered species of fish. No woundfin were captured during this effort (Liebfried 2011). Long-term monitoring of native fish (1996 to 2012) has also occurred from the project vicinity in the lower Virgin River Gorge downstream into Nevada (Golden and Holden 2004; referenced in Kegeries and Albrecht 2012). Results from more recent surveys (2009 to 2012) indicate that woundfin were only collected at one site during fall 2011 (along the Beaver Dam Wash segment of the Virgin River, Figure 2–Project Vicinity); a total of two individuals were

collected during this sampling (Kegeries and Albrecht 2012). The most recent surveys, in June and August 2012, sampled several reaches of the Virgin River from the Lower Gorge to Halfway Wash in Nevada. The June 2012 survey captured a total of 18 woundfin, mostly in areas upstream of Mesquite, Nevada (capture sites along the Virgin River from upstream to downstream: 12 in the Lower Gorge, 1 at Beaver Dam Wash, 3 in the Experimental reach, and 2 Below Bunkerville Diversion; Figure 2–Study Vicinity). The August 2012 survey captured only one woundfin in the Experimental reach (B. Wooldridge, USFWS, pers. comm., email to K. Gade, ADOT, October 9, 2012). Woundfins are known to occur in the Virgin River in Utah down to the Arizona state line (K. Wilson, Utah Division of Wildlife Resources, pers. comm. to B. Johnson, Jacobs, October 18, 2012). As stated above, woundfin have been captured within the project area in 2011 and 2012.

Habitat Evaluation and Suitability

Woundfin are known to occur in the Virgin River in western Nevada, Arizona, and into southern Utah (Minckley and Marsh 2009; AGFD 2014b). No specific locale data are available, but the HDMS search indicated that woundfins occur within 3 miles of the project limits (AGFD 2014b); this species appears to occur throughout the Virgin River within Arizona (Minckley and Marsh 2009). Within the project area, the Virgin River is perennial, aided by flows from Beaver Dam Wash. Rainfall, snowmelt, and effluent released upstream provide additional sources of water. Woundfins are highly likely to be present in the project area. The Virgin River, up to and including the 100-year floodplain, and portions of the project limits are designated as Critical Habitat for the woundfin (USFWS 2000).

The PCEs of Critical Habitat determined necessary for the survival and recovery of the woundfin are (1) water, (2) physical habitat, and (3) biological environment.

Water – A sufficient quantity and quality of water (e.g., temperature, dissolved oxygen, contaminants, nutrients, turbidity, etc.) that is delivered to a specific location in accordance with a hydrologic regime that is identified for the particular life stage for the species. This includes the following:

1) water quality characterized by natural seasonally variable temperature, turbidity, and conductivity;
2) hydrologic regime characterized by the duration, magnitude, and frequency of flow events capable of forming and maintaining channel and in-stream habitat necessary for particular life stages at certain times of the year; and
3) flood events inundating the floodplain necessary to provide or support the nutrient and food sources for the species.

Physical Habitat – Areas of the Virgin River that are inhabited or potentially habitable by a particular life stage for the species, for use in spawning, nursing, feeding, and rearing, and corridors between such areas. For the woundfin those areas include:

1) river channels, side channels, secondary channels, backwaters, springs, and other areas that provide access to these habitats;
2) areas inhabited by adult and juvenile woundfin include runs and pools adjacent to riffles that have sand and sand/gravel substrates;
3) areas inhabited by juvenile woundfin are generally deeper and slower. When turbidity is low, adults also tend to occupy deeper and slower habitats; and
4) areas inhabited by woundfin larvae include shoreline margins and backwater habitats associated with beds of filamentous algae.

Biological Environment – Food supply, competition, and predation are important elements of the biological environment and are considered components of this constituent element. Components of this constituent element include the following:

1) seasonally flooded areas that contribute to the biological productivity of the river system by producing allochthonous organic matter (i.e., produced outside of the river and brought into the river) which provides and supports much of the food base of the woundfin; and
2) few or no predatory or competitive non-native species present (USFWS 2000).

Analysis and Determination of Effects for Virgin River Chub and Woundfin

Direct effects: While the geotechnical investigation would not directly affect the Virgin River chub or the woundfin, several project construction activities would involve work within the low-flow channel and the 100-year floodplain that would directly affect the Virgin River chub and woundfin, which are assumed to be present within the project area. These activities are discussed in detail in the project description, along with conservation measures built into the construction of the project that would be used to minimize potential impacts. Specific measures which would minimize potential direct impacts to Virgin River chub and woundfin include: (1) building a temporary bridge across the channel so that vehicles and equipment do not enter the channel, (2) seining and relocating native fish prior to in-stream activities, and (3) containment measures to minimize debris from inadvertently falling into the river. No culverts would be used in the low-flow channel of the Virgin River during the project, and the flow of the channel would be maintained throughout the duration of the project.

Mitigation measures would require a fish exclusion protocol and relocation plan for Virgin River chub and woundfin to be developed and followed for work in flowing surface work. All fish exclusion activities would be performed under the direction of a biologist holding a permit for recovery of Virgin River chub and woundfin. Containment measures would be used to minimize debris from inadvertently falling into the river. Consequently, no direct impacts are anticipated as a result of debris falling into the water.

These mitigation measures would minimize direct impacts to the Virgin River chub and woundfin, but it is anticipated that low levels of harm or mortality could occur. Only a few individuals of Virgin River chub and woundfin are expected to be affected because of their low numbers within the project area, their ability to swim away from disturbance, and the low probability of direct impact to any one individual.

Indirect effects: The geotechnical investigation, construction activities and conservation measures described above could have indirect effects to the Virgin River chub and woundfin. The indirect effects include: (1) erosion and scouring that would increase sediment discharge into the river as a result of project activities and loss of riparian vegetation; (2) potential changes to the stream flow and associated hydrologic processes; (3) debris falling inadvertently into the river and being carried downstream; and (4) potential spills of oil, fuel, and other materials into the river.

The potential for increased erosion would be minimized by using BMPs that would include: (1) constructing a temporary sediment basin or filter to reduce sediment entering the water, (2) installing sediment fences between areas of disturbance and all flowing waters, and (3) regular inspection of sediment fences to maintain proper function. With these BMPs, increased erosion would be a minor, temporary impact that would cease following completion of the project. In-stream construction would occur only during a small portion of this time period, and riparian vegetation would re-establish following completion of the project. If cofferdams are

used, they would extend up to 20 feet into the low-flow channel, such that the flow of water through that localized area would increase, as would the amount of scouring and downstream sedimentation. Cofferdams would be a temporary, indirect impact as they would be removed after about three months. The increased sedimentation arising from loss of riparian vegetation and in-stream activities, including the cofferdams, would temporarily increase turbidity to the Virgin River in and around the project area. This would cause indirect impacts to Virgin River chub or woundfin habitat; these impacts would be considered minor and negligible as they would be temporary and much lower than a large storm event. Consequently, the localized, temporary increase in turbidity caused by this project (arising from areas both outside of and from within the stream channel) are anticipated to result in minor indirect impacts to Virgin River chub or woundfin.

Additional indirect impacts could include construction of a temporary bridge in the floodplain to sit above the river channel and maintain typical flows. Fill, such as rip-rap, would likely be placed on both sides of the low-flow channel as part of the temporary abutments; and the abutments would likely require drilled shafts up to 20 feet deep to remain stable. As part of the BMPs, this fill would be contained to minimize debris from entering the river during high flows. Due to the width of the low-flow channel at Bridge No. 1, up to two temporary piers may be required to be constructed within the low-flow channel. These temporary piers within the low-flow channel would be sufficiently reinforced so as to prevent the temporary bridge from washing out during a high-flow event, resulting in debris entering the river. Placement of these structures could also result in localized changes to the streamflow as construction activities could occur within the low-flow channel. The river would still flow adjacent to and east of Pier 3 and through the low-flow channel. Because of the localized nature of the project, these structures are not anticipated to change the hydrologic regime or flood events in or near the project area. Thus, indirect effects resulting from placement of these structures are anticipated to be minor.

As required by the CWA Section 401 permit, the project would also implement a vehicle fluid-leakage and spill plan to prevent water contamination by vehicles. The plan shall include provisions for immediate clean-up of any substance, and would define how each substance would be treated in case of leakage or spill. Spilled materials are not anticipated to cause harm to individuals of Virgin River chub or woundfin.

Chemical or natural fertilizers may be used during the landscape reestablishment period that could enter the Virgin River via runoff and affect the water quality. The type of fertilizer would not be known until development of the comprehensive re-vegetation plan occurs during final design. However, the potential for runoff would be controlled by BMPs and SWPPP measures that would remain in place during the landscape reestablishment period.

It is anticipated that the above mentioned measures would minimize indirect impacts to the Virgin River chub and woundfin, but low levels of indirect impacts would be anticipated as a result of this project. Indirect impacts to Virgin River chub and woundfin are possible even with these mitigation measures.

CRITICAL HABITAT:

As previously described, in the final rule designating Virgin River chub and woundfin Critical Habitat, the USFWS determined that Critical Habitat consists of the following PCEs: (1) water, (2) physical habitat, and (3) biological environment.

The effects to Virgin River chub and woundfin described above would also directly and indirectly affect some of the PCEs for designated Critical Habitat of these two fish species.

Impacts would include: (1) erosion and increased discharge into the river that would increase turbidity over the duration of the project; (2) placement of two columns near the low-flow channel to provide additional support for Pier 3; (3) installation of a temporary pyle in the low-flow channel to support the temporary bridge; and (4) potential spills of oil, fuel, or other materials into the river.

Localized erosion and increased sedimentation could occur both outside the stream channel and from within the stream channel. The potential for this would be minimized by implementing BMPs, as described above. These impacts would occur only during construction in the low-flow channel, which is anticipated to last approximately three months. Flowing water in the Virgin River is normally relatively clear (see Section 3), such that the localized, temporary increase in turbidity caused by this project would alter the existing conditions, causing a temporary impact. The use of a temporary bridge would minimize turbidity resulting from river crossings.

Additional impacts to Critical Habitat could include placing up to two temporary piers within the low-flow channel to support the temporary bridge crossing. These temporary piers within the low-flow channel would be sufficiently reinforced so as to prevent the temporary bridge from washing out during a high-flow event and releasing debris down the river. Placement of these structures could result in localized changes to stream flow; however, the low-flow channel of the river would still flow adjacent to Pier 3 and throughout the low-flow channel. Because of the localized nature of the project, these structures are not anticipated to change the hydrologic regime or flood events in or near the project area.

The project would also implement a vehicle fluid-leakage and spill plan to prevent water contamination related to vehicles, as described above. Also, as mentioned above, chemical or natural fertilizers may be used during the landscape reestablishment period that could enter the Virgin River via runoff and affect the water quality within Critical Habitat. The type of fertilizer would not be known until development of the comprehensive re-vegetation plan occurs during final design. However, the potential for runoff would be controlled by BMPs and SWPPP measures that would remain in place during the landscape reestablishment period.

Consequently, long-term water quality is not anticipated to change as a result of this project. Thus, changes to PCEs of the Virgin River chub and woundfin are anticipated to be insignificant and discountable. Direct and indirect impacts to Critical Habitat for the Virgin River chub and woundfin are anticipated.

Interrelated and Interdependent Actions: No interrelated or interdependent actions with this project are anticipated.

Cumulative Effects: Cumulative effects include the effects of future non-federal actions (i.e., state, local, or private actions) that are reasonably certain to occur in the project area. Future federal actions are subject to the consultation requirements established under Section 7 of the ESA and, therefore, are not considered cumulative in the proposed action. Some activities on private or state lands may require federal permits, e.g., a CWA Section 404 permit, and thus will be subject to Section 7 consultation. Several other projects are planned along the Virgin River corridor of I-15 in Arizona, but none of these projects are scheduled at this time. All of these projects are likely to have a federal nexus and therefore are not considered to contribute to cumulative impacts with respect to this project. Some minor residential development on private lands in the project area is possible. No commercial development in the project area is anticipated. Overall, no cumulative effects on Virgin River chub or woundfin are anticipated.

Determination: This project may result in direct and indirect effects to individuals of Virgin River chub and woundfin and to designated Critical Habitat for the Virgin River chub and the woundfin; therefore, the following determination statements apply:

- This project may affect the Virgin River chub and is likely to adversely affect the Virgin River chub or its habitat.
- This project may affect and is likely to adversely affect Critical Habitat of the Virgin River chub.
- This project may affect the woundfin and is likely to adversely affect the woundfin or its habitat.
- This project may affect and is likely to adversely affect Critical Habitat of the woundfin.

Yellow-billed Cuckoo (*Coccyzus americanus*)

Life History

The geographic distribution of the Western Distinct Population Segment of the yellow-billed cuckoo ranges from west of the Rocky Mountains in North America south to southern Baja California. This species winters in South America. Historically, the yellow-billed cuckoo was locally common in California and Arizona, with a common presence in parts of New Mexico, Oregon, and Washington, and uncommon in parts of western Colorado, western Wyoming, Idaho, Nevada, and Utah. Currently, Arizona contains the largest remaining population in the West. While not abundant in Arizona, occurrences have been recorded in every county (AGFD 2011).

Preferred nesting habitat for the yellow-billed cuckoo contains large blocks of dense riparian vegetation (e.g., 325-foot-wide and 200-acre contiguous extent) usually with a cottonwood-willow component below 6,600 feet amsl (USFWS 2014c). Adults nest in willow or mesquite thickets, building nests of stick platforms from 4 to 30 feet above ground where 3 to 4 eggs are laid. Incubation lasts 4 to 11 days, and the nestlings fledge at 7 to 8 days. Two broods can be produced per year. Nesting often coincides with outbreaks of cicadas and tent caterpillars (AGFD 2002b). The species feeds on hairy caterpillars, frogs, lizards, ants, beetles, wasps, flies, berries, and fruit (AGFD 2011).

Both the geographic range and numbers of yellow-billed cuckoo have decreased substantially since historic time because of the loss, degradation, and fragmentation of suitable riparian habitats. Because of habitat loss and population declines, the yellow-billed cuckoo was proposed for listing as threatened under the ESA on October 3, 2014 (USFWS 2014d). On August 15, 2014, Critical Habitat was proposed for this species, including portions of the project limits (Figure 5–Proposed Critical Habitat and Potentially Suitable Yellow-billed Cuckoo Habitat; USFWS 2014c). Because the proposed Critical Habitat for the yellow-billed cuckoo is expected to be made final before commencement of project activities, it will be considered in this BE as finally designated under the ESA (Jacobs 2014). Current threats to yellow-billed cuckoos include: loss of riparian habitat due to dam construction, water diversions and other modifications; conversion to agricultural use; urban and transportation infrastructure; increased incidence of wildfire; and other natural or manmade factors affecting small, rare, isolated populations (USFWS 2013; USFWS 2014d).

Survey History

Surveys for the yellow-billed cuckoo were conducted in 2000 and 2006 near Bridge No. 1 (funded by Reclamation). Areas surveyed included one patch along the Beaver Dam Wash tributary and another patch starting at the bridge and extending approximately 0.31 mile

downstream along the Virgin River. Habitat at that time in these patches included Fremont cottonwood and Goodding's willow, with large tamarisk patches intermixed. Also present were stands of cattail (*Typha* spp.) and arrowweed (*Pluchea sericea*). Two yellow-billed cuckoo individuals were detected in 2000, but none were detected during the five surveys conducted in 2006 (Johnson et al. 2007). Surveys were then conducted on behalf of Reclamation's Lower Colorado River Multi-Species Conservation Program at the CR 91 bridge over Beaver Dam Wash (about 1 mile northwest of Bridge No. 1) from 2007 to 2010. No yellow-billed cuckoos were observed during these surveys (McLeod and Pellegrini 2013).

In 2014, no surveys were performed on behalf of Reclamation's Lower Colorado River Multi-Species Conservation Program (M.A. McLeod, SWCA Environmental Consultants [SWCA], pers. comm. to B. Wooldridge, USFWS, July 16, 2014). BLM reported one individual found near the confluence of Beaver Dam Wash and the Virgin River while conducting surveys for other bird species in July 2014 (S. Langston, BLM, pers. comm. to T. McCarthey, ACS, August 29, 2014).

Habitat Evaluation and Suitability

In August of 2014, flooding occurred along the Virgin River. Due to the flood-adapted habitat within the floodplain, any habitat disturbed by the August 2014 flood event is expected to reestablish before anticipated construction in 2019. Therefore, the pre-flood habitat calculations and descriptions that follow will remain in place for the sake of the analysis in this BE.

During a site visit made in June 2014, habitat within the project limits and adjacent project area (approximately 500 to 1,000 feet outside of the project limits) was evaluated for suitability for the yellow-billed cuckoo. The area generally consisted of dispersed patches of riparian trees and shrubs interspersed with open water and sandbars. A few areas with mixed native and exotic riparian vegetation patches are not considered suitable habitat for the yellow-billed cuckoo due to their low vegetation density and are not discussed below.

Potentially suitable breeding habitat was found within the project area at the confluence of Beaver Dam Wash and the Virgin River (Figure 5–Proposed Critical Habitat and Potentially Suitable Yellow-billed Cuckoo Habitat; Appendix A, Photo 3). This area is approximately 30 acres and provides the largest contiguous patch of habitat in the project area. One yellow-billed cuckoo pair was documented at this site in 2000 (Johnson et al. 2007); and one individual was sighted in 2014 (S. Langston, BLM, pers. comm. to T. McCarthey, ACS, August 29, 2014). This site lies outside the project limits by approximately 250 feet at its closest point.

Potentially suitable migratory stopover or foraging habitat was found within the project limits (1) approximately 0.30 mile southeast of Bridge No. 1 and (2) underneath and just south of the bridge on the west bank.

The site approximately 0.30 mile southwest of Bridge No. 1 is a small grove of cottonwood trees north of the river between a proposed temporary access route and the river (Figure 5–Proposed Critical Habitat and Potentially Suitable Yellow-billed Cuckoo Habitat; Appendix A, Photo 7). This roughly 1.5-acre patch is insufficient size to be considered likely breeding habitat. This small cottonwood grove could provide migratory stopover and foraging habitat for this species. Approximately 0.20 acre of this stand, which includes a few individual cottonwood trees, lies adjacent to the proposed access route and within the project limits.

The site underneath and south of Bridge No. 1 on the west bank is roughly 1.4 acres of scattered mature and young cottonwood trees with various understory species (Figure 5–Proposed Critical Habitat and Potentially Suitable Yellow-billed Cuckoo Habitat). The size of this habitat patch

and the dispersed nature of the vegetation within it make this area unlikely to be used for breeding habitat; however, this string of cottonwood trees could provide migratory stopover and foraging habitat for this species. Approximately 0.90 acre of these trees lies within the project limits.

Proposed Critical Habitat for the yellow-billed cuckoo lies within the project limits along the Virgin River ((USFWS 2014c). PCEs for the yellow-billed cuckoo proposed Critical Habitat comprise: (1) Riparian woodlands, (2) adequate prey base, and (3) a dynamic riverine system (USFWS 2014c). These PCEs are further defined as:

1) Riparian woodlands with mixed willow-cottonwood vegetation, mesquite-thorn-forest vegetation, or a combination of these that contain habitat for nesting and foraging in contiguous or nearly contiguous patches that are greater than 325 feet (100 meters) in width and 200 acres (81 hectares) or more in extent. These habitat patches contain one or more nesting groves, which are generally willow-dominated, have above average canopy closure (greater than 70 percent), and have a cooler, more humid environment than the surrounding riparian and upland habitats.
2) Presence of a prey base consisting of large insect fauna (for example, cicadas, caterpillars, katydids, grasshoppers, large beetles, dragonflies) and tree frogs for adults and young in breeding areas during the nesting season and in post-breeding dispersal areas.
3) River systems that are dynamic and provide hydrologic processes that encourage sediment movement and deposits that allow seedling germination and promote plant growth, maintenance, health, and vigor (e.g. lower gradient streams and broad floodplains, elevated subsurface groundwater table, and perennial rivers and streams). This allows habitat to regenerate at regular intervals, leading to riparian vegetation with variously aged patches from young to old. These dynamic riverine processes are considered essential for developing and maintaining the primary constituent elements (1) and (2). (USFWS 2014c)

Approximately 28 acres of mapped Critical Habitat lie within the project limits (Figure 5–Proposed Critical Habitat and Potentially Suitable Yellow-billed Cuckoo Habitat). This Critical Habitat consists of patches of riparian vegetation of various heights and densities interspersed with open water and sandbars.

Analysis and Determination of Effects

Direct effects: Potentially suitable habitat for the yellow-billed cuckoo was observed within the project area during the June 2014 site visit (Figure 5–Proposed Critical Habitat and Potentially Suitable Yellow-billed Cuckoo Habitat). Previously occupied habitat is present in the project area. Geotechnical investigation and project construction activities would involve work within and adjacent to potentially suitable habitat that occurs inside the project limits. These activities are discussed in the project description, along with conservation measures that would be used to minimize potential impacts within these areas.

Roughly 1.1 acres of potentially suitable foraging habitat for the yellow-billed cuckoo occurs within the project limits that could be temporarily disturbed due to geotechnical investigation or construction activities. These habitat patches of cottonwood trees are considered too small to provide breeding habitat (Figure 5–Proposed Critical Habitat and Potentially Suitable Yellow-billed Cuckoo Habitat).

Temporary impacts to the cottonwood gallery forest adjacent to the access route approximately 0.30 mile southwest of Bridge No. 1 would occur due to widening of the proposed access route.

Disturbance would be restricted to a few mature trees or portions of trees within approximately 0.20 acre of this roughly 1.5-acre patch (Appendix A, Photo 7). These impacts would not be avoidable due to the cliffs immediately to the north prohibiting access route expansion in that direction. Temporary disturbance would also occur closer to the bridge due to the same proposed access route, as well as construction activities, within about 0.90 acre of the roughly 1.4-acre patch. As vegetation within the floodplain is adapted to a flood-regime, it would be expected to recover from temporary disturbance after completion of construction just as it would from a flood event. Also, due to the small size and suboptimal quality of these habitat areas within the project limits, yellow-billed cuckoo would likely prefer other areas of suitable habitat in larger blocks in the project area and project vicinity.

Permanent impacts would occur from construction of the bridge abutments; the footprint of these impacts would be determined during final design of Bridge No. 1 but would likely only require the removal of a few young cottonwood trees.

Due to the potential to directly impact individuals of the yellow-billed cuckoo present within the cottonwood habitat in the project limits during tree removal, vegetation removal will take place outside the MBTA breeding season (March 1 to August 31). Minor direct impacts to the species are, therefore, not anticipated.

Indirect effects: Potential indirect effects of project activities to the yellow-billed cuckoo include: (1) removal of up to roughly 1.1 acres of cottonwood gallery forest that occur within the project limits, (2) noise and high levels of activity by vehicles and equipment over the two-year construction period, and (3) temporary, localized changes in the stream flow and path.

The removal of approximately 1.1 acres of cottonwood habitat during the geotechnical investigation or construction could temporarily remove potentially suitable areas available for foraging. This is not expected to harm the yellow-billed cuckoo because of:

- The initially small size of the habitat within the project limits,
- The small amount of habitat being removed,
- The presence of higher-quality habitat within the project vicinity,
- The low numbers of observed cuckoos in the area,
- The low likelihood of cuckoos using the habitat, and
- The rapid regrowth of the flood-adapted vegetation being temporarily disturbed by construction.

Baseline noise conditions in the project area are considered elevated due to the proximity of the I-15 corridor and the associated traffic noise. Within the project area, the most suitable breeding habitat is the roughly 30-acre area at the confluence of Beaver Dam Wash and the Virgin River. This entire area is outside of the project limits, but there is a potential for construction noise to impact any cuckoos that may be nesting within 0.25 mile of project activities.

A temporary access route adjacent to the cottonwood gallery south of Bridge No. 1 would marginally increase noise from the baseline level through this area and disturb cuckoos using the remaining trees in this gallery during the geotechnical investigation or construction. However, temporary removal of vegetation in this area for an access route would reduce the already small amount of potentially suitable habitat such that use of it during project activities would be highly unlikely due to its size. Additionally, due to superior habitat available in the project vicinity, cuckoos are not expected to occur in or rely on resources within the project area. Project activities would take approximately two years to complete; activities could deter unlikely visitors from using the area during construction. Any vegetation removal from geotechnical investigation

or construction activities would occur outside of the MBTA breeding season (March 1 to August 31). Indirect impacts would be temporary because the noise level and vehicle activity would return to pre-project levels after completion of the project and lost vegetation is expected to regrow. Therefore, neither geotechnical investigation nor project construction activities are anticipated to harm or harass cuckoos.

Finally, the small, localized changes in the stream flow path resulting from this bridge project are not expected to affect the hydrologic regime, number of potential insect prey, or the pattern or density of riparian vegetation that would re-establish following completion of the project; however, direct impacts may occur. Due to the proximity of relatively recent sightings in the project area, the small areas of vegetation within potentially suitable habitat expected to be removed, and possible noise disturbance to individuals nesting within 0.25 mile of project activities, there is a minor potential for indirect impacts to the yellow-billed cuckoo.

CRITICAL HABITAT:

In the proposed rule designating yellow-billed cuckoo Critical Habitat, the USFWS determined that yellow-billed cuckoo habitat consists of the following PCEs: (1) Riparian woodlands, (2) adequate prey base, and (3) a dynamic riverine system (USFWS 2014c).

Approximately 28 acres of mapped yellow-billed cuckoo proposed Critical Habitat lie within the project limits (Figure 5–Proposed Critical Habitat and Potentially Suitable Yellow-billed Cuckoo Habitat). This proposed Critical Habitat consists of patches of riparian vegetation of various heights and densities interspersed with open water and sandbars.

Direct effects to proposed Critical Habitat for the yellow-billed cuckoo could include removal of vegetation within this dynamic riverine system. Of the approximately 28 acres that lie within the project limits that could be temporarily disturbed by project activities, only roughly 1 acre is potentially suitable yellow-billed cuckoo foraging habitat. Other vegetation potentially disturbed within proposed Critical Habitat does not meet the riparian woodland contiguous patch size preferred by this species. Temporary removal of potentially suitable yellow-billed cuckoo habitat within proposed Critical Habitat could occur within cottonwood habitat along the access route to the bridge span, as well as activities within the channel south of the bridge. Approximately 0.20 acre (consisting of a few mature trees and branches of others) of a roughly 1.5-acre cottonwood patch within proposed Critical Habitat adjacent to a proposed access route approximately 0.30 mile southwest of Bridge No. 1 would be temporarily disturbed. Additionally, roughly 0.90 acre (consisting of a few scattered mature and young cottonwood trees) of a roughly 1.4-acre cottonwood patch within proposed Critical Habitat underneath of and downstream from Bridge No. 1 would be temporarily disturbed due to the same proposed access route, as well as temporary construction activities within the floodplain.

Riparian vegetation within the project area supports high populations of insects that could be used as food by foraging cuckoos. The small, isolated amount of riparian vegetation removed from the project limits could cause an impact to prey abundance within the project limits, potentially affecting the PCE that requires high numbers of a “variety of insect prey populations.” However, this impact would be minor and temporary as vegetation and prey populations are expected to recover following construction, and the larger tracts of more suitable habitat nearby would supply a stable prey population.

Lastly, the small, localized nature of this project is not expected to affect hydrologic regime, or the pattern or density of riparian vegetation that would re-establish following completion of the project. Consequently, features that help develop and maintain these constituent elements are not expected to change. Therefore, direct impacts to proposed Critical Habitat for the yellow-billed

cuckoo are anticipated, but it is anticipated that these impacts would be insignificant and discountable.

Interrelated and Interdependent Actions: No interrelated or interdependent actions with this project are anticipated.

Cumulative Effects: Cumulative effects include the effects of future non-federal actions (i.e., state, local, or private actions) that are reasonably certain to occur in the project area. Future federal actions are subject to the consultation requirements established under Section 7 of the ESA and, therefore, are not considered cumulative in the proposed action. Some activities on private or state lands may require federal permits, e.g., a CWA Section 404 permit, and thus will be subject to Section 7 consultation. Several other projects are planned along the Virgin River corridor of I-15 in Arizona, but none of these projects are scheduled at this time. All of these projects are likely to have a federal nexus and therefore are not considered to contribute to cumulative impacts with respect to this project. Some minor residential development on private lands in the project area is possible. No commercial development in the project area is anticipated. Overall, no cumulative effects on yellow-billed cuckoo are anticipated.

Determination: This project may result in minor direct or indirect effects to the yellow-billed cuckoo and its proposed Critical Habitat. No cumulative effects to the yellow-billed cuckoo are anticipated as a result of this project. Therefore, the following determination statements apply:

- This project may affect the yellow-billed cuckoo, but is not likely to adversely affect the yellow-billed cuckoo or its habitat.
- This project may affect, but is not likely to adversely affect proposed Critical Habitat of the yellow-billed cuckoo.

Yuma Clapper Rail (*Rallus longirostris yumanensis*)

Life History

The Yuma clapper rail inhabits freshwater or brackish marshes under 4,500 feet in elevation with a wet substrate that supports their preferred habitat of southern cattail and giant bulrush (*Scirpus californicus*) stands of moderate to high density adjacent to shorelines along the Colorado River. Common reed marshes are mainly inhabited by Yuma clapper rails where they are bordered or mixed with cattail; salt cedar can form part of the cover used by Yuma clapper rails when associated with cattail marshes (AGFD 2001b).

The species' range includes the lower Colorado River from the Gulf of California in Mexico to Topock Marsh on Havasu National Wildlife Refuge in Needles, California and Arizona. In Arizona, Yuma clapper rail are known to occur along the lower Colorado River and associated major drainages such as the Virgin, Bill Williams, and lower Gila rivers (USFWS 2009). Radio-telemetry studies indicate over 70 percent of the breeding population does not migrate, but winters along the lower Colorado River (AGFD 2001b).

Yuma clapper rails generally establish breeding territories in March and April and are highly territorial during the breeding season. Pairs are monogamous breeders and both sexes assist in territory defense, incubation, and brood-rearing. Nests are usually built in dense vegetation near water's edge or on a small high site within the marsh. Nests are often elevated over vegetation or soil, usually consist of dry sedges and grasses, and often have runways leading to them that the pair habitually uses. Average clutch size varies from 8 to 10 eggs that are yellow to green-buff in color with an intermingling of brown spots. Eggs generally hatch April to July, with an incubation period that is typically 21 to 23 days. Young generally begin following adults through

the marsh within 48 hours of hatching. Chicks retain their black natal down through their first month, become independent of parents within 35 to 42 days of hatching, and typically take their first flight 63 to 70 days after hatching (AGFD 2001b).

The Yuma clapper rail was listed by the USFWS as endangered without Critical Habitat in 1967 in the United States only. Threats to this species include habitat destruction, primarily due to stream channelization; drying and flooding of marshes resulting from water flow management on the lower Colorado River; contaminants from agricultural tailwaters; a vulnerable prey base; and pesticides and heavy metal poisoning (AGFD 2001b).

Survey History

Some survey routes established in the 1970s are still surveyed annually throughout the range for the Yuma clapper rail. Surveys conducted on the Virgin River from Littlefield to its Lake Mead delta in Nevada documented incidental reports of Yuma clapper rail beginning in 1998 (Garnett et al. 2004). It is believed that the population along the Virgin River was negatively affected by the 2005 winter floods that heavily scoured marshes along the river (BLM 2005; referenced in USFWS 2006). In 2000, two Yuma clapper rails were detected along the Virgin River in the Littlefield area (USFWS 2006). BLM intends to resume surveys in the area by 2017 due to marsh habitat recovering well from the 2005 and 2010 floods (S. Langston, BLM, pers. comm. to T. McCarthey, August 29, 2014).

Habitat Evaluation and Suitability

In August of 2014, flooding occurred along the Virgin River. Due to the flood-adapted habitat within the floodplain, any habitat disturbed by the August 2014 flood event is expected to reestablish before anticipated construction in 2019. Therefore, the pre-flood habitat calculations and descriptions that follow will remain in place for the sake of the analysis in this BE.

During a site visit made in June 2014, habitat within the project limits and adjacent project area (approximately 500 to 1,000 feet outside of the project limits) was evaluated for suitability for the Yuma clapper rail. The area generally consisted of dispersed patches of riparian trees and shrubs interspersed with open water and sandbars.

The Virgin River above Lake Mead does not provide a substantial amount of marsh habitat as compared to other occupied areas in the state (USFWS 2006). However, Yuma clapper rails have historically been observed along the Virgin River in the project area (USFWS 2006).

Potentially suitable habitat was found within the project area approximately 0.25 river-mile downstream from Bridge No. 1. This area provides the largest patch of habitat within the project area. Just north of the bridge along either bank is the only potentially suitable habitat within the project limits (Figure 4–Designated Critical Habitat and Potentially Suitable Southwestern Willow Flycatcher and Yuma Clapper Rail Habitat).

Downstream from Bridge No. 1, a pocket of small, but potentially suitable, marsh habitat containing cattail lies between a proposed access route and the Virgin River (Appendix A, Photo 6). The entire habitat patch is approximately 0.70 acre in size and lies outside of, but roughly 50 feet from, the project limits. Due to its small size, isolated location, and time since the species occurred in the area, this habitat is not expected to be used by Yuma clapper rail.

Within the project limits are narrow cattail stands along the Virgin River shoreline that could provide potentially suitable, though minimal, habitat. This habitat is roughly 0.70 acre and marginal due to its long and narrow shape. The entire habitat patch lies within the project limits; however, due to its small size, isolated location, and time since the species occurred in the area, this habitat is not expected to be used by Yuma clapper rail.

A monotypic common reed marsh occurs north of Bridge No. 1. Due to the lack of cattails and its elevated location above the floodplain, this area is not considered as potentially suitable Yuma clapper rail habitat.

Analysis and Determination of Effects

Direct and Indirect Effects: Potentially suitable Yuma clapper rail habitat was found present within the project area (Designated Critical Habitat and Potentially Suitable Southwestern Willow Flycatcher and Yuma Clapper Rail Habitat; Appendix A, Photo 6). Previously occupied habitat is present in the project area downstream of the project limits near Littlefield, Arizona. Geotechnical investigation and project construction activities would involve work within and adjacent to potentially suitable habitat within the project limits. These activities are discussed in the project description, along with conservation measures that would be used to minimize potential impacts within these areas.

Roughly 0.70 acre of potentially suitable Yuma clapper rail habitat occurs within the project limits that could be temporarily disturbed due to geotechnical investigation or construction activities. As vegetation within the floodplain is adapted to a flood-regime, it would be expected to recover from temporary disturbance after completion of construction just as it would from a flood event. Also, due to the small size and suboptimal quality of this habitat within the project limits, Yuma clapper rail would likely prefer more intact habitat within the project vicinity.

Noise disturbance could occur to any Yuma clapper rail nesting within the roughly 0.70-acre habitat approximately 0.25 river-mile downstream from Bridge No. 1 and adjacent to the proposed access route. Existing noise levels in this area from the heavily traveled I-15 corridor, especially by large vehicles such as tractor trailers, would lessen the impact due to noise. In addition, any noise would be lessened by the buffer of cottonwood trees and riparian vegetation between the proposed access route and the Yuma clapper rail habitat. Ultimately, however, due to its small size, isolated location, and time since the species occurred in the area, this habitat is not expected to be used by Yuma clapper rails.

Permanent impacts could potentially occur from construction of the bridge abutments; the footprint of these impacts would be determined during final design of Bridge No. 1, but would not require the removal of cattail habitat.

Direct or indirect effects to the Yuma clapper rail are possible but not anticipated.

Interrelated and Interdependent Actions: No interrelated or interdependent actions with this project are anticipated.

Cumulative Effects: Cumulative effects include the effects of future non-federal actions (i.e., state, local, or private actions) that are reasonably certain to occur in the project area. Future federal actions are subject to the consultation requirements established under Section 7 of the ESA and, therefore, are not considered cumulative in the proposed action. Some activities on private or state lands may require federal permits, e.g., a CWA Section 404 permit, and thus will be subject to Section 7 consultation. Several other projects are planned along the Virgin River corridor of I-15 in Arizona, but none of these projects are scheduled at this time. All of these projects are likely to have a federal nexus and, therefore, are not considered to contribute to cumulative impacts with respect to this project. Some minor residential development on private lands in the project area is possible. No commercial development in the project area is anticipated. Overall, no cumulative effects on the Yuma clapper rail are anticipated.

Determination: This project has the potential to result in minor, temporary direct or indirect effects to the Yuma clapper rail. No effects to the Yuma clapper rail are anticipated as a result of

this project, however, due to the small size of any available habitat within the project area, its isolated location, and the amount of time since this species has occurred in the area. Therefore, the following determination statement applies:

- This project will have no effect to the Yuma clapper rail or its habitat.

Virgin Spinedace (*Lepidomeda mollispinis mollispinis*)

Life History

The Virgin spinedace consists of two subspecies, but only *Lepdiomeda mollispinis mollispinis* occurs in the project area. *Lepidomeda mollispinis mollispinis* is endemic to the Virgin River and its tributaries in Arizona, Nevada, and Utah (AGFD 2001c; Minckley and Marsh 2009). Individuals are most common in clear, cool, moderate to swift currents, often in pools with a substrate that consists of sand, gravel, cobble, and boulder. Most individuals in the Virgin River mainstream have been captured near the mouths of creeks or inflowing springs (Minckley and Marsh 2009).

Spawning occurs from spring through early summer, with spawning sites usually located near the lower ends of pools. One- and two-year-old individuals probably spawn one time per year, while older females may spawn twice per year. However, few individuals appear to live longer than three years. The bulk of the diet of Virgin spinedaces consists of insects and other invertebrates, but individuals also take plant material and organic debris when insects are unavailable. Feeding occurs throughout the day as they capture prey at the surface and those drifting in upper parts of the water column (AGFD 2001c; Minckley and Marsh 2009).

Virgin spinedace are locally common in areas where they remain. However, the historic geographic range of the Virgin spinedace has decreased by about 37 percent because of impoundments and other stream modifications (AGFD 2001c). Virgin spinedace are currently protected under a Conservation Agreement between the USFWS and the Utah Department of Wildlife Resources, which currently protects this species in lieu of listing them under the ESA. Current threats to Virgin spinedace include water diversion, impoundments, channelization, degradation of water quality, and introduced species (AGFD 2001c; Minckley and Marsh 2009).

Survey History

Surveys were conducted near the Beaver Dam Wash and CR 91 bridge (about 1 mile northwest of Bridge No. 1) during August 2010, as part of a program to monitor impacts of construction activities to endangered species of fish. Four individuals of Virgin spinedace were captured during this effort (Liebfried 2011). Long-term monitoring of native fish (from 1996 to 2012) has also occurred from near the project area in the lower Virgin River Gorge downstream into Nevada (Golden and Holden 2004; referenced in Kegeries and Albrecht 2012). Results from more recent surveys (2009 to 2012) indicate that only one Virgin spinedace was captured in the Beaver Dam Wash segment of the Virgin River (Figure 2–Project Vicinity) during one sampling period (Kegeries and Albrecht 2012). The most recent surveys, in June and August 2012, sampled several reaches of the Virgin River from the Lower Gorge to Halfway Wash in Nevada. No Virgin spinedace were captured during these sampling efforts (B. Wooldridge, USFWS, email to K. Gade, ADOT, October 9, 2012).

Habitat Evaluation and Suitability

Virgin spinedace are known to occur in the Virgin River in western Nevada, Arizona, and southern Utah (Minckley and Marsh 2009). Available data indicate that Virgin spinedace are known from along the Virgin River near the confluence of Beaver Dam Wash as well as within

the Beaver Dam Wash (Kegeries and Albrecht 2012; Liebfried 2011). Within the project area, the Virgin River is perennial, aided by flows from Beaver Dam Wash. Rainfall, snowmelt, and effluent released upstream provide additional sources of water. It is likely, due to their close proximity in Beaver Dam Wash, that Virgin River spinedace are present in the project area.

Analysis and Determination of Effects

Direct effects: While the geotechnical investigation would not directly affect the Virgin River spinedace, several construction activities would involve work within the low-flow channel and the 100-year floodplain that would directly affect individuals, which are assumed to be present within the project area. These activities are discussed in detail in the project description, along with conservation measures built into the construction of the project that would be used to minimize potential impacts. Specific measures which would minimize potential direct impacts to Virgin spinedace include: (1) building a temporary bridge across the channel so that vehicles and equipment do not enter the channel, (2) seining and relocating native fish prior to in-stream activities, and (3) containment measures to minimize debris from inadvertently falling into the river. No culverts would be used in the low-flow channel of the Virgin River during the project, and the flow of the channel would be maintained throughout the duration of the project.

Mitigation measures would require native fish species to be removed from the work area prior to any in-water work activities. All fish exclusion activities would be performed under the direction of a biologist holding a permit and would be relocated per a fish exclusion plan developed in coordination with USFWS and AGFD. Containment measures would be used to minimize debris from inadvertently falling into the river. Consequently, no direct impacts are anticipated as a result of debris falling into the water.

These mitigation measures would minimize direct impacts to the Virgin spinedace, but it is anticipated that low levels of harm or mortality could occur. Only a few individuals of Virgin spinedace are expected to be impacted because of their low numbers within the project area, their ability to swim away from disturbance, and the low probability of direct impact to any one individual.

Indirect effects: The geotechnical investigation, construction activities and conservation measures described above could have indirect effects to the Virgin spinedace. The indirect effects include: (1) erosion and scouring that would increase sediment discharge into the river as a result of project activities and loss of riparian vegetation; (2) potential changes to the stream flow and associated hydrologic processes; (3) debris falling inadvertently into the river and being carried downstream; and (4) potential spills of oil, fuel, and other materials into the river.

The potential for increased erosion would be minimized by using BMPs that would include: (1) constructing a temporary sediment basin or filter to reduce sediment entering the water, (2) installing sediment fences between areas of disturbance and all flowing waters, and (3) regular inspection of sediment fences to maintain proper function. With these BMPs, increased erosion would be a minor, temporary impact that would cease following completion of the project. In-stream construction would occur only during a small portion of this time period, and riparian vegetation would re-establish following completion of the project. If cofferdams are used, they would extend up to 20 feet into the low-flow channel, such that the flow of water through that localized area would increase, as would the amount of scouring and downstream sedimentation. Cofferdams would be a temporary, indirect impact as they would be removed after approximately three months. The increased sedimentation arising from loss of riparian vegetation and in-stream activities, including the cofferdams, would temporarily increase turbidity to the Virgin River in and around the project area. This would cause indirect impacts to

Virgin spinedace; these impacts would be considered minor and negligible as they would be temporary and much lower than a large storm event. Consequently, the localized, temporary increase in turbidity caused by this project (arising from areas both outside of and from within the stream channel) are anticipated to result in minor indirect impacts to Virgin spinedace.

Additional indirect impacts could include construction of a temporary bridge in the floodplain to sit above the river channel and maintain typical flows. Fill, such as rip-rap, would likely be placed on both sides of the low-flow channel as part of the temporary abutments and the abutments would likely require drilled shafts up to 20 feet deep to remain stable. As part of the BMPs, this fill would be contained to minimize debris from entering the river during high flows. Due to the width of the low-flow channel at Bridge No. 1, up to two temporary piers may be required to be constructed within the low-flow channel. These temporary piers within the low-flow channel would be sufficiently reinforced so as to prevent the temporary bridge from washing out during a high-flow event, resulting in debris entering the river. Placement of these structures could also result in localized changes to the streamflow as construction activities could occur within the low-flow channel. The river would still flow adjacent to and east of Pier 3 and through the low-flow channel. Because of the localized nature of the project, these structures are not anticipated to change the hydrologic regime or flood events in or near the project area. Thus, indirect effects resulting from placement of these structures are anticipated to be minor.

As required by the CWA Section 401 permit, the project would also implement a vehicle fluid-leakage and spill plan to prevent water contamination by vehicles. The plan shall include provisions for immediate clean-up of any substance, and would define how each substance would be treated in case of leakage or spill. Spilled materials are not anticipated to cause harm to individuals of Virgin spinedace.

Chemical or natural fertilizers may be used during the landscape reestablishment period that could enter the Virgin River via runoff and affect the water quality. The type of fertilizer would not be known until development of the comprehensive re-vegetation plan occurs during final design. However, the potential for runoff would be controlled by BMPs and SWPPP measures that would remain in place during the landscape reestablishment period.

It is anticipated that the above mentioned measures would minimize indirect impacts to the Virgin spinedace, but low levels of indirect impacts would be anticipated as a result of this project.

Interrelated and Interdependent Actions: No interrelated or interdependent actions with this project are anticipated.

Cumulative Effects: Cumulative effects include the effects of future non-federal actions (i.e., state, local, or private actions) that are reasonably certain to occur in the project area. Future federal actions are subject to the consultation requirements established under Section 7 of the ESA and, therefore, are not considered cumulative in the proposed action. Some activities on private or state lands may require federal permits, e.g., a CWA Section 404 permit, and thus will be subject to Section 7 consultation. Several other projects are planned along the Virgin River corridor of I-15 in Arizona, but none of these projects are scheduled at this time. All of these projects are likely to have a federal nexus and, therefore, are not considered to contribute to cumulative impacts with respect to this project. Some minor residential development on private lands in the project area is possible. No commercial development in the project area is anticipated. Overall, no cumulative effects on Virgin spinedace are anticipated.

Determination: This project may result in direct and indirect effects to individuals of Virgin spinedace; therefore, the following determination statement applies:

- This project may affect Virgin spinedace and is likely to adversely affect the Virgin spinedace or its habitat.

6. SPECIES EVALUATION – BLM SENSITIVE SPECIES

Allen's Big-eared Bat (*Idionycteris phyllotis*)

Life History

Allen's big-eared bat has a distribution that ranges from the central highlands of Mexico northward, into west-central New Mexico, and to the Colorado River Valley in Arizona. The geographic distribution within Arizona includes most of the state, excluding the southwestern deserts. Individuals are found in elevations ranging from 1,320 to 9,800 feet amsl. Typical terrain around collection locations is boulder piles, cliffs, rocky outcrops, or lava flows. Allen's big-eared bats have been found in various habitats, including plant communities of: ponderosa pine (*Pinus ponderosa*) forests; Pinyon-juniper; riparian areas of sycamores (*Platanus occidentalis*), cottonwoods, and willows; white fir (*Abies concolor*) woodlands; and Mojave desertscrub (AGFD 2001d).

Allen's big-eared bats are nocturnal and roost in caves, cliff faces, and abandoned mineshafts (AGFD 2001d; Solvesky and Chambers 2009). Maternal colonies can also roost in ponderosa pine snags and under sloughing bark (Solvesky and Chambers 2009). They are not known to use bridges as roosting habitat. The bats are commonly found near streams or ponds, seeking a food source that includes moths, beetles, roaches, and flying ants. In early summer, females begin to form maternity colonies, and young are born mid to late June and begin flying by late July. It is possible the males roost solitarily at this time, although much of the reproductive biology for this species is unknown (AGFD 2001d).

The population trends of Allen's big-eared bats are not well known, but it is known that maternity colonies are easily disturbed, often resulting in abandonment (AGFD 2001d). Allen's big-eared bat is listed as a BLM sensitive species.

Survey History

No known formal surveys have been conducted for Allen's big-eared bats in or near the project area. However, BLM has a record of this species in the project area approximately 0.40 mile northwest of Bridge No. 1 (S. Langston, BLM, pers. comm. to T. McCarthey, ACS, September 30, 2014).

Habitat Evaluation and Suitability

Cave and mine habitat is likely present in the general project vicinity; however, caves or mine features large enough for bat roosting are not found within the project limits. The prominent bat roosting habitat within the project limits, underneath Bridge No. 1, is not expected to be used by Allen's big-eared bat as this species is not known to utilize bridges for roosting. They will roost in ponderosa pine trees, but are not known to roost within riparian vegetation such as that found within the project area. There is no ponderosa pine in the project area. The riparian and upland desertscrub areas found within the project area could be used for nocturnal foraging. Allen's big-eared bats are known to occur in the project area approximately 0.40 mile northwest of Bridge No. 1 near the confluence of Beaver Dam Wash with the Virgin River, near mature trees and standing water (S. Langston, BLM, pers. comm. to T. McCarthey, ACS, September 30, 2014).

Analysis and Determination of Effects

Direct Effects: Allen's big-eared bats are known to occur in the project area (S. Langston, BLM, pers. comm. to T. McCarthey, ACS, August 29, 2014). Construction activity could have direct effects on individuals of this species if they were roosting under the bridge. However, no evidence of roosting bats was observed under the bridge during daytime field reconnaissance on June 11 and 12, 2014, and a preconstruction survey for bats would be conducted. Additionally, Allen's big-eared bats are not expected to occur under the bridge in the future because this species is not known to roost under bridges, and because of the high availability of suitable roosting habitat in adjacent areas. This species is known to utilize habitat such as that found within the project area for nocturnal foraging; however, no nighttime work is anticipated for this project except for the temporary setting of girders. Bats in the area may avoid foraging near the construction activity; however, there is abundant alternative foraging habitat along the river corridor for individuals to use during this project activity. Therefore, no direct impacts to Allen's big-eared bats are anticipated.

Indirect Effects: This proposed project would involve a geotechnical investigation, construction on Bridge No. 1, and modifications to the approach segments. These activities would not affect roosting habitat for the Allen's big-eared bat, as none is available within the project limits. However, vegetation would be removed in areas that could be providing nocturnal foraging habitat for this species. The vegetation disturbed by during both the geotechnical investigation and project construction could result in a potential loss in insects; this impact would be considered (1) minor, due to the amount of intact vegetation supporting insect populations in the project area, and (2) temporary, as the vegetation is expected to regrow after project completion. Therefore, indirect effects to Allen's big-eared bats are anticipated to be temporary and minor.

Interrelated and Interdependent Actions: No interrelated or interdependent actions with this project are anticipated.

Cumulative Effects: Cumulative effects include the effects of future non-federal actions (i.e., state, local, or private actions) that are reasonably certain to occur in the project area. Future federal actions are subject to the consultation requirements established under Section 7 of the ESA and, therefore, are not considered cumulative in the proposed action. Some activities on private or state lands may require federal permits, e.g., a CWA Section 404 permit, and thus will be subject to Section 7 consultation. Several other projects are planned along the Virgin River corridor of I-15 in Arizona, but none of these projects are scheduled at this time. All of these projects are likely to have a federal nexus and, therefore, are not considered to contribute to cumulative impacts with respect to this project. Some minor residential development on private lands in the project area is possible. No commercial development in the project area is anticipated. Overall, no cumulative effects on Allen's big-eared bats are anticipated.

Determination: No direct or cumulative effects are anticipated as result of this project. This project may have minor, temporary indirect effects to the Allen's big-eared bat. Therefore, this project may impact individuals of the Allen's big-eared bat, but it is not likely to result in a trend toward federal listing or loss of viability.

American Peregrine Falcon (*Falco peregrinus anatum*)

Life History

The peregrine falcon consists of several subspecies. Three of these subspecies occur in North America. Two of the subspecies could occur in the area during migration, but *F. peregrinus anatum* is the only subspecies that breeds in the project vicinity. This subspecies occurs

throughout contiguous North America from central Canada to central Mexico (USFWS 1999). In Arizona, peregrine falcons are known to utilize areas that range from elevations of 400 to 9,000 feet amsl, and they breed wherever sufficient prey is available near cliffs. Consequently, densities are highest in areas such as the Mogollon Rim, Grand Canyon, and Colorado Plateau (AGFD 2002d). Preferred habitat for peregrine falcons consists of steep, sheer cliffs that overlook woodlands, riparian areas, and other habitats that support a high density of their avian prey species. Expansive open areas are also considered to be critical.

Nesting sites, also called eyries, usually consist of a shallow depression scraped into a ledge on the side of a cliff. In Arizona, peregrine falcons lay eggs from mid-March through mid-May and sometimes into June. Incubation lasts approximately 32 days, and nestlings fledge at about six weeks. Individuals are usually sexually mature at two years of age, and the females usually lay eggs every year until they die. The pairs are typically monogamous for several years or more, and individuals can live up to 10 to 12 years. Peregrine falcons are aerial predators that usually kill their prey in the air. Birds comprise the most common prey item, but bats are also taken (AGFD 2002d).

Peregrine falcons underwent large population declines in the United States following World War II. The declines were linked to the use of organochlorine insecticides, which caused mortality and adversely affected reproduction. One of the major culprits was dichlorodiphenyltrichloroethane (DDT), which caused eggshell thinning and subsequent reproductive failure. As a result of these declines, the peregrine falcon was listed as endangered under the ESA in 1970. Cessation of the use of DDT resulted in increased reproductive success, and subsequent population increases, which resulted in the species being delisted in 1999 (USFWS 1999). In Arizona, peregrine falcons now occur in areas that had previously been considered marginal habitat, suggesting that populations in optimal habitats are approaching saturation (AGFD 2002d). The American peregrine falcon is protected under the MBTA, as well as listed as a BLM sensitive species.

Survey History

The Peregrine Fund, BLM, and AGFD monitor habitat use and nesting activities by American peregrine falcons in the Virgin River Gorge area. One peregrine falcon eyrie occurs about 3.5 miles from the project area (S. Langston, BLM, pers. comm. to T. McCarthey, ACS, August 29, 2014). No evidence of falcons or white-washed cliff ledges that typify a falcon eyrie was observed during a survey of surrounding habitats during the June 11 and 12, 2014 site visit.

In 2006, a peregrine falcon was observed in the Bridge No. 1 area by a team performing surveys for yellow-billed cuckoos (no details are available for this sighting; Johnson et al. 2007). BLM reported that no peregrine falcons have nested within 3 miles of the project limit. However, individual birds have been seen using the area during migration, likely drawn in by the rock pigeons that roost on the bridge and the nearby cliffs (S. Langston, BLM, pers. comm. to T. McCarthey, ACS, August 29, 2014).

Habitat Evaluation and Suitability

Habitat within the project area consists of open desertscrub habitat and riverine riparian areas that are suitable foraging habitat for American peregrine falcons, supporting their prey base. Cliffs bordering the Virgin River and its associated riparian habitat south of Bridge No. 1 could provide marginal nesting habitat should more optimal nearby nesting habitat become saturated.

Analysis and Determination of Effects

Direct Effects: American peregrine falcons have been sighted by BLM within the project area; however, no known nesting occurs within the project area, with the nearest eyrie occurring at least 3.5 miles from the project limits (S. Langston, BLM, pers. comm. to T. McCarthey, ACS, August 29, 2014). No parts of the proposed project would directly affect American peregrine falcons. Therefore, no direct impacts to American peregrine falcons are anticipated.

Indirect Effects: This proposed project would involve a geotechnical investigation, construction on Bridge No. 1, and modifications to the approach segments. The project area would only be used as foraging habitat by American peregrine falcons. Birds, their most common prey item, are typically attacked in the air. Optimal foraging habitat is considered to be areas that support a high abundance of birds, such as riparian habitats. Riparian habitat in the project area consists of open riverine areas with scattered salt cedar, cattail, common reed marshes, and cottonwood galleries that provide habitat for breeding birds. The riverine area provides potential habitat for ducks, which also are a common prey item for American peregrine falcons. Consequently, disturbances resulting from the proposed geotechnical investigation and project construction activities would result in temporary restrictions on foraging by American peregrine falcons. Therefore, this project would have indirect effects to the American peregrine falcon.

Interrelated and Interdependent Actions: No interrelated or interdependent actions with this project are anticipated.

Cumulative Effects: Cumulative effects include the effects of future non-federal actions (i.e., state, local, or private actions) that are reasonably certain to occur in the project area. Future federal actions are subject to the consultation requirements established under Section 7 of the ESA and, therefore, are not considered cumulative in the proposed action. Some activities on private or state lands may require federal permits, e.g., a CWA Section 404 permit, and thus will be subject to Section 7 consultation. Several other projects are planned along the Virgin River corridor of I-15 in Arizona, but none of these projects are scheduled at this time. All of these projects are likely to have a federal nexus and, therefore, are not considered to contribute to cumulative impacts with respect to this project. Some minor residential development on private lands in the project area is possible. No commercial development in the project area is anticipated. Overall, no cumulative effects on American peregrine falcons are anticipated.

Determination: This project may have temporary indirect effects to the American peregrine falcon. Therefore, this project may impact individuals of the American peregrine falcon, but it is not likely to result in a trend toward federal listing or loss of viability.

California Leaf-nosed Bat (*Macrotus californicus*)

Life History

The California leaf-nosed bat is distributed from Mexico to southern California and Nevada. In Arizona, they are found generally south of the Mogollon Rim; however, the species has been observed in northwestern Mohave County during the summer. This species occurs throughout Arizona at elevations below 4,000 feet amsl, with most occurring below approximately 2,500 feet amsl. This species is found primarily in Sonoran desertscrub, but can also be found in Mojavean, Chihuahuan, and Great Basin desertscrub communities (AGFD 2001e).

California leaf-nosed bats are nocturnal and mostly found roosting in mines, caves, and rock shelters (AGFD 2001e). They have been found in Arizona roosting underneath bridges with open, cave-like ends that provide shelter from heat and aridity (Davis and Cockrum 1963; Harris 2014). They can utilize a variety of bridges as night roosts, but only some bridge types

have been used as day roosts (Dudek 2012; Davis and Cockrum 1963). California leaf-nosed bats are not known to hibernate or migrate. Adults breed in the fall; females form maternity colonies and give birth to one young in May and June. Males and females roost together during the winter on ceilings of caves and mines (AGFD 2001e).

California leaf-nosed bats feed primarily on large, flying insects, such as grasshoppers, moths, flying beetles, dragonflies, and butterflies, but are also known to feed on fruits, including those of cacti (AGFD 2001e). They are known to forage in riparian and desert wash areas (Dudek 2012).

California leaf-nosed bat numbers are thought to be reduced, primarily due to loss of cave and mine habitat. Concerns include human disturbance at roosting sites and improper closing of old mines (using loud equipment or techniques, fully blocking entrances, or partially blocking to inhibit access, air movement, humidity, temperature, etc.) or renewal of mining activity in previously abandoned mines which could cause abandonment of roosts. The California leaf-nosed bat is listed as a BLM sensitive species.

Survey History

No known formal surveys have been conducted for California leaf-nosed bats in or near the project area. BLM reports the closest record of California leaf-nosed bats to the project area as occurring in the "Virgin Narrows above Littlefield" in 1945 (S. Langston, BLM, pers. comm. to T. McCarthey, ACS, September 30, 2014).

Habitat Evaluation and Suitability

Cave and mine habitat is likely present in the general project vicinity, but not within the project limits. Bridge No. 1 could provide night roosting or less-likely day roosting habitat for the California leaf-nosed bat. The riparian and upland desertscrub areas found within the project limits could be used for nocturnal foraging.

California leaf-nosed bats are known to have occurred in the project area (S. Langston, BLM, pers. comm. to T. McCarthey, ACS, September 30, 2014). However, the closest record dates back to 1945. No bats were observed roosting under Bridge No. 1 during the June 11 and 12, 2014 daytime field reconnaissance.

Analysis and Determination of Effects

Direct Effects: California leaf-nosed bats are known to occur in the project vicinity along Beaver Dam Wash (S. Langston, BLM, pers. comm. to T. McCarthey, ACS, August 29, 2014). Construction activity could have direct effects on individuals of this species if they were day-roosting under the bridge. However, no evidence of roosting bats was observed under the bridge during daytime field reconnaissance on June 11 and 12, 2014; a survey for evidence of bats using the bridge would be conducted prior to construction. California leaf-nosed bats are not expected to occur under the bridge in the future because of the high availability of suitable roosting habitat in adjacent areas of the project vicinity. Nighttime roosting under the bridge is possible, but project activities are not expected to disturb nocturnal bat activities except for the temporary setting of girders. Appropriate mitigation measures, including preconstruction surveys to identify any bats using the bridge for roosting, would be implemented to avoid impacts to these individuals (see Appendix C). Direct impacts to California leaf-nosed bats are, therefore, possible, but not anticipated.

Indirect Effects: This proposed project would involve a geotechnical investigation, construction on Bridge No. 1, and modifications to the approach segments. These activities would not affect optimal roosting habitat for the California leaf-nosed bat as no caves or mines are available

within the project limits. Bridge roosting habitat, which is used less-commonly by this species, would be temporarily unavailable for the duration of construction. The effects on the California leaf-nosed bat from this removal of roosting habitat is expected to be (1) minor, as preferred roosting habitat is available in the project vicinity, and (2) temporary, as the bridge will be available again as undisturbed roosting habitat upon completion of the project. Vegetation would be removed in areas that could provide nocturnal foraging for this species during both the geotechnical investigation and project construction. The vegetation disturbed by the project could result in a potential loss of insects; this impact would be considered minor, due to the amount of intact vegetation supporting insect populations in the project area, and temporary, as the vegetation is expected to regrow after project completion. Therefore indirect effects to the California leaf-nosed bat are anticipated to be temporary and minor.

Interrelated and Interdependent Actions: No interrelated or interdependent actions with this project are anticipated.

Cumulative Effects: Cumulative effects include the effects of future non-federal actions (i.e., state, local, or private actions) that are reasonably certain to occur in the project area. Future federal actions are subject to the consultation requirements established under Section 7 of the ESA and, therefore, are not considered cumulative in the proposed action. Some activities on private or state lands may require federal permits, e.g., a CWA Section 404 permit, and thus will be subject to Section 7 consultation. Several other projects are planned along the Virgin River corridor of I-15 in Arizona, but none of these projects are scheduled at this time. All of these projects are likely to have a federal nexus and, therefore, are not considered to contribute to cumulative impacts with respect to this project. Some minor residential development on private lands in the project area is possible. No commercial development in the project area is anticipated. Overall, no cumulative effects on California leaf-nosed bats are anticipated.

Determination: No cumulative effects are anticipated as result of this project. This project may have direct or temporary indirect effects to the California leaf-nosed bat. Therefore, this project may impact individuals of the California leaf-nosed bat, but it is not likely to result in a trend toward federal listing or loss of viability.

Desert Springsnail (*Pyrgulopsis deserta*)

Life History

Pyrgulopsis is a North American genus of snails that consists of about 65 described species; the genus is diagnosed by their small size (approximately 0.04 to 0.08 inch in length) and an ovate to ovate-conic shell (Hershler 1994). Most species in the genus, including the desert springsnail, appear to have very restricted geographic distributions. The known distribution of the desert springsnail is restricted to two distinct areas: (1) in and near St. George, Utah and (2) near Littlefield (Hershler 1994). The distribution appears to consist of isolated populations that inhabit springs that flow into the Virgin River (Hershler 1994; AGFD 2004). Nothing is known about the biology, food habits, or population dynamics of the desert springsnail (AGFD 2004).

The desert springsnail is listed as a BLM sensitive species and has been reported to AGFD to occur within 3 miles of the project limits (AGFD 2014b). Threats to the desert springsnail include water projects such as spring capping and development, highway construction, and land exchanges that allow development of habitat (AGFD 2004).

Survey History

No known formal surveys have been conducted for desert springsnails in or near the project area. The nearest verified locale for this species is near the mouth of the Virgin River Gorge, about

3 river-miles upstream from Bridge No. 1 (S. Langston, BLM, pers. comm. to T. McCarthey, ACS, August 29, 2014).

Habitat Evaluation and Suitability

Seeps and springs were observed in the project area during field reconnaissance on June 11 and 12, 2014. East of the Virgin River within the project limits are tall sedimentary rock bluffs composed of sandstone or limestone which contain natural seeps (Photo 4, Appendix A). Water from these seeps flows in a small stream into the Virgin River near Pier 4. This stream flows through rocky areas and could contain habitat suitable to the desert springsnail. Additionally, the cattail marsh south of Bridge No. 1 (Photo 6, Appendix A; Figure 3–Project Limits) appears to be fed by a cold-water underground seep.

The nearest verified locale for this species is near the mouth of the Virgin River Gorge, about 3 river-miles upstream from Bridge No. 1 (S. Langston, BLM, pers. comm. to T. McCarthey, ACS, August 29, 2014). Although no known surveys have occurred in the springs and seeps in the project area, it is assumed that populations present near Bridge No. 1 would have been previously identified given the excellent access to this area. BLM records indicate there are 10 undeveloped springs within 1.5 miles of Bridge No. 1; of these, six occur near Bridge No. 1 on the east side of the Virgin River (S. Langston, BLM, pers. comm. to T. McCarthey, ACS, August 29, 2014).

All of these springs and seeps provide potential habitat for the desert springsnail. However, in part due to the easy access, the springs and seeps that do exist around Bridge No. 1 are disturbed. The seeps north of Bridge No. 1 are surrounded by monotypic canyon grape. Additionally, the area southeast of the bridge has been altered and sandbagged to hold standing water for recreational use. Therefore, habitat around these seeps and springs is considered low quality habitat for the desert springsnail.

