MP-1383

NPS Form 10-900 OMB No. 1024-0018

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form.* If any 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.

1. Name of Property

Historic name: **Albion River Bridge**
Other names/site number: Caltrans number: 10.0136
Name of related multiple property listing:

Historic Highway Bridges of California MPS 2004

2. Location

Street & number: Mile Markers 43.7 thru 44.0 on California Highway 1
City or town: Albion State: CA County: Mendocino
Not for Publication: ☐ Vicinity: ☐

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended,

I hereby certify that this _x_ 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 _x_ meets ___ does not meet the National Register Criteria. I recommend that this property be considered significant at the following level(s) of significance:

___national ___statewide _x_local

Applicable National Register Criteria:

_x_A ___B _x_C ___D

State Historic Preservation Officer 9/July 2017

Signature of certifying official/Title: **Date**

California Office of Historic Preservation

State or Federal agency/bureau or Tribal Government

In my opinion, the property ___ meets ___ does not meet the National Register criteria.

Signature of commenting official: **Date**

Title : **State or Federal agency/bureau or Tribal Government**

4. National Park Service Certification

I hereby certify that this property is:

✓ entered in the National Register

___ determined eligible for the National Register

___ determined not eligible for the National Register

___ removed from the National Register

___ other (explain:) _____

for Edson H. Beall 7.31.17

Signature of the Keeper Date of Action

5. Classification

Ownership of Property

(Check as many boxes as apply.)

Private:	☐
Public – Local	☐
Public – State	X
Public – Federal	☐

Category of Property

(Check only **one** box.)

Building(s)	☐
District	☐
Site	☐
Structure	X
Object	☐

Albion River Bridge
Name of Property

Mendocino, California
County and State

Number of Resources within Property
(Do not include previously listed resources in the count)

Contributing	Noncontributing	
		buildings
		sites
1	0	structures
		objects
1	0	Total

Number of contributing resources previously listed in the National Register 0

6. Function or Use

Historic Functions
(Enter categories from instructions.)
Transportation - road-related (vehicular) - Bridge

Current Functions
(Enter categories from instructions.)
Transportation – road-related (vehicular) - Bridge

7. Description

Architectural Classification
(Enter categories from instructions.)

Materials: (enter categories from instructions.)
Principal exterior materials of the property: Timber, Steel, and Concrete

Narrative Description
(Describe the historic and current physical appearance and condition of the property. Describe contributing and noncontributing resources if applicable. Begin with **a summary paragraph** that briefly describes the general characteristics of the property, such as its location, type, style, method of construction, setting, size, and significant features. Indicate whether the property has historic integrity.)

Summary Paragraph

The Albion River Bridge, built in 1943, is 969 feet long, spanning 150 feet above the Albion River Valley, at the Pacific Ocean, in Mendocino County, along Northern California's Coastal Highway 1. It is a rare example of a timber deck over combination steel and timber truss bridge. It is the only surviving bridge of its type in the California state highway system. It was constructed during WW II, when strategic material shortages required innovative engineering design. The superstructure is a 28 foot wide, asphalt surfaced, timber roadway, sided with a massive painted timber wheelstop rail system that cantilevers 2 feet on each side of a timber truss below. Part of the substructure is a 130 foot salvaged steel truss on 2 steel reinforced concrete piers. The remaining parts of the substructure are 2 continuous 15 foot deep timber trusses on 11 timber trestle bents on concrete foundations. The bridge has been in continuous service for the past 73 years. With its historic integrity entirely intact, the Albion River Bridge stands today, exactly as it was built.

Narrative Description

The original bridge over the Albion River was a low timber draw bridge. It served as an important element of the "Old Coast Wagon Road" established by Mendocino County along this section of the northern California coastline. During the late nineteenth century, most traffic to and from coastal towns and sawmills was by steamship or from inland rail connections. The drawbridge location routed the minimal coastal traffic through the center of the sawmill operations of the Albion Lumber Company, the first

mill to be built on the Northern California coast (1852) It was built by William A. Richardson, the first American to settle in California (1823).

As the amount of wagon and ultimately motorized traffic increased along the coast beyond the capacity of the small drawbridge, a new route was established. An elevated timber trestle bridge was designed and built by Mendocino County in 1922, It was located one half mile up river thus avoiding the disruption caused by the increased traffic in the center of the mill operations. This new location also soon became inadequate to accommodate the ever increasing commercial and industrial traffic along Highway One.

The meandering access roadways to the old bridge and its narrow roadbed required that the Highway Department consider complete replacement rather than major structural alterations. Since all lumber company operations had ceased in 1934, the former mill location was abandoned. A new route, directly across the valley, at the mouth of the river, was established and a new design was prepared in accord with Department of Highways' continuing commitment to the dictates of the "City Beautiful" movement of the early 20th century.

This movement, promoted by Charles Mulford Robinson emphasized that "*a bridge is so conspicuous and monumental a structure that we should not be satisfied merely with durability and strength, but should demand that these be added: fitness, grace, and beauty."* In accord with this movement, the Division of Highways eliminated truss designs for all but exceptionally long span bridges. This commitment to more beautiful designs included a program of new and replacement bridges along California's scenic costal Highway 1. Timber and steel truss bridge design was set aside and replaced by steel reinforced, poured in place, concrete beams and arches. Concrete was much more readily available in California and the decreased maintenance cost was an attractive consideration, especially along the coast. A premiere example of this effort is the National Register listed Bixby Creek Bridge (1932) at Big Sur, in Monterey County.

In Mendocino County, two beautiful concrete arch bridges were built to replace the deteriorated timber trestle bridges at Jug Handle Creek (1938) and Russian Gulch (1940). These bridges are less than 10 miles north of Albion on Highway 1. When the war began, in 1941, the new bridge for Albion was still on the drawing board, and all new bridge work was restricted to "major" California roads. Highway 1 at Albion did not qualify. However, after major lobbing efforts by coastal businesses, governments, and residents, the design work was finally authorized to continue on the project to replace the dangerous, deteriorating timber deck over timber truss bridge at Albion, and eliminating its 1 mile of dangerous, meandering access roadways.

Initially, 2 giant concrete arches were designed to span the 1,000 foot wide valley at the mouth of the river. However, the amount of concrete and streel required for this design was not considered appropriate by the newly established War Production Board (WPB) and could not be approved. **The bridge had to be redesigned**. The Division of

Highways design engineers accommodated the severe restrictions imposed by the WPB, and the final revised design was approved in 1942 by C.H. Purcell, Director of the California Department of Public Works.

The amount of concrete was limited to foundations, abutments, and only 2 of the 13 bent piers. A steel truss was salvaged from an abandoned Swayne Lumber Company railroad bridge over the south fork of the Feather River near Oroville, 120 miles east of Albion. It was shipped to the Shrader Iron Works of San Francisco and refabricated into a 15 foot deep Pratt truss This truss was installed onto 135' tall, poured-in-place concrete piers each side of the 130 foot wide river crossing section of the bridge. The remaining trusses are treated timber supported on treated timber trestle type bent piers of various heights on concrete foundations. Salvaged railroad rails were split and used to reinforce the new concrete elements of the bridge, in lieu of standard reinforcing steel.

Redwood, then restricted, was not available for the timber elements of the structure. Consequently, the revised design substituted a relatively new product: pressure treated Douglas Fir produced by the Wauna Lumber Company in Wauna, Oregon. They shipped 829,000 board feet of treated timber to Albion. This wood preservation process along with an excellent maintenance program are considered to be the major contributing factors in extending the life of this bridge beyond its estimated 20 years by more than 50 additional years - so far. According to Caltrans' most recent inspection report (2014) the bridge is still in excellent condition.

Construction began in 1943. The bridge was built by the Fred J. Maurer and Son Construction Company of Eureka, California, at a cost of $ 370,000.00. T.H. Horn was the resident engineer. The Albion River Bridge was dedicated on June 11, 1944.

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.)

- [X] 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.
- [X] 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.)

- [ ] 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 old or achieving significance within the past 50 years

Albion River Bridge — Name of Property
Mendocino, California — County and State

Areas of Significance
(Enter categories from instructions.)

Transportation

Period of Significance

1943-1945

Significant Dates

N/A

Significant Person

N/A

Cultural Affiliation

N/A

Engineer/Builder:

Engineer: McCoy, G.T., State Highway Engineer
Resident Engineer: Horn, J.H.
Builder: Maurer, Fred J., and Son, Eureka, California

Statement of Significance Summary Paragraph (Provide a summary paragraph that includes level of significance, applicable criteria, justification for the period of significance, and any applicable criteria considerations.)

The Albion River Bridge is eligible for the National Register under Criterion A as an example of wartime expedient planning, utilizing materials available during a period of wartime shortage, and its role in facilitating commercial and industrial traffic through Mendocino County during the Second World War; without the bridge, the old trestle represented a bottleneck in coastal traffic. It is also eligible under Criterion C as a unique and ingenious example of its type, a composite deck-over-truss design utilized due to site-specific needs in place of the preferred concrete arch design. The period of significance is 1943-1945, from initial construction until the end of wartime rationing. The property is nominated at the local level of significance and retains a high degree of historic integrity in all aspects.

Narrative Statement of Significance (Provide at least **one** paragraph for each area of significance.)

