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Arizona Department of Transportation

Environmental Planning Group

**Documentation of Old US 80
and Associated Features at Gillespie
Dam Bridge, South of Arlington,
Maricopa County, Arizona for
Documentation of Its Information
Potential Associated with the Historic
State Highway System**

**Maricopa County Department of Transportation No.
TT188 (Agenda No. C-64-05-050-5-00)
Federal Aid Project No. BR-MMA-0(202)A
TRACS No. 080 MA SB428 01C**

**July 28, 2011
Submittal Number 1**

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Route: Old US 80

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ACS Internal Report No. 11-120-CSUR
ASM Accession No. 2011-0338**

July 28, 2011

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SHPO STANDARDIZED REPORT ABSTRACT

REPORT TITLE: Documentation of Old US 80 and Associated Features at Gillespie Dam Bridge, South of Arlington, Maricopa County, Arizona for Documentation of Its Information Potential Associated with the Historic State Highway System.

DATE OF REPORT: July 28, 2011

ADOT PROJECT NAME: Old US 80 Bridge Rehabilitation Project

ADOT TRACS NO.: 080 MA SB428 01C

ADOT PROJECT NO.: BR-MMA-0(202)A

AGENCIES/TRIBES: MCDOT, ADOT

LAND OWNERSHIP: MCDOT

PROJECT FUNDING: Federal Highway Administration

REGULATORY CONTEXT: Section 106

PERMIT NUMBER: ASM Accession No. 2011-0338 under permit No. 2011-025bl issued to ACS

PROJECT DESCRIPTION: The Maricopa County Department of Transportation (MCDOT) is planning to rehabilitate the existing Gillespie Dam Bridge for improved traffic safety and to extend the life of the historic bridge. Gillespie Dam Bridge is located south of Arlington along the former route of Old US 80, a historic highway. Proposed improvements may also impact the in-use alignment of Old US 80 on both sides of the bridge. Therefore, at the request of Mr. Hugh Davidson of MCDOT, per request of the ADOT EPG (T. Andersen, ADOT EPG, letter to MCDOT, March 11, 2011), ACS documented the information potential of the in-use segment of Old US 80 at Gillespie Dam Bridge and its associated road features that might be impacted by the proposed improvements to the bridge and its approaches. The bridge itself was recently the subject of HAER documentation (Fraser 2006) and no additional research was required for it.

LOCATION: The project area is located in portions of Section 28 of Township 2 South, Range 5 West (G&SBM) as shown on the USGS 7.5' Spring Mountain, Ariz. topographic quadrangle, South of Arlington, Maricopa County, Arizona

SURVEYED ACRES: 5.51 acres of MCDOT right-of-way

METHODOLOGY: Documentation of historic road segments and features

NUMBER OF SITES: 1 (previously recorded)

ELIGIBLE SITES: AZ FF:9:17(ASM) / Old US 80

COMMENTS: Since 1956, this portion of historic highway has been maintained by MCDOT and is now designated "Old US 80." The focus of the MCDOT project is rehabilitation of Gillespie Dam Bridge; other components may include resurfacing the in-use alignment of Old US 80 (Road Segment 3) on both sides of the bridge and maintenance of existing road features; no new road alignments or features are planned. According to the *Interim Procedures for the Treatment*

of Historic Roads (November 15, 2002), as approved by the Federal Highway Administration (FHWA), ADOT, and Arizona State Historic Preservation Office (SHPO), the Arizona Historic State Highway System (HSHS) is the network of roadways developed between 1912 and 1955 and whose remnants are preserved as in-use roadways and abandoned segments of roadway; interstates and bridges are not included. As a significant contributor to the HSHS, Old US 80 has been determined to be eligible under Criterion A for its national and local significance and Criterion D for its potential to yield important information about the early development of Arizona's highways (AZSITE Record No. 7437).

Although the overall MCDOT project focuses on the bridge, ancillary impacts are expected for the Old US 80 roadway approaches to it, such as resurfacing, new signage, and new roadway markings. However, the project will not impact the design or location of the road itself. Furthermore, this documented portion of Old US 80 will retain integrity of setting and feeling because the bridge will be rehabilitated, not replaced, and therefore expected project impacts to the historic road will be minimal, primarily confined to routine maintenance activities. This report sufficiently documents the information potential of Old US 80 and its associated road segments and features within the project area as a part of the HSHS and as a mitigation measure for the road to complete the Section 106 process. Therefore, ACS recommends that a finding of "No Adverse Effect" is appropriate for the historic highway; no additional documentation is necessary.

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Introduction

The Maricopa County Department of Transportation (MCDOT) is planning to rehabilitate the existing Gillespie Dam Bridge for improved traffic safety and to extend the life of the historic bridge. Gillespie Dam Bridge is located south of Arlington along the former route of Old US 80. The bridge was constructed in 1927 as part of Old US 80. When constructed, it represented the largest bridge project undertaken by the Arizona State Highway Department with an overall length of 1,701 ft. The bridge also functioned as an essential component of Old US 80 that stretched from San Diego, California to Savannah, Georgia (Arizona Highway Department 1926; Weingroff 2004). In 1980, the bridge was listed on the National Register for its local and national significance under Criteria A and C (Fraser 2006).

In 2006, at the request of Mr. Brian Kenny, formerly of MCDOT, Archaeological Consulting Services, Ltd. (ACS) conducted an intensive Class III cultural resources survey of a large block area around the bridge to provide an inventory and assessment of cultural resources that might be affected by the proposed undertaking, which documented 13 sites and 14 isolated occurrences, including discontinuous segments and features associated with Old US 80 (AZ FF:9:17[ASM]) (Jones et al. 2006). ACS also included, at the request of MCDOT, a detailed culture history overview of the project area in order to provide a proper context for understanding the significance of the cultural resources, with a focus on historic transportation and irrigation, and contracted with FRASERdesign of Loveland, Colorado, to prepare a Historic American Engineering Record (HAER) of the bridge (Fraser 2006).

According to the *Interim Procedures for the Treatment of Historic Roads* (November 15, 2002), as approved by the Federal Highway Administration (FHWA), Arizona Department of Transportation (ADOT), and Arizona State Historic Preservation Office (SHPO), the Historic State Highway System (HSHS) "...is the network of roadways developed between 1912 and 1955 whose remnants are preserved as in-use roadways and abandoned segments of roadway (2002:1)." Old US 80 has been determined to be eligible for inclusion on the National Register under Criterion A in the context of Arizona HSHS (1912–1939) and Federal Aid Projects (1917–1933), and its importance to the settlement and development of Arizona and local communities along its route. As a part of the HSHS, Old US 80 has also been determined eligible under Criterion D for its potential to yield important information about the early development of Arizona's highways (AZSITE Record No. 7437).

Because of the historic road's eligibility determination, ADOT, as the lead agency identified by the FHWA and SHPO to ensure Section 106 compliance (the project is receiving federal funding from FHWA via ADOT), has determined that documentation and reporting following the 2002 Interim Procedures noted above would be required of MCDOT as the approved mitigation measure for the historic highway, specifically Road Segment 3 and its features (T. Andersen, ADOT EPG, letter to MCDOT, March 11, 2011).

Therefore, at the request of Mr. Hugh Davidson of MCDOT, ACS documented the information potential of the in-use segment of Old US 80 at Gillespie Dam Bridge (Road Segment 3) and associated road features that might be impacted by the proposed improvements to the road. Specific tasks included:

- Field documentation of Road Segment 3 and all associated features and plotting their locations with a sub-meter accuracy GPS unit in the area of potential effects (APE);
- Photo-documentation of all road segments and features within the project APE. As required in the HSHS guidelines, black-and-white film was used to document the historic resources, with supplemental photographs taken using a digital camera for the report; and
- Prepare a supplemental mitigation documentation report in the 2002 Interim Procedures style, including an Old US 80 contextual history.

On July 13, ACS historical archaeologist/historian Thomas Jones conducted fieldwork at the project APE, recording all roads and road features within the APE to the specifications noted in the 2002 Interim

Procedures, including taking black-and-white photographs. As a result of the mitigation work, ACS documented six road features, two of which were previously documented by ACS (Feature 1, Gillespie Dam Bridge and Feature 2, guardrail), one road cut, and one previously recorded abandoned road segment (Road Segment 2). Because MCDOT previously completed HAER documentation for the bridge, it is not considered further here except as context for the historic road. Some of these features may be modern, as discussed below.

Project Area

The current project area is located in portions of Section 28 of Township 2 South, Range 5 West (G&SBM) and consists of MCDOT right-of-way along the in-use alignment of Old US 80, which is a 100-ft-wide corridor. The total length of the roadway that may be impacted and is the subject of this mitigation effort is approximately 2,550 ft, including the length of the bridge; this comprises the APE for the project (Figure 1 and Figure 2). The historic highway approaches to the bridge within the APE are approximately 827 ft in total length on each side of the bridge (387 ft at the west end and 440 ft at the east end). In total, ACS examined 5.51 acres.

Historical Context for Old US 80

Development of a transportation system in Territorial Arizona was initiated by military exploratory expeditions following the Mexican War. The federal government funded these explorations to record the geography of the newly acquired California and New Mexico territories for a railroad to California. Routes through Arizona included the Sitgreaves (1851), Whipple (1853), and Beale (1857) expeditions along the 35th Parallel (Farish 1915). In southern Arizona, Lt. Colonel Philip St. George Cooke and the Mormon Battalion were assigned by Colonel Kearny to construct a passable wagon road through New Mexico to California. Cooke's wagon road diverged south from the Gila River to the San Pedro River before continuing northwest to Tucson. From Tucson, the wagon road followed the Santa Cruz River to the Gila confluence; from the confluence, the road closely followed the Gila River to Fort Yuma and into California. This route, dubbed the Mormon Battalion route, was later known as the Southern Emigrant route, and was utilized by the San Antonio to San Diego Mail Line organized by James Birch and the Butterfield Overland Mail Company in 1857. In the twentieth century, portions of this historic trail were incorporated into US 80 (Trimble 1990).

