## United States Department of the Interior National Park Service

### NATIONAL REGISTER OF HISTORIC PLACES

**Registration Form** 

1. NAME OF PROPERTY			
	Nolan River Bridge 303-A of the Gulf, Colorado and Santa Fe Railway Nolan River Bridge at Blum, Texas		
2. LOCATION			
STREET & NUMBER: Hill County F CITY OR TOWN: Blum STATE: Texas CODE: TX	Road 1127 at Nolan River		
3. STATE/FEDERAL AGENCY CERTIF	FICATION		
determination of eligibility meets the document	Historic Preservation Act, as amended, I hereby certify that this ☑ relation standards for registering properties in the National Register of orth in 36 CFR Part 60. In my opinion, the property ☑ meets ☐ doe sidered significant ☐ nationally ☐ statewide ☑ locally. (☐ See State Historic Preservation Officer ☐ Date	es not meet the National Register continuation sheet for additional	
In my opinion, the property in meets in does not be do	not meet the National Register criteria. (☐ See continuation sheet for	r additional comments.)	
State or Federal agency / bureau or Tribal G	overnment		
4. NATIONAL PARK SERVICE CERTIFI	CATION		
I hereby certify that the property is:  ☐ entered in the National Register ☐ See continuation sheet. ☐ determined eligible for the National Register ☐ See continuation sheet. ☐ determined not eligible for the National Register. ☐ removed from the National Register ☐ See continuation sheet.	Signature of the Keeper	Date of Action	
other, explain		-	

### **USDI/NPS NRHP Registration Form**

Nolan River Bridge 303-A of the GC&SF Railway, Blum, Hill County, Texas

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### 5. CLASSIFICATION

### **OWNERSHIP OF PROPERTY**

	private	
X	public - Local	
	public - State	
	public - Federal	

### **CATEGORY OF PROPERTY**

	building(s)
	district
	site
X	structure
	object

### **NUMBER OF RESOURCES WITHIN PROPERTY**

contributing	noncontributing	
0	0	buildings
0	0	sites
1	0	structures
0	0	objects
1	0	total

NUMBER OF CONTRIBUTING RESOURCES PREVIOUSLY LISTED IN THE NATIONAL REGISTER: 0

NAME OF RELATED MULTIPLE PROPERTY LISTING: N/A

6. FUNCTION OR USE

**HISTORIC FUNCTIONS:** TRANSPORTATION: rail-related

**CURRENT FUNCTIONS:** TRANSPORATION: road-related (vehicular)

7. DESCRIPTION

ARCHITECTURAL CLASSIFICATION: N/A

**MATERIALS: FOUNDATION** STONE: Limestone (piers and abutment); CONCRETE (abutment)

WALLS ROOF

**OTHER** METAL: Steel (girders)

**NARRATIVE DESCRIPTION** (see continuation sheets 7-5 through 7-6)

Nolan River Bridge 303-A of the GC&SF Railway, Blum, Hill County, Texas

### 8. STATEMENT OF SIGNIFICANCE

### **APPLICABLE NATIONAL REGISTER CRITERIA**

Property:

X	Α	is associated with events that have made a significant contribution to the broad patterns of our history.
	В	is associated with the lives of persons significant in our past.
X	С	embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
	D	has yielded, or is likely to yield information important in prehistory or history.

CRITERIA CONSIDERATIONS: N/A

**AREAS OF SIGNIFICANCE:** transportation; engineering

PERIOD OF SIGNIFICANCE: 1899-1952

SIGNIFICANT DATES: N/A

SIGNIFICANT PERSON: N/A

CULTURAL AFFILIATION: N/A

ARCHITECT / BUILDER: Gulf, Colorado and Santa Fe Railway Company

NARRATIVE STATEMENT OF SIGNIFICANCE (see continuation sheets 8-7 through 8-10)

#### 9. MAJOR BIBLIOGRAPHIC REFERENCES

**BIBLIOGRAPHY** (see continuation sheets 9-11 through 9-13)

### PREVIOUS DOCUMENTATION ON FILE (NPS): N/A

- \_ preliminary determination of individual listing (36 CFR 67) has been requested.
- \_ previously listed in the National Register
- \_ previously determined eligible by the National Register
- \_ designated a National Historic Landmark
- \_ recorded by Historic American Buildings Survey #
- \_ recorded by Historic American Engineering Record #

### PRIMARY LOCATION OF ADDITIONAL DATA:

 $\underline{x}$  State historic preservation office Texas Historical Commission, Austin