The Albion River Bridge was constructed in 1943-4 as an essential link in California's Coastal Highway 1. It is a timber deck over steel and timber truss bridge. It is the last surviving example of this type of transportation engineering innovation in California. It was designed by engineers at the California Department of Transportation and built by the Fred J. Maurer and Son Construction Company of Eureka, California, within the tenants of severe wartime restrictions. It is a rare "deck over truss" type bridge constructed of concrete, reinforced with salvaged railroad rails, treated Douglas Fir timber and a salvaged steel railroad bridge truss. Reinforced concrete abutments anchor each end of the 969 foot long structure. The concrete pad foundations are placed on timber and precast concrete piles. Two concrete towers support a 130 foot long steel truss, 150 feet above the Albion River. North and south roadway elements are supported by 11 massive timber bent trestles. These timber bent trestles are 19 feet wide and support a timber truss that spans the 38 feet between bents. The truss supports a superstructure composed of a 2 inch asphalt roadbed laid on 2 opposing diagonal layers of 3x12 timber planks on 17 continuous 6x20 inch stringers. The 28 foot wide roadway cantilevers from the structure below by 2 feet on each side and supports a painted timber wheelstop/guardrail. This rail has 8x8 posts exactly 76 inches on center, aligning precisely with major elements of the substructure. These rail posts are the major visual element of the Albion River Bridge experience. The bridge has never been altered and stands now exactly as it was built 73 years ago.

Criterion A: Wartime Accommodation

The Albion River Bridge is an historic example of engineering ingenuity in response to the severe priority material restrictions during WWII. The tremendous amount of concrete and steel required to build what had become conventional bridge design in the late 1930's was not available. To complete the project, the engineers had to revert to the timber trestle bent designs of the past. They also included the newly patented process of pressure treating timber to keep it from rotting and igniting. The bridge was originally designed to last 15-20 years. However, with the excellent maintenance program and the unexpected durability of the pressure treated timber, over 50 years of additional use has been provided - so far. Just as the 1943 U.S. steel penny is a familiar, lasting, tangible example of the Federal Government's response to cridical wartime shortages, the 1943 Albion River Bridge is a tribute to California's efforts to accomodate severe wartime restrictions

Criterion C: Distinct Characteristics of Type

The Albion River Bridge is the only remaining timber deck superstructure over steel and timber truss on concrete and timber bent trestle substructure bridge in the California highway system. This rare example of transportation engineering history can still be experienced today exactly as it was built, 73 years ago. It was constructed during WWII, 25 years after its primary structural design elements of steel and timber were set aside by the Department of Transportation in favor of reinforced concrete beams and arches. It is a lasing tribute to the ingenuity and talents of the engineers and contractors who built it, and an important link in the history of bridge design in the State of California. Crossing this bridge along California's scenic coastal Highway 1 is a most thrilling experience. East and West vistas are enhanced by the steady tempo of her timber rail enriching this delightful visual symphony that is the Albion River Bridge.

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9. Major Bibliographical References

Walsh,E.L., Associate Bridge Engineer**,** *"87 Bridges Replaced, Eliminated or Strengthened on Mendocino Coast Area Highways"* *California Highways and Public Works,(September 1939)*

Author not listed*, "Highway Commission on Tour in Redwood Empire Dedicates New Albion Bridge"* *California Highways and Public Works,(July-August 1944)*

Corkhill, Thomas, *The Complete Dictionary of Wood.* New York: Dorset Press, 1989.

California Department of Transportation, *Historic Highway Bridges of California*, Sacramento, California, Caltrans, 1990

Myers, William A., *Historic Civil Engineering Landmarks,* Pacific Gas and Electric, San Francisco, 1977

Robinson, Charles Mulford, *The Improvement of Towns and Cities; or, The Practical Basics of Civic A"sthetics,* New York, The Knickerbocker Press, 1901

Smith, Dwight A., Norman, James B., and Dykman, Pieter T., *Historic Highway Bridges of Oregon,* Portland, Oregon Historical Society Press, 1989

California Department of Public Works, *Final Construction Report*, 1944
California Department of Public Works, *As Built Drawings*, 1944
California Department of Public Works, *Bridge Inspection Report,* 1949

Astaneh, Abolhassan, PhD, P.E., *Comments on Albion River Bridge 2014 Caltrans Inspection Report,* Berkeley, California, 2015

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 # _____
____ recorded by Historic American Landscape Survey # _____

Primary location of additional data:

____ State Historic Preservation Office
__X__ Other State agency
____ Federal agency
____ Local government
____ University
____ Other
Name of repository: California Department of Transportation Archives, Sacramento

Historic Resources Survey Number (if assigned): _____

10. Geographical Data

Acreage of Property _<3 Acres (969 feet long x 120 feet wide)_____

Use either the UTM system or latitude/longitude coordinates

Latitude/Longitude Coordinates (decimal degrees)
Datum if other than WGS84:_____
(enter coordinates to 6 decimal places)

1. Latitude: 39.225079 Longitude:-123.769401

2. Latitude: 39.227654 Longitude:-123.768739

Verbal Boundary Description (Describe the boundaries of the property.)

Mile Markers 43.7 thru 44.0 on California Highway 1 Mendocino County

Boundary Justification (Explain why the boundaries were selected.)

The bridge is 969 feet long and the ROW (right of way) is 120 feet wide.
(116,280 square feet - < 3 acres)

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11. Form Prepared By

name/title: John R. Johansen, Architect
organization: John Roger Johansen / Architect (JRJA)
street & number: 33950 Albion River South Side Road, Box 490
city or town; Albion state: California zip code: 95410
e-mail: jrja@mcn.org
telephone 707.937.3487
date: 3 January 2017 (revision of 28 October 2015 revision of February 6, 2015 submission)

Additional Documentation

Submit the following items with the completed form:

- A **USGS map** or equivalent (7.5 or 15 minute series) indicating the property's location.
- **Sketch Map:** Submitted as Additional Documentation B.

Photo Log:

Name of Property: Albion River Bridge
City or Vicinity: Albion
County: Mendocino
State: California
Photographer: John Roger Johansen (JRJA)
Date Photographed: October, 2015
Location of original digital files: Box 490, Albion, CA 95410
CA_Mendocino_AlbionRiverBridge_0001
Looking west, from ½ mile up the Albion Ridge Rd.

Name of Property: Albion River Bridge
City or Vicinity: Albion
County: Mendocino
State: California
Photographer: John Roger Johansen (JRJA)
Date Photographed: March, 2015
Location of original digital files: Box 490, Albion, CA 95410
CA_Mendocino_AlbionRiverBridge_0002
Looking north-east from the beach, timber trestles at north end.

Name of Property: Albion River Bridge
City or Vicinity: Albion
County: Mendocino
State: California
Photographer: John Roger Johansen (JRJA)
Date Photographed: March, 2015
Location of original digital files: Box 490, Albion, CA 95410
CA_Mendocino_AlbionRiverBridge_0003
Looking south, timber trestle base with foundation.
(Note: This photo should be redacted from public view due to identifiable person in photo)

Name of Property: Albion River Bridge
City or Vicinity: Albion
County: Mendocino
State: California
Photographer: John Roger Johansen (JRJA)
Date Photographed: March, 2015
Location of original digital files: Box 490, Albion, CA 95410
CA_Mendocino_AlbionRiverBridge_0004
Looking south, from below north end of deck

Name of Property: Albion River Bridge
City or Vicinity: Albion
County: Mendocino
State: California
Photographer: John Roger Johansen (JRJA)
Date Photographed: September, 2015
Location of original digital files: Box 490, Albion, CA 95410
CA_Mendocino_AlbionRiverBridge_0005
Looking up, from east side of bridge, between trestle towers.

Name of Property: Albion River Bridge
City or Vicinity: Albion
County: Mendocino
State: California
Photographer: John Roger Johansen (JRJA)
Date Photographed: September, 2015
Location of original digital files: Box 490, Albion, CA 95410
CA_Mendocino_AlbionRiverBridge_0006
Looking north-west, from riverside residence

Name of Property: Albion River Bridge
City or Vicinity: Albion
County: Mendocino
State: California
Photographer: John Roger Johansen (JRJA)
Date Photographed: October, 2015
Location of original digital files: Box 490, Albion, CA 95410
CA_Mendocino_AlbionRiverBridge_0007
Looking north-east, at (seldom seen) west side of bridge.

Name of Property: Albion River Bridge
City or Vicinity: Albion
County: Mendocino
State: California
Photographer: John Roger Johansen (JRJA)
Date Photographed: September, 2014
Location of original digital files: Box 490, Albion, CA 95410
CA_Mendocino_AlbionRiverBridge_0008
Looking west, automobiles in foreground.

Name of Property: Albion River Bridge
City or Vicinity: Albion
County: Mendocino

State: California
Photographer: John Roger Johansen (JRJA)
Date Photographed: October, 2015
Location of original digital files: Box 490, Albion, CA 95410
CA_Mendocino_AlbionRiverBridge_0009
Looking north, from center of Highway 1 at south end

Name of Property: Albion River Bridge
City or Vicinity: Albion
County: Mendocino
State: California
Photographer: John Roger Johansen (JRJA)
Date Photographed: October, 2015
Location of original digital files: Box 490, Albion, CA 95410
CA_Mendocino_AlbionRiverBridge_0010
Looking west, from south side of river

Name of Property: Albion River Bridge
City or Vicinity: Albion
County: Mendocino
State: California
Photographer: Dr. Hassan Astaneh, PE
Date Photographed: July, 2015
Location of original digital files: University of California, Berkeley, CA
CA_Mendocino_AlbionRiverBridge_0011
Looking west, from north side of river

Name of Property: Albion River Bridge
City or Vicinity: Albion
County: Mendocino
State: California
Photographer: John Roger Johansen (JRJA)
Date Photographed: October, 2015
Location of original digital files: Box 490, Albion, CA 95410
CA_Mendocino_AlbionRiverBridge_0012
Looking northeast, south end of west side, showing **76 inch horizontal module**.
The trestles are 3 modules wide and are spaced 6 modules apart.