Most other early roads, however, developed out of the necessity for homesteaders, prospectors, and travelers to travel to and from existing communities and settlements. In many cases, these wagon roads were not graded or maintained, but were a result of consistent usage. The 1882 cadastral survey plat for Township 2 South, Range 5 West plotted a small network of wagon roads on the west side of the Gila River, with one crossing the river in Section 9 (approximately three miles north of the current project area). One of these roads extended southerly through Sections 16, 21, 28, and 33.

Phoenix-Yuma Highway: 1909–1922

By 1909, it became clear that an improved network of roads was necessary, especially as the emerging automobile market increasingly impacted the state's economy and the lifestyle of Arizona residents. The following clipping from the December 9, 1907 *Phoenix Gazette* (as reproduced in *Arizona Highways*) illustrates conditions near Buckeye at the turn of the century (Arizona Highways 1927:10):

“Dr. J.M. Swetman and a chauffeur from the Southwestern Auto Company with a four-cylinder Ford machine did a road stunt yesterday that will probably hold the mark for a while, going to Buckeye in two hours and fifteen minutes, a distance of thirty-five miles. This would not be much of a track record, but it is doing pretty well for a country road, catch-as-catch-can....”

The Territorial Engineer was created in 1909 to develop a system of roads through the Arizona Territory. By 1912, the renamed State Engineer had surveyed and begun construction of two major highway alignments through the state: a north-south route from Douglas to the Grand Canyon and an east-west route from Clifton to Yuma (Arizona State Engineer 1914; Arizona State Highway Department 1939). Additional highways were drawn in 1912 to connect all county seats in the state. At least seven bridges over 60 ft were in varying states of construction across the state in 1912. Among these were the 1,500-ft-long concrete arch bridge over the Salt River in Tempe, the 700-ft-long concrete girder bridge over the Gila River at Florence, and the 300-ft-long steel truss bridge over the Verde River at Camp Verde. A number of smaller concrete slab bridges (10–16 ft long) had also been constructed (Arizona State Engineer 1914:22).

A preliminary survey of the Phoenix-Yuma Highway was made in 1912; construction of an unimproved road was initiated in 1913. The route closely followed the Southern Pacific Railroad along the south bank of the Gila River to Dome, then traveling well north of the Gila River via Palomas and Agua Caliente Springs to Buckeye, then onward to Phoenix (Figure 3 and Figure 4). Bridges were constructed between 1914 and 1916 where the highway crossed the Gila River at Dome and at Antelope Hill (near Wellton). The Antelope Hill Bridge was extended to a length of 855 ft in 1920 (Arizona State Engineer 1914, 1922). Beyond Agua Caliente, motorists used two separate routes to reach Arlington—a northerly route by way of Fourth of July Butte, and a southerly route around Woolsey Peak (Figure 5). The State Engineer preferred the route at Fourth of July Butte and maintained it through at least 1920.

Apparently, however, a new Phoenix-Yuma route was in the planning stages for some time. The 1914–1916 Biennial Report mentioned that pending a permanent alignment of the highway west of Arlington, maintenance work would concentrate on the highway segment between Arlington and Agua Caliente. Interestingly, in January 1920, bids were opened for what would become the Gillespie Dam Bridge, despite the fact that the location of the bridge, or the new preferred highway alignment, had not yet been confirmed (Arizona Highway Department 1926).

The Phoenix-Yuma Highway formed part of a transcontinental highway system and was promoted simultaneously by several highway promoters. Familiar nicknames for what would become US 80 included the Borderland Route/Ocean-to-Ocean Highway (1912), the Dixie Overland Highway (1914), the Old Spanish Trail (1916), and the Bankhead Highway (1920) (Weingroff 2009). The 1926 Rand McNally Auto Road Map of Arizona and New Mexico lists the route as both US 80 and the Old Spanish Trail (Figure 6).

Phoenix-Yuma Highway and US 80: 1922–1927

With the passage of the Federal Highway Acts of 1916 and 1921, and creation of the Seven Percent System, the Arizona Highway Department State Engineer received the necessary federal funds to continue development of the state's highway system as a component of the overall continental system of highways. The Phoenix-Yuma Highway was rerouted in 1922 to follow the Southern Pacific Railroad south of the Gila River through Wellton and Gila Bend, then north into Buckeye through the Arlington Valley (see Figure 5). Given the prominence of the Phoenix-Yuma Highway as part of Arizona's highway system, federal funds were used to construct the new alignment and improve the existing highway through Buckeye and Phoenix. The highway approaches to Gillespie Dam were no exception (Table 1).

Between 1923 and 1924, the highway alignments on either side of the Gila River were constructed as gravel surfaced roads. The existing highway as it extended through Hassayampa, Buckeye, and Phoenix was substantially improved with a concrete pavement 16 ft in width with gravel shoulders (Figure 7).

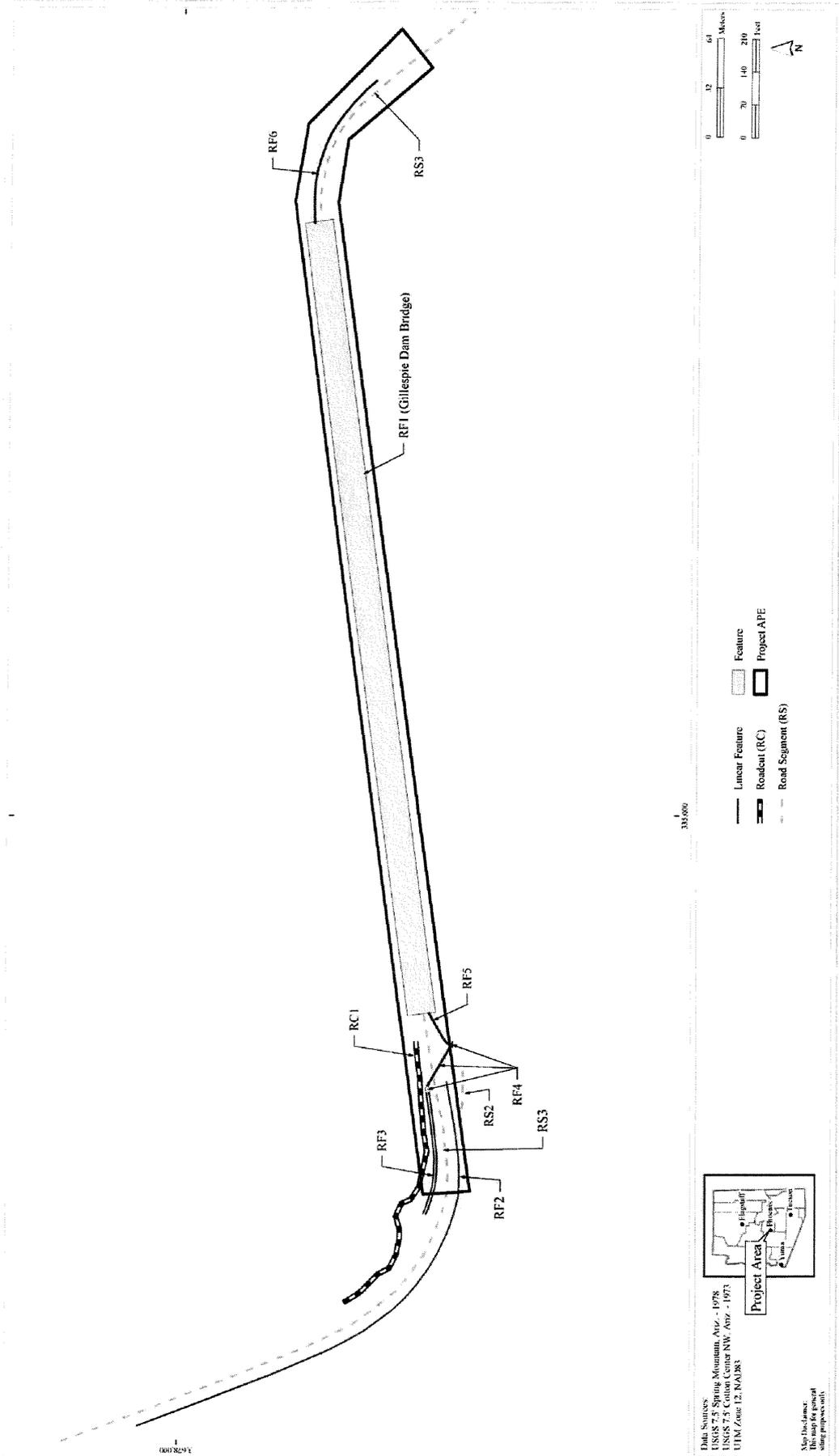


Figure 2. Portion of the USGS 7.5' Spring Mountain and Cotton Center NW topographic quadrangles showing the location of features and road segments of Old US 80 investigated for the current project.

Table 1. Summary of Federal Aid Projects Completed Within and Around the Project Area.¹

F.A.P. No.	Phoenix-Yuma Highway Section	Distance (miles)	Construction Date	Comments ²
53	Gila Bend-Gillespie Dam	23.45	1922–1923	Gravel Surface
64A	Gillespie Dam to Hassayampa	9.92	1923–1924	Gravel Surface
64B	Gillespie Dam Bridge ³	~1.6	1923–1927	Bridge constructed 1925–1927. Temporary road that connected the highway on either side was completed in 1923; traffic crossed on the Gillespie Dam apron. When bridge was completed in 1927, a gravel road connected the bridge with both sides of highway.
71	Buckeye-Hassayampa	9.2	1924–1925	18 ft wide concrete pavement with 5 ft shoulders.

¹ From (Arizona Highway Department 1924).

² Road width dimensions listed only for paved highways.

³ From Fraser (2006).