\_ Other state agency

x Federal agency
 x Local government
 x University
 x Other -- Specify Repository:
 National Archives and Records Administration, College Park, MD
 Office of County Clerk, Hill County Courthouse, Hillsboro, Texas
 Water Resources Center Archives, University of California, Berkeley
 X Control of County Clerk, Hill County Courthouse, Hillsboro, Texas
 Water Resources Center Archives, University of California, Berkeley
 X Control of County Clerk, Hill County Courthouse, Hillsboro, Texas
 Y County Clerk, Hill County Courthouse, Hillsboro, Texas

Research Center, Houston, TX; Railroad and Heritage Museum, Temple, TX

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#### 10. GEOGRAPHICAL DATA

**ACREAGE OF PROPERTY:** less than one acre

UTM REFERENCESZoneEastingNorthing

1. 14 650965 3557481 2. 14 651502 3558469

**VERBAL BOUNDARY DESCRIPTION:** The former railway right-of-way 25 feet outward on both sides of the centerline of the bridge and its earthen approaches (Hill County Road 1127), a straight line with no curves from its intersection with Farm to Market Road 67 in Blum to its intersection with Hill County Road 1130 northeast of Blum.

**BOUNDARY JUSTIFICATION:** Nomination includes property historically associated with the former railway right-of-way 25 feet on either side of the centerline, including built-up earthen approaches and all the superstructure and substructure of the bridge that was acquired by Hill County in the early 1950s concurrently with the realignment of the railway line.

### 11. FORM PREPARED BY

NAME / TITLE: T. Lindsay Baker

**ORGANIZATION:** Tarleton State University **DATE:** 2 January 2012

**STREET & NUMBER:** PO Box T-0190 **TELEPHONE:** 254-968-1886

CITY OR TOWN: Stephenville STATE: Texas ZIP CODE: 76402

#### **ADDITIONAL DOCUMENTATION**

### **CONTINUATION SHEETS**

MAPS (see continuation sheet Map-14)

**PHOTOGRAPHS** (see continuation sheet Photo-16 through Photo-17)

**ADDITIONAL ITEMS** (see continuation sheets Figure-15)

### PROPERTY OWNER

**NAME:** Hill County (The Honorable Justin W. Lewis, County Judge)

STREET & NUMBER: Courthouse (PO Box 457) TELEPHONE: 254-582-4020

CITY OR TOWN: Hillsboro STATE: Texas ZIP CODE: 76645

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Nolan River Bridge 303-A of the GC&SF Railway Blum, Hill County, Texas

#### NARRATIVE DESCRIPTION

Nolan River Bridge 303-A of the Gulf, Colorado and Santa Fe Railway at Blum, Texas, is a single-track, steel plate, through girder bridge supported by battered stone piers. It contains six spans between the abutments and five supporting limestone piers. The steel girders rest on cast concrete caps atop the piers and abutments. The southwest abutment is stone while the northeast abutment is concrete. The bridge, which runs generally northeast-southwest, spans the Nolan River at the north side of Blum in Hill County, Texas.

Original construction from 1899-1903, all of which remains intact, includes stone piers set in bedrock, abutments, cast concrete caps, steel plate girders, and earthen approaches. The bridge was designed to carry a live load equal to two 139-ton steam locomotives followed by a load of 3,200 pounds per square foot in addition to the dead load of the bridge structure itself.

Modifications to the Nolan River Bridge, which have been mostly minor, occurred principally during its 1952 conversion to a single-lane road bridge. At that time the wooden crossties and tracks were removed and the ballast was graded and tamped to form a smooth surface for motor vehicles. Other than these alterations, no changes of substance were made to the steel and stone structure of the bridge or to its approaches.

The visual character of the bridge has changed very little over the years. Its rural setting on the northern outskirts of the Blum community and the natural context on the Nolan River remain. Although the abutments, piers, and steel structure are not easily seen from the roadway, the full character of the bridge and its relation to the river become clearly visible from the streambed below. The structure is in sound condition, having received regular maintenance first from the Santa Fe Railway and then from Hill County.

Between the northeastern and southwestern abutments stand five stone piers supporting the six plate girder spans. Each of the piers is constructed of rusticated limestone blocks laid in regular courses. The limestone piers are battered 1:12 on both the faces and sides. Mortar joints are in excess of 3/4 inch wide and the mortar appears to be Portland cement mixed with mortar. Poured concrete caps were placed atop the piers to support parallel plate girders. The bridge incorporates three limestone piers from the 1887 construction (increased in height in 1900) and two limestone piers added in 1900. Workers constructed a concrete abutment at the northeast end in 1900 and a stone abutment at the southwest end in 1903. (For clarity, this nomination identifies the piers by number from one to five in order from northeast to southwest.)

