HISTORIC BRIDGE INVENTORY

Bylas Bridge

PROPERTY IDENTIFICATION

county	Graham	inventory number	00498
milepost	292.55	inventory route	US 70
location	21.5 mi E Jct SR 170	feature intersected	Gila River
city/vicinity	Bylas	USGS quadrangle	Calva
district	84	UTM reference	12.580766.3669875

STRUCTURAL INFORMATION

main span number	23	main span type	402
appr. span number	0	appr. span type	
degree of skew	45	guardrail type	5
main span length	80.0	superstructure	steel I-beam stringer
structure length	1829.0	substructure	concrete abutments, wingwalls and piers
roadway width	30.4	floor/decking	concrete deck
structure width	35.4	other features	steel baluster guardrails

HISTORICAL INFORMATION

construction date	1957	designer/engineer	Arizona Highway Department
project number	F-022-4(2)	builder/contractor	Martin Construction Company, Tucson AZ
information source	ADOT bridge records	structure owner	Arizona Department of Transportation
alteration date(s)		alterations	

NATIONAL REGISTER EVALUATION

For additional information, see "Vehicular Bridges in Arizona 1880-1964" National Register Multiple Property Documentation Form

inventory score	46	NRHP eligibility	eligible
		NRHP criteria	A x B ____ C x
		signif. statement	well-preserved, large-scale example of standard structural type; major river crossing

FORM COMPLETED BY

Clayton B. Fraser, Principal

FRASERdesign
420 South County Road 23E
Loveland, Colorado 80537
31 October 2004

PHOTO INFORMATION

date of photo.: February 2003 view direction: north southwest photo no.: 03.02.55 03.02.56

CONSTRUCTION HISTORY

The Bylas Bridge is a multiple-span steel structure that carries US Highway 70 over the Gila River in Graham County. The structure was designed by the Arizona Highway Department in 1956 as part of work on the route under Project F 022-4(2). As delineated by AHD, the bridge consists of 23 equal-length spans, with the I-beam steel stringer superstructure carried by concrete abutments and bullnosed piers. The concrete substructure rested on steel piles driven beneath the riverbed. Each span extended 80 feet, creating an aggregate length of 1,829 feet. The stringers supported a concrete deck, 35 feet wide, which was flanked on both sides by aluminum baluster guardrails with concrete bulkheads. The highway department advertised for competitive bids and in 1956 awarded the contract to build this bridge to the Martin Construction Company. The Tucson-based contractor began substructural excavation soon thereafter, completing the immense structure in 1957. Since its completion, the Bylas Bridge has carried mainline traffic on US 70. Bank protection and pier scour protection were undertaken in the 1980s, and in 2000 some relatively minor repairs were made to the steelwork, but the bridge remains essentially intact.

SIGNIFICANCE STATEMENT

The Colorado River through Arizona may have been wider and carried more water, but the Gila River was by far the most problematic stream in the state for bridge builders. With its headwaters in New Mexico, the Gila entered Arizona at Duncan and disgorged itself from its mountainous canyon before meandering through Greenlee and Graham counties. It snaked its way westward through Pinal and Maricopa counties, where it entered into the Colorado River immediately upriver from the town of Yuma. The Gila River was notorious for its radical shifts in character. It could range from a barely perceptible trickle to violent flood and back within a day's time. More effort and money was spent building—and maintaining—bridges over the Gila than any other river in the state. Arizona's first territorial bridge, and later the state's first federal aid project, was the Gila River bridge at Florence [**0501**]. This structure and the Antelope Hill Bridge [**abd.**] were the sites of almost constant disaster, as the river washed away many of the early attempts to bridge it. Other structures, such as the Gillespie Dam Bridge [**8021**], the McPhaul Bridge [**abd.**], the Calva Bridge (removed), the Clifton Bridge [**8052**], the Sacaton Dam Bridge [**3165**], and the Kelvin [**8441**] and Winkelman [**8442**] bridges, all illustrate the lengths to which engineers were willing to go to bridge this river. Among these, the Bylas Bridge is distinguished by its overall length. At over 1,800 feet, it was the longest of the Gila River bridges. In fact, it is the longest bridge in Arizona identified by the statewide inventory. For this reason, although its individual spans lack technological distinction, it is a noteworthy highway structure.