The new highway route south of the Gila River necessitated a bridge crossing on the Gila River between Gila Bend and Arlington. Fortunately, in 1920–1921, Frank Gillespie built a dam across the Gila, south of Arlington, to irrigate his agricultural lands. The dam was a large structure with concrete arches and a substantial concrete apron on the downstream side. The Arizona Highway Department formally announced its intention to construct the Gillespie Dam Bridge just south of the dam in 1925 as part of Federal Aid Project (FAP) No. 64B (see Table 1). Until completion of the proposed bridge, automobile traffic on the Phoenix-Yuma Highway was diverted across the concrete apron of the Gillespie Dam. Temporary road alignments on either side of the dam were graded until the bridge was completed and the highway was formally connected. Because the temporary road also protected the dam from erosion on its eastern side, the Gila Water Company provided materials for reinforcement (Arizona Highway Department 1924). Travel across the apron was feasible so long as water levels were not high. As construction of the Gillespie Dam Bridge progressed in 1927, the Arizona Highway Department stationed a towing truck at Gillespie Dam to assist vehicles that experienced difficulty on the apron (Figure 8) (Arizona Highways 1927).

R.A. Hoffman designed Gillespie Dam Bridge as a through truss riveted steel structure with five 200-ft-long Parker-type truss spans, four 160-ft-long Parker-type truss spans, and two 20-ft-long earth abutments at each end of the bridge. In January 1926, the project was awarded to Lee Moor Contracting Company; trusses were assembled and delivered by the Virginia Bridge and Iron Company using OH-type structural steel. Construction began in February 1926, and on August 1, 1927, Gillespie Dam Bridge was open for traffic. When completed, the Gillespie Dam Bridge was the longest steel bridge in the state, and one of the longest overall (Arizona Highways 1927) (Figure 9 and Figure 10). Gillespie Dam Bridge was a significant addition to the newly designated US 80, enabling uninterrupted travel through Arizona along the national highway.

In 1926, American Association of State Highway Officials approved a numbering system for America's interstate highways to avoid confusion with the numerous trails and routes that had been regionally assigned to the country's highways. The Phoenix-Yuma Highway became part of the transcontinental US 80, which extended over 2,700 mi between Savannah, Georgia and San Diego, California. US 80 entered Arizona near Douglas, from where it extended through communities such as Bisbee, Benson, Tucson, and Florence, before continuing on through Phoenix to Yuma via the Arlington Valley and Gillespie Dam Bridge (Arizona State Highway Department 1939; Weingroff 2009).

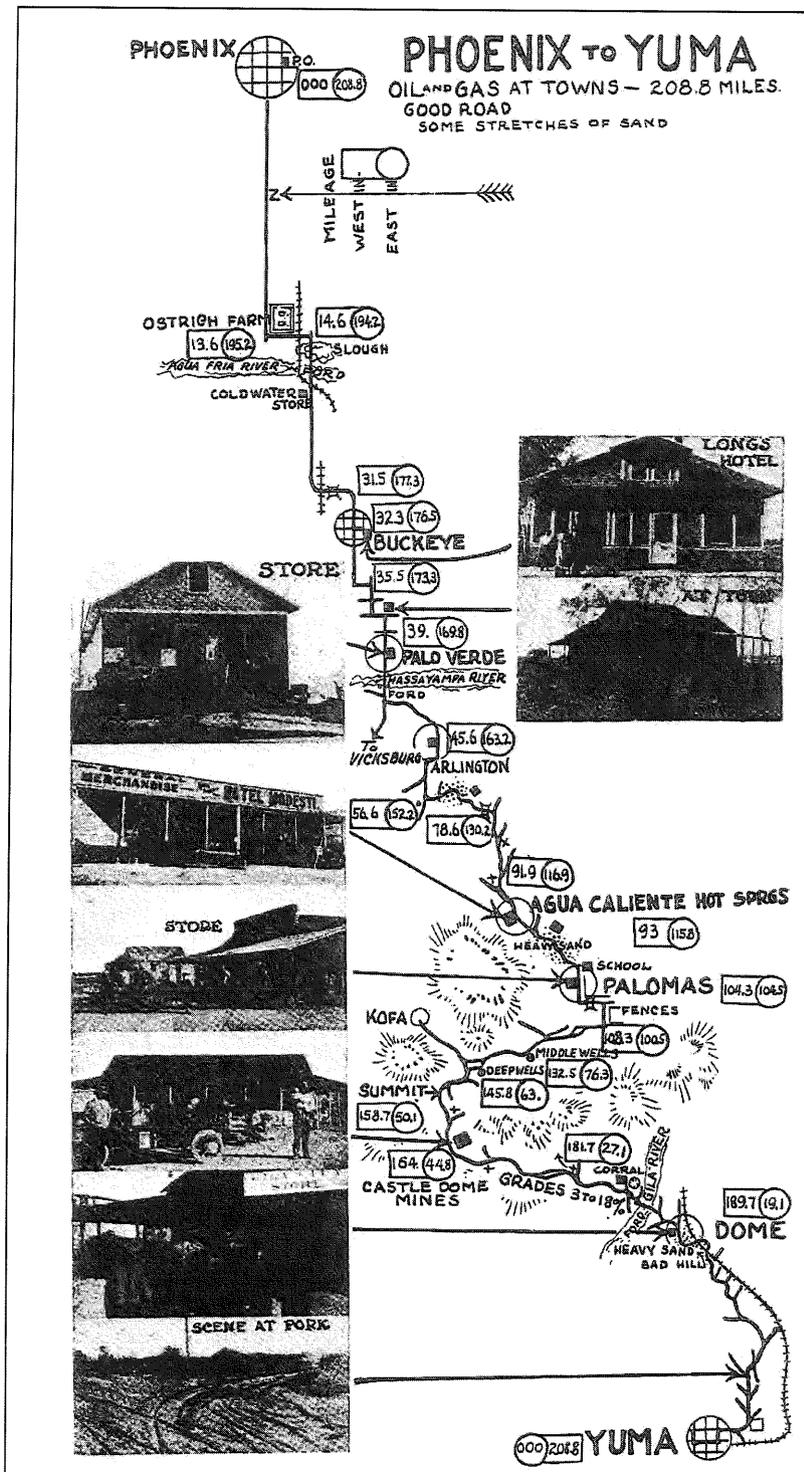


Figure 3. 1913 Road Map between Phoenix and Yuma (Arizona Good Roads Association 1987:50).



Figure 4. Ca. 1918 photograph of the Phoenix-Yuma Highway west of Buckeye, Arizona. (photograph courtesy of the Buckeye Valley Museum:92.31.3).

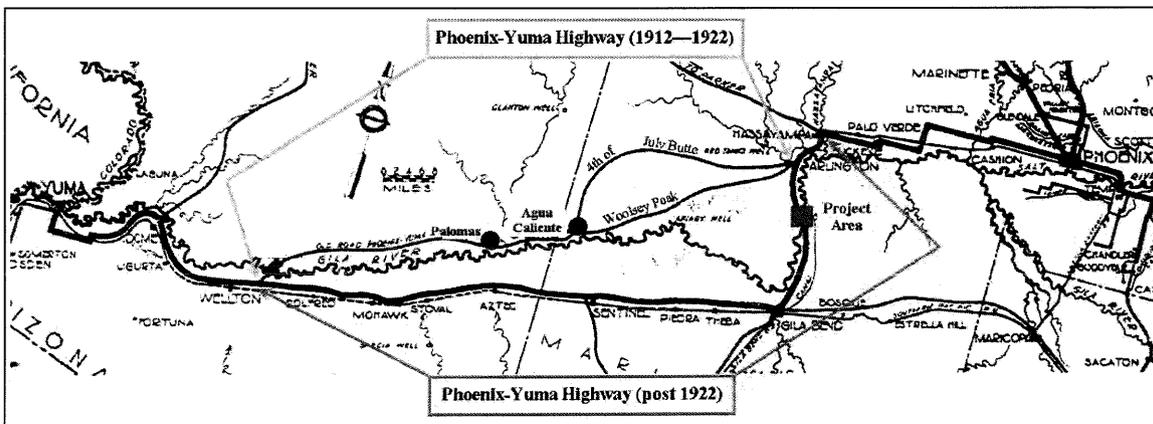


Figure 5. 1922 Map of the Phoenix-Yuma Highway showing the original highway alignment north of the Gila River and the later realignment through Gila Bend (from Arizona State Engineer 1922:180); the project area is also shown (red square).

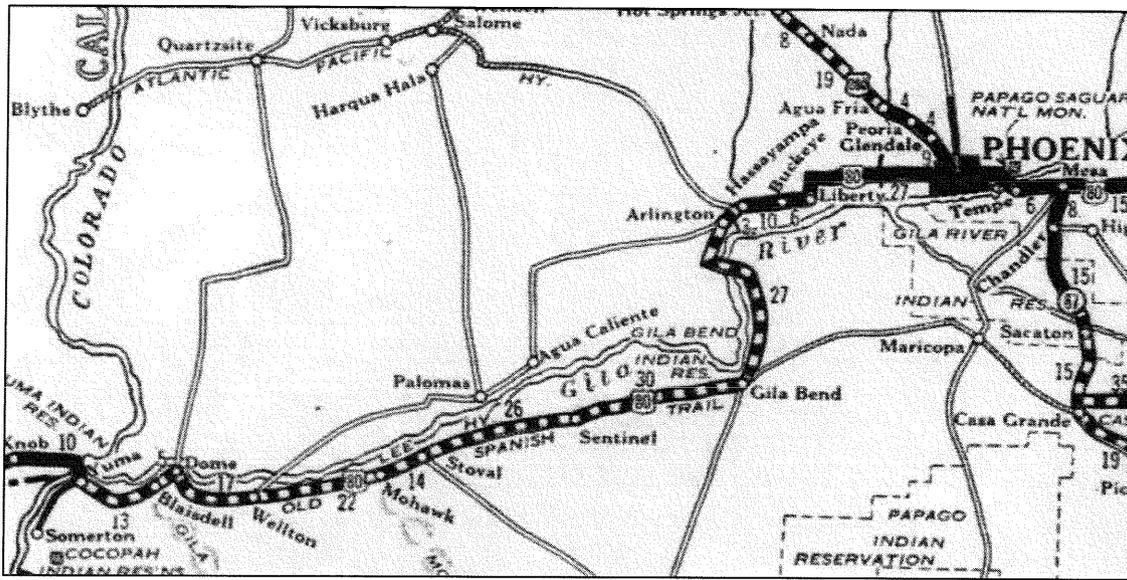


Figure 6. Portion of the 1926 Rand McNally & Co. *Auto Road Map of Arizona and New Mexico* showing US 80 (Old Spanish Trail) crossing the project area south of Arlington.