Steel plate girders connect the abutments and piers. The steel plate girders were built from 3/8-inch thick steel plates fastened to horizontal and vertical steel angle stiffeners by rivets. The stiffener angles were 3x4x3/8-inch thick and were used both singly and doubled. Rivets were 7/8-inch in diameter and their length depended on the thickness of the pieces being connected. The two parallel steel girders in each span were joined together with a web of internal braces both perpendicular to the girders and at diagonal angles to the girders. The cross members were constructed with steel angles and flitch plates. The four central girder spans measure 52 feet long, while the spans at the two ends each measure 48 feet long. To allow for expansion during hot weather, the bridge structure was fitted with slotted bolt holes permitting the metal structure to slide. The bridge deck is constructed of heavy

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Nolan River Bridge 303-A of the GC&SF Railway Blum, Hill County, Texas

timbers extending out from the face of the girders. As constructed at the turn of the twentieth century, the bridge supported the top of the rails 32 feet above the typical level of water in the Nolan River. This deck is covered with crushed rock on the top of which layers of gravel have been added during road maintenance since 1952. Including the spaces between the plate girder spans, the steel superstructure measures 308 feet 4 inches long and 16 feet 5 inches wide. The earthen approaches that encase the former timber approaches extend 431 feet to the northeast and 186 feet to the southwest, while the raised all-earthen approaches, visible above the level of the surrounding land, extend several hundred feet beyond the ends of the former timber approaches. The historic railway right-of-way extended 50 feet outward on both sides from the center line of the track atop the bridge and its approaches. When Hill County acquired the former railway property in the early 1950s, it secured ownership of a 50-foot-wide right of way for roadway purposes.

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Nolan River Bridge 303-A of the GC&SF Railway Blum, Hill County, Texas

#### STATEMENT OF SIGNIFICANCE

The Nolan River Bridge 303-A of the Gulf, Colorado and Santa Fe Railway at Blum, Hill County, Texas, was constructed in stages between 1899 and 1903 to replace an earlier structure. From that time through summer 1952, it carried all of the through traffic of the Santa Fe Railway between Chicago and the Gulf of Mexico at Galveston. Due to realignment northwestward to higher ground concurrent with construction of the Whitney Dam on the Brazos River near Blum, the railway line in 1952 shifted away from its original route. The company transferred ownership of the structure to Hill County, which adapted it to carry vehicular traffic as a one-lane road bridge. It has served that role with no further significant modifications for over half a century. Because the Nolan River Bridge carried major rail traffic on a strategic line that contributed to the economic development of Texas for half a century and because it represents a virtually unaltered example of a style bridge that was once common but now is unusual, it is nominated under criterion C for engineering and criterion A for transportation at the local level of significance.

The Gulf, Colorado and Santa Fe Railway Company, incorporated by a group of Texas businessmen and merchants in 1873, came into existence because of their desire to connect Galveston with the interior of the state. Because the existing railway lines from Galveston passed through Houston, an economic rival, they desired a railroad that would bypass the competitor. Built in stages, the Gulf, Colorado and Santa Fe laid standard gauge rails northwestward around Houston, reaching Temple, Cleburne, and Fort Worth by 1881. In 1886 the much larger Atchison, Topeka and Santa Fe Railway agreed to purchase the GC&SF if the latter firm could lay an additional thousand miles of track. The Texas company did so, with some of this construction linking Fort Worth with AT&SF track at Purcell, Oklahoma. (Though the AT&SF acquired the Texas company, the latter continued to operate into the 1960s as the Gulf, Colorado and Santa Fe.) The expansion gave Galveston on the Gulf of Mexico a direct connection with Chicago in the heartland of the Midwest. The strategic railway line transported Texas agricultural products both southward to Galveston for export and northward to markets in Kansas City and Chicago. The line contributed substantially to Galveston becoming the largest cotton export center in the nation. The railroad company likewise used this line to distribute goods in Texas that were shipped directly from the Midwest and through the port of Galveston. It played a major role in the economic development of Texas from the 1880s through the mid-twentieth century. The story of railway bridge construction over the Nolan River crossing near Blum was all shaped by these larger events in corporate and regional history.

