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United States Department of the Interior
National Park Service

National Register of Historic Places
Registration Form

RECEIVED
APR 18 1995
INTERAGENCY RESOURCES DIVISION
NATIONAL PARK SERVICE

RECEIVED 413
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PROBUDMART

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions on the back of the form. Complete the National Register of Historic Places Registration Form (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name Spokane River Bridge at Long Lake Dam

other names/site number WSDOT 231/101

2. Location

street & number State Route 231, spanning the Spokane River not for publication

city or town Reardan vicinity

state Washington code WA county Lincoln & Stevens code 043, zip code 99029
065

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this nomination request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property meets does not meet the National Register criteria. I recommend that this property be considered significant nationally statewide locally. (See continuation sheet for additional comments.)

Mary M. Campbell 2/18/95
Signature of certifying official/Title Date

State of Federal agency and bureau

In my opinion, the property meets does not meet the National Register criteria. (See continuation sheet for additional comments.)

Signature of certifying official/Title Date

State or Federal agency and bureau

4. National Park Service Certification

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.

other, (explain): _____

Signature of the Keeper

Date of Action

Paul R. Ferguson 5/24/95

Name of Property

County and State

5. Classification

Ownership of Property

(Check as many boxes as apply)

- private
- public-local
- public-State
- public-Federal

Category of Property

(Check only one box)

- building(s)
- district
- site
- structure
- object

Number of Resources within Property

(Do not include previously listed resources in the count.)

Contributing	Noncontributing	
_____	_____	buildings
_____	_____	sites
_____ 1 _____	_____	structures
_____	_____	objects
_____ 1 _____	_____	Total

Name of related multiple property listing

(Enter "N/A" if property is not part of a multiple property listing.)

"Bridges of Washington State, 1941-1950"
 "Historic Bridges & Tunnels in Washington State"

Number of contributing resources previously listed in the National Register

0

6. Function or Use

Historic Functions

(Enter categories from instructions)

Transportation/road-related/bridge

Current Functions

(Enter categories from instructions)

Transportation/road-related/bridge

7. Description

Architectural Classification

(Enter categories from instructions)

Other: concrete arch

Materials

(Enter categories from instructions)

foundation _____

walls _____

roof _____

other concrete

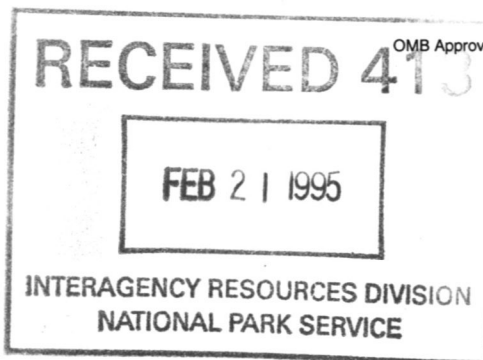
Narrative Description

(Describe the historic and current condition of the property on one or more continuation sheets.)

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Section number 7 Page 1



7. Physical Description

Built in 1949, the Spokane River Bridge at Long Lake Dam crosses its namesake downstream from the Washington Water Power Company's Long Lake Dam. This portion of the Spokane River, which forms the boundary between Lincoln County on the south and Stevens County on the north, is extremely rugged and remote. The river gorge is typified by imposing cliffs rising dramatically above the Long Lake Dam and powerhouse.

The bridge consists of two 40-foot-long concrete girder approach spans on the south end; a 211-foot-long open spandrel arch span; and four 40-foot-long and one 30-foot-long concrete girder approach spans on the north end, for a total length of 481 feet including overhangs and bridge seats. This is the longest concrete arch span constructed by the state in the 1941-1950 period.

The approach spans each consist of two reinforced concrete girders with parabolic soffits. Floor beams, located at approximately 10 to 12 feet on centers between the girders, support the roadway slab on both the approach and arch spans. The floor beams cantilever beyond the girder to support slab, curbs, sidewalk, and handrail.

The graceful concrete arch section consists of two reinforced concrete ribs spanning 200 feet between skewbacks, with a rise of 44 feet and an overall length of 211 feet. The ribs support columns spaced at 23-foot centers, which in turn support the roadway girders, floor beams, and roadway slab. The arch curvature is formed by double center circular curves.

Name of Property

County and State

8. Statement of Significance

Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- A Property is associated with events that have made a significant contribution to the broad patterns of our history.
B Property is associated with the lives of persons significant in our past.
C Property 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 Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations

(Mark "x" in all the boxes that apply.)

Property is:

- A owned by a religious institution or used for religious purposes.
B removed from its original location.
C a birthplace or grave.
D a cemetery.
E a reconstructed building, object, or structure.
F a commemorative property.
G less than 50 years of age or achieved significance within the past 50 years.

Narrative Statement of Significance

(Explain the significance of the property on one or more continuation sheets.)