The solid red line between Phoenix and Hassayampa represents a paved road; the dotted line continuing to Yuma is characterized as an improved road (surfacing with a mixture of gravel and local materials, such as lime and caliche).

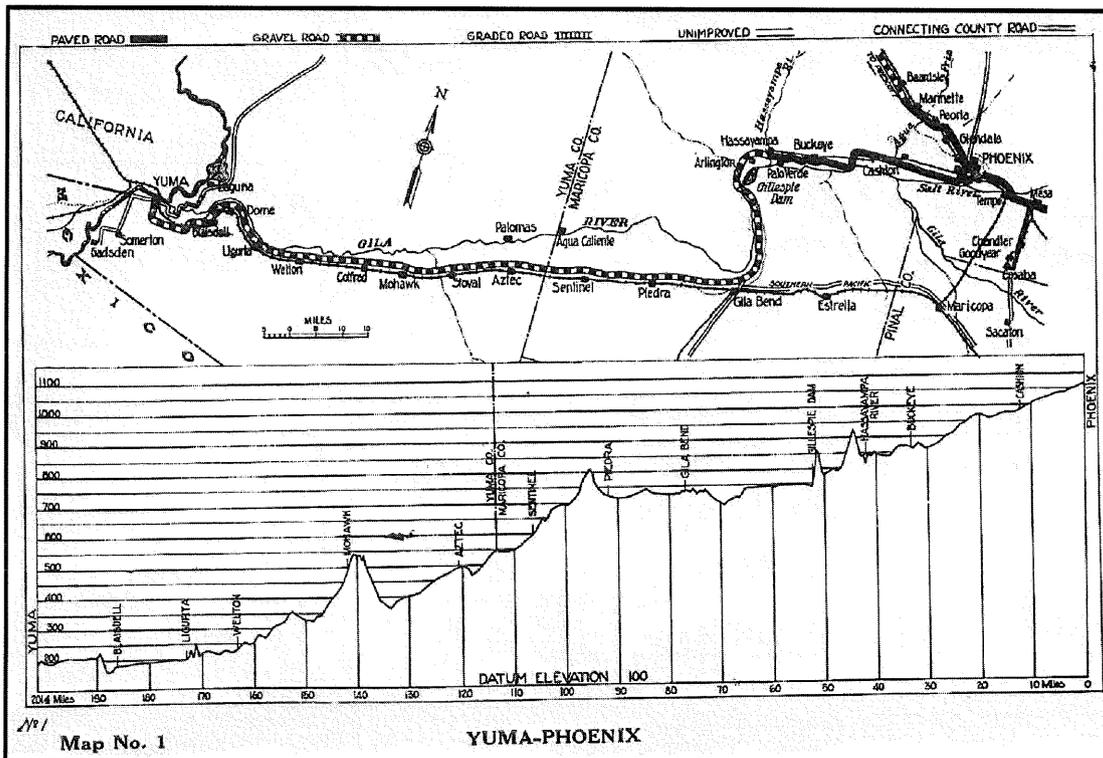


Figure 7. Map of the Phoenix-Yuma Highway in 1924 (Arizona Highway Department 1924:307).

As shown, the highway between Yuma and Hassayampa was a gravel surfaced road, while the remaining section extending through Buckeye and Phoenix was paved with concrete; note that Gillespie Dam is shown on the map.



Figure 8. 1926 photographs of automobiles crossing the apron of Gillespie Dam at high water (Arizona State Library, Archives and Public Records, Archives Division, Phoenix, No. 98-2339 [top] and 98-2645 [bottom]).

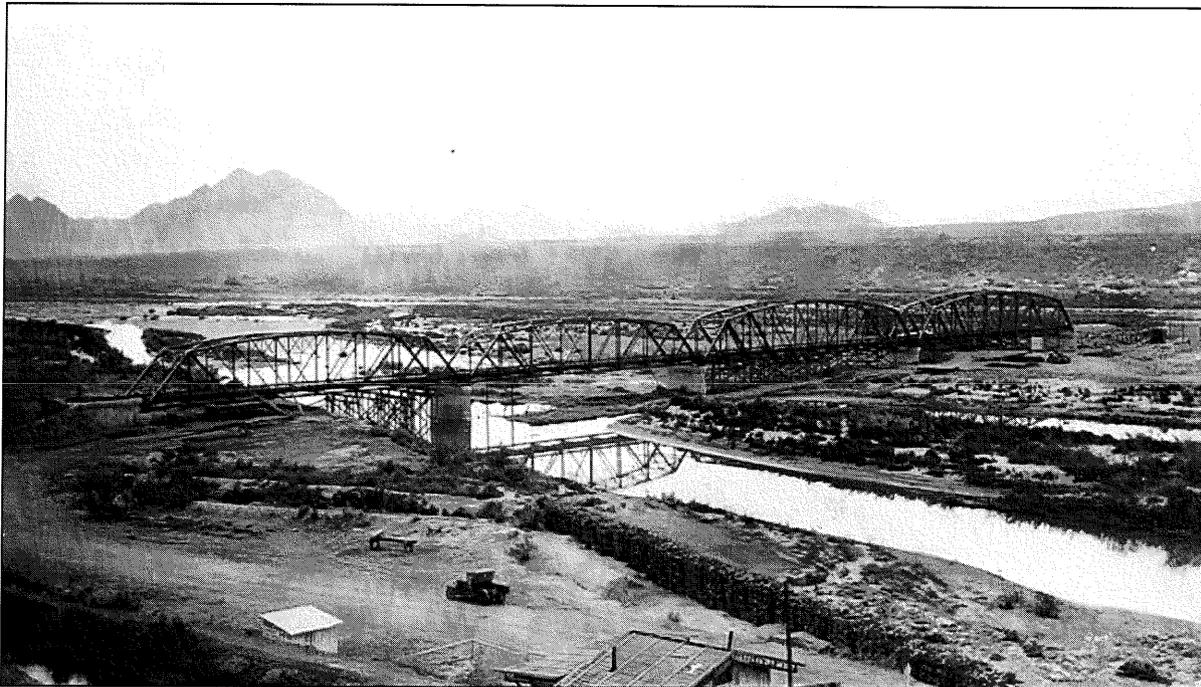


Figure 9. 1926 photograph of ongoing construction of the bridge downstream from the dam (Arizona State Library, Archives and Public Records, Archives Division, Phoenix, No. 98-2360).

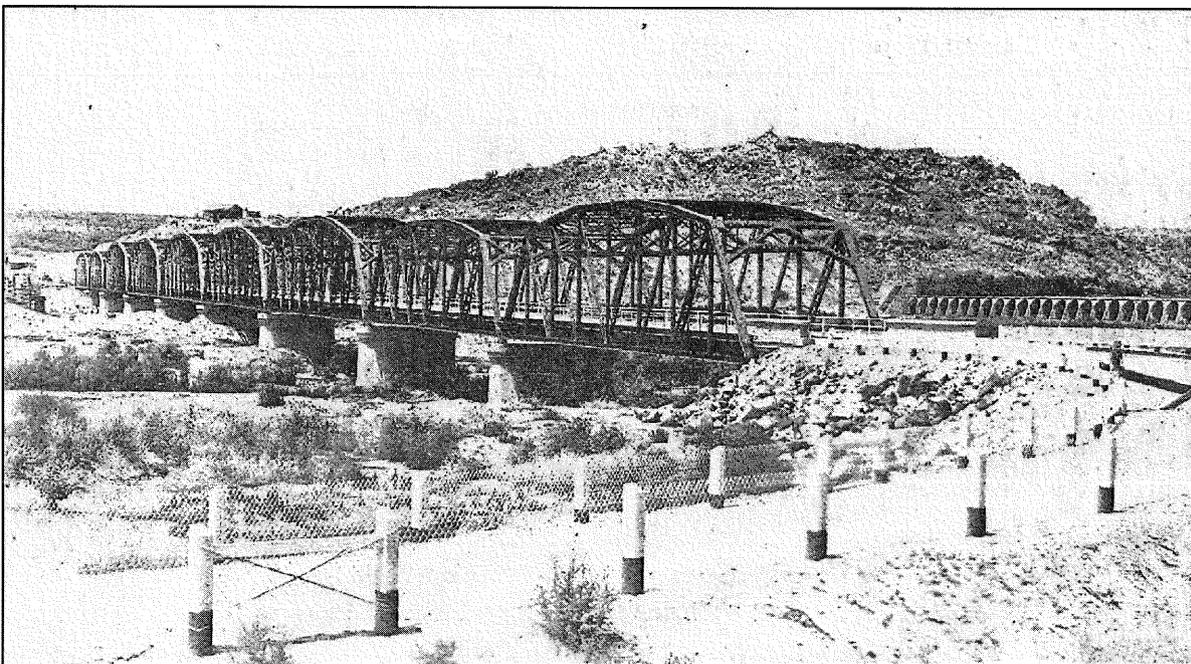


Figure 10. 1928 photograph of completed and opened Gillespie Dam Bridge (Whitworth 1928).

A similar view of the highway and bridge was taken in the recent survey (see Figure 21).

US Highway 80: 1927–1955

As the effects of the Great Depression hampered industry and employment, monetary funds and labor were supplied by federal aid agencies such as the Civilian Conservation Corps, Works Progress Administration (WPA), and Public Works Administration, leading to a tremendous surge in road construction and improvements throughout Arizona. Between 1935 and 1943, the WPA constructed, improved, and realigned more than 1,700 mi of Arizona's highways, roads, and streets (Collins 1999). Among the many street projects completed by the WPA were improvements to US 80 in 1940 within and adjacent to the Buckeye City limits (Jones 2009). These improvements included realignment of a portion of US 80 and widening the concrete-paved roadway to 22 ft. By the end of the 1930s, most of the highways were paved and travelers could cross the state easily on well-established highways.

The improved highway network in Arizona encouraged the state government to fund and promote tourism to attract out-of-state tourists and Arizona residents looking for an easy getaway; by 1939, tourism was the principal industry (Rodda 1992). In fact, Arizona was able to claim that one-half of east-west interstate traffic crossed federal highways through Arizona, which included US 80 (Keane and Bruder 2004). As the primary route between Phoenix and Yuma well into the 1950s, US 80 carried more traffic than any other highway in Arizona (Fraser 1993:11).

It was also in this period that US 80 through the project area was thoroughly improved. A review of archival materials at the ADOT Engineering Office indicates that in 1930, the Arizona Highway Department resurfaced the highway approaches to Gillespie Dam Bridge. The guardrails shown in Figure 10 were to be removed and replaced. Apparently, however, they were not replaced (1930 As-Built plans for FAP 53IREQ: Sheet 28). As shown in Figure 11, the resurfaced highway had been completely replaced with bituminous asphalt. The As-Built also reveal that the WPA made improvements to US 80 near Gillespie Dam. The alignment between Hassayampa and Gila Bend (FAP 53, 64A and 64B) was improved by the WPA under W.P. Project 1285 (see Drawings A-1–A-9). The highway was widened where necessary and structures, such as guardrails and right-of-way markers, were replaced. Curbs were also constructed along certain shoulder lines to prevent erosion (see Figure 22 later in report).

US Highway 80: Post-1955

Arizona Highways highlighted US 80 in 1956 as a completely paved, modern highway (Muench 1956); in the same year, US 80 was realigned to traverse part of the Rainbow Valley to the east of Gillespie Dam (currently, this realignment is designated State Route 85). The bridge and decommissioned highway alignment in the Arlington Valley came under the control of Maricopa County (Figure 12).

By the late 1950s, construction of the modern interstate highways that would eventually become Interstates 8 and 10 in Arizona were in development. As the interstates were completed, portions of existing US designated highways were either assimilated into the modern interstate highway system or decommissioned to become county maintained roads. The US 80 alignment between the California state line and Benson, Arizona was decommissioned in 1977 when Interstate 10 was completed (Abbe 1980; Weingroff 2009). The former US 80 alignment between Buckeye and Phoenix has since been incorporated into the Maricopa County road system as Buckeye Road and Maricopa County 85. The original highway that passes through the Arlington Valley and over Gillespie Dam Bridge is currently known as "Old US 80."

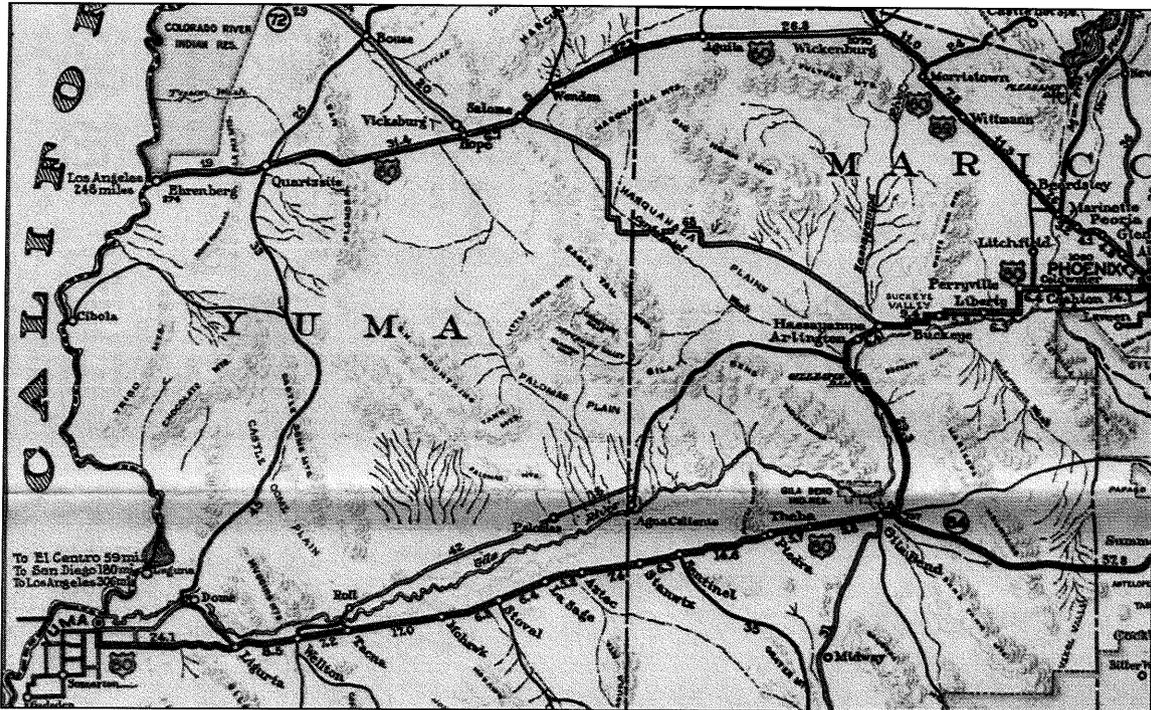


Figure 11. Portion of the 1935 State Highway Department Road Map of Arizona showing roads across the project area. The entire Phoenix-Yuma portion of US 80 was paved at this time.

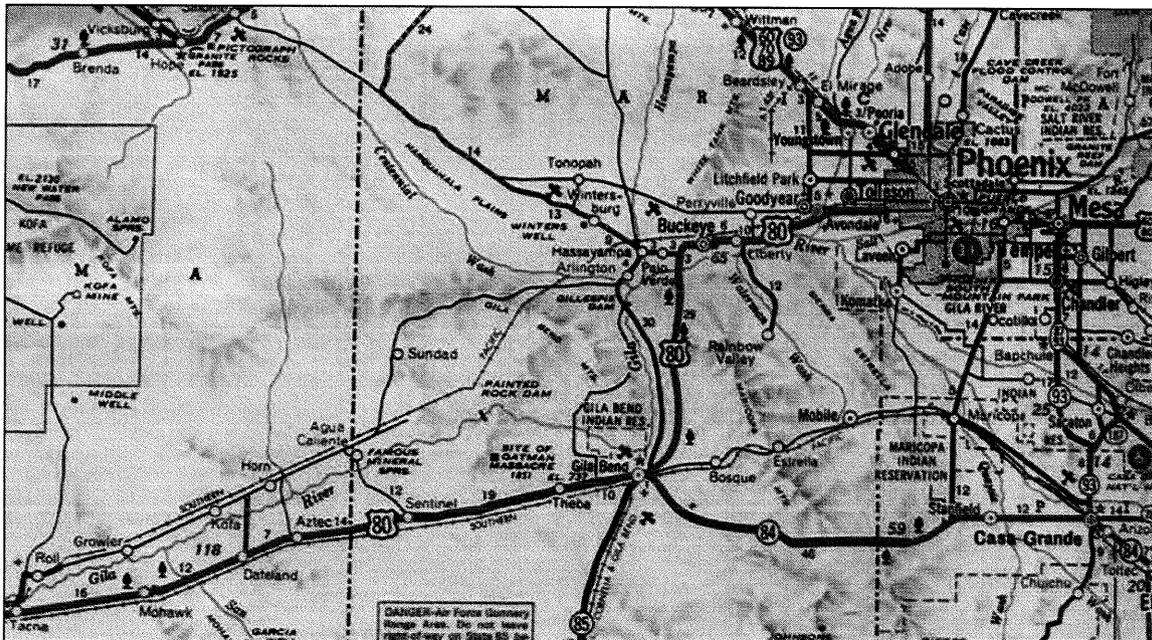


Figure 12. Portion of the 1961 State Highway Department Road Map of Arizona showing the realigned portion of US 80 through the Rainbow Valley east of Gillespie Dam.

Documentation of AZ FF:9:17(ASM) / Old US 80 in the Project APE

The portion of Old US 80 in the APE corresponds to the Phoenix-Yuma Highway that was constructed as part of FAP No. 64B, which comprised the Gillespie Dam Bridge and the highway on both sides of the bridge (Figure 13), with approximately 0.6 mi of Old US 80 on the east side of the bridge also part of FAP No. 53. It also corresponds with the subsequent early phase of the highway's redesignation as US 80 after 1927. Within the APE, the site consists of the current segment of Old US 80 (which was previously recorded as Road Segment 3) as it extends on either side of Gillespie Dam Bridge, and one abandoned paved alignment of the former Phoenix-Yuma Highway (previously recorded as Road Segment 2) located near the western end of the bridge (Jones et al. 2006), plus one newly recorded road cut and six road features, two of which were also previously recorded (Road Features 1, Gillespie Dam Bridge, and 2, guardrail; Jones et al. 2006) (see Figure 2).

Various segments of Old US 80 have been previously recorded throughout the state; some were assigned different ASM site numbers based on their location. As per ASM instructions, the site across the state was officially designated AZ FF:9:17(ASM) (Sharon Urban, ASM, personal communication 2002). A portion of Road Segment 3 on the east side of Gillespie Dam Bridge was previously documented by EPG (Chapin-Pyritz and Hill 2002). That segment and the remaining portion of Road Segment 3 on the other side of the bridge was later recorded by ACS in 2006 (Jones et al. 2006).

Given that Old US 80 within the project APE has not been maintained by ADOT since 1956, the Engineering Records Department of ADOT has a very limited collection of As-Builts pertaining to this location. Partial As-Built plans exist for FA 53 (1930), 64B (1925), and WP Project 1285 (1940). Bridge plans were reviewed as well, although these plans are limited specifically to the bridge itself (which has already received HAER documentation and was not further investigated for the current project). ACS has not received As-Built maps from MCDOT that date beyond 1956. Consequently, milepost and station number locations are unknown for the segments and features identified as part of this project. Station numbers affiliated with Old US 80 prior to 1956 are fragmentary at best but are included in the text and tables when applicable.

Road Segments

Two road segments were recorded in the APE, Road Segments 2 and 3, both of which were previously recorded (Jones et al. 2006) (see Figure 2; Table 2). Previously recorded Road Segment 2 is an abandoned 1923–ca. 1940 (Phoenix-Yuma Highway/Old US 80) alignment on the west side of the river and bridge, located off the south side of the bridge (Figure 14; note that previously recorded Road Segment 1 is also shown for illustrative purposes, but does not occur in the current APE). Road Segment 2 was once connected to Road Segment 1 across the river, and may have been used as a construction road or possibly an alternate dry-river by-pass route to avoid the Gillespie Dam apron by-pass route, given that it was a private dam. Road Segment 2 was likely gravel surfaced initially, but was paved with asphalt at a later date (center yellow lines are still evident); that is, it still functioned as an alternate roadway after the opening of Gillespie Dam Bridge (Figure 15). Perhaps this paved segment functioned in later years as an access road to the Gila River itself. Decades of overgrowth and seasonal flooding (particularly the devastating 1993 flood that breached Gillespie Dam) have obliterated the road in the river scour.

Table 2. AZ FF:9:17(ASM) / Old US 80 Road Segment Summary and Road Feature Associations.

No.	Start UTM	End UTM	Width/ Length (ft)	Road Feature No.	Roadcut No.	Condition and Comments
2	E334833.7, N3677816.2	E334792.6, N3677818.5	21/135	None		Poor: paved segment is largely obliterated
3	E334753.6, N3677832.4	E335495.3, N3677845.8	19–24/827	1–6	1	Good: current paved alignment

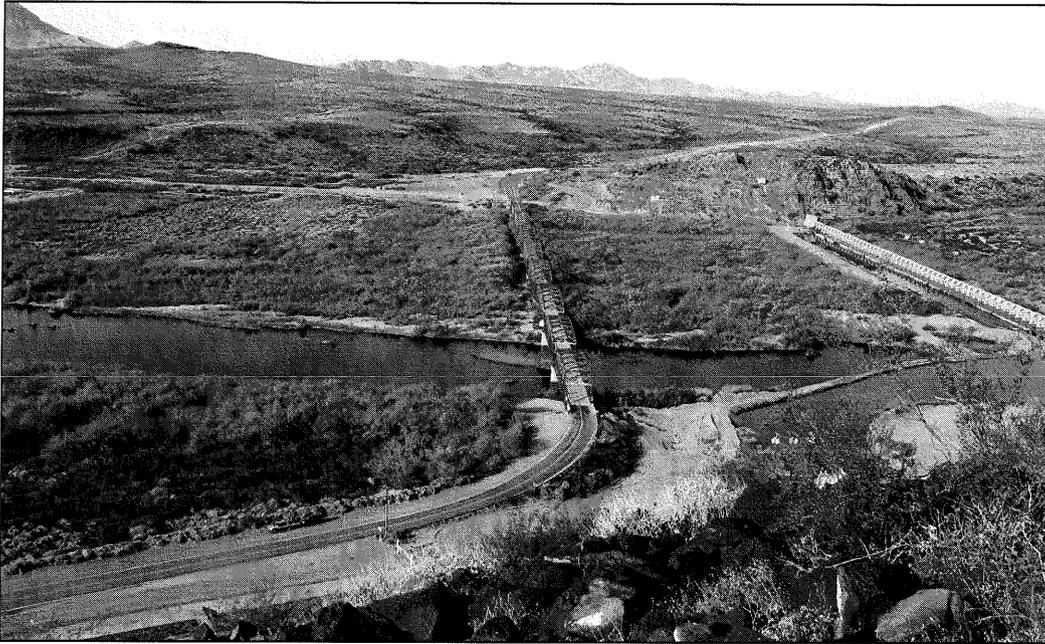


Figure 13. Overview of the project area from the east side of the Gila River, facing west (photo was taken by ACS in 2006); note Gillespie Dam along right side of photo.



Figure 14. Portion of a 1992 USGS aerial of Gillespie Dam (upper) and Old US 80 and Gillespie Dam Bridge (middle) taken one year prior to the dam breach (Cryptome 2011).

Road Segments 1 and 2 historically formed a single alignment across the Gila River (RS 1 does not occur within the current project APE, but is shown for illustrative purposes).



Figure 15. Photograph of paved portion of Road Segment 2, AZ FF:9:17(ASM), facing west.

As shown, the road segment terminates at guardrail Road Feature 2 of Road Segment 3.

Road Segment 3 is the in-use paved segment of Old US 80 that traverses the APE at both ends of Gillespie Dam Bridge (Figure 16 and Figure 17). The previous 2006 survey recorded Road Segment 3 as crossing the bridge, but according to the 2002 Interim Procedures, bridges are not considered to be part of the historic HSHS, and therefore Road Segment 3 here is restricted to the approaches, although the bridge itself continues its designation at Road Feature 1 for continuity. Road Segment 3 was constructed in conjunction with the bridge and opened to traffic in 1927, replacing the earlier Phoenix-Yuma Highway alignments noted above. The road was originally gravel surfaced until at least 1935 when it was paved with asphalt (see Figure 11). On the west side of the bridge, the paved roadbed is 24 ft wide, with a total width, including the shoulders, of 37–40 ft. On the east side of the bridge, the pavement is 24 ft wide as well, with a 25-ft-wide shoulder bordering the Gila River and an 8-ft-wide shoulder along the adjacent Gila Bend Canal. The pavement continues across Gillespie Dam Bridge, but because the bridge was not part of the current fieldwork, it is not discussed here (see above). Well-marked painted shoulder and centerlines were evident along the entire segment. Blading along the shoulders on the west side of the bridge was also evident. The segment is continually maintained by MCDOT.

Roadcuts and Road Features

Within the APE, one roadcut and six road features were associated with Road Segment 3. The roadcut is located on the west side of the bridge (Table 3). Of the six road features, one is the Gillespie Dam Bridge, three are guardrails, one is a drainage channel, and one is a drainage pipe under the road (Table 4).

Table 3. AZ FF:9:17(ASM) / Old US 80 Roadcut Summary.

Road Cut No.	Segment No.	Side of Bridge/Side of Road Segment	Length (ft)	Height (ft) ¹
1	3	West/North	230	6–25

¹ Estimated distance to road surface.

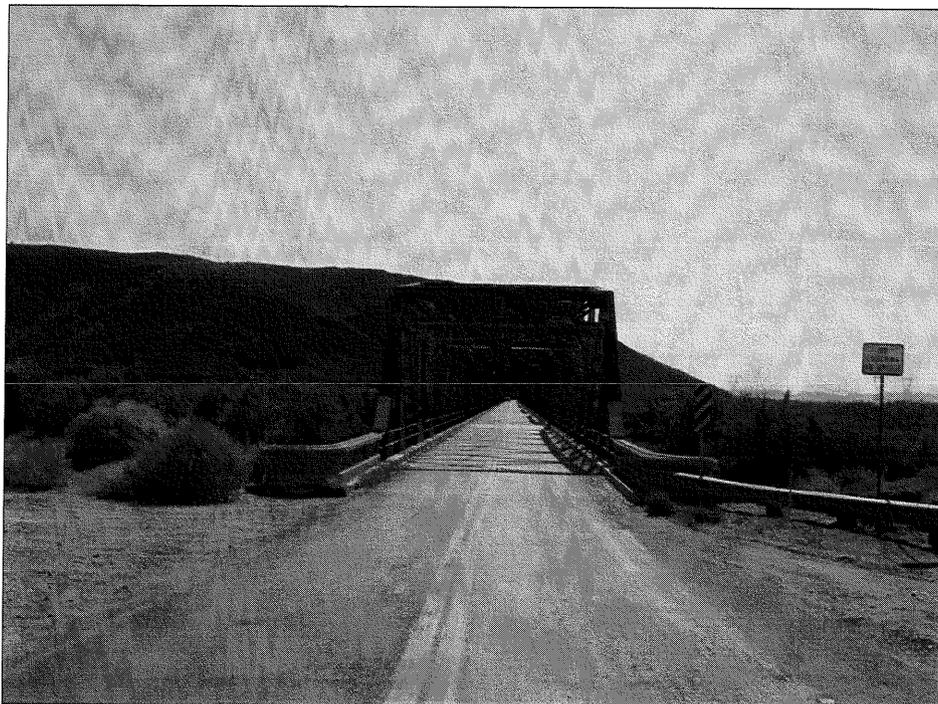


Figure 16. Photograph of Road Segment 3 (west side of river), AZ FF:9:17(ASM), facing east towards Gillespie Dam Bridge.

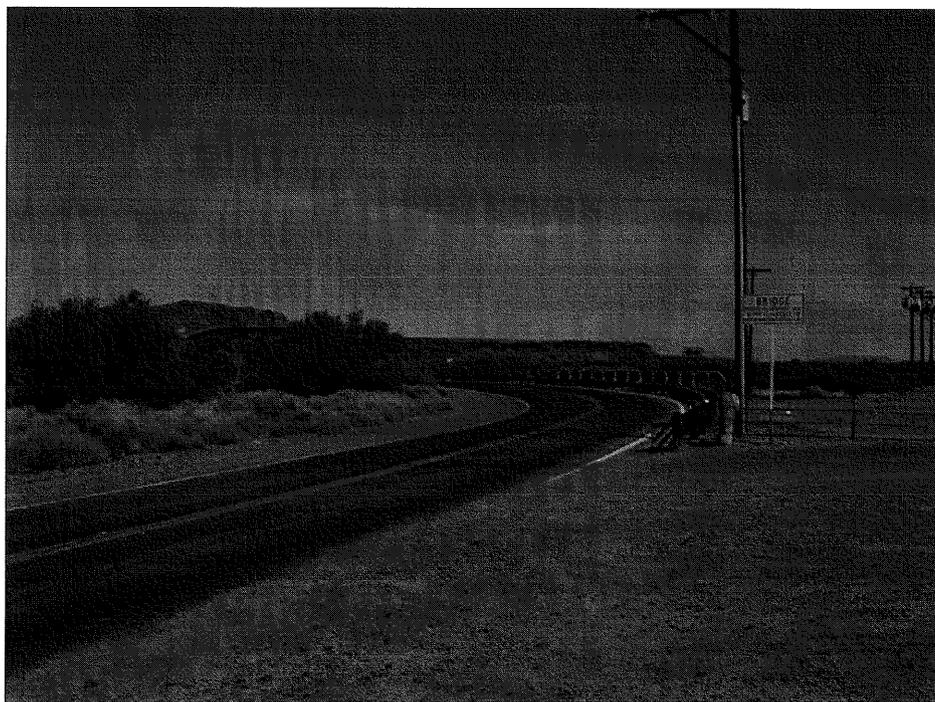


Figure 17. Photograph of Road Segment 3 (east side of river), AZ FF:9:17(ASM), facing northwest towards the curve to Gillespie Dam Bridge.

