

**United States Department of the Interior
Heritage Conservation and Recreation Service**

**National Register of Historic Places
Inventory—Nomination Form**



See instructions in *How to Complete National Register Forms*
Type all entries—complete applicable sections

1. Name

RECEIVED

historic I Street Bridge

JUN 10 1982

and/or common I Street Bridge

OHP

2. Location

CA 16

street & number State Highway 16 across the Sacramento River — not for publication

city, town Sacramento — vicinity of congressional district 3 and 4

state California code 06 county Yolo/Sacramento code 113/067

(Caltrans Yolo County)

3. Classification

Category	Ownership	Status	Present Use	
<input type="checkbox"/> district	<input type="checkbox"/> public	<input checked="" type="checkbox"/> occupied	<input type="checkbox"/> agriculture	<input type="checkbox"/> museum
<input type="checkbox"/> building(s)	<input type="checkbox"/> private	<input type="checkbox"/> unoccupied	<input type="checkbox"/> commercial	<input type="checkbox"/> park
<input checked="" type="checkbox"/> structure	<input checked="" type="checkbox"/> both	<input type="checkbox"/> work in progress	<input type="checkbox"/> educational	<input type="checkbox"/> private residence
<input type="checkbox"/> site	Public Acquisition	Accessible	<input type="checkbox"/> entertainment	<input type="checkbox"/> religious
<input type="checkbox"/> object	<input type="checkbox"/> in process	<input type="checkbox"/> yes: restricted	<input type="checkbox"/> government	<input type="checkbox"/> scientific
	<input type="checkbox"/> being considered	<input checked="" type="checkbox"/> yes: unrestricted	<input type="checkbox"/> industrial	<input checked="" type="checkbox"/> transportation
		<input type="checkbox"/> no	<input type="checkbox"/> military	<input type="checkbox"/> other:

4. Owner of Property

name *California Department of Transportation (Caltrans)

**Southern Pacific Transportation Company

*1120 N Street

street & number **1 Market Street

*Sacramento

city, town **San Francisco — vicinity of state California

5. Location of Legal Description

courthouse, registry of deeds, etc. California Department of Transportation

Office of Structures Maintenance

street & number 1120 N Street, Room 3303

city, town Sacramento state California

6. Representation in Existing Surveys

Caltrans/Office of Historic Preservation Survey of Pre-1935 State Highway

title Bridges, 1978-80 has this property been determined eligible? yes no

date 1978-1980 — federal state — county — local

depository for survey records Caltrans Headquarters Environmental Planning/
California Office of Historic Preservation

city, town Sacramento state California

7. Description

Condition

excellent
 good
 fair

deteriorated
 ruins
 unexposed

Check one

unaltered
 altered

Check one

original site
 moved date _____

Describe the present and original (if known) physical appearance

The I Street Bridge is described as a double-deck steel truss bridge comprised of fixed and swing spans, with steel stringer and welded steel girder approach spans. The truss spans are Baltimore trusses with sub-struts. The lower deck of the bridge carries the double-track main line of the Southern Pacific Railroad, while the concrete upper deck carries State Highway 16. The bridge's 33 spans (ranging in length from 7 feet to 390 feet) total 2,194 feet in length overall, 19 feet in width, and carry two 9-foot traffic lanes and two 5-foot sidewalks on the upper deck between steel railings. The bridge crosses the Sacramento River with no skew.

Alterations to the bridge took place in 1937,¹ when the California Division of Highways and the City of Sacramento constructed a new east approach, and in 1959, when the California Division of Highways constructed a new west approach.

¹Although authorized in 1934, actual construction did not begin until 1937.

8. Significance

Period	Areas of Significance—Check and justify below			
<input type="checkbox"/> prehistoric	<input type="checkbox"/> archeology-prehistoric	<input type="checkbox"/> community planning	<input type="checkbox"/> landscape architecture	<input type="checkbox"/> religion
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> archeology-historic	<input type="checkbox"/> conservation	<input type="checkbox"/> law	<input type="checkbox"/> science
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> agriculture	<input type="checkbox"/> economics	<input type="checkbox"/> literature	<input type="checkbox"/> sculpture
<input type="checkbox"/> 1600-1699	<input type="checkbox"/> architecture	<input type="checkbox"/> education	<input type="checkbox"/> military	<input type="checkbox"/> social/
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> art	<input checked="" type="checkbox"/> engineering	<input type="checkbox"/> music	<input type="checkbox"/> humanitarian
<input type="checkbox"/> 1800-1899	<input type="checkbox"/> commerce	<input type="checkbox"/> exploration/settlement	<input type="checkbox"/> philosophy	<input type="checkbox"/> theater
<input checked="" type="checkbox"/> 1900-	<input type="checkbox"/> communications	<input type="checkbox"/> industry	<input type="checkbox"/> politics/government	<input checked="" type="checkbox"/> transportation
		<input type="checkbox"/> invention		<input type="checkbox"/> other (specify)

Specific dates 1911 **Builder/ARCHITECT** Southern Pacific/American Bridge Co.

Statement of Significance (in one paragraph)

The I Street Bridge was built in 1911 to replace the Southern Pacific's earlier timber Howe truss swing span bridge at the same location. The earlier bridge, which also carried both railroad and road traffic, had been in use since 1867. The present bridge was undertaken during the general line improvements begun when control of the Southern Pacific was in the hands of E.H. Harriman. The old bridge was a single-track affair, and represented a severe bottleneck in the Southern Pacific's double-track mainline. Accordingly, the railroad and the counties of Sacramento and Yolo entered into an agreement, and construction of the new bridge began in June 1910.

The pivot pier of the swing span is 42 feet in diameter, and is built on an octagonal caisson 54 feet in diameter and 84 feet high, containing 5,550 cubic yards of concrete. The caissons for the other piers are of lesser dimensions. The center bearing swing span, weighing a little over 6,300,000 pounds (or 3,374 tons), was the heaviest in the world when built, and remains the heaviest in the U.S. to this date. (Center-bearing swing bridges utilize a large bronze thrust bearing at the center of the span which supports the weight of the span when the bridge is open, with the span balanced so that its center of gravity remains over the bearing at all times.) The bridge was designed to open in either direction, under electric power supplied by Pacific Gas and Electric. An emergency system comprised of 160 storage battery cells was provided for use in case of power trouble, and had the capacity to operate the bridge four or five times. The power to open the bridge is provided by two 75 horse-power electric motors mounted on the lower chords near the center of the swing span, and driving through a gear train. The bridge operator, housed in a control cabin directly over the upper (highway) deck at the center of the swing span, controls the motors, brakes, signal system, and highway gates. Operation of the bridge requires about five minutes to open, and a like amount to close and restore traffic operations. Incandescent electric lighting was provided on the bridge at the time of its building.

The steel superstructure, totalling about 4,500 tons, was furnished by the American Bridge Company. Foundation work was carried out by the Missouri Valley Bridge & Iron Company and by Southern Pacific forces. The bridge was designed under the direction of Southern Pacific's consulting engineer John D. Isaacs.

The I Street Bridge has integrity of location, setting, materials, workmanship, feeling, and association. Integrity of design was compromised somewhat (albeit very slightly) by the construction of new approaches in 1937 and 1959. It remains one of the most substantial reminders of the improvements made during the Harriman regime on the Southern Pacific. It is representative of a type (center-bearing swing bridge), period (early twentieth century), and method of construction (shop-fabricated, field-riveted steel trusses). When built, it was the heaviest of its type in the world, and retains that title with respect to the U.S. The length of the swing span was exceeded by only two other U.S. bridges when built, and both of those were of much lighter construction.

9. Major Bibliographical References

- _____, Revised Original Report, I Street Bridge (unpublished report), dated May 23, 1974.
- _____, Bridge Report, I Street Bridge (unpublished report), dated September 22, 1959.

10. Geographical Data

Acreeage of nominated property less than 1
 Quadrangle name Sacramento West Quadrangle scale 1:24,000

UMT References

A	1 0	6 3 0 2 2 0	4 2 7 0	7 4 0	B			
	Zone	Easting	Northing			Zone	Easting	Northing
C					D			
E					F			
G					H			

Verbal boundary description and justification

The property consists of 2,194 feet of State Highway 16 crossing the Sacramento River between Yolo County (on the west) and Sacramento County (on the east), with the width of the property defined by the physical width of the bridge and its piers.

List all states and counties for properties overlapping state or county boundaries

state	California	code	06	county	Yolo	code	113
state	California	code	06	county	Sacramento	code	067

11. Form Prepared By

name/title John W. Snyder, M.A., Architectural Historian

organization N/A date February 2, 1981

street & number 3429 Wemberley Drive telephone 916/487-6472

city or town Sacramento state California

12. State Historic Preservation Officer Certification

The evaluated significance of this property within the state is:

national state local

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the Heritage Conservation and Recreation Service.

State Historic Preservation Officer signature *K. M. Ellen*

title *SHPO* date *5/20/81*

For HCERS use only

I hereby certify that this property is included in the National Register

Entered in the
National Register

date *4/22/82*

for *Alvina Boyer*
Keeper of the National Register

Attest:

date

Chief of Registration

**NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY -- NOMINATION FORM**

FOR HCRS USE ONLY
RECEIVED <u>MAR 23 1982</u>
DATE ENTERED

CONTINUATION SHEET

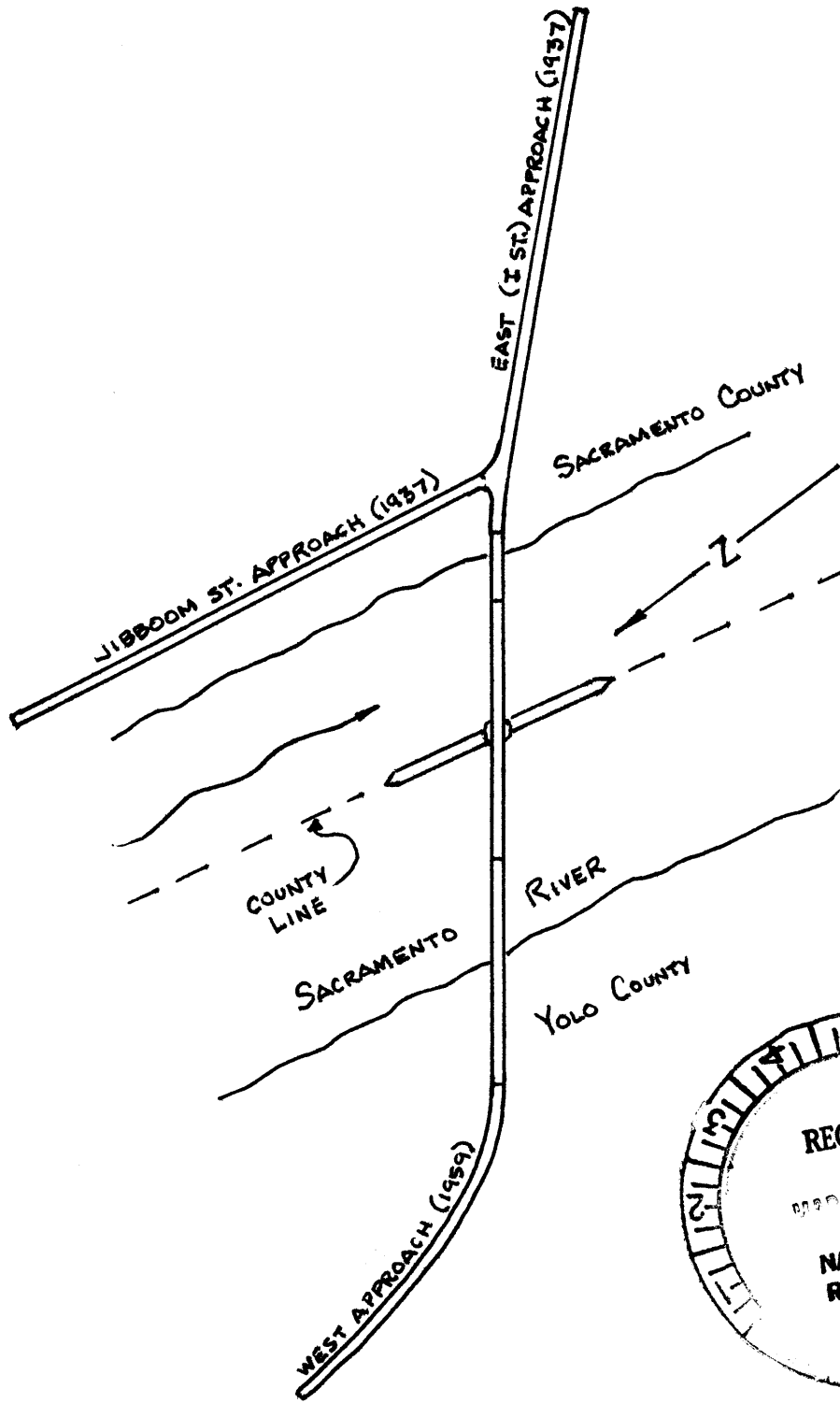
ITEM NUMBER 9 PAGE 1

_____, "Heaviest Swing-Span Steel Bridge in the World," The Architect and Engineer, December 1911.

_____, "Southern Pacific Bridge At Sacramento: Double Track, Double Deck Structure with Highway on Upper Level--Believed to Be Heaviest Swing Span Ever Built," Railway Age Gazette, April 11, 1913.

_____, Historic Civil Engineering Landmarks of Sacramento and Northeastern California, prepared by The History and Heritage Committee, Sacramento Section, American Society of Civil Engineers, Sacramento, Sacramento Section A.S.C.E., November 1976.

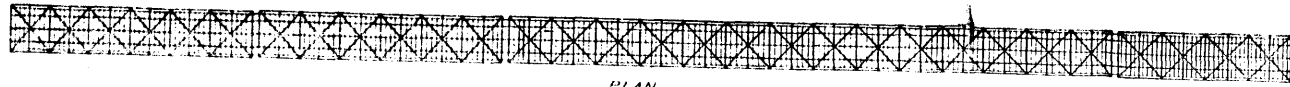
Hovey, Otis Ellis, B.S., C.E., Movable Bridges, New York, John Wiley & Sons, Inc., 1926.



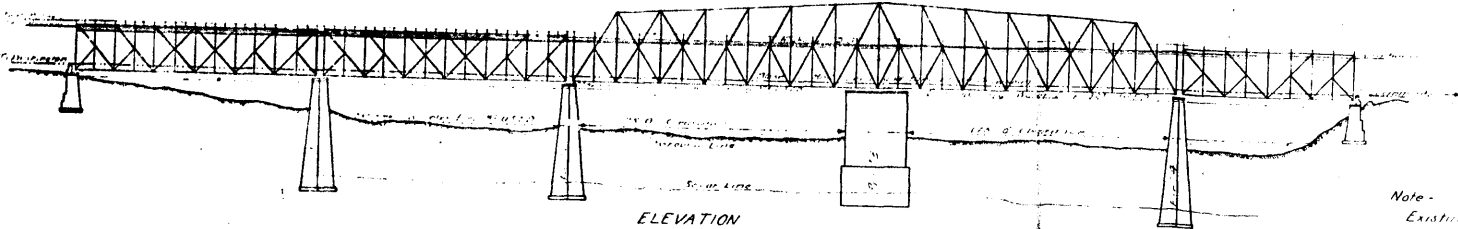
I STREET BRIDGE
 YOLO/SACRAMENTO COUNTIES

SCALE: 1" = 274.25'

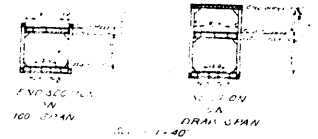
SOUTHERN PACIFIC CO
 PROPOSED NEW BRIDGE
 FOR
 RAILROAD & HIGHWAY PURPOSES
 ACROSS THE
 SACRAMENTO RIVER
 SACRAMENTO - CALIFORNIA
 Scale as shown NIB March, 1910