Analysis and Determination of Effects

Direct Effects: The HDMS search indicated that desert springsnails are known to occur within 3 miles of the project limits (AGFD 2014b). The nearest known population of desert springsnails is about 3 river-miles upstream of the project limits, near the mouth of the Virgin River Gorge (S. Langston, BLM, pers. comm. to T. McCarthey, ACS, August 29, 2014). Seeps observed within the project limits have been compromised by disturbance, leaving only marginal habitat available for the desert springsnail. No records of the species in the easily-accessed area lead to the assumption that they are not present in the project area. Harm or mortality could occur to desert springsnail individuals occupying these seeps and their surrounding vegetation at the time of construction.

Additionally, there is a potential to directly affect individuals of this species within the channel of the Virgin River by injury or mortality during construction activities. This species is known to occur in seeps and springs 3 miles upstream of the project area; however, several springs are located within the project area that could be occupied, but unsurveyed. Therefore, direct impacts to desert springsnails from project construction are possible. Geotechnical activities are not expected to directly impact springs, seeps, or the low-flow channel within the project limits.

Indirect effects: Indirect effects from the geotechnical investigation and/or project construction include: (1) removal of or disturbance to vegetation in and around seeps within the project limits; (2) interruption or contamination of the flow of water coming from seeps within the project limits; (3) erosion and scouring and loss of riparian vegetation that would increase discharge into the river; and (4) potential spills of oil, fuel, and other materials into the river.

The potential for increased erosion would be minimized by using BMPs that would include: (1) constructing a temporary sediment basin or filter to reduce sediment from entering the water, (2) installing sediment fences between areas of disturbance and all flowing waters, and (3) regular inspection of sediment fences to maintain proper function. Due to these BMPs, increased erosion into the Virgin River would be a minor, temporary impact that would cease following completion of project.

The project would also implement a vehicle fluid-leakage and spill plan to prevent water contamination by all vehicles. The plan shall include provisions for immediate clean-up of any substance, and would define how each substance would be treated in case of leakage or spill. Materials are not anticipated to cause harm to individuals of desert springsnail.

While impacts to the seeps and springs within the project limits are not expected from to the geotechnical investigation, it is likely that project construction would affect the seeps and surrounding vegetation. However, existing habitat around these seeps is disturbed and of low quality, and the desert springsnails are not expected to be found using this area. However, should a population be present, impacts would disturb this habitat that could be used by individuals of this species. These impacts would be temporary as lost vegetation is expected to regrow after project completion. Therefore, indirect impacts to the desert springsnail are possible, but not expected.

Interrelated and Interdependent Actions: No interrelated or interdependent actions with this project are anticipated.

Cumulative Effects: Cumulative effects include the effects of future non-federal actions (i.e., state, local, or private actions) that are reasonably certain to occur in the project area. Future federal actions are subject to the consultation requirements established under Section 7 of the ESA and, therefore, are not considered cumulative in the proposed action. Some activities on private or state lands may require federal permits, e.g., a CWA Section 404 permit, and thus will be subject to Section 7 consultation. Several other projects are planned along the Virgin River corridor of I-15 in Arizona, but none of these projects are scheduled at this time. All of these projects are likely to have a federal nexus and therefore are not considered to contribute to cumulative impacts with respect to this project. Some minor residential development on private lands in the project area is possible. No commercial development in the project area is anticipated. Overall, no cumulative effects on desert springsnail are anticipated.

Determination: Direct and indirect effects are possible as a result of this project. Therefore, the project may impact individuals of desert springsnail, but is not likely to result in a trend toward federal listing or loss of viability.

Desert Sucker (*Catostomus clarki*)

Life History

The desert sucker occurs in several drainage basins in Arizona and New Mexico, including the lower Colorado River downstream from the Grand Canyon, the Virgin River, and the Bill Williams, Salt, Gila, San Francisco, and Verde river systems. The species is most common in small to moderately large streams at elevations from about 480 to 8,840 feet amsl (AGFD 2002c). Desert suckers are most common in riffles, rapids, and flowing pools, primarily in areas where the stream bottom consists of gravel-rubble with sandy silt in the interstices. Desert suckers are highly adaptable and can survive in a wide range of water temperatures and relatively low oxygen levels. However, the species does not occur in reservoirs.

Spawning occurs on riffles from late winter to early spring. The adults congregate in large numbers during spawning, and the females bury their adhesive eggs in a depression in loose gravelly substrate. The young congregate in quiet waters near the streambank, and progressively move into mainstream areas as they grow. Juveniles mature by their second year at a length of about 4 to 5 inches, and individuals can grow to about 31 inches in length. Chironomid (midge) larvae are the primary dietary items for juveniles. Adults are herbivorous, and use their cartilaginous-sheathed mouth to scrape diatoms and algae from rocks; they also ingest plant detritus (AGFD 2002c; Minckley and Marsh 2009).

The desert sucker is listed as a BLM sensitive species, and the HDMS search indicated that this species is known to occur within 3 miles of the project limits (AGFD 2014b). Desert suckers are generally common throughout areas where they remain extant. However, the species does not occur in reservoirs and the building of numerous dams and diversions has decreased the geographic range of this species from historic times. Stocking of non-native fish has introduced hybridization and increased competition with desert suckers for food and spawning habitat (AGFD 2002c).

Survey History

Several formal surveys have been conducted for desert suckers near the project area. Surveys were conducted near the CR 91 Beaver Dam Wash bridge (about 1 mile northwest of Bridge No. 1) during August 2010 as part of a program to monitor impacts of construction activities to endangered fish species. No desert suckers were captured during this effort (Liebfried 2011). Long-term monitoring of native fish (1996 to 2012) has also occurred from near the project area in the lower Virgin River Gorge downstream into Nevada (Golden and Holden 2004; referenced in Kegeries and Albrecht 2012).

Results from more recent surveys (2009 to 2012) indicate that desert suckers were present at most sampling sites during each sampling period (Kegeries and Albrecht 2012). The most recent surveys, in June and August 2012, sampled several reaches of the Virgin River from the Lower Gorge to Halfway Wash in Nevada. The June 2012 survey captured a total of 2,824 desert suckers in the Virgin River, mostly in areas upstream of Mesquite, Nevada (capture sites from upstream to downstream: 1,379 in Lower Gorge, 433 at Mouth of the Gorge, 652 at Beaver Dam Wash, 336 in the Experimental reach, and 23 individuals Below Bunkerville Diversion; only 1 individual was captured at Riverside). The August 2012 survey captured 27 desert suckers, all of which were in the Experimental reach (B. Wooldridge, USFWS, email to K. Gade, ADOT, October 9, 2012). Relative to the project area, the closest current records for desert sucker are from the June 2012 surveys in the Beaver Dam Wash segment of the Virgin River. It is assumed that the desert sucker occurs throughout the project area.

Habitat Evaluation and Suitability

Desert suckers are known to occur in the Virgin River in western Nevada, Arizona, and into southern Utah (Minckley and Marsh 2009; AGFD 2014b). The HDMS search indicated that desert suckers were reported within 3 miles of the project limits (AGFD 2014b), and formal surveys in 2012 found the species within the Beaver Dam Wash reach of the Virgin River, which includes the project area. Within the project area, the Virgin River is perennial, aided by flows from Beaver Dam Wash. Rainfall, snowmelt, and effluent released upstream provide additional sources of water. Desert suckers are highly likely to be present in the project area.

The Analysis and Determination of Effects section for the desert sucker, flannelmouth sucker, and speckled dace follows the general information for the speckled dace.

Flannelmouth Sucker (*Catostomus latipinnis*)

Life History

The flannelmouth sucker is most common in moderately large to large rivers that include the Virgin River, the mainstream Colorado and its tributaries in Grand-Marble Canyon upstream from Lake Mead, the San Juan River in New Mexico and Colorado, and the Green and Colorado Rivers upstream of Lake Powell (Minckley and Marsh 2009). Moreover, this species is characteristic of large, strongly flowing rivers, but it does poorly in reservoirs. The species occurs at elevations that range from 1,540 to 3,160 feet amsl. In turbid water, flannelmouth suckers occupy runs, strongly flowing reaches, and sometimes riffles or rapids, whereas in clear water, they stay near obstructions or debris or in deeper eddies and locations along banks during the day; at night they move to shallows to feed (AGFD 2001f; Minckley and Marsh 2009).

Spawning occurs from April through early June at the upstream end of shallow cobble bars, gravel-cobble substrates in riffles and along the margins of rapids, and in low gradient mouths of tributaries. The larvae and young fish remain in and near tributary mouths to feed and grow, often using shallows and slow-flowing nearshore areas. The larvae primarily feed on Chironomid larvae (midges), cladocerans, copepods, and inorganic material. The juveniles have a similar diet that also includes ostracods and vascular plants, while the diet of adults includes freshwater shrimp (*Gammarus lacustris*), immature dipterans and other macroinvertebrates, filamentous algae, and debris and detritus (AGFD 2001f; Minckley and Marsh 2009).

The flannelmouth sucker is listed as a BLM sensitive species and has been reported to AGFD to occur within 3 miles of the project limits (AGFD 2014b). The geographic range of flannelmouth sucker has decreased substantially from historic times. The most common threats to this species include altering the hydrologic and thermal regime of river habitats, predation by and competition with introduced species, and genetic isolation of populations (AGFD 2001f).

Survey History

Several formal surveys have been conducted for flannelmouth suckers near the project area. Surveys were conducted near the CR 91 Beaver Dam Wash bridge (about 1 mile northwest of Bridge No. 1) during August 2010 as part of a program to monitor impacts of construction activities to endangered species of fish. No flannelmouth suckers were captured during this effort (Liebfried 2011). Long-term monitoring of native fish (from 1996 to 2012) has also occurred from near the project area in the lower Virgin River Gorge downstream into Nevada (Golden and Holden 2004; referenced in Kegeries and Albrecht 2012). Results from more recent surveys (2009 to 2012) indicate that flannelmouth suckers were present at most sampling sites during each sampling period (Kegeries and Albrecht 2012).

The most recent surveys, in June and August 2012, sampled several reaches of the Virgin River from the Lower Gorge to Halfway Wash in Nevada. The June 2012 survey captured a total of 5,674 flannelmouth suckers, mostly in areas upstream of Mesquite, Nevada in the Virgin River (capture sites from upstream to downstream: 2,955 in Lower Gorge, 479 at Mouth of the Gorge, 1,165 at Beaver Dam Wash, 781 in the Experimental reach, 271 Below Bunkerville Diversion, 1 individual in the Nevada Department of Wildlife Burn site, and 22 individuals in the Riverside reach). The August 2012 survey captured a total of 568 flannelmouth suckers (527 in Experimental, 18 Below Bunkerville Diversion, and 23 at Mesquite) (B. Wooldridge, USFWS, email to K. Gade, ADOT, October 9, 2012). Relative to the project area, the closest current records for flannelmouth sucker are from the June 2012 surveys in the Beaver Dam Wash reach of the Virgin River.

Habitat Evaluation and Suitability

Flannelmouth suckers are known to occur in the Virgin River in western Nevada, Arizona, and into southern Utah (Minckley and Marsh 2009; AGFD 2014b). The HDMS search indicated that desert suckers occur within 3 miles of the project limits (AGFD 2014b), and formal surveys in 2012 found the species within the Beaver Dam Wash reach of the Virgin River, which includes the project area. Within the project area, the Virgin River is perennial, aided by flows from Beaver Dam Wash. Rainfall, snowmelt, and effluent released upstream provide additional sources of water. Flannelmouth suckers are highly likely to be present in the project area.

The Analysis and Determination of Effects section for the desert sucker, flannelmouth sucker, and speckled dace follows the general information for the speckled dace.

Speckled Dace (*Rhinichthys osculus*)

Life History

The speckled dace is one of the most widespread and common native fish in the western United States as it occurs in all major drainages and also in most internal basins that are known to support fish (Minckley and Marsh 2009). Speckled dace are most common in shallow water (less than two feet deep), where they often congregate in pools below riffles and eddies. Within Arizona, speckled dace occur at elevations that range from about 1,550 to 8,920 feet amsl (AGFD 2002e). The species occurs throughout the Virgin River, including the project area (Minckley and Marsh 2009; AGFD 2014b), where it is typically the most common native fish species (Kegeries and Albrecht 2012). Speckled dace have a proclivity to invade tiny headwater streams, as well as to disperse throughout and thrive in desert rivers, which has resulted in their occurring in most springs and streams (Minckley and Marsh 2009).

Breeding occurs in spring and late summer. Reproductive behavior is poorly known, but individuals apparently spawn over coarse substrate using the broadcast spawn method. Speckled dace are mostly omnivorous, as they have been recorded to take aquatic insects, algae, detritus, and occasional terrestrial invertebrates. However, in the Virgin River, plant material was virtually absent from their diet, such that individuals were more insectivorous, with dipteran (fly) larvae comprising the bulk of the diet (Minckley and Marsh 2009).

The speckled dace is listed as a BLM sensitive species that has been reported to AGFD to occur within 3 miles of the project limits (AGFD 2014b). Speckled dace are generally common throughout their range. There are few threats to the species other than that they do poorly in the presence of non-native predatory fish. The BMP for this species is to promote land use practices that maintain natural aquatic habitats (AGFD 2002e).

Survey History

Several formal surveys have been conducted for speckled dace downstream of the project area. Surveys were conducted near the CR 91 Beaver Dam Wash bridge (about 1 mile northwest of Bridge No. 1) during August 2010 as part of a program to monitor impacts of construction activities to endangered species of fish. Speckled dace was the most common native fish species captured during this effort (Liebfried 2011). Long-term monitoring of native fish (1996 to 2012) has also occurred from near the project area in the lower Virgin River Gorge downstream into Nevada (Golden and Holden, 2004; referenced in Kegeries and Albrecht 2012). Results from more recent surveys (2009 to 2012) indicate that speckled dace were present, and were the most common native fish species at most sampling sites during each sampling period (Kegeries and Albrecht 2012).

The most recent surveys, in June and August 2012, sampled several reaches of the Virgin River from the Lower Gorge to Halfway Wash in Nevada. The June 2012 survey captured 360 speckled dace, mostly in areas upstream of Mesquite, Nevada in the Virgin River (capture sites from upstream to downstream: 6 in Lower Gorge, 137 at Mouth of the Gorge, 192 at Beaver Dam Wash, 24 in the Experimental reach, and 1 individual Below Bunkerville Diversion). The August 2012 survey captured a total of 19 speckled dace (18 in the Experimental reach and 1 individual Below Bunkerville Diversion) (B. Wooldridge, USFWS, email to K. Gade, ADOT, October 9, 2012). Relative to the project area, the closest current records for speckled dace are from the June 2012 surveys in the Beaver Dam Wash reach of the Virgin River.

Habitat Evaluation and Suitability

Speckled dace are known to occur in the Virgin River in western Nevada, Arizona, and into southern Utah (Minckley and Marsh 2009; AGFD 2014b). The HDMS search indicated that speckled dace occur within 3 miles of the project limits (AGFD 2014b), and formal surveys in 2012 found the species within the Beaver Dam Wash segment of the Virgin River, which includes the project area. Within the project area, the Virgin River is perennial, aided by flows from Beaver Dam Wash. Rainfall, snowmelt, and effluent released upstream provide additional sources of water. Speckled dace are highly likely to be present in the project area.

Analysis and Determination of Effects for Desert Sucker, Flannelmouth Sucker, and Speckled Dace

Direct effects: Desert sucker, flannelmouth sucker, and speckled dace are known to occur within 3 miles of the project limits (AGFD 2014b), and they are assumed to be present in the project area. While the geotechnical investigation would not directly affect any of the three species, several project construction activities would involve work within the low-flow channel and the 100-year floodplain that could directly affect the desert sucker, flannelmouth sucker, and speckled dace, which are assumed to be present within the project area. These activities are discussed in detail in the project description, along with conservation measures built into the construction of the project that would be used to minimize potential impacts. Specific measures which would minimize potential direct impacts to desert sucker, flannelmouth sucker, and speckled dace include: (1) building a temporary bridge across the channel so that vehicles and equipment do not enter the channel, (2) seining and relocating native fish prior to in-stream activities, and (3) containment measures to minimize debris from inadvertently falling into the river. No culverts would be used in the low-flow channel of the Virgin River during the project, and the flow of the channel would be maintained throughout the duration of the project.

Mitigation measures would require native fish species to be removed from the work area prior to any in-water work activities. All fish exclusion activities would be performed under the direction of a biologist holding a permit and would be relocated per a fish exclusion plan developed in coordination with USFWS and AGFD. Containment measures would be used to minimize debris from inadvertently falling into the river. Consequently, no direct impacts are anticipated as a result of debris falling into the water.

These mitigation measures would minimize direct impacts to the desert sucker, flannelmouth sucker, and speckled dace, but it is anticipated that low levels of harm or mortality would occur. Desert sucker, flannelmouth sucker, and speckled dace are likely to be common in the project area, and several individuals could be impacted during these project activities; however, these impacts are expected to be minor due to their ability to swim away from disturbance, and the low probability of direct impact to any one individual.

Indirect effects: The geotechnical investigation, construction activities and conservation measures described above could have indirect effects to the desert sucker, flannelmouth sucker, and speckled dace. The indirect effects include: (1) erosion and scouring that would increase sediment discharge into the river as a result of project activities and loss of riparian vegetation; (2) potential changes to the stream flow and associated hydrologic processes; (3) debris falling inadvertently into the river and being carried downstream; and (4) potential spills of oil, fuel, and other materials into the river.

The potential for increased erosion would be minimized by using BMPs that would include: (1) constructing a temporary sediment basin or filter to reduce sediment entering the water, (2) installing sediment fences between areas of disturbance and all flowing waters, and (3) regular inspection of sediment fences to maintain proper function. With these BMPs, increased erosion would be a minor, temporary impact that would cease following completion of the project. In-stream construction would occur only during a small portion of this time period, and riparian vegetation would re-establish following completion of the project.

If cofferdams are used, they would extend up to 20 feet into the low-flow channel, such that the flow of water through that localized area would increase, as would the amount of scouring and downstream sedimentation. Cofferdams would be a temporary, indirect impact as they would be removed after about three months. The increased sedimentation arising from loss of riparian vegetation and in-stream activities, including the cofferdams, would temporarily increase turbidity to the Virgin River in and around the project area. This would cause indirect impacts to desert sucker, flannelmouth sucker, or speckled dace habitat; these impacts would be considered minor and negligible as they would be temporary and much lower than a large storm event Consequently, the localized, temporary increase in turbidity caused by this project (arising from areas both outside of and from within the stream channel) are anticipated to result in minor indirect impacts to desert sucker, flannelmouth sucker, or speckled dace.

Additional indirect impacts could include construction of a temporary bridge in the floodplain to sit above the river channel and maintain typical flows. Fill, such as rip-rap, would likely be placed on both sides of the low-flow channel as part of the temporary abutments and the abutments would likely require drilled shafts up to 20 feet deep to remain stable. As part of the BMPs, this fill would be contained to minimize debris from entering the river during high flows. Due to the width of the low-flow channel at Bridge No. 1, up to two temporary piers may be required to be constructed within the low-flow channel. These temporary piers within the low-flow channel would be sufficiently reinforced so as to prevent the temporary bridge from washing out during a high-flow event, resulting in debris entering the river. Placement of these structures could also result in localized changes to the streamflow as construction activities could occur within the low-flow channel. The river would still flow adjacent to and east of Pier 3 and through the low-flow channel. Because of the localized nature of the project, these structures are not anticipated to change the hydrologic regime or flood events in or near the project area. Thus, indirect effects resulting from placement of these structures are anticipated to be minor.

As required by the CWA Section 401 permit, the project would also implement a vehicle fluid-leakage and spill plan to prevent water contamination by vehicles. The plan shall include provisions for immediate clean-up of any substance, and would define how each substance would be treated in case of leakage or spill. Spilled materials are not anticipated to cause harm to desert sucker, flannelmouth sucker, or speckled dace individuals.

Chemical or natural fertilizers may be used during the landscape reestablishment period that could enter the Virgin River via runoff and affect the water quality. The type of fertilizer would not be known until development of the comprehensive re-vegetation plan occurs during final

design. However, the potential for runoff would be controlled by BMPs and SWPPP measures that would remain in place during the landscape reestablishment period.

It is anticipated that the above mentioned measures would minimize indirect impacts to the desert sucker, flannelmouth sucker, and speckled dace, but low levels of indirect impacts would be anticipated as a result of this project. Indirect impacts to desert sucker, flannelmouth sucker, and speckled dace are possible even with these mitigation measures.

Interrelated and Interdependent Actions: No interrelated or interdependent actions with this project are anticipated.

Cumulative Effects: Cumulative effects include the effects of future non-federal actions (i.e., state, local, or private actions) that are reasonably certain to occur in the project area. Future federal actions are subject to the consultation requirements established under Section 7 of the ESA and, therefore, are not considered cumulative in the proposed action. Some activities on private or state lands may require federal permits, e.g., a CWA Section 404 permit, and thus will be subject to Section 7 consultation. Several other projects are planned along the Virgin River corridor of I-15 in Arizona, but none of these projects are scheduled at this time. All of these projects are likely to have a federal nexus and, therefore, are not considered to contribute to cumulative impacts with respect to this project. Some minor residential development on private lands in the project area is possible. No commercial development in the project area is anticipated. Overall, no cumulative effects on desert sucker, flannelmouth sucker, or speckled dace are anticipated.

Determination: This project may result in direct and indirect effects to the desert sucker, flannelmouth sucker, and speckled dace. Therefore, this project may impact individual desert sucker, flannelmouth sucker, and speckled dace, but is not likely to result in a trend toward federal listing or loss of viability.

Golden Eagle (*Aquila chrysaetos*)

Life History

The golden eagle consists of several subspecies, but only one of these, *A. chrysaetos canadensis*, occurs in North America. This subspecies occurs throughout contiguous North America from Canada south to central Mexico. Golden eagles occur throughout Arizona, where they are usually found most commonly in mountainous areas. Golden eagles usually avoid urban areas (AGFD 2002f; USFWS 2011b).

In most western states, the territories of golden eagles range from about 22 to 55 square miles, depending on topography and prey availability. Nests, which are constructed from sticks and other soft material, are usually placed on cliffs or in large trees that afford an unobstructed view of their surroundings. In the southwest, one to three eggs (usually two) are laid from about late February to March. Incubation lasts 40 to 45 days, and juveniles can fly after two months. Breeding begins at 4 to 5 years of age, and pairs are often monogamous for life. Golden eagles are aerial predators that eat various vertebrates, including reptiles, birds, and small to medium-sized mammals; insects and carrion are also eaten occasionally (AGFD 2002f; USFWS 2011b).

The number of golden eagles appears to be stable throughout most of the United States, with the exception of a possible decline in the number of juveniles in the southern Rockies. Populations are thought to undergo a roughly ten-year cycle (USFWS 2011b). The golden eagle is protected by the MBTA and Bald and Golden Eagle Protection Act (BGA), as well as being a BLM sensitive species, with identified threats including habitat alteration and conversion, power-line electrocution, and poisons intended for other species. They are also very sensitive to human

disturbance during nesting (AGFD 2002f). The HDMS search indicated that golden eagles are not known to occur within 3 miles of the project limits (AGFD 2014b).

Survey History

The BLM and AGFD monitor habitat use and nesting activities by golden eagles in the Virgin River Gorge area. The nearest golden eagle nest is at least 3.5 miles away from the project area (S. Langston, BLM, pers. comm. to T. McCarthey, ACS, August 29, 2014). Additionally, no golden eagles or large stick nests were observed in surrounding areas during the June 11 and 12, 2014 site visit.

Habitat Evaluation and Suitability

Habitat within the project area consists of bluffs potentially suitable for nesting and open desertscrub habitat suitable for foraging. The project area was searched for signs of nesting golden eagles during the June 11 and 12, 2014 site visit and none were found. Higher elevation areas in the adjacent mountains could also provide suitable nesting habitat.

Analysis and Determination of Effects

Direct Effects: Golden eagles are not known to currently occur within 3.5 miles from the project limits (S. Langston, BLM, pers. comm. to T. McCarthey, ACS, August 29, 2014). The project area would only be used as foraging habitat by golden eagles. No activities of the proposed project would directly affect foraging by golden eagles. Therefore, no direct impacts to golden eagles are anticipated.

Indirect Effects: This proposed project would involve a geotechnical investigation, construction on Bridge No. 1 and modifications to the approach segments. The project area would only potentially be used as foraging habitat by golden eagles. Foraging by golden eagles is not associated with water, but rather involves hunting terrestrial animals in open country. Project activities would be localized along the Virgin River such that they would not affect foraging by golden eagles. Consequently, project activities would not affect baseline conditions for golden eagles that could occur in the project area. Therefore, it is unlikely that indirect effects such as habitat degradation or temporary loss of habitat would result from this project. No indirect impacts to golden eagles are anticipated.

Interrelated and Interdependent Actions: No interrelated or interdependent actions with this project are anticipated.

Cumulative Effects: Cumulative effects include the effects of future non-federal actions (i.e., state, local, or private actions) that are reasonably certain to occur in the project area. Future federal actions are subject to the consultation requirements established under Section 7 of the ESA and, therefore, are not considered cumulative in the proposed action. Some activities on private or state lands may require federal permits, e.g., a CWA Section 404 permit, and thus will be subject to Section 7 consultation. Several other projects are planned along the Virgin River corridor of I-15 in Arizona, but none of these projects are scheduled at this time. All of these projects are likely to have a federal nexus and, therefore, are not considered to contribute to cumulative impacts with respect to this project. Some minor residential development on private lands in the project area is possible. No commercial development in the project area is anticipated. Overall, no cumulative effects on golden eagles are anticipated.

Determination: No direct or indirect effects or cumulative effects are anticipated as result of this project. Therefore, the project would have no impact on the golden eagle.

Silverleaf Sunray (*Enceliopsis argophylla*)

Life History

The silverleaf sunray has a restricted distribution in southern Nevada, southwestern Utah, and northwestern Arizona, including near the Virgin River in the Virgin River Gorge. This plant species occurs in various habitats that include dry slopes, gravelly slopes, sandy washes, and clay and gypsum cliffs at elevations that range from 705 to 3,400 feet amsl. Little is known about the biology of this species other than that flowering occurs from April to June (AGFD 2005). Common associates of silverleaf sunray include saltbush, creosotebush, Chuckwalla's delight, and Mormon tea. The silverleaf sunray is listed as a BLM sensitive species, and the HDMS search indicated that this species is known to occur east of Littlefield, Arizona (AGFD 2005). In Nevada, the silverleaf sunray is threatened by recreational use of state and national lands (AGFD 2005).

Survey History

No formal surveys for silverleaf sunrays are known to have been conducted in or near the project area.

Habitat Evaluation and Suitability

The project area provides potential habitat for the silverleaf sunray given that the area consists of gravelly slopes with Mojave desertscrub vegetation. However, no individuals of silverleaf sunray were observed in the project area during site visits on June 11 and 12, 2014.

Analysis and Determination of Effects

Direct Effects: The HDMS search indicated that silverleaf sunrays are not known to occur within 3 miles of the project limits (AGFD 2014b), and no individuals were observed in the project area during the site visits in 2012 or 2014. Surveys would be conducted in upland desertscrub areas prior to either the geotechnical investigation or project construction. Mitigation measures would be put in place to avoid silverleaf sunray individuals identified within the project limits. Therefore, no direct impacts to silverleaf sunrays are anticipated.

Indirect Effects: This project would result in disturbance of up to approximately 15 acres of upland desertscrub habitat during both the geotechnical investigation and project construction, use of staging areas, and a specified route for vehicles to access the work area. Activities in these areas would result in soil disturbance that could change baseline conditions for potential colonization of the project limits by the silverleaf sunray. This project could have indirect effects to the silverleaf sunray.

Interrelated and Interdependent Actions: No interrelated or interdependent actions with this project are anticipated.

Cumulative Effects: Cumulative effects include the effects of future non-federal actions (i.e., state, local, or private actions) that are reasonably certain to occur in the project area. Future federal actions are subject to the consultation requirements established under Section 7 of the ESA and, therefore, are not considered cumulative in the proposed action. Some activities on private or state lands may require federal permits, e.g., a CWA Section 404 permit, and thus will be subject to Section 7 consultation. Several other projects are planned along the Virgin River corridor of I-15 in Arizona, but none of these projects are scheduled at this time. All of these projects are likely to have a federal nexus and, therefore, are not considered to contribute to cumulative impacts with respect to this project. Some minor residential development on private lands in the project area is possible. No commercial development in the project area is anticipated. Overall, no cumulative effects on silverleaf sunrays are anticipated.

Determination: This project may have direct or indirect effects to the silverleaf sunray. However, preconstruction surveys for this species would minimize the potential for impacts. Therefore, this project may impact individuals of silverleaf sunray, but is not likely to result in a trend toward federal listing or loss of viability.

Spotted Bat (*Euderma maculatum*)

Life History

The spotted bat has a distribution that ranges from southern British Columbia and Montana south through California and Big Bend, Texas to Durango and Queretaro, Mexico. The geographic distribution within Arizona is scattered throughout the western section of the state, ranging from the north to the south, with records of additional populations identified aurally in eastern Arizona. Spotted bats occur between 110 to 8,670 feet amsl. The bat's habitat varies, but individuals in Arizona have mostly been located in dry rough desertscrub, with a few located in ponderosa pine forest. Habitat for the spotted bat ranges from low desert in southwestern Arizona to high desert and riparian habitats in northwestern Arizona and Utah. Individuals are also known from conifer forests in northern Arizona and other western states (AGFD 2003a).

Spotted bats are nocturnal and roosting is believed to occur singly in crevices and cracks in cliff faces. They are not known to roost underneath bridges. Cliffs and water seem to be important characteristics of the species' habitat. Spotted bats are possibly elevational migrants. Currently, very little information exists on the reproduction of the species, but young are thought to be born from late May to early July. Females are believed to give birth to one young per year (AGFD 2003a).

Spotted bats will fly up to 6 miles from their roost to forage for insects, including moths, June beetles, and grasshoppers (AGFD 2003a).

Survey History

No known formal surveys have been conducted for spotted bats in or near the project area. However, the BLM has one record of this species in the project area approximately 0.80 mile west of Bridge No. 1 (S. Langston, BLM, pers. comm. to T. McCarthey, ACS, September 30, 2014).

Habitat Evaluation and Suitability

Cliffs are present in the project area west along the Virgin River both north and south of Bridge No. 1 (Figure 3–Project Limits). In addition, cliffs are present in the project vicinity within the nearby Virgin River Gorge that could provide adequate roosting habitat. The prominent bat roosting habitat within the project limits, underneath Bridge No. 1, is not expected to be used by the spotted bat as this species is not known to utilize bridges for roosting. The riparian and upland desertscrub areas found within the project limits could be used for nocturnal foraging. Spotted bats are known to occur in the project area approximately 0.80 mile west of Bridge No. 1 within Mojave desertscrub habitat (S. Langston, BLM, pers. comm. to T. McCarthey, ACS, September 30, 2014). No bats were observed roosting under Bridge No. 1 during the June 11 and 12, 2014 daytime field reconnaissance.

Analysis and Determination of Effects

Direct Effects: Spotted bats are known to occur in the project area (S. Langston, BLM, pers. comm. to T. McCarthey, ACS, August 29, 2014). Construction activity could have direct effects on individuals of this species if they were roosting under the bridge. However, no evidence of roosting bats was observed under the bridge during daytime field reconnaissance on June 11 and

12, 2014, and a preconstruction survey for bats using the bridge would be conducted. Additionally, spotted bats are not expected to occur under the bridge in the future because this species rarely roosts under bridges and because of the high availability of suitable roosting habitat in adjacent areas. This species is known to utilize habitat such as that found within the project limits for nocturnal foraging; however, no nighttime work is anticipated for this project except for the temporary setting of girders. Bats in the area may avoid foraging near the construction activity; however, there is abundant alternative foraging habitat along the river corridor for individuals to use during this project activity. No direct impacts to spotted bats are anticipated.

Indirect Effects: This proposed project would involve a geotechnical investigation, construction on Bridge No. 1, and modifications to the approach segments, with an access route directly adjacent to cliffs along the west side of the Virgin River. Noise and vibrations from construction equipment travelling on this access route at the base of the cliffs could have an indirect effect by disturbing spotted bats potentially roosting within those cliffs. If disturbed by noise and vibrations, roosting bats could abandon their roosting site. However, high traffic volumes on the I-15 corridor at the top of the cliffs create baseline noise and vibration levels that are considered elevated. No blasting would occur on this project, which would cause a substantial increase in noise and vibration compared to the background levels due to traffic. Minor increases in noise and vibration levels from the access route is not expected to increase the noise or vibration levels substantially from the baseline conditions, and is thus not likely to disturb any roosting bats. Such disruptions would be temporary and conditions would return to preconstruction conditions at the completion of the project.

Vegetation would be removed for both the geotechnical investigation and project construction in areas that could provide nocturnal foraging for the spotted bat. The vegetation disturbed by the project could result in a potential loss in insects; this impact would be considered (1) minor, due to the amount of intact vegetation supporting insect populations in the project area, and (2) temporary, as the vegetation is expected to regrow after project completion. Therefore, indirect effects to spotted bats could occur, but would be temporary and minor.

Interrelated and Interdependent Actions: No interrelated or interdependent actions with this project are anticipated.

Cumulative Effects: Cumulative effects include the effects of future non-federal actions (i.e., state, local, or private actions) that are reasonably certain to occur in the project area. Future federal actions are subject to the consultation requirements established under Section 7 of the ESA and, therefore, are not considered cumulative in the proposed action. Some activities on private or state lands may require federal permits, e.g., a CWA Section 404 permit, and thus will be subject to Section 7 consultation. Several other projects are planned along the Virgin River corridor of I-15 in Arizona, but none of these projects are scheduled at this time. All of these projects are likely to have a federal nexus and therefore are not considered to contribute to cumulative impacts with respect to this project. Some minor residential development on private lands in the project area is possible. No commercial development in the project area is anticipated. Overall, no cumulative effects on spotted bats are anticipated.

Determination: No direct or cumulative effects are anticipated as result of this project. This project may have temporary indirect effects to the spotted bat. Therefore, this project may impact individuals of the spotted bat, but is not likely to result in a trend toward federal listing or loss of viability.

Townsend's Big-eared Bat (*Corynorhinus townsendii*)

Life History

The Townsend's big-eared bat has a widespread distribution that includes northern Mexico, and southern California east to the Edwards Plateau of Texas, with additional populations in South Dakota, Kansas, and Oklahoma. This species occurs throughout Arizona at elevations that range from 550 to 7,520 feet amsl in habitats that include: desertscrub, oak woodland, oak-pine, pinyon-juniper, and coniferous forests (AGFD 2003b). They are known to forage in cottonwood riparian gallery forests (BLM 2009).

Individuals spend days mostly in caves or mine tunnels, but they often rest in abandoned buildings at night. They have also been known to use bridge structures for roosting; they have been found roosting in the open between bridge beams, preferring sheltered parts of the bridge darkened by thick vegetation bordering the sides (Keeley and Tuttle 1999). These bats typically hang from open ceilings and do not use cracks or crevices. During winter, individuals hibernate in cold caves, lava tubes, and mines. Summer colonies can contain up to 100 individuals, while this number is much lower for the same colony in winter (Hoffmeister 1986). Pregnant females congregate in nursery or maternity colonies during the summer, with males typically remaining separate. Females are pregnant in April and likely give birth in June; the young are usually flying within six to eight weeks (AGFD 2003b).

Townsend's big-eared bats are insectivorous, with small moths comprising the bulk of their diet; other insects, such as beetles, flies, and bees, are also eaten occasionally. Individuals typically forage up to four to five miles from their roost.

The numbers of Townsend's big-eared bats are thought to be declining, primarily due to loss of cave and mine habitat. Human disturbance and vandalism at maternity and hibernating sites also pose a threat to this species. The Townsend's big-eared bat is listed as a BLM sensitive species.

Survey History

No known formal surveys have been conducted for Townsend's big-eared bats in or near the project area. However, BLM has a record of this species in the project area approximately 0.40 mile northwest of Bridge No. 1 (S. Langston, BLM, pers. comm. to T. McCarthey, ACS, September 30, 2014).

Habitat Evaluation and Suitability

Cave and mine habitat is likely present in the general project vicinity, but not within the project limits. Bridge No. 1, present within the project limits, could provide roosting habitat for the Townsend's big-eared bat. The cottonwood riparian and upland desertscrub areas found within the project limits could be used as nocturnal foraging. Individuals are likely to occur in the project area during summer, but they are probably absent during winter given that winter populations are only known from areas south of the Grand Canyon (Hoffmeister 1986). Townsend's big-eared bats are known to occur in the project area approximately 0.40 mile northwest of Bridge No. 1 near the confluence of Beaver Dam Wash with the Virgin River, near mature trees and standing water (S. Langston, BLM, pers. comm. to T. McCarthey, ACS, September 30, 2014). No bats were observed roosting under Bridge No. 1 during the June 11 and 12, 2014 daytime field reconnaissance.

Analysis and Determination of Effects

Direct Effects: Townsend's big-eared bats are likely to occur in the project vicinity (S. Langston, BLM, pers. comm. to B. Johnson, Jacobs, September 14, 2012). Construction activity could have direct effects on individuals of this species if they were day-roosting under the bridge. However,

no evidence of roosting bats was observed under the bridge during daytime field reconnaissance on June 11 and 12, 2014; a preconstruction survey for bats roosting underneath the bridge would be conducted prior to construction. Nighttime roosting under the bridge is possible, but project activities are not expected to disturb nocturnal bat activities except for the temporary setting of girders. Preconstruction surveys would identify any bats using the bridge for roosting. Appropriate mitigation measures, including preconstruction surveys to identify any bats using the bridge for roosting, would be implemented to avoid impacts to these individuals (see Appendix C). Direct impacts to Townsend's big-eared bats are, therefore, possible, but not anticipated.

Indirect Effects: This proposed project would involve a geotechnical investigation, construction on Bridge No. 1, and modifications to the approach segments. These activities would not affect optimal roosting habitat for the Townsend's big-eared bat as no caves or mines are available within the project limits. Bridge roosting habitat, which is used less-commonly by this species, would be temporarily unavailable for the duration of the project. The effects on the Townsend's big-eared bat from this removal of roosting habitat is expected to be (1) minor, as preferred roosting habitat is available in the project vicinity, and (2) temporary, as the bridge will be available again as undisturbed roosting habitat upon completion of the project. Vegetation, including cottonwood trees, would be removed during the geotechnical investigation and/or project construction in areas that provide nocturnal foraging for this species. The vegetation disturbed by the project could result in a potential loss of insects; this impact would be (1) minor due to the amount of intact vegetation (including a large cottonwood gallery north of the project limits and along the Virgin River shoreline south of the project limits) supporting insect populations in the project area, and (2) temporary, as the vegetation is expected to regrow after project completion. Therefore, indirect effects to Townsend's big-eared bats are anticipated to be temporary and minor.

Interrelated and Interdependent Actions: No interrelated or interdependent actions with this project are anticipated.

Cumulative Effects: Cumulative effects include the effects of future non-federal actions (i.e., state, local, or private actions) that are reasonably certain to occur in the project area. Future federal actions are subject to the consultation requirements established under Section 7 of the ESA and, therefore, are not considered cumulative in the proposed action. Some activities on private or state lands may require federal permits, e.g., a CWA Section 404 permit, and thus will be subject to Section 7 consultation. Several other projects are planned along the Virgin River corridor of I-15 in Arizona, but none of these projects are scheduled at this time. All of these projects are likely to have a federal nexus and therefore are not considered to contribute to cumulative impacts with respect to this project. Some minor residential development on private lands in the project area is possible. No commercial development in the project area is anticipated. Overall, no cumulative effects on Townsend's big-eared bats are anticipated.

Determination: No cumulative effects are anticipated as result of this project. This project may have direct or temporary indirect effects to the Townsend's big-eared bat. Therefore, this project may impact individuals of the California leaf-nosed bat, but it is not likely to result in a trend toward federal listing or loss of viability.

7. MITIGATION MEASURES

Ground Disturbing Geotechnical Activities

Environmental Awareness

- ADOT will arrange for preconstruction environmental awareness training for all ADOT and contractor personnel working at the site. The training will include information on wetlands, Virgin River chub, woundfin, Virgin spinedace, southwestern willow flycatcher, Yuma clapper rail, yellow-billed cuckoo, California condor, and Mojave desert tortoise.

Mojave Desert Tortoise

- All individuals who will be working on the Interstate 15 Virgin River Bridge No. 1 project will receive environmental awareness training which will include information on the Mojave desert tortoise.
- Prior to initial ground disturbing, construction or geotechnical activities, a biologist holding the proper handling permits from the USFWS shall conduct a survey for the presence of Mojave desert tortoises or active tortoise burrows.
- Construction staging areas shall be fenced in accordance with USFWS desert tortoise exclusionary fencing protocols. The fencing will be inspected and maintained daily.
- If any Mojave desert tortoises are encountered during construction or geotechnical activities, established protocols will be followed to ensure the animal is not touched, harassed or moved. The desert tortoise will be allowed to leave the area on its own or an on-call biologist holding the proper USFWS permits will be called to assess the situation.
- Temporary access routes created during project construction will be modified as necessary to prevent further use. Closure of access routes can be achieved by ripping, barricading, posting the route as closed, and/or seeding and planting with native plants.
- After completion of the project, trenches, pits, and other features in which tortoises can be entrapped or entangled, will be filled in, covered, or otherwise modified so they are no longer a hazard to desert tortoises.
- After project completion, measures will be taken to facilitate restoration. Restoration techniques will be tailored to the characteristics of the site and the nature of project impacts. Techniques may include removal of equipment and debris, recontouring; and seeding, planting, transplanting of cacti and yuccas, etc. Only native plant species, preferably from a source on or near the project area, will be used in restoration.

California Condor

- All individuals who will be working on the Interstate 15 Virgin River Bridge No. 1 project will receive environmental awareness training which will include information on the California condor.
- Work areas will be kept clean and no trash will be stored onsite.

Silverleaf Sunray (BLM Sensitive Species)

- Prior to initial ground disturbing, construction or geotechnical activities, a biologist shall conduct a survey for the presence of silverleaf sunray plants.

- Any silverleaf sunray plants identified in the preconstruction survey will be fenced off and avoided throughout the project duration.

Virgin River Chub and Woundfin

- ADOT will coordinate with USFWS and AGFD to develop a fish and native amphibian exclusion protocol and relocation plan for Virgin River chub and woundfin prior to completion of the Biological Opinion.
- Listed fish species and native frogs will be removed from the work area prior to any in-water work activities. Fish exclusion activities will be performed under the direction of a biologist holding a permit for recovery of Virgin River chub and woundfin and will be relocated per the plan developed in coordination with USFWS and AGFD.
- No work will be allowed in flowing surface water unless fish exclusion measures are being implemented.
- All concrete will be poured in dry conditions or within confined waters not being dewatered into surface waters of the Virgin River. Concrete will be allowed to cure for at least 24 hours before contact with surface water of the Virgin River is allowed.
- The contractor will stop work immediately and inform the Engineer if surface flows enter the in-water work area at any time following the initial isolation or diversion activities. The Engineer will arrange for fish and native frog exclusion and relocation per the USFWS-approved plan before allowing work to commence again.

All Work throughout the Project

Environmental Awareness

- ADOT will arrange for preconstruction environmental awareness training for all ADOT and contractor personnel working at the site. The training will include information on wetlands, Virgin River chub, woundfin, Virgin spinedace, southwestern willow flycatcher, Yuma clapper rail, yellow-billed cuckoo, California condor, and Mojave desert tortoise.

Water Withdrawal

- Water will not be withdrawn from the Virgin River for construction purposes.

Migratory Birds and Bats

- No vegetation clearing will occur during the migratory bird breeding season (March 1–August 31). During the non-breeding season (September 1–February 28) vegetation removal is not subject to this restriction.

Mojave Desert Tortoise

- All individuals who will be working on the Interstate 15 Virgin River Bridge No. 1 project will receive environmental awareness training which will include information on the Mojave desert tortoise.
- Prior to initial ground disturbing, construction or geotechnical activities, a biologist holding the proper handling permits from the USFWS shall conduct a survey for the presence of Mojave desert tortoises or active tortoise burrows.
- Construction staging areas shall be fenced in accordance with USFWS desert tortoise exclusionary fencing protocols. The fencing will be inspected and maintained daily.

- If any Mojave desert tortoises are encountered during construction or geotechnical activities, established protocols will be followed to ensure the animal is not touched, harassed or moved. The desert tortoise will be allowed to leave the area on its own or an on-call biologist holding the proper USFWS permits will be called to assess the situation.
- Temporary access routes created during project construction will be modified as necessary to prevent further use. Closure of access routes can be achieved by ripping, barricading, posting the route as closed, and/or seeding and planting with native plants.
- After completion of the project, trenches, pits, and other features in which tortoises can be entrapped or entangled, will be filled in, covered, or otherwise modified so they are no longer a hazard to desert tortoises.
- After project completion, measures will be taken to facilitate restoration. Restoration techniques will be tailored to the characteristics of the site and the nature of project impacts. Techniques may include removal of equipment and debris, recontouring; and seeding, planting, transplanting of cacti and yuccas, etc. Only native plant species, preferably from a source on or near the project area, will be used in restoration.

Virgin River Chub and Woundfin

- ADOT will coordinate with USFWS and AGFD to develop a fish and native amphibian exclusion protocol and relocation plan for Virgin River chub and woundfin prior to completion of the Biological Opinion.
- Listed fish species and native frogs will be removed from the work area prior to any in-water work activities. Fish exclusion activities will be performed under the direction of a biologist holding a permit for recovery of Virgin River chub and woundfin and will be relocated per the plan developed in coordination with USFWS and AGFD.
- No work will be allowed in flowing surface water unless fish exclusion measures are being implemented.
- All concrete will be poured in dry conditions or within confined waters not being dewatered into surface waters of the Virgin River. Concrete will be allowed to cure for at least 24 hours before contact with surface water of the Virgin River is allowed.
- The contractor will stop work immediately and inform the Engineer if surface flows enter the in-water work area at any time following the initial isolation or diversion activities. The Engineer will arrange for fish and native frog exclusion and relocation per the USFWS-approved plan before allowing work to commence again.
- A containment system will be developed to minimize debris and construction materials from inadvertently dropping into the Virgin River or the 100-year flood plain.

Silverleaf Sunray (BLM Sensitive Species)

- Prior to initial ground disturbing, construction or geotechnical activities, a biologist shall conduct a survey for the presence of silverleaf sunray plants.
- Any silverleaf sunray plants identified in the preconstruction survey will be fenced off and avoided throughout the project duration.

California Condor

- All individuals who will be working on the Interstate 15 Virgin River Bridge No. 1 project will receive environmental awareness training which will include information on the California condor.
- Work areas will be kept clean and no trash will be stored onsite.

Invasive Species

- All disturbed soils not paved that will not be landscaped or otherwise permanently stabilized by construction will be seeded using species native to the project vicinity.
- Prior to the start of ground-disturbing activities, the contractor shall arrange for and perform the control of noxious and invasive species in the project area.
- To prevent the introduction of invasive species seeds, the contractor shall wash all earth moving and hauling equipment at the equipment storage facility. The equipment shall be free of all attached plant/vegetation and soil/mud debris prior to entering the construction site.
- To prevent invasive species seeds from leaving the site, the contractor shall inspect all construction equipment and remove all attached plant/vegetation and soil/mud debris prior to leaving the construction site.

Work in Staging Areas

Staging Areas – Desert Tortoise Mitigation

- All individuals who will be working on the Interstate 15 Virgin River Bridge No. 1 project will receive environmental awareness training which will include information on the Mojave desert tortoise.
- Prior to initial ground disturbing, construction or geotechnical activities, a biologist holding the proper handling permits from the USFWS shall conduct a survey for the presence of Mojave desert tortoises or active tortoise burrows.
- Construction staging areas shall be fenced in accordance with USFWS desert tortoise exclusionary fencing protocols. The fencing will be inspected and maintained daily.
- If any Mojave desert tortoises are encountered during construction or geotechnical activities, established protocols will be followed to ensure the animal is not touched, harassed or moved. The desert tortoise will be allowed to leave the area on its own or an on-call biologist holding the proper USFWS permits will be called to assess the situation.
- Temporary access routes created during project construction will be modified as necessary to prevent further use. Closure of access routes can be achieved by ripping, barricading, posting the route as closed, and/or seeding and planting with native plants.
- After completion of the project, trenches, pits, and other features in which tortoises can be entrapped or entangled, will be filled in, covered, or otherwise modified so they are no longer a hazard to desert tortoises.
- After project completion, measures will be taken to facilitate restoration. Restoration techniques will be tailored to the characteristics of the site and the nature of project impacts. Techniques may include removal of equipment and debris, recontouring; and

seeding, planting, transplanting of cacti and yuccas, etc. Only native plant species, preferably from a source on or near the project area, will be used in restoration.

Silverleaf Sunray (BLM Sensitive Species)

- Prior to initial ground disturbing, construction or geotechnical activities, a biologist shall conduct a survey for the presence of silverleaf sunray plants.
- Any silverleaf sunray plants identified in the preconstruction survey will be fenced off and avoided throughout the project duration.

Work in the Virgin River

Virgin River Chub and Woundfin

- ADOT will coordinate with USFWS and AGFD to develop a fish and native amphibian exclusion protocol and relocation plan for Virgin River chub and woundfin prior to completion of the Biological Opinion.
- Listed fish species and native frogs will be removed from the work area prior to any in-water work activities. Fish exclusion activities will be performed under the direction of a biologist holding a permit for recovery of Virgin River chub and woundfin and will be relocated per the plan developed in coordination with USFWS and AGFD.
- No work will be allowed in flowing surface water unless fish exclusion measures are being implemented.
- All concrete will be poured in dry conditions or within confined waters not being dewatered into surface waters of the Virgin River. Concrete will be allowed to cure for at least 24 hours before contact with surface water of the Virgin River is allowed.
- The contractor will stop work immediately and inform the Engineer if surface flows enter the in-water work area at any time following the initial isolation or diversion activities. The Engineer will arrange for fish and native frog exclusion and relocation per the USFWS-approved plan before allowing work to commence again.

8. COORDINATION

Applicable agencies were contacted for species concerns during the NEPA agency scoping process to obtain information or comments on the project. Contacts made during the NEPA scoping process and as part of the biological research and coordination for preparing the BE include Ms. Laura Canaca, Mr. Steve Rosenstock, and Ms. Cheri Boucher with AGFD, Ms. Brenda Smith, Ms. Shaula Hedwall, Mr. Steve Spangle, and Mr. Brian Wooldridge with USFWS, and Ms. Laurie Ford, Mr. Jeff Young, and Mr. Shawn Langston with BLM. The agency scoping letters and comments are presented in Appendix D.

ADOT and FHWA have coordinated extensively to solicit information about sensitive resources from potentially affected agencies with species concerns (BLM, USFWS, and AGFD). Under the auspices of two proposed projects along I-15, ADOT and FHWA held the following meetings and conference calls:

- May 17, 2012 – Virgin River Bridges Feasibility Study agency scoping meeting
- August 21, 2012 – Virgin River Bridges Feasibility Study update meeting

- May 7, 2014 – I-15, Bridge No. 1 Rehabilitation Environmental Assessment kick-off meeting
- September 9, 2014 – I-15, Bridge No. 1 USFWS Section 7 yellow-billed cuckoo Critical Habitat meeting

While some of the meetings were held for ADOT's Virgin River Bridges Feasibility Study and others specifically for Bridge No. 1, agencies shared resource information pertinent to the Bridge No. 1 project area at all the meetings.

In May 2012, during the Virgin River Bridges Feasibility Study meetings, which discussed several bridges along I-15 within Arizona, including Bridge No. 1, Critical Habitat was identified within the Bridge No. 1 project area for Mojave desert tortoise, Virgin River chub, woundfin, and southwestern willow flycatcher. In August 2012, an update meeting was held where it was mentioned that any construction within designated or proposed Critical Habitat would require some level of consultation with the USFWS under Section 7 of the ESA. Additional coordination with AGFD and BLM regarding impacts to sensitive species would also be required.

On May 7, 2014, an agency Environmental Assessment kick-off meeting for Bridge No. 1 was held. Critical Habitat was identified for the Virgin River chub, woundfin, and southwestern willow flycatcher within the area of proposed construction. The determination for these species was anticipated to be "may affect, likely to adversely affect" with mitigation measures intended to meet the BLM's Resource Management Plan requirement of "no adverse effects to endangered species." Mojave desert tortoise Critical Habitat was identified in the Bridge No. 1 project vicinity.

ADOT shared that no new issues (beyond what was identified and analyzed for Bridge No. 6) were expected. USFWS stated that in addition to the two afore-mentioned fish species, technical assistance for Virgin spinedace would be required. It was also mentioned that individual Mojave desert tortoises could be present in the project area, requiring mitigation measures such as speed limits on access routes and exclusion fencing to possibly obtain a finding of "may affect, not likely to adversely affect." USFWS mentioned that southwestern willow flycatchers (near the confluence of Beaver Dam Wash and the Virgin River) and Yuma clapper rails have historically been present in the area, as well.

BLM did not respond with a formal comment to the July 10, 2014 agency scoping letter (the letters from FHWA to the BLM biologists are included in Appendix D). However, ADOT and FHWA coordinated with BLM biologists and land managers on multiple occasions during the development of this BE.

The USFWS Arizona Ecological Services Office commented on July 31, 2014, listing concerns about impacts from the proposed Bridge No. 1 project on several listed species, including the Virgin River chub and its Critical Habitat, the woundfin and its Critical Habitat, the Virgin spinedace, the southwestern willow flycatcher and its Critical Habitat, the Mojave desert tortoise, the Yuma clapper rail, and the California condor (see attached letter in Appendix D).

AGFD commented on August 12, 2014, listing concerns about impacts from the proposed Bridge No. 1 project on roosting bats, six federally-listed species and Critical Habitat for four species, the Mojave desert tortoise, breeding golden eagles, nesting migratory birds, native plants, impacts to vegetation, and exotic invasive species (see attached letter in Appendix D).

On September 9, 2014, ADOT held a meeting with USFWS to discuss the newly proposed Critical Habitat for the yellow-billed cuckoo within the project area. The PCEs for the Critical Habitat were discussed. It was anticipated that the proposed Critical Habitat and the proposed

listing of the yellow-billed cuckoo would both pass in a final rule issued by USFWS in November 2014. Therefore, the Critical Habitat, as well as the cuckoo, were decided to be treated as though they would be passed as final in the BE, as the final ruling was expected prior to an issuance of a Biological Opinion or commencement of construction. The anticipated determination in the BE for the yellow-billed cuckoo and its Critical Habitat was discussed as being "may affect, not likely to adversely affect," as the effects would be temporary and insignificant.

In addition to the yellow-billed cuckoo, this meeting also addressed the Mojave desert tortoise. USFWS recommended mitigation measures be implemented for the tortoise, including preconstruction tortoise surveys, requiring under-vehicle checks prior to being put in motion, and educating all on-site personnel regarding the sensitive and protected status of the Mojave desert tortoise.

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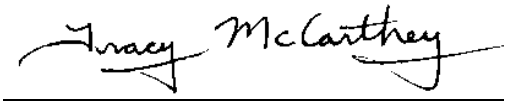
10. ADDITIONAL INFORMATION

Field notes, data sheets, and photographs are in the project file at the Jacobs office and at the ADOT Environmental Planning office.

11. SIGNATURE PAGE

Prepared By:  Date: April 26, 2016

Melissa Osborn
Jacobs Engineering Group Inc.

Reviewed By:  Date: April 26, 2016

Tracy McCarthey
Archaeological Consulting Services, Ltd.

APPENDIX A

Project Area Ground Photographs

Photo 1. Northeast side of I-15 at Virgin River Bridge No. 1 (Bridge No. 1), looking southwest.

Photo 2. East side of I-15 at Bridge No. 1 and Virgin River looking west.

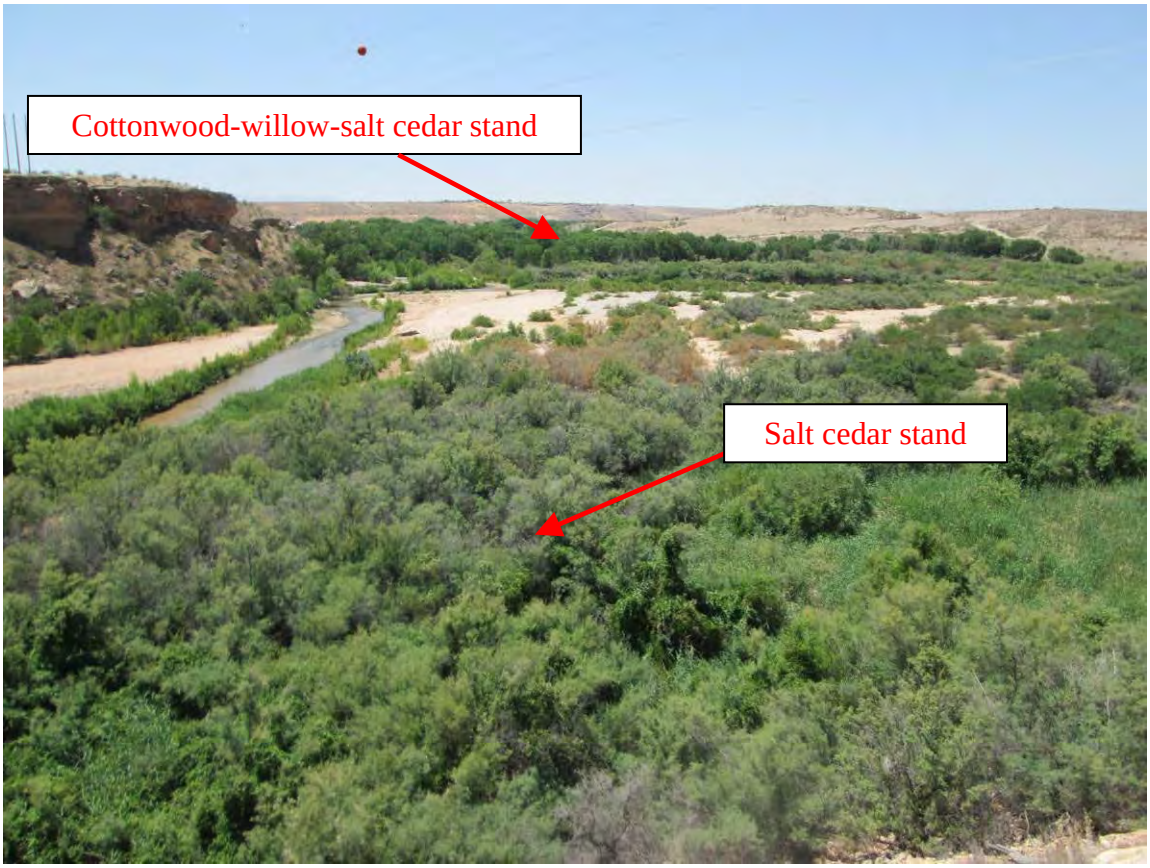


Photo 3. Northeast of Bridge No. 1 looking northwest towards Beaver Dam Wash confluence.

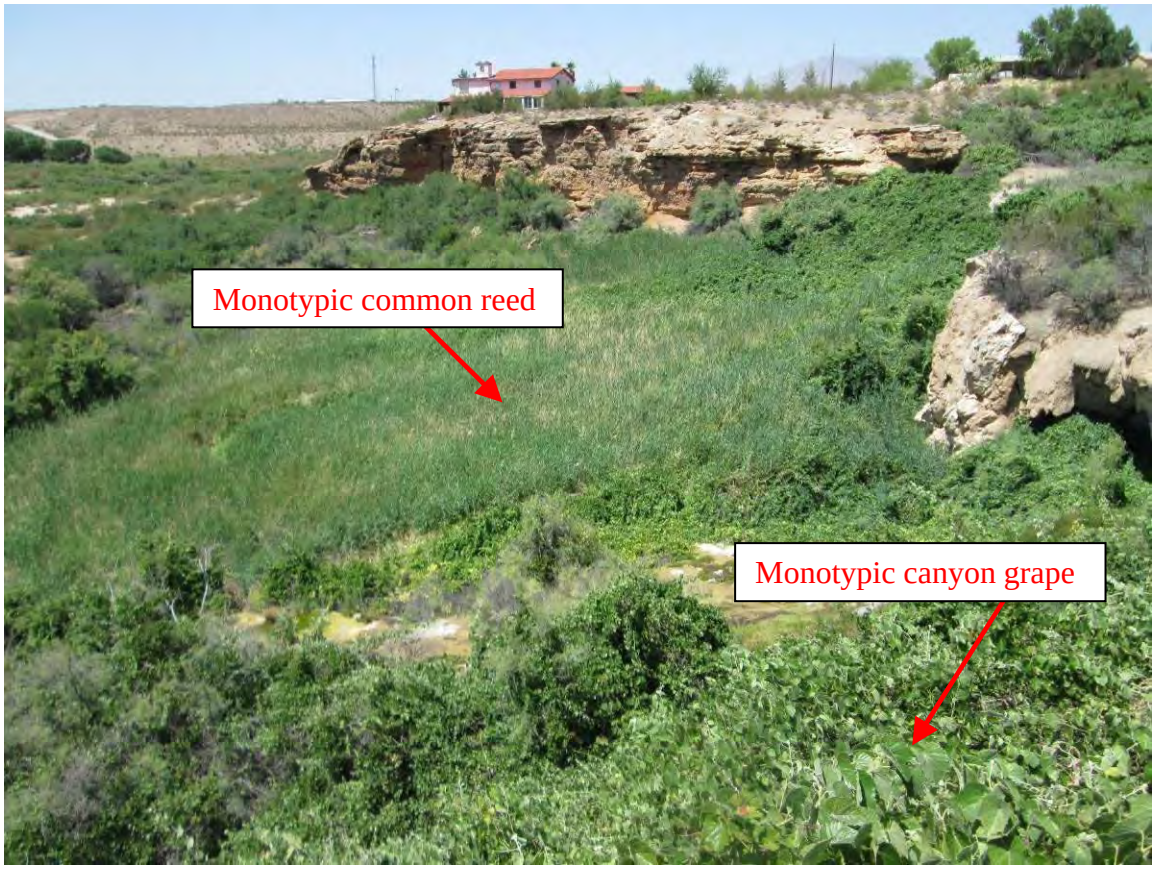


Photo 4. Northeast of Bridge No. 1 looking north to seep and wet area of common reed.

Photo 5. Southeast of Bridge No. 1 looking southwest.

Photo 6. Cattail marsh southwest of Bridge No. 1, approximately 0.25 mile southwest of the bridge.

Photo 7. Proposed access route site and adjacent grove of cottonwood trees, 0.25 mile southwest of the bridge.

Photo 8. Cliff swallow nests attached to the underside of Bridge No. 1.

Photo 9. Distant view of rock face south of Bridge No. 1 with northern rough-winged swallow nests.

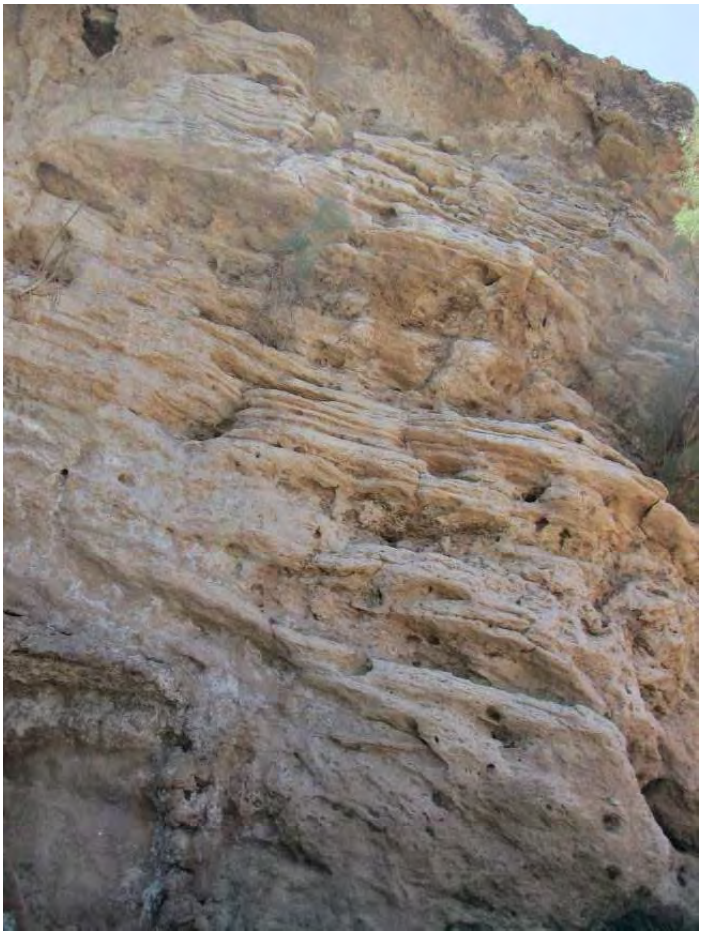


Photo 10. Close-up view of rock face with northern rough-winged swallow nests.