9. Major Bibliographical References

Bibliography

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

Previous documentation on file (NPS):

- 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

Areas of Significance

(Enter categories from instructions)

Engineering

Period of Significance

1949

Significant Dates

1949

Significant Person

(Complete if Criterion B is marked above)

n/a

Cultural Affiliation

n/a

Architect/Builder

Washington State, Dept. of Highways

Henry Hagman, contractor

Primary location of additional data:

- State Historic Preservation Office
Other State agency Bridge Condition Unit,
Federal agency WSDOT, Olympia, WA;
Local government
University Archaeological & Historical Services, Eastern Washington
Name of repository: University, Cheney, WA

Spokane River Bridge at Long Lake Dam
Name of Property

Lincoln/Stevens, Washington
County and State

10. Geographical Data

Acreage of Property less than one acre

UTM References

(Place additional UTM references on a continuation sheet.)

1

1	1	4	3	6	2	7	0	5	2	9	8	5	3	0
Zone	Easting				Northing									

3

Zone	Easting				Northing									

See continuation sheet

Verbal Boundary Description The property is a bridge, measuring 486 feet, spanning the Spokane River on State Route 231, connecting Lincoln and Stevens counties, Washington.

Boundary Justification The boundary of the property is the bridge itself.
(Explain why the boundaries were selected on a continuation sheet.)

11. Form Prepared By

name/title Robert H. Krier, J. Byron Barber, Robin Bruce, Craig Holstine

organization AHS, Eastern Washington University date 5 December 1991

street & number MS-168 Monroe Hall telephone (509) 359-2284

city or town Cheney state WA zip code 99004

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets

Maps

A **USGS map** (7.5 or 15 minute series) indicating the property's location.

A **Sketch map** for historic districts and properties having large acreage or numerous resources.

Photographs

Representative **black and white photographs** of the property.

Additional items

(Check with the SHPO or FPO for any additional items)

Property Owner

(Complete this item at the request of SHPO or FPO.)

name _____

street & number _____ telephone _____

city or town _____ state _____ zip code _____

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 470 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18.1 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Projects (1024-0018), Washington, DC 20503.

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Section number 8, 9 Page 1

8. Statement of Significance

The Spokane River Bridge at Long Lake Dam is eligible for inclusion in the National Register of Historic Places under Criterion C. The structure is an outstanding example of a graceful concrete arch bridge, one of the few built during the decade of the 1940s. This structure is located in a remote part of eastern Washington, where rugged basalt cliffs present a pleasing contrast to the elegant lines of the bridge. Its use in this location enhances the natural beauty of the rugged environment in a particularly effective blend of a man-made structure with its natural surroundings. The structure is also significant as an example of innovative engineering technology in its use of the considere hinge.

Employment of a considere hinge at the skewbacks is featured in the arch design of the bridge. Under this system, the arch acts as a two-hinged arch to support the dead load of the structure. After all concrete in the superstructure is cast, the falsework is released and the arch ribs then support the total dead load of the structure. The arch rib steel is then welded together and the concreting of the hinge is completed, thus causing the arch to act as a fixed arch under live load conditions. The Spokane River Bridge at Long Lake Dam is the only concrete arch bridge built by Washington State in the 1940s using this system.

Clarence B. Shain was the Director of Highways at the time the Spokane River Bridge was built. George Stevens was the Bridge Engineer. Henry Hagman of Cashmere, Washington, builder of numerous bridges in the Pacific Northwest, was the contractor. The bridge was built for a cost of \$215,400.

9. Major Bibliographic References

Washington State Department of Highways. *Biennial Reports*, 1948–1950, 1950–1952.

Washington State Department of Transportation (WSDOT). Spokane River Bridge at Long Lake Dam plans (layout), revision dated 4 February 1949, on file in the Bridge Preservation Office, WSDOT, Olympia, Washington.

WSDOT. "Bridge Condition Card—Spokane River Bridge at Long Lake Dam," 28 March 1949, on file in the Bridge Preservation Office, WSDOT, Olympia, Washington.

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES
EVALUATION/RETURN SHEET

REQUESTED ACTION: NOMINATION

PROPERTY NAME: Spokane River Bridge at Long Lake Dam

MULTIPLE NAME: Bridges of Washington State MPS

STATE & COUNTY: WASHINGTON, Lincoln

DATE RECEIVED: 4/18/95 DATE OF PENDING LIST:
DATE OF 16TH DAY: DATE OF 45TH DAY: 6/02/95
DATE OF WEEKLY LIST:

REFERENCE NUMBER: 95000628

NOMINATOR: STATE

REASONS FOR REVIEW:

APPEAL: N DATA PROBLEM: N LANDSCAPE: N LESS THAN 50 YEARS: Y
OTHER: N PDIL: N PERIOD: N PROGRAM UNAPPROVED: N
REQUEST: Y SAMPLE: N SLR DRAFT: N NATIONAL: N

COMMENT WAIVER: N

ACCEPT RETURN REJECT 5.24.95 DATE

ABSTRACT/SUMMARY COMMENTS:

The Spokane River Bridge at Long Lake Dam is significant under NR Criterion C, as a good intact example of bridge construction (concrete arch) from the period 1940-1950.