Name of Property: Albion River Bridge
City or Vicinity: Albion
County: Mendocino
State: California
Photographer: John Roger Johansen (JRJA)
Date Photographed: October, 2015
Location of original digital files: Box 490, Albion, CA 95410

Albion River Bridge — Mendocino, California
Name of Property — County and State

CA_Mendocino _AlbionRiverBridge_0013
Looking north-east, at north end from beach.

Name of Property:	Albion River Bridge
City or Vicinity:	Albion
County:	Mendocino
State:	California
Photographer:	Derek Magdalik Photography / Fotomendo
Date Photographed:	October, 2013
Location of original digital files:	Albion, CA 95410

CA_Mendocino_AlbionRiverBridge_0014
Looking up at bottom of deck where steel truss meets timber truss – north end.

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Albion River Bridge
Name of Property
Mendocino County, California
County and State
Historic Highway Bridges of California
Name of multiple listing (if applicable)

Figure 1: Albion River Bridge under construction, August 1943. California Department of Transportation archive.

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Albion River Bridge
Name of Property
Mendocino County, California
County and State
Historic Highway Bridges of California
Name of multiple listing (if applicable)

Figure 2: Albion River Bridge under construction, December 1943. California Department of Transportation archive.

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Albion River Bridge
Name of Property
Mendocino County, California
County and State
Historic Highway Bridges of California
Name of multiple listing (if applicable)

Figure 3: Albion River Bridge under construction, April 1944. California Department of Transportation archive.

Figure 4: Albion River Bridge under construction, April 1944. California Department of Transportation archive.

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Albion River Bridge
Name of Property
Mendocino County, California
County and State
Historic Highway Bridges of California
Name of multiple listing (if applicable)

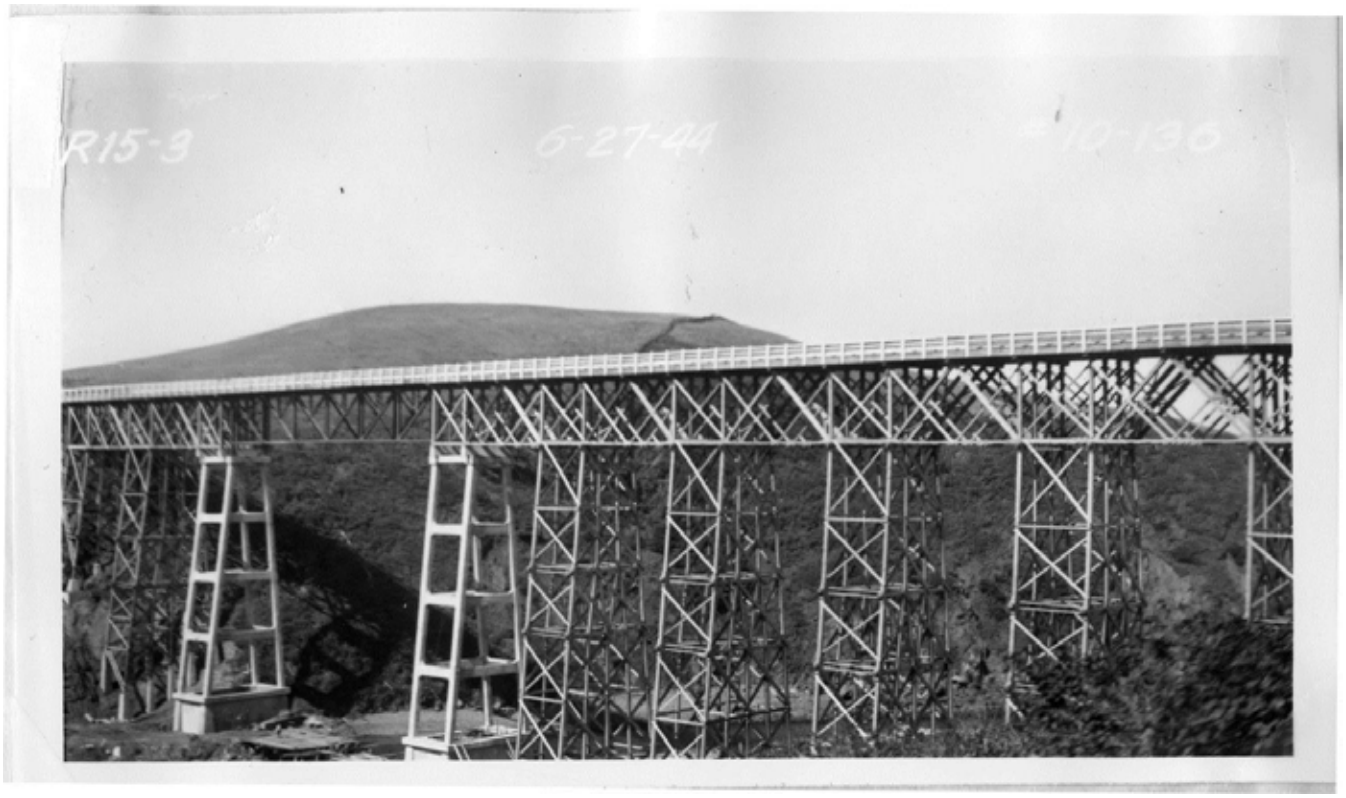
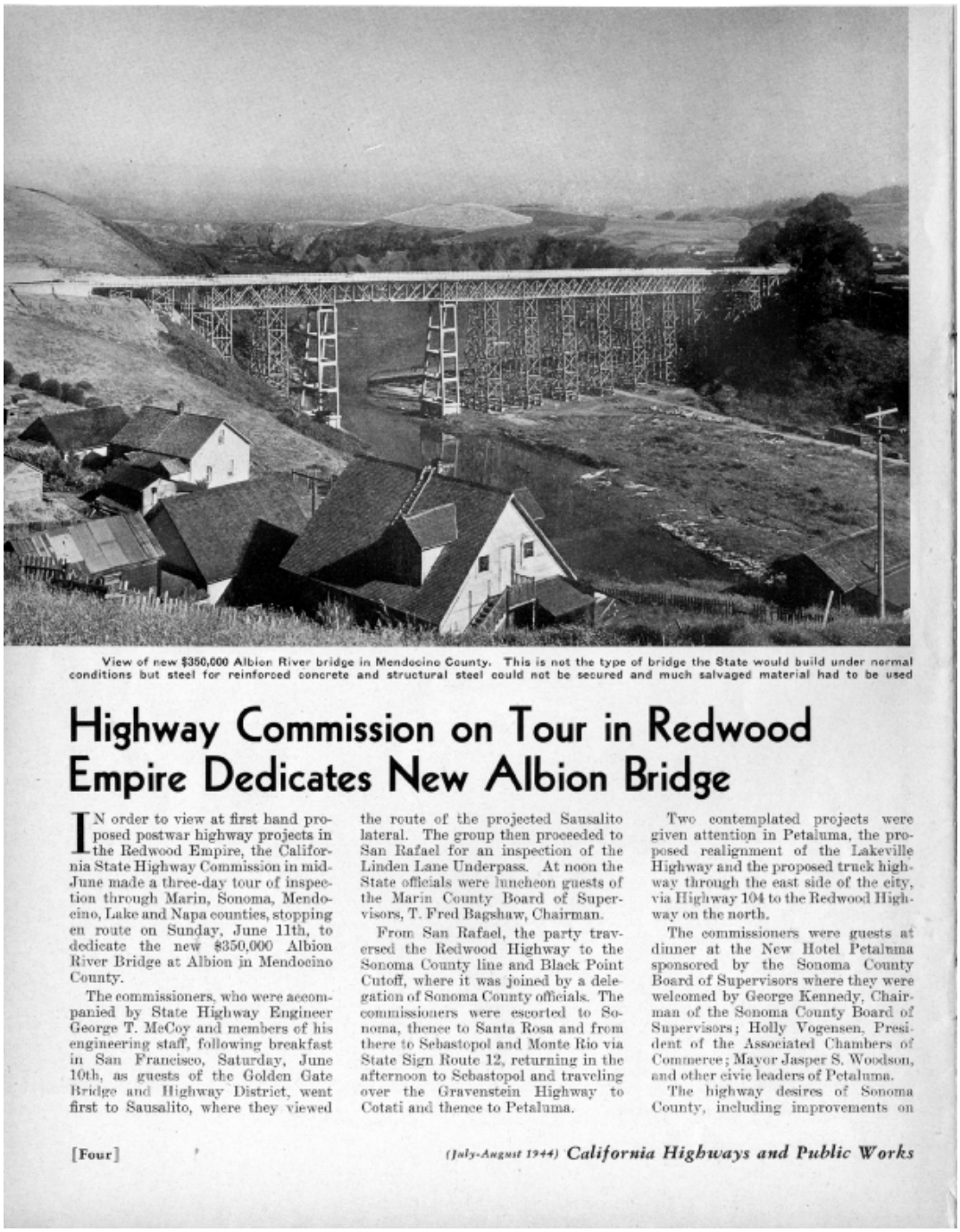


Figure 5: Albion River Bridge after completion, April, 1944. California Department of Transportation archive.