APPENDIX B

Wide-Load Truck Detour Maps from the Bridge No. 6 Environmental Assessment Re-evaluation

Figure 1. Detour Location

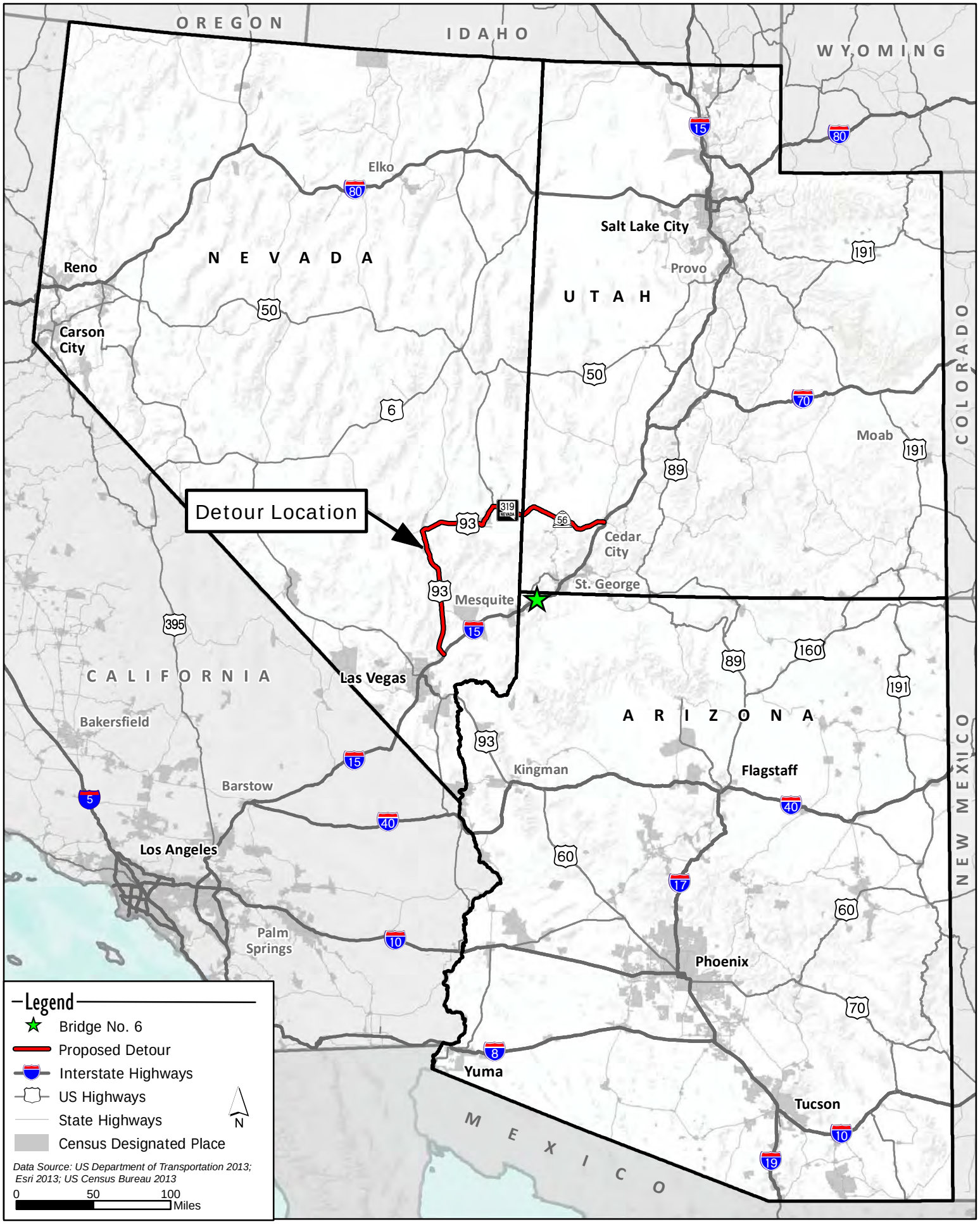
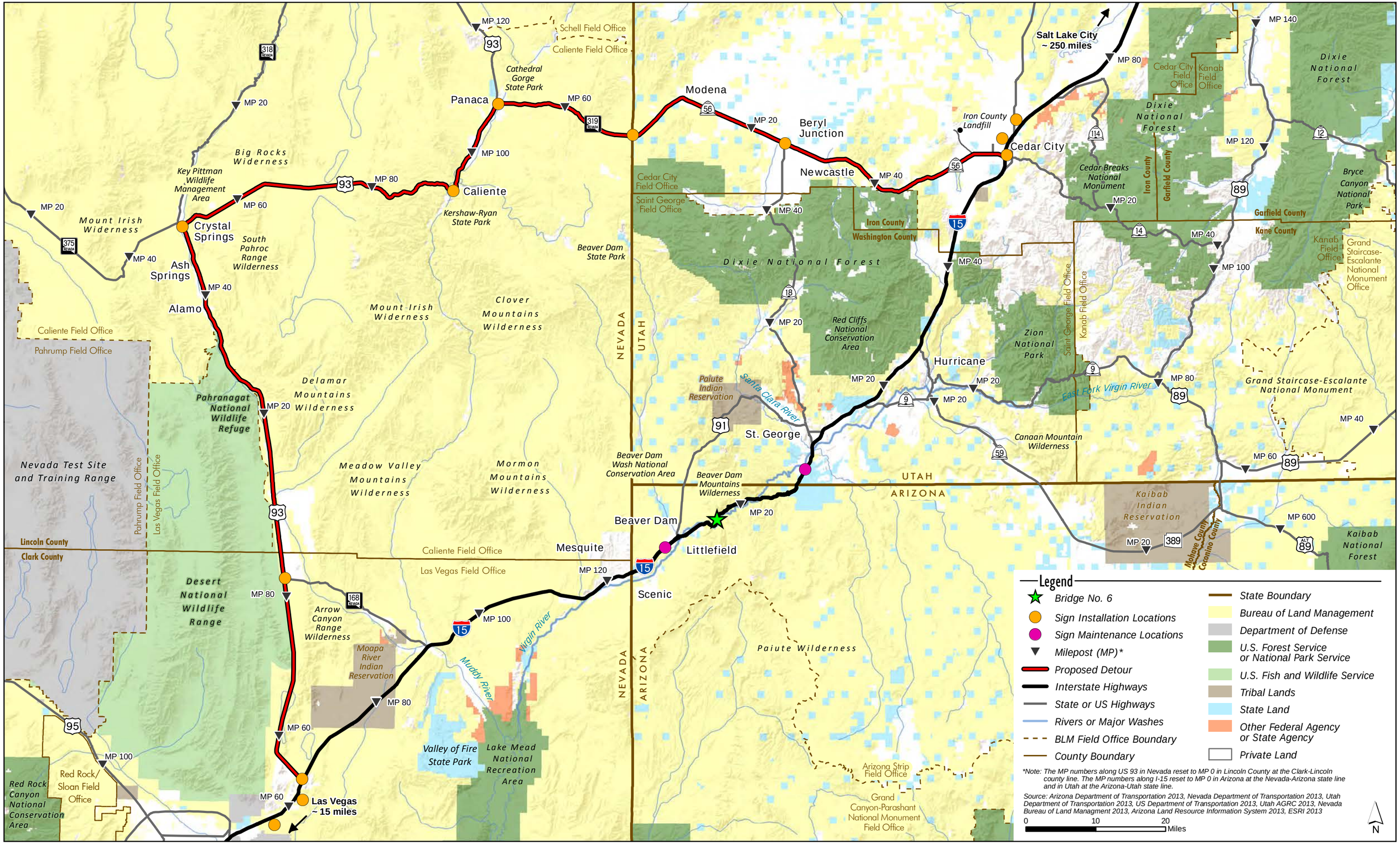


Figure 2. Detour Vicinity



APPENDIX C

State Sensitive Species, Protected Native Plants, and Migratory Bird Treaty Act

APPENDIX C

I. State Sensitive Species

The Arizona Game and Fish Department (AGFD) on-line environmental review tool was accessed to determine special status species known to occur in the project vicinity (Search ID: 20140709023882). As part of the environmental review process a letter describing the project was sent to the AGFD to inform them of the project and to solicit comments. The letter requested any specific concerns, suggestions or recommendations the agency may have related to the project.

AGFD sent a response letter and included a list of special status species known to occur within the project vicinity. The agency also included specific concerns related to the project, which included roosting bats, breeding golden eagles, migrating birds, native plants, water quality, and exotic invasive species.

The AGFD on-line environmental tool included a standard response regarding local or regional needs for wildlife movement, connectivity, access to habitat needs and design of various roadway features such as culverts and bridges. The Arizona Department of Transportation (ADOT), AGFD, the Federal Highway Administration and representatives from other agencies have completed a Wildlife Linkages Assessment to address important wildlife movement corridors in Arizona. ADOT is planning to continue working with partners involved, including AGFD, and has considered wildlife movement patterns during the planning of this project. In addition, ADOT has provided an opportunity for the AGFD to be involved with the design of roadway features and has considered AGFD recommendations during project development.

Bridge No. 1 was examined for evidence of use by bats during the site visits on June 11 and 12, 2014. No evidence of bats was observed on the underside of this bridge deck; however, bat presence or absence could not be confirmed due to the distance from the view point to the underside of the bridge. A pre-construction survey to confirm active roosting would be required.

The following mitigation measures will be implemented to address state sensitive species:

District Responsibilities

- At least 30 business days prior to project construction, the Arizona Department of Transportation Engineer will contact the Environmental Planning Biologist (602.712.6819 or 602.712.7767) to arrange for a qualified biologist to conduct a visual preconstruction survey of the underside of the bridge to look for bats potentially roosting on the bridge structure. The biologist shall provide a memo with results of the preconstruction survey, and a follow-up memo(s) after any additional surveys/monitoring required, to the Environmental Planning Biologist.
- If bats are found present roosting under the bridge, at least 15 business days prior to project construction, the Arizona Department of Transportation Engineer will contact the Environmental Planning Biologist (602.712.6819 or 602.712.7767) to arrange for a qualified biologist to assist the contractor with installing exclusionary measures to crevices and other areas beneath Virgin River Bridge No. 1 that could potentially be used by bats. Exclusionary measures must be kept in place and in proper working order until work is completed on the bridge. Following completion of the work on Virgin River Bridge No. 1, the contractor shall remove all bat exclusionary measures to the satisfaction of the Arizona Department of Transportation Engineer.

Contractor Responsibilities

- If bats are found present roosting under the bridge, the contractor, with the assistance of a qualified biologist, shall install bat exclusionary measures to crevices and other areas beneath Bridge No. 1 that could potentially be used by bats. Exclusionary measures must be kept in place and in proper working order until work is completed on the bridges.
- Following completion of the work on Virgin River Bridge No. 1, the contractor shall remove all bat exclusionary measures to the satisfaction of the Arizona Department of Transportation Engineer, if needed.

II. Protected Native Plants

This analysis is limited to private within the project limits. The project area was surveyed for the presence of protected native plants on June 11 and 12, 2014, by walking portions of the project limits. Honey mesquite (*Prosopis velutina*) was found within the project area. Protected native plants on non-federal land within the construction limits will be impacted by the project; therefore, the following mitigation is required to minimize impacts on protected native plants:

Roadside Development Section Responsibility

- Protected native plants within the project limits will be impacted by this project; therefore, the Arizona Department of Transportation Roadside Development Section will determine if Arizona Department of Agriculture notification is needed. If notification is needed, the Arizona Department of Transportation Roadside Development Section will send the notification at least 60 calendar days prior to the start of geotechnical or project construction activities.

III. Migratory Bird Treaty Act

This project involves a geotechnical investigation, construction on the Virgin River Bridge No. 1 (Bridge No. 1), and modifications to the roadway approaches. Several construction activities would involve work within the 100-year floodplain where there is potential habitat for nesting birds. These activities are discussed in the project description, along with conservation measures that would be used to minimize potential impacts within these areas. Up to roughly 3 acres of salt cedar, cottonwood, and other mature riparian vegetation within and adjacent to the floodplain would be removed to conduct these activities. Other floodplain vegetation not included in the above acreage but that could be removed would include scattered small herbaceous plants and small shrubs that do not provide nesting habitat for birds.

Bridge No. 1 was examined for evidence of use by swallows during the site visits on June 11 and 12, 2014. Cliff swallow (*Petrochelidon pyrrhonota*) nesting was observed under this bridge during this site visit. In addition, northern rough-winged swallows (*Stelgidopteryx serripennis*) were observed nesting within holes in the cliff face just south of Bridge No. 1 on the east side of the river.

A preconstruction survey to visually identify bird species nesting on cliff faces or underneath the bridge that could be affected by project activities is recommended. Should the preconstruction survey identify additional nesting birds, the appropriate mitigation measures for that species would be discussed and implemented. If these mitigation measures are appropriately implemented, this proposed project and modifications to the roadway approaches are not anticipated to result in impacts to nesting birds.

District Responsibilities

- No vegetation clearing will occur during the migratory bird breeding season (March 1–August 31). During the non-breeding season (September 1–February 28) vegetation removal is not subject to this restriction.

Contractor Responsibilities

- No vegetation clearing will occur during the migratory bird breeding season (March 1–August 31). During the non-breeding season (September 1–February 28) vegetation removal is not subject to this restriction.
- The contractor shall not cause injury or death to swallows, including eggs and nestlings, and shall avoid work within 100 feet of nesting swallows from February 1 to August 30 of any calendar year. If work will occur within 100 feet of nesting swallows between February 1 and August 30, the contractor shall adhere to the following:
    - The contractor shall completely remove all existing swallow nests within 100 feet of work areas after August 30 but prior to February 1 to prevent swallows from reusing those nests.
    - The contractor shall implement exclusionary measures to prevent swallows from building new nests within 100 feet of work areas. Exclusionary measures shall be implemented in all areas where swallows are likely to nest, and may include (a) continually removing nesting materials during early nest construction when eggs or nestlings are not present, (b) installing exclusionary netting (wire or plastic mesh 0.75 inch or less in diameter), (c) installing deterrent spike strips, and/or (d) applying an appropriate bird exclusion liquid or gel (per manufacturer's instructions).
    - The contractor shall not disturb any active swallow nests (completed or partially completed nests that contain eggs or nestlings). If any active nest is discovered within 100 feet of construction activities, work shall stop and the Arizona Department of Transportation Environmental Planning Biologist shall be contacted (602.712. 6819 or 602.712.7767) to evaluate the potential for disturbance of nests.
    - The contractor shall monitor and maintain the effectiveness of exclusionary measures used. Netting shall be maintained such that it remains in place without any loose areas or openings that could trap and/or entangle birds. Spike strips shall be maintained such that they remain in place. Exclusion liquid or gel shall be reapplied as often as necessary to remain effective (per manufacturer's instructions).

APPENDIX D

Agency Scoping Comments

U.S. Department of Transportation
Federal Highway Administration

ARIZONA DIVISION

4000 North Central Avenue
Suite 1500
Phoenix, Arizona 85012-3500
Phone: (602) 379-3646
Fax: (602) 382-8998
http://www.fhwa.dot.gov/azdiv/index.htm

July 10, 2014

In Reply Refer To:
015-A(211)T
HOP-AZ

015-A(211)T
TRACS No. 015 MO 008 H8760 01L
Virgin River Bridge #1 (STR #1089)
Environmental Assessment
Agency Scoping

Ms. Laurie Ford, Lands and Geological Sciences Team Lead
Bureau of Land Management Arizona Strip Field Office
345 East Riverside Drive
St. George, Utah 84790-6714

Dear Ms. Ford:

The Arizona Department of Transportation (ADOT), in association with the Federal Highway Administration (FHWA), would like to invite the Bureau of Land Management (BLM) to be a cooperating agency in the Bridge No. 1 rehabilitation study located on Interstate 15 (I-15) near the unincorporated Communities of Littlefield and Beaver Dam in Mohave County, Arizona (Figure 1-State Map and Figure 2-Vicinity Map). The Virgin River Bridge No. 1 study area would begin at the Littlefield traffic interchange (TI) at milepost (MP) 8.6 and would extend 1.2 miles east to the Desert Springs TI at MP 9.8. The cadastral location for this project is Township 40 North, Range 15 West, Section 4. This letter is a request for comments, concerns, or issues relevant to the proposed construction project.

I-15 spans 29.4 miles across the northwest corner of Arizona and provides a vital link between the states of California, Nevada, Arizona, Utah and beyond. The Arizona portion of I-15 includes seven bridges over the Virgin River, all constructed in the 1960s and 70s; Bridge No. 1 was constructed in 1964. Within the project limits, I-15 is a 4-lane, divided highway with two 12-foot-wide travel lanes and shoulders of varying widths. This stretch of interstate carries a high percentage of truck traffic (as high as 38 percent) and is the only road in Arizona permitted to carry triple tractor trailers. As I-15 ages, truck traffic can increase the rate at which the roadway pavement and bridge infrastructure deteriorate. In addition, the shoulders within the project limits are as narrow as 5 feet wide, and do not allow room for trucks or other vehicles to pull off the road.

The purpose of the project is to maintain I-15 as a regional transportation facility, allowing the movement of people, goods, and services through this vital corridor. Additionally, the project would help ADOT meet its long-range goal of maintaining I-15 as an essential trade and truck route linking Nevada, Arizona, and Utah.

The project scope would consist of the following:

- Removing and replacing existing bridge deck, girders, median, and exterior barriers
- Widening the new bridge deck to provide shoulders that meet current design criteria (6-foot inside shoulders and 12-foot outside shoulders)
- Widening the roadway approaches to match the new bridge width
- Adding new girders to support the wider bridge deck
- Constructing at least two crane pads beneath the bridge and using a crane to place the new girders and for other bridge construction
- Constructing a temporary bridge within the Virgin River floodplain to allow construction personnel to cross the river
- Widening and strengthening all piers and foundations as necessary
- Providing scour countermeasures as required to mitigate erosion around the pier foundations
- Signing and striping as necessary

Two potential access routes for the project have been identified along existing dirt roads northeast and southwest of the bridge (see Figure 2). These roads would be widened resulting in vegetation removal and the temporary placement of fill. Staging areas are proposed on vacant land adjacent to the bridge approaches east of the bridge, near the access road connection to Desert Springs Road, and southeast of the Littlefield TI (see Figure 2).

Within the project limits, privately owned parcels and public lands managed by BLM are adjacent to I-15. The primary land uses adjacent to the project limits are scattered rural development including residential and commercial uses. BLM manages adjacent areas for multiple uses such as habitat preservation and recreation; however, any recreational use of the Virgin River in the project area is informal. ADOT holds a 400-foot-wide easement from BLM. No new permanent easements are anticipated; however, temporary construction easements would be required along the new access routes and for staging areas during construction. Nearby residents and businesses may experience minor impacts associated with construction noise and vehicle access.

This project would utilize federal funding. The project is currently programmed for design in Fiscal Year 2017 and construction in Fiscal Year 2019, with construction expected to take 24 months. Traffic would be controlled to minimize impacts on motorists, pedestrians, and construction personnel as necessary. Temporary lane closures or lane shifts would be necessary to provide an adequate work zone and slower speeds and delays are expected for all motorists travelling through the project area. However, traffic would be maintained in each direction and no detours would be required. Existing traffic patterns would resume immediately following construction.

In accordance with the 2006 Memorandum of Understanding and Supplemental No. 2 Operating Agreement between FHWA, ADOT, and BLM, please (1) respond on your agreement to participate in this project as a cooperating agency, (2) identify known issues and concerns relating to protection of valid existing rights and resources on BLM-administered lands potentially affected by the project, and (3) determine whether the proposed project is in conformance with BLM land-use plans. Please provide your agency's response in writing to this

request no later than August 12, 2014 to Rebecca Yedlin, FHWA Environmental Coordinator, 4000 N. Central Ave., Suite 1500, Phoenix, AZ 85012. If you have questions, please contact Rebecca at 602.382.8979 or Rebecca.Yedlin@dot.gov.

Sincerely,

for Karla S. Petty
Division Administrator

Enclosures

cc:
Lorraine Christian, Field Office Manager, BLM Arizona Strip Field Office, 345 East Riverside Drive, St. George, Utah, 84790
Betsi Phoebus, Jacobs Engineering Group Inc

ADOT
Intermodal Transportation

Janice K. Brewer, Governor
John S. Halikowski, Director
Jennifer Toth, State Engineer
Robert Samour, Senior Deputy State Engineer, Operations
Dallas Hammit, Senior Deputy State Engineer, Development

July 10, 2014

Mr. Jeff Young
District Lead Wildlife Biologist
BLM Arizona Strip Field Office
345 East Riverside Drive
St. George, UT 84790

RE: 015-A(211)T
015 MO 008 H8760 01L
Virgin River Bridge #1 (STR #1089)

Dear Mr. Young:

The Arizona Department of Transportation (ADOT), in association with the Federal Highway Administration (FHWA), is planning a bridge rehabilitation project located on Interstate 15 (I-15) near the unincorporated communities of Littlefield and Beaver Dam in Mohave County, Arizona (Figure 1-State Map and Figure 2-Vicinity Map). The Virgin River Bridge No. 1 study area would begin at the Littlefield traffic interchange (TI) at milepost (MP) 8.6 and would extend 1.2 miles east to the Desert Springs TI at MP 9.8. The cadastral location for this study is Township 40 North, Range 15 West, Section 4. This letter is a request for comments, concerns, or issues relevant to the proposed construction project.

I-15 spans 29.4 miles across the northwest corner of Arizona and provides a vital link between the states of California, Nevada, Arizona, Utah and beyond. The Arizona portion of I-15 includes seven bridges over the Virgin River, all constructed in the 1960s and 70s; Bridge No. 1 was constructed in 1964. Within the study area, I-15 is a 4-lane, divided highway with two 12 foot-wide travel lanes and shoulders of varying widths. This stretch of interstate carries a high percentage of truck traffic (as high as 38 percent) and is the only road in Arizona permitted to carry triple tractor trailers. As I-15 ages, truck traffic can increase the rate at which the roadway pavement and bridge infrastructure deteriorate. In addition, the shoulders within the study area are as narrow as 5 feet wide, and do not allow room for trucks or other vehicles to pull off the road.

The purpose of the project is to maintain I-15 as a regional transportation facility, allowing the movement of people, goods, and services through this vital corridor. Additionally, the project would help ADOT meet its long-range goal of maintaining I-15 as an essential trade and truck route linking Nevada, Arizona, and Utah.

The project scope would consist of the following:

- Removing and replacing existing bridge deck, girders, median, and exterior barriers
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- Adding new girders to support the wider bridge deck
- Constructing at least two crane pads beneath the bridge and using a crane to place the new girders and for other bridge construction
- Constructing a temporary bridge within the Virgin River floodplain to allow construction personnel to cross the river
- Widening and strengthening all piers and foundations as necessary
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- Signing and striping as necessary

Two potential access routes for the project have been identified along existing dirt roads northeast and southwest of the bridge (see Figure 2). These roads would be widened resulting in vegetation removal and the temporary placement of fill. Staging areas are proposed on vacant land adjacent to the bridge approaches east of the bridge, near the access road connection to Desert Springs Road, and southeast of the Littlefield TI (see Figure 2).

Within the study area, privately owned parcels and public lands managed by the Bureau of Land Management (BLM) are adjacent to I-15. The primary land uses adjacent to the study limits are scattered rural development including residential and commercial uses. BLM manages adjacent areas for multiple uses such as habitat preservation and recreation; however, any recreational use of the Virgin River in the study area is informal. ADOT holds a 400-foot-wide easement from BLM. No new permanent easements are anticipated; however, temporary construction easements would be required along the new access routes and for staging areas during construction. Nearby residents and businesses may experience minor impacts associated with construction noise and vehicle access.

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This letter serves as our agency's invitation to review the proposed project based upon the scope of work outlined above. If you or others in your agency have any specific concerns, suggestions or recommendations pertaining to this specific proposed project, please let us know. This may include

information on future development, general plans, or capital improvement projects that would be affected, to name a few.

Please respond if you have biological concerns related to this project or if you have specific species you would like addressed in the document. We will send the biology document to you for your file once it is complete.

Please identify any issues or concerns you have regarding this project and mail them to ADOT, c/o Betsi Phoebus, Jacobs Engineering Group Inc., 101 North 1st Avenue, Suite 3100, Phoenix, Arizona 85003; e-mail them to elizabeth.phoebus@jacobs.com; or fax them to 602.253.1202. We would appreciate receipt of your comments by August 12, 2014. Thank you for your time and continued assistance.

Sincerely,

Charles Beck

Charles Beck
ADOT Environmental Planning Group

CB:kd

Enclosures

c: Laurie Ford, Lands and Geological Sciences Team Lead, BLM Arizona Strip Field Office
Shawn Langston, Wildlife Biologist, BLM Arizona Strip Field Office
George Wallace, ADOT SWPM
Ralph Ellis, ADOT EPG
Betsi Phoebus, Jacobs Engineering Group Inc.

Intermodal Transportation

Janice K. Brewer, Governor
John S. Halikowski, Director
Jennifer Toth, State Engineer
Robert Samour, Senior Deputy State Engineer, Operations
Dallas Hammit, Senior Deputy State Engineer, Development

July 10, 2014

Mr. Shawn Langston
Wildlife Biologist
BLM Arizona Strip Field Office
345 East Riverside Drive
St. George, UT 84790

RE: 015-A(211)T
015 MO 008 H8760 01L
Virgin River Bridge #1 (STR #1089)

Dear Mr. Langston:

The Arizona Department of Transportation (ADOT), in association with the Federal Highway Administration (FHWA), is planning a bridge rehabilitation project located on Interstate 15 (I-15) near the unincorporated communities of Littlefield and Beaver Dam in Mohave County, Arizona (Figure 1-State Map and Figure 2-Vicinity Map). The Virgin River Bridge No. 1 study area would begin at the Littlefield traffic interchange (TI) at milepost (MP) 8.6 and would extend 1.2 miles east to the Desert Springs TI at MP 9.8. The cadastral location for this study is Township 40 North, Range 15 West, Section 4. This letter is a request for comments, concerns, or issues relevant to the proposed construction project.

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This project would utilize federal funding. The project is currently programmed for design in Fiscal Year 2017 and construction in Fiscal Year 2019, with construction expected to take 24 months. Traffic would be controlled to minimize impacts on motorists, pedestrians, and construction personnel as necessary. Temporary lane closures or lane shifts would be necessary to provide an adequate work zone and slower speeds and delays are expected for all motorists travelling through the project area. However, traffic would be maintained in each direction and no detours would be required. Existing traffic patterns would resume immediately following construction.

This letter serves as our agency's invitation to review the proposed project based upon the scope of work outlined above. If you or others in your agency have any specific concerns, suggestions or recommendations pertaining to this specific proposed project, please let us know. This may include information on future development, general plans, or capital improvement projects that would be affected, to name a few.

Please respond if you have biological concerns related to this project or if you have specific species you would like addressed in the document. We will send the biology document to you for your file once it is complete.

Please identify any issues or concerns you have regarding this project and mail them to ADOT, c/o Betsi Phoebus, Jacobs Engineering Group Inc., 101 North 1st Avenue, Suite 3100, Phoenix, Arizona 85003; e-mail them to elizabeth.phoebus@jacobs.com; or fax them to 602.253.1202. We would appreciate receipt of your comments by August 12, 2014. Thank you for your time and continued assistance.

Sincerely,

Charles Beck

Charles Beck
ADOT Environmental Planning Group

CB:kd

Enclosures

c: Laurie Ford, Lands and Geological Sciences Team Lead, BLM Arizona Strip Field Office
Jeff Young, District Lead Wildlife Biologist, BLM Arizona Strip Field Office
George Wallace, ADOT SWPM
Ralph Ellis, ADOT EPG
Betsi Phoebus, Jacobs Engineering Group Inc.

United States Department of the Interior
U.S. Fish and Wildlife Service
Arizona Ecological Services Office
2321 West Royal Palm Road, Suite 103
Phoenix, Arizona 85021-4951
Telephone: (602) 242-0210 Fax: (602) 242-2513

In reply refer to:
AESO/SE
02EAAZ00-2014-CPA-0030

July 31, 2014

Arizona Department of Transportation
Attn: Betsi Phoebus
Jacobs Engineering Group
101 North 1st Avenue, Suite 3100
Phoenix, Arizona 85003

Re: Proposed Virgin River Bridge No. 1 Rehabilitation

Dear Ms. Phoebus:

Thank you for the opportunity to review and provide scoping comments on the Proposed Proposed Virgin River Bridge No. 1 Rehabilitation Project. This EA is being completed in compliance with the National Environmental Policy Act (NEPA).

This project proposes to repair and rehabilitate Bridge No. 1 along the Virgin River near Littlefield in Mohave County, Arizona. The proposed project scope includes, but is not limited to, removing and replacing the existing bridge deck, girders, median, and exterior barriers; widening the new bridge deck; adding new girders to support the wider bridge deck; constructing at least two crane pads beneath the bridge and using a crane to place the new girders; constructing temporary bridge across the Virgin River to allow access to all bridge piers; widening and strengthening all piers and foundations as necessary. The Arizona Department of Transportation (ADOT) holds a 400-foot wide easement from the Bureau of Land Management. No new permanent easements are anticipated; however, temporary construction easements would be required for access routes and staging areas. The project is currently programmed for design in Fiscal Year 2017 and construction is anticipated to begin in Fiscal Year 2019. Construction is anticipated to take approximately two years.

Based on the information that you have provided in your July 10, 2014, letter and in a meeting we attended on May 7, 2014, we have concerns about potential effects from this project to several listed species. The proposed action will occur directly over the Virgin River. Many aspects of the proposed action have the potential to affect the endangered Virgin River chub (*Gila seminuda*) and the endangered woundfin (*Plagopterus argentissimus*) and critical habitat for both of these fish. The Virgin spinedace (*Lepidomeda mollispinus mollispinus*) is subject to a conservation agreement and strategy and also may occur within the project area. The endangered southwestern willow flycatcher (*Empidonax traillii extimus*) and its critical habitat

also occur along the Virgin River. Additionally, access routes and staging areas will be placed in suitable habitat for the threatened Mojave Desert tortoise (*Gopherus agassizii*). There is no critical habitat for the tortoise near the project area; however, there is suitable habitat and tortoises have been documented in the project area. The endangered Yuma clapper rail (*Rallus longirostrus yumanensis*) has been known to occur and breed in the area; however, the last known record was more than 20 years ago. There is no critical habitat for the rail.

California condors may also occur in the project area. California condors are federally-listed as endangered under the Endangered Species Act of 1973, as amended (ESA), and may occur in the project area as a non-essential experimental population. Under the special rule that designated this population, an individual who unavoidably and unintentionally takes a California condor would not be in violation of the ESA if such taking is non-negligent and incidental to a lawful activity. Although recent telemetry data suggest that condors have not been documented in or near the proposed project area recently, they are a wide-ranging species capable of traveling long distances in a day. In order to avoid unintentional disturbance or injury to condors, we recommend you consider potential effects to this species and incorporate conservation measures designed to minimize these effects in your proposed action. We have compiled the following list of conservation measures designed to avoid adverse interactions between humans and condors during actions such as construction projects. We recommend that measures appropriate for this project be implemented in the event that condors occur at or near the project site. We are prepared to assist you in tailoring these conservation measures to this particular site and action.

- Prior to the start of construction, the project proponent should contact The Peregrine Fund (928-355-2270) personnel monitoring California condor locations and movements in the vicinity of the project area to determine the locations and status of condors in or near the project area.

- If a condor occurs at the construction site, construction activities that could result in injury to condors should cease until the condor leaves on its own or until techniques are employed by permitted personnel that results in the condor leaving the area.

- Construction workers and supervisors should be instructed to avoid interaction with condors and to immediately contact the Flagstaff office of the U.S. Fish and Wildlife Service (FWS) or The Peregrine Fund personnel if condor(s) occur at a construction site. Non-permitted personnel cannot haze or otherwise interact with condors.

- The construction site should be cleaned up (e.g., trash removed, scrap materials picked up) at the end of each day that work is being conducted to minimize the likelihood of condors visiting the site.

In keeping with our trust responsibility to American Indian Tribes, for proposed actions that may affect Indian lands, Tribal trust resources, or Tribal rights, we encourage you to invite the affected Tribe(s) and Bureau of Indian Affairs to participate in the planning process and, by copy of this letter, are notifying the Hopi, Chemehuevi, and Colorado River Indian Tribes, as well as

Bureau of Indian Affairs. We also encourage you to continue to coordinate the review of this project with the Arizona Game and Fish Department.

We appreciate your coordination with us on this matter. For further information please contact Brian Wooldridge (928-556-2106), Shaula Hedwall (928-556-2118), or Brenda Smith (928-556-2157). Please refer to the consultation number, 02EAAZ00-2014-CPA-0030 in future correspondence concerning this project.

Sincerely,

for

Steven L. Spangle
Field Supervisor

ccs: (electronic)
Chief Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ
Regional Supervisor, Arizona Game and Fish Department, Flagstaff, AZ
(Attn: Steve Rosenstock)

ccs: (hard copy)
Environmental Specialist, Environmental Services, Western Regional Office, Bureau of Indian Affairs, Phoenix, AZ
Director, Hopi Cultural Preservation Office, Kykotsmovi, AZ
Director, Cultural Resource Center, Chemehuevi Tribe, Havasu Lake, CA
Cultural Compliance Technician, Museum, Colorado River Indian Tribes, Parker, AZ

W:\Brian Wooldridge\Bridge 1 Scoping Comments Ltr.docx:cgg

THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT
5000 W. CAREFREE HIGHWAY
PHOENIX, AZ 85086-5000
(602) 942-3000 • WWW.AZGFD.GOV

August 12, 2014

ADOT
c/o Ms. Betsi Phoebus
Jacobs Engineering Group Inc.
101 North 1st Avenue, Suite 3100
Phoenix, AZ 85003

Re: Review of the Virgin River Bridge #1 (STR #1089) Project; 015-A(211)T, 015 MO 008 H8760 01L.

Dear Ms. Phoebus:

The Arizona Game and Fish Department (Department) has received a letter from Charles Beck, ADOT Environmental Planning Group, dated July 10, 2014, regarding the bridge rehabilitation project on Interstate 15 in Mohave County, AZ. We have reviewed the information packet provided to us in the letter. The receipt ADOT received from the Department's Heritage Data Management System (HDMS)'s On-line Review Tool, dated July 9, 2014 (Receipt #20140709023882), identified numerous special status species within a 3-mile radius of the proposed project, including: six species that are federally listed (including proposed species) and regulated under the Endangered Species Act (ESA); Critical Habitat for four species; and a breeding population of golden eagles (*Aquila chrysaetos*), which are regulated under the Bald and Golden Eagle Protection Act (BGEPA). Many of these sensitive resources are associated with the Virgin River corridor.

The Department offers the following general comments, based on the limited information provided:

- Please determine if the bridge is providing day and/or night time roosting habitat for bats. If necessary, bat surveys should be conducted prior to any work on or immediately adjacent to the bridge; and surveys should be scheduled far in advance of proposed work to allow for schedule modification to avoid disruption of maternity roosts during the breeding season. Refer to the *Guidelines for Bridge Construction or Maintenance to Accommodate Fish & Wildlife Movement and Passage*, for additional guidance on bats as appropriate.
  http://www.azgfd.gov/hgis/pdfs/BridgeGuidelines.pdf

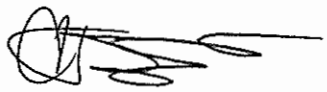
- Six species that are federally listed (including proposed species) and regulated under the Endangered Species Act (ESA), and Critical Habitat for four species, are present within 3 miles of your project, and this project has the potential to impact listed species. If you are uncertain about the effects of your project to these species, or if you anticipate your project will not be in compliance with the ESA, the Department recommends that you and/or the project proponent contact the U.S. Fish and Wildlife Service (USFWS) for their Technical Assistance. The USFWS will provide options to comply with the ESA, such as conservation measures to avoid or minimize adverse effects to listed species.
- Mohave Desert tortoise have been recorded in the immediate project area, and Critical Habitat for Mohave desert tortoise is present in the vicinity. The Department recommends coordinating with USFWS to determine if a survey for Mohave Desert tortoise is required, within suitable habitat, in accordance with the *Preparing For Any Action That May Occur Within The Range Of The Mojave Desert Tortoise (Gopherus agassizii),* to determine the presence/absence of this species. http://www.deserttortoise.org/documents/2010DTPre-projectSurveyProtocol.pdf
- A territory of breeding golden eagles has been recorded within three miles of your project. If you are uncertain about the effects of your project to eagles, or if you anticipate your project will not be in compliance with the Eagle Act, the Department recommends you contact the U.S. Fish and Wildlife Service (USFWS) for their Technical Assistance. The USFWS will provide options to comply with the Eagle Act, such as conservation measures to avoid or minimize adverse effects to the eagles.
- Determine bird species that may be utilizing the Virgin River, and develop measures to avoid direct and indirect disturbance during nesting season; any disturbance during the breeding season may lead to a violation of the Migratory Bird Treaty Act. Breeding season for birds is generally May through late August, depending on species in the local area. Raptors breed in early February through May.
- If proposed ground disturbance (both temporary and permanent) will meet or exceed 0.25 acre, a Native Plant Inventory should be conducted to identify, record, and coordinate plant salvage efforts for species that are Protected under the Arizona Native Plant Law (https://agriculture.az.gov/programs-and-services/native-plants).
- Minimize impacts to vegetation during project construction. Staging areas should be located in previously disturbed sites, and kept as small as possible. Implement erosion and drainage control measures during the project to prevent the introduction of sediment-laden runoff into adjacent surface waters, and to prevent impacts to surface water quality. Stabilize exposed soils, particularly on slopes, with native vegetation as soon as possible to prevent excess erosion.

- Minimize the potential introduction or spread of exotic invasive species. Wash all equipment utilized in the project activities before entering and leaving the site, and comply with Arizona's noxious weed regulations (Arizona Revised Statutes, Rules R3-4-244 and R3-4-245); please see the Arizona Department of Agriculture website for prohibited and restricted noxious weeds.
  http://www.azda.gov/PSD/RegulatedRestrictedNoxiousWeeds.aspx
  http://www.azda.gov/PSD/ProhibitedNoxiousWeeds.aspx

The Department appreciates the opportunity to provide an initial evaluation of impacts to wildlife or wildlife habitats associated with the Virgin River Bridge #1 rehabilitation project activities. We request further coordination as the project development progresses, in order to provide additional feedback and mitigation recommendations to avoid and minimize impacts to wildlife.

If you have any questions regarding this letter, please contact me at (623) 236-7615, and visit our website for additional guidelines at http://www.azgfd.gov/hgis/guidelines.aspx.

Sincerely,



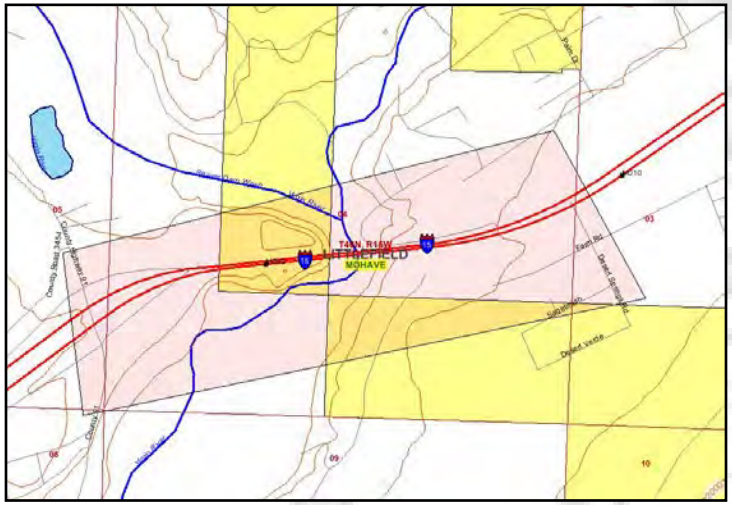
Cheri A. Bouchér
Project Evaluation Program Specialist, Habitat Branch
Arizona Game and Fish Department

cc: Laura Canaca, Project Evaluation Program Supervisor
Steve Rosenstock, Habitat Program Manager, Region II

AGFD# M14-07101001

Arizona's On-line Environmental Review Tool
Search ID: 20140709023882
Project Name: Virgin River Bridge #1
Date: 7/9/2014 8:48:42 AM

Project Location



Project Name: Virgin River Bridge #1
Submitted By: Kevin Duncan
On behalf of: ADOT
Project Search ID: 20140709023882
Date: 7/9/2014 8:48:36 AM
Project Category: Transportation & Infrastructure,Bridge replacement/New Construction,In-stream geotech boring, abutments, stream crossing, realignment, channelization, rip rap, vegetation removal
Project Coordinates (UTM Zone 12-NAD 83): 239810.781, 4086996.503 meter
Project Area: 281.663 acres
Project Perimeter: 5010.194 meter
County: MOHAVE
USGS 7.5 Minute Quadrangle ID: 33
Quadrangle Name: LITTLEFIELD
Project locality is not anticipated to change

Location Accuracy Disclaimer

Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Receipt is solely responsible for the project location and thus the correctness of the Project Review Receipt content.

The Department appreciates the opportunity to provide in-depth comments and project review when additional information or environmental documentation becomes available.

Special Status Species Occurrences/Critical Habitat/Tribal Lands within 3 miles of Project Vicinity:

Name	Common Name	FWS	USFS	BLM	State
Anaxyrus microscaphus	Arizona Toad	SC			
Aquila chrysaetos	Golden Eagle	BGA		S	
Buteogallus anthracinus	Common Black-Hawk				WSC
CH for Empidonax traillii extimus	Designated Critical Habitat for Southwestern willow flycatcher				
CH for Gila seminuda	Designated Critical Habitat for Virgin River chub				
CH for Gopherus agassizii	Designated Critical Habitat for Mohave desert tortoise				
CH for Plagopterus argentissimus	Designated Critical Habitat for woundfin				
Camissonia brevipes	Golden Suncup	SC			
Catostomus clarkii	Desert Sucker	SC	S	S	
Catostomus latipinnis	Flannelmouth Sucker	SC		S	
Cicindela oregona maricopa	Maricopa Tiger Beetle	SC			
Coccyzus americanus	Yellow-billed Cuckoo (Western U.S. DPS)	PT	S		WSC
Empidonax traillii extimus	Southwestern Willow Flycatcher	LE			WSC
Euderma maculatum	Spotted Bat	SC	S	S	WSC
Gila seminuda	Virgin River Chub	LE			WSC
Gopherus agassizii	Mohave Desert Tortoise	LT			WSC
Gymnogyps californianus	10J area for California condor				
Heloderma suspectum cinctum	Banded Gila Monster	SC			
Idionycteris phyllotis	Allen's Lappet-browed Bat	SC	S	S	
Lepidomeda mollispinis mollispinis	Virgin Spinedace	SC		S	WSC
Lithobates yavapaiensis	Lowland Leopard Frog	SC	S	S	WSC
Pediomelum castoreum	Beaver Dam Scurfpea	SC			
Plagopterus argentissimus	Woundfin	LE,XN			WSC
Pyrgulopsis deserta	Desert Springsnail			S	
Rhinichthys osculus	Speckled Dace	SC		S	

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Please review the entire receipt for project type recommendations and/or species or location information and retain a copy for future reference. If any of the information you provided did not accurately reflect this project, or if project plans change, another review should be conducted, as this determination may not be valid.

Arizona's On-line Environmental Review Tool:

1. This On-line Environmental Review Tool inquiry has generated recommendations regarding the potential impacts of your project on Special Status Species (SSS) and other wildlife of Arizona. SSS include all U.S. Fish and Wildlife Service federally listed, U.S. Bureau of Land Management sensitive, U.S. Forest Service sensitive, and Arizona Game and Fish Department (Department) recognized species of concern.
2. These recommendations have been made by the Department, under authority of Arizona Revised Statutes Title 5 (Amusements and Sports), 17 (Game and Fish), and 28 (Transportation). These recommendations are preliminary in scope, designed to provide early considerations for all species of wildlife, pertinent to the project type you entered.
3. This receipt, generated by the automated On-line Environmental Review Tool does not constitute an official project review by Department biologists and planners. Further coordination may be necessary as appropriate under the National Environmental Policy Act (NEPA) and/or the Endangered Species Act (ESA).

The U.S. Fish and Wildlife Service (USFWS) has regulatory authority over all federally listed species under the ESA. Contact USFWS Ecological Services Offices: http://arizonaes.fws.gov/.

Phoenix Main Office
2321 W. Royal Palm Road, Suite 103
Phoenix, AZ 85021
Phone 602-242-0210
Fax 602-242-2513

Tucson Sub-Office
201 North Bonita, Suite 141
Tucson, AZ 85745
Phone 520-670-6144
Fax 520-670-6154

Flagstaff Sub-Office
323 N. Leroux Street, Suite 101
Flagstaff, AZ 86001
Phone 928-226-0614
Fax 928-226-1099

Disclaimer:

1. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area.
2. The Department's Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there.
3. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.
4. HDMS data contains information about species occurrences that have actually been reported to the Department.

Arizona Game and Fish Department Mission

To conserve, enhance, and restore Arizona's diverse wildlife resources and habitats through aggressive protection and

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management programs, and to provide wildlife resources and safe watercraft and off-highway vehicle recreation for the enjoyment, appreciation, and use by present and future generations.

Project Category: Transportation & Infrastructure,Bridge replacement/New Construction,In-stream geotech boring, abutments, stream crossing, realignment, channelization, rip rap, vegetation removal

Project Type Recommendations:

Based on the project type entered; coordination with Arizona Department of Environmental Quality may be required (http://www.azdeq.gov/).

Based on the project type entered; coordination with County Flood Control districts may be required.

Based on the project type entered; coordination with State Historic Preservation Office may be required http://azstateparks.com/SHPO/index.html

Based on the project type entered; coordination with U.S. Army Corps of Engineers may be required (http://www.spl.usace.army.mil/regulatory/phonedir.html)

During planning and construction, minimize potential introduction or spread of exotic invasive species. Invasive species can be plants, animals (exotic snails), and other organisms (e.g. microbes), which may cause alteration to ecological functions or compete with or prey upon native species and can cause social impacts (e.g. livestock forage reduction, increase wildfire risk). The terms noxious weed or invasive plants are often used interchangeably. Precautions should be taken to wash all equipment utilized in the project activities before and after project activities to reduce the spread of invasive species. Arizona has noxious weed regulations (Arizona Revised Statutes, Rules R3-4-244 and R3-4-245). See Arizona Department of Agriculture website for restricted plants http://www.azda.gov/PSD/quarantine5.htm. Additionally, the U.S. Department of Agriculture has information regarding pest and invasive plant control methods including: pesticide, herbicide, biological control agents, and mechanical control: http://www.usda.gov/wps/portal/usdahome. The Department regulates the importation, purchasing, and transportation of wildlife and fish (Restricted Live Wildlife), please refer to the hunting regulations for further information http://www.azgfd.gov/h_f/hunting_rules.shtml.

During the planning stages of your project, please consider the local or regional needs of wildlife in regards to movement, connectivity, and access to habitat needs. Loss of this permeability prevents wildlife from accessing resources, finding mates, reduces gene flow, prevents wildlife from re-colonizing areas where local extirpations may have occurred, and ultimately prevents wildlife from contributing to ecosystem functions, such as pollination, seed dispersal, control of prey numbers, and resistance to invasive species. In many cases, streams and washes provide natural movement corridors for wildlife and should be maintained in their natural state. Uplands also support a large diversity of species, and should be contained within important wildlife movement corridors. In addition, maintaining biodiversity and ecosystem functions can be facilitated through improving designs of structures, fences, roadways, and culverts to promote passage for a variety of wildlife.

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Hydrological considerations: design culverts to minimize impacts to channel geometry, or design channel geometry (low flow, overbank, floodplains) and substrates to carry expected discharge using local drainages of appropriate size as templates. Aquatic wildlife considerations: reduce/minimize barriers to migration of amphibians or fish (e.g. eliminate falls). Terrestrial wildlife: washes and stream corridors often provide important corridors for movement. Overall culvert width, height, and length should be optimized for movement of the greatest number and diversity of species expected to utilize the passage. Culvert designs should consider moisture, light, and noise, while providing clear views at both ends to maximize utilization. For many species, fencing is an important design feature that can be utilized with culverts to funnel wildlife into these areas and minimize the potential for roadway collisions. Guidelines for culvert designs to facilitate wildlife passage can be found at http://www.azgfd.gov/hgis/guidelines.aspx.

Minimization and mitigation of impacts to wildlife and fish species due to changes in water quality, quantity, chemistry, temperature, and alteration to flow regimes (timing, magnitude, duration, and frequency of floods) should be evaluated. Minimize impacts to springs, in-stream flow, and consider irrigation improvements to decrease water use. If dredging is a project component, consider timing of the project in order to minimize impacts to spawning fish and other aquatic species (including spawning seasons), and to reduce spread of exotic invasive species. We recommend early direct coordination with Project Evaluation Program for projects that could impact water resources, wetlands, streams, springs, and/or riparian habitats.

Preconstruction - Consider design structures and construction plans that minimize impacts to channel geometry (i.e. width/depth ratio, sinuosity, allow overflow channels) to avoid alteration of hydrological function. Identify whether wildlife species use the structure for roosting or nesting during anticipated construction period. Plan the timing of construction/maintenance to minimize impacts to wildlife species. In addition to the species list generated by the Arizona's On-line Environmental Review Tool, the Department recommends that surveys be conducted at the bridge and in the vicinity of the bridge to identify additional or currently undocumented bat, bird, or aquatic species in the project area. To minimize impacts to birds and bats, as well as aquatic species, consider conducting maintenance and construction activities outside the breeding/maternity season (breeding seasons for birds and bats usually occur spring - summer). Examining the crevices for the presence of bats prior to pouring new paving materials. When bats are present, the top of the crevices should be sealed to prevent material from dripping or falling through the cracks and potentially onto bats. If bats are present, maintenance and construction (including paving and milling) activities should be conducted during nighttime hours, if possible, when the fewest number of bats will be roosting. Consider incorporating roosting habitat for bats into bridge designs. Minimize impacts to the vegetation community. A revegetation plan should be developed to replace impacted communities. Unavoidable impacts to vegetation should be mitigated on-site whenever possible. During construction: Erosion control structures and drainage features should be used to prevent introduction of sediment laden runoff into the waterway. Minimize instream construction activity. If culverts are planned, mitigate impacts to wildlife and fish movement. Guidelines for bridge designs to facilitate wildlife passage can be found at http://www.azgfd.gov/hgis/guidelines.aspx.

Recommendations will be dependant upon goals of the fence project and the wildlife species expected to be impacted by the project. General guidelines for ensuring wildlife-friendly fences include: barbless wire on the top and bottom with the maximum fence height 42”, minimum height for bottom 16”. Modifications to this design may be considered for fencing anticipated to be routinely encountered by elk, bighorn sheep or pronghorn (e.g., Pronghorn fencing would require 18” minimum height on the bottom). Please refer to the Department's Fencing Guidelines located at http://www.azgfd.gov/hgis/guidelines.aspx.

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The Department recommends that wildlife surveys are conducted to determine if noise-sensitive species occur within the project area. Avoidance or minimization measures could include conducting project activities outside of breeding seasons.

The Department requests further coordination to provide project/species specific recommendations, please contact Project Evaluation Program directly.

Project Location and/or Species recommendations:

Heritage Data Management System records indicate that one or more listed, proposed, or candidate species or Critical Habitat (Designated or Proposed) have been documented in the vicinity of your project (refer to page 1 of the receipt). Please contact:
Ecological Services Office
US Fish and Wildlife Service
2321 W. Royal Palm Rd.
Phoenix, AZ 85021-4951
Phone: 602-242-0210
Fax: 602-242-2513

Recommendations Disclaimer:

1. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project.
2. These recommendations are proposed actions or guidelines to be considered during **preliminary project development**.
3. Additional site specific recommendations may be proposed during further NEPA/ESA analysis or through coordination with affected agencies.
4. Making this information directly available does not substitute for the Department's review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. The Department is interested in the conservation of all fish and wildlife resources, including those Special Status Species listed on this receipt, and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.
6. **Further coordination requires the submittal of this initialed and signed Environmental Review Receipt with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map).**
7. Upon receiving information by AZGFD, please allow 30 days for completion of project reviews. Mail requests to:

Project Evaluation Program, Habitat Branch
Arizona Game and Fish Department
5000 West Carefree Highway
Phoenix, Arizona 85086-5000
Phone Number: (623) 236-7600
Fax Number: (623) 236-7366

Terms of Use

By using this site, you acknowledge that you have read and understand the terms of use. Department staff may revise these terms periodically. If you continue to use our website after we post changes to these terms, it will mean that you accept such changes. If at any time you do not wish to accept the Terms, you may choose not to use the website.

1. This Environmental Review and project planning website was developed and intended for the purpose of screening projects for potential impacts on resources of special concern. By indicating your agreement to the terms of use for this website, you warrant that you

 APPLICATION INITIALS: _____

will not use this website for any other purpose.
2. Unauthorized attempts to upload information or change information on this website are strictly prohibited and may be punishable under the Computer Fraud and Abuse Act of 1986 and/or the National Information Infrastructure Protection Act .
3. The Department reserves the right at any time, without notice, to enhance, modify, alter, or suspend the website and to terminate or restrict your access to the website.
4. This Environmental Review is based on the project study area that was entered. The review must be redone if the project study area, location, or the type of project changes. If additional information becomes available, this review may need to be reconsidered.
5. A signed and initialed copy of the Environmental Review Receipt indicates that the entire receipt has been read by the signer of the Environmental Review Receipt.

Security:

The Environmental Review and project planning web application operates on a complex State computer system. This system is monitored to ensure proper operation, to verify the functioning of applicable security features, and for other like purposes. Anyone using this system expressly consents to such monitoring and is advised that if such monitoring reveals possible evidence of criminal activity, system personnel may provide the evidence of such monitoring to law enforcement officials. Unauthorized attempts to upload or change information; to defeat or circumvent security measures; or to utilize this system for other than its intended purposes are prohibited.

This website maintains a record of each environmental review search result as well as all contact information. This information is maintained for internal tracking purposes. Information collected in this application will not be shared outside of the purposes of the Department.

If the Environmental Review Receipt and supporting material are not mailed to the Department or other appropriate agencies within six (6) months of the Project Review Receipt date, the receipt is considered to be null and void, and a new review must be initiated.

Print this Environmental Review Receipt using your Internet browser's print function and keep it for your records. Signature of this receipt indicates the signer has read and understands the information provided.

Signature:_____

Date: _____

Proposed Date of Implementation: _____

Please provide point of contact information regarding this Environmental Review.

Application or organization responsible for project implementation

Agency/organization:_____

Contact Name: _____

Address: _____

 APPLICATION INITIALS: _____

City, State, Zip: _____

Phone: _____

E-mail: _____

Person Conducting Search (if not applicant)

Agency/organization:_____

Contact Name: _____

Address: _____

City, State, Zip: _____

Phone: _____

E-mail: _____

 APPLICATION INITIALS: _____

JACOBS

Memorandum

101 N. 1st Avenue, Suite 2600
Phoenix, Arizona 85003
United States
T +1.602.253.1200
F +1.602.253.1202
www.jacobs.com

Date: March 16, 2017

Attention: Josh Fife, Biology Team Lead, ADOT Environmental Planning

From: Bruce Palmer, Biologist, Jacobs

Subject: Virgin River Bridge #1 Biological Evaluation Addendum - Full Bridge Replacement

Copies to: Nancy Shelton, Environmental Planner, Jacobs

INTRODUCTION

Arizona Department of Transportation (ADOT) proposes to repair or replace the Virgin River Bridge Number 1 on Interstate 15 (I-15) located in Littlefield and Beaver Dam, Mohave County, Arizona. A Biological Evaluation (BE) titled *Biological Evaluation, Virgin River Bridge #1 (STR #1089)* dated April 2016 was provided to U.S. Fish and Wildlife Service (USFWS) for review on May 5, 2016, which addressed repairing the bridge by replacing and widening the superstructure. Subsequently, ADOT identified additional modifications to the proposed action for total replacement of the existing bridge. These additional project components were not evaluated in the BE prepared for this project. This memorandum describes the actions that have been added to the project, provides a summary of the differences between the previous project scope and the new project scope, and provides an assessment of potential biological impacts that could occur as a result of the change in project activities that were not considered in the original BE. As an addendum, this memorandum tiers to and is dependent on the analysis provided in the original BE.

PROPOSED PROJECT DESCRIPTION

Brief Project Description of Full Bridge Replacement

The proposed action being considered in this BE addendum consists of fully reconstructing in place all parts of Bridge No. 1:

- Investigating geotechnical conditions
- Establishing temporary access to the river bottom for construction, which may include:
    - Using one or more of three access routes on the northeast side of the existing bridge, as well as a southwest access route
    - Improving the access roads (e.g., grading, adding base material) to allow safe passage for cranes and other construction equipment

  - Constructing access roads and work areas within portions of the Virgin River 100-year floodplain
  - Constructing a temporary bridge across the Virgin River low-flow channel to allow construction personnel to cross the river
  - Constructing cofferdams or diversion barriers, as needed
  - Constructing temporary crane pads beneath the bridge and using a crane to place the new girders and for other bridge construction
- Widening the bridge deck to provide shoulders that meet current design criteria (4-foot inside shoulders and 10-foot outside shoulders)
- Widening the I-15 roadway approaches to match the new bridge width
- Demolishing the existing piers and removing the material from the project area
- Constructing a bridge drainage containment system that would include:
  - Collecting stormwater from the bridge deck via pipes located under the bridge deck on each side of the bridge to carry water off the bridge to the west
  - Constructing a pipe under I-15 to convey the water from the north side of the bridge to the southern roadside ditch
  - Clearing the existing roadside ditch and retention pond located south of the bridge
  - Releasing the bridge stormwater into the roadside ditch
- Removing sandbags retaining flows from a spring locally known as “Little Jamaica” and protecting the area
- Employing best management practices (BMPs)
- Signing and striping, as necessary

This design would require less routine maintenance of the bridge and would have a longer structural life than the rehabilitation project design analyzed in the original BE because the entire bridge would be replaced and the existing piers would not be reused. The change in project design remains within the project limits as identified in the original BE; no project activities would occur outside of the project limits boundary. This full bridge replacement would include construction of a new four lane bridge with 12-foot wide travel lanes, a 6-foot inside shoulder, and a 12-foot outside shoulder at the existing bridge location. The replacement bridge would be constructed of weathered steel and concrete; and would blend with the colors of the landscape.

Comparison of Bridge Widening and Rehabilitation with Full Bridge Replacement

With full bridge replacement, a new pier consisting of two support structures would be constructed to replace each of the existing four piers, and would be offset approximately 20 feet from the current piers.

The new pier would be wider than the current structures to accommodate the expanse of the bridge; however, each new pier would be similar or slightly narrower in thickness. The footings would extend below scour depth (or be embedded in bedrock); therefore, there would be no need for scour protection of the existing piers as analyzed in the original BE. Once the bridge replacement is complete, the existing piers would be demolished and the material would be removed from the project area. It is anticipated that the piers would be cut and removed in pieces. The foundations would be excavated to below the grade of the river bottom (approximately 20 feet in depth) and cut off; the remaining buried structure would remain in place. There would be a slight increase in the duration of work conducted within the river bottom for the full bridge replacement; and a slight increase in the magnitude of disturbance due to the excavation and removal of the piers and placement of the new piers. Otherwise, the full bridge replacement would include the same design features and project footprint as the bridge widening and rehabilitation considered in the original BE. The same access roads and staging areas would be used. The impoundments and diversions used to create "Little Jamaica" from the spring outflow along the east-side bluff would be removed, the outflow area would be protected (e.g., fencing; boulders) and the spring water would be allowed to travel downslope to the river.

Bridge replacement would result in the same area of disturbance and vegetation removal within the river bottom as described in the BE for bridge rehabilitation. Coffer dams or similar methods to create dry work areas would be required, and placement and construction of piers would avoid the low flow channel. A temporary bridge for construction equipment would be built over the low flow channel, crane pads would be used, and heavy equipment would maneuver within the wash bottom while avoiding work within the river to the extent possible. The finished footprint for bridge replacement would be comparable to bridge rehabilitation addressed in the BE.

In summary, replacing Virgin River Bridge #1 with a new bridge structure may result in permanent modification of the river bottom under the bridge; and temporary disturbance or modification to up to 28 acres of river bottom/floodplain habitat (out of a total of 105 acres of land included within the project limits) resulting in a slight increase in the magnitude and duration of disturbance within the river bottom than as considered in the original BE.

SPECIES EVALUATION

Sixteen federally protected and BLM sensitive species were evaluated in the BE for project impacts. Each species is re-evaluated within this BE addendum to address changes in project description associated with full bridge replacement and identify if these changes may result in affects to the species not considered in the original BE.

Federally Protected Species

California Condor- as discussed in the BE, the project area provides potential foraging habitat for the condor: "Foraging by California condors is not associated with water, but rather involves hunting terrestrial

animals in open country. Construction activities would be localized along the Virgin River over a period of about two years, and, over this time period, would be likely to generate trash that could potentially attract condors to the project area. Mitigation measures would be put in place to ensure that the work areas are kept clean and that no trash is stored onsite."

Replacement of the bridge structure at its current location and the increased duration of construction activities in the river bottom would not extend the timeframe of the overall project, and additional pier construction in the river bottom would not affect condor forging habitat or alter condor foraging activities. Prior project mitigation measures would remain in place to prevent water contamination, trash accumulation, or habitat degradation. Therefore, changes to the project design would not result in additional affect to condors than that addressed in the original BE:

- The Project would have no effect to the California condor.

Mojave Desert Tortoise- as discussed in the BE: "Mojave desert tortoises are known to occur within 3 miles of the project limits and individual Mojave desert tortoises have been documented in the project area. Vegetation removal could cause injury or death to Mojave desert tortoise individuals either by direct collision or from collapse of underground burrows resulting from soil compaction. Temporary increases in vehicles and construction equipment movement through these areas presents a potential for injury or death by direct collision." Mitigation measures including pre-construction surveys and installation of tortoise fencing would be put in place to ensure that there are no additional impacts to the tortoise. The 15 total acres of temporary habitat loss considered in the original BE would be the same for either replacement or rehabilitation of the bridge. The area of disturbance would remain within the project limits previously evaluated in the BE. Therefore, changes to the project design would have no additional affects to the Mojave desert tortoise. The determination of effects remains as presented in the BE:

- This project may affect, but is not likely to adversely affect the Mojave desert tortoise.

Southwestern Willow Flycatcher - Potentially suitable migratory stopover and foraging habitat is present within the project area. Roughly 0.90 acre of potentially suitable southwestern willow flycatcher habitat occurs within the project limits that could be temporarily disturbed due to project activities, including a salt cedar grove. Potential indirect effects of project activities to the southwestern willow flycatcher include the permanent modification of river bottom habitat under the bridge (though the small patches of vegetation currently present do not provide suitable nesting habitat); these impacts reflect the situation associated with the current bridge and the impact to vegetation was evaluated as temporary in the original BE. A slightly longer duration for construction activities within the river bottom would not be anticipated to result in additional disturbance to foraging or nesting southwestern willow flycatchers since the impact of vegetation removal has already been considered in the BE and birds would not be expected to be in close proximity to construction activities due to the extent of vegetation removal. As disclosed in the original BE, direct effects to designated critical habitat for southwestern willow flycatcher could include removal of riparian vegetation within this dynamic successional riverine environment. Of the roughly 25 acres that lie

within the project limits that could be temporarily disturbed by project activities, only roughly 1 acre is potentially suitable southwestern willow flycatcher habitat. Other vegetation potentially disturbed within designated critical habitat does not meet the density and height preferred by this species. Temporary removal of potentially suitable southwestern willow flycatcher habitat within designated critical habitat could occur within the roughly 0.90 acre salt cedar stand due to construction activities within the channel. Approximately 0.20 acre would be removed for the access route; the remaining roughly 0.70 acre of this stand could also be temporarily disturbed from other construction activities.

