

24N 3W 1,27

MS 63

1. SITE I.D. NO										HAER INVENTORY										Historic American Engineering Record Department of the Interior, Washington, D.C.									
2 INDUSTRIAL CLASSIFICATION Bridges, Trestles, and Aqueducts										3 PRIORITY 1										4 DANGER OF DEMOLITION? (SPECIFY THREAT) Life expectancy: 1999									
ARCH: Concrete Designation Number: 101/404 10105 31993 101/404 1010531970										5 DATE 1924/00										6 GOVT SOURCE OF THREAT OWNER ADMIN									
8 NAME(S) OF STRUCTURE North Hamma Hamma River South Hamma Hamma River										7 OWNER/ADMIN State Department of Transportation										9 OWNER'S ADDRESS Highway Administration Building Olympia, Washington 98504									
10 STATE COUNTY W A COUNTY NAME CITY/VICINITY CONG DIST 0 4 5 Mason Eldon 0 3										11 SITE ADDRESS (STREET & NO.) 5.1 South Jefferson Co./5.3 South of Jefferson Co.										12 EXISTING SURVEYS <input type="checkbox"/> NR <input type="checkbox"/> NHL <input type="checkbox"/> HABS <input type="checkbox"/> HAER-I <input type="checkbox"/> HAER <input type="checkbox"/> NPS <input type="checkbox"/> CL6 <input type="checkbox"/> CONF <input type="checkbox"/> STATE <input type="checkbox"/> COUNTY <input type="checkbox"/> LOCAL <input type="checkbox"/> OTHER									
13 SPECIAL FEATURES (DESCRIBE BELOW) <input type="checkbox"/> INTERIOR INTACT <input type="checkbox"/> EXTERIOR INTACT <input type="checkbox"/> ENVIRONS INTACT										14 UTM ZONE EASTING NORTHING SIGN SCALE 1 0 4 9 6 8 0 0 5 2 6 4 9 2 0 1:24 1:62.5 1 0 4 9 6 9 0 0 5 2 6 4 5 7 0 1:24 1:62.5										15 CONDITION 70 <input type="checkbox"/> EXCELLENT 71 <input type="checkbox"/> GOOD 72 <input type="checkbox"/> FAIR 73 <input type="checkbox"/> DETERIORATED 74 <input type="checkbox"/> RUINS 75 <input type="checkbox"/> UNEXPOSED 76 <input type="checkbox"/> ALTERED 82 <input type="checkbox"/> DESTROYED 85 <input type="checkbox"/> DEMOLISHED									
16 INVENTORIED BY Lisa Soderberg										AFFILIATION HAER/Washington State Bridge Inventory										DATE June 1979									
17 DESCRIPTION AND BACKGROUND HISTORY, INCLUDING CONSTRUCTION DATE(S), HISTORICAL DATE(S), PHYSICAL DIMENSIONS, MATERIALS, EXTANT EQUIPMENT, AND IMPORTANT BUILDERS, ENGINEERS, ETC. Two identical single-spanned concrete tied arches were constructed by the Colonial Building Company in 1924 over the North Hamma Hamma and the South Hamma Hamma River. Spaced a few hundred feet apart, their arched forms frame a pathway of trees creating the momentary illusion of a serene, sheltered boulevard along Highway 101 on the Olympic Peninsula. Each bridge is 154 feet long, and consists of a 150 foot three hinged arch with a rise of 30 feet. Unlike the flat truss or girder, the arch exerts a horizontal thrust on the skewbacks. In most arches, massive abutments and foundations are necessary to resist the horizontal thrust. However in the tied arch, the horizontal thrust is resisted by longitudinal ties which extend between the hinged springing points. In the Hamma Hamma River Bridges, the deck slab itself, which is hung by suspenders from the pair of arch ribs, acts as a tie. Since the arch is in compression, the deck slab is subject to a tensile stress. The double function of the deck slab was an economical solution, and it eliminated (CONT OVER)																													
18 ORIGINAL USE vehicular										PRESENT USE vehicular										ADAPTIVE USE									
19 REFERENCES—HISTORICAL REFERENCES, PERSONAL CONTACTS, AND/OR OTHER State Department of Transportation files. Carl W. Condit, <u>American Building Art</u> , 2 Vols., (New York, 1960), 2:116, 126, 206.																													
20 URBAN AREA 50,000 POP OR MORE? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO										21 HCRS REGION N W										22 PUBLIC ACCESSIBILITY <input type="checkbox"/> YES, LIMITED <input checked="" type="checkbox"/> YES, UNLIMITED <input type="checkbox"/> NO <input type="checkbox"/> UNKNOWN									
23 EDITOR INDEXER										24 LOCATED IN AN HISTORIC DISTRICT? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO NAME DISTRICT I.D. NO																			

Description (continued)

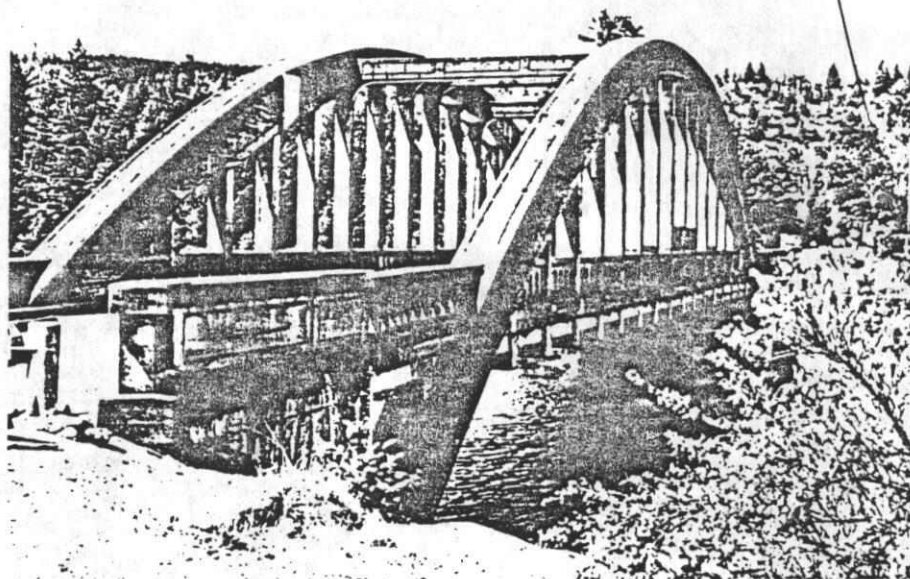
the need of massive abutments. Carl Condit points out in his book, American Building Art, that the concrete tied arch demonstrates how techniques commonly used in steel arch construction were adapted to the concrete form. For example, as in steel arch construction, the two arch ribs were connected by struts to provide lateral rigidity against traffic and wind loads. Originally, six reinforced concrete struts connected the Hamma Hamma River arches above the roadway. However, two struts were removed from each bridge to increase the vertical clearance of the two spans.

The North and South Hamma Hamma River Bridges are two of five concrete tied arches within the State. Of the five bridges, their arch spans are the longest. Although there are examples of tied arches that were built throughout the 20's and 30's, it is a rare concrete arch form.

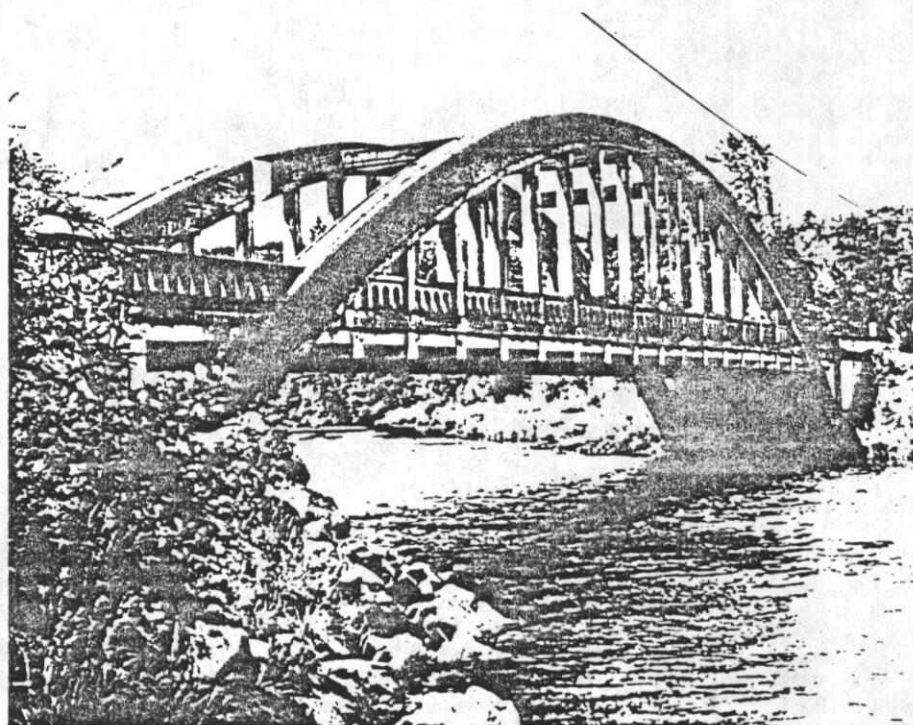


REFERENCES (CONTINUED)

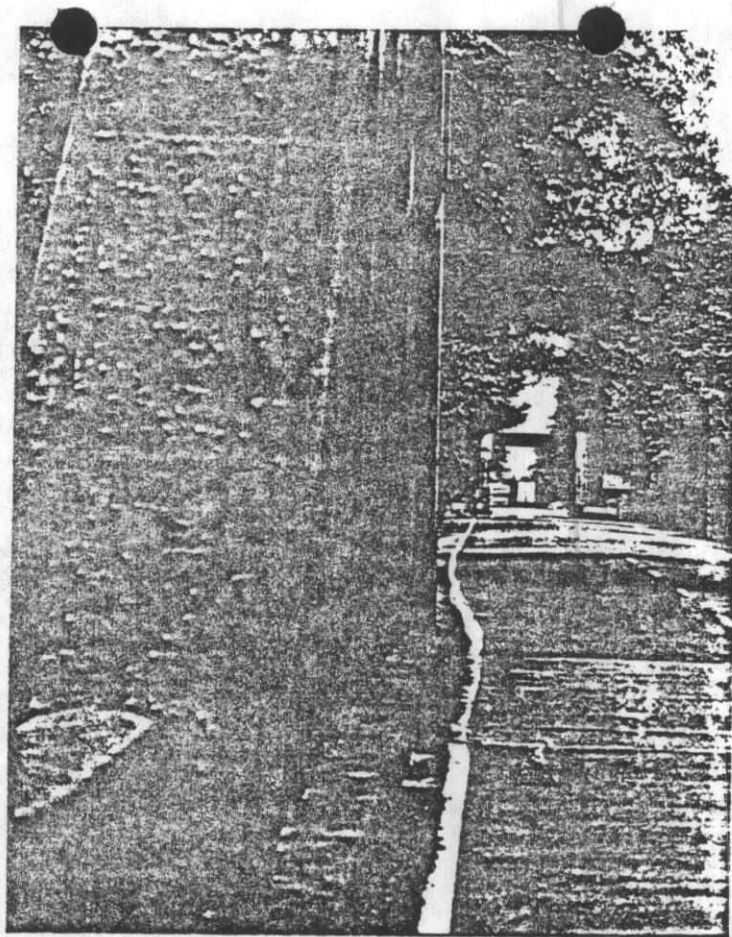
ABSTRACT																			
HAER NO	LC	TECH REPORT	HIST REPORT	CONTEMP PHOTO	HIST PHOTO	CONTEMP DRWG	HIST DRWG	COLOR PLATE	PHOTOGRAM	SW	FILM								



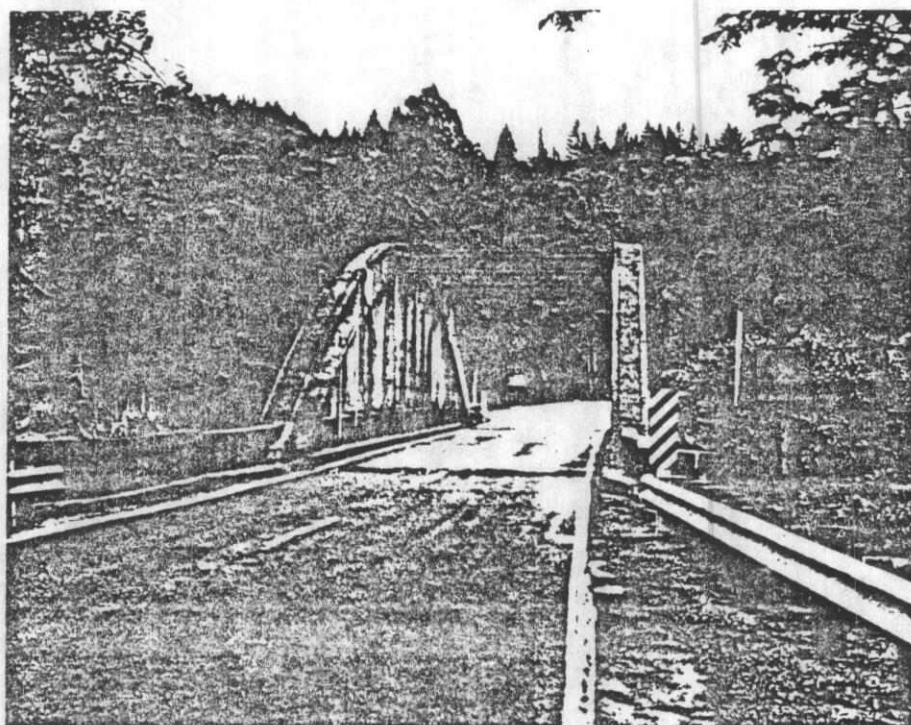
South Hama Hama River Bridge



South Hama Hama River Bridge



Looking South:
North and South Hamma Hamma River Bridge



North Hamma Hamma River Bridge

Historic Register Report

Historic Name: North Hamma Hamma River
Bridge

Address: Spans North Hamma Hamma River

City: Eldon

County: Mason

[Download nomination form](#)

Historic Use: Transportation

Style: None

Built: 1924

Architect:

Builder: Colonial Building Company

Smithsonian Number: 45MS00063

Date Listed: 7/16/1982

Listing Status: WHR/NR

Classification: STR

Resource Count: 1

Area of Significance: Engineering

Level of Significance: State

Listing Criteria: C

Statement of Significance

Photos