View of new $350,000 Albion River bridge in Mendocino County. This is not the type of bridge the State would build under normal conditions but steel for reinforced concrete and structural steel could not be secured and much salvaged material had to be used

Highway Commission on Tour in Redwood Empire Dedicates New Albion Bridge

IN order to view at first hand proposed postwar highway projects in the Redwood Empire, the California State Highway Commission in mid-June made a three-day tour of inspection through Marin, Sonoma, Mendocino, Lake and Napa counties, stopping en route on Sunday, June 11th, to dedicate the new $350,000 Albion River Bridge at Albion in Mendocino County.

The commissioners, who were accompanied by State Highway Engineer George T. McCoy and members of his engineering staff, following breakfast in San Francisco, Saturday, June 10th, as guests of the Golden Gate Bridge and Highway District, went first to Sausalito, where they viewed the route of the projected Sausalito lateral. The group then proceeded to San Rafael for an inspection of the Linden Lane Underpass. At noon the State officials were luncheon guests of the Marin County Board of Supervisors, T. Fred Bagshaw, Chairman.

From San Rafael, the party traversed the Redwood Highway to the Sonoma County line and Black Point Cutoff, where it was joined by a delegation of Sonoma County officials. The commissioners were escorted to Sonoma, thence to Santa Rosa and from there to Sebastopol and Monte Rio via State Sign Route 12, returning in the afternoon to Sebastopol and traveling over the Gravenstein Highway to Cotati and thence to Petaluma.

Two contemplated projects were given attention in Petaluma, the proposed realignment of the Lakeville Highway and the proposed truck highway through the east side of the city, via Highway 104 to the Redwood Highway on the north.

The commissioners were guests at dinner at the New Hotel Petaluma sponsored by the Sonoma County Board of Supervisors where they were welcomed by George Kennedy, Chairman of the Sonoma County Board of Supervisors; Holly Vogensen, President of the Associated Chambers of Commerce; Mayor Jasper S. Woodson, and other civic leaders of Petaluma.

The highway desires of Sonoma County, including improvements on

[Four] (July-August 1944) *California Highways and Public Works*

Figure 6: Article about dedication of Albion River Bridge, *California Highways and Public Works*, July-August 1944

87 Bridges Replaced, Eliminated or Strengthened on Mendocino Coast Area Highways

By E. L. WALSH, Associate Bridge Engineer

WHEN, in August, 1933, as provided by Senate Bill No. 563, an additional 6,780 miles of road were added to the State Highway System, a heavy burden of maintenance and reconstruction was placed on the Division of Highways.

One section of highway which has presented a difficult problem is the coast road (State Highway 56) from Jenner to Westport along the northern Mendocino County coast. The roadway surface was in poor condition and practically all of the bridges were badly in need of repair.

A thorough engineering investigation of each of the bridges revealed that the majority of them were not safe for legal loads. In the section from the south Mendocino County line at the Gualala River to Westport, a distance of 81 miles, there were 84 timber bridges with a combined length of 16,812 lineal feet. Only five of them were capable of supporting legal loads.

A large percentage of these bridges were constructed previous to 1910; at least ten of the bridges were constructed before 1900; and one, the Dark Gulch Bridge, was built in 1874. These bridges were designed to support a six-horse team with a loaded wagon, a load far below the required capacity of modern traffic.

Several of the structures were found to be in such poor structural condition that the cost of making adequate repairs would practically amount to the cost of complete renewal. Most of the structures were narrow, ranging in width from 10 feet to 23 feet, the majority being 14 or 15 feet wide. These bridges were not designed for modern heavy-loaded, fast-traveling vehicles, and in most cases the width of roadway and poor alignment of approaches made them hazardous for present day traffic.

The structures, built when the road was lightly traveled, have faithfully and economically served their purpose; but since the change in traffic conditions they have become definite hazards.

Every effort has been made by the Division of Highways to plan the work of improving these roads in a systematic manner consistent with the funds available, by strengthening and replacing the weak bridges, improving the surfacing, realigning, straightening and widening the dangerous sections so as to raise the maximum load capacity of the highway.

Because of the obvious impossibility of reconstructing all of these substandard bridges, it has been necessary to remedy the condition by various other means. In certain instances, it has been possible to repair the structures by strengthening members, placing supplementary supports, rebuilding the floor systems and making other repairs of a temporary nature in order that the load capacity of the bridges could be increased.

The problem of eliminating these substandard bridges in order to remove the restricted load postings as quickly as possible has been given serious thought by the engineers of the Highway Department. In many cases it has been possible to eliminate a dangerous structure by realigning the highway and replacing the bridge by a culvert.

Where it has been necessary to replace a major structure with a new permanent-type structure, such new structure has been placed on the ultimate highway alignment. To accomplish this it has been necessary for the district engineering personnel, in cooperation with the Department of Surveys and Plans, to make extensive surveys of the whole route from Jenner to Westport; to anticipate future requirements and to analyze the various possibilities be-

Friant Dam Bids

As this issue goes to press the opening of bids for construction of Friant Dam, scheduled for September 7th, has been deferred to September 14th. The U. S. Bureau of Reclamation announced that the bids were returned to bidders unopened when at the last hour the Department of the Interior was notified by the Department of Labor that a revision of certain wage rates listed in the specifications was necessary.

Commissioner of Reclamation John C. Page, on a visit to the Central Valley Project from Washington, D. C., announced that the Bureau of Reclamation immediately would issue an addendum to the Friant specifications, listing the revised wage rates and setting an early date for a new bid opening.

The minimum wage changes, communicated by the Department of Labor, involved seven of the 123 labor classifications in the Friant Dam specifications. Under the Davis-Bacon Act, the Department of the Interior is required to include in the specifications the wage rates determined by the Department of Labor. The scale thus established must be the minimum paid by contractors on project construction.

Mr. Page said that despite the postponement the Bureau of Reclamation will make every effort to avoid any delay in an award of contract.

Figure 7:Article about bridge replacement mentioning planned concrete arch replacement for Albion River Bridge, *California Highways and Public Works*, September 1939.

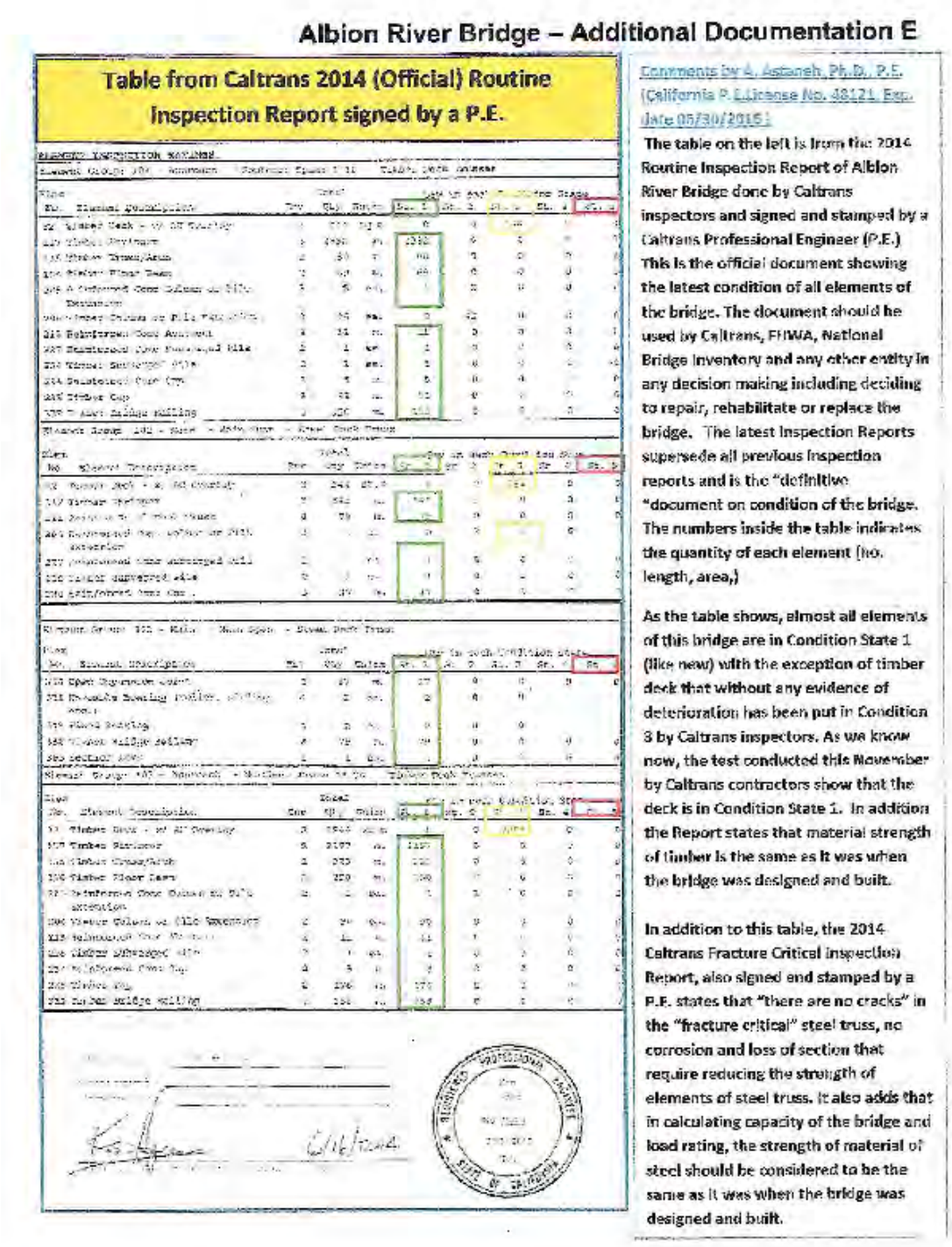


Figure 8: California Department of Transportation inspection report, 2014, with comments by A. Astaneh, Ph.D.