Table 4. AZ FF:9:17(ASM) / Old US 80 Road Feature Summary.

RF No.	Road Segment	Old US 80 Station No. ¹	Feature Type	Dimensions (ft)	Age ²	Comments
1	3	F/AP 64B; Sta. 7+30-23+90	Gillespie Dam Bridge	1,660 (l) × 19 (w)	1927	Parker truss type bridge was listed on National Register in 1981. HAER documentation completed by FRASERDesign in 2006 (Fraser 2006).
2	3	N/A	Guardrail	1,130 (l) × 1.5 (w)	Post-1962	W-beam steel guardrails bolted on timber posts. Located on sharp curve radius immediately west of Gillespie Dam Bridge. Generally good condition, despite recent vehicular damage. Likely modern.
3	3	N/A	Drainage channel	262 (l) × 3-6 (w)	Original ca. 1927; modified post-1962	Drainage channel located along roadway and consists of concrete curbs and check drops. Runoff from roadway conveyed into Feature 4. Use of concrete masonry units (CMU) in construction of channel indicates modern reconstruction. Partially filled in with sediment.
4	3	N/A	Corrugated pipe culvert	120 (l) × 2 (dia.)	Original ca. 1927; modified post-1962	Pipe culvert extends under roadway and empties into river. CMU headwalls on both sides of road indicate modern reconstruction. An extended catch basin (114 sq. ft) collects runoff from Feature 3. Partially filled in with sediment.
5	3	N/A	Guardrail	90 (l) × 1.5 (w)	Post-1962	W-beam steel guardrails bolted on timber posts. Originates at Gillespie Dam Bridge and continues around curve radius of Enterprise Road. Good condition of rail indicates modern construction.
6	3	N/A	Guardrail	345 (l) × 1.5 (w)	Post-1962	W-beam steel guardrails bolted on timber posts. Located on curve radius immediately east of Gillespie Dam Bridge. Good condition of rail indicates modern construction.

¹ If applicable, because this portion of the highway was decommissioned in 1956, few records survive. Consequently, station numbers and milepost locations are unknown.

² Most features likely the constructed in modern period after MCDOT had assumed control of the former US Highway.

Roadcut 1

One roadcut was recorded in the APE, located on the west side of the bridge and on the north side of Road Segment 3. The cut, approximately 230 ft long, has exposed bedrock up to a height of 25 ft in some places (Figure 18). It is sloped back, but is variable in slope degree across its face. The cut is close to the road for most of its length, with a drainage channel (Road Feature 3) located along most of the eastern half of the roadcut. The roadcut occurs along the original 1927 road alignment associated with the bridge and is therefore historic and in direct association with the earlier period of the road and with the bridge. However, modern reconstruction is evident with the emplacement of concrete masonry units (CMU).

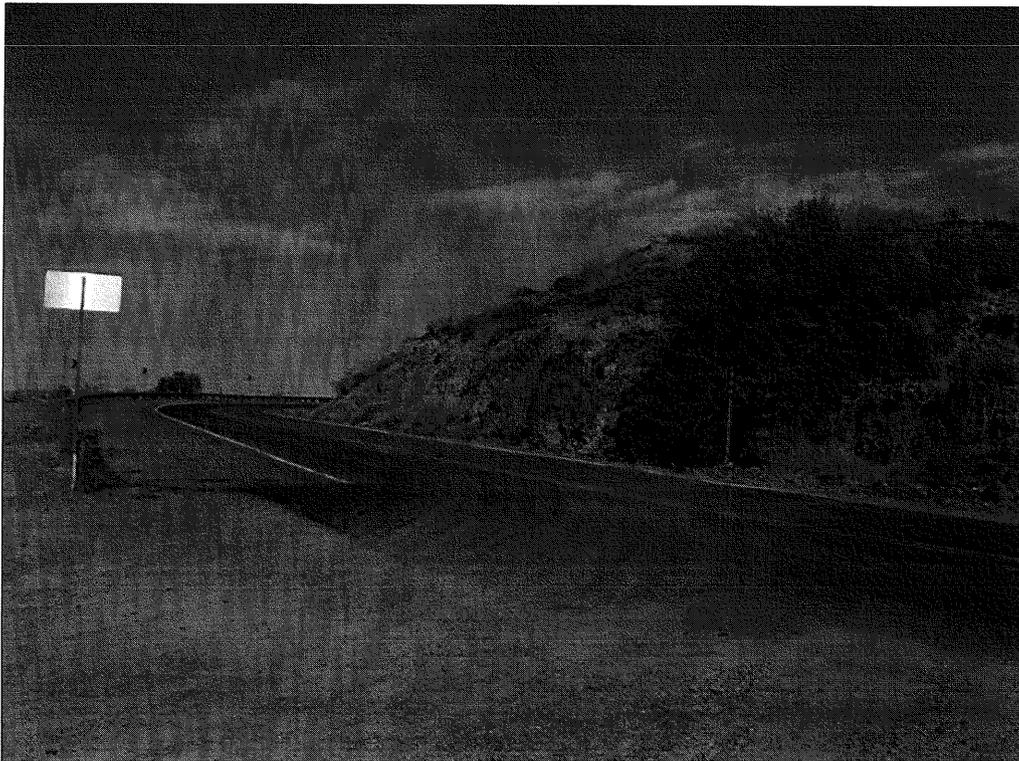


Figure 18. Eastern portion of Roadcut 1 along Road Segment 3, AZ FF:9:17(ASM), facing northwest.

Road Features

Road Feature 1: Gillespie Dam Bridge

The Gillespie Dam Bridge spans the Gila River and is located just to the south of Gillespie Dam (Figure 19). It has been listed on the National Register since 1981 as Structure #81000136 (National Register of Historic Places 2010). The bridge was also discussed in the ADOT Arizona Bridge Inventory as No. 8021 (FRASERdesign 1987:50, 177), and a HAER document was recently completed as well (Fraser 2006) as part of the rehabilitation project documentation. Because the bridge was previously discussed in the Class III survey report (Jones et al. 2006) and in the HAER document, and does not form a component of the 2002 Interim Procedures for the HSHS, it is not discussed further here.

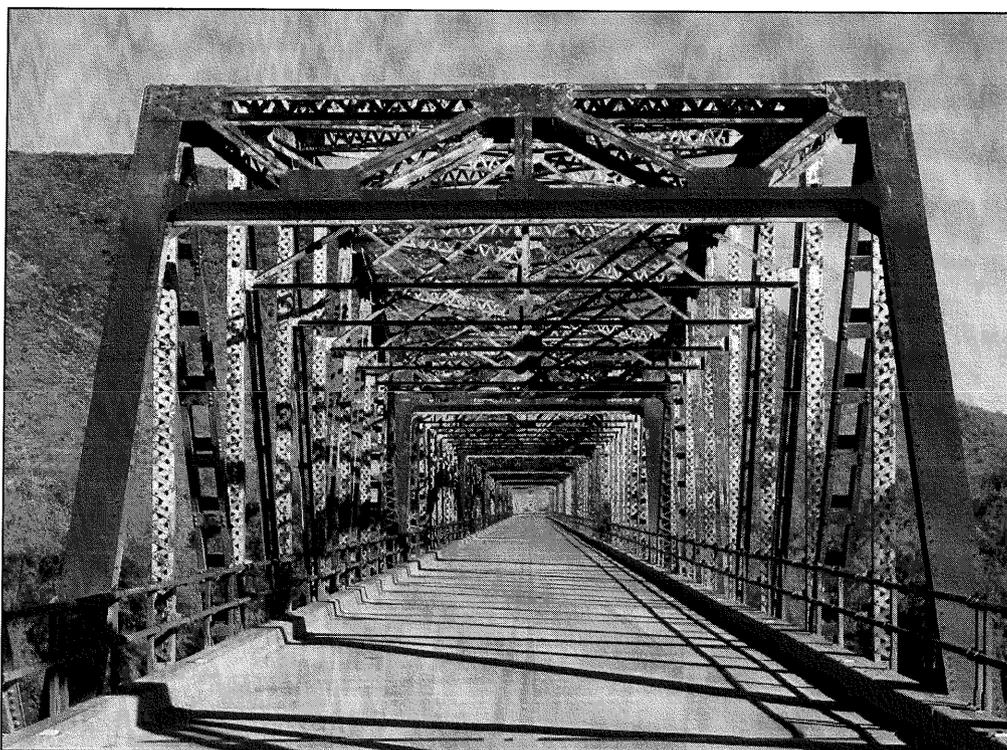


Figure 19. Photograph of Road Feature 1, Gillespie Dam Bridge, AZ FF:9:17(ASM), facing east.

Road Features 2, 5, and 6: Guardrails

These features are located on both sides of Gillespie Dam Bridge, primarily along the curve radii of Road Segment 3 (i.e., Road Features 2 and 6); Road Feature 5 appears to be a safety feature at the southwestern corner of the bridge where a steep drop-off to the river occurs (Figure 20, Figure 21, and Figure 22). The guardrails are characterized as W-Beam steel guardrails bolted onto 8-x-8-in timber posts. The height of the guardrails above the road surface measures between 24 and 30 in. Aside from recent vehicular damage to Road Feature 2, the guardrails are in good condition and likely modern (post-1962).