The Gulf, Colorado, and Santa Fe Railway built northward across northern Hill County during the summer and fall of 1881 in its larger program of construction between Temple and Fort Worth. It reached Morgan (south of Blum) in August and Cleburne (north of Blum) by October. Although the precise date rails were laid through Blum (named for company director Leon Blum) is not known, the railroad opened its agency there on 21 October 1881. The creation by the railway company of towns like Blum presented it opportunities to generate income for itself by shipping to and from these communities. Well before the arrival of the rails at Blum, work began on the initial GC&SF bridge across the Nolan River on the north side of the town. (The river took its name from that of American filibusterer Philip Nolan, whose band of men were apprehended as illegal aliens by Spanish troops after a fight somewhere along its length in 1801.) Although the original 1880s Blum depot does not survive, its early-twentieth-

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Nolan River Bridge 303-A of the GC&SF Railway Blum, Hill County, Texas

century wood frame replacement still stands in situ housing a modern place of business approximately 1,500 feet southwest of the river crossing.

The initial 1881 bridge consisted of two 104-foot iron through truss spans with 28- and 56-foot timber trestle approaches at northeast and southwest ends. The effective opening for high water to pass was a limited 3,425 square feet. Because company engineers decided the original roadbed and bridge were too low and the opening so restricted that they would be threatened by flood waters, company crews in 1887 raised the roadbed, placed the two 104-foot iron overhead truss spans on three rusticated limestone piers (piers 1, 3, and 5)¹, and extended the timber trestle approaches to 234 feet on the north and 476 feet on the south. The piers stood approximately 23, 16, and 13 feet above footings in bedrock. These three stone piers remain in place beneath the current historic bridge. (Written sources do not reveal the origin of the stone, but it closely resembles limestone from local quarries.) The 1887 construction effort not only raised the track above expected flood levels but also more than doubled to 8,705 square feet the space for flood waters to pass beneath the rails. The Nolan River crossing at Blum operated in this configuration for the next dozen years.

By the end of the 1890s, needs of the Gulf, Colorado and Santa Fe Railway for its bridge at Blum had changed. The sizes of locomotives and their loads and even the weight of rails had increased substantially. To carry heavier loads, company engineers began a phased replacement of the 1880s bridge across the Nolan River at Blum. The two 104-foot iron overhead truss spans were inadequate to carry the loads required. Furthermore, the long timber trestle approaches at each end created fire hazards that over the years increasingly concerned the operators. The company experienced regular fires along its right-of-way, the major sources being sparks from steam locomotives and "hot box" fires caused when rolling stock wheel bearings degraded and subsequently overheated. This problem—experienced by all railways—became especially critical on the Gulf, Colorado and Santa Fe because one of its greatest sources of revenue consisted of hauling bales of cotton, a highly inflammable commodity. The creosote-soaked timbers of the approaches to the old Nolan River bridge at Blum were highly susceptible to igniting from such right-of-way fires. Because of its location on a strategic railroad line, company engineers chose to build a replacement structure that not only could carry heavier loads but also could withstand the worst risks they could expect—fire and flood. This work at Blum coincided with improvements elsewhere along the line as the Gulf, Colorado and Santa Fe emerged from receivership in 1899 and funds became available for such efforts.

Between 1899 and 1903, the Gulf, Colorado and Santa Fe Railway completely replaced the old 1880s Nolan River bridge, leaving behind only the three 1887 rusticated limestone piers (piers 1, 3, and 5) that had supported the ends of the two earlier iron spans. Rather than rebuilding with heavier-duty iron through truss spans, company engineers chose to use stronger steel plate girder spans resting on limestone piers set closer together to give greater support. In time the company eliminated all of the fire-prone timber trestle approaches.

Construction crews began the replacement project in the fall of 1899. They enveloped 431 feet of the timber approach at the northeast end to create an earthen embankment. This procedure effectively cut off oxygen from the buried wood and prevented its further rot and subsidence. After constructing an abutment, they connected it to the northeast end of the old through truss spans using a modern, partially prefabricated steel plate girder span 48

<sup>&</sup>lt;sup>1</sup> For clarity, this nomination identifies the piers by number from one to five in order from northeast to southwest.

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Nolan River Bridge 303-A of the GC&SF Railway Blum, Hill County, Texas

feet long. On its perpendicular and diagonal cross members were laid wooden crossties onto which steel rails were spiked. This work, however, represented only the first stage in the planned improvements.

In 1900 crews began the second phase of work by removing the two 104-foot through truss spans dating from the 1880s. They constructed two new limestone piers (piers 2 and 4) equidistant between the existing piers beneath, and about the same time they added approximately 5 feet 10 inches of rusticated limestone blocks atop the three 1887 piers to bring them up to the height of the two new piers. Atop the piers they assembled and installed four partially prefabricated 52-foot steel plate girder spans. As they had done on the northeasternmost span, workers laid wooden ties on the steel cross members of the span and spiked rails to them. The steel cross members remained open and exposed; a pedestrian on the bridge could look downward between the wooden ties and see the steel cross members and the riverbed below. In order to continue the movement of trains across the crossing, the crews also increased the height of the 48-foot plate girder span and earthen approach that had been constructed at the northeastern end of the bridge in 1899 and built a new concrete abutment at the increased height, as well as adding to the grade of the old timber trestle approach at the southwestern end. This raised the grade for all the track at the Nolan River crossing, giving the whole structure greater protection from floods. The 1900 efforts left only the old timber trestle approach on the southwest end from the obsolete style construction, but it would remain in place for another three years.

In 1903 the work crews completed updating the bridge across the Nolan River at Blum. As they had done at the northeast end, they enveloped 186 feet of the creosoted timber approach at the southwest end with rocks and earth, creating an earthen embankment that led up to a new abutment. Concurrently they constructed a rusticated limestone abutment and connected it with the remainder of the bridge with a partially prefabricated 48-foot steel plate girder span. As on the rest of the structure, workers laid wooden ties on the steel cross members of the span and fastened steel rails to these ties. Having completed the job of bridge replacement, the engineers and laborers could step back and view a structure that they hoped would serve the freight- and passenger-moving needs of the company for decades to come. Little did they realize that their work would survive and continue to transport people and goods for over a century.

The partially prefabricated plate girder spans in Bridge 303-A do not bear any identification of their maker. They do, however, follow the standard plans for class D spans developed by the American Bridge Company of Chicago. These plans, dated 1898 for the 48-foot spans and 1900 for the 52-foot spans, were approved by Atchison, Topeka and Santa Fe Railway bridge engineer A. F. Robinson and system chief engineer James Dun.

Bridge No. 303-A carried the rails of the Gulf, Colorado and Santa Fe Railway across the Nolan River at Blum from 1903 into the early 1950s. The company made one minor change to the structure in 1918, when it "ballasted" the bridge. Company crews first temporarily removed the crossties and rails from the bridge. Then they placed a full creosoted wooden deck on the perpendicular and diagonal steel cross members connecting the parallel plate girders. Up to this time space between the wooden crossties had been open so that air and the elements would pass between them. The men then distributed crushed rock ballast on top of the wooden "deck," seating wooden crossties into this stone base after which they re-spiked the rails into place on the ties. Then in 1920, company crews added heavy protective "rip rap" of heavy stones along the sides of the earthen embankment approaches at the northeastern and southwestern ends of the bridge.

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The provision of the protective "rip rap" to the approaches on the Nolan River Bridge showed foresight by Santa Fe maintenance-of-way personnel, for the structure in spring 1922 experienced the highest water ever recorded on the Nolan River. Much of Texas experienced unusually heavy rains in late April 1922, with several railroads being forced to shut down or modify passenger and freight service into Fort Worth and Dallas. The highest water reached Blum on 5 May 1922. Along the line on either side of Bridge 303-A, flood waters covered stretches of over 2,000 feet of track, while the force of the inundation pushed the rails off the roadbed in many places. The torrent reached over the floor structure of the bridge to within inches of the tops of the crossties, but the bridge held fast throughout the deluge. After the flood waters subsided, the Santa Fe sent in large crews with teams of animals who spent a week filling in washouts and returning the track to its former positions before service was restored.

With no significant structural modifications, the Nolan River Bridge at Blum remained in service carrying railroad traffic for an additional thirty years. Because of events that none of its builders could have imagined, the story of the bridge took an unexpected turn due to construction of a dam on the Brazos River about six and a half miles to the southwest. The U.S. Army Corps of Engineers began work on the Whitney Dam project on 12 May 1947 to create a reservoir for flood control and for water storage for municipal use and hydroelectric generation. Waters impounded by the reservoir would cover the old 1881 Santa Fe crossing of the Brazos and much of its roadbed, so the railroad company, with federal government assistance, relocated its tracks to higher ground to the northwest. The Santa Fe effort resulted in the construction of a much larger and higher bridge across part of the Whitney Reservoir, the excavation of a five-mile-long cut, and erection of a new bridge across the Nolan River approximately three miles north of Blum. The new line completely bypassed Blum and the old railway bridge there. During the construction project, rail traffic continued to pass over the Nolan River Bridge at Blum, but in summer 1952 traffic switched to the new alignment. By August 1952 crews had begun removing track from the abandoned 1881 line, but the old bridge remained in place.