Changes to the project design would not increase the area of designated critical habitat affected by project activities; the determination of effect would not change from that presented in the BE: this project may result in direct and indirect effects to the southwestern willow flycatcher and its designated critical habitat; therefore, the following determination statements apply:

- This project may affect, and is likely to adversely affect the southwestern willow flycatcher.
- This project may affect, and is likely to adversely affect designated critical habitat of the southwestern willow flycatcher.

Virgin River Chub and Woundfin- Though new piers would be constructed under the full bridge replacement project, this would not result in additional impacts to the river channel or stream hydrology than already considered in the BE. The slightly longer duration of activities within the river bottom may result in fish being excluded from the area for a slightly longer time, but these effects are within the context of impacts evaluated in the BE. Project mitigation measures as described in the BE would remain in place to minimize potential direct impacts to Virgin River chub and woundfin and include: "(1) building a temporary bridge across the channel so that vehicles and equipment do not enter the channel, (2) seining and relocating native fish prior to in-stream activities, and (3) containment measures to minimize debris from inadvertently falling into the river." Therefore, changes to the project design would have no additional affects to the Virgin River chub or woundfin. Project effects would remain as evaluated in the BE:

This project may result in direct and indirect effects to individuals of Virgin River chub and woundfin and to designated critical habitat for the Virgin River chub and the woundfin; therefore, the following determination statements apply:

- This project may affect, and is likely to adversely affect the Virgin River chub.
- This project may affect, and is likely to adversely affect designated critical habitat of the Virgin River chub.
- This project may affect, and is likely to adversely affect the woundfin.
- This project may affect, and is likely to adversely affect designated critical habitat of the woundfin.

Yellow-billed Cuckoo – Suitable cuckoo habitat occurs south of the bridge and was previously analyzed in the BE. Proposed changes to the project would occur within the same alignment as the current bridge

location and would not impact suitable habitat for the cuckoo. Disturbance to the river bottom would not be anticipated to alter the foraging habitat for cuckoos. A slightly longer duration for construction activities within the river bottom would not be anticipated to result in additional disturbance to foraging or nesting cuckoos since the impact of vegetation removal has already been considered in the BE and birds would not be expected to be in close proximity to construction activities due to the extent of vegetation removal.

Prior project mitigation measures would remain in place to prevent water contamination, nest disturbance, or habitat degradation. Therefore, changes to the project design would have no additional effect to the yellow-billed cuckoo or its proposed critical habitat. Project effects would remain as evaluated in the BE:

- This project may affect, but is not likely to adversely affect the yellow-billed cuckoo.
- This project may affect, but is not likely to adversely affect proposed critical habitat of the yellow-billed cuckoo.

Yuma Clapper Rail – as discussed in the BE: "Just north of the bridge along either bank is the only potentially suitable [though minimal] habitat within the project limits…. A monotypic common reed marsh occurs north of Bridge No. 1. … [However] Due to the lack of cattails and its elevated location above the floodplain, this area is not considered as potentially suitable Yuma clapper rail habitat." Changes to the project design would have no additional effect to the Yuma clapper rail or its habitat. Therefore, changes to the project design would not result to additional affect to the Yuma clapper rail than as addressed in the original BE:

- The Project would have no effect to the Yuma clapper rail.

Virgin Spinedace - Though new piers would be constructed under the full bridge replacementproject, this would not result in additional impacts to the river channel or stream hydrology than already considered in the BE. The slightly longer duration of activities within the river bottom may result in fish being excluded from the area for a slightly longer time, but these effects are within the context of impacts evaluated in the BE. Project mitigation measures identified in the BE would remain in place to minimize potential direct and indirect effects and include: (1) building a temporary bridge across the channel so that vehicles and equipment do not enter the channel, (2) seining and relocating native fish prior to in-stream activities, and (3) containment measures to minimize debris from inadvertently falling into the river. Therefore, changes to the project design would have no additional affects to the Virgin spinedace than as evaluated in the BE:

- This project may affect, and is likely to adversely affect the Virgin spinedace.

BLM Sensitive Species

Allen's Big-eared Bat – as discussed in the BE: Roosting habitat for the Allen's big-eared bat is not available within the project limits. Project-related impacts to habitat would not be anticipated to alter the foraging behavior for bats; however, "[t]he vegetation disturbed could result in a potential loss in insects; this impact would be considered … minor, due to the amount of intact vegetation supporting insect populations in the project area…." Temporary disturbance to foraging habitat due to additional duration of activities at the bridge would not be anticipated to alter the foraging habitat for bats. Therefore, changes to the project design for construction of a full replacement bridge would have no additional affects to the bat than as evaluated in the BE:

- This project may impact individuals of the Allen's big-eared bat, but it is not likely to result in a trend toward federal listing or loss of viability.

American Peregrine Falcon - as discussed in the BE, the project area provides potential foraging habitat for the peregrine: "The project area would only be used as foraging habitat by American peregrine falcons. …Optimal foraging habitat is considered to be areas that support a high abundance of birds, such as riparian habitats. Riparian habitat in the project area consists of open riverine areas with scattered salt cedar, cattail, common reed marshes, and cottonwood galleries that provide habitat for breeding birds. The riverine area provides potential habitat for ducks, which also are a common prey item for American peregrine falcons. Consequently, disturbances resulting from the proposed project construction activities would result in temporary restrictions on foraging by American peregrine falcons." A slightly longer duration for construction activities in the river bottom would not be anticipated to alter the foraging habitat for falcons. Therefore, changes to the project design would have no additional affects to the bird than as evaluated in the BE:

- This project may impact individuals of the American peregrine falcon, but it is not likely to result in a trend toward federal listing or loss of viability.

California Leaf-nosed Bat and Townsend's Big-eared Bat – as discussed in the BE: "Bridge roosting habitat, which is used less-commonly by these species, would be temporarily unavailable for the duration of construction. The effects on the California leaf-nosed bat the Townsend's big-eared bat from this removal of roosting habitat is expected to be (1) minor, as preferred roosting habitat is available in the project vicinity, and (2) temporary, as the bridge will be available again as undisturbed roosting habitat upon completion of the project." The full bridge replacement could increase the availability of roosting habitat for the bat once construction is completed, depending on bridge design details (e.g., expansion joints). "Temporary disturbance to foraging habitat due to additional duration of activities at the bridge would not be anticipated to alter the foraging habitat for bats; however, "[t]he vegetation disturbed could result in a potential loss in insects; this impact would be considered … minor, due to the amount of intact vegetation

supporting insect populations in the project area…." Therefore, changes to the project design would have no additional affects to the bats than those evaluated in the BE:

- This project may impact individuals of the California leaf-nosed bat or Townsend's big-eared bat, but it is not likely to result in a trend toward federal listing or loss of viability.

Desert Springsnail - as discussed in the BE: "within the project limits are tall sedimentary rock bluffs composed of sandstone or limestone which contain natural seeps… Water from these seeps flows in a small stream into the Virgin River near Pier 4. This stream flows through rocky areas and could contain habitat suitable to the desert springsnail. Additionally, the cattail marsh south of Bridge No. 1 appears to be fed by a cold-water underground seep… However, in part due to the easy access, the springs and seeps that do exist around Bridge No. 1 are disturbed. The seeps north of Bridge No. 1 are surrounded by monotypic canyon grape. Additionally, the area southeast of the bridge has been altered and sandbagged to hold standing water for recreational use. Therefore, area around these seeps and springs is considered low quality habitat for the desert springsnail... [I]t is likely that project construction would affect the seeps and surrounding vegetation. These impacts would be temporary as lost vegetation is expected to regrow after project completion. Therefore, indirect impacts to the desert springsnail are possible, but not expected."

Changes to the project design to include construction of a full replacement bridge include removing the sandbags that impound the spring outflow, and protecting the area around the seep. These actions could potentially result in improved habitat conditions for the springsnail over the long-term than as considered in the BE; short-term effects remain as evaluated:

- This project may impact individuals of the desert springsnail, but it is not likely to result in a trend toward federal listing or loss of viability.

Desert Sucker, Flannelmouth Sucker, and Speckled Dace - Though new piers would be constructed under the full bridge replacement project, this would not result in additional impacts to the river channel or stream hydrology than already considered in the BE. The slightly longer duration of activities within the river bottom may result in fish being excluded from the area for a slightly longer time, but these effects are within the context of impacts evaluated in the BE. Prior project mitigation measures would remain in place to minimize potential direct impacts to desert sucker, flannelmouth sucker, and speckled dace, and include: (1) building a temporary bridge across the channel so that vehicles and equipment do not enter the channel, (2) seining and relocating native fish prior to in-stream activities, and (3) containment measures to minimize debris from inadvertently falling into the river.". Therefore, changes in project design for construction of full bridge replacement would not result in additional affects to these fish as evaluated in the BE:

- This project may impact individual desert sucker, flannelmouth sucker, and speckled dace, but is not likely to result in a trend toward federal listing or loss of viability.

Golden Eagle - as discussed in the BE, the project area provides potential foraging habitat for the golden eagle: "Foraging by golden eagles is not associated with water, but rather involves hunting terrestrial animals in open country. Project activities would be localized along the Virgin River such that they would not affect foraging by golden eagles. Consequently, project activities would not affect baseline conditions for golden eagles that could occur in the project area."

Permanent loss of habitat due to shifting of the roadway 40 feet north would not be anticipated to alter the foraging habitat for eagles. Therefore, changes to the project design for construction of a full replacement bridge would have no additional affects to the bird as evaluated in the BE:

- This project would have no impact on the golden eagle.

Silverleaf Sunray - as discussed in the BE, "This project would result in disturbance of up to approximately 15 acres of upland desertscrub habitat during both the geotechnical investigation and project construction, use of staging areas, and a specified route for vehicles to access the work area. Activities in these areas would result in soil disturbance that could change baseline conditions for potential colonization of the project limits by the silverleaf sunray." "Surveys would be conducted in upland desertscrub areas prior to either the geotechnical investigation or project construction." With the project mitigation measures in place, changes to the project design would have no additional affects to the plant than as evaluated in the BE:

- This project may impact individuals of the silverleaf sunray, but it is not likely to result in a trend toward federal listing or loss of viability.

Spotted Bat - as discussed in the BE: "The prominent bat roosting habitat within the project limits underneath Bridge #1 is not expected to be used by the spotted bat as this species is not known to utilize bridges for roosting. The riparian and upland desertscrub areas found within the project limits could be used for nocturnal foraging. This species is known to utilize habitat such as that found within the project limits for nocturnal foraging; however, no nighttime work is anticipated for this project except for the temporary setting of girders. Temporary disturbance to foraging habitat due to additional duration of activities at the bridge would not be anticipated to alter the foraging habitat for bats. Bats in the area may avoid foraging near the construction activity; however, there is abundant alternative foraging habitat along the river corridor for individuals to use during this project activity."

The effects on the spotted bat from this removal of roosting habitat are expected to be "(1) minor, as preferred roosting habitat is available in the project vicinity, and (2) temporary, as the bridge will be available again as undisturbed roosting habitat upon completion of the project." Therefore, changes to the project design for construction of a full replacement bridge would have no additional affects to the bat than already considered in the BE:

- This project may impact individuals of the spotted bat, but it is not likely to result in a trend toward federal listing or loss of viability.

From:	Joshua Fife
To:	Harris, Jill
Cc:	Shelton, Nancy; Palmer, Bruce
Subject:	RE: H8760 - BE addendum
Date:	Thursday, March 23, 2017 12:29:24 PM

Thanks Jill. This document is approved and has been sent to Bob at FWS.

Josh

From: Harris, Jill [mailto:Jill.Harris@jacobs.com]
Sent: Thursday, March 16, 2017 11:53 AM
To: Joshua Fife
Cc: Shelton, Nancy; Palmer, Bruce
Subject: RE: H8760 - BE addendum

Hi Josh,

I have revised the addendum to clarify the statement regarding the piers being "narrower". The 2 support structures that compose each single pier will be wider overall to accommodate the wider bridge structure, but each individual component will be narrower (not as thick a profile in the river bottom). The doc now reads:

"With full bridge replacement, a new pier consisting of two support structures would be constructed to replace each of the existing four piers, and would be offset approximately 20 feet from the current piers. The new pier would be wider than the current structures to accommodate the expanse of the bridge; however, each new pier would be similar or slightly narrower in thickness."

Please let me know if you have any additional comments.

Jill R. Harris
Biologist/Environmental Planner
Jacobs Engineering, Inc.
101 S. 1st Ave. Suite 2600, Phoenix, AZ 85003
602.740.1541

From: Joshua Fife [mailto:JFife@azdot.gov]
Sent: Wednesday, March 15, 2017 1:09 PM
To: Shelton, Nancy; Harris, Jill
Subject: FW: H8760 - BE addendum

Nancy,
Just one comment from John. He caught this during his review.

Lets just verify. Change if necessary and we can just send Bob a revised copy.

Josh

From: John Wennes
Sent: Tuesday, March 07, 2017 9:53 AM
To: Joshua Fife
Subject: RE: H8760 - BE addendum

Josh;

Just a minor edit/comment (attached)

John Wennes
Environmental Planner
ADOT Environmental Planning
1611 W. Jackson Street Mail Drop EM02
Phoenix, AZ 85007
602.712.6974
JWennes@azdot.gov

From: Shelton, Nancy [mailto:Nancy.Shelton@jacobs.com]
Sent: Monday, March 06, 2017 9:12 AM
To: Joshua Fife
Cc: John Wennes; Defend, Beth; Palmer, Bruce; Wilbrink, Berwyn
Subject: H8760 - BE addendum

Hi Josh,
The BE addendum addressing the reconstruction of the bridge in place is attached. Please let us know if you have questions/comments.

Thanks,
Nancy Shelton
JACOBS
Senior Environmental Planner

101 North First Avenue, Suite 2600
Phoenix, Arizona 85003
p: 602.530.1612

United States Department of the Interior
Fish and Wildlife Service
Arizona Ecological Services Office
9828 N. 31st Avenue Ste C3
Phoenix, AZ 85051
Telephone: (602) 242-0210 Fax: (602) 242-2513

AESO/SE
02EAAZ00-2014-F-0649
02EAAZ00-2014-CPA-0030

August 8, 2017

Karla S. Petty, Arizona Division Administrator
U.S. Department of Transportation
Federal Highway Administration
4000 North Central Avenue, Suite 1500
Phoenix, Arizona 85012-3500

RE: I-15 Virgin River Bridge 1 Replacement Project
FHWA File # 015-A(211)T
ADOT File # 015-MO-008-H8760-01L

Dear Ms. Petty:

Thank you for your request for formal and informal consultation and informal conference with the U.S. Fish and Wildlife Service (FWS) pursuant to section 7 of the Endangered Species Act of 1973 (16 U.S.C. 1531-1544), as amended (Act). At issue are effects of a construction project at Bridge 1 on Interstate 15 (I-15), over the Virgin River, in Mohave County, Arizona, proposed by the Federal Highway Administration (FHWA) and Arizona Department of Transportation (ADOT). We received an initial consultation request, dated May 3, 2016, via electronic mail (email) on May 5, 2016. We also received the biological evaluation (BE) for the proposed action, dated April 26, 2016, on May 5, 2016.

At that time, the BE and consultation request were based on rehabilitation (widening) of the Bridge 1 deck and application of scour countermeasures at the base of the bridge's supporting piers. On May 6, 2016, we received an email from ADOT indicating that the Bridge 1 project had been placed on hold. The purpose of the delay was to allow FHWA and ADOT time to consider the alternative of a full bridge replacement.

On May 26, 2016, we received another email from ADOT indicating that we should continue with our consultation on the Bridge 1 project based on the rehabilitation alternative. On September 22, 2016, ADOT notified us by phone that the I-15 bridge rehabilitation and scour retrofit project had been placed on hold, again to allow time to consider bridge replacement as an alternative. On March 23, 2017, we received by email an addendum to the original BE providing a new project description and additional analysis of effects to listed species based on the full-bridge-replacement alternative. That alternative consists of fully reconstructing in place all parts of Bridge 1.

In your consultation request, dated May 3, 2016, and in the project addendum we received on March 23, 2017, you concluded that the proposed action "may affect, and is likely to adversely affect" the endangered southwestern willow flycatcher (*Empidonax traillii extimus*) (flycatcher), endangered Virgin River chub (*Gila robusta seminuda*) (chub), and endangered woundfin (*Plagopterus argentissimus*) (woundfin), and designated critical habitat for all three of these species. You also concluded that the proposed action "may affect, and is likely to adversely affect" the Virgin spinedace (*Lepidomeda mollispinus mollispinus*), which is not listed under the Act, but has a conservation agreement and strategy signed by FWS in April 1995 and revised in January 2002. In addition, you concluded that the proposed action "may affect, but is not likely to adversely affect" the threatened Distinct Population Segment (DPS) of the western yellow-billed cuckoo (*Coccyzus americanus*) (cuckoo) and the cuckoo's proposed critical habitat. Finally, you concluded that the proposed action "may affect, but is not likely to adversely affect" the threatened Mojave desert tortoise (*Gopherus agassizii*) (tortoise).

Below we provide a biological opinion (BO) on effects to the flycatcher, chub, woundfin, and designated critical habitat for all three species. We concur with your determination of "may affect, but is not likely to adversely affect" for the cuckoo and its proposed critical habitat, and provide our concurrence and conference report in Appendix A. We also provide our concurrence for the tortoise in Appendix A. There is no requirement to consult with FWS on the Virgin spinedace at this time. Conservation measures in the proposed action that are applied to the woundfin and chub should also minimize effects to the Virgin spinedace. The conservation agreement and strategy mentioned above is available on our website (https://www.fws.gov/southwest/es/arizona/Virgin_Spinedace.htm).

This BO is based on information provided in the April 26, 2016, BE and on the addendum to the BE received on March 23, 2017, and on information in email correspondence, telephone conversations, field investigations, and other sources of information found in the administrative record supporting this BO. Literature cited herein is not a complete bibliography of all literature available on the species of concern, bridge construction projects and their effects, or on other subjects considered in this opinion. A complete administrative record of this consultation is on file at this office (file number 02EAAZ00-2014-F-0649).

Consultation History

July 10, 2014	We received the scoping letter for this project.
May 5, 2016	We received an initial request for formal and informal consultation along with the final BE for this project, dated April 26, 2016.
May 6, 2016	We received an email from ADOT indicating that the Bridge 1 project had been placed on hold to allow time for FHWA and ADOT to consider the alternative of replacing Bridge 1 rather than doing a bridge rehabilitation (bridge widening and scour retrofit).
May 26, 2016	We received an email from ADOT indicating that we should proceed with the original consultation request (the bridge replacement alternative).

June 30, 2016	We sent the FHWA a letter indicating that all information required to initiate consultation was included in the April 26, 2016, BE and May 5, 2016, consultation request.
September 22, 2016	We received a phone call from ADOT placing the I-15 bridge rehabilitation and scour retrofit project on hold to allow further consideration of the full-bridge-replacement alternative.
March 23, 2017	We received by email an addendum to the original BE providing a new project description, based on the full-bridge-replacement alternative, and additional analysis of effects to listed species, along with a request for formal and informal consultation and informal conference.
August 3, 2017	We sent you our draft BO.

BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

The following summary of the proposed action is taken from the BE and the addendum to the BE. Maps, photographs, and diagrams of the action and action area are included in the BE and addendum and are incorporated herein by reference.

Throughout the BE and in this BO, the term "project limits" is used to represent the construction footprint (area of disturbance), while the term "project area" also includes surrounding lands outside but adjacent to the project limits. In the BE, the term "project vicinity" is used to denote a more expansive landscape context. However, in this BO, we do not use the term "project vicinity." Instead we use the term "action area" in a similar context, as defined below.

I-15 spans 29.4 miles across the northwestern corner of Arizona and includes seven bridges within Arizona, all constructed in the 1960s and 1970s. Bridge 1 was constructed in 1964 and is located near the unincorporated community of Littlefield, Arizona at milepost (MP) 9.55. The project would begin at MP 8.63 and end at MP 9.84, a total of 1.21 miles (mi).

Within the project limits, I-15 has four 12-foot (ft)-wide travel lanes (two northbound and two southbound) with shoulders of varying widths. This stretch of I-15 carries a high level of truck traffic that has increased deterioration rates on the pavement and bridge infrastructure. In addition, the outside shoulders within the project limits are as narrow as four feet and do not allow room for trucks or other vehicles to pull off the road. The purpose of the project is to maintain I-15 as a safe regional transportation corridor.

An itemized summary of construction activities involved in replacing Bridge 1 is presented below. Expanded descriptions of each activity follow.

- Investigate geotechnical conditions;
- Establish temporary access to the river bottom by:

  - Using one or more of four existing dirt roads, three on the north side of the existing bridge, and one southwest of the bridge;
  - Creating consistent road widths and conditions for cranes and other construction equipment by clearing, grading, and widening access roads and by adding base material and temporary fill if necessary.
  - Constructing work areas within portions of the Virgin River 100-year floodplain (the area with a one percent likelihood of flooding during any given year), which may require grading and filling portions of the floodplain;
  - Constructing temporary crane pads beneath the existing bridge;
  - Constructing a temporary bridge across the Virgin River low-flow channel to allow construction personnel and equipment to cross the river;
- Remove and replace existing bridge deck, girders, median, and exterior barriers;
- Construct four new bridge piers to replace the existing four bridge piers;
- Add new girders to support a wider bridge deck;
- Widen the bridge deck to provide 4 12-ft-wide travel lanes and shoulders that meet current design criteria (6-ft-wide inside and 12-ft-wide outside);
- Construct new bridge abutments as necessary;
- Widen the I-15 roadway approaches to match the new bridge width;
- Demolish existing piers and remove the material from the project area;
- Construct a new bridge containment system that would include:
  - Collection of storm water from the bridge deck via pipes located under the deck on each side of the bridge;
  - Construction of a pipe under I-15 to convey water from the bridge to a roadside ditch on the south side of the bridge;
- Sign and stripe the bridge and roadway as necessary.

The current bridge design would require less maintenance and would have a longer structural life than the rehabilitation design analyzed in the original BE because the entire bridge would be replaced and the existing piers would not be reused. The change in project design would not affect the project limits as described in the original BE. The replacement bridge would be constructed of weathered steel and concrete and would blend with the colors of the landscape.

Project construction would still occur over a period of about two years and would be limited to daylight hours, except for setting the girders and pouring the deck, which may require temporary night work. No blasting would be required for the project. The following discussions of activities are accurate according to what is currently anticipated for the project and should be assumed as likely to occur. Construction is anticipated to begin in FY 2019.

Geotechnical Investigation

Prior to bridge construction, a geotechnical investigation would be needed to support engineering recommendations for new pier construction and widening of the new bridge. Geotechnical activities are likely to start in 2019, would last one month, and are likely to include:

- Drilling of up to 35 test borings with casing-advancer methods in soil, and triple-tube-coring in rock, to depths of 10-80 ft below existing site grades;

- Plugging test holes with native materials or a cement/bentonite mixture and capping of holes with small amounts of concrete.

Geotechnical activities would require a track-mounted drill rig to access and maneuver around boring locations under the bridge. Borings would occur no more than 30 ft from existing bridge piers. The drill rig would be placed on rubber mats for any borings done within wetland areas or adjacent to streams. Geotechnical activities would avoid springs, seeps, and the low-flow channel. Assuming an 8-inch boring diameter and 35 borings plugged and capped, approximately 12 square ft of permanent impacts are expected.

Access and Equipment in the Floodplain

All equipment needed for geotechnical work and construction (e.g., drill rig, cranes, excavators, hoe-rams, trucks, and hydraulic lifts) would take advantage of existing dirt roads for access to work areas. In addition, equipment would operate and maneuver in all four quadrants below Bridge 1 to access the existing piers and new pier sites.

The temporary bridge allowing personnel and equipment to cross the river during construction would sit above the river channel. Fill (such as rip-rap) would be placed on both sides of the low-flow channel as part of the temporary bridge abutments. Abutments would need to be constructed within the low-flow channel and would require drilled shafts up to 20 ft deep to remain stable. Two temporary piers would also be required within the channel. Any abutments or piers within the low-flow channel would be sufficiently reinforced to prevent the temporary bridge from washing out during a high flow event. The temporary bridge would be constructed so that it could be picked up and moved by a crane. Abutments would remain in place until the bridge is no longer needed. Cofferdams or other water exclusion devices or methods would be used in the low-flow channel to provide a dry work area, as described below.

Piers

The existing bridge is supported by four piers running west (from Pier 1) to east (to Pier 4), all four of which lie in the 100-year floodplain. The low flow channel is between Piers 3 and 4 but is closest to Pier 3.

With the full bridge replacement alternative, new piers consisting of two support columns each would be constructed to replace each of the existing four piers, and would be offset approximately 20 ft from the current piers. New pier caps would be wider than the current structures to accommodate a wider bridge; however, the new piers would be similar in thickness or slightly narrower at the base. None of the new piers would be placed in the low flow channel.

Existing piers would be demolished and all above grade materials from these piers would be removed from the construction site. Pier foundations below grade would be left in place and would be covered by material from the river channel so that nothing would be visible from the surface.

Foundation work for the new piers would extend out 30 ft in all directions from existing piers and would require use of track-excavators and possibly backhoe-mounted hoe-rams. Rock

removal may be required to construct the additional columns at Piers 1 and 4. Jackhammers or drills may be used for rock removal in these locations. If the foundation area requires additional anchoring, anchors would be drilled into the rock and tied to the foundations to secure the footings.

At Piers 2 and 3, it is likely that drilled shaft supports, extending beneath the river bed up to 70 ft to bedrock and connecting to rock sockets drilled approximately 10 ft into the bedrock, would be required for each new column. As a scour countermeasure, a concrete curtain wall connecting the columns at Piers 2 and 3 would likely be constructed to stabilize the new piers. The new sections of the curtain wall would be constructed above the low-flow elevation to reduce the deflection of streamflow.

Cofferdams and Dewatering

Temporary bridge construction and drilling of pier shafts for Piers 3 and 4 would require a dry work area requiring the use of cofferdams to divert flows around new pier sites. L-panels may also be required to further constrain and direct flows appropriately. Cofferdams would be constructed as a roughly 20-ft wide perimeter around the north, east, and south sides of the new pier footprints for Piers 3 and 4. River water would be screened and filtered as it is pumped out of the work area and then returned to the river channel downstream of the diversion. Because the dams would leak to some degree and groundwater could infiltrate the dry work area, dewatering would occur throughout the period that water diversions are used. Construction within the low-flow channel would require approximately three months.

Fish Capture and Translocation

Before dewatering of the work area, fish and native frogs would be removed and translocated following a fish salvage protocol developed for this project (ADOT 2017) and as outlined in the conservation measures for the chub and woundfin listed below. The salvage protocol and conservation measures present a generalized set of procedures for chub and woundfin capture and translocation. These procedures include 1) installation of fish exclusion materials, such as barrier nets, around the area to be dewatered; 2) removal of as many fish as possible before dewatering, using a combination of block nets, baited minnow traps, electrofishing, or dip nets and hand removal; and 3) during dewatering, salvage of fish that were not captured earlier by fitting pumps with fish screens of an appropriate mesh size.

Staging Areas

Six potential staging areas have been proposed for the project. All are within the defined project limits but all are above the 100-year floodplain. All staging areas would be considered part of the regulated work area and, therefore, would be subject to containment systems, dust and spill controls, erosion control measures, and other conservation measures, as described below.

Ground Disturbance and Vegetation Removal

Roughly 17 acres (ac) within the 100-year floodplain would be graded or otherwise temporarily disturbed during construction to accommodate improvements to access roads, geotechnical work, and construction activities. Removal of riparian habitat, including Fremont cottonwood (*Populus fremontii*), Goodding's willow (*Salix gooddingii*), narrowleaf willow (*Salix exigua*), and tamarisk (*Tamarix* spp.), also called saltcedar, would occur within those 17 ac (see details below).

Action Area

FWS defines the action area as all areas to be affected directly or indirectly by the proposed action, and not merely the immediate area involved in the action (50 CFR § 402.02). In delineating the action area, we evaluated the farthest reaching physical, chemical, and biotic effects of the action on the environment, focusing on, but not exclusive to, the I-15 crossing of the Virgin River, and the project limits, as described above.

Conservation Measures

Conservation measures are those outlined on pages 69-73 of the BE as "Mitigation Measures." Those that are relevant to this BO are as follows:

General Measures

- ADOT would arrange for preconstruction environmental awareness training for all contractors and all personnel working at the site. Training would include information on the flycatcher, chub, woundfin, and their habitats (see Appendix A for training procedures on the cuckoo, its habitat, and the tortoise).
- A Storm Water Pollution Prevention Plan and Spill Prevention and Pollution Plan would be prepared prior to construction to prevent adverse effects of the planned action on soils and water quality. In addition, containment systems to minimize chemicals, dust, oils, construction materials, and debris from falling or flowing into the low-flow channel or the 100-year floodplain during construction would be implemented.
- Erosion control best management practices (BMPs), e.g., construction of a temporary sediment basin and use of hay bales, silt fences, and other methods of erosion control would be applied to prevent soils exposed during construction from entering the river. Regular inspection of sediment control measures would also occur to assure proper function.
- To further assure water quality, all concrete would be poured in dry conditions or within confined waters not being returned to surface waters of the Virgin River. Concrete would be allowed to cure for at least 24 hours before contact with surface water is allowed.
- After construction, all temporary structures (e.g., the temporary bridge and its supports) and excess materials resulting from construction would be removed from the floodplain.
- All disturbed areas within the project limits would be restored to as near their original conditions as possible by re-contouring and seeding, hydroseeding, planting, or transplanting native plant species. Revegetation would include the planting of nursery

stock or tall pot trees or shrubs, and chemical or natural fertilizers may be used during revegetation efforts. Water quality measures as described above would remain in effect to limit chemicals from entering the river.

Southwestern Willow Flycatcher

- No vegetation clearing would occur during the flycatcher's migration and breeding period (April 15-September 30).

Virgin River Chub and Woundfin

- No work would be allowed in flowing surface water unless fish salvage measures are being implemented.
- Before and during dewatering of the work area, fish salvage activities would be performed under the direction of a biologist holding a section 10 permit for recovery of Virgin River chub and woundfin. Native fish and frogs would be relocated per provisions outlined in ADOT's fish salvage plan. Non-native species would be humanely euthanized.
- The contractor would stop work immediately if surface flows enter the dewatered work area. Work would not commence again until dewatering and fish and native frog exclusion and relocation activities have occurred.

STATUS OF THE SPECIES AND DESIGNATED CRITICAL HABITATS

Southwestern Willow Flycatcher

The flycatcher was listed as endangered without critical habitat on February 27, 1995 (60 FR 10694). Critical habitat was designated on July 22, 1995 (62 CFR 39129) and was revised on January 2, 2013 (78 CFR 344). A recovery plan for the species was completed in 2002 (U.S. Fish and Wildlife Service [USFWS] 2002), and a 5-year review was done in 2014 (USFWS 2014). The 5-year review determined that no change was needed to the species' classification as endangered.

The southwestern willow flycatcher is one of four currently recognized subspecies of the willow flycatcher, a neotropical migrant and spring/summer resident of North America (Unitt 1987, Browning 1993). This subspecies breeds in the southwestern U.S. and winters in Mexico, Central America, and possibly northern South America (Phillips 1948, Stiles and Skutch 1989, Peterson 1990, Ridgely and Tudor 1994, Howell and Webb 1995). Population stability of the subspecies in Arizona currently depends on two large populations at Roosevelt Lake and the confluence of the San Pedro and Gila Rivers. However, catastrophic events and losses of birds within these populations could alter the status of the subspecies quickly and significantly. Conversely, expansion into new habitats or discovery of other populations would improve the bird's known status.

The flycatcher is a riparian obligate species. Flycatchers are typically found along rivers, lakesides, and other wetlands with dense riparian habitat consisting of multi-layered tree

canopies of varying sizes and age classes. Occupied flycatcher territories are usually located near or over surface water or saturated soils in habitat patches at least 33 ft in diameter. In the Southwest, flycatchers arrive on territories in late April or early May, and nest building begins in mid-May. Flycatchers are insectivores, foraging in dense shrub and tree vegetation along rivers, streams, and other wetlands.

In Arizona, nesting flycatchers occur within two distinct habitat types: 1) mixed riparian/tamarisk habitats below 4,000 ft in elevation; and 2) willow (*Salix* spp.) thickets in broad, flat drainages above 7,000 ft. Historical egg/nest collections and species descriptions throughout its range describe the flycatcher's widespread use of willow for nesting (Phillips 1948, Phillips et al. 1964, Hubbard 1987, Unitt 1987). The subspecies also nests in boxelder (*Acer negundo*), tamarisk, Russian olive (*Elaeagnus angustifolio*), and live oak (*Quercus agrifolia*).

Tamarisk, a non-native species, is an important component of this flycatcher's nesting and foraging habitats. In 2001, 323 of the 404 known flycatcher nests in Arizona (80 percent) were in tamarisk (Smith et al. 2002). Tamarisk had been thought to represent poorer flycatcher habitat; however, comparison of reproductive performance, prey populations, and physiological condition of flycatchers breeding in native and exotic vegetation showed no differences (Durst 2004, Owen and Sogge 2002, Sogge et al. 2005, Sogge et al. 2008, USFWS 2002).

Flycatcher habitat is dynamic and can change rapidly (Finch and Stoleson 2000). Tamarisk can develop from seed to suitability in 4-5 years. Heavy flooding can eliminate or reduce the quality of habitat in a day. Flycatcher use of habitat in different successional stages may also be dynamic. Over-mature or developing riparian vegetation not suitable for nest placement can be occupied and used for foraging and shelter by migrating, breeding, dispersing, or non-territorial flycatchers (McLeod et al. 2008, Cardinal and Paxton 2005).

The flycatcher is endangered primarily because land and water management actions associated with agriculture and urban development have reduced, degraded, and eliminated much of its riparian habitats. Other threats include human recreation along rivers and streams, livestock grazing, predation, brood parasitism by brown-headed cowbirds (*Molothrus ater*), invasion of the tamarisk-eating leaf beetle (*Diorhabda carinulata*), and wildfires that have become more frequent and destructive as a result of the proliferation of exotic vegetation and degraded watersheds. Nestling predation and cowbird parasitism are the most common forms of direct mortality. Tamarisk often flourishes in areas where native trees are unable to grow due to water regulation and groundwater pumping; thus, loss of tamarisk without replacement by native trees will likely impact flycatchers wherever their range overlaps with the tamarisk leaf beetle. All existing threats are compounded by the risk of stochastic events because flycatcher habitats are fragmented and because populations occur at low numbers.

Southwestern Willow Flycatcher Designated Critical Habitat

The revised critical habitat designation in 2013 (78 CFR 344) reduced designated critical habitat from 1,556 stream mi to approximately 1,227 stream mi. The revised rule designated 208,973 ac of critical habitat for the flycatcher in 24 management units in six states, including Arizona.

FWS proposed the following primary constituent elements (PCEs) for flycatcher critical habitat based on riparian plant species, structure and quality of habitat, and insects for prey:

1. Primary Constituent Element 1— *Riparian vegetation.* Riparian habitat along a dynamic river or lakeside, in a natural or manmade successional environment (for nesting, foraging, migration, dispersal, and shelter) that is comprised of trees and shrubs (that can include Gooddings willow, coyote willow, Geyer's willow, arroyo willow, red willow, yewleaf willow, pacific willow, boxelder, tamarisk, Russian olive, buttonbush, cottonwood, stinging nettle, alder, velvet ash, poison hemlock, blackberry, seep willow, oak, rose, sycamore, false indigo, Pacific poison ivy, grape, Virginia creeper, Siberian elm, and walnut) and some combination of:

    (a) Dense riparian vegetation with thickets of trees and shrubs that can range in height from about 2 to 30 meters (m) (about 6 to 98 ft). Lower-stature thickets (2 to 4 m or 6 to 13 ft tall) are found at higher elevation riparian forests and tall-stature thickets are found at middle and lower-elevation riparian forests;

    (b) Areas of dense riparian foliage at least from the ground level up to approximately 4 m (13 ft) above ground or dense foliage only at the shrub or tree level as a low, dense canopy;
    (c) Sites for nesting that contain a dense (about 50 percent to 100 percent) tree or shrub (or both) canopy (the amount of cover provided by tree and shrub branches measured from the ground);
    (d) Dense patches of riparian forests that are interspersed with small openings of open water or marsh or areas with shorter and sparser vegetation that creates a variety of habitat that is not uniformly dense. Patch size may be as small as 0.1 hectare (ha) (0.25 ac) or as large as 70 ha (175 ac).

2. Primary Constituent Element 2—*Insect prey population.* A variety of insect prey populations found within or adjacent to riparian floodplains or moist environments, which can include: flying ants, wasps, and bees (*Hymenoptera*); dragonflies (*Odonata*); flies (*Diptera*); true bugs (*Hemiptera*); beetles (*Coleoptera*); butterflies, moths, and caterpillars (*Lepidoptera*); and spittlebugs (*Homoptera*).

Virgin River Chub

The Virgin River chub (*Gila robusta seminuda*) was listed as endangered on August 24, 1989 (54 FR 35305). A recovery plan was approved for the chub and the woundfin in April 1995 (USFWS 1995). Critical habitat for the chub and woundfin was designated on January 25, 2000 (65 FR 4140).

The chub is a silvery medium-sized minnow averaging 8 inches in length, but growing to 18 inches. It is most often associated with run or pool habitats 0.6 to 3.0 ft deep, with slow to moderate velocities (0.0 to 2.5 cubic ft per second[cfs]), over sand substrates with large boulders or instream cover, such as root snags (Hardy et al. 1989). Both adults and juveniles are associated with these habitats; however, the adults are collected most often in deeper pools.

Adult temperature preference is approximately 75 degrees Fahrenheit (F) (Schumann 1978, Deacon et al. 1987). The species is omnivorous, showing considerable dietary shifts with age. Young fish feed almost entirely on macroinvertebrates. Adults feed almost exclusively on algae and debris (Greger and Deacon 1988). Cross (1975) reported that up to 90 percent of the diet consists of filamentous algae.

Little is known about the reproductive biology and population dynamics of this fish. Spawning is known to occur in the spring (ripe females have been reported from April-June), and good spawning years for the chub coincide with good spawning years for woundfin (Hickman 1987). Chubs may live for many years, possibly decades, but they mature rapidly and probably spawn in their second or third year (Williams and Deacon 1998).

Presently, the chub occurs within the mainstem of the Virgin River from Pah Tempe Springs, near Hurricane Utah, downstream to at least the Arizona-Nevada border. Anecdotal information suggests that chubs were abundant before the 1900s. Since then, their abundance and range have declined substantially due to impacts from water diversions and the introduction of predatory non-native fish species such as catfish, bass, and particularly the red shiner (*Cyprinella lutrensis*).

The greatest impacts by red shiners have occurred from Lake Mead in Nevada upstream to the Washington Fields Diversion near St. George, Utah. Prior to the red shiner invasion, fish populations in this reach were composed almost exclusively of native fish. For example, at one of the standard recovery team monitoring sites in this reach, Atkinville Wash in Utah, two miles above the Utah/Arizona border, fish composition in September 1984, just prior to discovery of the first red shiner, was woundfin (57%), desert sucker (27%), speckled dace (10%), Virgin River chub (4%), and flannelmouth sucker (2%).

In 1988, attempts to chemically eradicate red shiners began with the treatment of the reach between the Washington Fields Diversion downstream to the Johnson Diversion. Successive treatments focused on additional reaches each year. Salvage operations were conducted prior to all treatments, and native fish were moved to habitats above the Washington Fields Diversion where chub populations have not been impacted by red shiners (shiners were noted there in 2002 but not since). The fish community above Washington Fields is composed primarily of native species (Fridell and Morvilius 2005).

As a result of eradication efforts, red shiners have been eliminated from the Washington Fields Diversion down to the Stateline Fish Barrier. However, chub numbers remain low below Washington Fields due to the overwhelming number of red shiners present before treatments and to inadvertent chub mortalities that occurred during treatments. In addition, fish kills resulting from flood events and poor water quality have occurred since the treatments.

Chub populations above the Washington Fields Diversion have also been impacted by factors other than red shiners. Chubs in this reach declined in 2002 and 2003 due to low flows, low turbidity, and high water temperatures. Populations rebounded dramatically in 2005 due to higher flow levels and lower water temperatures, but a return to persistent drought conditions in 2006 and 2007 again lowered all native fish populations to critical levels. Lethal dissolved

oxygen levels were noted in most portions of the Virgin River above Washington Fields during two back-to-back floods in July and August 2007. Below the Washington Fields Diversion, down to La Verkin Creek, these floods resulted in the loss of nearly 90 percent of remaining native fish populations.

Surveys from 2007-2009 documented low chub numbers from below Washington Fields downstream to the Stateline Fish Barrier (Fridell 2009). Since the floods, chubs and other native species from hatcheries and upstream and off channel areas have been introduced into this reach in the hope of re-establishing a larger, more stable native fish population. Chub populations above Washington Fields improved after the 2007 floods. Full pass sampling from April 5-8, 2010, from Pah Tempe Springs to Washington Fields, documented 880 chubs (731 adults and 149 young-of-the-year). As of 2012, chubs still occurred in the Virgin River in Utah down to the Arizona state line (K. Wilson, Utah Division of Wildlife Resources, pers. comm. to B. Johnson, Jacobs Engineering Group, October 18, 2012).

In Arizona, chubs are found through the Virgin River Gorge downstream to the Arizona/Nevada border (the Gorge begins four mi upstream of Bridge 1 and extends nearly to the Utah border). Unfortunately, non-native fish, including red shiner, largemouth bass, (*Micropterus salmoides*), and channel catfish (*Ictalurus punctatus*) are also present in these reaches.

Woundfin

The woundfin was listed as endangered on October 13, 1970 (35 FR 16047). As mentioned above, a recovery plan was approved for this species and the Virgin River chub in April 1995 (USFWS 1995). Critical habitat for both species was designated on January 25, 2000 (65 FR 4140).

The woundfin is a small silver minnow about 4 inches long with a flat head, fairly large fins and a sharp dorsal fin spine. The woundfin inhabits shallow, warm, turbid, fast-flowing water and is capable of withstanding high salinities and relatively warm water temperatures.

Adult woundfin are often collected from runs and quiet waters adjacent to riffles. Larvae are found in backwaters or slowly moving water along stream margins, and often are associated with dense growths of filamentous algae. Juveniles use habitats that are slower and deeper than those characteristic of adults. Woundfin greater than 1.6 inches total length are collected most frequently at depths between 0.48 and 1.4 ft, in water velocities ranging from 0.78 to 1.6 cfs, over sand and sand-gravel substrate (Hardy et al. 1989). There is some indication that when water clarity is high, adult woundfin move into deeper water. The critical thermal maximum temperature for woundfin in the Virgin River is about 102 degrees F, with mean preferred temperatures of about 52 to 75 degrees F (Deacon et al. 1987). Woundfin feed on filamentous algae, detrital material, seeds, aquatic insects, and display a seasonal shift in food selectivity. Dietary overlap with introduced red shiners is greatest when food is most abundant. During periods of lower food abundance, woundfin and red shiners may experience greater competition for food, leading to a more pronounced partitioning of the food niche. Woundfin spawning has been documented from April to August (Hickman 1987, Hardy et al. 1989).

The historical range of the woundfin included rivers in Arizona, Nevada, and Utah, extending from near the junction of the Salt and Verde Rivers at Tempe, Arizona, to the mouth of the Gila River at Yuma, Arizona, and the Colorado River from Yuma, Arizona upstream to the Virgin River into Nevada, Arizona, and Utah, and into La Verkin Creek in Utah. Woundfin are extirpated from much of their former range, and are now confined primarily to the mainstem Virgin River from Pah Tempe Springs in Utah to Lake Mead.

Like the Virgin River chub, woundfin abundance has declined significantly due to the introduction of the red shiner. Woundfin were virtually eliminated wherever red shiners became established in Arizona and Nevada, and in Utah up to the Washington Fields Diversion. Prior to 2007, the only viable populations of woundfin were found above the Washington Fields Diversion (Fridell and Morvilius 2005). In 2005, woundfin and Virgin River chub were the most common species above Washington Fields. However, the 2007 flood events discussed for Virgin River chub functionally extirpated woundfin from this portion of the river. Nearly 10,000 woundfin from the Southwestern Native Aquatic Resources and Recovery Center (ARRC, formerly the Dexter National Fish Hatchery and Technology Center in Dexter, New Mexico) were stocked back into this area in autumn 2007 and spring 2008. Woundfin were found below Washington Fields Diversion to the Stateline Fish Barrier in 2009 (Fridell 2009). Surveys in Spring 2010 documented 270 woundfin (110 adults and 117 young-of-the-year) above Washington Fields (Fridell 2010). Very few woundfin are found in the Virgin River in Arizona and Nevada, and any woundfin in those states now are likely those that have moved downstream from Utah.

Virgin River Chub and Woundfin Designated Critical Habitat

The area designated as critical habitat for both the Virgin River chub and woundfin is the mainstem Virgin River and its 100-year floodplain, extending from the confluence of La Verkin Creek in Utah to Halfway Wash in Nevada. The critical habitat designation along the Virgin River for both species is identical and includes 37.3 mi in Utah, 31.6 mi in Arizona, and 18.6 mi in Nevada (a total of 87.5 mi).

Designated critical habitat for the chub represents approximately 65.8 percent of the species' historical habitat within the Virgin River Basin. Designated critical habitat for the woundfin represents approximately 12.5 percent of the species' historical habitat within the Virgin River Basin. All designated critical habitat for the chub and woundfin contains at least one of the primary constituent elements (PCEs) for critical habitat as defined below.

The PCEs of critical habitat determined to be necessary for the survival and recovery of the chub and woundfin are water, physical habitat, and biological environment. The desired conditions for each of these elements are:

Water:
A sufficient quantity and quality of water (i.e., temperature, dissolved oxygen, contaminants, nutrients, turbidity, etc.) that is delivered to a specific location in accordance with a hydrological regime that is identified for the particular life stage for each species. This includes the following:

1. Water quality characterized by naturally seasonally variable temperature, turbidity and conductivity;

2. Hydrologic regime characterized by the duration, magnitude, and frequency of flow events capable of forming and maintaining channel and instream habitat necessary for particular life stages at certain times of the year; and
3. Flood events inundating the floodplain necessary to provide the organic matter that provides or supports the nutrient and food sources of the listed fishes.

Physical Habitat:
Areas of the Virgin River that are inhabited or potentially habitable by a particular life stage for each species, for use in spawning, nursing, feeding, and rearing, or corridors between such areas:

Virgin River Chub:
1. River channels, side channels, secondary channels, backwaters, and springs, and other areas which provide access to these habitats; and
2. Areas with slow to moderate velocities, within deep runs or pools, with predominately sand substrates, particularly habitats which contain boulders or other instream cover.

Woundfin:
1. River channels, side channels, secondary channels, backwaters, and springs, and other areas which provide access to these habitats;
2. Areas inhabited by adult and juvenile woundfin include runs and pools adjacent to riffles that have sand and sand/gravel substrates;
3. Areas inhabited by juvenile woundfin are generally deeper and slower. When turbidity is low, adults also tend to occupy deeper and slower habitats; and
4. Areas inhabited by woundfin larvae include shoreline margins and backwater habitats associated with growths of filamentous algae.

Biological Environment:
Food supply, predation, and competition are important elements of the biological environment and are considered components of this constituent element. Food supply is a function of nutrient supply, productivity, and availability to each life stage. Predation and competition, although considered normal components of this environment, are out of balance due to non-native fish species in many areas. For both species, a properly functioning biological environment contains:

1. Seasonally flooded areas that contribute to the biological productivity of the river system by producing allochthonus organic matter (humus, silt, organic detritus, colloidal matter, and plants and animals produced outside the river and brought into the river), which provides and supports much of the food base of the listed fishes; and
2. Few or no predatory or competitive non-native species in occupied Virgin River fishes' habitats or potential reintroduction sites.

ENVIRONMENTAL BASELINE

The environmental baseline includes past and present impacts of all Federal, State, or private actions in the action area, the anticipated impacts of all proposed Federal actions in the action area that have undergone formal or early section 7 consultation, and the impact of State and private actions which are contemporaneous with the consultation process. The environmental baseline defines the current status of the subspecies and its habitat in the action area to provide a platform to assess the effects of the action now under consultation.

Description of the Action Area

The Virgin River's origin is in southwestern Utah north of Zion National Park. It runs generally southwest through the Virgin River Gorge in Arizona and empties into Lake Mead, Nevada. Water in the Virgin River is derived from rainfall, snowmelt, and from groundwater entering via seeps and springs. Snowmelt makes up the largest part of annual flows and usually causes the highest monthly flows each year from March to May. Low flows usually occur from June to October (Glancy and Van Denburgh 1969). However, the river is susceptible to periodic flooding, which typically occurs during the spring runoff and during late summer monsoons.

Within the project limits, the Virgin River is considered perennial (Arizona Department of Water Resources [ADWR] 2014). Flowing water was observed during multiple site visits by ADOT and its contractors from 2012 to 2014, most recently during a site reconnaissance on June 11 and 12, 2014. In 2016, flows at a U.S. Geological Survey gauging station 0.4 mi downstream of Bridge 1 ranged from 25-3,000 cfs (U.S. Geological Survey 2017).

Beaver Dam Wash is the largest tributary in the Virgin River Basin (ADWR 2014) and enters the Virgin River about 0.25 mi upstream (northwest) of Bridge 1 outside the project limits. Beaver Dam Wash is intermittent in upstream reaches but tends to be perennial at its confluence with the Virgin River (ADWR 2014). Contributions to flows in the Virgin River at Bridge 1 also occur as a result of effluent from the wastewater treatment plant at St. George, Utah, 29 mi upstream of Bridge 1.

Two vegetation communities occur in the project limits: 1) Mojave desertscrub; and 2) Mojave Desert riparian habitat (Turner 1982, Brown 1994). Mojave desertscrub occurs in drier upland sites away from the river. Riparian vegetation is diverse and occurs as small and large patches 1) in the river channel in flowing water and on sandbars; 2) on the adjacent floodplain; and 3) above the floodplain in spring and seep areas. Spring and seep areas occur on tall sandstone and limestone bluffs overlooking the river, primarily on its eastern bank. Just below the seep areas, north of the bridge, monotypic patches of canyon grape (*Vitis arizonica*) and common reed (*Phragmites australis*) occur. Bands of narrowleaf willow, a shrub form of willow, southern cattail (*Typha domingensis*), and common reed occur in or adjacent to the low-flow channel throughout the project limits. A 0.9-ac patch of mature tamarisk, approximately 180 ft wide at its widest point, occurs directly north of the bridge.

A thin band of young to mature Fremont cottonwood trees occurs directly underneath the bridge and to the southwest on the western side of the river along with tamarisk, common reed, and an

occasional Goodding's willow. Another grove of mature cottonwoods with little understory occurs approximately 0.25 mi southwest of Bridge 1 and adjacent to an access road that would be used during bridge construction. The largest patch of riparian habitat near Bridge 1 is about 0.25 mi northwest of the bridge just north of the Virgin River's confluence with Beaver Dam Wash (outside the project limits). This grove of mature Fremont cottonwood and Goodding's willow has an understory of young tamarisk and a relatively open canopy (less than 70 percent closure). Most vegetation to the east and northeast of the mixed stand is monotypic tamarisk. In total, the area is approximately 30 ac in size.

Status of the Species and Critical Habitat in the Action Area

Southwestern Willow Flycatcher

No flycatcher surveys were done for the purposes of this project. Protocol surveys (Sogge et al. 2010) by Arizona Game and Fish Department occurred in Beaver Dam Wash and along the Virgin River between Littlefield and roughly 0.25 mile north of Bridge 1 from 1994-1998 and from 2000-2006. Flycatchers were observed in four of those years: 1997 (one bird, status unknown); 2001 (one resident adult); 2003 (one migrant); and 2004 (three resident adults, one nesting pair, and two nests) (Ellis et al. 2008).

Flycatcher surveys were also done by the U.S. Bureau of Reclamation (USBR) along the Virgin River downstream of Bridge 1 near Littlefield, and at the confluence of Beaver Dam Wash and the Virgin River, from 2003-2005 and in 2007. Three breeding adults were observed in 2004 and two males were observed in 2005, all of them at or near the confluence (McLeod et al. 2008).

From 2007-2010, USBR flycatcher surveys focused on Beaver Dam Wash upstream of the County Road (CR) 91 Bridge, one mi north of Bridge 1. An unpaired resident male was observed here in 2007; a single adult was seen in 2008; four resident breeding adults were observed in 2009, and three resident breeding adults were observed in 2010 (McLeod and Pellegrini 2013).

Critical Habitat

Designated critical habitat for the flycatcher includes a 94.4-mi segment of the Virgin River, the Virgin Management Unit, extending from Berry Springs in Washington County, Utah downstream to the upper end of Lake Mead. This unit includes 29.5 mi in Utah, 34.8 mi in Arizona, and 30.0 mi in Nevada. Total acreage for the management unit is not provided in the final rule (78 CFR 344), but approximately 25 ac of designated critical habitat are within the project limits.

As detailed above, the PCEs of designated flycatcher critical habitat include (1) dense riparian vegetation with thickets of trees and shrubs, or dense patches of riparian forests that are interspersed with small openings of open water or marsh areas with shorter and sparser vegetation, and (2) habitats that support a high availability of their flying insect prey.

PCE 1 (Riparian Vegetation)

Designated critical habitat within and adjacent to the project limits consists of patches of riparian vegetation of various compositions, heights, and densities interspersed with open water and sandbars. During ADOT site visits in June 2014, riparian vegetation within the project limits, and from 500 to 1,000 ft bordering the project limits, was evaluated for its suitability as flycatcher habitat. The largest patch of potentially suitable breeding habitat was the 30-ac stand of cottonwood, willow, and tamarisk north of the confluence of Beaver Dam Wash and the Virgin River. Breeding flycatchers have not been documented here since 2004 and no flycatchers have been observed since 2005 (Ellis et al. 2008; McLeod et al. 2008). The stand is 0.25 mi from Bridge 1 and 250 ft from the project limits at its closest point.

The patch of monotypic tamarisk just north of Bridge 1, on the river's east bank, is approximately 0.9 ac in extent and represents breeding habitat that lies within the project limits. Scattered patches of cottonwood, willow, and tamarisk underneath the bridge and extending southwest along the western side of the river are insufficient as breeding habitat but could provide migratory stopover and foraging habitat.

PCE 2 (Insect Prey)

We have no data on insect prey populations, but judging from the complex mosaic of habitats in the project limits and action area, including open flowing water, sandbars, reed patches, cattails, grape, multi-layered riparian woodlands, tamarisk, and seeps, we assume that flying insect prey are readily available for flycatchers and are not a limiting factor at this time.

Virgin River Chub

No surveys for the chub (or woundfin) were done for the purposes of this project. Chubs were not documented during August 2010 when surveys occurred at the CR 91 Bridge over Beaver Dam Wash, 0.5 mi west of Bridge 1 (Liebfried 2011). In June 2012, 464 chubs were captured on the Virgin River between the Lower Gorge and Halfway Wash in Nevada, 171 of which were captured at the confluence of Beaver Dam Wash and the Virgin River (Kegeries and Albrecht 2012). In August 2012, 16 chubs were captured: 15 in the Experimental Reach four miles below Bridge 1, and one in the Below Bunkerville Diversion Reach in Nevada five miles below the bridge (B. Wooldridge, USFWS, email to K. Gade, ADOT, October 9, 2012). In May and June 2015, 3,209 chubs were captured between the Gorge and Halfway Wash, 567 of which were captured at the Beaver Dam Wash confluence, but none were captured from the Below Bunkerville Diversion Reach to Halfway Wash the following August (unpublished data provided by B. Wooldridge, July 11, 2016). In May 2016, 153 chubs were captured from the Gorge to Halfway Wash, 68 of which were from the Virgin River at the Beaver Dam Wash confluence. In October 2016, 54 chubs were captured in the same stretches, 15 of which were from the Beaver Dam Wash confluence (BIO-WEST 2016).

Woundfin

Surveys described above for the chub also included sampling for woundfin. No woundfin were captured in 2010 (Liebfried 2011). During the June 2012 sampling effort, 18 woundfin were captured from the Lower Gorge to the Below Bunkerville Diversion Reach, including one at the Beaver Dam Wash confluence (Kegeries and Albrecht 2012). Only one woundfin was captured in August 2012, in the Experimental Reach (B. Wooldridge, USFWS, pers. comm., email to K. Gade, ADOT, October 9, 2012). No woundfin were captured in May and June 2015, August 2015, or May 2016. One woundfin was captured at the mouth of the Gorge and another at the Beaver Dam Wash confluence in October 2016.

Critical Habitat: Virgin River Chub and Woundfin

As we mentioned above, designated critical habitat is the same for the chub and woundfin. Areas of the Virgin River designated as critical habitat consist of the remaining occupied habitat for both species. Approximately 10 ac of designated critical habitat occur within the project limits. Because both species occupy similar habitats, we will consider them together:

PCEs 1 and2 (Water, Physical Habitat): At the time critical habitat for the chub and woundfin was designated in 2000, PCEs 1 and 2 were identified as not being at optimal levels for either species within the critical habitat unit. Different portions of the reach were considered to be more or less suitable for water and physical habitat. Within the action area, sand to gravely substrates occur and water is maintained most or all of the year. Perennial pools provide refuges during extremely dry periods and floodplains are periodically inundated. Side channels (e.g., Beaverdam Wash), secondary channels, backwaters, and deep runs are also present. Flows from springs in the Lower Gorge and near Littlefield maintain higher baseflows within the action area than may occur upstream.

PCE 3 (Biological Environment: Given periodic flooding that occurs in the Virgin River, the allochthonous material that provides and supports much of the food base for the chub and woundfin does not appear to be deficient. However, the presence of non-native fish species, particularly the red shiner, continues to compromise the conservation value of designated critical habitat downstream of the Utah/Arizona border; thus, PCE 3 is deficient.

Factors Affecting the Species and Critical Habitats in the Action Area

Southwestern Willow Flycatcher

Flooding and the leaf beetle have affected and could continue to affect flycatchers and their habitat within the action area and project limits. At least three floods have affected flycatcher habitat in or near the project limits since 2004. During the winter of 2004-2005, a flood removed the tamarisk understory at the confluence of Beaver Dam Wash, and other riparian vegetation along the mainstem of the river downstream of Bridge 1. Flooding in 2010 eliminated suitable breeding habitat in Beaver Dam Wash upstream of the CR 91 Bridge. A flood in 2014 disturbed or altered additional tamarisk stands in the project area. Vegetation altered or removed during the floods of 2004-2005 and 2010 have recovered or are recovering. Vegetation affected by the 2014 flood is expected to recover by the time construction on Bridge 1 begins in 2019. In addition,

most tamarisk trees in and near the project limits were defoliated (by the leaf beetle) when ADOT conducted a site visit in June 2012; however, affected tamarisk trees were green and appeared healthy in June 2014.

Virgin River Chub and Woundfin

Chubs and woundfin in the Virgin River have declined in numbers largely due to deterioration or loss of habitat and introduction of non-native fishes, primarily the red shiner. Introduction of red shiners has contributed significantly to the decline of these native species because red shiners compete with natives for food resources and space. Red shiners may also be a predator of the eggs and young of native fishes. Shiners have been eliminated from upstream reaches of the Virgin River in Utah, but are still present and still affect chubs and woundfin in the action area and within the project limits.

EFFECTS OF THE ACTION

Effects of the action refer to the direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated and interdependent with that action, which will be added to the environmental baseline. Interrelated actions are those that are part of a larger action and depend on the larger action for their justification. Interdependent actions are those that have no independent utility apart from the action under consideration. Indirect effects are those that are caused by the proposed action and are later in time, but are still reasonably certain to occur.

Southwestern Willow Flycatcher and Critical Habitat

Effects of this project to the flycatcher would include disturbance and harassment of flycatchers that arrive in the project area during construction. Under the proposed schedule, construction of the new bridge would involve heavy equipment operations and other construction activity through spring migration, the breeding period, and fall migration for two years. Thus, construction activities, noise, and dust would affect and possibly alter nesting, foraging, and migratory behavior within the project limits and for an unknown distance upstream and downstream of Bridge 1.

Effects to the flycatcher would also include removal of vegetation within the project limits, affecting PCE 1 (riparian vegetation) and PCE 2 (insect prey populations). Access road improvements would involve removal of 0.2 ac of a 1.5-ac stand of mature cottonwoods along an existing dirt road that approaches Bridge 1 from the southwest, and removal of 0.2 ac of a 0.9 ac stand of monotypic tamarisk adjacent to a road that approaches the bridge from the north. Geotechnical work and bridge construction would require removal of 0.9 ac of sparse, scattered young to mature cottonwoods, Goodding's willow, and narrowleaf willow directly below and adjacent to the existing bridge. Removal of riparian vegetation for the project totals about 1.3 ac.

Vegetation removal would not occur during the flycatcher's migration and breeding period in Arizona (April 15-September 30); thus, direct impacts—injuries or fatalities to adults, eggs, or young—that could otherwise result from vegetation removal are not expected to occur.

Impacts to insect prey populations within affected riparian areas would mostly be temporary—the result of dewatering and loss of aquatic larvae, and loss of riparian habitat—and would be expected to return to previous levels after project completion and after revegetation efforts. Overall, features that help develop and maintain prey habitat within the project limits are not expected to change over the long term.

Most designated critical habitat within the project limits consists of open water (the low flow channel), sandbars, and riparian vegetation. The 0.9-ac stand of monotypic tamarisk just north of Bridge 1 represents the only suitable breeding habitat within the project limits. Removal of 0.2 ac of this stand represents a temporary impact. Tamarisk would be expected to recover quickly after completion of the project just as it would from a flood event.

Effects of cottonwood and willow removal along the southwest access route and below the existing bridge represents a reduction of habitat available to migrants and foraging birds over the short term and would be minimized by planned revegetation efforts. Overall, the loss of 1.3 ac of riparian habitat represents a relatively small loss compared to the more extensive and more suitable habitat at the confluence of Beaver Dam Wash and in Beaver Dam Wash upstream of the confluence.

Areas where no regeneration of vegetation would be possible (permanent impacts) include the locations of new bridge piers and abutments and the caps at geotechnical drill locations. In total, these areas represent less than 0.04 ac.

Indirect effects (those later in time) would include fewer nesting attempts and lower productivity resulting from the partial loss of nesting habitat in the tamarisk stand just north of Bridge 1. However, these effects would be temporary, given the relatively rapid recovery of the 0.2 ac of tamarisk removed from this stand.

Virgin River Chub and Woundfin and Critical Habitat

Direct effects to the chub and woundfin would occur during fish capture and translocation efforts in the work area. As many native fish as possible would be captured and relocated out of the work area before dewatering. Efforts to capture fish would continue during dewatering, but fish removal activities would not be expected to be 100 percent successful. Some fish would be killed as dewatering occurs. There is also the potential for fish to be stressed, injured, or to die while they are being captured, temporarily held, and released. Some fish may die after release.

Direct effects to the chub and woundfin could also result from access road improvements, geotechnical work, and activities associated with temporary and new bridge construction, all of which would involve work within the 100-year floodplain, and all of which could cause movement of chemicals, oils, construction materials, fill material, sediments, and debris into the Virgin River, both within and downstream of the project limits. Movement of contaminants, sediments, or debris into the river could cause fatalities or result in impairment of individual fish.

The temporary bridge would preclude the need for construction vehicles to enter the channel when crossing the river. Piers and rip rap for the temporary bridge abutments would be

sufficiently reinforced to prevent the temporary bridge from washing out during a high-flow event and causing injuries or fatalities to fish downstream of the work site. In addition, containment systems and BMPs (see Conservation Measures) would be implemented to reduce the risk of contaminants and debris from entering the river. Clean Water Act Sections 401 and 404 permits would be required for the project and would include provisions for immediate clean-up of any substance in case of a leakage or spill, and would define how each substance would be treated. Erosion resulting from the project would be minimized by construction of a temporary sediment basin or filter, use of sediment fences between disturbed areas and flowing waters, and regular inspection of sediment fences to maintain proper function.

In spite of measures to control erosion, some sediment movement into the low flow channel would occur during the project. Changes to stream morphology would also occur. As a result, the proposed action is expected to have short-term adverse effects to designated chub and woundfin critical habitat (designated critical habitat is the same for both species).