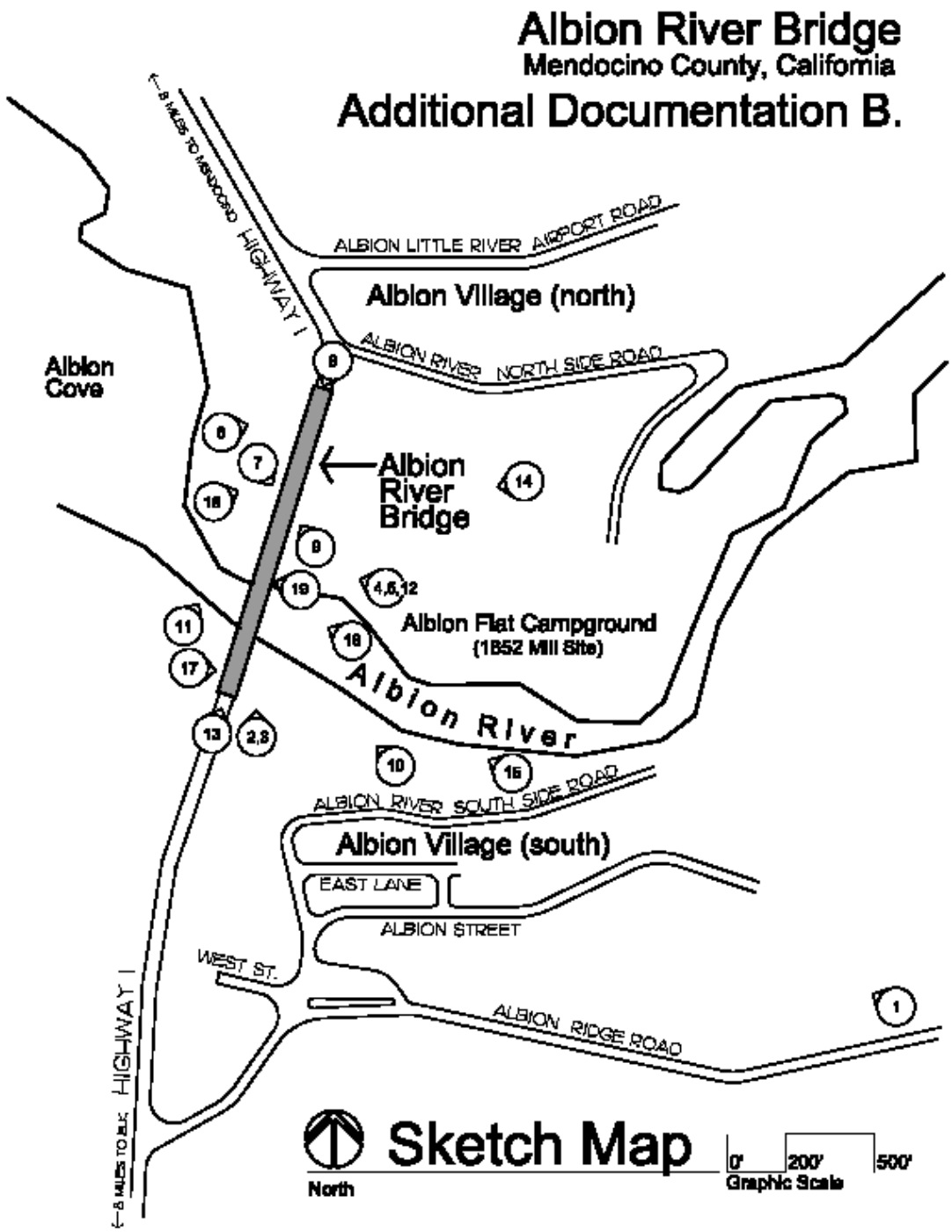


Figure 9: Albion River Bridge sketch map.

Figure 10: Google Earth location map.

Point 1: N 39.225079, E -123.769401. Point 2: N39.227654, E -123.768739.


7S 871
8C 9433
3S 1038
7L 2510

National Register of Historic Places
Memo to File

Correspondence

The Correspondence consists of communications from (and possibly to) the nominating authority, notes from the staff of the National Register of Historic Places, and/or other material the National Register of Historic Places received associated with the property.
Correspondence may also include information from other sources, drafts of the nomination, letters of support or objection, memorandums, and ephemera which document the efforts to recognize the property.

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES
EVALUATION/RETURN SHEET

Requested Action:	Nomination
Property Name:	Albion River Bridge
Multiple Name:	Highway Bridges of California MPS
State & County:	CALIFORNIA, Mendocino

Date Received:	Date of Pending List:	Date of 16th Day:	Date of 45th Day:	Date of Weekly List:
6/16/2017	7/18/2017	8/2/2017	7/31/2017	8/3/2017

Reference number:	MP100001383
Nominator:	State

Reason For Review:

X Accept _____ Return _____ Reject **7/31/2017** Date

Abstract/Summary Comments:	Meets Registration Requirements
Recommendation/ Criteria	

Reviewer Edson Beall Discipline Historian

Telephone _____ Date _____

DOCUMENTATION: see attached comments : No see attached SLR : No

If a nomination is returned to the nomination authority, the nomination is no longer under consideration by the National Park Service.

Albion River Bridge (Historic Highway Bridges of California)
Albion, Mendocino County
Staff Report

The Albion River Bridge is a 969 foot long timber deck over combination steel and timber deck-over-truss bridge, spanning the Albion River Valley at a height of 150 feet, located on Highway 1. The bridge was constructed during World War II, when material shortages required innovative engineering design. The superstructure is a 28 foot wide, asphalt surface, timber roadway, sided with a massive painted timber wheelstop rail system that cantilevers 2 feet on each side of a timber truss below. Part of the substructure is a 130 foot salvaged steel truss on two steel-reinforced concrete piers. The remaining portions of the bridge are two continuous 15 foot deep timber trusses on eleven timber trestle bents on concrete foundations.

The current Albion River Bridge replaced a 1922 elevated timber trestle bridge, located approximately half a mile upstream on the Albion River, located to avoid disruption of sawmill operations near the coast. However, this trestle bridge was inadequate to accommodate commercial traffic on Highway One, due to its difficult approach and narrow roadbed. The closure of the lumber mill in 1934 allowed a new route directly across the valley at the mouth of the river. During the late 1930s, the California Department of Highways' preferred bridge design was the concrete arch bridge, and bridges of this type were installed at nearby Jug Handle Creek in 1938, and Russian Gulch in 1940. A similar bridge was planned for Albion, but American involvement in World War II resulted in shortages of concrete and steel, as both were tightly rationed war materials. The bridge was redesigned to utilize available materials and minimal quantities of priority materials. Concrete was limited to foundations, abutments, and two of the thirteen bent piers. Salvaged railroad track was used in place of standard reinforcing steel in the concrete. A steel truss was salvaged from the Swayne Lumber Company railroad bridge near Oroville, refabricated into a 15 foot deep Pratt truss, installed onto the concrete piers. The remaining trusses were fabricated from pressure treated Douglas fir, a relatively new material, instead of redwood, which was also considered restricted war material. Construction began in 1943 and was completed on June 11, 1944.

The property is eligible for the National Register under Criterion A as an example of wartime expedient planning, utilizing materials available during a period of wartime shortage, and its role in facilitating commercial and industrial traffic through Mendocino County during the Second World War; without the bridge, the old trestle represented a bottleneck in coastal traffic. It is also eligible under Criterion C as a unique and ingenious example of its type, a composite deck-over-truss design utilized due to site-specific needs in place of the preferred concrete arch design. The period of significance is 1943-1945, from initial construction until the end of wartime rationing. The property is nominated at the local level of significance and retains a high degree of historic integrity in all aspects.

The property is owned by the California Department of Transportation (Caltrans), and nominated by a third party. The nomination has received thirteen letters of support and one letter of opposition. Caltrans has not commented on the nomination, but a 2003 assessment of the bridge found it eligible for listing in the National Register of Historic Places, and a 2014 Caltrans bridge inspection certified that the condition of the bridge was stable.

Staff supports the nomination as written and recommends that the State Historical Resources Commission determine the Albion River Bridge eligible under Criteria A and C at the local level of significance, with a period of significance of 1943-45, meeting the registration requirements of the Historic Highway Bridges in California MPS as an example of the Truss Bridge property type. Staff recommends the State Historic Preservation Officer approve the nomination for forwarding to the National Park Service for listing in the National Register of Historic Places.

William Burg
State Historian II
April 14, 2017

State Historic Preservation Officer 3-27-17

Office of Historic Preservation

1725 23rd St., Ste 100

Sacramento, CA 95816-7100

Dear Sir/Madam:

Please consider these photos and news story at this web address regarding the Albion River Bridge, dated 2002, while deliberating the bridge's nomination to the National Historic Register:

https://www.eiseverywhere.com/file_uploads/77277727213e0ddc720416e5e41ea733_2C_Albion_River_Timber_Br_Pres_J_Bowser.pdf

As a home owner on the coast I would rather have safe, reliable infrastructure for me and my family and the untold thousands that visit the region every year. We will be best served by modern engineering and design that minimizes seismic risks and that makes our bridges safer to use. I would also offer that it is the natural scenery of the Mendocino coastline that deserves national recognition. It is what people come here to see.