Through 1880s easement agreements, control of the rural land over which the bypassed tracks had been constructed transferred to the adjacent landowners, but the bridge constituted a special case. Since the Nolan River was and is legally navigable, its banks belong to the state of Texas. The Santa Fe Railway consequently transferred the old bridge to Hill County, Texas, as an instrumentality of the state. Once the tracks and crossties were removed, county crews graded the crushed-rock ballast atop the bridge and along a portion of the earthen embankment north of Blum on both sides of the river to create a county road. (With Corps of Engineers financial assistance, the county secured ownership of a 50-foot-wide right of way beyond the bridge for the new county road from the private landowners along its route.) The fact that the steel plate girders extended well above the roadway on each side meant that county crews did not even need to install bridge railings. After tamping down the crushed-rock ballast, they declared the roadway along the former railway right-of-way and old bridge open to the public for motor vehicle and pedestrian use. This effectively converted the railway structure into a single-lane road bridge where formerly locomotives had gone. Santa Fe's Nolan River Bridge 303-A began its second life as a vehicular bridge, a role that it has served since 1952 with no substantial structural changes. Its character defining features—including the riveted steel plate girders, floor system, limestone piers, and abutments—remain in place with a high degree of integrity.

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#### **BIBLIOGRAPHY**

- American Bridge Works, Chicago, Ill. "48'-0' Through Plate Girder Span[,] Class D[,] A.T. & S.F. R.R." MS drawing. 2 lvs. 1898. Photocopy provided by Burlington-Santa Fe Railway Company, Fort Worth, Texas.
- American Bridge Works, Chicago, Ill. "52 Ft. Through Plate Girder Span A.T. &S.F. Ry. System." MS drawing. 2 lvs. 1900. Photocopy provided by Burlington-Santa Fe Railway Company, Fort Worth, Texas.
- "Army Engineers Get Approval to Build Bridge." Hillsboro Evening Mirror (Hillsboro, Tex.), 5 September 1952, p. 1.
- Atchison, Topeka and Santa Fe Railway Company, Chicago, Ill. "B.E.S. 217 A.T. & S.F. Ry. System 48'-0" Class 'D' Span Ballast Floor Plan." MS drawing. 1 lf. 1918. Photocopy provided by Burlington-Santa Fe Railway Company, Fort Worth, Texas.
- Atchison, Topeka and Santa Fe Railway Company, Chicago, Ill. "B.E.S. 221 A.T. & S.F. Ry. System 52 Ft. Class 'D' Span Ballast Floor Plans." MS drawing. 1 lf. 1918. Photocopy provided by Burlington-Santa Fe Railway Company, Fort Worth, Texas.
- Atchison, Topeka and Santa Fe Railway Company, Chicago, Ill. "Santa Fe Railroad[,] Chicago to Albuquerque, El Paso and Denver (Via La Junta) and Newton to Galveston, Beaumont and Longview, Temple to Amarillo (Via Sweetwater) and Amarillo to Las Animas (Via Boise City)[,] Construction, Characteristics, and traffic." Typescript. [1946.] Atchison, Topeka and Santa Fe Railway Collection, Kansas State Historical Society, Topeka, Kansas.
- Bianculli, Anthony J. *Bridges and Tunnels, Signals*, volume 4 in *Trains and Technology: The American Railroad in the Nineteenth Century*. Newark: University of Delaware Press; London: Associated University Press, 2004.
- "Blum to Get New Steel Bridge Soon." Hillsboro Evening Mirror, 4 September 1952, pp. 1, 5.
- "Brazos River 28 Feet at Waco Last Night." The Dallas Morning News (Dallas, Tex.), 27 April 1922, p. 1.
- "Federal 'Beagle' Throws Hitch in Blum Road Deal." Hillsboro Evening Mirror, 7 September 1952, p. 1.
- "Flood Dangers at Fort Worth Pass." The Dallas Morning News, 10 May 1922, pp. 1, 3.
- "Floods Cause Damage and Loss of Life." The Dallas Morning News, 9 May 1922, pp. 1, 2.
- Grossman, Frank N. "Whitney Dam Line Change." The Santa Fe Magazine (August 1952): 8-12.
- Gulf, Colorado and Santa Fe Railway Company. "Blum Station Map[,] Gulf, Colorado and Santa Fe Ry. Southern Division[,] Main Line, Texas[,] Operated by Gulf, Colorado and Santa Fe Ry. Co." Blueprint Copy of Ink Drawing. 30 June 1926. In possession of Garnell A. Baker, Cleburne, Texas.