Road Feature 3: Drainage Channel

This feature is located on the west side of the bridge and along the base of Roadcut 1 (Figure 22). The drainage channel (located on the north shoulder of Road Segment 3) was constructed to collect water runoff from the crown of the roadway and at the base of the roadcut and then convey the water downslope (towards the bridge) to a piped culvert (Road Feature 4). The feature is in-use, although erosion has impacted it in some sections. It contains remnants of concrete curbing along the road. Because Roadcut 1 and Road Segment 3 are historic and associated with the construction and early period of the bridge, the drainage channel likely also dates from the same period. However, at the eastern end where it joins Road Feature 4, modern period additions are present (CMUs used to form the headwall), indicating some modern alteration to the integrity of the feature.

Road Feature 4: Corrugated Pipe Culvert

This road feature is directly associated with Road Feature 3; that is, the water conveyed along drainage channel Road Feature 3 empties into a catch basin and then into a corrugated pipe culvert, which in turn

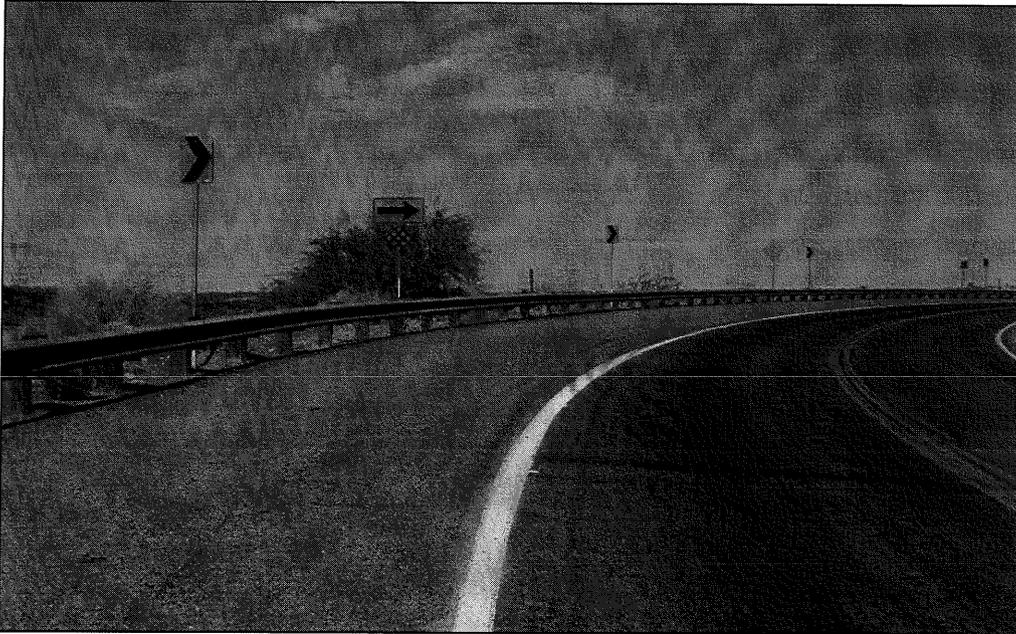


Figure 20. Photograph of guardrail Road Feature 2 on Road Segment 3, AZ FF:9:17(ASM), facing northwest near the west end of Gillespie Dam Bridge.

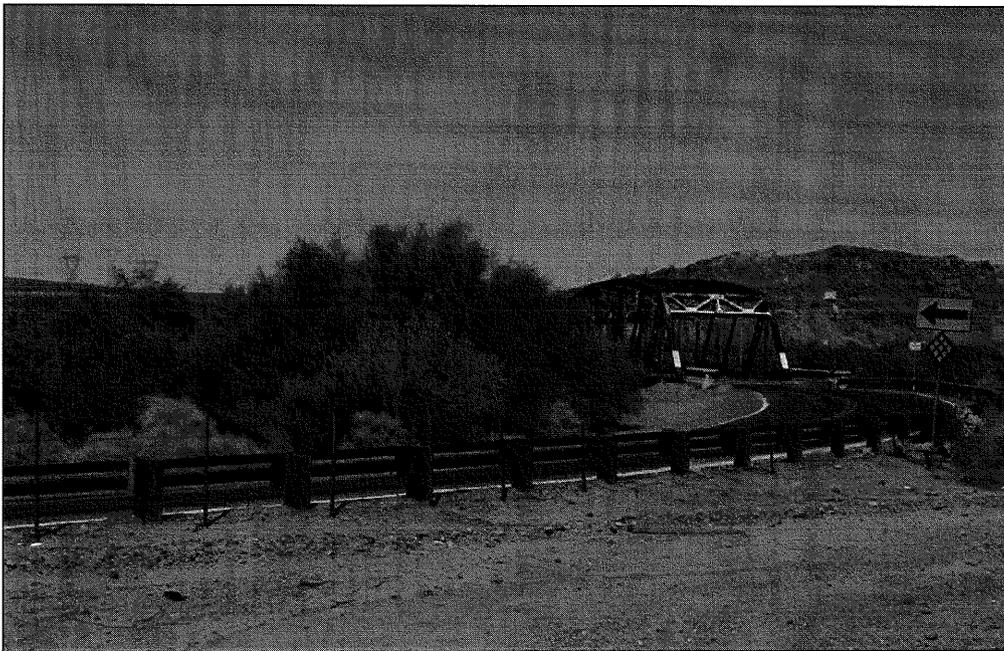


Figure 21. Photograph of guardrail Road Feature 6 on Road Segment 3, AZ FF:9:17(ASM) on the eastern approach to Gillespie Dam Bridge, facing northwest.

Compare this photo angle and guardrail types with the archival photograph in Figure 10.



Figure 22. Photograph of guardrail Road Feature 5 (upper right), drainage channel Road Feature 3 with concrete curbing (center), and Roadcut 1 along Road Segment 3, AZ FF:9:17(ASM), facing east towards Gillespie Dam Bridge.



Figure 23. Photograph of corrugated pipe culvert Feature 4 (outlet end) on Road Segment 3, AZ FF:9:17(ASM), facing southwest; note the concrete facing over CMU blocks.

channels the water under the roadway towards the Gila River south of road (Figure 23). Considering that the features are linked, it is likely that they are contemporaneous and are from the 1927 period of bridge and Road Segment 3 construction. However, although the corrugated pipe culvert may be historic, the use of CMUs to construct the culvert headwalls on either side of the road suggests that it may have been modified since 1962 as part of on-going maintenance of the road by MCDOT.

Summary and Recommendations

MCDOT is planning to rehabilitate the historic existing Gillespie Dam Bridge for traffic safety and to extend the life of the bridge; the bridge was constructed in 1927 and requires repair work to allow it to function as an on-going highway component. The historic highway approaches to the bridge within the APE will also be upgraded as part of the project. The historic bridge was the focus of recent HAER documentation (Fraser 2006) and does not require additional documentation to complete the Section 106 process. However, the historic highway is part of the Arizona HSHS and therefore requires additional documentation following the *Interim Procedures for the Treatment of Historic Roads* (November 15, 2002), as approved by the FHWA, ADOT, and SHPO. The 2002 Interim Procedures note that interstates and bridges are not included as part of the HSHS; therefore, only the historic road and its road features required additional documentation and research as a mitigation measure prior to road improvements associated with the bridge rehabilitation project, as requested by the ADOT EPG (T. Andersen, ADOT EPG, letter to MCDOT, March 11, 2011). These improvements will be limited to resurfacing on both sides of the bridge and associated on-going maintenance work, such as restriping and signage. The road will not be realigned or widened, and no new features are planned, such as culverts or road cuts.

The in-use alignment of Old US 80 on both sides of Gillespie Dam Bridge was previously recorded as Road Segment 3, along with two road features, a guardrail and the bridge, and an abandoned road segment (Jones et al. 2006). The current project recorded another four road features (two guardrails, a drainage channel, and a corrugated pipe culvert) and one road cut within the APE. Road Features 1 (Gillespie Dam Bridge), 3 (drainage channel), and 4 (corrugated pipe culvert) appear to be associated with the period of significance for the Phoenix-Yuma Highway and early US 80 (ca. 1924–1939), although modern upgrades are evident on Road Features 3 and 4 (Gillespie Dam Bridge was not reinvestigated as part of the current project because bridges are not included in the HSHS and it also previously was the focus of HAER documentation [Fraser 2006]). Road Features 2, 5, and 6 (guardrails) appear to post-date 1955 and in fact may be modern replacements. Roadcut 1, located along the western portion of Road Segment 3, also likely dates to the period of significance for the Phoenix-Yuma Highway and early US 80; the drainage channel (Road Feature 3) occurs along its base.

According to the 2002 Interim Procedures, the HSHS is the network of roadways developed between 1912 and 1955 and whose remnants are preserved as in-use roadways and abandoned segments of roadway. US 80 has been determined to be eligible under Criterion A in the context of Arizona HSHS (1912–1939) and Federal Aid Projects (1917–1933), and its importance to the settlement and development of Arizona and local communities along its route, and Criterion D for its potential to yield important information about the early development of Arizona’s highways (AZSITE Record No. 7437).

The Gillespie Dam Bridge Rehabilitation project component that focuses on improvements to the historic highway, Old US 80, will not impact the design or location of the road or its features. Furthermore, this documented portion of Old US 80 will retain integrity of setting and feeling, especially with its surrounding landscape and with the Gillespie Dam Bridge, which will retain its historic character and look after rehabilitation work is complete. The additional fieldwork conducted for the current project as a mitigation measure to complete the Section 106 process sufficiently documents the information potential of Old US 80 and its associated features within the project APE and satisfies the level of documentation required by the 2002 Interim Procedures, and the mitigation measures stipulated by ADOT EPG. ACS recommends that a finding of “No Adverse Effect” is appropriate for the highway; no additional documentation of Old US 80 or its features in the APE is necessary.

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