Thank you for your time,

Mr. Tracy Sclar

PO Box 357

Hydesville, CA 95547

State Historic Preservation Officer
Office of Historic Preservation
1725 23rd St., Suite 100
Sacramento, CA 95816-7100

Re: Albion River Bridge nominated for historic landmark status

Tom Wodetzki
31901 Middle Ridge Road
Albion CA 95410
707-937-1113; tw@mcn.org

Dear Historic Preservation Officer;

I urge you to support the historic landmark status of the Albion River Bridge.

The Albion River Bridge is one of the last remaining timber truss bridges left in California, and is a rare example of a timber deck over combination steel and timber truss bridge. It is the only surviving bridge of its type in the California state highway system.

It was constructed during WW II, when strategic like steel and cement were mostly used in the war effort and such material shortages required innovative engineering design. With its historic integrity entirely intact, the Albion River Bridge stands today exactly as it was built 73 years ago.

It's a beautiful bridge and a rare reminder of the time when the northern California coast was dotted with numerous tall timber-frame railroad, wagon and automobile bridges. It deserves preservation so future generations can see what once carried most of the traffic across the numerous coastal canyons in this region.

Thank you for considering my request.

Tom Wodetzki

State Historic Preservation Officer
Office of Historic Preservation
1725 23rd St., Suite 100
Sacramento, CA 95816-7100

April 13, 2017

Re: Albion River Bridge nominated for historic landmark status

State Historic Preservation Officer:

Albion River Bridge has been nominated for historic landmark status. On May 10, the nomination will be heard by the state Office of Historic Preservation. I'm writing to express my strong support for granting this bridge historic landmark status.

I am a longtime resident of the Mendocino coast, currently owning a house in Albion Village, a community which will be totally negatively impacted by Caltrans' unnecessary proposal to widen this bridge. I'm sure you are familiar with the characteristics that make this bridge the last of its kind in our state, and thus won't repeat them here.

Neither I nor any other coast residents I know have ever experienced any kind of traffic congestion or other issue along the proposed stretch of highway. There is absolutely no need for the expense, disruption, and ruination of an irreplaceable feature of the social and natural life on the coast that such unneeded reconstruction would entail.

I'm aware that being designated as a historic landmark will not in itself protect the bridge. However, such a designation is bound to have a positive impact. Your decision to grant Albion River Bridge historic landmark status is a rare opportunity to protect and preserve the cultural heritage of California.

I sincerely hope you will grant Albion River Bridge historic landmark status.

Thank you,

Susan Cooper
PO Box 71
Albion CA 95410

3-21-17

DEAR PRESERVATIONISTS,

Please help us save the ALBION RIVER BRIDGE. I am a Resident of ALBION & have been for 27 YEARS. The Bridge is a fine example of CALIFORNIA GOLD! Maybe the Last wooden Bridge Left in CA. The Bridge is part of our town & we love it! Please put it on the HISTORICAL REGISTER. We need to save the

old parts of our
History. newer is not
always better.
Thankyou
Rosa Wyglendowski
POB 552
32691 Middle Ridge Rd.
Albion, CA. 95410

State Historic Preservation Officer
Office of Historic Preservation
1725 23rd St., Suite 100
Sacramento, CA 95816-7100

Re: Albion River Bridge nominated for historic landmark status

Sharon Hansen
31901 Middle Ridge Road
Albion CA 95410
707-937-1113; tw@mcn.org

Dear Historic Preservation Officer;

I urge you to support the historic landmark status of the Albion River Bridge.

The Albion River Bridge is one of the last remaining timber truss bridges left in California, and is a rare example of a timber deck over combination steel and timber truss bridge. It is the only surviving bridge of its type in the California state highway system.

It was constructed during WW II, when strategic like steel and cement were mostly used in the war effort and such material shortages required innovative engineering design. With its historic integrity entirely intact, the Albion River Bridge stands today exactly as it was built 73 years ago.

It's a beautiful bridge and a rare reminder of the time when the northern California coast was dotted with numerous tall timber-frame railroad, wagon and automobile bridges. It deserves preservation so future generations can see what once carried most of the traffic across the numerous coastal canyons in this region.

Thank you for considering my request.

Sharon Hansen

CARMEL J. ANGELO
Chief Executive Officer
Clerk of the Board

CONTACT INFORMATION
501 Low Gap Road • Room 1010
Ukiah, California 95482
TELEPHONE: (707) 463-4221
FAX: (707) 463-7237
Email: bos@co.mendocino.ca.us
Web: www.co.mendocino.ca.us/bos

COUNTY OF MENDOCINO
BOARD OF SUPERVISORS

April 18, 2017

Ms. Julianne Polanco
State Historical Preservation Officer
Office of Historic Preservation
Department of Parks and Recreation
1725 23rd Street, Suite 100
Sacramento, CA 95816

Dear Ms. Polanco,

We write in strong support for the listing of the Albion River Bridge on the National Register of Historic Places. This listing will afford national recognition and prestige for Mendocino County's section of the Pacific Coast Highway. It will also allow the Albion River Bridge to join two other listed bridges along this highway: the Bixby Creek Bridge in Big Sur and the Golden Gate Bridge.

Construction of the Albion River Bridge began in 1943, a few years after completion of two concrete arch bridges built to replace deteriorated timber trestle bridges at Jug Handle Creek (1938) and Russian Gulch (1940). When the United States entered World War II, the new bridge for Albion was still on the drawing board, and all new bridge work had been restricted to "major" California roads. Highway 1 at Albion did not qualify as such.

However, after major lobbying efforts by coastal residents, businesses and governments, the design work was finally authorized to continue by order of the War Production Board in 1942. Ultimately, this led to replacement of an existing deteriorating timber deck over timber truss bridge and to the elimination of its mile of dangerous, meandering access roadways.

The revised design replaced the originally planned-for redwood with a relatively new product, pressure- treated Douglas Fir. Wauna Lumber Company of Wauna, Oregon shipped 829,000 board feet of this lumber to Albion. It was thought at the time that this new wood preservation process would allow the bridge to remain stable for approximately 20 years. Instead, it has lasted more than 70 years!

Caltrans' recent rehabilitation projects, along with the original sensitive design, fine construction and excellent maintenance will likely allow the bridge to continue to serve the public for years into the future.

According to Caltrans District 1 Project Manager Frank Demling, the agency "already treats the bridge as though it is listed" in the National Register, and will not hinder its replacement, if found necessary. He adds that should a replacement project go forward in the future, Caltrans will take the appropriate steps to maintain recognition of the unique historic importance of the bridge.

We urge your support for the nomination of the Albion River Bridge for the National Register of Historic Places.

Thank you for your consideration.

Sincerely yours,

John McCowen, Chair
Mendocino County Board of Supervisors

April 21, 2017

Comments on the Proclamation of the Albion River Bridge as a Historical Landmark:

Albion River Bridge Historic Designation :

We have lived at the North End of the Albion Bridge for 25 years. We live in an old growth redwood house built in the early 1900's by one of the Lumber Mills on the Albion Flats. We live in a Rural Village in the Coastal Zone.

The Albion Bridge is an integral part of our community. We walk to the beach below the Albion Bridge.

Caltrans says our Albion Bridge is functionally deficient by today's standards. In many respects that may be true. But the grandness of the structure is a testament of our glorious past. A testament to the craftsmanship of our heritage. Built in 1943 during the years of WW2 when all the concrete and steel were being used for the war effort they built this amazing structure.

Our little community already has lost their Community Church which was dismantled to build the bridge and now they want to take the bridge too.

In the 75 years of it's life to my knowledge the guardrail has only been breached once. A logging truck was sideswiped by a passenger car and although headed south it breached the east railing and went nose first into the south bank of the river. The driver survived and was rescued by our amazing volunteer fire department.

I've walked many times across the Albion Bridge to pick up my mail and groceries on the south side. Although you must walk defensively it is the most exhilarating experience. I imagine what it must have been like riding horses across the bridge in days of the past.

Since the economy has changed on the North Coast from logging and fishing to tourism we must cherish what people come to the coast for. They come to step back in time. They come to slow down and get back to nature. They come here to escape the sterile concrete of the cities and freeways. They come for the ambience of their ancestry. They come to inhale the ocean air and walk our pristine countryside.

Caltrans would like to tear down our Albion Bridge and put in an overlook with a plaque saying try to imagine what a magnificent bridge this used to be.

Please help us save our Albion Bridge and hold Caltrans responsible for it's upkeep and keeping it it safe for many more years.

Thank you for your consideration

Carol and Dan Clary
P.O. Box 2
3751 Albion Little River Road
Albion, California 95410

Carol + Dan Clary

State Historic Preservation Officer
Office of Historic Preservation
1725 23rd St., Suite 100
Sacramento, CA 95816-7100

Re: Albion River Bridge nominated for historic landmark status

Jess River
31901 Middle Ridge Road
Albion CA 95410
707-937-1113; tw@mcn.org

Dear Historic Preservation Officer;

I urge you to support the historic landmark status of the Albion River Bridge.

The Albion River Bridge is one of the last remaining timber truss bridges left in California, and is a rare example of a timber deck over combination steel and timber truss bridge. It is the only surviving bridge of its type in the California state highway system.

It was constructed during WW II, when strategic like steel and cement were mostly used in the war effort and such material shortages required innovative engineering design. With its historic integrity entirely intact, the Albion River Bridge stands today exactly as it was built 73 years ago.

It's a beautiful bridge and a rare reminder of the time when the northern California coast was dotted with numerous tall timber-frame railroad, wagon and automobile bridges. It deserves preservation so future generations can see what once carried most of the traffic across the numerous coastal canyons in this region.

Thank you for considering my request.

Jess River

Abolhassan Astaneh-Asl, Ph.D., P.E.
Professor and Consultant on Structural Engineering and Bridge Engineering
209 Vernal Drive, Alamo, CA, 94507-1229
Phone (925) 946-0903, E-mail: astanehhassan@gmail.com, Web: www.astaneh.net

Ms. Julianne Polanco
State Historic Preservation Officer
Office of Historic Preservation
1725 23rd St., Suite 100
Sacramento, CA 95816-7100

Date: April 25, 2017

Subject: A Letter in Strong Support of Albion River Bridge Registration as a National Historic Place

Dear Ms. Polanco:

I am a Registered Professional Engineer in California (License # CA 48121/Exp. 6-30-2018) and have more than 49 years of experience in design, research, failure analysis of structural engineering of buildings and bridges, and seismic design and protection of buildings and bridges against earthquakes, the wind and terrorist attacks. I am also a Professor of Structural Engineering at the University of California, Berkeley, www.ce.berkeley.edu/~astaneh. My CV is here.

Since 2014, I have been retained as a consultant by a property owner in Albion to study the existing structural integrity of the Albion River and Salmon Creek Bridges, both located in Albion on scenic Highway 1, Mendocino County, California. I have been asked to provide my expert engineering and scientific opinion on the proposed Caltrans plans to rehabilitate or replace these two bridges. This letter will focus on the structural integrity of the Albion River Bridge, which is currently being considered by the State Office of Historic Preservation for listing on the National Register of Historic Places.

I strongly support registration of the Albion River Bridge as a National Historic Place. In the following, I provide information on the existing condition of the Albion River Bridge regarding structural and bridge engineering aspects. I plan to attend May 10, 2017, SHRC Meeting and will be happy to answer any questions you might have regarding my study of structural and bridge engineering aspects of the Albion River Bridge.

The Albion River Bridge on Scenic Highway 1 with the Town of Albion in the

The current structural condition of the Albion River Bridge for its Deck, Superstructure and Substructure is 7 in a scale of 0 to 9 on the FHWA National Bridge Inspection Standards condition rating, where a rating of 0 is "out-of-service", 9 is "excellent" and 7 is "good" condition. My Final Report on the structural integrity of this bridge will be released this summer: *The Albion River Bridge: An Engineering Review of Its Existing Condition*. This report is the result of more than three years of extensive investigation, actual field inspection, and analysis of the existing condition of the bridge. In my professional opinion, based on the findings of the study and factual data, there are no engineering, scientific, economic, or transportation planning/management reasons that justify any of the Rehabilitation and Replacement Alternatives developed and proposed by the California Department of Transportation (Caltrans) for the Albion River Bridge. In the following, I have provided more information on the existing condition of the bridge.

The Appendix to this letter is a summary showing the arguments California Department of Transportation has presented in various reports to justify demolition of the historic Albion River Bridge. The FHWA ranks the current condition of the bridge as being in "good" condition. The rationale for replacing a bridge that is currently functioning within the standards of the federal government guidelines seems fiscally irresponsible. In addition, replacing the current bridge with a concrete bridge at an estimated cost of more than $65 million will cause significant harm to the environment and devastate the local economy during construction of the reinforced concrete structure.

In 2015, Caltrans proposed to replace the Albion River Bridge, citing that the bridge was "Structurally Deficient." This designation has been used repeatedly by Caltrans to justify replacing the bridge. All bridges in the State of California must be inspected every other year and a structural assessment completed. These findings are then compiled into a report that is submitted to the FHWA National Bridge Inspection Standards (NBIS); this report is called a "Routine Inspection Report." This report must contain *factual, accurate, and complete inspection data on the current condition* of the bridge. The last page of the Routine Inspection Report is a form called Structure Inventory & Appraisal (SI&A) Report. The form is submitted to the FHWA and is included in the FHWA National Bridge Inventory (NBI) database; it provides a summary of the current structural condition of the bridge and its five major components, which are:

1. Deck (roadway structure under asphalt),
2. Superstructure (the elements supporting the roadway),
3. Substructure (piers and foundations),
4. Channels and Channel Protection, and
5. Culverts.

Depending on the condition of these five components at the time of the Routine Inspection, they are assigned a Condition Rating of 0 to 9 with the following definition for each rating [from: FHWA, Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges (1996)].

9	EXCELLENT CONDITION
8	VERY GOOD CONDITION- no problems noted.
7	GOOD CONDITION- some minor problems.
6	SATISFACTORY CONDITION structural elements show some minor deterioration.
5	FAIR CONDITION- all primary structural elements are sound but may have minor section loss, cracking, spalling or scour.
4	POOR CONDITION- advanced section loss, deterioration, spalling or scour.
3	SERIOUS CONDITION loss of section, deterioration, spalling or scour have seriously affected primary structural components. Local failures are possible. Fatigue cracks in steel or shear cracks in concrete may be present.
2	CRITICAL CONDITION advanced deterioration of primary structural elements. Fatigue cracks in steel or shear cracks in concrete may be present or scour may have removed substructure support. Unless closely monitored it may be necessary to close the bridge until corrective action is taken.
1	"IMMINENT" FAILURE CONDITION major deterioration or section loss present in critical structural components or obvious vertical or horizontal movement affecting structure stability. Bridge is closed to traffic but corrective action may put back in light service.
0	FAILED CONDITION out of service beyond corrective action.

According to Caltran's own inspections, up until 2015 all Structure Inventory & Appraisal Report for the Albion River Bridge assigned a condition rating of 6, 7 or 8 out of 9 for the components of the bridge. For a bridge to be rated "Structurally Deficient," the condition rating of one of its components should be equal or less than 4 (defined as in "Poor Condition " in FHWA definition given on the previous page). Until 2015 per Caltrans' own assessment, none of the condition ratings of the bridge was equal or less than 4, and the Albion River Bridge was not listed as "Structurally Deficient" in the FHWA National Bridge Inventory database. In 2015, however, the condition assessment of some components drastically changed. Below on the left is a part of the 2013 Structure Inventory & Appraisal Report for the Albion River Bridge that shows the "Structural Condition" of the bridge in 2013. On the right is the same section of the 2015 Structure Inventory & Appraisal Report.

2013

********** CONDITION **********	CODE
DECK	5
SUPERSTRUCTURE	7
SUBSTRUCTURE	7
CHANNEL & CHANNEL PROTECTION	8
CULVERTS	N
********* LOAD RATING AND POSTING *********	CODE
DESIGN LOAD- M-13.5 OR H-15	2
OPERATING RATING METHOD- LOAD FACTOR	1
OPERATING RATING-	30.8
INVENTORY RATING METHOD- LOAD FACTOR	1
INVENTORY RATING-	22.7
BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOADS	5
STRUCTURE OPEN, POSTED OR CLOSED-	A
DESCRIPTION- OPEN, NO RESTRICTION	
********** APPRAISAL **********	CODE
STRUCTURAL EVALUATION	6

2015

********** CONDITION **********	CODE
DECK	7
SUPERSTRUCTURE	7
SUBSTRUCTURE	3
CHANNEL & CHANNEL PROTECTION	8
CULVERTS	N
********* LOAD RATING AND POSTING *********	CODE
DESIGN LOAD- M-13.5 OR H-15	2
OPERATING RATING METHOD- LOAD FACTOR	1
OPERATING RATING-	30.8
INVENTORY RATING METHOD- LOAD FACTOR	1
INVENTORY RATING-	22.7
BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOADS	5
STRUCTURE OPEN, POSTED OR CLOSED-	A
DESCRIPTION- OPEN, NO RESTRICTION	
********** APPRAISAL **********	CODE
STRUCTURAL EVALUATION	3

There are three major changes in the condition of the bridge from 2013 to 2015:

1. In 2013 the bridge Deck was rated as "5-Fair Condition"; in 2015 this rating was changed to "7-Good Condition.". In 2007, a Routine Inspection report for the Albion River Bridge included the statement: " the two-layer plank deck under the AC (asphalt) is rotting and crushing". However, a visual inspection of the deck by the author in 2013 did not see any evidence of rotting or crushing, see photos below. In 2014, Caltrans did a sampling and laboratory investigation of the deck planks and concluded that the timber deck was not rotting or crushing, and revised its previous condition assessment from a "5-Fair Condition" to "7-Good". This is reflected in the 2015 form that shows the condition of the Deck as 7 out of 9.

The existing timber members are in very good condition with no sign of rotting or crushing

2. The Structural Evaluation Rating (see tables on the previous page) of the bridge in 2013 was "6-Good Condition." By In 2013 the Substructure was rated as: "7-Good Condition." By 2015, this rating had been downgraded to "3-Serious Condition." In very rare circumstances such a drop may occur in the event of a natural disaster such as an earthquake, fire, or hurricane, where a bridge is so seriously damaged that its rating drops a full four points. The Albion River Bridge was not subject to any unusual events during 2013–2015. The condition of the Substructure has previously received a rating between 6 and 7, and never below 6 until 2015. A review of the 2015 Routine Inspection Report also did not reveal any reason given for this downgrading of rating of the condition of the Substructure.