NATIONAL REGISTER EVALUATION

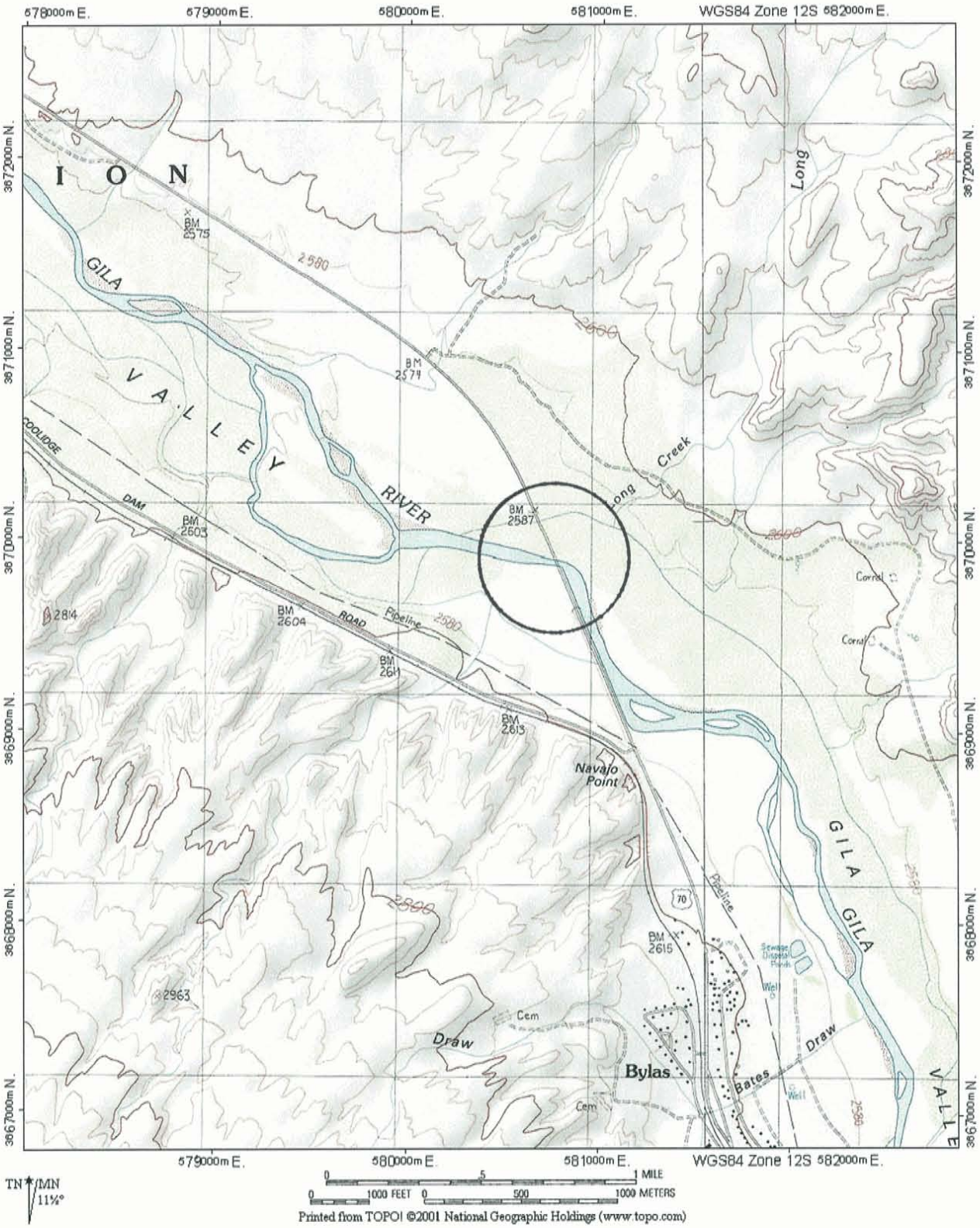
TECHNOLOGICAL SIGNIFICANCE
- ___ represents the work of a master
- ___ possesses high artistic values
- _x_ represents a type, period or method of construction

HISTORICAL SIGNIFICANCE
- ___ associated with significant persons
- _x_ associated with significant events or patterns
- ___ contributes to historical district

NATIONAL REGISTER CRITERIA
- _x_ Criterion A
- ___ Criterion B
- _x_ Criterion C

NATIONAL REGISTER ELIGIBILITY
- individually eligible _x_ yes ___ no
- contributes to district ___ yes _x_ no

AREA OF SIGNIFICANCE: Transportation; Engineering
PERIOD OF SIGNIFICANCE: 1957-1964
THEME(S): Transportation: Highways



Location Map

HISTORIC BRIDGE INVENTORY

Safford Bridge

PROPERTY IDENTIFICATION

county	Graham	inventory number	09333
milepost	0.00	inventory route	North 8th Avenue
location	0.85 mi N of Hwy 70	feature intersected	Gila River
city/vicinity	Safford	USGS quadrangle	Safford
district	84	UTM reference	12.620168.3635045

STRUCTURAL INFORMATION

main span number	16	main span type	302
appr. span number	0	appr. span type	
degree of skew	0	guardrail type	4
main span length	70.0	superstructure	steel I-beam stringer
structure length	1133.0	substructure	concrete abutments, wingwalls and piers
roadway width	22.0	floor/decking	concrete deck over steel stringers
structure width	24.7	other features	steel beam guardrails with concrete bulkheads

HISTORICAL INFORMATION

construction date	1940	designer/engineer	Arizona Highway Department
project number	FAS 12-A	builder/contractor	Martin Construction Company, Tucson AZ
information source	ADOT bridge records	structure owner	Graham County
alteration date(s)		alterations	

NATIONAL REGISTER EVALUATION

For additional information, see "Vehicular Bridges in Arizona 1880-1964" National Register Multiple Property Documentation Form

inventory score	44	NRHP eligibility	eligible
		NRHP criteria	A ____ B ____ C x
		signif. statement	well-preserved example of large-scale beam bridge construction