Removal of 1.3 ac of riparian vegetation from the floodplain before geotechnical and construction activities begin may temporarily destabilize stream banks and increase erosion within and downstream of the work area. However, tamarisk would recover relatively quickly after the project and provisions for revegetation would help offset the effects of cottonwood and willow removal over the long term. Revegetation would include the planting of nursery stock or tall pot trees or shrubs, and chemical or natural fertilizers may be used during re-vegetation efforts. These chemicals could enter the Virgin River via runoff and affect water quality. The type of fertilizer would not be known until development of a revegetation plan that would occur during final project design; however, given the small amount of vegetation removal and replacement, we anticipate that the effects of chemical runoff in the Virgin River would be minor and would be outweighed by the benefits of revegetation within the floodplain.

Construction of cofferdams or other stream diversions and dewatering of the work area would also increase downstream turbidity. Cofferdams would extend up to 20 feet into the low-flow channel increasing the velocity of flows around them. This would increase the amount of scouring and downstream sedimentation. Work within the dewatered low flow channel would occur during a shortl period of the project—about three months. Water in the low-flow channel would continue to flow between Piers 3 and 4 during most construction activities.

Temporary bridge abutments and piers would also result in localized but temporary changes to stream flow, depending on flow volumes. The temporary bridge would impede water or sediment movement during higher flows while it is present. As with the cofferdams, rip rap and piers of the temporary bridge could increase the velocity of flows in the low flow channel, increasing the amount of scouring and sedimentation downstream. Placement of permanent piers for the new bridge would not change the hydrologic dynamics of the river over the long term. All four piers for the new bridge would be above the low flow channel.

Operation of vehicles in the floodplain and in the dry channel would result in soil compaction above the channel and compaction of sand and gravel substrates within the channel. Increased erosion and affects to stream morphology would be temporary, however, and would cease

following completion of the project. Overall, impacts resulting from movement of sediments into the Virgin River would be minor compared to sedimentation resulting from storm events.

In summary, we do not expect the project to have long-term effects on designated critical habitat for the chub and woundfin, and short-term effects are not anticipated to lower the ability of the PCEs of critical habitat to provide for the conservation of either species. Effects to PCE 1 (water) would include increases in turbidity in and downstream of the project limits and possible movement of contaminants into the Virgin River. Sediment flows would be temporary and would dissipate after project completion. Conservation measures and BMPs would prevent or minimize contaminant effects. Effects to physical habitats (PCE 2) would involve primarily compaction of sand and gravel substrates in the dewatered channel. Restoration of flows after cofferdams are removed would restore movement of sand and gravel into and past the work area. Finally, the project would not adversely affect the biological environment (PCE 3). Seasonal and periodic flooding that provides organic materials that support the food base of the chub and woundfin would continue in spite of the proposed action. Fish capture and relocation efforts would provide the opportunity to remove non-native fish, e.g., the red shiner, that represent a limiting factor for the chub and woundfin.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future state, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological and conference opinion. Future federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Within the action area, I-15 crosses privately-owned lands and public lands under the jurisdiction of the U.S. Bureau of Land Management (BLM). ADOT holds an easement in areas under BLM jurisdiction and owns the right-of-way (ROW) adjacent to privately-owned land to maintain and operate the interstate. According to the BE for this project, no new ROWs or easements are anticipated within the action area or project limits.

Primary land uses in the action area include residential, commercial, and light industrial developments on private lands and recreation on public lands. The Virgin River drainage is likely to experience additional urbanization in the future, and use of both surface and groundwater to serve this growth is likely to affect flows in the Virgin River. Use of existing dirt roads to access the river for recreation would be temporarily interrupted during construction; however, road improvements may increase use of the Virgin River after construction. This may increase impacts to the flycatcher, chub, and woundfin, and their critical habitats over the long term through increases in habitat fragmentation, fire risk, spread of invasive species, trash deposition, and contamination of surface and groundwater.

CONCLUSIONS

After reviewing the current status of the flycatcher, chub, and woundfin, and their designated critical habitats, the environmental baseline for the action area, the effects of the proposed action, and the cumulative effects, it is the FWS's biological opinion that the proposed action is not likely to jeopardize the continued existence of the flycatcher, chub, or woundfin, or destroy or adversely modify their critical habitats. We base these conclusions on the following reasons:

Southwestern Willow Flycatcher

- No vegetation clearing would occur during the flycatcher's migration and breeding period (April 15-September 30); thus, vegetation clearing would be unlikely to cause injuries or fatalities to adults, eggs or young.
- Bridge construction would occur during two breeding and migration periods and would be ongoing when flycatchers arrive at the construction site. However, there is suitable habitat adjacent to the project area, and flycatchers would be able to avoid the construction area and move into the available habitat.
- Permanent and temporary effects to PCE 1 (riparian vegetation) and PCE 2 (insect prey populations) of designated critical habitat within 1.3 ac of the project limits would be small compared to designated critical habitat rangewide (208,973 ac) and within the Virgin Management Critical Habitat Unit (94.4 river mi); thus, designated critical habitat would remain functional to serve the intended conservation role for the flycatcher.
- Although some riparian habitat would be removed during the project, riparian habitat is dynamic and conditions in the vicinity of the project would enable it to recover quickly or be restored through re-vegetation efforts.

Virgin River Chub and Woundfin

- The area affected by the proposed action is a minor part of the total habitat area currently supporting the chub and woundfin (87.5 river mi in Utah, Arizona, and Nevada).
- Bridge construction would not result in changes to water flow (PCE 1) or habitat conditions for the chub and woundfin over the long term.
- Construction effects to river channel characteristics (PCE 2) would not be permanent and habitat values would recover after temporary facilities are removed. No permanent structures would be placed in the low flow channel. Critical habitat would remain functional and continue to serve its conservation role for the species.
- Capture and translocation protocols included in the proposed action would minimize the risk of harming individual chubs and woundfin during construction.
- Removal of non-native fish (e.g., red shiner) that prey on and compete with the chub and woundfin would represent a short-term benefit.

The conclusions of this biological opinion are based on full implementation of the project as described in the description of the proposed action above, including any conservation measures that were incorporated into the project design.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulations pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. "Take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. "Harm" is defined (50 CFR 17.3) to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined (50 CFR 17.3) as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. "Incidental take" is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

AMOUNT OR EXTENT OF TAKE

Southwestern Willow Flycatcher

We do not anticipate that implementation of the proposed action is reasonably certain to result in incidental take of any flycatchers for the reasons stated in our conclusions above. Vegetation clearing will not occur during the flycatcher's migration or breeding period, so directs effects to adults, eggs, or young will be avoided. Bridge construction would occur during two breeding and migration periods but there is suitable habitat adjacent to the project limits and flycatchers would be able to avoid the construction area. The amount of habitat removed is insignificant and would not alter the use of this habitat by flycatchers for breeding, feeding, or sheltering.

Virgin River Chub and Woundfin

We anticipate that the proposed action is reasonably certain to result in incidental take of the chub and woundfin. The proposed capture and relocation of these fish will harass all individuals involved and may result in harm (injury or fatality) of a portion of those fish, either during capture or while they are held before release. Fish may also die after release due to the stress from handling or predation of weakened individuals. We also anticipate take in the form of injury or death of all chubs and woundfin that are not captured (i.e., are missed) during dewatering of the work area.

We cannot quantify the number of individual chub or woundfin that escape capture or die after release because most of these individuals will be almost impossible to find and would likely be consumed by predators or scavengers. Otherwise, take of chubs and woundfin will be quantifiable.

During survey efforts from 2012-2016 (see discussion above), chub numbers at the confluence of the Virgin River and Beaver Dam Wash varied from 15-567 individuals. Given such a wide

range, we cannot say with certainty how many of these fish will be present at Bridge 1 during dewatering and capture efforts, or how many individuals will be injured or will die during the process. However, incidental take of chubs is expected to be low given that substantial mitigation efforts described in the BE are followed explicitly by the construction contractor and by the fish biologist who implements the fish salvage protocol. Given those mitigation efforts, we anticipate that no more than five percent of Virgin River chubs handled during capture and translocation would be taken as a result of the proposed action.

In contrast, only one woundfin was documented at the Beaver Dam Wash confluence in 2012, and one was found in 2016. The most woundfin documented during fish surveys from 2012-2016, from the Virgin River Gorge to the Bunkerville Diversion in Nevada, was 18 individuals. Given such low numbers of woundfin in and near the project limits, the level of incidental take is expected to be low. We anticipate that no more than five woundfin will be taken as a result of the proposed action.

EFFECT OF THE TAKE

In this biological opinion, the FWS determined that levels of anticipated take are not likely to result in jeopardy to the flycatcher, chub, or woundfin or to result in destruction or adverse modification of critical habitat for the reasons stated in the conclusions section above. Although the proposed action may adversely affect the flycatcher over the short-term, through habitat loss and disturbance, the proposed action would not result in the permanent loss of the species in the action area. Although the proposed action may adversely affect the chub and woundfin, through harassment and the loss of individual fish that cannot be captured, that die after capture and during relocation, or that die after relocation and release, the proposed action would not result in the permanent loss of the chub or woundfin in the action area.

REASONABLE AND PRUDENT MEASURES AND TERMS AND CONDITIONS

The conservation measures included in the proposed action are appropriate to minimize take of the flycatcher and reasonable and prudent measures and terms and conditions to address the potential for take are not needed.

For the chub and woundfin, we are including monitoring and reporting requirements as a reasonable and prudent measure to document any take that occurs. In order to be exempt from the prohibitions of section 9 of the Act, the FHWA/ADOT must comply with the following terms and conditions which implement reasonable and prudent measure and outline reporting and monitoring requirements. These terms and conditions are non-discretionary.

1. The FHWA shall monitor incidental take resulting from the proposed action and report to the FWS the findings of that monitoring.

a) The FHWA will designate a responsible party to monitor the project area and other areas that could be affected by the proposed action to ascertain take of individuals of Virgin River chub and woundfin. This monitoring will be accomplished by the fisheries biologists designated to implement the fish salvage protocol as described in the conservation measures included in the proposed action.

i. All native fish species captured before and during dewatering of the work area will be placed downstream of the work area as provided for in the fish salvage protocol. The number of each species captured and moved will be recorded.

ii. Any Virgin River chub or woundfin found injured or dead during the project, or that is injured or killed during capture and translocation efforts, will be salvaged and the body placed on ice if available then frozen as soon as possible to preserve the tissues for later research. If any fish is injured or killed, the Arizona Ecological Services Office will be notified immediately for instructions on transport, storage and disposal of specimens.

b) FHWA/ADOT shall submit a monitoring report to the Arizona Ecological Services Field Office within 90 days after completion of the work within the low-flow channel. This report will briefly document implementation of conservation measures, report on the number of native fish encountered, and document any injuries and fatalities of Virgin River chub or woundfin.

Disposition of Dead or Injured Listed Species

Upon locating a dead, injured, or sick listed species initial notification must be made to the U.S. Fish and Wildlife Service, Office of Law Enforcement, (Resident Agent in Charge), 4901 Paseo del Norte NE, Suite D, Albuquerque, New Mexico, 87113, telephone: 505/248-7889, within three working days of its finding. Written notification must be made within five calendar days and include the date, time, and location of the animal, a photograph if possible, and any other pertinent information. The notification shall be sent to the Office of Law Enforcement, with a copy to this office. Care must be taken in handling sick or injured animals, as described above, to ensure effective treatment and care, and in handling dead specimens to preserve the biological material in the best possible state.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

We have not identified any conservation recommendations for the proposed action.

REINITIATION NOTICE

This concludes formal consultation on the action(s) outlined in your consultation request. As provided in 50 CFR 402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals

effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

The FWS appreciates efforts by the FHWA and ADOT to identify and minimize effects to listed species from this project. We encourage you to coordinate the review of this project with AGFD. We also appreciate your ongoing coordination during implementation of this program. In keeping with our trust responsibilities to American Indian Tribes, we are providing copies of this biological and conference opinion to the Bureau of Indian Affairs and are notifying affected Tribes.

For further information please contact Robert Lehman (602) 889-5950 or Brenda Smith at (928) 556-2157. In all future correspondence on this project, please refer to consultation number 02EAAZ00-2014-F-0649.

Sincerely,

Steven L. Spangle
Field Supervisor

cc: (electronic)

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U.S. Fish and Wildlife Service. 1995. Virgin River Fishes Recovery Plan. Region 6, Salt Lake City, Utah.

Williams, C.D. and J.E. Deacon. 1998. Recommendations for a Comprehensive Virgin River Watershed and Native Fishes Conservation Program. Pacific Rivers Council.

APPENDIX A: CONFERENCE REPORT AND CONCURRENCES

This appendix contains our concurrences with your "may affect, not likely to adversely affect" determinations for the threatened western yellow-billed cuckoo and threatened Mojave desert tortoise.

DESCRIPTION OF THE PROPOSED ACTION

The proposed action is described above in the Biological Opinion and is incorporated herein by reference. The proposed action is to replace the existing Bridge 1 on Interstate 15 (I-15), over the Virgin River, in Mohave County, Arizona.

Western Yellow-billed Cuckoo

Protocol surveys for the cuckoo were not done for the purposes of this project. Two cuckoos were detected in a 30-ac stand of cottonwood, willow, and tamarisk at the Beaver Dam Wash confluence (outside the project limits) in 2000 (Johnson et al. 2008); however, the breeding status of these birds was not determined. No yellow-billed cuckoos were observed during surveys conducted in Beaver Dam Wash by the U.S. Bureau of Reclamation from 2007 to 2010 (McLeod and Pellegrini 2013). The U.S. Bureau of Land Management reported one cuckoo near the confluence of Beaver Dam Wash and the Virgin River in July 2014 (S. Langston, BLM, personal communication to T. McCarthey, Archaeological Consulting Services, August 29, 2014).

Approximately 28 ac of proposed cuckoo critical habitat occur within the project limits; however, vegetation within proposed critical habitat consists of small patches of scattered Fremont cottonwood, Goodding's, willow, and narrowleaf willow of various heights and densities interspersed with open water and sandbars. Although breeding cuckoos typically use large patches of riparian woodland with greater than 70 percent canopy closure (79 FR 48548), in Arizona they have been recently found breeding in narrow and drier reaches of riparian habitat. However, vegetation inside the project limits is unlikely to be suitable for breeding. Riparian patches within the project limits do represent potential foraging and migration habitat for cuckoos.

Conservation Measures

- ADOT would arrange for preconstruction environmental awareness training for all ADOT and contractor personnel working at the site. The training would include information on the western yellow-billed cuckoo.
- No vegetation clearing would occur during the cuckoo's migration and breeding period (May 15-September 30).

DETERMINATION OF EFFECTS

We concur with your determination that the proposed action "may affect, but is not likely to adversely affect" the western yellow-billed cuckoo or its proposed critical habitat for the following reasons:

- Habitat within the project limits is considered to be marginally suitable for breeding; thus, any direct or indirect effects to breeding cuckoos are unlikely and discountable.
- Use of the area by migrants and foraging birds would be temporarily disrupted during construction, but cuckoos could move into more suitable habitat within 0.25 mi of the project limits, at the confluence of Beaver Dam Wash.
- The 1.3 ac of cottonwoods, willow, and tamarisk that would be removed during the project would recover naturally or be restored during revegetation efforts after construction, and short-term effects would be insignificant.
- Permanent and temporary effects to 1.3 ac of proposed critical habitat would be small compared to proposed critical habitat rangewide (546,335 ac) and within the Virgin 1 Critical Habitat Unit (11,266 ac); thus, proposed critical habitat would remain functional to serve the intended conservation role for the cuckoo.

Literature Cited

Johnson, M.J., S.L. Durst, C.M. Calvo, L. Stewart, M.K. Sogge, G. Bland, and T. Arundel. 2008. Yellow-billed cuckoo distribution, abundance, and habitat use along the lower Colorado River and its tributaries, 2007 annual report. U.S.Geological Survey Open-file Rep. 2008-1177.

McLeod, M.A., and A.R. Pellegrini. 2013. Southwestern willow flycatcher surveys, demography, and ecology along the Lower Colorado River and tributaries, 2008-2012. Summary report submitted to U.S. Bureau of Reclamation, Boulder City, Nevada, by SWCA Environmental Consultants, Flagstaff, Arizona.

Mojave Desert Tortoise

No formal tortoise surveys were done for the purposes of this project; however, tortoises have been documented on lands outside but adjacent to the project limits (Arizona Game and Fish Department 2014).

Conservation Measures

- All individuals working on Bridge 1 would receive environmental awareness training which would include information about the Mojave desert tortoise.
- Prior to ground disturbances related to access improvements, geotechnical activities, and construction, a biologist holding the proper handling permits from FWS would conduct a survey for the presence of tortoises or active tortoise burrows.
- Staging areas would be fenced in accordance with FWS tortoise exclusionary fencing protocols. The fencing would be inspected and maintained daily.
- Any tortoise encountered during any phase of the project would not be touched, harassed or moved, and would be allowed to leave the area on its own, or an on-call biologist holding the proper FWS permits would be called to assess the situation.
- After project completion, trenches, pits, and other features in which tortoises could be entrapped or entangled, would be filled in, covered, or otherwise modified to eliminate any tortoise hazard.

DETERMINATION OF EFFECTS

We concur with your determination that the proposed action "may affect, but is not likely to adversely affect" the Mojave desert tortoise for the following reasons:

- Conservation and protection measures, including tortoise awareness training, exclusionary fencing, and re-contouring of the construction footprint to prevent tortoise entrapments would assure that any effects to the tortoise are insignificant.

Literature Cited

Arizona Game and Fish Department. 2014. Species distribution maps (for the Mojave desert tortoise). Data compiled and edited by the Heritage Data Management System, Phoenix, Arizona.

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Appendix F
Farmland Report

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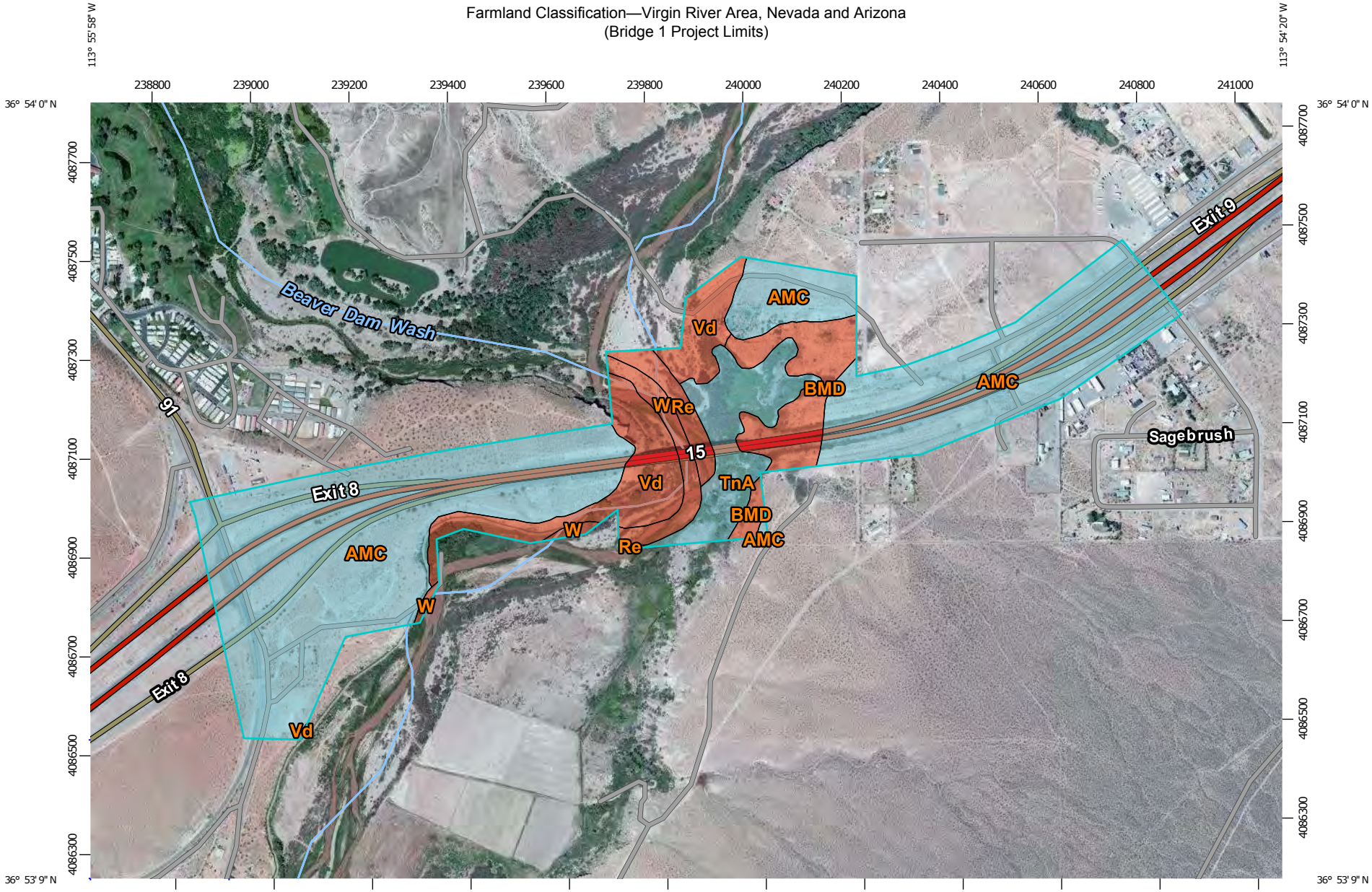
Farmland Classification—Virgin River Area, Nevada and Arizona
(Bridge 1 Project Limits)



Map Scale: 1:11,100 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 150 300 600 900

Feet: 0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 12N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Soil Rating Points

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of local importance
- Farmland of unique importance
- Not rated or not available

Water Features

MAP INFORMATION

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Virgin River Area, Nevada and Arizona
Survey Area Data: Version 11, Aug 22, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 7, 2010—Jul 1, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Farmland Classification

Farmland Classification— Summary by Map Unit — Virgin River Area, Nevada and Arizona (NV608)				
Map unit symbol	**Map unit name**	**Rating**	**Acres in AOI**	**Percent of AOI**
AMC	Arada fine sand, 2 to 8 percent slopes	Farmland of statewide importance	100.9	67.7%
BMD	Bard very gravelly fine sandy loam, 2 to 15 percent slopes	Not prime farmland	11.1	7.4%
Re	Riverwash	Not prime farmland	3.3	2.2%
TnA	Toquop fine sand, 0 to 2 percent slopes	Farmland of statewide importance	12.2	8.2%
Vd	Vinton fine sandy loam	Not prime farmland	16.5	11.1%
W	Water	Not prime farmland	5.1	3.5%
Totals for Area of Interest			**149.1**	**100.0%**

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Appendix G
Scoping Summary Report

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Interstate 15

Virgin River Bridge No. 1 Rehabilitation Study

Agency and Public Scoping Summary

Federal Aid No. 015-A(211)T
ADOT Project No. 015 MO 008 H8760 01L

February 2016

Prepared by
Arizona Department of Transportation
206 S. 17th Ave.
Phoenix, AZ 85007

In cooperation with
U.S. Department of Transportation
Federal Highway Administration

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1. Introduction

The Arizona Department of Transportation (ADOT), in association with the Federal Highway Administration (FHWA), is planning a bridge rehabilitation project located on Interstate 15 (I-15) near the unincorporated communities of Littlefield and Beaver Dam in Mohave County, Arizona (Figure 1-State Map and Figure 2-Vicinity Map). The Virgin River Bridge No. 1 study area would begin at the Littlefield traffic interchange (TI) at milepost (MP) 8.63 and would extend 1.21 miles east to the Desert Springs TI at MP 9.84.

Age, increased truck use, weather, and de-icing salts have all contributed to heavy wear on the I-15 roadway and the eight Virgin River bridges within Arizona. Bridge No. 1 has been identified as structurally deficient, and ADOT has prioritized efforts to rehabilitate this structure. Based on an assessment of past, current, and forecasted conditions of I-15 and Bridge No. 1 within the study area, three primary transportation problems have been identified that warrant a need for action: structural deficiencies, the ability to accommodate high volumes of truck traffic, and the need to support interstate and regional travel. The purpose of the project is to maintain I-15 as a regional transportation facility, supporting the movement of people, goods, and services through this vital corridor. Additionally, the project would help ADOT meet its long-range goal of maintaining I-15 as an essential trade and truck route linking Nevada, Arizona, and Utah.

The scope includes the following:

- Removing and replacing existing bridge deck, girders, median, and exterior barriers
- Widening the new bridge deck to provide shoulders that meet current design criteria (6-foot inside shoulders and 12-foot outside shoulders)
- Widening the roadway approaches to match the new bridge width
- Adding new girders to support the wider bridge deck
- Constructing at least two crane pads beneath the bridge and using a crane to place the new girders and for other bridge construction
- Constructing a temporary bridge within the Virgin River floodplain to allow construction personnel to cross the river
- Widening and strengthening all piers and foundations as necessary
- Providing scour countermeasures as required to mitigate erosion around the pier foundations
- Signing and striping as necessary

ADOT and FHWA are undertaking an Environmental Assessment (EA) to comply with the National Environmental Policy Act (NEPA) requirements for the proposed project. This document summarizes the NEPA scoping process, which provides interested agencies, members of the public, and other stakeholders with an opportunity to comment on the proposed project. As described herein, ADOT and FHWA will consider all scoping comments and address them as appropriate in the EA.

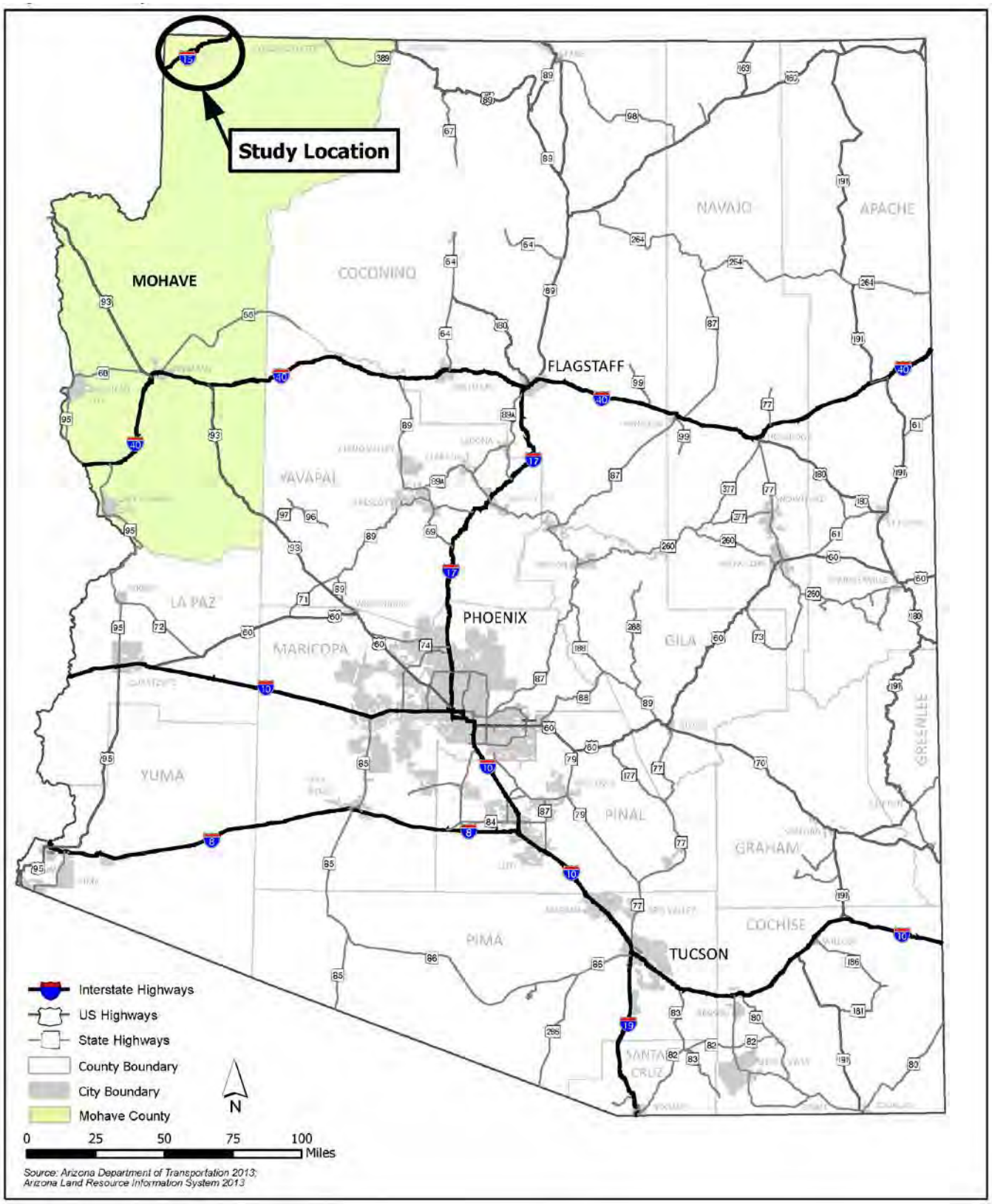


Figure 1. State Map

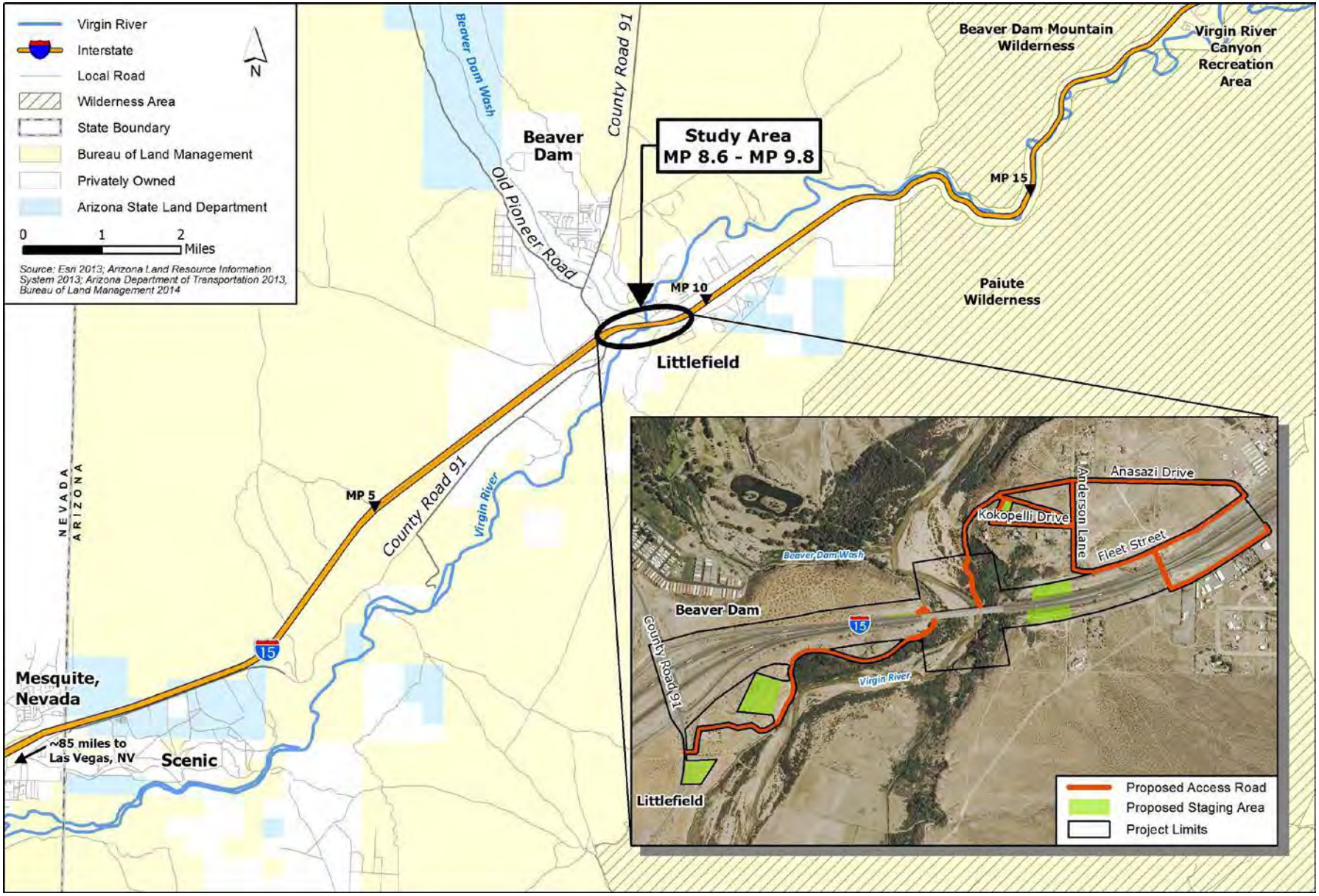


Figure 2. Project Vicinity Map

2. Overview of Public Involvement Plan

For this study, a *Public Involvement Plan* (see Appendix A) was developed to describe in detail how ADOT, FHWA, and the study team would inform, involve, and obtain meaningful input from the public, elected officials, media, and agencies regarding the I-15 Virgin River Bridge No. 1 study, while in compliance with the requirements of NEPA and other related legislation, policy, and guidance.

The goals of this outreach plan include:

- Identify stakeholders such as local officials, property owners, and community members potentially affected by the study
- Develop partnering activities that assist with gathering information from stakeholders
- Foster a positive relationship with stakeholders and keep them informed of the study progress
- Adequately evaluate potential levels of controversy to address specific concerns and develop context sensitive plans
- Work together to develop a transportation solution that has broad public support

3. Agency and Adjacent Landowner Notification

3.1 2014 Notification

The study team prepared and distributed a letter to agency representatives and adjacent landowners that have an interest in the study. The letters were distributed on Thursday, 07/10/2014 to 46 representatives from 28 local, state, and federal agencies and other stakeholders, such as emergency service providers, environmental interest groups, and trucking associations. In addition, the six private landowners within the study area were included in the July 2014 scoping effort to provide them with a more detailed description of the proposed project. The deadline for responses was 08/12/2014. A copy of the agency distribution list, and a sample scoping letter with accompanying figures are included in Appendix B.

3.2 2015 Notification

During the coordination that followed the initial notification period in summer 2014, adjacent landowners suggested alternative construction access routes. Given the substantive change and a new area of potential effect, a second scoping effort was initiated in July 2015 to determine the feasibility and acceptance of the alternative access routes. On 07/02/2015, a letter describing the routes was mailed to 32 adjacent landowners, and 3 agencies. The deadline for responses to the second scoping letter was 08/06/2015. A copy of the letter and distribution list for second scoping effort with accompanying figures is included in Appendix C.

4. Public Notification

4.1 Newsletter

During the initial scoping process, the study team prepared and distributed a newsletter, which was mailed the week of 10/09/2014, to approximately 45,000 property owners, occupants, and businesses in the vicinities of Littlefield and Beaver Dam, Arizona; Mesquite, Nevada; and St. George, Utah. A link to the newsletter was included in the ADOT news release referenced in Section 4.3. The newsletter was also distributed electronically by ADOT via eGov Delivery to more than 4,000 subscribers. The deadline for responses from the public was 11/28/2014. A copy of the newsletter is included in Appendix D.

4.2 Website

As part of the public and agency outreach program for all projects along I-15 in Arizona, ADOT maintains a website with details and information on various construction projects and studies. The I-15 website was updated with information regarding the Bridge No. 1 study, and the web address was included on all informational materials. Study details were provided on the website at azdot.gov/I-15bridge1.

4.3 News Release

ADOT issued a news release on 10/14/2014 providing study details and the methods to provide comments. The copy of the news release is included in Appendix E. The news release was distributed to more than 4,000 news organizations, professional journalists, and others subscribed to ADOT's distribution list.

5. Public Comment Opportunities

During the initial scoping process in 2014, written comments were accepted via mailed letter, online web comment form, e-mail, telephone, and fax (as described in detail below). Because the 2015 outreach was prompted by the addition of an alternative construction access route, and there were no other substantive changes to the scope of the project as conveyed to the public in 2014, the public outreach in 2015 was limited to sending letters to landowners immediately abutting the proposed new access route. Written comments were accepted via mailed letter, e-mail, and fax.

5.1 Written Comments

Written comments were accepted during the scoping outreach in both the 2014 and 2015. During the 2014 comment period, written comments consisted of individual letters, and comments forms from the printed newsletter (example in Appendix D) received via U.S. mail. During the 2015 comment period, all written comments were received via U.S. mail.

5.2 Web Comments

An online comment form was developed on the study website (azdot.gov/I-15bridge1) for the public to use during the 2014 comment period. Web comments were not available during the 2015 comment period.

5.3 Email Comments

The email account (projects@azdot.gov) was used to collect electronic comments during the 2014 comment period. E-mail comments were also accepted during the 2015 comment period, and were directed to Beth.Defend@jacobs.com.

5.4 Telephone and Fax Comments

Participants could submit comments through the study telephone line (855.712.8530) during the 2014 comment period. During the 2015 comment period, a telephone number for comments was not provided, however, a fax number was provided.

6. Quantified Summary of Participation

The table below shows the number of participants who commented during each comment period, organized by comment method. Although a fax number was provided for comment submittal, no comments were received via fax.

Table 1. Outreach Participation Summary

Comment Method	Number of Comments Received during July and October 2014 Comment Periods	Number of Comments Received during July 2015 Comment Period
Email	20 Public, 1 Agency	4 Public
Project Website	33 Public	N/A
Telephone	2 Public	N/A
Written (Letters or Comment Form)	53 Public, 4 Agency	1 Public
Total Comments	108 Public, 5 Agency	5 Public

7. Agency Comments

All agency comments received were reviewed for the specific issues or recommendations raised by the commenter. Five agency comments were received during the initial comment period ending 11/28/2014. A summary of comments includes the following:

- Requests for continued coordination during project development, including during construction
- Request to *not* detour trucks onto US 91
- Maintenance of traffic flow and roadway access
- Suggestion for tribal coordination
- Statements of environmental issues that may exist, such as:
    - Implement conservation measures
    - Wildlife and wildlife habitats that may require additional study
    - Native plant identification and conservation, and invasive species mitigation

A comment log containing summarized comments and responses is included in Appendix F. Copies of the agency scoping comment e-mails and letters, and ADOT's responses are included in Appendix G.

8. Public Comments

As with the agency comments, public comments were reviewed for specific themes and addressed on an individual basis. During the 2014 comment period 110 public comments were received. During the 2015 comment period five comments were received. A summary of comments includes the following:

- Expressions of general support, many of which asserted Bridge #1 is a critical piece of the area's transportation system that people rely upon
- Comments that an updated bridge would support commerce and commercial delivery in the area.
- Expressions that project is not needed
- Questions and concerns about potential future construction, such as:
    - Locations and hours of lighting
    - Locations of and access to staging and construction areas
    - Lane closure management and traffic mitigation
    - Methods of construction
    - Locations of utility poles
    - Concern for interruption or affecting irrigation ditches
    - Opportunities to participate as a supplier of materials or storage area provider
- Requests for construction work to be performed in the least intrusive and most expeditious way possible by:
    - Minimizing construction footprint
    - Expediting construction schedule
    - Considering alternate construction access roads
- Concerns that the Environmental Assessment is unnecessary and costly
- Expressions that bicycle safety should be incorporated into bridge rehabilitation
- Concerns about the number and placement of signs needed for speed and construction zone and markers to avoid night-time collisions
- Concerns related to environmental issues, such as:
    - Noise, vibration, and dust
    - Water features and erosion
        - Little Jamaica natural springs (both for and against protecting/maintaining this feature)
    - Wildlife and wildlife habitats
- Requests for additional information including greater detail about impact to properties, contact information, and/or requesting a site visit

The public comment log included as Appendix F contains summarized comments and responses. Copies of letters and e-mails from members of the public are included as Appendix H. Aside from generally supporting the proposed improvements to the bridge, the greatest number of comments expressed concern for minimizing traffic impacts on I-15 during construction and the related socioeconomic impacts that may occur (e.g. emergency services, business impacts, etc.). Many commenters felt that the approach currently being used for other bridge projects on I-15 have maintained the traffic well. The need for connectivity to St. George and Las Vegas were clearly voiced. Wildlife/Habitat and natural resources the next most frequently addressed.

Appendix A. Public Involvement Plan

I-15, BRIDGE # 1 REHABILITATION

PUBLIC INVOLVEMENT PLAN FOR THE ENVIRONMENTAL ASSESSMENT

July 2014
Prepared by ADOT Community Relations

CONTENTS

1 INTRODUCTION

The purpose of the I-15 Bridge #1 Rehabilitation study is to prepare an Environmental Assessment (EA) that satisfies the requirements of the National Environmental Policy Act (NEPA). This study is located on Interstate 15 (I-15) near the unincorporated communities of Littlefield and Beaver Dam in Mohave County, Arizona. The Virgin River Bridge No. 1 study area begins at the Littlefield traffic interchange (TI) at milepost (MP) 8.6 and extends 1.2 miles east to the Desert Springs TI at MP 9.8.

The purpose of the project is to maintain Arizona's segment of I-15, facilitating the movement of people, goods, and services through this vital corridor. Additionally, the project would help ADOT meet its long-range goal of maintaining I-15 as an essential trade and truck route linking Nevada, Arizona, and Utah.

The scope includes the following:

- Removing and replacing existing bridge deck, girders, median, and exterior barriers
- Widening the new bridge deck to provide shoulders that meet current design criteria (6-foot inside shoulders and 12-foot outside shoulders)
- Widening the roadway approaches to match the new bridge width
- Adding new girders to support the wider bridge deck
- Constructing at least two crane pads beneath the bridge and using a crane to place the new girders and for other bridge construction
- Constructing a temporary bridge within the Virgin River floodplain to allow construction personnel to cross the river
- Widening and strengthening all piers and foundations as necessary
- Providing scour countermeasures as required to mitigate erosion around the pier foundations
- Signing and striping as necessary

The public involvement plan (PIP) for this EA will satisfy the requirements of the NEPA process and ensure that there is ample opportunity for the public to learn about and provide comments on this study. Each element of the PIP, as well as what the Study Team will undertake to ensure maximum public participation, is outlined in this document.

2 PUBLIC INVOLVEMENT

Stakeholder participation is the process used to collect, understand, and—when appropriate—incorporate meaningful stakeholder input so that project decisions reflect both technical requirements and public concerns.

The Study Team's philosophy is that thoughtful, appropriately designed public involvement results in improved decisions because it reflects public concerns and ideas. Success depends as much on quality stakeholder participation as it does on technical analysis.

Successful public involvement gives the public the information necessary to provide meaningful input on decisions that will affect their lives, and the ability to do so in a reasonable manner. Effectively engaging stakeholders through education, involvement, and a mutual understanding between the Study Team and stakeholder groups on the roles, responsibilities, and ability to influence decisions will be a significant component to the successful outcome of this project.

3 LEVELS OF PUBLIC INVOLVEMENT

This PIP incorporates different levels of activities designed to reach different audiences at their desired level of involvement. Based on the International Association for Public Participation's (IAP2's) involvement spectrum, this PIP has the following goals:

- Inform – We will keep the land owners, local jurisdictions, the public, state and federal agencies, and affected business owners informed about the study process.
- Consult – We will keep the public, agencies, and local stakeholders updated; we will listen to and acknowledge concerns.
- Involve – We will work with the public, agencies and groups to ensure all applicable concerns are considered in developing the EA and provide feedback on how their input was considered.

4 PUBLIC INVOLVEMENT GOALS

Information sharing is at the heart of our public process. The Study Team commits to being sensitive to the interests and values of stakeholders and to maintaining a positive and receptive attitude when meeting with the public and other vested interests. To ensure effective communication, those who work with stakeholders will be involved in actual study activities. Goals of the public outreach program include:

- Conduct a public process - The Study Team is committed to ensuring that members of the public have opportunities to provide input on actions that could affect them throughout the NEPA process.
- Improve ADOT/community communications and build trust - ADOT strives to continue improving its relationship with the public. This PIP is designed to foster productive conversations and strengthen the foundation for this future project.
- Provide feedback - The Study Team is committed to a transparent and active public involvement program. Public comments will be considered, and whenever possible, responded to in a timely fashion. As a portion of its comprehensive PIP, the Study Team is committed to communicating to study process participants how their input was considered.
- Providing multiple means through which the public can learn about and participate in the study.

ADOT understands the importance of public involvement in all phases of project development. This PIP has been designed to provide a transparent process that allows opportunities for stakeholders to be actively engaged while simultaneously considering ADOT's resources and responsibilities. ADOT believes that

members of the public should have an opportunity to comment on decisions about actions that could affect their lives. Moreover, ADOT appreciates that public participation improves the decision-making process by recognizing and communicating the needs and interests of all participants.

5 PUBLIC INVOLVEMENT TOOLS

The following tools will be used to foster specific levels of involvement in the study process.

ADVERTISEMENTS

ADOT Community Relations will promote stakeholder participation for meetings, open houses, and other events 15 days and one week prior to any meetings.

COMMENT DATABASE

A comment database will be used to track comments and responses.

ELECTED OFFICIAL AND KEY STAKEHOLDER BRIEFINGS

In conjunction with the study kickoff meeting, individual meetings will be held with local elected officials and key stakeholders. These meetings will allow the Study Team to talk about the study and allow these individuals or groups to voice their opinions and concerns.

EMAIL DISTRIBUTION LIST

The e-mail distribution list will consist of people attending the project meetings, those who have proactively requested to be included on the list, and area community groups. The Study Team will update the list following each public meeting, and regularly add individuals who request to be included. Groups such as chambers of commerce will be offered the opportunity to forward published project information to their email distribution lists upon request. Specific uses include regular study updates, notification of public events, and requesting public comments.

EXISTING PLATFORMS

There are a variety of methods to dialogue with the public, such as engaging clubs, civic groups, other publications, and other projects. Local municipality websites and community calendars are examples as are community councils and chambers of commerce. The Study Team will use these platforms to make sure the public understands how and where to be engaged to be most effective.

KEY MESSAGES

ADOT Community Relations will refine public messages relating to the study as necessary during the process to ensure communication with the public is accurate and timely, and inclusive of new developments.

MAILING LIST

ADOT Communications will use the United States Post Office's Every Door Direct Program and the Bureau of Land Management's mailing list for any mailings. The distribution area is anticipated to include Mesquite, Nevada, St. George, Utah, and the Arizona Strip communities.

PRINT MATERIALS

Printed materials will be provided at public meetings/events and could include a Fact Sheet and FAQs. Concise and consistent print materials published in a cost-effective format will be used at critical milestones.

PUBLIC SCOPING

A public scoping newsletter will be mailed to all properties (residents and businesses) in the distribution area, advertisements will be placed in local newspapers, and information will be distributed to PIOs in Nevada and Utah announcing the study. The mailer will include an overview of the study, purpose and need, study considerations, definition of NEPA and study schedule. The advertisement will announce the study, state the comment period and let readers know where to get more information. Input gathered during public scoping will be provided to the Study Team.

PUBLIC HEARING

A public hearing will be held to present the draft EA. A separate plan will be developed exclusively for the public hearing.

TELEPHONE INFORMATION LINE

A telephone information line has been created and will be maintained during the life of the study process. The telephone line is automated, with callers being able to leave a message with their question or comment. Comment line messages are checked periodically during the day, and a Study Team member will contact each caller no later than 24 hours, or the next business day, after the message is received. The telephone comment line number will be published in all public involvement materials. The telephone information line number is 855.712.8530.

WEBSITE

A dedicated website will be used to provide updates, frequently asked questions, record comments, and distribute documents for review. Specific uses include publishing meeting notices, updates, and reports. ADOT Communications will develop and maintain the website according to ADOT guidelines.

6 PROJECT DECISION MAKERS AND STAKEHOLDERS

This section describes the "who" involved in the project. Different stakeholders will have varying levels of interest in the study process. Some may only want to know that the plan is being developed; others may want a more active role in the project's final direction. Brief summaries of these agency and stakeholders' roles, and how each will be involved in the PIP are given below.

Agency Decision Makers

Arizona Department of Transportation

ADOT is responsible for planning, building and operating a highway system in addition to building and maintaining bridges. ADOT, which operates this portion of the I-15, is the sponsor for this study. ADOT will ultimately evaluate and select, in cooperation with FHWA, which proposed alternative best meets the long-term needs of the region. ADOT will solicit and consider public and stakeholder input throughout the study process. ADOT must abide by FHWA regulations and make decisions within the framework of FHWA's policies and guidance.

Federal Highway Administration

FHWA is an agency within the US Department of Transportation that supports state and local governments in the design, construction and maintenance of the Nation's highway system and various federally and tribal owned lands. FHWA will review and approve the study documents. Throughout the process, FHWA will provide guidance on the public involvement program. ADOT's Study Team will work closely with FHWA's Arizona Division and create a Final EA that meets applicable federal guidelines.

Stakeholders

A stakeholder is anyone that has an interest in the study or may be affected by the team's decision-making. Stakeholders are divided into three subgroups: technical, community and the general public.

Planning and Technical Stakeholders

Planning and technical stakeholders by definition have a high level of competency associated with some aspect of NEPA, environmental regulations, highway planning, construction and operations. These stakeholders will review the technical merits of the environmental resource analyses, the EA, and design, and comment on how it affects their interests. Progress meetings will be held with these stakeholders as necessary.

Community Stakeholders

The immediate community includes neighborhoods, businesses and others that are potentially affected by this proposed project and who want to participate and provide feedback on it. This group does not have technical expertise, but still has a stake in the outcome of the study.

General Public

This largest stakeholder group includes any person or organization from any location or background that could potentially be interested in the proposed project. Using media coordination, the project website and other tools, the team will work to ensure information reaches interested stakeholders.

7 PIP Implementation

A schedule will be developed and used as a roadmap that identifies the proposed public involvement tools. Below is a brief overview that can be used as a road map. Some activities will be conducted continuously

throughout every phase and may not be individually identified in the schedule. These ongoing tools include:

- Website
- Elected Official Briefings
- Email Database maintenance
- Media Coordination
- Message Development and Refinement

Summer 2014

- Stakeholder Analysis
- Public Scoping

Winter 2014-15

- Briefings with elected officials, PIOs, chambers of commerce

Fall 2015

- Public Hearing preparation
- Public Hearing advertising
- Public Hearing
- 30-day comment period
- Comment log and summary report

All information will be posted online within 24 hours following any public meetings for those unable to attend. Comment periods will last 30 calendar days.

8 COMMENTS AND RESPONSES

The purpose of public involvement is to gather input that will be considered by the decision-makers prior to making final decisions. Comments will be accepted via e-mail, comment forms, website and letters. A comment database will be developed to hold all comments, identify issues, and track contact information, comment resolution, and responses. Every comment will be read and entered into the comment database by trained staff. Comments will be categorized to identify primary concerns and will be considered in either the draft or final EA.

Appendix B. Agency and Adjacent Landowner Distribution List and Sample Scoping Letter – Initial Scoping Period

Scoping Distribution List for Virgin River Bridge #1 (STR #1089)

Affiliation	M.	First	Last	Title / Department	Agency	Address 1	Address 2	City	ST	Zip
Beaver Dam/Littlefield										
	Mr.	Jeff	Hunt	Fire Chief	Beaver Dam - Littlefield Fire District	P.O. Box 579, 630 North Highway 91		Littlefield	AZ	86432
	Mr.	Michael	Robison	Superintendent	Littlefield Unified School District #9	P.O. Box 730, 3436 East Rio Virgin Road		Beaver Dam	AZ	86432
	Ms.	Phyllis	Leavitt	Principal	Beaverdam Elementary School	P.O. Box 730, 3436 East Rio Virgin Road		Littlefield	AZ	86432
	Mr.	Mark	Coleman	Principal	Beaverdam High School	P.O. Box 670, 3475 East Rio Virgin Road		Littlefield	AZ	86432
	Mr.	Gene	Maughan	Vice President - Rep. Beaver Dam	Canyonlands Healthcare	P.O. Box 490, 3272 East Rio Virgin Road		Beaver Dam	AZ	86432
City of St. George										
	Mr.	Gary	Esplin	City Manager	City of St. George	175 East 200 North		St. George	UT	84770
	Ms.	Terri	Draper	Public Relations Manager	Dixie Regional Medical Center	1380 Medical Center Drive		St. George	UT	84790
City of Mesquite										
	Mr.	Andy	Barton	City Manager	City of Mesquite	10 East Mesquite Boulevard		Mesquite	NV	89027
	Mr.	David	Howell	Facility Operations Director	Mesa View Regional Hospital	1299 Bertha Howe Avenue		Mesquite	NV	89027
Mohave County										
	Mr.	Mike	Hendrix	Mohave County Administrator/County Engineer	Mohave County	P.O. Box 7000		Kingman	AZ	86402
	Mr.	Nicholas	Hont	Development Services Director	Mohave County	P.O. Box 7000		Kingman	AZ	86402
	Mr.	David	West	Flood Control District Engineer	Mohave County	P.O. Box 7000		Kingman	AZ	86402
	Mr.	Steve	Latoski	Public Works Director	Mohave County	P.O. Box 7000		Kingman	AZ	86402
	Mr.	Gary	Watson	Supervisor, District 1	Mohave County	700 West Beale Street		Kingman	AZ	86401
	Mr.	Tom	Sheahan	Mohave County Sheriff	Mohave County	P.O. Box 1191, 600 West Beale Street		Kingman	AZ	86402
	Ms.	Susie	Parel-Duranceau	Community Services Department Director/Deputy County Manager	Mohave County	P.O. Box 7000		Kingman	AZ	86402
	Mr.	Bennett	Bratley	Economic Development Director	Mohave County	3250 East Kino Avenue, 2nd Floor		Kingman	AZ	86409
COG										
	Mr.	Craig	Rayborn	Transportation Planner	Western Arizona Council of Governments	208 North 4th Street		Kingman	AZ	86401
	Mr.	Brian	Babiars	Executive Director	Western Arizona Council of Governments	224 South 3rd Avenue		Yuma	AZ	85634
Arizona State Agencies										
	Ms.	Cheri	Boucher	Transportation Project Evaluation Specialist	Arizona Game & Fish Department - WMHB - Project Evaluation Program	5000 West Carefree Highway		Phoenix	AZ	85086
	Mr.	John	Bottoms	Sergeant	Arizona Department of Public Safety	2319 East Andy Devine Avenue		Kingman	AZ	86401

Scoping Distribution List for Virgin River Bridge #1 (STR #1089)										
Affiliation	**M.**	**First**	**Last**	**Title / Department**	**Agency**	**Address 1**	**Address 2**	**City**	**ST**	**Zip**
Utah Department of Transportation (UDOT)										
	Mr.	Carlos	Braceras	Executive Director	Utah Department of Transportation	P.O. Box 141265		Salt Lake City	UT	84114
	Mr.	Rick	Torgerson	Region 4 Director	Utah Department of Transportation	210 West 800 South		Richfield	UT	84701
	Mr.	Kevin	Kitchen	Public Involvement Manager	Utah Department of Transportation	210 West 800 South		Richfield	UT	84710
	Mr.	Shawn	Hinton	Lieutenant	Utah Department of Public Safety	620 South 5300 West	Suite 216	Hurricane	UT	84737
Nevada Department of Transportation (NDOT)										
	Mr.	Rudy	Malfabon	Director	Nevada Department of Transportation	1263 South Stewart Street		Carson City	NV	89712
	Ms.	Mary	Martini	District Engineer	Nevada Department of Transportation, District 1	123 East Washington Avenue		Las Vegas	NV	89101
	Mr.	James	Wright	Director	Nevada Department of Public Safety	555 Wright Way		Carson City	NV	89711
	Mr.	Damon	Hodge	Public Information Officer	Nevada Department of Transportation	123 East Washington Avenue		Las Vegas	NV	89101
Federal Agencies										
	Ms.	Laurie	Ford	Lands and Geological Sciences Team Lead	BLM Arizona Strip Field Office	345 East Riverside Drive		St. George	UT	84790
	Mr.	Jeff	Young	District Lead Wildlife Biologist	BLM Arizona Strip Field Office	345 East Riverside Drive		St. George	UT	84790
	Mr.	Shawn	Langston	Wildlife Biologist	BLM Arizona Strip Field Office	345 East Riverside Drive		St. George	UT	84790
	Mr.	Gary	Weiner	Resource Management Specialist	National Park Service Rivers, Trails, and Conservation Assistance	4030 Sourdough Road		Bozeman	MT	59715
	Mr.	Matthew	Fix	Divison Administrator	Federal Motor Carrier Safety Administration, Arizona Division	400 East Van Buren Street	Suite 401	Phoenix	AZ	85004
	Mr.	Steve	Spangle	Field Supervisor	U.S. Fish & Wildlife Service - Phoenix Main Office	2321 West Royal Palm Road	Suite 103	Phoenix	AZ	85021
	Ms.	Brenda	Smith	Assistant Field Supervisor - Northern Arizona	U.S. Fish & Wildlife Service - Flagstaff Suboffice	323 North Leroux Street	Suite 201	Flagstaff	AZ	86001
	Mr.	Brian	Wooldridge	Fish and Wildlife Biologist	U.S. Fish & Wildlife Service Southwest Forest Science Complex	2500 South Pine Knoll Drive		Flagstaff	AZ	86001
	Ms.	JoAnna	Gunderson	Supervisor	St. George Port-of-Entry	P.O. Box 571		St. George	UT	84771
Environmental Stakeholders										
	Mr.	Kieran	Suckling	Policy Director	Center for Biological Diversity	P.O. Box 710		Tucson	AZ	85702
	Mr.	Bill	Hedden	Executive Director	Grand Canyon Trust	2601 North Fort Valley Road		Flagstaff	AZ	86001
	Ms.	Jessica	Lamberton-Moreno	Wildlife Linkages Program Coordinator	Sky Island Alliance	300 East University	Suite 270	Tucson	AZ	85705

Scoping Distribution List for Virgin River Bridge #1 (STR #1089)										
Affiliation	**M.**	**First**	**Last**	**Title / Department**	**Agency**	**Address 1**	**Address 2**	**City**	**ST**	**Zip**
Additional Recipients										
	Mr.	R.J.	Hicks	Executive Director	Western States Transportation Alliance	14362 Beeler Street		Brighton	CO	80602
	Mr.	Tony	Bradley	President & CEO	Arizona Trucking Association	7500 West Madison Street		Tolleson	AZ	85353
	Mr.	Paul	Enos	Chief Executive Officer	Nevada Trucking Association	8745 Technology Way	Suite E	Reno	NV	89521
	Mr.	Rick	Clasby	Executive Director	Utah Trucking Association	4181 West 2100 South		Salt Lake City	UT	84104
	Mr.	Douglas	Adriance	Postmaster	U.S. Postal Service	3288 East McKnight Road		Littlefield	AZ	86432
Adjacent Landowners										
	[redacted]									

Intermodal Transportation

Janice K. Brewer, Governor
John S. Halikowski, Director
Jennifer Toth, State Engineer
Robert Samour, Senior Deputy State Engineer, Operations
Dallas Hammit, Senior Deputy State Engineer, Development

July 10, 2014

Mr. Jeff Hunt
Fire Chief
Beaver Dam - Littlefield Fire District
P.O. Box 579, 630 North Highway 91
Littlefield, AZ 86432

RE: 015-A(211)T
015 MO 008 H8760 01L
Virgin River Bridge #1 (STR #1089)

Dear Mr. Hunt:

The Arizona Department of Transportation (ADOT), in association with the Federal Highway Administration (FHWA), is planning a bridge rehabilitation project located on Interstate 15 (I-15) near the unincorporated communities of Littlefield and Beaver Dam in Mohave County, Arizona (Figure 1-State Map and Figure 2-Vicinity Map). The Virgin River Bridge No. 1 study area would begin at the Littlefield traffic interchange (TI) at milepost (MP) 8.6 and would extend 1.2 miles east to the Desert Springs TI at MP 9.8. The cadastral location for this study is Township 40 North, Range 15 West, Section 4. This letter is a request for comments, concerns, or issues relevant to the proposed construction project.

I-15 spans 29.4 miles across the northwest corner of Arizona and provides a vital link between the states of California, Nevada, Arizona, Utah and beyond. The Arizona portion of I-15 includes seven bridges over the Virgin River, all constructed in the 1960s and 70s; Bridge No. 1 was constructed in 1964. Within the study area, I-15 is a 4-lane, divided highway with two 12 foot-wide travel lanes and shoulders of varying widths. This stretch of interstate carries a high percentage of truck traffic (as high as 38 percent) and is the only road in Arizona permitted to carry triple tractor trailers. As I-15 ages, truck traffic can increase the rate at which the roadway pavement and bridge infrastructure deteriorate. In addition, the shoulders within the study area are as narrow as 5 feet wide, and do not allow room for trucks or other vehicles to pull off the road.

The purpose of the project is to maintain I-15 as a regional transportation facility, allowing the movement of people, goods, and services through this vital corridor. Additionally, the project would help ADOT meet its long-range goal of maintaining I-15 as an essential trade and truck route linking Nevada, Arizona, and Utah.

The project scope would consist of the following:

- Removing and replacing existing bridge deck, girders, median, and exterior barriers
- Widening the new bridge deck to provide shoulders that meet current design criteria (6-foot inside shoulders and 12-foot outside shoulders)
- Widening the roadway approaches to match the new bridge width
- Adding new girders to support the wider bridge deck
- Constructing at least two crane pads beneath the bridge and using a crane to place the new girders and for other bridge construction
- Constructing a temporary bridge within the Virgin River floodplain to allow construction personnel to cross the river
- Widening and strengthening all piers and foundations as necessary
- Providing scour countermeasures as required to mitigate erosion around the pier foundations
- Signing and striping as necessary

Two potential access routes for the project have been identified along existing dirt roads northeast and southwest of the bridge (see Figure 2). These roads would be widened resulting in vegetation removal and the temporary placement of fill. Staging areas are proposed on vacant land adjacent to the bridge approaches east of the bridge, near the access road connection to Desert Springs Road, and southeast of the Littlefield TI (see Figure 2).

Within the study area, privately owned parcels and public lands managed by the Bureau of Land Management (BLM) are adjacent to I-15. The primary land uses adjacent to the study limits are scattered rural development including residential and commercial uses. BLM manages adjacent areas for multiple uses such as habitat preservation and recreation; however, any recreational use of the Virgin River in the study area is informal. ADOT holds a 400-foot-wide easement from BLM. No new permanent easements are anticipated; however, temporary construction easements would be required along the new access routes and for staging areas during construction. Nearby residents and businesses may experience minor impacts associated with construction noise and vehicle access.

This project would utilize federal funding. The project is currently programmed for design in Fiscal Year 2017 and construction in Fiscal Year 2019, with construction expected to take 24 months. Traffic would be controlled to minimize impacts on motorists, pedestrians, and construction personnel as necessary. Temporary lane closures or lane shifts would be necessary to provide an adequate work zone and slower speeds and delays are expected for all motorists travelling through the project area. However, traffic would be maintained in each direction and no detours would be required. Existing traffic patterns would resume immediately following construction.

This letter serves as our agency's invitation to review the proposed project based upon the scope of work outlined above. If you or others in your agency have any specific concerns, suggestions or recommendations pertaining to this specific proposed project, please let us know. This may include

information on future development, general plans, or capital improvement projects that would be affected, to name a few.

Please identify any issues or concerns you have regarding this project and mail them to ADOT, c/o Betsi Phoebus, Jacobs Engineering Group Inc., 101 North 1st Avenue, Suite 3100, Phoenix, Arizona 85003; e-mail them to elizabeth.phoebus@jacobs.com; or fax them to 602.253.1202. We would appreciate receipt of your comments by August 12, 2014. Thank you for your time and continued assistance.

Sincerely,

Charles Beck

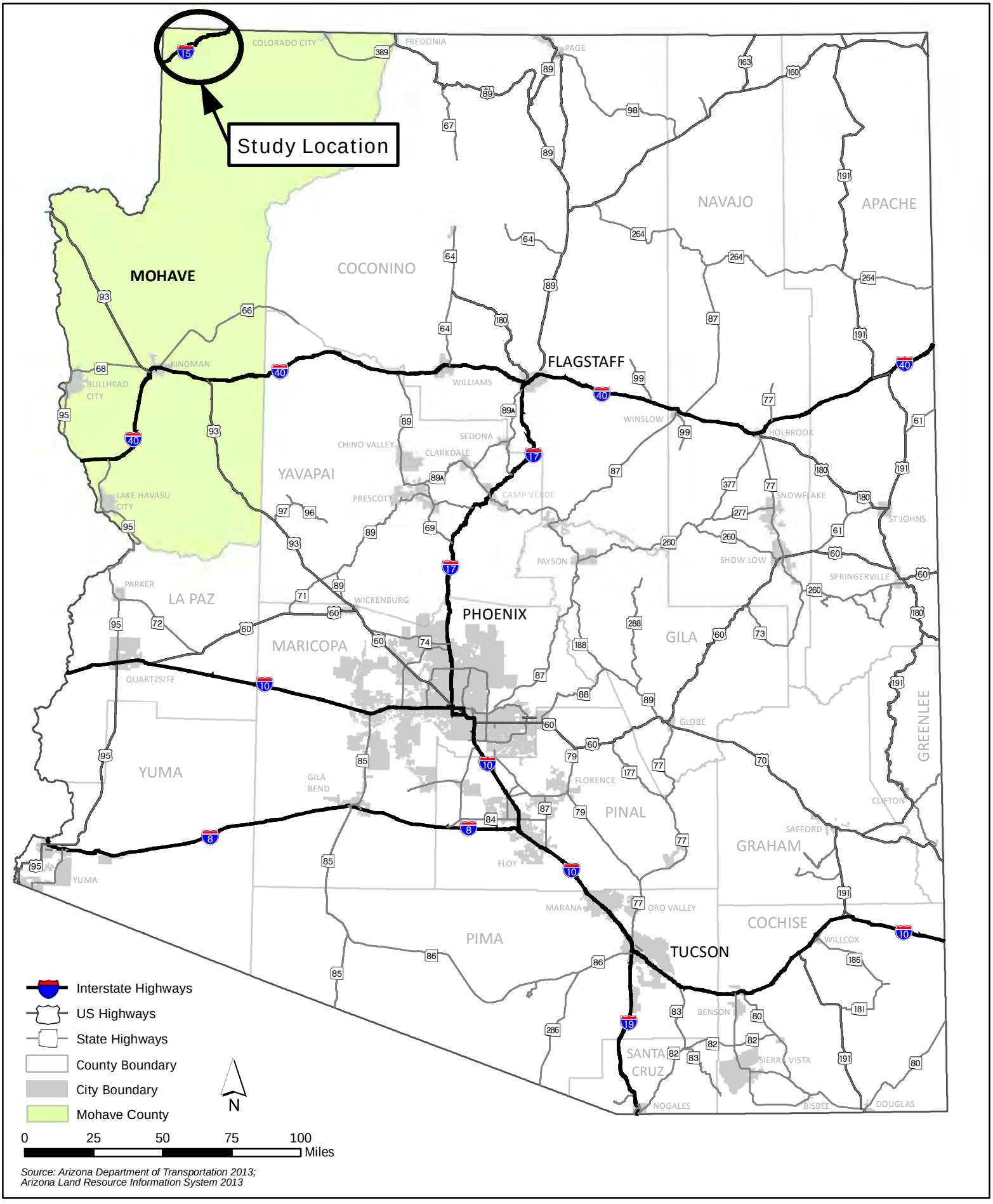
Charles Beck
ADOT Environmental Planning Group

CB:kd

Enclosures

c: George Wallace, ADOT SWPM
Ralph Ellis, ADOT EPG
Betsi Phoebus, Jacobs Engineering Group Inc.

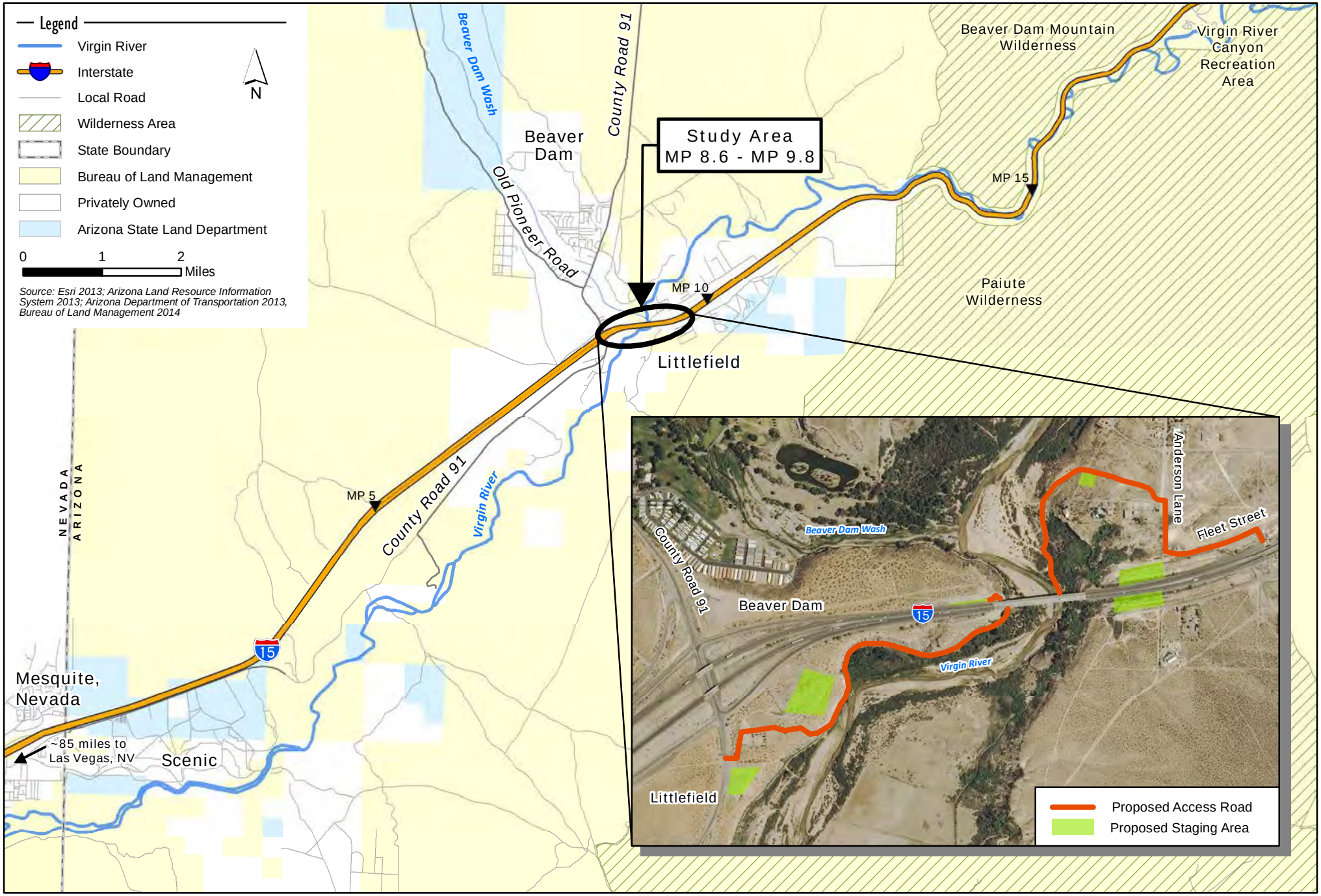
Figure 1. Study Location



Source: Arizona Department of Transportation 2013; Arizona Land Resource Information System 2013

015-A(211)T
015 MO 008 H8760 01L
Virgin River Bridge #1 (STR #1089)

Figure 2. Study Vicinity



015-A(211)T
015 MO 008 H8760 01L
Virgin River Bridge #1 (STR #1089)

Appendix C. Adjacent Landowner Distribution List and Sample Scoping Letter – Second Scoping Period

Distribution List for New Northeast Access Route Re-Scoping
Virgin River Bridge #1 (STR #1089)
015-A(211)T
015 MO 008 H8760 01L

Parcel No.	M.	First	Last	Title / Department/Agency	Address 1	City	ST	Zip
Adjacent Landowners								
[redacted]								

July 2, 2015

Beaver Dam Littlefield Fire District
PO Box 579
Littlefield, AZ 86432

RE: 015-A(211)T
015 MO 008 H8760 01L
Virgin River Bridge #1 (STR #1089)

Dear Beaver Dam Littlefield Fire District:

The Arizona Department of Transportation (ADOT), in association with the Federal Highway Administration (FHWA), is planning a bridge rehabilitation project located on Interstate 15 (I-15) near the unincorporated communities of Littlefield and Beaver Dam in Mohave County, Arizona (Figure 1-State Map and Figure 2- Study Vicinity map). The Virgin River Bridge No. 1 study area would begin at the Littlefield traffic interchange (TI) at milepost (MP) 8.6 and would extend 1.2 miles east to the Desert Springs TI at MP 9.8. An additional access route for bridge construction has been proposed. This letter is part of the continuing public outreach for the project, and is a request for comments on the project and the newly proposed access route.

I-15 spans 29.4 miles across the northwest corner of Arizona and provides a vital link between the states of California, Nevada, Arizona, Utah and beyond. The Arizona portion of I-15 includes seven bridges over the Virgin River, all constructed in the 1960s and 70s; Bridge No. 1 was constructed in 1964. Within the study limits, I-15 is a 4-lane, divided highway with two 12 foot-wide travel lanes and shoulders of varying widths. This stretch of interstate carries a high percentage of truck traffic (as high as 38 percent) and is the only road in Arizona permitted to carry triple tractor trailers. As I-15 ages, truck traffic can increase the rate at which the roadway pavement and bridge infrastructure deteriorate. In addition, the shoulders within the study limits are as narrow as 5 feet wide, and do not allow room for trucks or other vehicles to pull off the road.

The purpose of the project is to maintain I-15 as a regional transportation facility, allowing the movement of people, goods, and services through this vital corridor. Additionally, the project would help ADOT meet its long-range goal of maintaining I-15 as an essential trade and truck route linking Nevada, Arizona, and Utah.

The project scope would consist of the following:

- Removing and replacing the existing bridge deck, girders, median, and exterior barriers
- Widening the new bridge deck to provide 6-foot inside shoulders and 12-foot outside shoulders
- Widening the roadway approaching the bridge to match the new bridge width

- Adding new girders to support the wider bridge deck
- Constructing at least two crane pads beneath the bridge and using a crane to place the new girders and for other bridge construction
- Constructing a temporary bridge within the Virgin River floodplain to allow construction personnel to cross the river
- Widening and strengthening all piers and foundations as necessary
- Preventing scour erosion at pier foundations through the use of engineered bank protection
- Adding or changing signage and striping the roadway as necessary

Two potential access routes for the project were previously identified along existing dirt roads northeast and southwest of the bridge (defined as "Previously Identified Proposed Access Routes" in the inset for Figure 2). ADOT is currently considering one additional potential access route northeast of the bridge (defined as "Newly Identified Access Route" in the inset for Figure 2). One of the northeast routes and the southwest route would be needed for access during construction. However, all three routes will be studied to determine potential impacts. The access roads would be widened resulting in vegetation removal and the temporary placement of fill. Staging areas are proposed on vacant land adjacent to the bridge approaches east of the bridge, near the access road connection to Desert Springs Road, and southeast of the Littlefield/County Road 91 traffic interchange (see Figure 2).

Within the study limits, privately owned parcels and public lands managed by the Bureau of Land Management (BLM) are adjacent to I-15. The primary land uses adjacent to the study limits are scattered rural development including residential and commercial uses. BLM manages adjacent public lands for multiple uses such as habitat preservation and recreation; however, this stretch of the Virgin River is not formally designated as a recreation area by the BLM. ADOT holds a 400-foot-wide transportation easement from BLM. No new permanent right-of-way or easements are anticipated; however, temporary construction easements would be required along the new access routes and for staging areas during construction. Nearby residents and businesses may experience minor impacts associated with construction noise and vehicle access.

This project would utilize federal funding. The project is currently programmed for design in Fiscal Year 2017 and construction in Fiscal Year 2019, with construction expected to take 24 months. Traffic would be controlled to minimize impacts on motorists, pedestrians, and construction personnel as necessary. Temporary lane closures or lane shifts would be necessary to provide an adequate work zone and slower speeds and delays are expected for all motorists travelling through the project area. However, traffic would be maintained in each direction and no detours would be required with the possible exception of over-sized trucks. Existing traffic patterns would resume immediately following construction.

This letter serves as your invitation to review the proposed project based upon the scope of work and proposed construction access routes outlined above. Please identify any specific issues, concerns, or recommendations you have regarding this project and mail to ADOT, c/o Beth

Defend, Jacobs Engineering Group Inc., 101 North 1st Avenue, Suite 2600, Phoenix, Arizona 85003; e-mail to beth.defend@jacobs.com; or fax to 602.253.1202. We would appreciate receipt of your comments by August 6, 2015. Thank you for your time and continued assistance.

Sincerely,

Charles Beck

Charles Beck
ADOT Environmental Planning Group

CB: bd

Enclosures

Figure 1 – State Location Map

Figure 2 – Study Vicinity Map

c: George Wallace, ADOT SWPM
Beth Defend, Jacobs Engineering Group Inc.

Appendix D. Public Scoping Newsletter

Virgin River Bridge #1 Rehabilitation Project
PUBLIC SCOPING PROCESS

VIRGIN RIVER BRIDGE #1 REHABILITATION ENVIRONMENTAL ASSESSMENT

The Arizona Department of Transportation (ADOT), in cooperation with the Federal Highway Administration (FHWA), is proposing to rehabilitate Virgin River Bridge #1. This bridge is an important element of Interstate 15 (I-15), which provides a vital link between the states of California, Nevada, Arizona and Utah. In accordance with the National Environmental Policy Act (NEPA), and other laws, regulations and policies, ADOT is beginning work on an Environmental Assessment (EA), which will evaluate potential impacts of rehabilitation on the natural, cultural and human environment.

ABOUT THE STUDY

Virgin River Bridge #1 was built in 1964 and has never undergone a major rehabilitation. Minor repairs have kept it operational to meet the needs of the traveling public. However, like many other older highway bridges across the nation, this bridge needs comprehensive repair to ensure service for decades to come.

ADOT inspects the bridge according to industry standards. These detailed structural inspections and studies have identified corroded steel and deteriorated concrete. While the bridge is considered safe for travel, weight restrictions that limit traffic on the bridge may be instituted if it is not rehabilitated in the near future.

The purpose of the proposed project is to maintain I-15 as a regional transportation facility, allowing the movement of people, goods and services through this vital corridor.

Build alternatives for the bridge rehabilitation would likely include widening of the piers, bridge deck, and roadway approaches. Temporary construction would likely occur in the floodplain beneath the bridge, and temporary access routes could be widened and stabilized to allow cranes and other construction equipment to access these areas. Temporary work areas could be constructed beneath the bridge, and a temporary bridge could be constructed across the Virgin River such that construction vehicles do not have to enter the Virgin River. Construction within the Virgin River would include the installation of temporary cofferdams around the piers adjacent to the low-flow channel to provide a dry work area for pier widening. Traffic delays would be anticipated during construction and detours could be necessary for wide-load trucks.

NEPA SCOPING PROCESS

To comply with NEPA, ADOT and FHWA are undertaking an EA to evaluate impacts from the proposed project on environmental and socioeconomic resources in the study area. As part of the NEPA process, ADOT and FHWA are seeking comments from the public on the proposed scope of construction, potential alternatives, sensitive resources, potential impacts, or other issues and concerns. ADOT and FHWA will use your comments to identify issues as they evaluate the proposed alternatives and document their findings in the EA.

YOUR INPUT IS IMPORTANT!

The preferred method for receiving comments from members of the public is electronically, either by email to **projects@azdot.gov** or online at **azdot.gov/I-15bridge1**. Comments may also be submitted in writing to ADOT Communications, 1655 W. Jackson, MD 126F, Phoenix, AZ 85007, or by phone at **855.712.8530.** Comments must be postmarked by Nov. 28, 2014, to receive consideration.

Please be aware that your comment including personal identifying information, such as an address, phone number and email, may be made publicly available at any time as required by the Freedom of Information Act. Although you can request in your comment to withhold your personal identifying information from public review, ADOT cannot guarantee that it will be able to do so.

Once the Draft EA is published, it will be made available for public review for at least 30 days, and a public hearing will be held. If you wish to be added to the mailing list for this or other announcements, please be sure to indicate that in your comment.

ADOT | U.S. Department of Transportation Federal Highway Administration

STUDY AREA

VIRGIN RIVER BRIDGE #1

FOR MORE INFORMATION:
azdot.gov/I-15bridge1

ADOT PROJECT NO. 015 MO 008 H8760 01L ▪ FEDERAL AID NO. 015-A(211)T

VIRGIN RIVER BRIDGE #1 REHABILITATION PROJECT

YOUR INPUT IS IMPORTANT

Submit comments by Friday, Nov. 28, 2014, in order to have them considered in the Draft EA.

Please Print Comments may also be submitted online at **azdot.gov/I-15bridge1**, or by email: **projects@azdot.gov**

Name: _____ Email: _____

Address: _____

City: _____ State: _____ Zip: _____

Comments: _____

Mail: ADOT Communications • 1655 W. Jackson St. • Mail Drop 126F • Phoenix, AZ 85007
Email: projects@azdot.gov • **Phone:** 855.712.8530

ADOT | Federal Highway Administration

FOR MORE INFORMATION:
azdot.gov/I-15bridge1

ADOT PROJECT NO. 015 MO 008 H8760 01L • FEDERAL AID NO. 015-A(211)T

ADOT Community Relations
1655 W. Jackson St., MD 126F
Phoenix, AZ 85007

ADOT

Virgin River Bridge #1 Rehabilitation Project
PUBLIC SCOPING PROCESS

YOUR INPUT IS IMPORTANT!

Submit comments by Friday, Nov. 28, 2014

Submit comments:
Online azdot.gov/I-15bridge1
Mail c/o ADOT Communications
1655 W. Jackson St., MD 126F, Phoenix, AZ 85007
Email projects@azdot.gov
Phone 855.712.8530

ATTN Communications

ARIZONA DEPARTMENT OF TRANSPORTATION
MAIL DROP 126F
1655 W. Jackson St.
PHOENIX AZ 85007

Appendix E. News Release

Media Center

ADOT News Release

ADOT seeks public comments on Interstate 15 bridge replacement project

Comments can be submitted through Nov. 28 on Virgin River Bridge No. 1 project

For additional information:

ADOT Media Relations

news@azdot.gov

800.949.8057

October 14, 2014

PHOENIX —The Arizona Department of Transportation and the Federal Highway Administration are seeking public comments on a proposed rehabilitation of Virgin River Bridge No. 1 on Interstate 15, located in the far northwest corner of Arizona.

The $33 million project on Virgin River Bridge No. 1, approximately five miles east of Littlefield, will include the replacement of the bridge's superstructure (girders, deck and railings), as well as widening the roadway through the narrow passage of the environmentally sensitive area of the scenic Virgin River Gorge.

Earlier this year, the project was added to ADOT's 2015-2019 Five-Year Transportation Facilities Construction Program, and is slated to begin in fiscal year 2019.

As part of the National Environmental Policy Act, the Federal Highway Administration and ADOT are beginning work on an Environmental Assessment, which will evaluate potential environmental and socioeconomic impacts. Essential to identifying the best program of solutions is the participation and feedback from individuals who travel along the I-15 corridor or live in the area.

Comments from the public regarding the proposed scope of construction and impacts, or other issues and concerns, may be submitted through Nov. 28.

Despite its remote location, Arizona's 29-mile section of roadway is one of the most heavily traveled commercial and economic corridors linking Southern California with the Rocky Mountain region. Earlier this spring, ADOT began a $27 million project to replace Virgin River Bridge No. 6, marking the first of eight rehabilitation projects that will ultimately need to be completed through the gorge.

To view the Virgin River Bridge No. 1 project map and study information, go to azdot.gov/I-15bridge1.

To provide input during the public comment period, you can participate in the following ways:

Email comments to projects@azdot.gov.
Submit comments online.
Mail comments to Virgin River Bridge No. 1 Study Team, c/o ADOT Community Relations, 1655 W. Jackson St., MD 126F, Phoenix, AZ 85007.
Call 855.712.8530.

Appendix F. Comment Log

No.	Comment	Purpose and Need	Socio-economics	Natural Resources	Visual Resources	Noise and Vibration Impacts	Property Impacts	Impacts to Wildlife/ Habitat	Community Impacts	Traffic Impacts	Construction and Staging Impacts	General Support	Requests for More Information	Response
	Agency Comments													
	Mohave County Public Works (e-mail)													
1	No truck detours on Highway 91									X				ADOT's response is presented in Appendix G following Mohave County's e-mail.
	Nevada Department of Transportation (letter)													
2	Supports the project											X		Thank you for your comment.
	Utah Department of Transportation (UDOT, letter)													
3	Supports the project • I-15 is a critical route • Minimize construction schedule and project duration (provides suggestions for doing so) • Maintain traffic during construction (provides suggestions for doing so) • Confirms UDOT point-of-contract for the project. Establish a communications plan with UDOT's Traffic Control Center •									X	X	X		ADOT's response is presented in Appendix G following UDOTs letter.
	US Fish and Wildlife Service (USFWS, letter)													
4	Lists potentially affected species and critical habitat							X						ADOT and FHWA will continue to work with USFWS through the development of a Biological Evaluation and will engage in consultation with USFWS pursuant to Section 7 of the Endangered Species Act.
	Implement conservation measures (provides suggested measures)							X						Environmental commitments will be identified and implemented.
	Conduct Tribal coordination								X					The cultural resources evaluation and clearance will be in accordance with federal requirements.
	Arizona Game and Fish Department (AGFD, letter)													
5	Verified the previously obtained HDMS on-line review tool							X						ADOT's response letter dated 03/09/2015 is presented in Appendix G following AGFD's letter. • Impacts to special status species and critical habitat will be addressed in a Biological Evaluation and formal consultation pursuant to Section 7 of the Endangered Species Act will occur. • Impacts to migratory birds and bat species will be addressed in the Biological Evaluation and EA. Mitigation measures will be requried to reduce potential impacts, including preconstruction surveys. • Mitigation measures will be required to limit vegetation disturbance to designated construction areas. A native plant inventory will be required.
	Impacts to bats, T&E species, golden eagles, migratory birds, native plants/vegetation							X						
	Potential for Mohave Desert tortoise surveys							X						
	Conduct a native plant inventory							X						
	Minimize construction footprint			X				X						
	Minimize spread of invasive species			X				X						
	Continue to coordinate with AGFD during the project development process							X						

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	Public Comments													
	Phone and Project Hotline													
6	Supports project. An updated bridge would support commerce and commercial delivery in the area.								X			X		Thank you for your comment.
7	Landowner in Littlefield, on the east side of the Virgin River. Suggested use of their property as a construction staging area could provide cost savings, although the access road to the property would require some repair for heavy vehicle and equipment use.													Your comment is noted.
	Letter													
8	This project is going to greatly impact our livelihood and the environment surrounding our home. Do you plan to initiate a baseline noise and decibel study before any work is started and if so will it be constantly monitored during all work? Can you tell us just how much and how load the noise impact will be surrounding our home? How do you plan to minimize machine noise during the day and night hours? Our "HOME" is located on a major cliff directly across from the bridge, which is approximately 1000 to 1500 feet from our cliff home. Vibration is going to be a "HUGE" concern to the integrity of our structure and to all the surround area where people work and live year around. How are you going to keep the vibration impact to a minimum? How do you plan on monitoring the impact your vibrations will on the cliff our house is located?					X					X			Response letter sent 12/19/2014 Potential noise and vibration impacts will be evaluated qualitatively as part of the EA. Studies have shown that both measured and predicted vibration levels are lower than any known criteria for structural damage to buildings. Manmade ground-borne vibration, such as that from construction activities, decreases rapidly as the distance from the source increases; therefore, vibration impacts are confined to short distances from the source. Construction activities that general the highest vibration levels are potentially damaging to distance of 25 feet from the source. Blasting is not anticipated to occur on this project.
	How do you plan on monitoring the wildlife that is surrounding this rehab area? There are large wild migration birds that live off the wildlife in the river. There are the endangered Wound Fish present under Bridge #1 that the Universities have been studying over the last 10 years. There are Red Tailed Hawks, Ravens, and all types of bird species that live on the bridge itself.							X						[*Impacts to wildlife*] Impacts to wildlife and migratory birds will be addressed in the biological resources section of the EA. Mitigation measures such as relocation, limiting demolition and construction activity to non-breeding seasons are implemented under certain conditions; however, this is not likely to be the case with the bird species identified in the letter.
	Will there be any work at night? What will be the hours of construction? How do you plan to minimize the traffic impact that will be going up and down our frontal road constantly? We are very concerned about the amount of illumination that will be on at night and for how long. If the lighting will be on at night how do you plan on minimizing the impact it will have on our property and lives?								X		X			Impacts to the surrounding community will be addressed in the socioeconomic section of the EA. Typically, construction is limited to daylight hours. A limited amount of night work may occur on projects unless local ordinances limit noise levels during nighttime hours. All exhaust systems on equipment will be in good working order and properly design engine enclosures and intake silencers will be used where appropriate.
	The people directly affected by this constructions need to have several phone numbers that we can contact at any hour of the day or night, besides the Sheriff's office, when we have a concern about anything that may occur at anytime. You have to keep in										X		X	Contact information for project peronnel and local law enforcement agencies will be desseminated to the public in the project area. Proactive communication regarding construction schedule, dates of planned closures, and detour routes will be made available through newspaper

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	mind that we will be "Living" your construction project. You, meaning ALL who work on this project from office to hard hats get to go elsewhere from this project when you get ready to rest and relax. We will be at your construction site literally for, looks like 2 to 5 YEARS!? Our serene surroundings' will be interrupted by this rehab. bridge project big time. Is there anyone we might speak with that has lived adjacent to a rehab. bridge project of this magnitude?													advertisements, e-mail, direct mailings, etc. Commentor can also be added to the ADOT mailing list for project announcements.
	Will there be ANY impact on the natural water fall and natural springs that are located about 500 feet north east of the bridge on the east facing side of the cliff between our house and the bridge? Will we see better details regarding the dirt roads that will be affected surrounding our property?			X										Impacts to the waterfall and springs will be addressed in the water resources section of the EA. The potential impacts evaluated in the EA will encompass the entire disturbance area of the proposed project, including access roads and staging areas.
9	The methods to protect the environment will be effective, and the construction road will be adequate and will protect the river, which is important.											X		Thank you for your comment.
	For wide-loads you could have them use the construction road or have them use flag cars. Weight restrictions would have to be passed on to transporting companies but that would create too much expense so you should use construction road.									X				Alternative routes and traffic management will be evaluated and during the design and environmental studies conducted for this project.
	After construction is over the area should be returned to present condition.										X			Your comment is noted.
	E-mail													
10	I-15 is a critical route and that he owns property north of Bridge 1 Supports the project											X		Acknowledged receipt on 7.29.14; A project team member called and discussed with commenter on 2.23.15.
	Requests additional information on potential impacts to his property; requests a response and, if possible, a site visit												X	Commenter attended the adjacent landowner meeting on 3.10.15.
11	How will the proposed access road affect the Littlefield Cemetery and Littlefield irrigation ditch?								X					Acknowledged receipt on 8.12.14; a project team member spoke with commenter on 2.23.15. Commenter attended the adjacent landowner meeting on 3.10.15.
12	Proposed access/staging on his property and requested: • the access route not cut diagonally through his property • all materials/structures on his property be maintained • he be provided first option to bid on construction materials, scrap, utilities, etc.										X			Acknowledged receipt on 8.12.14; an e-mail was sent on 2.23.15 requesting a phone call to discuss in person; a message was left on 2.26.15. Commenter attended the adjacent landowner meeting on 3.10.15.
13	Supports the project											X		Thank you for your comment.
14	Too much money is spent on environmental impact statements, they only add to government overspending. Complete the project in the most economical way possible.													Environmental resources will be addressed in accordance with federal, state and local requirements.
15	Supports the project											X		Thank you for your comment.

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16	Supports the project, and environmental concerns are secondary											X		Environmental resources will be addressed in accordance with federal, state and local requirements.
17	Supports the project; the importance of the bridge outweighs other factors of consideration in the study, ADOT should proceed											X		Thank you for your comment.
18	It is critical that the job be done right the first time, regardless of the time required or the inconvenience.											X		Thank you for your comment.
19	Supports the project											X		Thank you for your comment.
	Repave the road from Mesquite to the Gorge													The scope of this project is limited to reconstruction of the structure and roadway approaches leading to the bridge.
20	Respect the warm springs as it was during initial bridge construction			X										Impacts to the springs will be addressed in the water resources section of the EA.
21	Supports the project. If the project is conceived and implemented as the current rehabilitation taking place in the Gorge, impacts to travel, the environment, and the natural beauty of the area will be very minimal.											X		Impacts to travel, environmental and visual resources will be addressed in Chapter 4 of the EA.
22	Because Arizonans have no access to this portion of I-15, FHWA, California, and Nevada should be footing the entire bill for this project and Arizona Department of Public Safety should not be patrolling that portion of I-15													Thank you for your comment.
23	Little Jamaica is a natural treasure and needs to be protected.			X										Impacts to the springs will be addressed in the water resources section of the EA.
24	Supports the project											X		Thank you for your comment.
25	While you have indicated that over the years the structure has deteriorated to some extent, you have not very clearly identified either the need or the “Fix”. So it is rather difficult to provide anything constructive for consideration.	X												These issues to be addressed in the project description, alternatives analysis, and project purpose and need sections of the EA and refined during final design.
	I don’t recall if this is a steel girder structure. If it is, is the steel corroded such that the design strength is impaired? If so what is the proposed method of repair? Is it welded plate overlays? If the plate repairs are welded it would seem that work would mostly be done from hanging scaffolds, with no impact to the river basin.			X										
	What is the basis for suggesting there would be widening of the lanes? To my knowledge the canyon lanes were not widened, and the lanes going south remain the same width. What does widening achieve? I certainly don’t think there is any justification of adding lanes.	X												
	If the bridge were new would the design considerations be sufficient? If not what are the methods planned for to increase the support loading?													
	If the concrete deck is spalling it would seem sufficient to chip													

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	concrete to below the top rebar and replace the top concrete. Does the deck need to be increased in thickness?													
	If the piers are thickened access at the river would be required. Special work platforms could be specified, and bridging the river should be done by a system like a Bailey Bridge to minimize the river impact. Work in the river basin should be limited to low water seasons to minimize the impact.			X				X						
	It is not difficult to require reshaping the landscape including foliage.			X										
26	Supports repair of the bridge; Environmental concerns are secondary.											X		Environmental resources will be addressed in accordance with federal, state and local requirements.
27	Supports the project.											X		Impacts to aquatic life in the river will be addressed in the biological resources section in the EA, and impacts to water quality in the area will be addressed in the Section 404 and 401 of the Clean Water Act section in the EA.
	Impact to the aquatic life in the river needs to be seriously considered. I am sure there will be some disturbance to the stream bed and it could have implications for both up and down stream.							X						The impacts to habitat and wildlife (including indirect impacts up and downstream of the project area will be evaluated in the EA. Impacts to species and habitat will be evaluated in the biological resources section.
28	A temporary bridge seems unnecessary as you are planning access roads to the river from both directions.										X			Bridge, access road, and lane width issues will be addressed in the project description, alternatives analysis, and purpose and need sections of the EA, vegetation removal in the biological resources section, and erosion control in the Section 404 and 401 of the Clean Water Act section.
	The access roads may need extra width for crane pads and pier locations. The last easterly pier may encroach into the river. The access road may also need temporary retaining walls. A girder erection analysis would be desirable to make sure the crane pads would also function for girder erection.										X			
	Save as many of the trees under the bridge as possible, and the location of the access road and crane pads are key to this. Construction limits should be determined and fenced to save the existing vegetation.			X										
	Erosion control techniques should be done and provisions made for possible liquid construction spills.			X										
	Three lanes should be open at all times with one lane and adjacent shoulder dedicated to construction access. Any significant reduction in traffic lanes beyond this should be done during late night/early morning. An exception from 3 lanes down to 2 may be needed if extensive deck work is needed, hopefully of short duration.									X				
29	There should not be a need for a new environmental study when the bridge is just in need of repair. Funds spent on the													Environmental resources will be addressed in accordance with federal, state and local requirements. Project funding and design considerations

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	environmental study should be applied to correcting any issues the bridge may have to ensure it will be usable for another fifty years of service.													will be addressed in the project description and alternatives analysis sections of the EA.
	Project Website													
30	Supports the project											X		Thank you for your comment.
	Suggests making monies to pay for road repair on Hwy 15 by using cameras for speeding													Your comment is noted.
31	Supports the project, as long as the process is done responsibly											X		Thank you for your comment.
32	Supports the project, improvements/repairs to the bridge are needed											X		The need for bridge repairs will be addressed in project purpose and need in the EA.
33	Supports the project. We really need this road open. Please keep it safe.											X		Safety considerations and the need for the project will be discussed in project purpose and need in the EA.
34	Supports the project.											X		Environmental resources will be addressed in accordance with federal, state and local requirements.
	Does not believe the project will have any environmental impact that is significant enough to cause alternatives to be studied or more taxpayer dollars spent on alternatives to appease a small minority of special interests.													Environmental resources will be addressed in accordance with federal, state and local requirements.
35	The proposed project won't pose any greater harm to the environment than did the original construction of bridge #1….the only impacts would be in the immediate area of the bridge itself.													The potential area of impacts was evaluated on a resource-specific basis
	The economic life of Mesquite relies significantly on the I-15 corridor as a well maintained "transportation facility" to/from St George, Utah. Any adverse environmental impact would be placed in perspective with the human impact of allowing the I-15 corridor to deteriorate.		X											Environmental resources will be evaluated and addressed in accordance with federal, state and local requirements.
36	Supports the project, the inconvenience that the construction will cause will be worth the end result.											X		Thank you for your comment.
36	Supports the project.											X		Thanks you for your comment.
	As long as we know there are delays in the gorge so we can plan ahead, we can put up with the construction.									X				Traffic control and anticipated delays to be addressed in the social and economic considerations section of the EA.
37	Supports the project.											X		Thank you for your comment.
	Would like to see disruption to through traffic minimized.									X				Proposed construction traffic control measures will be addressed in the social and economic considerations section of the EA.
38	Supports the project.											X		Thank you for your comment.
	This bridge, and other bridges and roads along the I-15 corridor, will be constructed to allow for continued growth through the next 50 years. If the bridge is intended to handle four lanes of traffic, build it to allow for future growth to six lanes. We don't want to have to re-do projects because not enough foresight was										X			Design considerations to be addressed in project description and purpose and need sections of the EA.

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	taken at the beginning.													
39	Supports the project.											X		Thank you for your comment.
	Objects to the expenditure of funds and resources on unnecessary, costly and time delaying "Environmental Assessments" required by rules and regulations that pander to intolerant environmental groups. Such "assessments" and do not serve the majority of citizens and result in projects costing far more than necessary. Using accepted engineering and construction methods this project should be rapidly completed.													Environmental resources have been addressed in accordance with federal, state and local requirements.
40	Requests speed limit signs throughout the detour. So far only speed limit signs have been posted when entering the work area. Post in the work zone area.									X				Signs associated with the construction zone will number and be located as dictated by governing standards and codes.
41	Requests a break from continuous construction on I-15 of 6 to 12 months.													General project schedule to be addressed in the alternatives chapter of the EA.
42	Supports the project.											X		Thank you for your comment.
	There are no alternate routes if something happened to disrupt the corridor.		X							X				Traffic and access impacts will be addressed in the description of the project and in the socioeconomic section.
	If engineering has determined that this is needed to maintain the quality and safety of the road then it would seem critical that it be address before it becomes a major issue.											X		The need for the project will be addressed in the project purpose and need chapter of the EA.
43	Supports the project.											X		Bridge design considerations will be addressed in the project description section and alternatives chapter of the EA.
	Proposes design team look at rectangle vs round bridge piers, as round piers have been shown to withstand earthquakes better.													Your comment has been noted.
44	The hospital is frequently in need of emergency transfers to Saint George, which are most safely done via ground ambulance through the I-15 Virgin River gorge. Requests construction be done to minimize congestion and delays, especially northbound.		X							X				Proposed construction traffic control measures will be addressed in the social and economic considerations section of the EA.
45	The temporary construction pads below the bridge should be built so that they can be used later for future maintenance projects.										X			Design of the temporary crane pads to be addressed in the project description section of the EA. Removal and restoration of the river channel will be in compliance with the Clean Water Act Section 404 permit.
46	Supports the project.											X		Thank you for your comment.
	The project should progress in an expeditious manner with the least amount of traffic disruption as economically and reasonably possible. The bridge needs to be upgraded to support traffic.									X				The EA will include information on the ultimate design of the project (purpose and need and alternatives sections) and impacts to traffic and access (socioeconomics section).
47	Supports the project. The bridge needs to be fixed and made safe.											X		Thank you for your comment.
	Watch out for the critters without making such a big fuss over them.							X						Environmental resources have been addressed in accordance with federal, state and local requirements.

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48	Fears the environmental impact that would occur if the bridge was left alone to fail unexpectedly. Supports the project, even if there are environmental impacts.											X		Thank you for your comment. Environmental resources have been addressed in accordance with federal, state and local requirements.
49	Please preserve and avoid all impacts to Little Jamaica before, during, and after construction!			X										Impacts to Little Jamaica will addressed in the water resources section of the EA.
50	Supports the project. I-15 is a vital link. Bridge repair is necessary and prudent.											X		Thank you for your comment.
51	Requests all Virgin River gorge repairs be completed before this project begins so there is a break in construction activities for travelers.									X				General project schedule will be addressed in the alternatives chapter of the EA.
52	This stretch is a dangerous area for bikers because of the steep gradient leading to the bridge on both sides, very narrow two-way roadway, fast traffic, no designated bicycle lanes leading up to or on the bridge. Bicycle safety should be incorporated into bridge rehabilitation. Designated bicycle lanes should be added on both sides of the roadway leading to the bridge and on the bridge itself, posted speed limits lowered, and increased police presence and speed limit enforcement would make this section of roadway safer for bicyclists.		X											Alternate modes of transportation will be addressed in the socioeconomic section of the EA.
53	New bridges should be built next to the ones already in place to allow traffic to flow without lane restrictions. Delays and meeting deadlines for delivery is a problem for the trucking industry.									X				Design alternatives considered for the project will be addressed in the alternatives chapter of the EA, and traffic control will be addressed in the social and economic considerations section.
54	Supports the project. Project is needed to maintain I-15 as a safe and reliable route for interstate travel and commerce.											X		Thank you for your comment.
55	The irrigation ditches which pass under the bridge must always be in working order during construction to provide water for our use.			X										Impacts to irrigation will be addressed in the EA.
56	The minimum disruption of the waterway, soil, wildlife, water in the area of the bridge should be the most important. Make the best of what there is with the least impact on the surrounding area.			X				X						Impacts to the water resources, soil, and water at the bridge will be documented in the EA. Mitigation measures have been developed to minimize impacts to these resources, where appropriate and practicable, and are documented in the EA.
57	Traffic delays are a concern. Construction delays have resulted in an inability to make appointments in other communities. Would like advance notice regarding which side of the road will be affected and for how long; if construction will occur daily, on weekends, during the daytime; and plans for maintenance of traffic during emergencies, accidents, or breakdowns in the construction zone.									X			X	Traffic control measures will be addressed in the social and economic considerations section of the EA, and traffic control will be addressed in the social and economic considerations section.

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58	The area below Virgin River Bridge #1 is an important local recreation area, with pools formed over many years through calcification of sandbags which volunteers have created and maintained. The area below the bridge is also riparian in nature and provides wildlife habitat. Concerned that construction will eliminate access to this recreational opportunity or will destroy the natural, cultural and recreational opportunities.		X	X										Impacts to the springs and wetlands will be addressed in the water resources section and the wildlife in the biological resources section.
	The riparian area and wildlife habitat and natural springs should not be altered and/or destroyed.			X										
	Water from the springs which flows into the river should not be diverted.			X										
59	Comment submitted by Dixie Power Cooperative, which serves power to the areas of Littlefield and Beaver Dam in north west Arizona. Dixie Power has overhead and underground power lines in the close vicinity of the bridge proposed for repairs. We have and 12.5kV overhead line paralleling the bridge that spans across the Virgin River. With the assumption that large cranes and equipment will be working in this area, we need to notify you of the safety clearances to the phase conductors. From aerial photography these lines are approximately 160 feet horizontally from the bridge. Our only other area of concern is the proposed access route would bypass the freeway between the Desert Springs Exit and the Littlefield Exit. This route will take heavy traffic through Desert Springs where our cooperative has a number of overhead distribution power lines. Currently these lines meet National Electric Safety Code for vertical clearances along normally traveled roads. Crossing federal interstate highways normally requires a much higher clearance to high voltage power lines (on the order of 26.5 feet). If this access route becomes a road of required clearances equivalent to an interstate where semi trucks will travel, these over head lines most likely will be required to place taller poles in the line to raise them. If this is the case, ADOT personnel will need to work with Dixie Power to make this happen prior so national code violations are not encountered.													ADOT requested as-built plans or drawings of known utility locations in order to identify conflicts and specify utility relocations, as necessary. Coordination is ongoing. Utility impacts will be documented in the EA.

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60	Supports the project. Make the project a quick process, the Gorge has been under construction off and on for four years.									X		X		Thank you for your comment. Traffic impacts will be addressed in the socioeconomic section.
61	Suggests construction be limited to the following hours, Mon-Sun: 8pm to 6am									X	X			Performing the construction during the night hours will be evaluated during the environmental process and addressed in the EA.
	Comment Form (Written)													
62	No longer drives, but appreciates the public outreach effort											X		Thank you for your comment.
63	Appreciates the public outreach effort and supports investment in infrastructure. They see no adverse effect to the environment in the Littlefield area, and prefers the minor inconvenience of construction delays over a bridge collapse											X		Thank you for your comment.
64	Does not see a need for the project or spending money on the bridge repairs.	X												The need for the project will be addressed in the project purpose and need section of the EA.
65	Requests the project plans consider transportation needs 50 years in the future.	X												Project need and design criteria to be addressed in the project purpose and need, and alternatives chapter of the EA.
66	Supports the project. Safety for commuters and construction workers is of utmost importance.											X		Thank you for your comment. Safety considerations will be addressed in project description section, purpose and need chatper, and alternatives chapter of the EA.
67	Safety on roads and bridges is important.											X		Safety considerations will be addressed in project description section, purpose and need chatper, and alternatives chapter of the EA.
68	Rehabilitation, planning, safety, and structural design improvements of the bridge is needed to avoid accidents or bridge collapse.													Thank you for your comment. Safety considerations will be addressed in project description section, purpose and need chatper, and alternatives chapter of the EA.
	Planning traffic detours will save money.		X							X				The need for and use of any detours and traffic impacts will be evaluated in the socioeconomics section of the EA.
	Select a contractor that knows bridges, not a low bidder.													Thank you for your comment.
69	Supports the project.											X		Environmental resources have been addressed in accordance with federal, state, and local requirements.
	Does not see a need to conduct or spend money on environmental studies. Would prioritize safety and continued movement of people and goods above environmental studies.													Thank you for your comment. Environmental studies are being addressed in accordance with federal, state, and local requirements.
70	Requests they be added to mailing list for future project announcements.												X	Commentor added to public notification distribution list. Proactive communication regarding construction schedule, dates of planned closures, and detour routes will be made available through newspaper advertisements, e-mail, direct mailings, etc.
	Requests project information and current north/south travel times on azdot.gov/i-15 bridge website.												X	Information about current closures on I-15 can be found on the ADOT website at http://www.az511.gov/adot/files/
71	Speed limits through areas currently under construction are appropriate and delays minimal. Supports efforts to minimize impact on traffic in a manner similar to those efforts already underway.									X		X		Thank you for your comment. Traffic control measures will be addressed in the social and economic considerations section of the EA.

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72	The bridge is fine and excellent. The joints between the bridge and the adjacent roadway is very rough and dangerous.											X		The proposed improvements will be defined in the alternatives section of the EA.
73	Supports the project and efforts to keep traveling public safe.											X		Thank you for your comment.
74	Suggests building a new bridge north or south of existing bridge to allow for future traffic volumes with minimal impacts to time and safety. Leave existing bridge open while new bridge is constructed, then redirect traffic to the new bridge while the existing bridge is rehabilitated.										X			Design alternatives considered will be addressed in the alternatives chapter of the EA.
75	I-15 is a vital north-south link. Alternative routes to I-15 would result in delays and time constraints for traveling public.									X				Traffic impacts will be evaluated in the socioeconomic section of the EA.
	Does not see environmental restrictions due to limited wildlife in the area (mountain goats).													Environmental resources have been addressed in accordance with federal, state, and local requirements.
76	Supports project. Repairs through Virgin River Gorge were fairly efficient and accomplished without too much delay.											X		Thank you for your comment.
77	There is no need for hydro seeding; the native vegetation will take care of itself.													Post-construction reseeding will be addressed in the biological resources section of the EA.
	Paint a little reflective light reflective- yellow dashed or solid stripe mid-way on cement barrio wall. Will reduce automobile contact resulting in fewer collisions.									X				Safety considerations in project design will be addressed in project description, project purpose and need chapter, and alternatives chapter of the EA. All striping will be completed according to Manual on Uniform Traffic Control Devices (MUTCD) standards.
	Especially at night install a blinking light warning sign for warning traffic at either end of Gorge for when a road closure or accident has occurred. It's not stated "no turn around" for unfamiliar traffic. This would help for how many miles long the Gorge is, and would keep people from becoming trapped. When the 2013 snow storm hit there was a dangerous situation in the Gorge. Nothing serious has happened yet down there nobody wants to have a mass casualty or environmental disaster.										X			Signing and traffic control plans will be developed during final design.
78	Supports the project. The wait and construction is worth the end results.											X		Thank you for your comment.
79	Build a new lane on each side of the current bridge. After they are completed, divert all traffic to those 2 new lanes (one northbound and one southbound). Close the original bridge for repair. During repair, connect the new bridges with the original bridge and remove guardrail to form a 3 lane bridge in each direction. As far as the road down below. It will only need to be used by construction vehicles.									X				Design alternatives considered will be addressed in the alternatives chapter of the EA.
80	Keep lane closures as short as possible									X				Closures will be minimized. Traffic impacts will be addressed in the socioeconomic section of the EA.

No.	Comment	Purpose and Need	Socio-economics	Natural Resources	Visual Resources	Noise and Vibration Impacts	Property Impacts	Impacts to Wildlife/ Habitat	Community Impacts	Traffic Impacts	Construction and Staging Impacts	General Support	Requests for More Information	Response
	Place signs very near closures and barriers to start as near as possible. Signs placed in advance create a racetrack for passing. There is no reason to reduce speeds below 45 mph and only at the construction site, not miles in both directions. Drivers will slow when they can see why and an end to it.										X			Traffic control plans will be developed during final design and will conform to MUTCD standards.
	You stated a temporary bridge to be built for crane and equipment. If it is wide and heavily built for that it would be very easy to just make a 2=lane bridge for traffic and completely bypass the bridge. Then construction could proceed rapidly with no delay or interruption. Oversized and overweight trucks could use this alternate route as they had to after the flood closed I-15 for nearly 6 weeks due to flood damage.										X			Design alternatives considered will be addressed in the alternatives chapter of the EA.
81	Uses highway 91 instead of traveling I-15 through the gorge									X				The use of potential detours will be evaluated in the EA.
	It is important to protect the river in every way possible from any construction from any spills or other vehicle (construction) contamination.			X										Impacts to the river will be evaluated in the water resources section of the EA.
	If possible keep more frequent updates on the new digital overhead information signs. Length of delays would be much appreciated not just “expect delays.”										X			Your comment has been noted.
82	Project should be accomplished as quickly, efficiently and safely as possible.									X				General project schedule will be addressed in the alternatives chapter of the EA.
	All EPA standards should be of high priory as well as public safety.													Environmental resources will be addressed in accordance with federal, state, and local requirements.
83	When the signing is placed it is to be designed after a study is done by a traffic engineer and his recommendations are considered. I am guessing ADOT don’t use a traffic engineer. You break all the rules and federal guidelines! Spacing, step down speed, lane widths in a restricted area, traffic delays (god forbid if an emergency vehicle needs to get through), handling traffic at the border (St George area).													Traffic control will be designed by a traffic engineer during final design. Emergency services and traffic impacts will be evaluated in the socioeconomics section of the EA.
84	Supports the project.											X		Thank you for your comment.
85	The resurfacing of the Virgin River Gorge MI markers 13 to 29 was very well done and really needed. The bridge needs attention to repair and if they are done as little traffic disruption as there was during resurfacing, that will be great.											X		Thank you for your comment.
86	Supports the project.											X		Thank you for your comment.
87	So far the construction in the river gorge has been agreeable. Slow going is not a problem as we can keep moving. The contractors and ADOT employees have my thumbs up for what they have done so far.											X		Thank you for your comment.

No.	Comment	Purpose and Need	Socio-economics	Natural Resources	Visual Resources	Noise and Vibration Impacts	Property Impacts	Impacts to Wildlife/ Habitat	Community Impacts	Traffic Impacts	Construction and Staging Impacts	General Support	Requests for More Information	Response
	Beaver Dam Bridge is vital to use the gorge. Increasing the amount of pier support seems vital to increased use by traffic and increased weight requirements.													The alternatives that will be considered and evaluated will be included in the alternatives section of the EA.
	Where two streams come together under the bridge during flooding times attention to the erosion problems of the banks should be included in the planning stage			X										The details of the design and activities that will be included in this EA will be outlined in the alternatives section of the EA.
88	Supports the project. Traffic delays are acceptable.											X		Thank you for your comment.
89	Supports the project. It is not a deterrent to any endangered species and has served the citizens and environment well.											X		Thank you for your comment.
	Widen the bridge as traffic has increased substantially over the past 40 years.									X				The design alternatives will be described in the alternatives section of the EA.
	We in southern Utah have an excellent relationship with the government officials of Arizona and appreciate the new manager, Ken Sizemore, of the Arizona Strip study area. Ken is experienced in building relationships & progress between counties and states.													Thank you for your comment.
90	It is important to me, to be able to travel between St. George, Utah and Las Vegas Nevada. I use the airport in Las Vegas to travel several times a year!									X				Traffic impacts will be evaluated in the socioeconomic section of the EA.
91	I would love to know how many millions of dollars and tons of paper are used to adhere to these [environmental] requirements?! What purpose do these “acts” serve as it appears we are already overloaded with way to many “environmental regulations” already? I trust someone will respond!!??													Environmental resources have been addressed in accordance with federal, state, and local requirements.
92	Supports the project.											X		
	Would like to see an end to so much construction on this freeway (15) Can’t remember when there was no construction.		X											Your comment has been noted. General project schedule will be addressed in the alternatives chapter of the EA.
93	I suggest investigating- One heavy duty single lane bridge [on] each side of the existing bridge. Then use those while repairing this existing bridge to accommodate trucks and automobiles. When repaired divert and confine heavy trucks to the heavy duty single lane bridge on each side.													Design alternatives considered will be addressed in the alternatives chapter of the EA.
94	Do what needs to be done to maintain I-15.											X		Thank you for your comment.
95	Supports the project.											X		Thank you for your comment.
96	Cars/people try to crowd by driving into the bar pit to get ahead of other cars/people and semi’s. Extremely dangerous!													Your comment is noted.
	When everyone follows a police officer in these types of areas, the traffic moves much faster and the crazy drivers stay in line!									X				Traffic control options will be developed and evaluated during final design.
97	Supports the project.											X		Thank you for your comment.
98	Supports the project. Safety should be first, for traffic and workers.											X		Thank you for your comment.

No.	Comment	Purpose and Need	Socio-economics	Natural Resources	Visual Resources	Noise and Vibration Impacts	Property Impacts	Impacts to Wildlife/ Habitat	Community Impacts	Traffic Impacts	Construction and Staging Impacts	General Support	Requests for More Information	Response
	There are lots of old retired folks in the area, they go back and forth to St. George in emergency vehicles to the hospital, need to get through as fast as possible.		X							X				Impacts to emergency services will be evaluated in the socioeconomics section of the EA.
99	Supports the project.											X		Thank you for your comment.
	Stop with all the expensive regulations and environmental studies. The money well is running dry.													Environmental resources have been addressed in accordance with federal, state, and local requirements.
100	The plans look appropriate, but delays in traffic must be avoided. Traffic delays are an abomination, especially if one has to make important trips to Las Vegas or other locations. At least a temporary route immediately in the area to the bridge should be constructed.									X				Alternatives considered will be presented in the Alternatives section of the EA. Traffic control measures will be addressed in the social and economic considerations section of the EA.
101	Supports the project.											X		Thank you for your comment.
102	Supports the project.											X		Thank you for your comment.
103	Supports the project.											X		Thank you for your comment.
104	Supports the project.													Traffic control measures, including timing of construction activities, will be addressed in the social and economic considerations section of the EA. Impacts to bird species, noxious weeds, invasive species, and the desert tortoise will be addressed in the biological resources section of the EA.
	Time work on I-15 roadway to minimize travel delays driving weekends and high flow periods.		X							X				Potential impacts to the traveling public will be evaluated in the socioeconomic section of the EA.
	Time flood plain work to avoid spring nesting season of western yellow birds cuckoo and other special status riparian birds' species							X						Potential impacts and mitigation measures to protect the desert tortoise will be identified in the EA and the biological evaluation prepared for this project and in coordination with the US Fish and Wildlife Service and Arizona Game and Fish Department.
	Use best management practices to avoid harmful erosion and run-off in to the virgin river			X										Efforts to minimize impacts within the Virgin River will be addressed in the Section 404 and 401 of the Clean Water Act section of the EA.
	Minimize ground disturbance off the roadway and in the flood plain			X										Efforts to minimize impacts within the Virgin River will be addressed in the Section 404 and 401 of the Clean Water Act section of the EA.
	Eradicate noxious and invasive weeds that may occur from found disturbance							X						Environmental commitments to minimize the spread and introduction of invasive or noxious species and the need for weed control measures will be evaluated during the preparation of the Biological Evaluation and the EA.
	Erect protective fencing to prevent harm to ESA listed desert tortoise							X						Potential impacts and mitigation measures to protect the desert tortoise will be identified in the EA and the biological evaluation prepared for this project and in coordination with the US Fish and Wildlife Service and Arizona Game and Fish Department.
	Please notify me when the draft EA is available on-line for public review and comment												X	Commenter will be added to the project distribution list.
105	Supports the project.											X		Thank you for your comment.
106	Supports the project.											X		Thank you for your comment.
	The environment assessment should be approved.											X		Thank you for your comment.

No.	Comment	Purpose and Need	Socio-economics	Natural Resources	Visual Resources	Noise and Vibration Impacts	Property Impacts	Impacts to Wildlife/ Habitat	Community Impacts	Traffic Impacts	Construction and Staging Impacts	General Support	Requests for More Information	Response
107	I thought the “workers” did an excellent job; traffic control, communication was very good! With Mesquite locals very much appreciated.											X		Thank you for your comment.
	Flash Flood problems: The highway was done in a rapid pace. The “water drains” needed to be fixed. I realize they put “tar” on side of the ditches to help run of water. Need to use big drainage tubes?			X										Drainage design considerations will be addressed in project description and alternatives chapter of the EA.
108	Notice for bridge closures or extended delays should be posted before motorists reach Utah Hill.									X	X			Traffic control measures, including timing of construction activities, will be addressed in the social and economic considerations section of the EA.
109	Do what you must do, Go for federal grant etc. People can only be taxed so much. Bad economy to ask for tax increase. Use money from assessment and just do the d--- bridge. Assessment means you really don’t need to do it. It is obvious I-15 has to be protected. Let’s not find other agencies to spend money providing the obvious. I know it isn’t the government’s way but hopefully there are people inside who can be efficient in getting the job done. Have good engineers for this type of job. Not the cheapest.											X		Your comment has been noted.
110	Supports the project.											X		Thank you for your comment.
111	Let’s fix it before it crumbles.											X		Thank you for your comment.
	Do not use it as a speed trap for locals.													Your comment has been noted.
	Do not have lane closure nights and holidays when work and workers are NOT present or in progress do close lane when needed…. like the current speed limit of 45 MPH there through the Gorge while no one is working													Traffic control plans and recommendations will be developed during final design. Anticipated traffic impacts will be evaluated in the socioeconomic section of the EA.
	Do keep everyone safe while work is in progress….safety is paramount													Your comment is noted.
	Do not drag this out for months on end like last project in this stretch of I-15…work done is not needing days weeks on end to cure or dry										X			Your comment is noted.
112	Supports the project.											X		Thank you for you comment.
	Environmentally speaking, I am sure there is some exotic species here…the Federal Government is 17 trillion in debt. They no longer have the means to control our borders. How can they fund the count of life which may inhabit this small niche! Waive the EA, save some money and time and get on with it so we can avoid another disaster.													Environmental resources have been addressed in accordance with federal, state, and local requirements.
	2015 Comment Period													
1	Our company operates billboard advertising. How will construction affect visibility of boards? Where will staging areas be?		X								X			Preliminary staging and stockpiling locations will be identified in the alternatives section of the EA and evaluated throughout. Potential impacts to businesses will be evaluated in the socioeconomic section of the EA.

No.	Comment	Purpose and Need	Socio-economics	Natural Resources	Visual Resources	Noise and Vibration Impacts	Property Impacts	Impacts to Wildlife/ Habitat	Community Impacts	Traffic Impacts	Construction and Staging Impacts	General Support	Requests for More Information	Response
2	Supports the project. Owns portions of the northeast access and the parcel across which the southwest access road travels. Would like more detail about the impacts on property and to know what responsibilities and liabilities I will have. Are there provisions for compensation or benefits to impacted landowners?						X					X	X	Thank you for your participation in this process. ADOT right-of-way division will be working closely with you and other land owners during the clearances and design portion of the project and will be able to assist you with the information you seek.
3	Plunge pool area near Bridge 1, known as “Little Jamaica” draws many people for recreation. Expressed concern about safety during construction for the people who use the area.		X											Impacts associated with “Little Jamaica” will be evaluated in the water resources section of the EA.
4	Thank you for inviting our input on the placement of access roads for the Arizona bridge project. We are happy that a better bridge is being built. We also hope this will clean up the mess that is happening at Little Jamaica, under the bridge.			X										Impacts associated with “Little Jamaica” will be evaluated in the water resources section of the EA.
	The proposal at Anderson Lane and Kokopelli is our chief concern, because our house sits at that corner, close to both roads. If you choose this plan, construction traffic will cut along two sides of our house, including our driveway. Would like the northern access to consist of a new road constructed across empty properties to reduce dust, noise, and traffic; increase safety at nearby residences; and reduce potential for conflict with utilities.						X				X			A response was sent to the commenter on 09/10/2015 The different access routes will be described in the alternatives section of the EA. The impacts associated with those options that will be carried forward for detailed evaluation will be discussed in each section of the EA. Mitigation will be provided where warranted.
	We assume that an access road will be needed to reach the staging area on the north side of the freeway. If so, our property will be affected on three sides by increased dust, noise, and traffic. For us, this is also a safety hazard. We have ten young grandchildren who visit, and they play outside most of the time.		X			X	X				X			
	Our lifestyle will be negatively affected, not just inconvenienced. If the vehicles travel directly past our house, the dust will aggravate our allergies.						X				X			
	Maneuvering the large and tall construction vehicles close to wires and other service-related objects, may cause unnecessary damages and potential service interruptions.		X											
5	I am the Engineer for various Steijum Property Leasing projects in the Desert Springs/Beaver Dam, AZ area and have reviewed your proposed construction plan for the rehabilitation of the Virgin River Bridge #1 in this area. While the project's site, construction scope and schedule pose no particular problem to Steijum's interests in this area, there is one aspect which is of serious concern, namely the temporary construction access routes which are proposed for the construction site. As shown on your Site Study Map there are two construction access routes identified; Route 1, the Fleet St/Anderson Lane route (shown on the Study Map as the previously identified proposed access route) and Route						X				X			A response was emailed to the commenter on 10/15/2015. The response identified the level of use of the access road (approximately 30 vehicle trips per day for 6 to 9 months) then minimal use thereafter. Most work will be done from atop the bridge. ADOT will coordinate with you so that both construction projects may be executed without interference to the other. Due to the minor use of the new access route by construction vehicles, major interference or substantial delays of the commenter’s preliminary site preparation and development activities on Anasazi Drive are not anticipated.

No.	Comment	Purpose and Need	Socio-economics	Natural Resources	Visual Resources	Noise and Vibration Impacts	Property Impacts	Impacts to Wildlife/ Habitat	Community Impacts	Traffic Impacts	Construction and Staging Impacts	General Support	Requests for More Information	Response
	2, the Anasazi Drive route (shown on the Study Map as the newly identified proposed access route). Steijum Property Leasing is in the process of obtaining permits for various subdivision and utility projects along Fleet St. and while both access routes will pose a hindrance to their activities, Route 2, along Anasazi Drive, will have a serious impact on their construction plans. Proposed construction traffic along this route will pass through a five acre commercial parcel and a 32 acre residential parcel which will be undergoing preliminary site preparation and development, namely mass grading, underground utility placement and the construction of both a water plant and a sewage treatment plant.													

Appendix G. Agency Scoping Comments and ADOT Responses

Phoebus, Elizabeth (Betsi)

From: Phoebus, Elizabeth (Betsi)
Sent: Tuesday, July 22, 2014 9:02 AM
To: 'Veronica Asare-Yeboah'
Cc: Steven Latoski; Jed Noble; Karen Thomas; 'Charles M. Beck'; George Wallace
Subject: RE: Virgin River Bridge No.1 (H8760)

Hi Veronica…

Thank you for Mohave County's comments below. ADOT is aware of the County's concerns regarding Hwy 91 from coordinating with the County on the I-15, Bridge No. 6 project. The study team will consider and respond to all comments when the comment period closes on August 12.

Sincerely, Betsi

Betsi Phoebus | Jacobs | Environmental Sciences & Planning Manager, Phoenix | 602.650.4004 | fax 602.253.1202 | elizabeth.phoebus@jacobs.com

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From: Veronica Asare-Yeboah [mailto:Veronica.Asare-Yeboah@mohavecounty.us]
Sent: Tuesday, July 15, 2014 4:23 PM
To: Phoebus, Elizabeth (Betsi)
Cc: Steven Latoski; Jed Noble; Karen Thomas
Subject: Virgin River Bridge No.1

Hello Ms. Phoebus,

My name is Veronica Asare-Yeboah. I am a civil engineer with Mohave County Public Works. The Virgin River Bridge project is a great one that the FHWA and ADOT are undertaking and will definitely help in maintaining this important trade link between the three states. The only concern from Mohave County Public Works would be to not make (if any) alternate routes for trucks be on HWY 91. Due to the heavy volume of truck traffic that goes through I-15, this would cause a major traffic safety concern if re-routed through HWY 91. Please email or call if you have any questions and I'll be glad to help.

Thanks,

Veronica Asare-Yeboah
Civil Engineer
Mohave County Public Works
928-757-0910 Ext. 5864
Veronica.Asare-Yeboah@mohavecounty.us

February 2, 2015

Ms. Veronica Asare-Yeboah
Civil Engineer
Mohave County Public Works Department
P.O. Box 7000
Kingman, Arizona 86402-7000

RE: 015-A(211)T
015 MO 008 H8760 01L
Virgin River Bridge #1 (STR #1089)

Dear Ms. Asare-Yeboah:

Thank you for your July 15, 2014 e-mail commenting on the Arizona Department of Transportation's (ADOT's) Virgin River Bridge No. 1 rehabilitation project on Interstate 15 (I-15) near the communities of Littlefield and Beaver Dam, Mohave County, Arizona. In your correspondence you expressed concerns about the potential for County Road 91 to be used as an alternate route by truck drivers.

Two years ago ADOT coordinated with Mohave County Public Works on the same issue during the design phase of the Bridge No. 6 rehabilitation project (G. Wallace [ADOT] to S. Latoski [Mohave County Public Works]; January 23, 2013). The Bridge No. 6 project is currently under construction and, as promised, ADOT has not promoted the use of County Road 91 in the project-related press releases or construction outreach. ADOT intends to maintain traffic through the Bridge No. 1 construction zone in a similar manner to the Bridge No. 6 project, and will refine the traffic plan with lessons learned from previous projects along I-15.

In addition, ADOT is currently studying the use of a specific, required detour for trucks wider than 10 feet. The proposed detour would follow US 93 and State Route 319 in Nevada, and State Route 56 in Utah. Mohave County will be provided a formal opportunity to comment on the wide-load detour when ADOT conducts the agency scoping process for the detour in a few months.

Thank you again for your comments and time. Should you require further assistance with this issue, please contact me at 928.779.7580 or gwallace@azdot.gov.

Sincerely,

George Wallace

George Wallace, P.E.
Senior Project Manager
ADOT Statewide Project Management

GW: bp

c: Steve Latoski, Mohave County Public Works
Jed Noble, Mohave County Public Works
Karen Thomas, Mohave County Public Works
Charles Beck, ADOT Environmental Planning Group
Michele Beggs, ADOT Communications
Steve Boschen, ADOT SEO
Betsi Phoebus, Jacobs Engineering Group Inc.

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION
1263 S. Stewart Street
Carson City, Nevada 89712

BRIAN SANDOVAL
Governor

RUDY MALFABON, P.E., *Director*

July 21, 2014

In Reply Refer to:

Arizona Dept. of Transportation
c/o Betsi Phoebus
Jacobs Engineering Group, Inc.
101 North 1st Avenue, Suite 3100
Phoenix, AZ 85003

Dear Ms. Phoebus:

Thank you for your letter of July 10, 2014 regarding the Virgin River Bridge project.

I will distribute this information to our staff so they can develop any comments. NDOT supports the proposed project as it maintains and improves a critical route on I-15. As you are aware, ADOT is a partner on the multi-state I-15 Mobility Alliance.

Sincerely,

Rudy Malfabon, P.E.
Director

Cc: Bill Hoffman, Deputy Director
Tracy Larkin Thomason , Deputy Director of So. Nevada
John Terry, Asst. Director of Engineering
Steve Cooke, Environmental Division
Sondra Rosenberg, Planning Division

State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

DEPARTMENT OF TRANSPORTATION

CARLOS M. BRACERAS, P.E.
Executive Director

SHANE M. MARSHALL, P.E.
Deputy Director

July 29, 2014

Betsi Phoebus
Jacobs Engineeing Group Inc.
101 North 1st Avenue, Suite 3100
Phoenix, AZ 85003

RE: 015-A(211)T
015 MO 008 H8760 01L
Virgin River Bridge #1 (STR # 1089)

Dear Betsi Phoebus:

UDOT appreciates your outreach regarding the upcoming proposed project on I-15 near Littlefield and Beaver Dam. Carlos Braceras, UDOT Executive Director, has asked that I provide input and comments on the scope of your project.

We appreciate the efforts of ADOT to improve this section of I-15 and recognize the critical connection that this section of Interstate provides for Utah, Arizona, Nevada, and California. Without this section of roadway, traffic is diverted hundreds of miles to reach the same destinations.

Our comments are related to the following two areas: Construction Timeline and Maintenance of Traffic (MOT) during construction.

Construction Timeline:

UDOT would recommend and support a construction schedule that would expedite the construction and minimize project duration. Please consider innovative construction techniques which expedite the overall project duration. We would suggest at a minimum, night-work be emphasized, as this would typically provide a work environment with the lowest volumes of traffic. Also consider the possibility of project components be constructed "off-site" and then moved into place on the project as this allows for minimization of traffic delays.

Maintenance of Traffic (MOT):

This is the area of most concern to UDOT regarding this project. Impacts to traffic in this section of interstate can and do directly affect the flow of traffic along I-15 in

Southern Utah. Based upon delays from our recent projects UDOT has experienced traffic backups when we have tried to maintain one lane per direction during high volumes of traffic. Because of these experiences we would recommend the following:

1. The establishment of a construction schedule that would allow for maximum lane availability (2 lanes) during high traffic flow periods such as holiday weekends, high traffic generators for Las Vegas events (NASCAR, etc), and other events which create high volumes of traffic through this area. UDOT can provide a list of dates that we routinely schedule for minimization of traffic impacts along this corridor. The scheduling of these dates allows for planning by the contractor to create maximum capacity during construction. Traffic back-ups can create further delays to the project as the potential for accidents increase and the focus on MOT takes project personnel time to respond and manage.

2. A minimum lane width of 12 feet during construction. We have determined this width to be a critical factor in maintaining reasonable speeds through the construction zone thus avoiding unnecessary backups. Lane widths of less than 12 feet have caused considerable traffic delays on UDOT's projects.

3. Your scope of work mentions that no detour is planned related to this project. We also support no detours for this project as it relates to Old Highway 91 from Beaver Dam to St. George.

As the project's construction phase approaches please contact Robert Dowell, (435-896-0712) UDOT's Region 4 Traffic Operation, with final project duration information and specific MOT requirements of the Contractor. We would also request that a communication plan be established with the UDOT Traffic Control Center in order to provide accurate traffic information to the travelers of I-15 in Utah. .

We appreciate the opportunity to comment on this project and look forward to continuing coordination as the project moves forward.

Sincerely,

Rick Torgerson
UDOT Region 4 Director

RT/jg

cc: Carlos Braceras, UDOT Executive Director
Robert Dowell, Region Four Operations Engineer

February 2, 2015

Mr. Rick Torgerson
Region 4 Director
Utah Department of Transportation
210 West 800 South
Richfield, UT 84710

RE: 015-A(211)T
015 MO 008 H8760 01L
Virgin River Bridge #1 (STR #1089)

Dear Mr. Torgerson:

Thank you for your July 29, 2014 letter commenting on the Arizona Department of Transportation's (ADOT's) Virgin River Bridge No. 1 rehabilitation project on Interstate 15 (I-15) near the communities of Littlefield and Beaver Dam, Mohave County, Arizona. In your correspondence you expressed concerns about 1) minimizing the construction schedule and project duration; 2) maintaining traffic during construction; and 3) establishing a communications plan with the Utah Department of Transportation (UDOT) Traffic Control Center. In addition, you confirmed the UDOT point-of-contact for the project.

In April 2013, ADOT coordinated with UDOT on similar issues during the design phase of the Bridge No. 6 rehabilitation project. Similar to Bridge No. 6, ADOT anticipates that the Bridge No. 1 rehabilitation will also last about 2 years. Construction is currently planned for Fiscal Year 2019. As to UDOT's suggestion to implement night-work to expedite construction, several of the landowners and residents adjacent to Bridge No. 1 have voiced objections about round-the-clock construction schedules and ADOT is currently working with them to resolve potential issues with respect to construction-related impacts.

With respect to maintenance of traffic, ADOT recognizes that several high-traffic events in Las Vegas, Nevada increase the potential for traffic delays along I-15. ADOT is currently using concrete barriers to separate the Bridge No. 6 work zones from traffic and enforce lane restrictions (one lane in each direction), and intends to use the same method for Bridge No. 1. Once the barriers are set for a given phase of construction, they cannot readily be moved to restore additional lanes of traffic during peak travel hours or for high-traffic events. The travel lanes will transition smoothly from two to one, and the posted speed limit will be lowered adjacent to the construction zone.

During the design phase for Bridge No. 6, ADOT determined that the area available for construction and length of the bridge precluded the passage of vehicles wider than 10 feet. Therefore, ADOT is currently studying the use of a specific, required detour for wide-load trucks. The proposed detour would follow US 93 and State Route 319 in Nevada, and State Route 56 in Utah. UDOT will be provided a formal opportunity to comment on the wide-load detour when ADOT conducts the agency scoping process for the detour in a few months. Until the proposed detour is approved and signed, wide-load vehicles will continue to go through the permitting process with the Arizona Commercial Permits office and applicants with oversize vehicles will be responsible for identifying an alternate route and obtaining the required permits.

Except for the proposed wide-load detour, no other detours would be required. The Bridge No. 6 project is currently under construction and, as promised, ADOT has not promoted the use of County Road 91 in

the project-related press releases or construction outreach. ADOT intends to maintain traffic through the Bridge No. 1 construction zone in a similar manner to the Bridge No. 6 project, and will refine the traffic plan with lessons learned from previous projects along I-15.

Finally, as requested, ADOT will contact UDOT as the construction phase approaches to provide final project duration and maintenance of traffic information, and to develop communication protocols with the UDOT Traffic Control Center.

Thank you again for your comments and time. Should you require further assistance with this issue, please contact me at 928.779.7580 or gwallace@azdot.gov.

Sincerely,

George Wallace

George Wallace, P.E.
Senior Project Manager
ADOT Statewide Project Management

GW: bp

Enclosures

c: Carlos Braceras, UDOT Executive Director
Robert Dowell, Region Four Operations Engineer
Charles Beck, ADOT Environmental Planning Group
Michele Beggs, ADOT Communications
Steve Boschen, ADOT SEO
Betsi Phoebus, Jacobs Engineering Group Inc.

United States Department of the Interior
U.S. Fish and Wildlife Service
Arizona Ecological Services Office
2321 West Royal Palm Road, Suite 103
Phoenix, Arizona 85021-4951
Telephone: (602) 242-0210 Fax: (602) 242-2513

In reply refer to:
AESO/SE
02EAAZ00-2014-CPA-0030

July 31, 2014

Arizona Department of Transportation
Attn: Betsi Phoebus
Jacobs Engineering Group
101 North 1st Avenue, Suite 3100
Phoenix, Arizona 85003

Re: Proposed Virgin River Bridge No. 1 Rehabilitation

Dear Ms. Phoebus:

Thank you for the opportunity to review and provide scoping comments on the Proposed Proposed Virgin River Bridge No. 1 Rehabilitation Project. This EA is being completed in compliance with the National Environmental Policy Act (NEPA).

This project proposes to repair and rehabilitate Bridge No. 1 along the Virgin River near Littlefield in Mohave County, Arizona. The proposed project scope includes, but is not limited to, removing and replacing the existing bridge deck, girders, median, and exterior barriers; widening the new bridge deck; adding new girders to support the wider bridge deck; constructing at least two crane pads beneath the bridge and using a crane to place the new girders; constructing temporary bridge across the Virgin River to allow access to all bridge piers; widening and strengthening all piers and foundations as necessary. The Arizona Department of Transportation (ADOT) holds a 400-foot wide easement from the Bureau of Land Management. No new permanent easements are anticipated; however, temporary construction easements would be required for access routes and staging areas. The project is currently programmed for design in Fiscal Year 2017 and construction is anticipated to begin in Fiscal Year 2019. Construction is anticipated to take approximately two years.

Based on the information that you have provided in your July 10, 2014, letter and in a meeting we attended on May 7, 2014, we have concerns about potential effects from this project to several listed species. The proposed action will occur directly over the Virgin River. Many aspects of the proposed action have the potential to affect the endangered Virgin River chub (*Gila seminuda*) and the endangered woundfin (*Plagopterus argentissimus*) and critical habitat for both of these fish. The Virgin spinedace (*Lepidomeda mollispinus mollispinus*) is subject to a conservation agreement and strategy and also may occur within the project area. The endangered southwestern willow flycatcher (*Empidonax traillii extimus*) and its critical habitat

also occur along the Virgin River. Additionally, access routes and staging areas will be placed in suitable habitat for the threatened Mojave Desert tortoise (*Gopherus agassizii*). There is no critical habitat for the tortoise near the project area; however, there is suitable habitat and tortoises have been documented in the project area. The endangered Yuma clapper rail (*Rallus longirostrus yumanensis*) has been known to occur and breed in the area; however, the last known record was more than 20 years ago. There is no critical habitat for the rail.

California condors may also occur in the project area. California condors are federally-listed as endangered under the Endangered Species Act of 1973, as amended (ESA), and may occur in the project area as a non-essential experimental population. Under the special rule that designated this population, an individual who unavoidably and unintentionally takes a California condor would not be in violation of the ESA if such taking is non-negligent and incidental to a lawful activity. Although recent telemetry data suggest that condors have not been documented in or near the proposed project area recently, they are a wide-ranging species capable of traveling long distances in a day. In order to avoid unintentional disturbance or injury to condors, we recommend you consider potential effects to this species and incorporate conservation measures designed to minimize these effects in your proposed action. We have compiled the following list of conservation measures designed to avoid adverse interactions between humans and condors during actions such as construction projects. We recommend that measures appropriate for this project be implemented in the event that condors occur at or near the project site. We are prepared to assist you in tailoring these conservation measures to this particular site and action.

- Prior to the start of construction, the project proponent should contact The Peregrine Fund (928-355-2270) personnel monitoring California condor locations and movements in the vicinity of the project area to determine the locations and status of condors in or near the project area.

- If a condor occurs at the construction site, construction activities that could result in injury to condors should cease until the condor leaves on its own or until techniques are employed by permitted personnel that results in the condor leaving the area.

- Construction workers and supervisors should be instructed to avoid interaction with condors and to immediately contact the Flagstaff office of the U.S. Fish and Wildlife Service (FWS) or The Peregrine Fund personnel if condor(s) occur at a construction site. Non-permitted personnel cannot haze or otherwise interact with condors.

- The construction site should be cleaned up (e.g., trash removed, scrap materials picked up) at the end of each day that work is being conducted to minimize the likelihood of condors visiting the site.

In keeping with our trust responsibility to American Indian Tribes, for proposed actions that may affect Indian lands, Tribal trust resources, or Tribal rights, we encourage you to invite the affected Tribe(s) and Bureau of Indian Affairs to participate in the planning process and, by copy of this letter, are notifying the Hopi, Chemehuevi, and Colorado River Indian Tribes, as well as

Bureau of Indian Affairs. We also encourage you to continue to coordinate the review of this project with the Arizona Game and Fish Department.

We appreciate your coordination with us on this matter. For further information please contact Brian Wooldridge (928-556-2106), Shaula Hedwall (928-556-2118), or Brenda Smith (928-556-2157). Please refer to the consultation number, 02EAAZ00-2014-CPA-0030 in future correspondence concerning this project.

Sincerely,

for

Steven L. Spangle
Field Supervisor

ccs: (electronic)
Chief Habitat Branch, Arizona Game and Fish Department, Phoenix, AZ
Regional Supervisor, Arizona Game and Fish Department, Flagstaff, AZ
(Attn: Steve Rosenstock)

ccs: (hard copy)
Environmental Specialist, Environmental Services, Western Regional Office, Bureau of Indian Affairs, Phoenix, AZ
Director, Hopi Cultural Preservation Office, Kykotsmovi, AZ
Director, Cultural Resource Center, Chemehuevi Tribe, Havasu Lake, CA
Cultural Compliance Technician, Museum, Colorado River Indian Tribes, Parker, AZ

W:\Brian Wooldridge\Bridge 1 Scoping Comments Ltr.docx:cgg

THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT
5000 W. CAREFREE HIGHWAY
PHOENIX, AZ 85086-5000
(602) 942-3000 • WWW.AZGFD.GOV

August 12, 2014

ADOT
c/o Ms. Betsi Phoebus
Jacobs Engineering Group Inc.
101 North 1st Avenue, Suite 3100
Phoenix, AZ 85003

Re: Review of the Virgin River Bridge #1 (STR #1089) Project; 015-A(211)T, 015 MO 008 H8760 01L.

Dear Ms. Phoebus:

The Arizona Game and Fish Department (Department) has received a letter from Charles Beck, ADOT Environmental Planning Group, dated July 10, 2014, regarding the bridge rehabilitation project on Interstate 15 in Mohave County, AZ. We have reviewed the information packet provided to us in the letter. The receipt ADOT received from the Department's Heritage Data Management System (HDMS)'s On-line Review Tool, dated July 9, 2014 (Receipt #20140709023882), identified numerous special status species within a 3-mile radius of the proposed project, including: six species that are federally listed (including proposed species) and regulated under the Endangered Species Act (ESA); Critical Habitat for four species; and a breeding population of golden eagles (*Aquila chrysaetos*), which are regulated under the Bald and Golden Eagle Protection Act (BGEPA). Many of these sensitive resources are associated with the Virgin River corridor.

The Department offers the following general comments, based on the limited information provided:

- Please determine if the bridge is providing day and/or night time roosting habitat for bats. If necessary, bat surveys should be conducted prior to any work on or immediately adjacent to the bridge; and surveys should be scheduled far in advance of proposed work to allow for schedule modification to avoid disruption of maternity roosts during the breeding season. Refer to the *Guidelines for Bridge Construction or Maintenance to Accommodate Fish & Wildlife Movement and Passage*, for additional guidance on bats as appropriate.
  http://www.azgfd.gov/hgis/pdfs/BridgeGuidelines.pdf

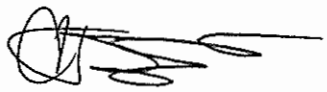
- Six species that are federally listed (including proposed species) and regulated under the Endangered Species Act (ESA), and Critical Habitat for four species, are present within 3 miles of your project, and this project has the potential to impact listed species. If you are uncertain about the effects of your project to these species, or if you anticipate your project will not be in compliance with the ESA, the Department recommends that you and/or the project proponent contact the U.S. Fish and Wildlife Service (USFWS) for their Technical Assistance. The USFWS will provide options to comply with the ESA, such as conservation measures to avoid or minimize adverse effects to listed species.
- Mohave Desert tortoise have been recorded in the immediate project area, and Critical Habitat for Mohave desert tortoise is present in the vicinity. The Department recommends coordinating with USFWS to determine if a survey for Mohave Desert tortoise is required, within suitable habitat, in accordance with the *Preparing For Any Action That May Occur Within The Range Of The Mojave Desert Tortoise (Gopherus agassizii),* to determine the presence/absence of this species. http://www.deserttortoise.org/documents/2010DTPre-projectSurveyProtocol.pdf
- A territory of breeding golden eagles has been recorded within three miles of your project. If you are uncertain about the effects of your project to eagles, or if you anticipate your project will not be in compliance with the Eagle Act, the Department recommends you contact the U.S. Fish and Wildlife Service (USFWS) for their Technical Assistance. The USFWS will provide options to comply with the Eagle Act, such as conservation measures to avoid or minimize adverse effects to the eagles.
- Determine bird species that may be utilizing the Virgin River, and develop measures to avoid direct and indirect disturbance during nesting season; any disturbance during the breeding season may lead to a violation of the Migratory Bird Treaty Act. Breeding season for birds is generally May through late August, depending on species in the local area. Raptors breed in early February through May.
- If proposed ground disturbance (both temporary and permanent) will meet or exceed 0.25 acre, a Native Plant Inventory should be conducted to identify, record, and coordinate plant salvage efforts for species that are Protected under the Arizona Native Plant Law (https://agriculture.az.gov/programs-and-services/native-plants).
- Minimize impacts to vegetation during project construction. Staging areas should be located in previously disturbed sites, and kept as small as possible. Implement erosion and drainage control measures during the project to prevent the introduction of sediment-laden runoff into adjacent surface waters, and to prevent impacts to surface water quality. Stabilize exposed soils, particularly on slopes, with native vegetation as soon as possible to prevent excess erosion.

- Minimize the potential introduction or spread of exotic invasive species. Wash all equipment utilized in the project activities before entering and leaving the site, and comply with Arizona's noxious weed regulations (Arizona Revised Statutes, Rules R3-4-244 and R3-4-245); please see the Arizona Department of Agriculture website for prohibited and restricted noxious weeds.
  http://www.azda.gov/PSD/RegulatedRestrictedNoxiousWeeds.aspx
  http://www.azda.gov/PSD/ProhibitedNoxiousWeeds.aspx

The Department appreciates the opportunity to provide an initial evaluation of impacts to wildlife or wildlife habitats associated with the Virgin River Bridge #1 rehabilitation project activities. We request further coordination as the project development progresses, in order to provide additional feedback and mitigation recommendations to avoid and minimize impacts to wildlife.

If you have any questions regarding this letter, please contact me at (623) 236-7615, and visit our website for additional guidelines at http://www.azgfd.gov/hgis/guidelines.aspx.

Sincerely,



Cheri A. Bouchér
Project Evaluation Program Specialist, Habitat Branch
Arizona Game and Fish Department

cc: Laura Canaca, Project Evaluation Program Supervisor
Steve Rosenstock, Habitat Program Manager, Region II

AGFD# M14-07101001

March 9, 2015

Ms. Cheri Bouchér
Project Evaluation Program Specialist, Habitat Branch
Arizona Game and Fish Department
5000 West Carefree Highway
Phoenix, AZ 85086

RE: 015-A(211)T
015 MO 008 H8760 01L
Virgin River Bridge #1 (STR #1089)

Dear Ms. Bouchér:

Thank you for your August 12, 2014 letter commenting on the Arizona Department of Transportation's (ADOT's) Virgin River Bridge No. 1 rehabilitation project on Interstate 15 (I-15) near the communities of Littlefield and Beaver Dam, Mohave County, Arizona. Arizona Game and Fish Department's (AGFD's) correspondence included concerns about 1) proper protection for special-status species and critical habitat; 2) avoiding disturbance to nesting birds or roosting bats within the potential disturbance area; and 3) impacts to vegetation, including invasive species and native plants. In addition, AGFD requested further coordination as the project development progresses.

Special-status species, including the Mojave desert tortoise and golden eagle (specifically mentioned in your August 12, 2014 correspondence), are addressed in the draft Biological Evaluation (BE) for the Virgin River Bridge No. 1 project. The draft BE is currently undergoing ADOT review in preparation for formal consultation pursuant to Section 7 of the Endangered Species Act between the U.S. Fish and Wildlife Service, Federal Highway Administration, and ADOT. Critical habitat within the potential disturbance area is also addressed in the BE. Recommended mitigation measures have been included in the draft BE to help minimize potential impacts from the project to special-status species and Critical habitat.

Migratory birds and four species of Bureau of Land Management-protected bat species are also addressed in the draft BE, along with roosting bat habitat found within the potential disturbance area. Mitigation measures will be required to reduce potential impacts to nesting migratory birds and roosting bats, including a preconstruction bat survey of potential roosting sites under the bridge.

With respect to concerns about impacts to vegetation, mitigation measures will be required to limit disturbance to designated construction areas and to minimize the spread of invasive plant species from project activities. As the proposed ground disturbance would exceed 0.25 acre, AGFD requested a native plant inventory. A meeting held between AGFD and ADOT on 12/16/2014 to discuss ADOT projects and the environmental clearance process resulted a general understanding that ADOT will remain in compliance with all State and Federal regulations. Additionally, ADOT has provided AGFD examples of completed projects and the associated environmental documents prepared during the clearance process.

Finally, as requested, ADOT will continue to coordinate with AGFD through future communications as the project progresses. Thank you again for your comments and time. Should you require further assistance with these issues, please contact me at 602.712.6819 or jfife@azdot.gov.

Sincerely,

Joshua Fife
Biology Team Lead
ADOT Environmental Planning Group

JF:mo

c: Laura Canaca, AGFD Project Evaluation Program Supervisor
Steve Rosenstock, Habitat Program Manager, AGFD Region II
Charles Beck, ADOT Environmental Planning Group
George Wallace, ADOT Statewide Project Management
Michele Beggs, ADOT Communications
Betsi Phoebus, Jacobs Engineering Group Inc.

Appendix H. Public Scoping Comments (Voice Mail Transcripts, Emails, Website Forms, and Comment Forms)

Rietz, Jessica

From: Projects [Projects@azdot.gov]
Sent: Thursday, February 26, 2015 2:42 PM
To: Rietz, Jessica
Subject: FW:

Follow Up Flag: Follow up
Flag Status: Flagged

[redacted]

Brock J Barnhart
Assistant Communication Director
1655 W Jackson St. MD 126F
Phoenix, AZ 85007
602-712-4690
azdot.gov

-----Original Message-----
From: [redacted]]
Sent: Thursday, October 16, 2014 5:11 PM
To: Projects
Subject:

To AZdot, thank you for the questionaire regarding the rehab of Virgin River bridge #1. You have my absolute 100% support in this project. This bridge's importance cannot be over stated. It is a vital link in the interstate highway system, and needs to be maintained in tip top condition. No cost is to much or inconvenience to great to not rehab or rebuild this extremely important piece of infrastructure. so yes you have my blessing. There will always be nay sayers or com- plainers. but the vast majority of reasonable citizens will support you.

God speed and work safe. Thanks again sincerely [redacted]

.

Rietz, Jessica

From: Projects [Projects@azdot.gov]
Sent: Thursday, February 26, 2015 2:46 PM
To: Rietz, Jessica
Subject: FW: I-15 Bridge 1

Follow Up Flag: Follow up
Flag Status: Flagged

12[redacted]

Brock J Barnhart
Assistant Communication Director
1655 W Jackson St. MD 126F
Phoenix, AZ 85007
602-712-4690
azdot.gov

From: [redacted]
Sent: T
To: Projects
Subject: I-15 Bridge 1

There seems to be too much money spent to pacify the "tree huger crowd", when their agenda is to run the cost up as much as possible with an EIS for everything. Common sense would accomplish just as much without the added expense of the EIS and save the taxpayers money. An EIS is used by this crowd to force private companies to spend enough money on the study to make many projects economically unfeasible therefore bypassing legislation and killing legitimate job creating projects.

If the I-15 bridge project needs done; do it in the most economical way possible, taxpayers are at the end of their rope with government overspending.

[redacted]

Rietz, Jessica

From: Projects [Projects@azdot.gov]
Sent: Thursday, February 26, 2015 2:44 PM
To: Rietz, Jessica
Subject: FW: bridge-I-15bridge1

Follow Up Flag: Follow up
Flag Status: Flagged

[redacted]

Brock J Barnhart
Assistant Communication Director
1655 W Jackson St. MD 126F
Phoenix, AZ 85007
602-712-4690
azdot.gov

From: [redacted]
Sent: F
To: Projects
Subject: bridge-I-15bridge1

[redacted]
I would very much like to see the bridge rehabilitated it's most important corridor it would disasters if something should go wrong
and needed to closed it down
specially for people living in sun river
[redacted]

.

Rietz, Jessica

From: Projects [Projects@azdot.gov]
Sent: Thursday, February 26, 2015 2:45 PM
To: Rietz, Jessica
Subject: FW: I-15 bridge 1

Follow Up Flag: Follow up
Flag Status: Flagged

[redacted]

Brock J Barnhart
Assistant Communication Director
1655 W Jackson St. MD 126F
Phoenix, AZ 85007
602-712-4690
azdot.gov

From: [redacted]
Sent: F
To: Projects
Subject: I-15 bridge 1

The highway is vital to all of the United States.
The bridge must be strong and healthy.
All environmental concerns are secondary.
Update and repair I-15 Bridge #1

[redacted]

Rietz, Jessica

From: Projects [Projects@azdot.gov]
Sent: Thursday, February 26, 2015 2:43 PM
To: Rietz, Jessica
Subject: FW: Bridge 1 I-15

Follow Up Flag: Follow up
Flag Status: Flagged

[redacted]

Brock J Barnhart
Assistant Communication Director
1655 W Jackson St. MD 126F
Phoenix, AZ 85007
602-712-4690
azdot.gov

From: [redacted]
Sent: F
To: Projects
Subject: Bridge 1 I-15

We feel the importance of this bridge is of paramount importance. It out weighs the other factors of consideration in your study and if it needs to be improved ADOT should proceed.

[redacted]

Rietz, Jessica

From: Projects [Projects@azdot.gov]
Sent: Thursday, February 26, 2015 2:44 PM
To: Rietz, Jessica
Subject: FW: I15bridge

Follow Up Flag: Follow up
Flag Status: Flagged

[redacted]

Brock J Barnhart
Assistant Communication Director
1655 W Jackson St. MD 126F
Phoenix, AZ 85007
602-712-4690
azdot.gov

From: [redacted]
Sent: F
To: Projects
Subject: I15bridge

It is critical that the job be done right the first time, regardless of the time required or the inconvenience.

Rietz, Jessica

From: Projects [Projects@azdot.gov]
Sent: Thursday, February 26, 2015 2:42 PM
To: Rietz, Jessica
Subject: FW: virgin river bridge #1

Follow Up Flag: Follow up
Flag Status: Flagged

[redacted]

Brock J Barnhart
Assistant Communication Director
1655 W Jackson St. MD 126F
Phoenix, AZ 85007
602-712-4690
azdot.gov

From: [redacted]
Sent: F
To: Projects
Subject: virgin river bridge #1

Fix the bridge and repave the road from mesquite to the gorge!

Rietz, Jessica

From: Projects [Projects@azdot.gov]
Sent: Thursday, February 26, 2015 2:45 PM
To: Rietz, Jessica
Subject: FW: Virgin River Bridge #1 Public Scoping Process Response

Follow Up Flag: Follow up
Flag Status: Flagged

[redacted]

Brock J Barnhart
Assistant Communication Director
1655 W Jackson St. MD 126F
Phoenix, AZ 85007
602-712-4690
azdot.gov

From: [redacted]
Sent: S
To: Projects
Subject: Virgin River Bridge #1 Public Scoping Process Response

Friends at AZDOT,

I'll be happy as long as the warm springs is respected. It was respected in the initial construction process 40+ years ago, so I'm sure it will be respected this time.

Thanks for all you do.

Yours truly,
[redacted]

.

Rietz, Jessica

From: Projects [Projects@azdot.gov]
Sent: Thursday, February 26, 2015 2:45 PM
To: Rietz, Jessica
Subject: FW: Virgin River Bridge #1

Follow Up Flag: Follow up
Flag Status: Flagged

[redacted]

Brock J Barnhart
Assistant Communication Director
1655 W Jackson St. MD 126F
Phoenix, AZ 85007
602-712-4690
azdot.gov

From: [redacted]
Sent: S
To: Projects
Subject: Virgin River Bridge #1

I wholeheartedly support your proposed plan for rehabilitation of Bridge #1 in the Virgin River Gorge. The road is a vital transportation link for the states of Utah, Arizona, Nevada and California. If a major infrastructure failure were to occur interstate commerce would be critically impacted. If the project is as well conceived and implemented as the current rehabilitation project taking place in the Gorge, impacts to travel, the environment, and the natural beauty of the area will be very minimal. Given the limited benefit to the State, I appreciate the State of Arizona and ADOT taking the lead on this project. Thank you!

[redacted]

Rietz, Jessica

From: Projects [Projects@azdot.gov]
Sent: Thursday, February 26, 2015 2:46 PM
To: Rietz, Jessica
Subject: FW: I-15 improvements

Follow Up Flag: Follow up
Flag Status: Flagged

[redacted]

Brock J Barnhart
Assistant Communication Director
1655 W Jackson St. MD 126F
Phoenix, AZ 85007
602-712-4690
azdot.gov
ADOT Communications

From: [redacted]
Sent: S AM
To: Projects
Subject: I-15 improvements

Isn't this the same I-15 to which Arizonans have no access? Why are we footing the bill for any of it.
This is a great example of how funding is inappropriately doled out.
The Federal Highway Admin and the states of Calif and Nev should be footing the entire bill.

While we are discussing this, we should not be patrolling that portion of the I-15 with one of our DPS officers either.

This route benefits California and does nothing for Arizonans except eat up tax payer's $$ that are sorely needed elsewhere for ***OUR*** highways.

Rietz, Jessica

From: Projects [Projects@azdot.gov]
Sent: Thursday, February 26, 2015 2:48 PM
To: Rietz, Jessica
Subject: FW: response to your mailer

Follow Up Flag: Follow up
Flag Status: Flagged

[redacted]

Brock J Barnhart
Assistant Communication Director
1655 W Jackson St. MD 126F
Phoenix, AZ 85007
602-712-4690
azdot.gov

-----Original Message-----
From: [redacted]
Sent: Tuesday, October 21, 2014 11:37 AM
To: Projects
Subject: response to your mailer

Greetings; I am Steve Horner; I live in St.George Utah; I am responding to your recent mailer asking opinions regarding the Virgin River Bridge #1 Rehab project. I know you people will do a fine job and I appreciate you asking my input. I have one concern which I'll share with you.

On the Northeast corner of bridge #1 there are a number of natural springs which gurgle up from the ground the roll down to the river below. The locals have enjoyed the waterfalls and cooling waters for generations; they have dubbed it "Little jamaice." It really is a natural treasure and needs to be protected.

To access Little Jamaica as I come from St. George driving South on I-15 through the Gorge, I take the Desert Springs exit, then head back East under the highway and get on the frontage road heading South a quarter mile or so to where the road ends. Park the car and walk downhill through the brush. You'll quickly understand why this area was named "Natural Springs." Thank you for considering my request. [redacted]

.

Rietz, Jessica

From: Projects [Projects@azdot.gov]
Sent: Thursday, February 26, 2015 2:47 PM
To: Rietz, Jessica
Subject: FW: Virgin River Bridge

Follow Up Flag: Follow up
Flag Status: Flagged

[redacted]

Brock J Barnhart
Assistant Communication Director
1655 W Jackson St. MD 126F
Phoenix, AZ 85007
602-712-4690
azdot.gov

-----Original Message-----
From: [redacted]
Sent: Tuesday, October 21, 2014 6:54 AM
To: Projects
Subject: Virgin River Bridge

Gentlement:

At your request I am responding as to the effect of the proposed renovations of the Virgin River Bridge.

- I live in St. George, Utah
- I rarely go south through the gorge anymore.
- I don't expect any complications on my behalf
- But I think it is a good idea to keep them in repair

Thanks,

[redacted]

.

Rietz, Jessica

From: Projects [Projects@azdot.gov]
Sent: Thursday, February 26, 2015 2:48 PM
To: Rietz, Jessica
Subject: FW: E/A input

Follow Up Flag: Follow up
Flag Status: Flagged

15. Ventura

Brock J Barnhart
Assistant Communication Director
1655 W Jackson St. MD 126F
Phoenix, AZ 85007
602-712-4690
azdot.gov

From: [redacted]
Sent: T
To: Projects
Subject: E/A input

Virgin River Bridge # One
21 October, 2014

Thank you for the invitation for comments on possible repair of this structure. I understand this invitation is a part of an Environmental Assessment. Perhaps that is the reason that the basis for consideration is so limited.

While you have indicated that over the years the structure has deteriorated to some extent, you have not very clearly identified either the need or the "Fix". So it is rather difficult to provide anything constructive for consideration.

I don't recall if this is a steel girder structure. If it is, is the steel corroded such that the design strength is impaired? If so what is the proposed method of repair? Is it welded plate overlays? If the plate repairs are welded it would seem that work would mostly be done from hanging scaffolds, with no impact to the river basin.

What is the basis for suggesting there would be widening of the lanes? To my knowledge the canyon lanes were not widened, and the lanes going south remain the same width. What does widening achieve?

If the bridge were new would the design considerations be sufficient? If not what are the methods planned for to increase the support loading?

If the concrete deck is spalling it would seem sufficient to chip concrete to below the top rebar and replace the top concrete. Does the deck need to be increased in thickness?

If the piers are thickened access at the river would be required. Special work platforms could be specified, and bridging the river should be done by a system like a Bailey Bridge to minimize the river impact. Work in the river basin should be limited to low water seasons to minimize the impact.

It is not difficult to require reshaping the landscape including foliage.

I certainly don't think there is any justification of adding lanes.

At this point there is little purpose in continuing to guess what your planned impact might be, since your project information is so very limited.

Cheers,

Rietz, Jessica

From: Projects [Projects@azdot.gov]
Sent: Thursday, February 26, 2015 2:48 PM
To: Rietz, Jessica
Subject: FW: i 15 bridge 1

Follow Up Flag: Follow up
Flag Status: Flagged

[redacted]

Brock J Barnhart
Assistant Communication Director
1655 W Jackson St. MD 126F
Phoenix, AZ 85007
602-712-4690
azdot.gov

From: [redacted]
Sent: T
To: Projects
Subject: i 15 bridge 1

[redacted]

Comment: Fix the bridge. Screw the lizards.

Rietz, Jessica

From: Projects [Projects@azdot.gov]
Sent: Thursday, February 26, 2015 2:49 PM
To: Rietz, Jessica
Subject: FW: Virgin River Bridge #1

Follow Up Flag: Follow up
Flag Status: Flagged

[redacted]

Brock J Barnhart
Assistant Communication Director
1655 W Jackson St. MD 126F
Phoenix, AZ 85007
602-712-4690
azdot.gov

-----Original Message-----
From: [redacted]
Sent: Tuesday, October 28, 2014 11:17 AM
To: Projects
Subject: Virgin River Bridge #1

One aspect of this project that I hope will be seriously considered is the impact it will have on the aquatic life in the river. I am sure there will be some disturbance to the stream bed and it could have implications for both up and down stream.

I fully support the program to rehab the bridges and I applaud the thinking and planning going into this project.

[redacted]

.

Rietz, Jessica

From: Projects [Projects@azdot.gov]
Sent: Thursday, February 26, 2015 2:42 PM
To: Rietz, Jessica
Subject: FW: Virgin River Bridge #1 Rehab. Project / EA - comments

Follow Up Flag: Follow up
Flag Status: Flagged

[redacted]

Brock J Barnhart
Assistant Communication Director
1655 W Jackson St. MD 126F
Phoenix, AZ 85007
602-712-4690
azdot.gov

From: [redacted]
Sent: S M
To: Projects
Cc: [redacted]
Subject: gin River Bridge #1 Rehab. Project / EA - comments

To Arizona Department of Transportation,

My name is Ed Miller and I live in the Saint George area of Utah. I worked for the Colo. Dept. of Transportation in engineering for 38 years. The last 20 of those years, as a Project Manager ,I was involved with preliminary design and engineering, primarily on I-70. The following comments I hope will be helpful for your EA:

1.Temporary Bridge A temporary bridge seems unnecessary as you are planning access roads to the river from both directions. Through access shouldn't be necessary. In the very unlikely event one of the access roads couldn't be built, you could then bring the temporary bridge option back. This should be decided early on, before applying for the Corps of Engineering Permit. Absolutely critical to this decision is acquiring permanent easements for both of the access roads as soon as feasible. Not applying for a temporary bridge with it's obvious encroachment in the river should simplify the Corps permit application, and the EA impacts.

2. Access to piers and temporary crane pads The proposed roads would provide the access but the crane pads and the immediate pier locations would require extra widening, probably to a minimum of 25+ feet square to accommodate piling or caisson work and girder erection. The crane pad required at the last easterly pier may be a concern. From the picture shown in your mailing, (I couldn't get close enough on the ground to see)there may not be enough room for a large crane pad without encroachment into the river. This would be in addition to any encroachment needed for a cofferdam.
Temporary retaining walls may also be needed here for the access road due to the narrowness of the flat ground and the unstable looking dirt bank.
A girder erection analysis would be desirable to make sure the crane pads needed for the piers would also function for girder erection, other wise more vegetation would be removed for additional pad locations.

3. Environmental concerns under the bridge There are a significant number of trees here, especially towards the west end. Every effort should be made to save as many as possible. The location of the

access road and crane pads needed would be key to this. All construction limits should be determined here and then fenced prior to construction to save existing vegetation. Of course all erosion control techniques should be done and provisions made for possible liquid construction spills.

4. Traffic Control Three lanes should be open at all times with one lane and adjacent shoulder dedicated to construction access. Any significant reduction in traffic lanes beyond this should be done during late night/early morning. An exception from 3 lanes down to 2 may be needed if extensive deck work is needed, hopefully of short duration.

Please add me to your mailing list for other future information about this project.

[redacted]

.

Rietz, Jessica

From: Projects [Projects@azdot.gov]
Sent: Thursday, February 26, 2015 2:41 PM
To: Rietz, Jessica
Subject: FW: Virgin River Bridge #1

[redacted]

Brock J Barnhart
Assistant Communication Director
1655 W Jackson St. MD 126F
Phoenix, AZ 85007
602-712-4690
azdot.gov

From: [redacted]
Sent: T
To: Projects
Subject: Virgin River Bridge #1

After reading the pamphlet that was sent to me, it occurs to me that you are doing double duty on the environmental study since the bridge in question has been there for fifty years. Why the need for a new environmental study when the bridge is just in need of repair.

This bridge is vital to the areas it serves and all points to the north and east connected to it. Why not save the funds it would take for the environmental study and apply them to correcting any issues the bridge may have to ensure it will be usable for another fifty years of service.

Thank you for including me in the important issue that effects a great many people in the area.

Cordially,

[redacted]

Nov. 24, 2014 Lennie and Nancy Hartwig

ADOT
Intermodal Transportation

RE: 015-A(211)T
015 MO 008 H8760 01L
Virgin River Bridge #1 (STR #1089)

To: Janice K. Brewer, Governor
John S. Halikowski, Director
Jennifer Toth, State Engineer
Robert Samour, Sr. Dep. State Engineer, Operations
Dallas Hammit, Sr. Dep. State Engineer, Development

We are owners of the property located at [redacted] directly across from bridge #1. We have had the pleasure of serenity for 10 years. This project is going to greatly impact our lively hood and the environment surrounding our home. This project like no other bridge you have rehabilitated in the I-15 Gorge is directly adjacent to homes. Kokopelli East Dr will be completely surrounded by your project.

Our concerns listed below are just the beginning of many to come.
We hope you will be able to address each of these concerns because of the tremendous impact this rehab. Project will have on the environment, on our "LIVES" and on anyone who comes to our neighborhood and home.

1. Do you plan to initiate a baseline noise and decibel study before any work is started and if so will it be constantly monitored during all work.

2. Our "HOME" is located on a major cliff directly across from the bridge, which is approximately 1000 to 1500 feet from our cliff home.
Vibration is going to be a "HUGH" concern to the integrity of our structure and to all the surround area where people work and live year around.

How are you going to keep the vibration impact too a minimum?

How do you plan on monitoring the impact your vibrations will on the cliff our house is located ?

One only has to look at the cliff opposite our house to the West and see the layers of rock that have fallen down the cliff. Some natural and a lot from the vibrations from the bridge as it stands now without the rehab. construction that is to come to our home and neighborhood.

How do you plan on monitoring the wild life that is surrounding this rehab area?
There are large wild migration birds that live off the wildlife in the river. There are the endangered Wound Fish present under Bridge #1 that the Universities have been studying over the last 10 years.
There are Red Tailed Hawks, Ravens, and all types of bird species that live on the bridge itself.

3. Will there be any work at night? What will be the hours of construction?

4. The people directly affected by this constructions need to have several phone numbers that we can contact at any hour of the day or night, besides the Sheriffs office, when we have a concern about anything that may occur at anytime.

You have to keep in mind that we will be "Living" your construction project.

You, meaning ALL who work on this project from office to hard hats get to go elsewhere from this project when you get ready to rest and relax. We will be at your construction site literally for, looks like 2 to 5 YEARS!?

Our serene surroundings' will be interrupted by this rehab. bridge project big time.

Is there anyone we might speak with that has lived adjacent to a rehab. bridge project of this magnitude?

5. We are very concerned about he amount of illumination that will be on at night and for how long. If the lighting will be on at night how do you plan on minimizing the impact it will have on our property and lives?

6. Will we see better details regarding the dirt roads that will be affected surrounding our property?

7. How do you plan to minimize the traffic impact that will be going up and down our frontal road constantly?

8. Can you tell us just how much and how load the noise impact will be surrounding our home?

9. Will there be ANY impact on the natural water fall and natural springs that are located about 500 feet north east of the bridge on the east facing side of the cliff between our house and the bridge?

10. How do you plan to minimize machine noise during the day and night hours?

Sincerely,

[redacted]

[redacted]

December 19, 2014

[redacted]

RE: Virgin River Bridge #1 (STR #1089)
015-A(211)T
015 MO 008 H8760 01L

Dear [redacted]

Thank you for your November 24, 2014 e-mail and letter commenting on the Arizona Department of Transportation's (ADOT) Virgin River Bridge #1 (STR #1089) rehabilitation project on Interstate 15 (I-15) near the communities of Littlefield and Beaver Dam, Mohave County, Arizona. In your correspondence you expressed concerns about 1) noise and vibration impacts; 2) impacts to wildlife, including threatened and endangered species; 3) community impacts during construction, including nighttime construction, community disruption, availability of project support and information, light pollution, and traffic on frontage roads; 4) public involvement during planning and design; and 5) impacts to landforms, geology, and the river.

ADOT and the Federal Highway Administration (FHWA) are undertaking an Environmental Assessment (EA) to evaluate impacts from the proposed project on environmental and socioeconomic resources in the study area, including those you are inquiring about. Your comments are valuable in identifying issues to be evaluated in the EA and to be addressed during future constructability reviews.

A traffic noise analysis is required for all ADOT projects that increase capacity or move an alignment closer to sensitive receivers. This proposed project is not anticipated to result in either of these effects; therefore, ADOT does not currently plan to undertake a traffic noise analysis.

Temporary noise impacts would be experienced during construction of the proposed project. Typically, construction noise levels continually change as the construction phases are completed, and construction is usually limited to daylight hours. A limited amount of night work may occur on projects unless local ordinances limit noise levels during nighttime hours.

ADOT's *Standard Specifications for Highway and Bridge Construction* (2008 edition) stipulate that all exhaust systems on equipment be in good working order and properly designed engine enclosures and intake silencers be used where appropriate.

Studies undertaken by various state departments of transportation to assess the impact of vibrations from traffic have shown that both measured and predicted vibration levels are lower than any known criteria for structural damage to buildings. Manmade ground-borne vibration, such as that from construction activities, decreases rapidly as the distance from the source increases; therefore, vibration impacts are confined to short distances from the source. Construction activities that generate the

highest vibration levels (pile driving, pavement breaking, blasting, and demolition of structures) are potentially damaging to a distance of 25 feet from the source. Blasting is not anticipated to occur on this project.

Potential noise and vibration impacts will be evaluated qualitatively as part of the EA. The potential impacts evaluated in the EA will encompass the entire disturbance area of the proposed project, including access roads and staging areas.

ADOT will coordinate with the U.S. Fish and Wildlife Service (USFWS) and Arizona Game and Fish Department (AGFD) to assess and evaluate the potential impacts of the proposed project to wildlife, including threatened and endangered species, and critical habitats. ADOT will consult with USFWS, under Section 7 of the Endangered Species Act, if there is any potential to affect a listed endangered species. USFWS will issue a biological opinion on the impacts of the project, and specify mitigation measures to be undertaken prior to, during, and after construction to minimize and mitigate impacts to sensitive species.

Coordination with USFWS will specifically address all threatened and endangered species, including the endangered woundfin (Plagopterus argentissimus) and Virgin River chub (Glia seminuda) currently present within the Virgin River.

Red-tailed hawks (*Buteo jamaicensis*) and ravens (*Corvus corax*) are not listed as threatened or endangered by USFWS. The EA will investigate the existence of suitable habitat for these species and migratory birds living or stopping in the project limits to determine if they would be able to relocate in the project vicinity during the construction of the proposed project. Mitigation measures such as limiting demolition and construction activity to non-breeding seasons are implemented under certain conditions; however, this is not likely to be the case with the bird species identified in your letter.

Rehabilitation of Virgin River Bridge #1 would require construction equipment to access the piers beneath the bridge. The project area's unique topography presents challenges and constraints to implementing the proposed construction and accessing the areas beneath the bridge. Of the various possible approaches to the river bottom, ADOT has preliminarily identified an approach from the north as being the most feasible, following an existing unpaved road that descends to the riverbed between East Kokopelli Drive and East Anasazi Drive. A potential location for a staging area for this work could be where the existing unpaved road crests the hillside and continues on level ground.

Your concerns about disruption to the community throughout the construction period are important, and will be addressed fully during future constructability reviews. Communication between ADOT and the community will help to determine the best construction methods, scheduling, traffic control, and potential detours to implement for this project. ADOT will work with the public to address concerns and minimize disruption to the community during construction.

Contact information for project personnel and local law enforcement agencies will be disseminated to the public in the project area. In addition, proactive communication regarding the construction schedule, dates of planned closures, and detour routes, if applicable, will be made available through newspaper advertisements, e-mail, direct mailings, and other forms of communication to individuals

and the community. We will be happy to add you to the ADOT mailing list for any announcements regarding this project.

As part of the project scoping process undertaken in compliance with the National Environmental Policy Act (NEPA), ADOT Communications initiates coordination with communities and the public during the planning and design phases, and also engages in public outreach prior to and during construction. Information about this proposed project has been made available online on ADOT's website (azdot.gov/I-15bridge1) and was mailed to local citizens, businesses, and community, county, state, and federal agencies having an interest or jurisdiction over some aspect of the project.

Potential impacts of this project on wetlands, water-bodies, floodplains, and water quality will be evaluated in the EA and are required to undergo review and permitting pursuant to the Clean Water Act. The U.S. Army Corps of Engineers (Corps) has jurisdiction over the Virgin River and the streams in the project area. ADOT will coordinate with the Corps early in the planning and design of the proposed project to minimize impacts to water resources and comply with the requirements of the Clean Water Act.

Thank you again for your comments and time. Should you require further assistance with these issues, please the Project Manager George Wallace at 928.779.7580 or gwallace@azdot.gov.

Sincerely,

Dallas Hammit, PE
State Engineer

cc: John Halikowski, ADOT Director
Karla Petty, Administrator, FHWA – AZ Division
Paul O'Brien, ADOT Environmental Planning Group
Audra Merrick, Flagstaff District Engineer
Tim Tait, ADOT Communications
Elizabeth Phoebus, Jacobs Engineering Group Inc.

From: [redacted]
Sent: T
To: Defend, Beth
Subject: Re: [redacted] - Project Virgin River Bridge #1 (STR # 1089, H8760)

Dear Beth Defend,

Thank you for your response and for answers to my questions as is possible at this time. The information you provided is very helpful. It looks like some more time needs to pass before anything is near final. We look forward to that time. We appreciate your keeping us informed.

I am sure you know better about this than I do, but the Virgin river often in the spring carries very huge floods that flows from bank to bank and destroys anything in its path. It depends on the amount of snow and how quick the runoff takes place. If this should occur during construction, it could really raise havoc with any structures and equipment in the river bed. We have a house a little ways down stream from the bridge and have been the recipients of its furry. Just a word to the wise if needed.

Sincerely yours,
[redacted]

On Mon, Aug 3, 2015 at 8:15 PM, Defend, Beth <Beth.Defend@jacobs.com> wrote:

[redacted],

Thank you for your comment and for your support for this project. The project is still in development so it is too early to have definitive answers to some of your questions, but the team wants to share the following information with you.

The construction access goal is to make use of existing roads. These roads would be graded, widened, and fill would be added as needed to achieve a consistent surface. No gravel or pavement would be applied. Once the project is complete, construction areas would be restored to the pre-construction condition.

The work needed to make a staging area functional for the project would depend on the location and the contractor's staging needs at that given location, both of which are unknown at this time. Best management practices (BMPs) to manage erosion would most likely be implemented and could include, but would not be limited to, the use of wattles or silt fences. As with the access roads, staging areas would be returned to their pre-construction condition.

Sufficient clearance exists for a crane to move under the bridge, providing access to both sides of the bridge. At this time, it is assumed that a temporary structure would be constructed for all equipment to cross the river. There may be other options for setting the girders as well, but this would not be known until a contractor is hired.

The roads shown on the graphic you received are possible alternatives and are not mandatory at this time. If the contractor chooses to use them, an agreement between the property owner and the contractor would be prepared defining responsibilities. If the use of the road or staging area is mandatory (meaning ADOT would define where the

contractor will conduct his operation), ADOT Right-of-Way group would likely negotiate with the property owner(s) to define how the property would be used and terms of compensation.

I hope this helps answer some of your questions. When a contractor is retained, the proposed method of operation and areas that may be used will be more clearly understood. Please let me know if you have additional questions and I will coordinate a response with the study team.

Beth Defend

From: [redacted]
Sent: M
To: Defend, Beth
Subject: [redacted] - Project Virgin River Bridge #1 (STR # 1089)

Dear Beth Defend,

I am writing this letter in response to the letter of July 2, 2015 from Charles Beck on the above mentioned project inviting issues, concerns, and recommendations.

First, may I say, that I am very supportive of this project and willing to help it move forward.

I would like to inform you about how this project will impact me as follows:

1. My wife and I own all of the property where the two proposed southwest staging areas are planned.
2. We also, own the property (Parcel # 402-33-010) for the southwest proposed access road, except for a portion (Parcel 402-33-080) owned by the Government.
3. In addition, we own the property of the final portion of the proposed northeast access road coming down the hill and into the river bed ending at the right-a-way. (Parcel # 402-33-010)
4. Almost all the area in the bottom of the river bed from one side of the bridge to the other is next to the right-of-way and is our property and will undoubtedly be used in the construction or at least passed through. (Parcel # 402-33-010)
5. The two proposed northeast staging areas appear to be on the right-of-way, however on both sides of the freeway our property (Parcel # 402-33-010) is directly adjacent to them and access may be needed through our property. Those staging areas may also overlap into our land.

I want to agree to these these proposed uses. However, If if is possible at this stage of the project development, I would like to know some more details about the impact on my property such as what kind of access roads will be constructed; what kind of construction may be needed to prepare the staging areas to make them usable and environmentally friendly; what are my responsibilities and liabilities; and are there provisions for me to benefit from the improvements and receive compensation?

I have a question about the end of the proposed southwest access road not appearing to go down to the river bed. I had understood there was a need to take a crane to the riverbed on the southeast side of the bridge. Has that been determined to not be needed as it is not shown on the map? If it is not an oversight, then how will the crane get down to the river? Is it possible that it can move under the bridge from the northeast side?

I hope this will be of assistance to you. I look forward to learning more about the things I have asked about.

Sincerely yours,

[redacted]

[redacted]

[redacted]

[redacted]

[redacted] [redacted]

Phoebus, Elizabeth (Betsi)

From: Phoebus, Elizabeth (Betsi)
Sent: Tuesday, July 29, 2014 10:04 AM
To: [redacted]'
Cc: Charles M. Beck; 'George Wallace'
Subject: RE: Philip Reber - 015-A(211)T 015 MO 008 H8760 0111 Virgin River Bridge #1 (STR #1089)

[redacted]

Thank you for your comments below. The study team will consider and respond to all comments when the comment period closes on August 12.

Thanks, Betsi

Betsi Phoebus | Jacobs | Environmental Sciences & Planning Manager, Phoenix | 602.650.4004 | fax 602.253.1202 | elizabeth.phoebus@jacobs.com

---

From: [redacted]
Sent: S
To: Phoebus, Elizabeth (Betsi)
Subject: [redacted] - 015-A(211)T 015 MO 008 H8760 0111 Virgin River Bridge #1 (STR #1089)

ADOT
C/C Betsi Phoebus
Re: 015-A(211)T 015 MO 008 H8760 0111 Virgin River Bridge #1 (STR #1089)

Dear Betsi Phoebus,

I am in receipt of the letter from Charles Beck regarding the above referenced bridge rehabilitation project near Littlefield, AZ.

I don't have any objection to the project as I believe it to be well warranted.

Being the owner of the property on both sides where the bridge rests on the NE side, I would like to have more information on if and how this might impact my property. Could someone contact me about that matter that I might have a better understanding. If possible, I would like to have someone on site to show me what will take place.

I look forward to hearing from you.

Sincerely yours,

[redacted]

[redacted]

[redacted]

Rietz, Jessica

From: Defend, Beth
Sent: Tuesday, October 13, 2015 7:41 PM
To: [redacted]
Cc: Charles M. Beck; George Wallace
Subject: RE: Construction access routes, Virgin River Bridge #1 (STR #1089)

[redacted],

Thank you for your comment on the newly identified access route (new access route) to accommodate construction on the Virgin River Bridge #1 (STR #1089); public input is important to the environmental process. From your email correspondence, we understand that Steijum Property Leasing (SPL) is in the process of obtaining permits for a 5-acre commercial parcel and a 32-acre residential parcel on Anasazi Drive. You have expressed your concern about potential disruption of preliminary site preparation and development activities for these parcels by the Arizona Department of Transportation (ADOT) contractor operating construction vehicles on Anasazi Drive en route to the Virgin River at Bridge 1.

Traffic associated with the construction crew during bridge foundation and substructure work is expected to consist of approximately 30 vehicle trips per day for a period of approximately 6 to 9 months. Once substructure and foundation work is completed, construction-related use of the proposed access roads will be minimal because most of the work will be done from the top side of the bridge. Some construction equipment may be positioned in staging areas and be moved infrequently. Once certain large equipment is in place, most of the construction-related traffic would likely be comparable to the equipment being used at your construction site. ADOT will coordinate with you so that both construction projects may be executed without interference to the other. Due to the minor use of the new access route by construction vehicles, major interference or substantial delays of the Steijum Property Leasing preliminary site preparation and development activities on Anasazi Drive are not anticipated.

Thank you for your patience on receiving this reply.

Beth

Beth Defend
Sr. Environmental Project Manager
Jacobs Engineering Group
101 North First Avenue, Suite 2600
Phoenix, AZ 85003

Direct: 602-650-4005
Cell: 602-752-4009
beth.defend@jacobs.com

From: [redacted]
Sent:
To: Defend, Beth
Subject: Re: Construction access routes, Virgin River Bridge #1 (STR #1089)

Hello Beth,

Don't know why my original E-mail was cut short, but all that was left to be said is that it is imperative that a situation is not created where bridge construction traffic is not co-mingled with our grading and trenching activities. Please advise as to how this can be avoided.

[redacted]

On Wed, Aug 26, 2015 at 9:28 AM, Defend, Beth <Beth.Defend@jacobs.com> wrote:

[redacted],

Thank you for your comments on the proposed Virgin River Bridge #1 construction access routes. I will be coordinating with the team regarding your concerns. It appears, however, that your message was sent before you had finished your thoughts so you may consider sending the completed message again. Thanks.

Beth

From: [redacted]
Sent: T
To: Defend, Beth
Subject: Construction access routes, Virgin River Bridge #1 (STR #1089)

I am the Engineer for various Steijum Property Leasing projects in the Desert Springs/Beaver Dam, AZ, area and have reviewed your proposed construction plan for the rehabilitation of the Virgin River Bridge #1 in this area. While the project's site, construction scope and schedule pose no particular problem to Steijum's interests in this area, there is one aspect which is of serious concern, namely the temporary construction access routes which are proposed for the construction site.

As shown on your Site Study Map there are two construction access routes identified; Route 1, the Fleet St/Anderson Lane route (shown on the Study Map as the previously identified proposed access route) and Route 2, the Anasazi Drive route (shown on the Study Map as the newly identified proposed access route).

Steijum Property Leasing is in the process of obtaining permits for various subdivision and utility projects along Fleet St. and while both access routes will pose a hindrance to their activities, Route 2, along Anasazi Drive, will have a serious impact on their construction plans.
Proposed construction traffic along this route will pass through a five acre commercial parcel

and a 32 acre residential parcel which will be undergoing preliminary site preparation and development, namely mass grading, underground utility placement and the construction of both a water plant and a sewage treatment plant.

It is imperative that

Phoebus, Elizabeth (Betsi)

From: Phoebus, Elizabeth (Betsi)
Sent: Tuesday, August 12, 2014 12:16 PM
To: [redacted]'
Cc: [redacted] 'Charles M. Beck'; 'George Wallace'
Subject: RE: 015-A(211)T, 015-MO 008 H8760 01L, Virgin River Bridge #1 (STR#1089)

[redacted]...

Thank you for your questions below. The comment period closes today and over the next several weeks the study team will consider and respond to all comments and questions.

Thanks, Betsi

Betsi Phoebus | Jacobs | Environmental Sciences & Planning Manager, Phoenix | 602.650.4004 | fax 602.253.1202 | elizabeth.phoebus@jacobs.com

Our office has moved, please note new address below:

101 North 1st Avenue, ***Suite 2600***
Phoenix, Arizona 85003

From: [redacted]
Sent: T
To: Phoebus, Elizabeth (Betsi)
Cc: [redacted]
Subject: [redacted] rgin River Bridge #1 (STR#1089)

My name is [redacted].

My question is regarding the Proposed access road from the Old US Hwy 91 around the Littlefield Cemetery, along the hill to the bridge.

I cannot determine where the road runs nor did I see the extent of the road improvements that moves to the bridge from US 91.
What will be the impact, good or bad, for the Littlefield Cemetery?

Also, at some point, it appears, the road will have to drop of hill to go under the bridge. If that is true what will be the affect and status of the Littlefield irrigation ditch that runs along that hill and under the bridge from the Beaver Dam Creek to the town of Littlefield?

Perhaps a phone call would be more appropriate to discuss my concerns.
My number is [redacted].

Regards,

[redacted]

Phoebus, Elizabeth (Betsi)

From: Phoebus, Elizabeth (Betsi)
Sent: Tuesday, August 12, 2014 4:49 PM
To: [redacted]
Cc: Charles M. Beck; 'George Wallace'
Subject: RE: Virgin River Bridge #1 Project.

[redacted]

Thank you for your comments below. The comment period closes today and over the next several weeks the study team will consider and respond to all comments.

Thanks, Betsi

Betsi Phoebus | Jacobs | Environmental Sciences & Planning Manager, Phoenix | 602.650.4004 | fax 602.253.1202 | elizabeth.phoebus@jacobs.com

Our office has moved, please note new address below:

101 North 1st Avenue, ***Suite 2600***
Phoenix, Arizona 85003

From: [redacted]
Sent: T
To: Phoebus, Elizabeth (Betsi)
Subject: Virgin River Bridge #1 Project.

I am forwarding this on for my father. He thought he had more time to mail it but lucky he checked when he did. Can you reply to confirm receipt to the proper person? Thanks.

[redacted]

Re: 015-A(211)T
015 M0008 H8760 01L
Virgin River Bridge #1 (STR #1089)

To whom it may concern:
I am in receipt of your letter dated 7-10-14 regarding the bridge project referred to above. I would like to express an interest in reviewing this project since much of the access and staging area is situated on my property. Some thought would be as follows:

1. Change of approach to coincide existing or planned roads rather than diagonally through the center of my property.
2. an option to allow the improvements to remain and become part of the property (material and/or structure).
3. First option to bid on any construction materials, scrap of any type, utilities in ground or above, etc.

I anticipate working with you in every way possible to assure a reasonable approach to this project.

Yours Truly, [redacted]

I. UPON REVIEWING THE PROPOSED METHODS TO PROTECT THE ENVIRONMENTAL AREA SPECIFICALY, I FEEL THE METHOD PROPOSED ON THE PROVIDED MAP, SHOULD PREVENT SERIOUS DETERIATION OF THE REPAIR AREA, AND APPEAL TO THE AEPA AND EA.

II. THE DESIGNATED CONSTRUCTION ROAD SHOULD MAKE CONSTRUCTION EQUIPMENT AND MATERIAL ACCESS ADEQUATE FOR REPAIRS, BRIDGES PROTECTING THE RIVER WHICH IS VERY IMPORTANT TO Protect.

III. REGARDING THE TRAVEL OF WIDE LOADS I CAN ONLY MAKE SUGGESTIONS.
#1. USE THE PROJECTED ROAD TO BE USED BY CONSTRUCTION EQUIPMENT, AS THERE DOESNT APPEAR TO BE AN OVER AMOUNT OF WIDE LOADS THAT WOULD CREATE A LARGE PROBLEM.
#2 IN THE PAST I PERSONALLY TRANSPORTED WIDE LOADS OVER UTAH HWY OR US 91 IN THE PAST. USING FLAG CARS FRONT AND REAR
I KNOW THAT THERE ARE WEIGHT RESTRICTIONS AT THE SHIVWITS AREA BRIDGE, AND ALSO THE BEAVER DAM BRIDGE. THESE RESTRICTIONS WOULD HAVE TO BE PASSED ON TO THE TRANSPORTING COMPANIES. CONT.

CONT

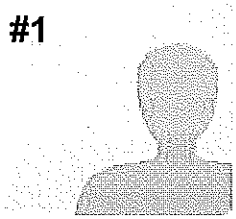
THIS ~~WOULD~~ INCLUDE LOADS 10 FT AND WIDER. SHOULD THE TRASNSPORTING COMPANIES HAVE TO USE THE SAME METHOD TO TRAVEL AS WHEN ROAD REPAIRS WERE BEING MADE AT GLENDALE, NEVADA. THIS WOULD CREATE A LARGE EXPENSE FOR THE HAULERS FOR ~~A~~ LARGE PERIOD OF TIME & TRY TO MAKE USE OF THE CONSTRUCTION ~~LOAD~~ ROAD. THE ABOVE REFERENCE WAS TO THE FLOOD DAMAGE IN NEVADA.

IV. I FEEL THAT UPON COMPLETION OF REPAIRS, THAT THE AREA WILL BE RETURNED TO ITS PRESENT CONDITIONS FOR FURTHER ~~ENVIRO~~ ENVIRONMENT NEEDS AND CONCERNS.

SINCERELY

[redacted]

#1



COMPLETE

Collector: Web Link (Web Link)
Started: Tuesday, October 14, 2014 9:01:00 PM
Last Modified: Tuesday, October 14, 2014 9:08:32 PM
Time Spent: 00:07:31
IP Address: 72.19.37.189

PAGE 1

Q1: Please provide the following information.

Name:

Address:

City/Town:

State:

ZIP:

Email Address:

[redacted]

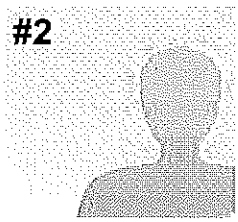
Q2: Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment

Even tho I live in Nevada my husband is in a VA home in Utah. I have to drive either I-15 or hwy 91 depending on how much rain and roads washed out. So would like to say yes in fixing the bridge 1 and keeping hwy 91 fixed from last floods. Traffic is picking up while the gorge is under repair.

I would like to make a suggestion on making monies to pay for road repair on Hwy 15 . You use cameras for speeding in Phoenix so why not in the state park? I drive 60 mph and others pass me all the time. Not trucks so much but cars.

Q3: I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project.

Yes-Please make sure you have entered your email address above.



#2

COMPLETE

Collector: Web Link (Web Link)
Started: Wednesday, October 15, 2014 8:38:08 AM
Last Modified: Wednesday, October 15, 2014 8:41:00 AM
Time Spent: 00:02:52
IP Address: 74.211.38.243

PAGE 1

Q1: Please provide the following information.

Name:

Address:

City/Town:

State:

ZIP:

Email Address:

[redacted]

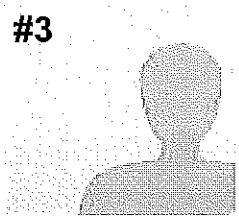
Q2: Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment

This bridge does need to be rehabbed. As long as the process is done responsibly, we fully support the construction. We use this bridge 3 or 4 times a week.

Q3: I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project.

Yes-Please make sure you have entered your email address above.

#3



COMPLETE

Collector: Web Link (Web Link)
Started: Wednesday, October 15, 2014 8:53:19 AM
Last Modified: Wednesday, October 15, 2014 8:55:46 AM
Time Spent: 00:02:27
IP Address: 24.52.23.216

PAGE 1

Q1: **Please provide the following information.**

Name:

Address:

City/Town:

State:

ZIP:

Email Address:

[redacted]

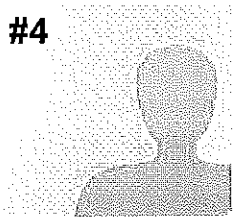
Q2: **Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment**

I am in favor of making needed improvements/repairs to this bridge.

Q3: **I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project.**

Yes-Please make sure you have entered your email address above.

#4



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Started: Wednesday, October 15, 2014 8:57:13 AM
Last Modified: Wednesday, October 15, 2014 9:00:07 AM
Time Spent: 00:02:53
IP Address: 24.52.23.216

PAGE 1

Q1: Please provide the following information.

Name:

Address:

City/Town:

State:

ZIP:

Email Address:

[redacted]

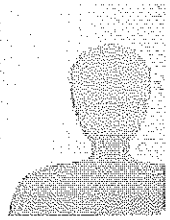
Q2: Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment

We really need this road open. Please keep it safe. We in Nevada appreciate ADOT for their tireless work.

Q3: I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project.

Yes-Please make sure you have entered your email address above.

#5



COMPLETE

Collector: Web Link (Web Link)
Started: Wednesday, October 15, 2014 12:05:13 PM
Last Modified: Wednesday, October 15, 2014 12:09:02 PM
Time Spent: 00:03:49
IP Address: 72.19.34.141

PAGE 1

Q1: Please provide the following information.

Name:

Address:

City/Town:

State:

ZIP:

Email Address:

[redacted]

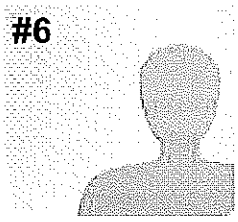
Q2: Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment

I travel to St. George, UT and back regularly. I support the bridge project and don't believe the project will have any environmental impact that is significant enough to cause alternatives to be studied or more taxpayer dollars spent on alternatives to appease a small minority of special interests.

Q3: I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project.

Yes-Please make sure you have entered your email address above.

#6



COMPLETE

Collector: Web Link (Web Link)
Started: Thursday, October 16, 2014 1:40:49 PM
Last Modified: Thursday, October 16, 2014 2:54:08 PM
Time Spent: 01:13:19
IP Address: 72.19.59.190

PAGE 1

Q1: **Please provide the following information.**

Name:

Address:

City/Town:

State:

ZIP:

Email Address:

[redacted]

Q2: Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment

I have no particular qualifications as a commenter other than 27 years as an auditor of state agencies in Oregon, including 23 years as a CPA. However . . .as a current full-time resident in Mesquite, NV, I must consider the various impacts of the proposed bridge #1 rehabilitation in terms of my community as well as the greater affected areas along the full length of the I-15 corridor.

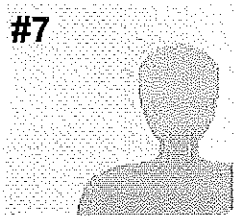
1. Environmental: I can't see where the proposed project will pose any greater harm to the environment than did the original construction of bridge #1. Further, the proposed staging areas appear sufficiently distant from the Virgin River and its immediate area to give adaquate protection to existing creatures that might depend on the river and its banks and abutments.

As to the river, river banks and abutting areas: despite what we might wish - construction, maintenance and rehabilitation of infrastructure (bridges & highways) necessarily will have some impact on the environment. I can see no critical impact other than possibly in the immediate area of the bridge itself - and can think of no other practical means of achieving the necessary bridge rehabilitation.

2. Socio-economic: Mesquite - allowing bridge #1 to further deteriorate can NOT be an option. The economic life of Mesquite relies significantly on the I-15 corridor as a well maintained "transportation facility" to/from St George, Utah. Our only other option is Las Vegas. Granted, more of everything is available in Las Vegas rather than St George - but many of us find the greater distance to Vegas a burden not undertaken lightly (80 versus 36 miles, and back).

Outside Mesquite: I would hope that the importance of rehabilitating bridge #1, as well as future planned I-15 rehabilitation projects in California, Nevada, Arizona and Utah would not need emphasis. For example, look at the huge costs in time and money caused by the temporary interruption of the I-15 corridor when parts of the road bed were washed out this (2014) monsoon season. All surface commerce between those states, and the economic life of many communities along its route and beyond, depends on the I-15 corridor; its critical - substantially irreplaceable. While the issue in question is the environmental impact of the project, I would hope that any adverse environmental impact would be placed in perspective with the human impact of allowing the I-15 corridor to deteriorate.

#7



COMPLETE

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Started: Thursday, October 16, 2014 3:05:29 PM
Last Modified: Thursday, October 16, 2014 3:10:42 PM
Time Spent: 00:05:13
IP Address: 65.130.42.164

PAGE 1

Q1: Please provide the following information.

Name:

Address:

City/Town:

State:

ZIP:

Email Address:

[redacted]

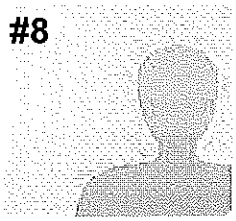
Q2: Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment

I think that 50 years of service by this bridge, is deserving of whatever upgrade's is determined to be appropriate. I use this bridge on a regular basis, and I applaud you for doing this. The inconvenience that the construction will cause will be worth the end result. THANKS!!

Q3: I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project.

Yes-Please make sure you have entered your email address above.

#8



COMPLETE

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Started: Thursday, October 16, 2014 6:07:15 PM
Last Modified: Thursday, October 16, 2014 6:14:23 PM
Time Spent: 00:07:07
IP Address: 65.130.150.209

PAGE 1

Q1: Please provide the following information.

Name:

Address:

City/Town:

State:

ZIP:

Email Address:

[redacted]

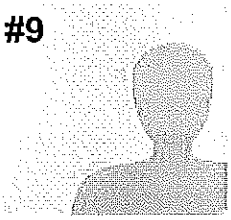
Q2: Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment

I make the trip between St. George and Las Vegas about twice a month. Although I didn't live in Southern Utah before the road through the Virgin River Gorge, I have come to appreciate the hard work and perseverance that made it possible. This is an important link between Southern Utah and the southern half of the country. It is absolutely essential to the flow of people and goods between here and Las Vegas. Therefore, it is important that the bridges be kept in good condition and are able to handle not only today's traffic, but that in the future as well. We appreciate the effort ADOT makes to do the work while allowing the traffic to flow as smoothly as possible. As long as we know there are delays in the gorge so we can plan ahead, we can put up with the construction. We know this is a long and expensive project, but we feel it is important to move forward and to do the best job possible.

Q3: I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project.

No

#9



COMPLETE

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Last Modified: Thursday, October 16, 2014 7:18:11 PM
Time Spent: 00:10:42
IP Address: 208.117.127.118

PAGE 1

Q1: **Please provide the following information.**

Name:

Address:

City/Town:

State:

ZIP:

Email Address:

[redacted]

Q2: **Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment**

We certainly appreciate receiving the mailing that describes the project plan and seeking public input. The project is very much needed and appears to have been well thought through. I trust that AZDOT will minimize the disruption to through traffic.

Q3: **I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project.**

Yes-Please make sure you have entered your email address above.

#10

COMPLETE

Collector: Web Link (Web Link)
Started: Thursday, October 16, 2014 8:29:23 PM
Last Modified: Thursday, October 16, 2014 8:39:26 PM
Time Spent: 00:10:03
IP Address: 24.49.139.213

PAGE 1

Q1: Please provide the following information.

Name:

Address:

City/Town:

State:

ZIP:

Email Address:

[redacted]

Q2: Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment

Thank you for the opportunity to provide my opinion about Virgin River Bridge # 1. I am surprised to learn that the bridge is 50 years old, and am grateful for the maintenance that has kept it in service this long.

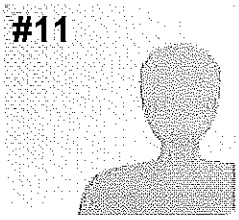
With the recent washouts that occurred farther south on I-15, and seeing the resulting delays as traffic was rerouted, I recognize the importance of the I-15 corridor. I have experience with the trucking industry and know how much traffic travels I-15 through our area. It is critical that we maintain adequate roads to allow commercial vehicles through our communities.

I have read about the planned project for bridge improvement and agree with all steps as described. My only hope is that this bridge, and other bridges and roads along the I-15 corridor, will be constructed to allow for continued growth through the next 50 years. If the bridge is intended to handle four lanes of traffic, build it to allow for future growth to six lanes. We don't want to have to re-do projects because not enough foresight was taken at the beginning.

Build it right the first time. Thank you!

Q3: I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project.

Yes-Please make sure you have entered your email address above.



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Last Modified: Friday, October 17, 2014 10:43:40 AM
Time Spent: 00:01:47
IP Address: 72.19.57.13

PAGE 1

Q1: **Please provide the following information.**

Name:

Address:

City/Town:

State:

ZIP:

Email Address:

[redacted]

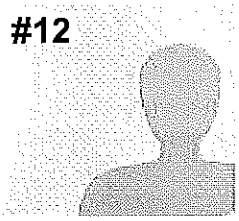
Q2: **Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment**

As a citizen, voter, taxpayer and resident of Littlefield, AZ it is my opinion that the Virgin River Bridge #1 Rehabilitation Project should proceed without delay. I object to the expenditure of funds and resources on unnecessary, costly and time delaying "Environmental Assessments" required by rules and regulations that pander to intolerant environmental groups. Such "assessments" and do not serve the majority of citizens and result in projects costing far more than necessary. Using accepted engineering and construction methods this project should be rapidly completed.

Q3: **I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project.**

Yes-Please make sure you have entered your email address above.

#12



COMPLETE

Collector: Web Link (Web Link)
Started: Friday, October 17, 2014 11:53:39 AM
Last Modified: Friday, October 17, 2014 11:57:04 AM
Time Spent: 00:03:25
IP Address: 74.211.9.206

PAGE 1

Q1: Please provide the following information.

Name:

Address:

City/Town:

State:

ZIP:

Email Address:

[redacted]

Q2: Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment

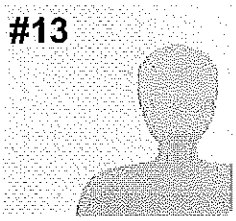
PLEASE, PLEASE, INSTALL SPEED LIMIT SIGNS THOUGHT OUT THE DETOUR.

SO FAR ONLY SPEED LIFIT SIGNS HAVE BEEN POSTED WHEN ENTERING THE WORK AREA. POST IN THE WORKZONE AREA.

Q3: I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project.

Yes-Please make sure you have entered your email address above.

#13



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Started: Friday, October 17, 2014 7:27:49 PM
Last Modified: Friday, October 17, 2014 7:31:15 PM
Time Spent: 00:03:25
IP Address: 24.236.36.118

PAGE 1

Q1: **Please provide the following information.**

Name:

City/Town:

State:

ZIP:

Email Address:

[redacted]

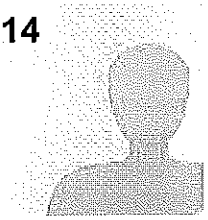
Q2: **Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment**

I understand the necessity, but can you give us commuters a break from I-15 construction for a while?? The project north of Vegas has been going on for a year, and add the Moapa/Glendale/Mesquite flooding repair, and it's been ridiculously non-stop. Just a break for perhaps 6-12 months. thanks

Q3: **I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project.**

Yes-Please make sure you have entered your email address above.

#14



COMPLETE

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Started: Saturday, October 18, 2014 9:10:12 AM
Last Modified: Saturday, October 18, 2014 9:20:57 AM
Time Spent: 00:10:45
IP Address: 24.40.91.194

PAGE 1

Q1: Please provide the following information.

Name:

Address:

City/Town:

State:

ZIP:

Email Address:

[redacted]

Q2: Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment

The section of road from Mesquite to St George is a very vital and busy section of I15. Prior to the rehabilitation of the canyon section of the road it was a dangerous section of highway. The surface was difficult to drive on in a car, not so bad in trucks, etc. Also many of the guard rails were questionable for safety reasons. This has been corrected and the road is now a safe and pleasurable section of I15 to drive. Having said that Bridge #1 is no less critical to this section of I15 and it would be a huge mistake to allow this to deteriorate to the point that the weight had to be limited or other issues. Secondly there are no good alternate routes is something would happen to disrupt this corridor. If engineering has determined that this is needed to maintain the quality and safety of the road then it would seem critical that it be address before it becomes a major issue.

Regards,
Rich Fullmer

Q3: I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project.

Yes-Please make sure you have entered your email address above.

#15

COMPLETE

Collector: Web Link (Web Link)
Started: Saturday, October 18, 2014 10:39:05 AM
Last Modified: Saturday, October 18, 2014 10:46:26 AM
Time Spent: 00:07:21
IP Address: 192.64.22.43

PAGE 1

Q1: **Please provide the following information.**

Name:

Address:

City/Town:

State:

ZIP:

Email Address:

[redacted]

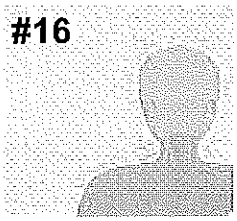
Q2: Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment

I support your rehabilitation of I-15 Bridge 1. I would propose that you look at studies done on rectangle vs round bridge piers. A California study found that Round piers withstood earthquakes better.

Thanks
H. H. Berry

Q3: I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project.

Yes-Please make sure you have entered your email address above.



#16

COMPLETE

Collector: Web Link (Web Link)
Started: Saturday, October 18, 2014 5:09:35 PM
Last Modified: Saturday, October 18, 2014 5:14:32 PM
Time Spent: 00:04:56
IP Address: 162.220.240.10

PAGE 1

Q1: Please provide the following information.

Name:

Address:

City/Town:

State:

ZIP:

Email Address:

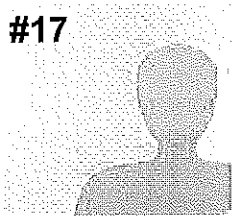
[redacted]

Q2: Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment

As an ER physician at Mesa View Hospital in Mesquite, NV we are frequently in need of emergency transfers to Saint George to treat heart attacks, stroke, trauma victims, etc. These transfers are most safely done via ground ambulance through the I-15 Virgin River gorge. There have already been frequent delays due to ongoing construction of this part of the freeway. I would strongly urge that construction on the bridge rehabilitation be done to minimize congestion and delays, especially northbound.

Q3: I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project.

No



#17

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Started: Sunday, October 19, 2014 3:26:20 PM
Last Modified: Sunday, October 19, 2014 3:35:12 PM
Time Spent: 00:08:51
IP Address: 74.211.11.250

PAGE 1

Q1: Please provide the following information.

Name:

Address:

City/Town:

State:

ZIP:

Email Address:

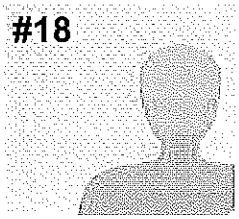
[redacted]

Q2: Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment

Yes, a Nevada mailing address, but an Arizona physical address in Littlefield, AZ.
My only comment is about your definition of building temporary pads below the bridge for construction equipment. Why do you wish to spend good money (that is harder to find) for a temporary base when this "temporary" site could be used later for future maintenance projects. Thank you.

Q3: I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project.

Yes-Please make sure you have entered your email address above.



#18

COMPLETE

Collector: Web Link (Web Link)
Started: Monday, October 20, 2014 5:58:33 AM
Last Modified: Monday, October 20, 2014 6:08:05 AM
Time Spent: 00:09:32
IP Address: 74.211.4.230

PAGE 1

Q1: Please provide the following information.

Name:

Address:

City/Town:

State:

ZIP:

Email Address:

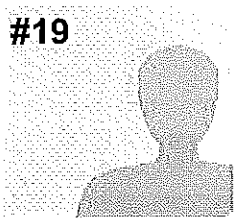
[redacted]

Q2: Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment

Gentlemen:
From numerous reports, bridges across the country are in need of rehabilitation, which apparently includes the Virgin River Gorge bridges. These bridges are need to be upgraded to support the traffic they incur and I feel that the work should progress in an expeditious manner with the least amount of traffic disruption as economically and as reasonably possible.
Thank you,
Franz Reisch

Q3: I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project.

Yes-Please make sure you have entered your email address above.



#19

COMPLETE

Collector: Web Link (Web Link)
Started: Tuesday, October 21, 2014 6:12:09 AM
Last Modified: Tuesday, October 21, 2014 6:18:30 AM
Time Spent: 00:06:21
IP Address: 65.130.188.115

PAGE 1

Q1: Please provide the following information.

Name:

Address:

City/Town:

State:

ZIP:

Email Address:

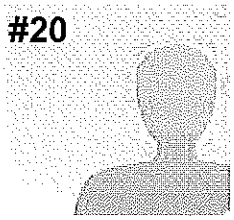
[redacted]

Q2: Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment

Go ahead and do what's needed to fix the bridge and make it safe. You people do great work, just keep spending our money wisely and watch out for the critters without making such a big fuss over them - Thanks, keep up the good work you all do!!!

Q3: I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project.

No



#20

COMPLETE

Collector: Web Link (Web Link)
Started: Tuesday, October 21, 2014 2:18:04 PM
Last Modified: Tuesday, October 21, 2014 2:21:35 PM
Time Spent: 00:03:30
IP Address: 24.49.132.178

PAGE 1

Q1: Please provide the following information.

Name:

Address:

City/Town:

State:

ZIP:

Email Address:

[redacted]

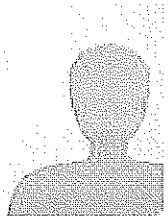
Q2: Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment

I fear the environmental impact that would ensue if the bridge were to be left alone to fail unexpectedly at a time when no planning could have been done to prepare.

Therefore I am in favor of the project even in the face of environmental impact.

Q3: I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project. No

#22



COMPLETE

Collector: Web Link (Web Link)
Started: Wednesday, October 22, 2014 7:32:54 AM
Last Modified: Wednesday, October 22, 2014 7:42:43 AM
Time Spent: 00:09:48
IP Address: 74.211.39.175

PAGE 1

Q1: Please provide the following information.

Name:

Address:

City/Town:

State:

ZIP:

Email Address:

[redacted]

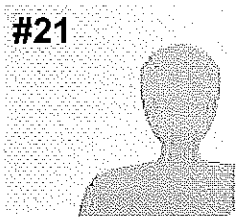
Q2: Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment

Highway I-15 is a vital link between a number of states. The rehabilitation of bridge #1 would certainly seem tobe necessary and prudent at this time. Go for it!

Q3: I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project.

No

#21



COMPLETE

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Started: Wednesday, October 22, 2014 7:40:13 AM
Last Modified: Wednesday, October 22, 2014 7:40:56 AM
Time Spent: 00:00:42
IP Address: 207.108.165.226

PAGE 1

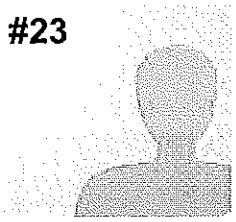
Q1: Please provide the following information.	*Respondent skipped this question*

Q2: Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment

Please preserve and avoid all impacts to Little Jamaica before, during and after construction!

Q3: I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project.	No

#23



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Collector: Web Link (Web Link)
Started: Wednesday, October 22, 2014 9:47:42 AM
Last Modified: Wednesday, October 22, 2014 9:51:00 AM
Time Spent: 00:03:18
IP Address: 75.220.41.103

PAGE 1

Q1: Please provide the following information.

Name:

Address:

City/Town:

State:

ZIP:

Email Address:

[redacted]

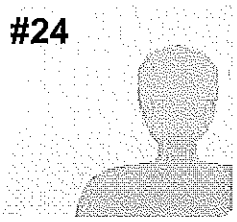
Q2: Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment

Please consider waiting for all Virgin River gorge repairs to be completed before beginning this project. Travelers have been dealing with I-15 delays from St. George to Las Vegas for over a year now and we could use a break.

Q3: I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project.

No

#24



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Started: Wednesday, October 22, 2014 4:46:02 PM
Last Modified: Wednesday, October 22, 2014 4:59:47 PM
Time Spent: 00:13:44
IP Address: 74.211.39.252

PAGE 1

Q1: Please provide the following information.

Name:

Address:

City/Town:

State:

ZIP:

Email Address:

[redacted]

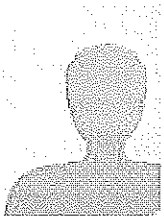
Q2: Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment

I am a road bicyclist and use the bridge at least twice a week. Because of the steep gradient leading to the bridge from both sides, a very narrow two-way roadway, very fast traffic (most drivers ignore the posted speed limit) and the absence of clearly designated bicycle lanes leading to the bridge and on the bridge itself, this is a particularly dangerous area for bicyclists. I strongly urge the AZ Department of Transportation to incorporate bicycle safety into its bridge rehabilitation. Specifically, the addition of designated bicycle lanes on both sides of the roadway leading to the bridge and on the bridge itself, (even) lower posted speed limits within those sections of roadway, increased police presence and speed limit enforcement would make this section of roadway safer for bicyclists.

Q3: I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project.

Yes-Please make sure you have entered your email address above.

#26



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Last Modified: Monday, October 27, 2014 12:56:09 PM
Time Spent: 00:06:41
IP Address: 65.130.43.236

PAGE 1

Q1: Please provide the following information.

Name:

Address:

City/Town:

State:

ZIP:

Email Address:

[redacted]

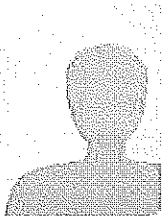
Q2: Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment

Being informed about the proposed scope of construction and it potential impacts, I am in favor of the Virgin River Bridge Rehabilitation Project. It is needed to maintain I-15 as a safe and reliable route for interstate travel and to assure a safe and reliable route to enable interstate commerce.

Q3: I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project.

Yes-Please make sure you have entered your email address above.

#25



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Started: Sunday, October 26, 2014 9:23:14 AM
Last Modified: Sunday, October 26, 2014 9:40:45 AM
Time Spent: 00:17:31
IP Address: 174.23.154.220

PAGE 1

Q1: **Please provide the following information.**

Name:

Address:

City/Town:

State:

ZIP:

Email Address:

[redacted]

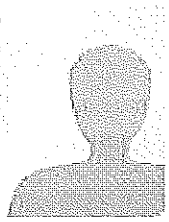
Q2: Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment

Thank you for your work Improving our nations highways. Please consider building new bridges next to the ones already in place. This will allow traffic to flow without lane restrictions often necessary for worker safety. I recently retired from the trucking industry and remembering the stress and worrying to make the deadline of a delivery or pick up was often harder than the driving.

Q3: I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project.

Respondent skipped this question

#27



COMPLETE

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Started: Wednesday, November 05, 2014 5:42:08 AM
Last Modified: Wednesday, November 05, 2014 5:48:51 AM
Time Spent: 00:06:43
IP Address: 173.239.93.174

PAGE 1

Q1: **Please provide the following information.**

Name:

Address:

City/Town:

State:

ZIP:

Email Address:

[redacted]

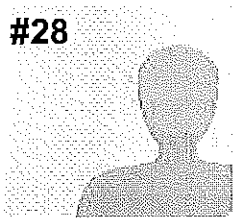
Q2: **Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment**

We rely on irrigation ditches to water fields on both sides of the Virgin River here in Littlefield, Arizona. Both these irrigation ditches pass under Bridge #1. They must always be in working order to provide water for our use. Please maintain working order of these ditches during rehabilitation of Virgin River Bridge #1.

Q3: **I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project.**

Yes-Please make sure you have entered your email address above.

#28



COMPLETE

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Last Modified: Thursday, November 06, 2014 9:35:13 AM
Time Spent: 00:07:20
IP Address: 199.201.101.136

PAGE 1

Q1: Please provide the following information.

Name:

Address:

City/Town:

State:

ZIP:

Email Address:

[redacted]

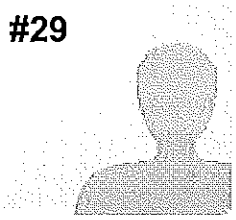
Q2: Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment

The minimum disruption of the waterway, soil, wildlife, water in the area of the bridge should be the most important. A larger bridge is not always the best....make the best of what there is with the least impact on the surrounding area.

Q3: I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project.

Yes-Please make sure you have entered your email address above.

#29



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Last Modified: Thursday, November 06, 2014 2:19:33 PM
Time Spent: 00:13:28
IP Address: 72.19.34.196

PAGE 1

Q1: **Please provide the following information.**

Name:

Address:

City/Town:

State:

ZIP:

Email Address:

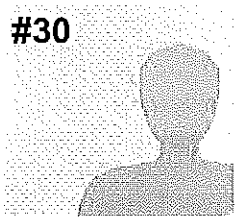
[redacted]

Q2: **Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment**

We use the I-15 2 to 3 times every week for medical appointments. We go from Mesquite to St. George on a regular basis, so any change in traffic has a direct impact on our travel. We have been traveling with the current construction problems and have been pleasantly surprised that it has gone so well. With the months of construction, only twice were we impacted to the point where we had to turn around and cancel our trip. When the construction starts on the bridge, our main concern is that we never know which side of the road will be affected, and for how long. And, in case of an accident, will the road be completely closed down. Naturally any heavy truck traffic can quickly change our drive and I am sure that situation will continue with this construction.
Our main concern is having the information ahead of time so we can plan our travel accordingly. Will there be construction daily, even on weekends?? Daytime only? What are the plans for emergencies or breakdowns in the construction zone? Does an accident stop traffic completely for hours? or will there be an area to pull the accident off the road?
As I said, we go for medical treatment at least twice a week, so we are concerned whenever there is a reason to hamper traffic flow.

Q3: **I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project.**

Yes-Please make sure you have entered your email address above.



#30

COMPLETE

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Last Modified: Monday, November 10, 2014 10:23:43 AM
Time Spent: 00:36:03
IP Address: 70.210.192.62

PAGE 1

Q1: Please provide the following information.

Name:

Address:

City/Town:

State:

ZIP:

Email Address:

[redacted]

Q2: Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment

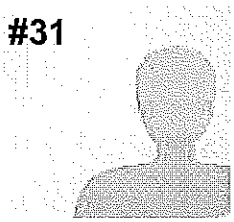
The area below Virgin River Bridge #1 is a local recreation area, generally riparian in nature, providing wildlife habitat, along with pools that have been created and maintained by local individuals who care about the area. Given the location below Bridge #1, I have concerns that not only will the rehabilitation eliminate access to this recreational opportunity during construction, but will destroy the natural, cultural and recreational experiences historically available there. Further, I have grave concerns that these riparian area and wildlife habitat around the bridge as well as the natural springs themselves will be altered and/or destroyed. These pools below the springs which then flow into the Virgin River, do not divert the water from springs, but provide recreational opportunities, especially in the summer when it is 115 degrees. These pools have been formed over many, many years through calcification of sandbags which volunteers have created and maintained. The River below the bridge is a family area. Lots of families in close proximity both in Nevada and Arizona use it, enjoying the River, the pools, hiking and picnicking and the shade provided by the bridge itself. Most visitors pick up after themselves and when they don't, others do to keep the area pristine.

It would be a great loss to residents if Arizona chooses to destroy this natural resource in a remote corner of the state.

Q3: I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project.

Yes-Please make sure you have entered your email address above.

#31



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Started: Friday, November 14, 2014 9:16:31 AM
Last Modified: Friday, November 14, 2014 9:20:53 AM
Time Spent: 00:04:21
IP Address: 174.27.217.247

PAGE 1

Q1: **Please provide the following information.**

Name:

Address:

City/Town:

State:

ZIP:

Email Address:

[redacted]

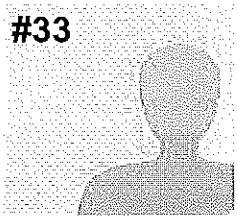
Q2: **Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment**

The new bridge will benefit a lot of travelers. I use I-15 to get to Nevada and California from St. George, Utah. Since the current conditions were built in 1964 and the funds are there, do it. That River Gorge gets used a lot and has been in construction off and on for fours years. Make it a quick process, so us travelers won't be delayed getting to where we want to be.

Q3: **I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project.**

No

#33



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Started: Tuesday, November 25, 2014 11:10:28 AM
Last Modified: Tuesday, November 25, 2014 11:14:35 AM
Time Spent: 00:04:07
IP Address: 74.211.21.212

PAGE 1

Q1: **Please provide the following information.**

Name:

Address:

City/Town:

State:

ZIP:

Email Address:

[redacted]

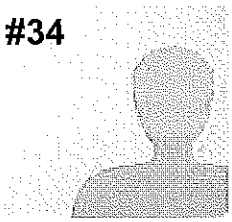
Q2: **Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment**

Suggest construction be limited to the following hours, Mon-Sun:
8pm to 6am

Q3: **I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project.**

Yes-Please make sure you have entered your email address above.

#34



COMPLETE

Collector: Web Link (Web Link)
Started: Wednesday, December 03, 2014 8:31:31 AM
Last Modified: Wednesday, December 03, 2014 8:49:27 AM
Time Spent: 00:17:55
IP Address: 74.211.24.123

PAGE 1

Q1: **Please provide the following information.**

Name:

Address:

City/Town:

State:

ZIP:

Email Address:

[redacted]

Q2: **Please provide your study-related comments by November 28, 2014 for consideration in the Environmental Assessment**

To whom it may concern,

I apologize for submitting this right after the deadline. If I may present some brief comments that could still be considered for analysis I would appreciate it.

I am Staff Engineer at Dixie Power Cooperative. We serve the power to the areas of Littlefield and Beaver Dam in north west Arizona. Dixie Power has overhead and underground power lines in the close vicinity of the bridge proposed for repairs. We have and 12.5kV overhead line paralleling the bridge that spans across the Virgin River. With the assumption that large cranes and equipment will be working in this area, we need to notify you of the safety clearances to the phase conductors. From aerial photography these lines are approximately 160 feet horizontally from the bridge.

Our only other area of concern is the proposed access route would bypass the freeway between the Desert Springs Exit and the Littlefield Exit. This route will take heavy traffic through Desert Springs where our cooperative has a number of overhead distribution power lines. Currently these lines meet National Electric Safety Code for vertical clearances along normally traveled roads. Crossing federal interstate highways normally requires a much higher clearance to high voltage power lines (on the order of 26.5 feet). If this access route becomes a road of required clearances equivalent to an interstate where semi trucks will travel, these over head lines most likely will be required to place taller poles in the line to raise them. If this is the case, ADOT personnel will need to work with Dixie Power to make this happen prior so national code violations are not encountered.

Thank you for your time. Please let me know if additional data is required or an on site meeting would be helpful.

Russell Condie
Dixie Power

Q3: I would like to receive email updates on the Virgin River Bridge #1 Rehabilitation Project.	Yes-Please make sure you have entered your email address above.

VIRGIN RIVER BRIDGE #1 REHABILITATION PROJECT

YOUR INPUT IS IMPORTANT

Submit comments by Friday, Nov. 28, 2014, in order to have them considered in the Draft EA.

Please Print Comments may also be submitted online at **azdot.gov/I-15bridge1**, or by email: **projects@azdot.gov**

Name: _____ Email: _____

Address: _____

City: _____ State: _____ Zip: _____

Comments:

When you plan closure of the Bridge or have extended delays they should be posted before ~~Any~~ travelers ~~they~~ miss the opportunity to go over Utah Hill

[redacted]

Mail: ADOT Communications • 1655 W. Jackson St. • Mail Drop 126F • Phoenix, AZ 85007
Email: projects@azdot.gov • **Phone:** 855.712.8530

14-340

ADOT

U.S. Department of Transportation Federal Highway Administration

FOR MORE INFORMATION:
azdot.gov/I-15bridge1

ADOT PROJECT NO. 015 MO 008 H8760 01L • FEDERAL AID NO. 015-A(211)T

VIRGIN RIVER BRIDGE #1 REHABILITATION PROJECT

YOUR INPUT IS IMPORTANT

Submit comments by Friday, Nov. 28, 2014, in order to have them considered in the Draft EA.

Please Print Comments may also be submitted online at **azdot.gov/I-15bridge1**, or by email: **projects@azdot.gov**

Name: _____ Email: _____

Address: _____

City: _____ State: _____ Zip: _____

Comments: Unfortunately, I no longer drive. But thank you for asking! You are doing a great job soliciting comments! [redacted]

Mail: ADOT Communications • 1655 W. Jackson St. • Mail Drop 126F • Phoenix, AZ 85007
Email: projects@azdot.gov • **Phone:** 855.712.8530

14-340

ADOT

U.S. Department of Transportation Federal Highway Administration

FOR MORE INFORMATION:
azdot.gov/I-15bridge1

ADOT PROJECT NO. 015 MO 008 H8760 01L • FEDERAL AID NO. 015-A(211)T

YOUR INPUT IS IMPORTANT

Si [redacted] rder to have them considered in the Draft EA.

Pleas[redacted] at azdot.gov/I-15bridge1, or by email: projects@azdot.gov

Name[redacted] Email: _____

Addr[redacted] _____

City: _____ State: _____ Zip: _____

Comments: _____

Oct 17 2014

AZ DOT
Virgin River Bridge #1 Rehab Project

Readers;

Your explanation of what will take place during this project is put together well and provides a reasonable about of information for us lay-persons. It is our opinion, after residing in 16 of the States of this great Nation, that too much money is sent to foreign countries at the expense of the GREAT U S A's infrastructure. We personally see "no" adverse affect to the environment here in the Littlefield area, based on the information you have provided. Based on the work recently done by AZ DOT on I-15 in the Gorge it is apparent that you have your "poop" together. The minor interferences in traffic flow during this project may be a little inconvenient for some, but not nearly as inconvenient as it would be, if this bridge collapses. So with all of this said, my wife and I both say "Get Started ASAP" and make sure all workers are safe during this project.

[redacted]

Mail: ADOT Communications • 1655 W. Jackson St. • Mail Drop 126F • Phoenix, AZ 85007
Email: projects@azdot.gov • **Phone:** 855.712.8530

YOUR INPUT IS IMPORTANT

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Please Print Comments may also be submitted online at **azdot.gov/I-15bridge1**, or by email: **projects@azdot.gov**

[redacted]

Comments: IF IT AINT BROKE DONT FIX IT !! WE THE PEOPLE HAVE TO PAY FOR IT AND WE ARE TIRED OF EXCESSIVE SPENDING BEFORE WE HAD ALL THESE ENGINEERS + PLANNERS, BRIDGES LASTED THOUSANDS OF YEARS !!

[redacted]

VIRGIN RIVER BRIDGE #1 REHABILITATION PROJECT

YOUR INPUT IS IMPORTANT

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Please Print Comments may also be submitted online at **azdot.gov/I-15bridge1**, or by email: **projects@azdot.gov**

[redacted]

Comments: Plans for the present are not enough. We must consider future needs now and incorporate those things into the present plans. Think ahead fifty years!

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Email: projects@azdot.gov • **Phone:** 855.712.8530

14-340

ADOT

U.S. Department of Transportation Federal Highway Administration

FOR MORE INFORMATION:
azdot.gov/I-15bridge1

ADOT PROJECT NO. 015 MO 008 H8760 01L • FEDERAL AID NO. 015-A(211)T

VIRGIN RIVER BRIDGE #1 REHABILITATION PROJECT

YOUR INPUT IS IMPORTANT

Submit comments by Friday, Nov. 28, 2014, in order to have them considered in the Draft EA.

Please Print Comments may also be submitted online at **azdot.gov/I-15bridge1**, or by email: **projects@azdot.gov**

[redacted]

Comments: THE ENCLOSED INFO PROVIDED IN THE MAIL OUT WAS VERY SIMPLE AND INFORMATIVE. I AGREE ON THE PLAN AS OUTLINED. I AM SURE THE PROJECT WILL BE DONE SKILLFULLY AND SAFE.

SAFETY IS THE UTMOST IMPORTANCE FOR THE COMMUTERS AND WORK PERSONELL. TO QUOTE AN LONG TIME SAFETY RULE:

NO JOB IS SO IMPORTANT
AND NO SERVICE IS SO URGENT -
THAT WE CANNOT TAKE TIME
TO PERFORM OUR WORK SAFELY.

THANK YOU FOR TAKING THE TIME TO INFORM ME.
GOOD LUCK IN ALL YOUR ENDEAVORS.

[redacted]

Mail: ADOT Communications • 1655 W. Jackson St. • Mail Drop 126F • Phoenix, AZ 85007
Email: projects@azdot.gov • **Phone:** 855.712.8530

14-340

VIRGIN RIVER BRIDGE #1 REHABILITATION PROJECT

YOUR INPUT IS IMPORTANT

Submit comments by Friday, Nov. 28, 2014, in order to have them considered in the Draft EA.

Please Print Comments may also be submitted online at **azdot.gov/I-15bridge1**, or by email: **projects@azdot.gov**

[redacted]

Comments: I believe all roads & bridges in USA should be made safe. It should provide jobs. I believe these projects are (or were) covered with (gas tax revenues) Since we've been paying such high prices for gas at the pumps, I shiver to see where the holdup takes place. Bridge collapsing on Mississippi river into Minneapolis, Minn, Bridges becoming dangerous in Ohio, Penn, and other places in this country. Henderson Ky had a huge sink-hole in 1978 - or 1979, downtown An 18 Wheeler could have been dropped into it! Repairing our roads and bridges should be removed from the inept members of Congress, who can run up bills, but when it comes to paying for them, they'd rather shut down the government!

Since 2001, Congress has been on vacation, except to give themselves twelve pay raises during the first six years of Bush/Cheney administration!

Disgraceful.

[redacted]

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Email: projects@azdot.gov • **Phone:** 855.712.8530

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FOR MORE INFORMATION:
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ADOT PROJECT NO. 015 MO 008 H8760 01L • FEDERAL AID NO. 015-A(211)T

VIRGIN RIVER BRIDGE #1 REHABILITATION PROJECT

YOUR INPUT IS IMPORTANT

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Please Print Comments may also be submitted online at **azdot.gov/I-15bridge1**, or by email: **projects@azdot.gov**

[redacted]

Comments: THE BRIDGE IS 50 YEARS OLD. NEVER HAD REHAB. CRITICAL ROADWAY, REHAB, PLANNING, SAFETY, STRUCTURAL DESIGN IMPROVEMENTS BEATS THE HELL OUT OF A COLLAPSE, ACCIDENT, ETC.

PLANNING TRAFFIC DIVERSION WILL SAVE $$ IN THE LONG RUN. LOOK A UTAH SR 56. AFTER THE MOAPA FLOOD BIG TRUCKS DESTROYED SR 56 BECAUSE OF THE NECESSARY DETOUR.

DO IT RIGHT. DO IT NOW. GET A CONTRACTOR THAT KNOWS BRIDGES, NOT SOME LOW BIDDER ROAD GUY.

THANK YOU FOR PROVIDING THIS INPUT OPPORTUNITY

[redacted]

[redacted]

Mail: ADOT Communications • 1655 W. Jackson St. • Mail Drop 126F • Phoenix, AZ 85007
Email: projects@azdot.gov • **Phone:** 855.712.8530

14-340

ADOT | U.S. Department of Transportation Federal Highway Administration

FOR MORE INFORMATION:
azdot.gov/I-15bridge1

ADOT PROJECT NO. 015 MO 008 H8760 01L • FEDERAL AID NO. 015-A(211)T

VIRGIN RIVER BRIDGE #1 REHABILITATION PROJECT

YOUR INPUT IS IMPORTANT

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Please Print Comments may also be submitted online at **azdot.gov/I-15bridge1**, or by email: **projects@azdot.gov**

[redacted]

Comments:

This bridge is old and needs repair - Not sure all the Enviromental Studies are necessary - To many regulations when safety is necessary for humen traffic movement -

I-15 is very important and the goverment needs to be more responsible in looking at the big picture without getting lost in tiny details that just spend money over all the studies of the desert environment -

What would the cost be without all the Studies?

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Email: projects@azdot.gov • **Phone:** 855.712.8530

14-340

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FOR MORE INFORMATION:
azdot.gov/I-15bridge1

ADOT PROJECT NO. 015 MO 008 H8760 01L • FEDERAL AID NO. 015-A(211)T

VIRGIN RIVER BRIDGE #1 REHABILITATION PROJECT

YOUR INPUT IS IMPORTANT

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Please Print Comments may also be submitted online at **azdot.gov/I-15bridge1**, or by email: **projects@azdot.gov**

[redacted]

Comments:

We would appreciate being on the mailing list for any further announcements.

We would suggest you put information on azdot.gov/I-15 bridge 1 keep it current also travel time both directions North & South.

Thank you

Mail: ADOT Communications • 1655 W. Jackson St. • Mail Drop 126F • Phoenix, AZ 85007
Email: projects@azdot.gov • **Phone:** 855.712.8530

14-340

ADOT

U.S. Department of Transportation Federal Highway Administration

FOR MORE INFORMATION:
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ADOT PROJECT NO. 015 MO 008 H8760 01L • FEDERAL AID NO. 015-A(211)T

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Please Print Comments may also be submitted online at **azdot.gov/I-15bridge1** or by email: **projects@azdot.gov**

[redacted]

Comments: The work you have been doing in the Virgin River Gorge is impressive. I drive the road frequently & the speed limits seem appropriate & the delays are minimal.
Thank you for making the effort to create as little negative impact as possible on traffic.
If you use the same logic & consideration while updating Bridge #1, it would be much appreciated.
Excellent Job!!

[redacted]

Mail: ADOT Communications • 1655 W. Jackson St. • Mail Drop 126F • Phoenix, AZ 85007
Email: projects@azdot.gov • **Phone:** 855.712.8530

14-340

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FOR MORE INFORMATION:
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ADOT PROJECT NO. 015 MO 008 H8760 01L • FEDERAL AID NO. 015-A(211)T

VIRGIN RIVER BRIDGE #1 REHABILITATION PROJECT

YOUR INPUT IS IMPORTANT

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[redacted]

Comments: Goals: (1) Repair Existing structure (2) Design for next 50 yrs (3) Cost effectiveness (4) Motorist & Construction Safety (4) Reduced impact of Interstate Motor carriers (5) Reducked impact on traveling public.

The simplest and most cost effective solution for now and the next fifty years is to build new. Contrators will all tell you that building new is always easier, safer and cost effective and much faster.

My suggestion is: Build a new bridge to the North or South of the existing bridge. This will allow for future expansion for traffic needs for the next 50 yrs. Allow the existing bridge to remain open until the new bridge is completed. After which the Traffic is redirect to the new bridge while the old bridge is refurbished. Once the existing bridge is completed it will reopen to either North or South traffic. Thus you have built for the future, allowed interstate commerce & the public to move with minimal impact to time and safety. Yes the initial out lay is greater now but will be much cheaper in the futur. It goes without saying that future repairs of either bridge will be much easier.

[redacted]

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[redacted]

Comments: The Bridge is Fine & Xcellent
The problem is that you have a problem matching the Road with the Bridge, which in a Truck is Very Ruff & Dangerous

Thank You

[redacted]

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[redacted]

Comments: You Do Great Work in A Tough Environment. Keep up the great work and Thanks for Keeping us Safe And Providing A Wonderful Travel Route.

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[redacted]

Comments: DO NOT WASTE ANY MONEY ON ANY HYDROSEEDING. THE NATIVE VEGETATION WILL TAKE CARE OF ITS SELF. PAINT A LIGHT REFLECTIVE - YELLOW DASHED OR SOLID STRIPE - MID WAY ON CEMENT BARRIER WALL. WILL REDUCE AUTOMOBILE CONTACT RESULTING IN FEWER COLLISIONS, ESPECIALLY AT NIGHT. INSTALL A BLINKING LIGHT WARNING SIGN FOR WARNING TRAFFIC AT EITHER END OF GORGE FOR WHEN A ROAD CLOSURE OR ACCIDENT HAS OCCURED. ITS NOT STATED "NO TURN AROUND" FOR UNFAMILAR TRAFFIC. THIS WOULD HELP FOR HOW MANY MILES LONG THE GORGE IS, AND WOULD KEEP PEOPLE FROM BECOMING TRAPPED. WHEN THE 2013 SNOW STORM HIT THERE WAS A DANGEROUS SITUATION IN THE GORGE.

NOTHING SERIOUS HAS HAPPENED YET DOWN THERE. NOBODY WANTS TO HAVE A MASS CASUALTY OR ENVIROMENTAL DISASTER.

THANK YOU, ADOT

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[redacted]

Comments: THE HIGHWAY SERVES AS A VITAL LINK FOR NORTH/SOUTH FOR BOTH FEDERAL & STATE USE. WITHOUT THE HIGHWAY THE TRAVELING PUBLIC WOULD BE FORCED TO SEEK ALTERNATE ROUTES CAUSING DELAYS & TIME CONSTRAINTS.

IT IS NOT ENVIRONMENTALLY RESTRICTIVE AS THERE IS VERY LIMITED WILD LIFE IN THE AREA (MOUNTAIN GOATS-MOVED)

[redacted]

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[redacted]

Comments: The bridge needs to be repaired. Do it!
The repairs thru the "gorge" were fairly efficient and accomplished w/o too much delay.
So, you ADOT people can do it!!

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[redacted]

Comments: This stretch of AZ from UTAH to NEVADA is Always in excellent condition. We have to Appreciate that As All it seems is the people traveling I-15 - It is a Beautiful Scenic trip from each Border the Canyon is Beautiful.

My opinion is Anything that serves its purpose as detour - Wait & Construction is worth the end Results.

Good Job AZ - if Anyone deserved a toll Road you did.

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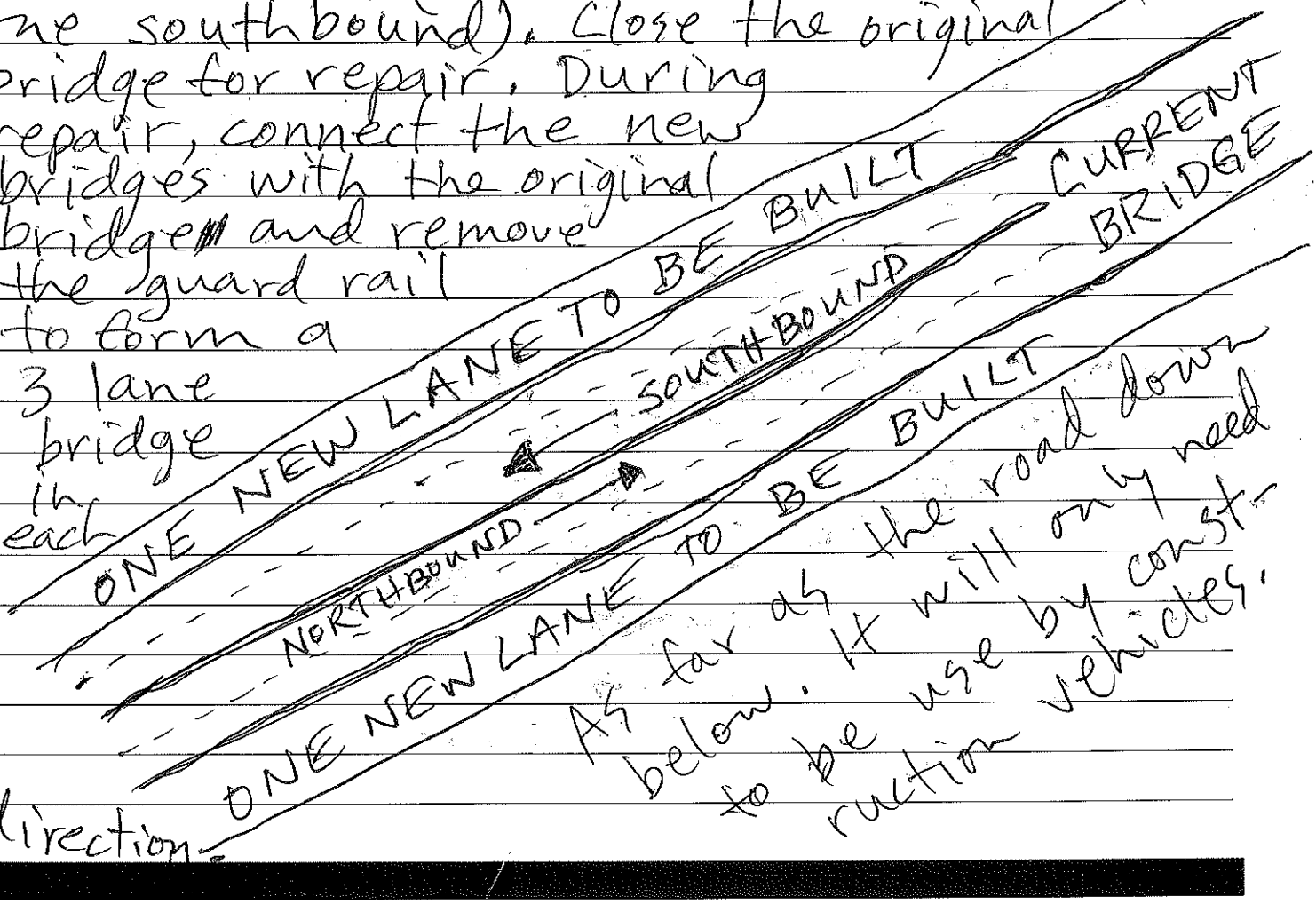
[redacted]

Comments: Build one new lane on each side of the current bridge. After they are completed, divert all traffic to those 2 new lanes (one northbound and one southbound). Close the original bridge for repair. During repair, connect the new bridges with the original bridge and remove the guard rail to form a 3 lane bridge in each direction.



As far as the road down below. It will only need to be use by construction vehicles.

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[redacted]

Comments: I have several suggestions based on travel through the area during past construction projects.

Keep lane closures as short as possible. Place signs very near closure and barriers to start as near as possible. Signs placed far in advance create a racetrack of passing. There is no reason to reduce speeds below 45 mph and only at the construction sight not miles in both directions. Drivers will slow when they can see why and an end to it.

You stated a temporary bridge to be built for cranes + equipment. If it is wide & heavily built for that it would be very easy to just make a 2 lane bridge for traffic and completely by pass the bridge. Then construction could proceed rapidly with no delay or interuption. Oversized & overweight trucks could use the alternate route as they had to after the flood closed I-15 for nearly 2 weeks due to flood damage.

Thank you for considering my input on this and future issues

[redacted]

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[redacted]

Comments:

1. I drive "the Gorge" to visit family at least once per month. I will prefer to use Highway 91 most of the time ever though it requires more time. I did that this past summer several times.

2. Protect the river in every way possible from any contamination from any fuel spills or other vehicle (construction) contamination.

3. If possible keep more frequent updates on the new digital overhead information signs — length of delays would be much appreciated — not just "expect delays"

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[redacted]

Comments: Project should be accomplished as quickly, efficiently and safely as possible. All EPA standards should be of high priority as well as public safety.

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[redacted]

Comments: I was the design Engineer for the port of entry in St. George At UDOT my other position was Design Review Engineer for all Federal Aid projects in the South half of Utah. My comments deal with traffic Control. Over the years (22) that I have lived in St George, I have had a chance to see a lot of Arizona Interstate projects. Your traffic control sucks. You brake all of the federal guide lines. When the signing is placed, this to be designed after a study is done by a traffic Engineer and his reccomendations are consided. I am guess Adot don't use a traffic engineer. You brake all the rules: spacing, step down speed, lane width's in a restricted area, traffic delays (God forbid if an emergency vehicle needs to get thru), handling traffic at the border (St george area) I feel this input will fall on deaf ears like most comments Adot don't like.

[redacted]

[redacted]

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Name: _____ Email: _____

Address: [redacted]

City: _____ State: _____ Zip: _____

Comments: The resurfacing of the Virgin River Gorge Mi. markers 13 TO 29 WAS very well done and really Needed. We KNOW the bridges need attention to repair and if they are done with as little traffic disruption that there was during resurfacing, that will be great. We hope the rumors about making the 29 mile stretch from NEVADA state line AND Utah state line a toll road fee after construction is completed will NOT come to pass. We travel to St. George from Mesquite every SUNDAY to church plus other time during the month to shop. The NEW resurfacing has limited stones being kicked up by trucks and other traffic into my windshields on both cars which had cost me to repair them. NOW there are NO loose gravel or stones to deal with.

THANK YOU.

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[redacted]

Comments: Do it

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[redacted] or by email: projects@azdot.gov

Comments:

Lets do this !

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[redacted]

Comments: I USE I-15 EVERY WEEK AT LEAST TWO TIMES. SO FAR THE CONSTRUCTION IN THE RIVER GORGE AS BEEN AGREEABLE. SLOW GOING IS NOT A PROBLEM AS LONG AS WE CAN KEEP MOVING.

BEAVER DAM BRIDGE IS VITAL SO USE THE GORGE. INCREASING THE AMOUNT OF PEIR SUPPORT SEEMS VITAL TO INCREASED USE BY TRAFFIC AND INCREASED WEIGHT REQUIREMENTS.

WHERE TWO STREAMS COME TOGETHER UNDER THE BRIDGE DURING FLOODING TIMES ATTENTION TO THE EROSIN PROBLEMS OF THE BANKS SHOULD BE INCLUDED IN THE PLANNING STAGE.

THE CONTRACTORS AND ADOT EMPLOYEES HAVE MY THUMBS UP FOR WHAT THEY HAVE DONE SO FAR-

SINCERELY, [redacted]

[redacted]

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[redacted]dot.gov

[redacted]

Comments: Yes, fix the bridge- We can accept delay! When going to St. George, Utah — Glad to see action on the bridge.

[redacted]

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[redacted]

Comments: We use this Bridge often! As we Drive Between St George, Utah and Nevada to Visit Family. I even Raised in Las Vegas and first used this Bridge when I-15 opened in the 1970's.

It is NOT a Deterant to any endangd Species and has Served the Citizens and Environment well.

My only Suggestion would be to widen it as traffic has increased Substantially over the Past 40 years.

We in Southern Utah have an excellent relationship with the government officials of Arizona and appreciate the new Manager, Ken Sizemore, of the Arizona Strip Study AREA. Ken is experienced in building relationships & Progress Between Counties and States.

[redacted]

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[redacted]

Comments: It is important to me, to be able to travel between St. George, Utah and Las Vegas, Nevada. I use the airport in Las Vegas to travel several times a year.

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[redacted]

Comments: BRIDGE SOUNDS GREAT, BUT SURE LIKE TO SEE AN END OF SO MUCH CONSTRUTION ON THIS FREEWAY (15) CANT REMEMBER WHEN THERE WHEN THERE WAS NO CONSTRUTION.

THANK YOU FOR LETTING ME EXPRESS HOW I FEEL

SIN [redacted]

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[redacted]

Comments: I note there are, at least, 2 "environmental" reports REQUIRED for this reconstruction!

I would "love" to know how many millions of dollars and tons of paper are used to adhere to these "requirements"!?

What purpose do these "acts" serve as it appears we are already overloaded with way too many "environmental regulations" already??

I trust someone will respond!!??

[redacted]

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[redacted]azdot.gov

[redacted]

Comments:

It sounds like a very good idea to me. When roads & bridges get old they have to be repaired. I don't travel much but if and when I do, I want to be sure the roads & bridges are safe to travel over.

Good luck in your endeavors.

[redacted]

[redacted]

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[redacted]

Comments: I Suggest investigating:—
ONE HEAVY DUTY SINGLE LANE BRIDGE
EACH SIDE OF THE EXISTING BRIDGE,
THE USE THOSE WHILE REPAIRING THIS
EXISTING BRIDGE To Accomodate MEDIUM
TRUCKS AND AUTOMOBILES; AND CONTAINE
WHEN REPAIRED DIVERT HEAVY TRUCKS
TO THE HEAVY DUTY SINGLE LANE
BRIDGES EA. SIDE.

Respectfully submitted

[redacted]

[redacted]

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[redacted]

Comments:

As you stated - the purpose of the proposed Project is to maintain I-15 as a regional transportation facility, allowing the movement of people, goods and Services through this Vital Corridor.

My thinking is you need to do what needs to be done to Keep I-15 operational to meet the Needs of the traveling public - But in the Ways that will best Consider the enviornment - Potential impacts and the other Concerns + Issues -

I am not Knowledgable enough to be able to suggest alternatives - I still feel the original Construction of I-15 through the Gorge is a Miracle - So do what needs to be done to maintain I-15 -

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[redacted]

Comments: Work should be done as indicated.

Safety should be first, for traffic and workers.

There are lots of old retired folks in this area. They go back and forth to St George in emergency vehicles to the Hospitals, need to get through as fast a possible.

Thank You

[redacted]

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[redacted]

Comments: I am assuming there will often be one lane of traffic. I have noticed several things:

#1 - people cars try to crowd by driving into the bar pit to get ahead of other people & semi's!!! Extremely dangerous!!

#2 - when everyone follows a police officer in these types of areas, the traffic moves much faster & the CRAZY drivers stay in line!!

#3 - alot of angry drivers because of the above!!

Please help!!

Mail: ADOT Communications • 1655 W. Jackson St. • Mail Drop 126F • Phoenix, AZ 85007
Email: projects@azdot.gov • **Phone:** 855.712.8530

VIRGIN RIVER BRIDGE #1 REHABILITATION PROJECT

YOUR INPUT IS IMPORTANT

Submit comments by Friday, Nov. 28, 2014, in order to have them considered in the Draft EA.

Please Print. Comments may also be submitted online at **azdot.gov/I-15bridge1** or by email: **projects@azdot.gov**

[redacted]

Comments:

I think the proposal is acceptable & if needed.

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ADOT PROJECT NO. 015 MO 008 H8760 01L • FEDERAL AID NO. 015-A(211)T

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[redacted]ot.gov

Comments:

The bridge needs to be fixed - Right?
Is is going to be fixed - Right?
Because people have to get from place to place - no other routes -
Stop with all the expensive regulations and environment studies -
The money well is running dry -

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[redacted]

Comments:

I would say that this bridge has served well for 50 years without major renovation. It's time to do it.

Thanks for your service to transportation, esp. in our area of no rail lines. We are totally dependent on I-15 for everything.

[redacted]

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[redacted]

Comments: I have been driving this route for more the 60 years, the construction of the bridges necessary to maintain a direct route is essential to the travel plans of nearly everyone's. The route is already traveled and the flow of traffic must be maintained. This means that delays must be avoided. Traffic delays are an inconvenience, especially when one has to make important trips to Las Vegas & other locations. At least a temporary route immediately in the area of the closure should be constructed.

The plan looks appropriate, but delays in traffic must be avoided.

[redacted]

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[redacted] or by email: projects@azdot.gov

[redacted]

Comments: The Virgin gorge is vital to the whole nation long as well as to the western states. It is vital for good transportation. Repairs will create problems but must be done as a benefit in the long run. I recommend ADOT go ahead with the project

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[redacted]

Comments: Please get this project started and finished ASAP. I go to St. George UT. at least 2 times per month. Using Interstate 15 is faster than using Highway 91. So Please Replace or repair this Important part crossing the Virgin River.

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[redacted]t.gov

Comments: I STRONGLY SUPPORT THIS PROPOSAL AS THIS BRIDGE IS INDISPENSABLE TO SAFE TRAFFIC FLOW ALONG INTERSTATE 15, THERE ARE IMPORTANT MEASURES NEEDED TO REDUCE OR MITIGATE ANY ADVERSE EFFECTS FROM THIS PROJECT, THESE INCLUDE:

1.) TIMING WORK ON I-15 ROADWAY TO MINIMIZE TRAVEL DELAYS DURING WEEKENDS AND HIGH FLOW PERIODS.

2.) TIMING FLOODPLAIN WORK TO AVOID SPRING NESTING SEASON OF WESTERN YELLOW BILLED CUCKOO AND OTHER SPECIAL STATUS RIPARIAN BIRD SPECIES.

3.) USING BEST MANAGEMENT PRACTICES TO AVOID HARMFUL EROSION AND RUN-OFF INTO THE VIRGIN RIVER.

4.) MINIMIZING GROUND DISTURBANCE OFF THE ROADWAY AND IN THE FLOODPLAIN.

5.) ERADICATING NOXIOUS AND INVASIVE WEEDS THAT MAY OCCUR FROM GROUND DISTURBANCE.

6.) ERECTING PROTECTIVE FENCING TO PREVENT HARM TO ESA LISTED DESERT TORTOISES.

PLEASE NOTIFY ME WHEN THE DRAFT EA IS AVAILABLE ON-LINE FOR PUBLIC REVIEW AND COMMENT.

THANK YOU VERY MUCH FOR CONSIDERING MY COMMENTS.

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[redacted]

Comments: Our family members from Utah, Nevada, Arizona use I-15 frequently, also family from Florida, Maryland, and Iowa use that busy route when coming from and going to McCarron Airport many times yearly.

The use of our family on I-15 is typical of many Utah residents.

Thanks for keeping that roadway in good condition.

[redacted]

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[redacted]

Comments: Review of the project looks excellent to me.

The environment assessment should be approved.

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[redacted]

Subject: Flash flood problem.

Comments: I thought the "Workers" did an excellent job; Traffic Control, Communication was very good! With Mesquite locals. Very much appreciated- the Highway was done in rapid pace. The "Water drains" needed to be fixed. I realize they put "Tar" on side of ditches to help run of water- And to use Big drainage tubes.-??-

I realize this was done "quickly" to assist all the problems.-

This was very much appreciated.

Thank You all!

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[redacted]

Comments: Do what you must do. Go for federal grant etc. People can only be taxed so much. Bad economy to ask for tax increase. Use money from assessment and just do the d-- bridge. Assessment means you really don't need to do it. It is obvious I-15 has to be protected. Lets not find other agencies to spend money proving the obvious. I know it isn't the governments way but hopefully their are people inside who can be efficient in getting the job done. Have good engineers for this type of job. Not the cheapest.

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[redacted] or by email: project@azdot.gov

Comments: If your engineers, after careful study, deem it important to proceed with the rehabilitation of the bridge as best meets the need. I-5 is a crucial thoroughfare and will continue to be.

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[redacted]

Comments: Let's fix it before it crumbles. Let's NOT use it as a speed trap for locals. Let's NOT have lane closure nights & holidays when work & workers are NOT present or in progress. Do close lanes when needed. Do keep everyone safe while work is in progress. Do NOT DRAG This out for months on end like the last project in this stretch of I-15 & like the current speed limit of 45 mph thru the gorge while NO ONE is working, work done is NOT needing days, weeks on end to cure or dry.

I am a retired certified flagger so safety is paramount! Let's DO fix this.

[redacted]

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[redacted]t.gov

[redacted]

Comments: I am all in favor of the proposed project. 50 years is a long time for a bridge that is used as much as this one is.

My wife commutes to work almost daily. I always remember the collapse of the St. Paul, Mn. bridge. Occasionally / or frequently, traffic back-ups from another "Gorge" ~~disaster~~ disaster could cause bumper to bumper traffic. In turn this could cause the bridge to fail.

Enviromentally speaking; I am sure there is some exotic species here. That is because it (the bridge over the water in the desert) is a very unique habitat. The Federal Govt. is 17 Trillion in debt. They no longer have the means to control our borders. How can they fund the count of life which may inhabit this small niche! Waive the EA. save some money & time and get on with it so we can avoid another diaster. OTHERWISE sign me up for euphanasia!

Enough is enough! there isn't anymore!

P.S. According to Nat. Geo. polar ice caps have melted 70 Times.

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