[The justification for exceptional significance relies on the fact that the nomination was the result of a comprehensive study of highway bridge construction in Washington during the period 1941 to 1950. The MPS cover for *Washington State Highway Bridges, 1940-1951*, itself an addendum to the earlier *Historic Bridges and Tunnels in Washington State* thematic nomination, established a succinct context for highway bridge construction in the State from 1941 to 1950; a period greatly influenced by a combination of war-time constraints, evolving technological advances, and changing aesthetic considerations. The eligible properties nominated under this cover document were subjected to an evaluation methodology--undertaken by an advisory group of knowledgeable professionals--that involved numerically rating over 335 bridges completed during the period. The rating factors embraced engineering features, historic associations, and integrity concerns. The resulting list of eligible bridges reflected the significant defining characteristics of bridge construction during the period. As a result of the context study, sufficient scholarly analysis is available to assess the significance of the bridge within the context of highway construction in the state during the period.]

RECOM./CRITERIA Accept C

REVIEWER PAUL R. LUSIGNAN DISCIPLINE HISTORIAN

TELEPHONE 202.343.1628 DATE 5/24/95

DOCUMENTATION see attached comments Y/N see attached SLR Y/N



31-6

Spokane River Bridge at Long Lake Dam
WSDOT Bridge No. 231-101
Reardan (vicinity), Washington
Photographer: Washington State Dept. of Trans.
11 July 1950
Washington State Department of Transportation,
Bridge Condition Unit, Olympia, WA
Looking South

Lincoln & Stevens Cos. WA



Spokane River Bridge at Long Lake Dam

WSDOT Bridge No. 231-101

Reardan (vicinity), Washington

Photographer: Washington State Dept. of Trans.

11 August 1971

Washington State Dept. of Transportation,

Bridge Condition Unit, Olympia, WA

Looking NE

Lincoln + Stevens Cos.



Spokane River Bridge at Long Lake Dam

WSDOT Bridge No. 231-101

Reardan (vicinity), Washington

Photographer: Wash. State Dept. of Transportation

Photograph undated

Washington State Department of Transportation,
Bridge Condition Unit, Olympia, WA

Looking East

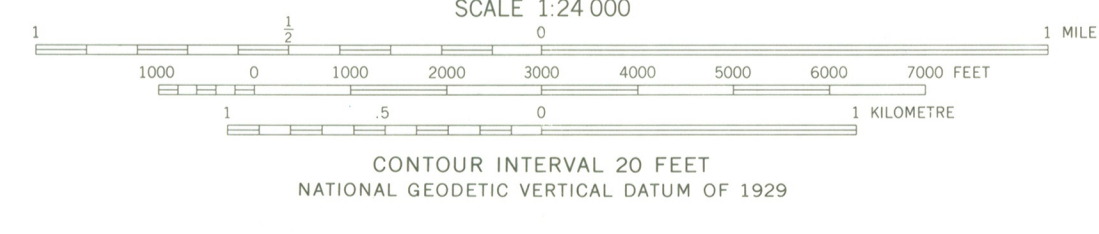
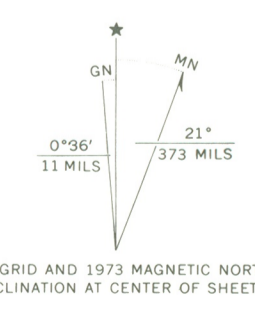
Lincoln + Stevens Cos. WA



The Spokane River Bridge
at Long Lake Dam
WSDOT Br. No. 231-101
SE 1/4, S14, T27N, R39E W1/2,
Lincoln and Stevens
Counties, Washington

UTM References
11 436570 5298530
Zone Easting Northing

Mapped, edited, and published by the Geological Survey
Control by USGS and NOS/NOAA
Topography by photogrammetric methods from aerial
photographs taken 1972. Field checked 1973
Underwater contours by Washington Water Power Co.
Projection and 10,000-foot grid ticks: Washington coordinate
system, north zone (Lambert conformal conic)
1000-metre Universal Transverse Mercator grid ticks,
zone 11, shown in blue. 1927 North American datum
Fine red dashed lines indicate selected fence lines



ROAD CLASSIFICATION

Primary highway, hard surface	Light-duty road, hard or improved surface
Secondary highway, hard surface	Unimproved road
Interstate Route	U. S. Route
	State Route



LONG LAKE, WASH.
SE 1/4 WELLPOINT 15' QUADRANGLE
N4745—W11745/7.5

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST