

**Grays River Covered Bridge**

Spanning Grays River on Worrel Road,  
connecting with Loop Road ca. 0.2 mile  
south of State Route No. 4, and located  
ca. 1.5 miles east of the community of  
Grays River

Wahkiakum County  
Washington

HAER No. WA-28

HAER  
WASH,  
35-GRARIV,  
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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record  
Western Regional Office  
National Park Service  
U.S. Department of the Interior  
San Francisco, California 94102

HISTORIC AMERICAN ENGINEERING RECORD

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Location: Spanning Grays River on Worrel Road, connecting with Loop Road, ca. 0.2 mile south of State Route No. 4, and located ca. 1.5 miles east of the community of Grays River, Wahkiakum County, Washington

UTM: 10.455370.5133450  
Quad: Grays River

Date of Construction: 1905; covered ca. 1908; shed roof enclosures on portals constructed in 1915; rehabilitated in 1988

Architect/Contractor: Believed to be Ferguson and Houston, Astoria, Oregon (name of firm that appears on bridge plan, ca. 1905)

Present Owner: Wahkiakum County, Washington

Present Use: Vehicular bridge (rehabilitated in 1988)

Significance: Constructed in 1905, the 148-foot Howe truss Grays River Covered Bridge was the first vehicular bridge to span the Grays River. The bridge facilitated transportation of dairy and lumber products from western Wahkiakum County to the community of Grays River, located ca. 1.5 miles to the west, and to marketing and shipping centers at Grays Bay on the Columbia River to the southwest. It is the oldest covered bridge in Washington State that is a functional part of a public highway system. The bridge was placed on the National Register of Historic Places on November 23, 1971.

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## INTRODUCTION

The Grays River Covered Bridge spans the Grays River as it traverses a sparsely populated, low-lying farming and dairying region of Wahkiakum County in southwestern Washington State. Before construction of the bridge in 1905, foot traffic and farm-to-market conveyances could safely cross river fordings only at low tide. In 1905, Hans P. Ahlberg and other Grays River Valley farmers persuaded Wahkiakum County commissioners to authorize construction of a wagon bridge crossing the Grays River in the NW 1/4 of Section 17, T10N, R7W. The new bridge served as a vital link in the transportation network of the Grays River Valley and stimulated the local economy by facilitating movement of agricultural products from that remote part of western Wahkiakum County to the shipping center at Grays River, a village located along the waterway of the same name. Built as a conventional Howe Truss Bridge, in order to protect the structure from excessive weathering, the bridge was enclosed with cedar siding and capped with a tin roof, ca. 1908 (*Wahkiakum County Eagle* 5 September 1985). The Keeper of the Register placed the Grays River Covered Bridge in the National Register of Historic Places (NRHP) on 23 November 1971. In 1988-1989, owing to structural deterioration and load carrying limitations, the aged bridge was dismantled and rehabilitated in keeping with its historic appearance (see Description of Original Structure and Description of Rehabilitated Structure).

## SITE DESCRIPTION AND LAYOUT

The Grays River Covered Bridge crosses the meandering Grays River ca. 11 river miles northeast of Grays Bay on the Columbia River. Grays Bay is located ca. 20 miles east of the mouth of the Columbia River and the Pacific Ocean. Tidal ebb and flow from the Pacific extends up the Grays River past the bridge site. The bridge crossing is characterized by a relatively wide riverine valley (the valley is ca. 0.6 miles wide at the bridge site), bordered by hills densely covered with deciduous and evergreen forests. At the bridge site, pasture lands extend from either side of the river's low-lying banks to the perimeter of the valley floor. Located along State Route 4 (SR 4), ca. 1.5 miles west of the bridge, lies the unincorporated community of Grays River, the nearest settlement to the historic bridge. In the past, dairy farming and agriculture dominated the economy of this sparsely populated river valley. Today, agriculture, lumbering, fishing, and tourism contribute to the local economy.

## DESCRIPTION OF ORIGINAL STRUCTURE

The original Grays River Covered Bridge (before its 1988-1989 rehabilitation) was a one-lane single-span structure which ran in a northwesterly-southeasterly direction. Its overall length was

155.5 feet. The bridge's south approach measured 11.4 feet and its north approach measured 26 feet. Overall height of the structure was 22.5 feet, with a clear height inside the cover of 16.75 feet. Overall width of the bridge was 14 feet, with a 12.5 foot-wide, useable vehicular lane. Identical wood porches with cedar shingle roofs protected both entrances of the structure. Constructed in a Howe truss design, the original supporting structure was comprised of all wood members. Original fabrication of the bridge's covering consisted of board and batten cedar siding capped with a tin roof. Steel hanger rods and compression fittings were used for connections. The firm of Ferguson and Houston of Astoria, Oregon, probably designed the bridge, as their name appears on the 1905 bridge plan (see photograph WA-28-18).

Following construction of the bridge in 1905, a number of modifications and alterations to the structure occurred. The bridge was covered about 1908, and the porches added in 1915. Several years after construction of the bridge, local residents reportedly strung steel support cables from the bridge to anchor bolts on the river's northeast and southwest shores. The cable system provided both extra strength and additional reinforcement to the structure (Stites 1989). Some time between 1940-1950, a combined concrete-and-wood center support was erected to prevent excessive sagging at the bridge's midpoint (see photograph WA-28-17). The center pier may either have replaced an earlier support or modified an existing brace: a 1939 drawing showing center pier rework suggests that such a structure was in place by that date (Rickert 1988). The bridge's timber deck was replaced with steel between 1952-1953. In 1972, the center pier was repaired. In 1975, a new corrugated metal roof replaced the original tin roof, and the southwestern supporting pier was also repaired. The bridge's northeastern support was replaced in 1984, and in 1987 a new center pier was constructed to replace the old support which washed out during winter floods in 1986 (Rickert 1988).

### DESCRIPTION OF REHABILITATED STRUCTURE

In 1987, an inspection of the historic Grays River Covered Bridge by the Wahkiakum County Engineer (Wayne L. Rickert) and consultants from Sargent Engineers, Inc., Olympia, Washington, revealed a number of deficiencies. These included dry rot, overstress on hanger rod plate washers, and deterioration of the lower chord tension cables. Further structural analysis revealed a 5-ton load capacity, a limit below acceptable loadings for farm trucks and other heavy carriers (Sargent Engineers, Inc. 1988:1-2). Owing to the limited load carrying capacity of the bridge, and because of its structural deficiencies, Wahkiakum County hired Sargent Engineers to evaluate options for rehabilitation/replacement of the bridge.

After considering the alternatives presented by their consultant, Wahkiakum County chose to rehabilitate the structure. This decision was largely influenced by ardent "local support and sentiment to save the bridge and to open it to traffic as a tourist attraction, especially with 1989

being the centennial year for the State of Washington" (Gregson 1988:2). Essentially the same design configuration (length, width, and height) used in the construction of the original structure was employed in the rehabilitation effort (Gregson 1988:2). The single-lane bridge is 14 feet wide (Larson 1991). In addition, as much of the existing fabrications and hardware that could be salvaged from the original bridge were reused in the restoration project. Rehabilitation plans also called for utilization of the existing center pier (Stites 1989:5). In short, the present bridge was designed and constructed to exhibit basically the same exterior appearance as the 1905 structure, while at the same time accommodating a modern H-15 (15-ton truck) loading capacity (Sargent Engineers, Inc. 1988:n.) Construction of the bridge to an H-15 rating also met Federal Highway Administration (FHWA) loading standards, a criterion required by that agency to qualify the project for FHWA rehabilitation funds (Stites 1989:4,6).

Wahkiakum County awarded the contract for construction to Dulin Construction of Centralia, Washington, on 23 August 1988. Amount of the contract was \$295,980.00 (Stites 1989:6) The new structure was designed as a two-span steel, through Howe truss bridge (see photograph WA-28-19). The portal frames of the new bridge were composed of WF 14 x 61 inch steel beams and covered with a two-inch-thick timber facade to resemble the original timber members. Utilization of these wood clad steel members provided necessary wind loading and sway bracing protection for the bridge. The new bracing replaced the wind loading/sway cable protection system devised for the earlier structure. In finishing the rehabilitated bridge's exterior covering, the contractor salvaged enough original cedar siding unaffected by dry rot to cover the entire downstream side of the bridge (the exposure most visible to the traveling public). New cedar siding, anticipated to shortly weather to match the original siding, covered the bridge's upstream facing. Following completion of the rehabilitated structure, the *Wahkiakum County Eagle* compared compatibility of design, materials, and visual effect of the new bridge to its precursor:

The design is very close to that of the original structure, employing the same Howe Truss plan with steel tension rods, tin roof and cedar siding. Steel portal beams have been added, giving greater strength and stability for storms. A new concrete and steel pier and debris-deflector, built in 1987, will support and protect the bridge during high water freshets. The new timber decking, like the original, replaces the steel-and-asphalt deck installed in the 1950's. Except for new siding on the upstream exposure, which will soon weather, the bridge very closely resembles its former appearance (*Wahkiakum County Eagle*, 28 September 1989).

Although use of replacement materials on the damaged truss members and non-salvageable portions of the structure may distract somewhat from the historic integrity of the original structure, those upgrades were essential for reconstruction to meet the necessary loading requirements which allowed the historic structure to remain in service as part of the local public.

highway system. Despite extensive substitution of modern fabrications, as photographs of the original and rehabilitated structures depict, the present bridge does bear a striking resemblance to the original structure (see photographs WA-28-1 through WA-28-3 and WA-28-10 through WA-28-13). The Grays River Covered Bridge rehabilitation project was substantially complete by 28 September 1989. Rededication of the historic landmark occurred on 30 September 1989. Robert M. Pyle, Lecturer of the Grays River Grange, served as Master of Ceremonies for the event. In his summary remarks, regarding the importance of the bridge in the history of western Wahkiakum County, Pyle no doubt expressed the sentiments of many of those in attendance:

The bridge is unique . . . a new covered bridge has been built at a time when covered bridges are being replaced with modern structures. . . . The bridge symbolizes Wahkiakum County, he added, it joins people together and links the present to the past" (*Wahkiakum County Eagle*, 5 October 1988).

### HISTORICAL BACKGROUND

Before arrival of white settlers to the Grays River region in the 1870s and 1880s, the Indians called the river, "Moolhool." During the settlement period, the pioneer inhabitants changed the name of the stream to "Grays River" in honor of Robert Gray, who discovered and named the nearby Columbia River. Grays River originates on the boundary between Lewis and Wahkiakum counties and flows ca. 20 miles southwesterly to Grays Bay on the Columbia (Hitchman 1985:112).

In 1872, a post office was placed in the residence of DeWitt H. Jones. Establishment of the post office heralded the beginning of what later became the community of Grays River. In the early 1870s, mail arrived to, and was dispatched from, the remote river village by two small steamers from Astoria, Oregon (*Wahkiakum County Eagle*, 3 May 1979:5). Because of nearly exclusive dependance on river travel for contact with the outside world, the community of Grays River and the Grays River Valley remained isolated until construction of the Ocean Beach Highway (later SR 4) in 1921 (Appelo 1986:42).

Among the first settlers to claim land in Section 17, T10N, R7W, in which the historic Grays River Covered Bridge is located, were Charles E. Schoebe, Henry O. Lamb, Nis N. Nymand, John E. Klint, and Hans P. Ahlberg. They filed individual Cash Entry and Homestead Entry claims in Section 17 throughout the decade of the 1880s, although some of those early Wahkiakum County pioneers undoubtedly arrived in the region before 1880 (BLM Tract Books). In 1901, Hans Ahlberg (a Swedish emigrant), along with other farmers in the region, founded Grays River Grange No. 124. Ahlberg believed that the Grange, or Patrons of Husbandmen, an organization founded in the eastern United States in 1867 to promote the interests of

agriculturists, would help farmers achieve common economic and political goals. Like other members of the Grange, Ahlberg also envisioned the organization serving as an outlet for social activities.

In the early 1900s, improved transportation constituted one of the most urgent concerns of early dairy farmers in the area, particularly producers who lived southeast of the river and who had to ford the winding waterway in order to reach the shipping center at Grays River (Appelo 1986:43-44). At that time, only foot bridges spanned the river. Farmers living southeast of the river were therefore obliged to plan their trips to the shipping center around low tides, the only time dairy wagons loaded with their highly perishable cargoes could safely ford the river (*Wahkiakum County Eagle*, 5 September 1985).

In 1905, Ahlberg and other local grangers convinced the Wahkiakum County commissioners to sponsor construction of a bridge over Grays River which would be capable of supporting horse and buggy transportation, as well as heavier horse drawn farm-to-market conveyances. Ahlberg owned the land on which the bridge was subsequently erected. A foot bridge had earlier spanned the river at that location (*Wahkiakum County Eagle*, 5 September 1985). Cost of the bridge was \$2,615.00 (*Wahkiakum County Eagle*, 28 September 1989). The construction crew for the new wagon bridge consisted primarily of local inhabitants. Today, residents in the vicinity of the Grays River Covered Bridge recall accounts told by their fathers and grandfathers of their construction work on the bridge (Stites 1989:3). In the early 1900s, local men typically engaged in road work in the Grays River area. Their participation both counted toward payment of county taxes and also assured improved rural transportation in that remote area (Kirk and Alexander 1990:421-422).

Today, the many once handsome, but now neglected, dairy barns that occupy the Grays River Valley attest to the decline of that local industry (Kirk and Alexander 1990:420-421). Yet, while farm-to-market vehicular traffic has declined over the years, the Grays River Covered Bridge continues to serve as an important link in the local transportation system in this remote part of southwestern Washington State. In addition, in recent years, the rustic bridge has drawn increasing numbers of tourists to the secluded and scenic river valley. By the late 1980s, an average of 40,000 tourists visited the historic bridge annually (*Wahkiakum County Eagle*, 28 September 1989).

Local residents have long felt an affection for the historic Grays River Covered Bridge, a structure which over time has come to symbolize the pioneering spirit and perseverance of the early emigrants who settled the region. In recent years, interested local residents, members of the Grays River Grange, and local, county, and state officials have figured prominently in preservation efforts concerning the historic bridge. The Grays River Covered Bridge was listed in the National Register of Historic Places in 1971. In 1985, a special celebration was held in honor of the bridge's many years of service to the community. A community potluck dinner at

the bridge site and dance held afterward at the Grays River Grange hall highlighted the birthday celebration (*Wahkiakum County Eagle*, 5 September 1985). Following the rededication ceremony in 1989, the *Wahkiakum County Eagle* summarized the enduring popular appeal of the bridge and stated the community's future hopes for the historic structure:

The bridge is one of the most visited and photographed features in Southwest Washington. . . . and [is] the only covered bridge in use on a public road in Washington State. In its rehabilitated condition, it is expected to function throughout the twenty-first century (*Wahkiakum County Eagle*, 28 September 1989).

#### SUMMARY

Through the cooperation of local, state, and federal governmental agencies, as well as interested citizens and local organizations, the historic Grays River Covered Bridge has been reconstructed to serve the community of which it has long been a part. The efforts of all those involved in preserving the bridge as a symbol of the pioneering spirit of the residents of the Grays River Valley serves as an admirable example of cooperative strength in achieving common goals. Because of this combined endeavor, an integral part of Wahkiakum County history will be preserved for the enjoyment of future generations.



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