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- Gulf, Colorado and Santa Fe Railway Company. "Bridge 303-A[,] Main Line[,] Middle Nolan River[,] Ravine Sec. along Center Line of Bridge." Ink drawing. June 1934. Aperture card R-56-14949, Archives, Railroad and Heritage Museum, Temple, Texas.
- Gulf, Colorado and Santa Fe Railway Company. "G.C. & S.F. Br. 301-B, Br. 303-A, Br. 305-A Main Line[,] Profile Showing Changes in Size and Construction from 1881 to Present." Ink Drawings. 2 sheets. 1923. Aperture card R-56-11243, Archives, Railroad and Heritage Museum, Temple, Texas.
- Gulf, Colorado and Santa Fe Railway Company. "Gulf Lines Painting Record[,] Steel Bridges[,] Steel Tanks[,] Turntables[,] Corrected to Dec. 31, 195\_." Manuscript volume. [Ca. 1959-62.] In possession of Russell Crump, Shawnee, Kansas.
- Gulf, Colorado and Santa Fe Railway Company. "Map Showing Highwater [sic] of May 5, 1922[,] along Nolan River North and South of Blum, Texas." Pencil map. 27 October 1923. Aperture card C-49-11333, Archives, Railroad and Heritage Museum, Temple, Texas.
- Gulf, Colorado and Santa Fe Railway Company. "Purchase of Right of Way for Line Change near Blum." MS. Gulf, Colorado and Santa Fe Legal Department Files, Box 211, Folder 8, Record Group D-4, Houston Metropolitan Research Center, Houston, Texas.
- Gulf, Colorado and Santa Fe Railway Company. "Santa Fe Gulf Lines Bridge List[,] Office of Chief Engineer, Galveston, Texas." Bound volume of blueprint reproduced pages. [Ca. 1938.] [Data on Bridge 303-A on page 204.] Photocopy provided by William Osborn, Austin, Texas.
- Hill County, Texas. Commissioners Court Minutes. Vol. Q, pp. 409, 462-66; Vol. R, pp. 18, 529, 563. Hill County Courthouse, Hillsboro, Texas.
- Means, Tho[ma]s H. "Report on Whitney Dam on the Brazos River, Texas[,] and Its Effect on the Gulf, Colorado and Santa Fe Railway." Typescript. 1946. Water Resources Center Archives, University of California, Berkeley, California.
- "New Blum Road Conference Set." Hillsboro Evening Mirror, 29 August 1952, p. 1.
- "No Improvement Seen in Flood Situation." The Dallas Morning News, 27 April 1922, p. 2.
- "Santa Fe Repairs Line." The Dallas Morning News, 13 May 1922, p. 7.
- U.S. Department of the Army. Corps of Engineers. Office of the District Engineer, Galveston, Texas. "Brazos River Basin, Texas[,] Whitney Reservoir[,] Brazos River, Texas[,] Relocation Gulf[,] Colorado and Santa Fe Railway." Blueprint map. 15 July 1946. In the possession of T. Lindsay Baker, Rio Vista, Texas.

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Nolan River Bridge 303-A of the GC&SF Railway Blum, Hill County, Texas

- U.S. Department of the Army. Corps of Engineers. Office of the District Engineer, Galveston, Texas. "Brazos River, Texas[,] Whitney Dam and Reservoir[,] Relocations[,] County Roads—Hill County, Texas." [Ca. 1949.] Blueprint map. In Hill County, Texas, Commissioners Court, Minutes, Vol. Q, p. 410, Hill County Courthouse, Hillsboro, Texas.
- U.S. Department of the Army. Corps of Engineers. Office of the District Engineer, Galveston, Texas. "Exhibit 'A[,]' Brazos River Basin, Texas[,] Whitney Dam and Reservoir[,] Brazos River, Texas[,] Relocation[,] Hill County Roads[,] Crossing Relocated G.C. & S.F. Ry.[,] to Accompany Contract No. DA-41-243-eng-420." [Ca. 1950.] Blueprint map. In Hill County, Texas, Commissioners Court, Minutes, Vol. Q, p. 466, Hill County Courthouse, Hillsboro, Texas.
- U.S. Interstate Commerce Commission. Bureau of Valuation. Engineering Field Notes for Gulf, Colorado and Santa Fe Railway Bridge 303-A. MS. 27 November 1917. Valuation Section 5, Box 1249, Record Group 134, National Archives, College Park, Maryland.

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# **National Register of Historic Places Continuation Sheet**

Section MAP Page 14

Nolan River Bridge 303-A of the GC&SF Railway Blum, Hill County, Texas

**Maps 1 (inset, bottom left) and 2:** Hill County (shaded) is located in north central Texas. The nominated property is located north of Blum, Texas, along County Road 1127 as it crosses the Nolan River. (Microsoft Bing Maps, accessed 1 May 2012.)