PLAN
 Scale 1"=100'



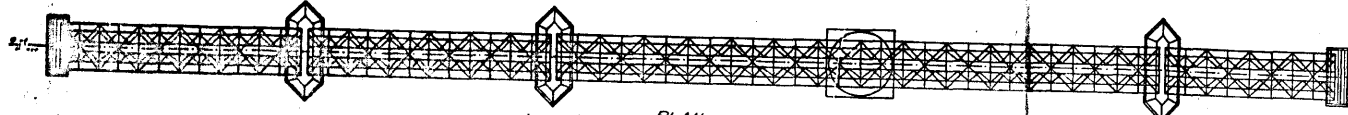
ELEVATION
 Looking Up Stream



SECTION
 100' PLAN

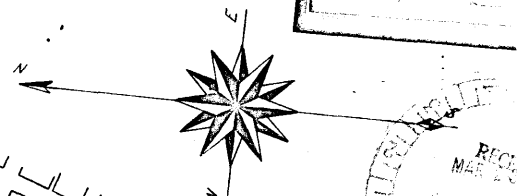
SECTION
 100' PLAN

Note -
 Existing bridge to be removed when
 new bridge is completed

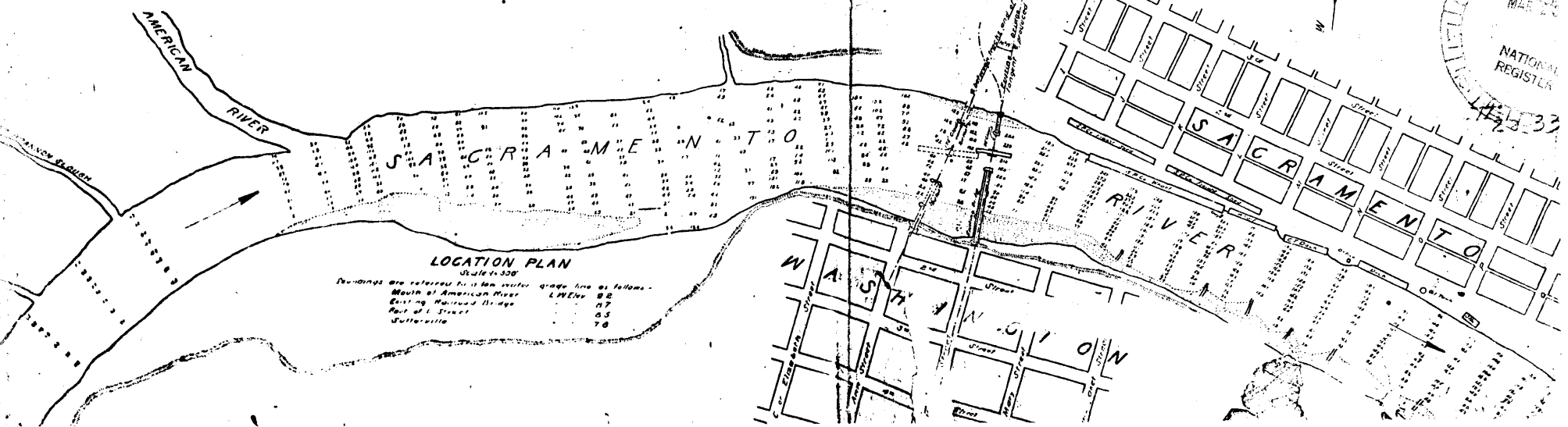


PLAN
 Scale 1"=40'

CONTRACT P
 APR 1910
 Sacramento, Calif.



RECORDED
 MAR 20 1910
 NATIONAL
 REGISTER



LOCATION PLAN
 Scale 1"=300'

Buildings are referred to in plan by grade line as follows -
 South of American River L. Elev. 82
 Existing Railroad Bridge 87
 Foot of L Street 85
 Sutterville 70