FORM COMPLETED BY

Clayton B. Fraser, Principal

FRASERdesign
420 South County Road 23E
Loveland, Colorado 80537
31 October 2004

SAFFORD BRIDGE

Structure No. 9333

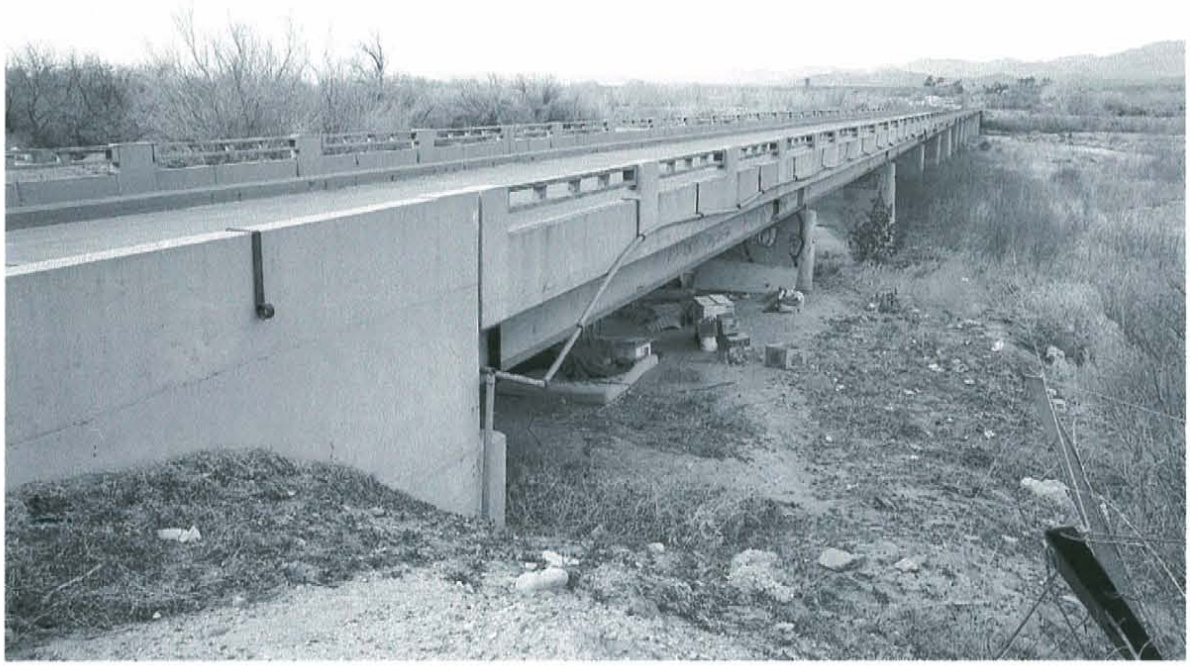


PHOTO INFORMATION

date of photo.: February 2003 view direction: north southwest photo no.: 02.11.49 02.11.54

CONSTRUCTION HISTORY

When the Graham County Board of Supervisors contemplated a new bridge to replace the existing low water crossing on the Gila River near Safford, the only bridge in the vicinity was at Pima, about eight miles west. The county secured matching Federal Aid Secondary funds, and by April 1940 the bridge engineers of the Arizona Highway Department had completed the design for the proposed structure. Although the Gila at this location carried only a small amount of water most of the year, it was subject to extreme flooding and would require a major multiple-span structure to bridge it. As delineated by AHD, the Safford Bridge would have a four-line steel deck girder superstructure, with bullnosed concrete piers set on driven steel wide flange piles. Each of the 16 spans extended 70 feet, for an aggregate length of 1,133 feet. The 25-foot-wide concrete deck was flanked on both sides by steel beam guardrails with reinforced concrete bulkheads and posts. The bridge would require almost 1.4 million pounds of steel, including 722,000 pounds of structural I beams and almost two miles of steel piling.

Competitive bids were let that spring and the contract under FAS Project 12-A(1) went to R.H. Martin of Tucson. Martin's bid for the bridge complete had been almost $110,000. A construction crew began substructural excavation soon thereafter and completed the Safford Bridge in August 1940. Since then it has carried local traffic in essentially unaltered condition, with the installation of steel pipes along one side as the only alteration of note.

SIGNIFICANCE STATEMENT

The Federal Aid Secondary program was instigated to assist counties and municipalities build bridges to carry local roads apart from the primary highway system. Most FAS bridges in Arizona were relatively small-scale structures, some of which were constructed by state work forces or Works Progress crews. Built to provide a local crossing of the Gila River, the Safford Bridge was atypical as an FAS structure because of its massive size. With an overall length of almost a quarter mile, it is exceeded in length by only two other bridges in the county system—the Gillespie Dam Bridge [**8021**] over the Gila River and the Mill Avenue Bridge [**9954**] over the Salt River, two structures originally built on the primary highway system and later turned over to Maricopa County. Technologically, the Safford Bridge is a typically configured, later example of a common structural type, which has retained a relatively high degree of physical integrity.

NATIONAL REGISTER EVALUATION

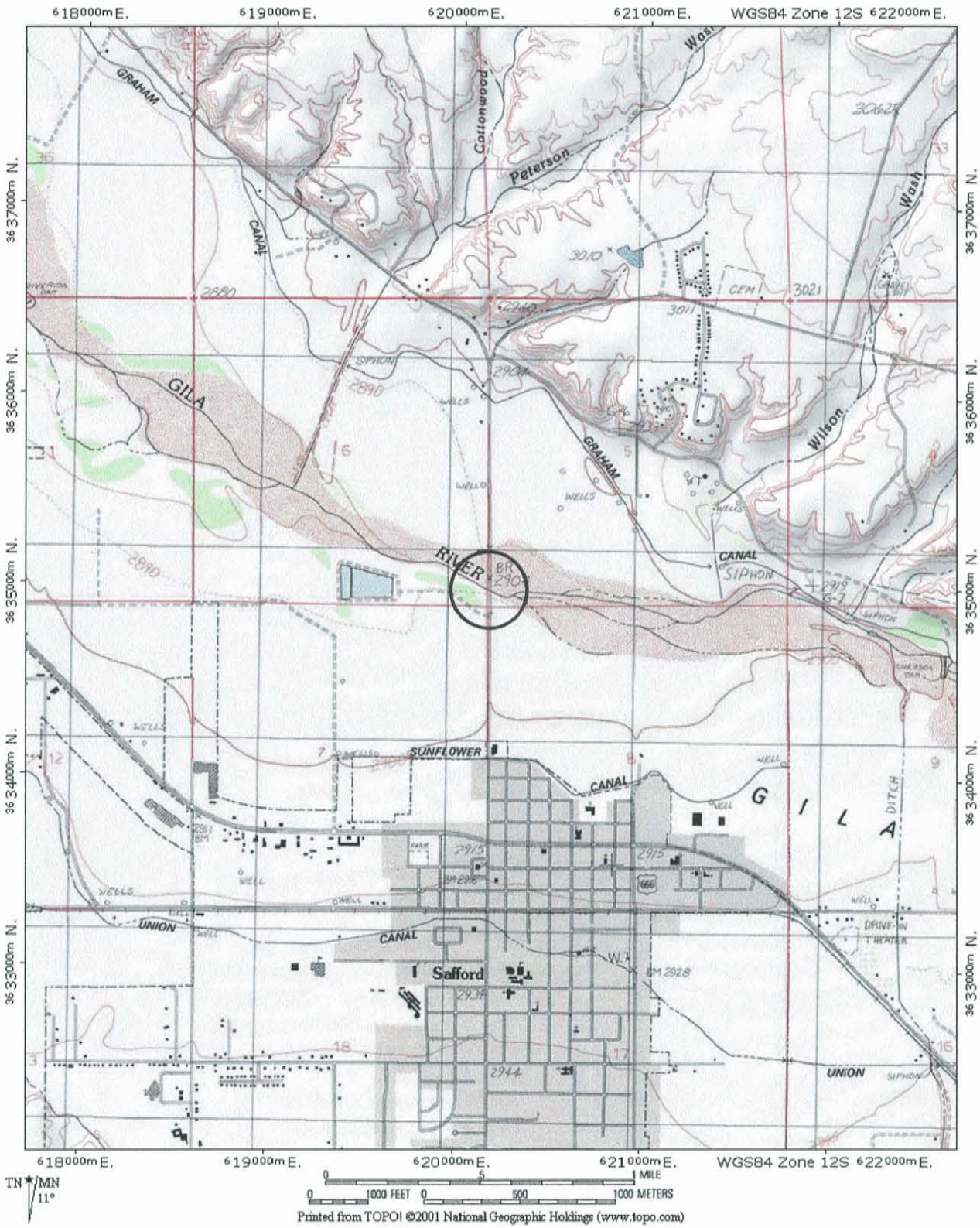
TECHNOLOGICAL SIGNIFICANCE
___ represents the work of a master
___ possesses high artistic values
_x_ represents a type, period or method of construction

HISTORICAL SIGNIFICANCE
___ associated with significant persons
___ associated with significant events or patterns
___ contributes to historical district

NATIONAL REGISTER CRITERIA
___ Criterion A
___ Criterion B
_x_ Criterion C

NATIONAL REGISTER ELIGIBILITY
individually eligible _x_ yes ___ no
contributes to district ___ yes _x_ no

AREA OF SIGNIFICANCE: Transportation; Engineering
PERIOD OF SIGNIFICANCE: 1940-1964
THEME(S): Transportation: Highways



Location Map