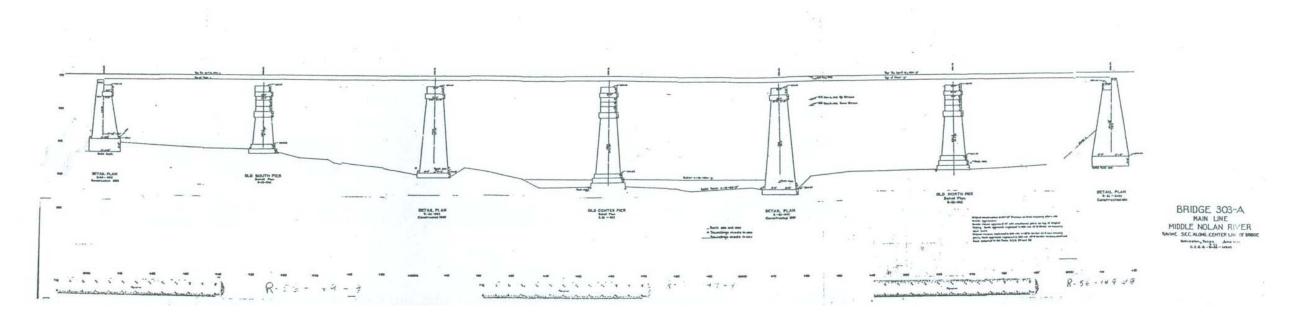
## United States Department of the Interior National Park Service

# **National Register of Historic Places Continuation Sheet**

Section FIGURE Page 15

Nolan River Bridge 303-A of the GC&SF Railway Blum, Hill County, Texas

**Figure 1:** Elevation view drawing of the nominated property, reproduced from a microfilm aperture card. "Bridge 303-A[,] Main Line[,] Middle Nolan River[,] Ravine Sec. along Center Line of Bridge," ink drawing, June 1934, aperture card R-56-14949, Archives, Railroad and Heritage Museum, Temple, Texas.



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## National Register of Historic Places Continuation Sheet

Section PHOTO Page 16

Nolan River Bridge 303-A of the GC&SF Railway Blum, Hill County, Texas

#### PHOTOGRAPH LOG

All photographs are credited as follows:

Name of Property: Nolan River Bridge 303-A of the Gulf, Colorado and Santa Fe Railway

City: Blum
County: Hill County
State: Texas

Photographer: T. Lindsay Baker Date: January 6, 2012

Location of digital files: Texas Historical Commission, Austin

Printed on HP Premium Plus Photo Paper with HP Vivera ink

### Photo 1 (TX\_Hill County\_Nolan River Bridge\_0001.tif)

Southwest to general view of Nolan River Bridge 303-A from the northeastern 1900 pier to the southeastern abutment as seen from the northeast bank of the river.

### Photo 2 (TX\_Hill County\_Nolan River Bridge\_0002.tif)

South southeast to general view of Nolan River Bridge 303-A from downstream on southwest bank of the river showing the entire length from abutment to abutment.

### Photo 3 (TX\_Hill County\_Nolan River Bridge\_0003.tif)

East northeast to northeastern concrete abutment of Nolan River Bridge 303-A.

### Photo 4 (TX Hill County Nolan River Bridge 0004.tif)

East southeast to general view of central 1887 pier of Nolan River Bridge 303-A.

### Photo 5 (TX\_Hill County\_Nolan River Bridge\_0005.tif)

West to general view of southeastern stone abutment of Nolan River Bridge 303-A.

### Photo 6 (TX\_Hill County\_Nolan River Bridge\_0006.tif)

Northwest and upward from the riverbed downstream to the 52-foot 1900 plate girder span between the northeastern 1900 pier (left) and the northeastern 1887 pier (right) showing portions of both piers on Nolan River Bridge 303-A.

### Photo 7 (TX\_Hill County\_Nolan River Bridge\_0007.tif)

View upward from the bedrock of the riverbed to the bottom side of the decked 52-foot 1900 plate girder span between the northeastern 1900 pier (visible in side of photograph) and the northeastern 1887 pier of Nolan River Bridge 303-A.

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# **National Register of Historic Places Continuation Sheet**

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Nolan River Bridge 303-A of the GC&SF Railway Blum, Hill County, Texas

Photo 8 (TX\_Hill County\_Nolan River Bridge\_0008.tif)

Southwest along the roadway showing the full length of Nolan River Bridge 303-A as seen by motorists.

Photo 9 (TX\_Hill County\_Nolan River Bridge\_0009.tif)

Southwest along the earthen embankment approach toward Nolan River Bridge 303-A as seen by motorists.