The Substructure of this bridge consists of timber and reinforced concrete piers supported on timber and reinforced concrete piles. Given that there is no record of an inspection of the piles being conducted between 2013 and 2015, it is difficult to understand the rationale for such a dramatic change in rating. As for the concrete and timber towers supporting the Superstructure, their condition has not changed in any noticeable way between 2013–2015. Previous Routine Inspection reports for the Albion River Bridge had stated that the bolts connecting the timber elements to each other exhibited evidence of corrosion and require replacing. But given that no unusual corrosion of the bolts occurred during the 2013–2015 period, it is difficult to justify downgrading the condition of the bridge Substructure from a "7-Good Condition" to a "3-Serious Condition.". Finally, if corrosion of steel bolts were the cause of such a dramatic change in the rating of the substructure, these same bolts are used in the Superstructure of the bridge, but the Superstructure maintains "7-Good Condition" rating; see the two tables on the previous page.

In 2013, the bridge underwent major painting and maintenance. The corroded bolts were replaced at the time and were coated to prevent corrosion; see the photographs below. Given that the bolts have been replaced, if the downgrading of the bridge was dependent on corroded bolts, those concerns should have been eliminated. Caltrans had not provided a rationale or documented any conditions that support the downgrading of the bridge, yet between 2013–2015 the bridge went from a rating of 7 to a 3, as attested to in the Routine Inspection Report and the Structure Inventory & Appraisal Reports submitted to the FHWA. I note that entering false data into a bridge inspection report submitted to the FHWA is prohibited by law.

The bolts connecting the timber members are in good condition in these 2015 photos

3. The Structural Evaluation Rating (see tables on the previous page) of the bridge in 2013 was "6-Good Condition." By 2015, only two years later, it was dropped to "3-Serious Condition.". As discussed above, there were no noticeable changes in the structural condition of the bridge

between 2013 and 2015, or any inspection data to support such a change in structural integrity. Should the bridge be structurally unsound, obviously the Albion River Bridge should be replaced. But Caltrans has not provided any data to support the downgrading of the structural rating of this bridge from "7-Good Condition" to "3-Serious Condition and designating it in 2015 "Structurally Deficient". As a licensed engineer with decades of experience, my visual inspection of the bridge saw no evidence to support the downgrading of this bridge to "Structurally Deficient."

I believe that the assessment of the bridge in 2013 reflects the true integrity of this bridge, which according to Caltrans' own records rated the bridge as being in "Good Condition." Based on this 2013 assessment, I strongly support designating the Albion River Bridge as a National Historic Place.

Respectfully submitted,

Abolhassan Astaneh-Asl, Ph.D., P.E.,
Professor and Consultant in Structural Engineering,
Earthquake Engineering and Bridge Engineering

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Disclaimer The opinions expressed in this document are solely those of the author and do not necessarily represent the views of the University of California, Berkeley, where he is a professor or the views of those individuals and agencies whose names appear in this document.

Appendix

Summary of the Arguments California Department of Transportation Has Made to Replace the Albion River Bridge and Why the Arguments are Not Valid

By Abolhassan Astaneh-Asl, Ph.D., P.E.

April 25, 2017

This Appendix is a summary of findings of a report: "The Albion River Bridge: An Engineering Review of Its Existing Condition - By A. Astaneh-Asl, Ph.D., P.E " to be released this summer (2017). The Albion River Bridge has a steel deck truss main span crossing the Albion River, which flows to the Pacific Ocean a few hundred yards after it passes under the steel truss main span of the bridge. The main span steel trusses are supported on two 4-legged reinforced concrete towers. To the north and south of the main span, there are timber approach structures that consist of timber deck trusses supported on 10-legged braced timber towers. The bridge has a length of 969.2 feet and a deck width of 25.9 feet. It opened to traffic in 1944 by Governor of California. The design and construction of the bridge were done under the supervision of legendary bridge engineer, Charles Purcell, who earlier was the Chief Engineer of the San Francisco-Oakland Bay Bridge. The Albion River Bridge is eligible for listing as a National Historic Place with the National Parks Service of the Department of the Interior.

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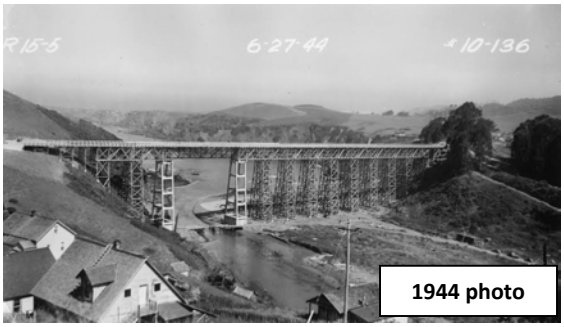

Figure 1. The Albion River Bridge

The California Department of Transportation (Caltrans) has developed plans to replace the bridge and has officially stated several reasons why the bridge should be rehabilitated or replaced. Currently, all indications are that at the present Caltrans is moving forward with only replacement options and has officially asked SHOPP (the state transportation funding program) for $66 million for the replacement option.

The main goal of this review was to investigate the existing (2014–2016) condition of the Albion River bridge. Once the structural integrity of the bridge is established, a review of Caltrans official reports and specifically the Routine Inspection Reports, the Fracture Critical Inspection reports, the Load Rating Data Sheet and calculations, and Special Inspection Report starting from 2015 and going as far back as the 1950s was conducted to determine if the rationale for rehabilitation or replacement of the Albion River Bridge is based on engineering and scientific principles, thus supporting the current structural condition of the bridge.

A detailed and extensive field investigation of the current condition of the bridge and a review of documents, specifically the latest official documents on condition of the bridge prepared by Caltrans, was performed by the author. These documents include the 2015 Routine Inspection Report, the 2014 Structure Load Rating Data Sheets, the 2014 Fracture Critical Inspection Report, and almost entire Bridge Inspection Reports Inventory System (BIRIS) and numerous other documents by FHWA, AASHTO, Caltrans, and others. Based on an evaluation of these documents in conjunction with engineering and scientific protocols, there is no justification for the rehabilitation or replacement of the Albion River Bridge.

The proposed alternatives are based on incomplete data of the current condition of the bridge. Based on the 2014 Structure Load Rating Data Sheet and calculations, as well as the 2014 Fracture Critical Inspection Report accurately and correctly, in a complete manner, report the condition of the Albion River Bridge as “satisfactory and very good condition". In the view of this reviewer, these two official and legal documents are professionally done. Even though this reviewer has not checked all the calculations and data entered into these reports, he does not have any reason to believe that the data in those reports are not accurate and reliable. However, the 2015 Routine Inspection Report submitted to the FHWA and National Bridge Inventory Database, as well as its earlier versions, contains, in the opinion of this reviewer, numerous misstatements and inaccurate inspection data.

Caltrans has stated in its official documents why the Albion River Bridge needs to be replaced. Although the case for replacement is not matched by an equally thorough consideration of rehabilitation. Given Caltrans’ commitment to completely replacing the bridge, this author has addressed the arguments that Caltrans has provided for replacement. The Review evaluates only the engineering and scientific data that are in the Caltrans official inspection reports as signed by a Caltrans Registered Professional Engineer and submitted to the Federal Highway Administration as required by law (i.e., The National Bridge Inspection Standards).

1. Caltrans reason to replace ARB: The Bridge is “Structurally Deficient”

Engineering Review Comment: The above statement is not true.

In order for a bridge to be structurally deficient, structural rating of at least one component of the bridge should be equal or less than 3. Until 2013, all Routine Inspection Reports and the Structure Inventory & Appraisal Reports submitted to FHWA by Caltrans had the structural rating of the bridge as 6 or 7 out of a maximum of 9. In the 2015 Structure Inventory & Appraisal Report, the structural rating of the Albion River Bridge was changed by Caltrans to a rating of “3-Serious Condition” with no data supporting this change. The bridge condition has not changed in any noticeable manner to justify its condition being downgraded from a rating of “7-Good” in 2013 to a rating

of "3-Serious" in 2015. This appears to be an arbitrary change of actual inspection data to be able to designate the bridge "Structurally Deficient", where in reality the bridge has a rating of 7 out of 9 and thus is NOT Structurally Deficient.

2. **Caltrans reason to replace ARB: The timber deck is rotting and crushing**

   Engineering Review Comment: The above statement is not true.

   Any visual inspection of the bridge will show that the deck is in a very good condition with no rots or crushing. In addition, the 2014 field inspection and tests by an independent laboratory hired by Caltrans stated that the deck was in good condition, with neither rotting nor crushing

3. **Caltrans reason to replace ARB: The timber structure has reached its end of life**

   Engineering Review Comment: The above statement is not true

   There are a total of 6,155 timber elements (members) in the Albion River Bridge structure excluding the deck. In the 2013 Caltrans Routine Inspection Report, all of these elements were listed as having "Condition State 1- No Decay, which is the best condition). The deck has a total of 2,529 elements (planks etc.). In the 2013 Routine Inspection Report, these deck elements, are listed under "Condition State 3- Decayed and lost strength." The independent laboratory tests in 2014 reported that **all** 8,684 timber structural members of the Albion River Bridge were in "Condition State 1-No Decay" (very good). Given the results of this report, it is difficult to interpret Caltrans' statement that this structure has come to the end of its life.

4. **Caltrans reason to replace ARB: The steel truss main span is "fracture critical", heavily corroded, needs painting every 5-10 years and should be replaced**

   Engineering Review Comment: The above statement is not true.

   I note here that almost all steel trusses are "fracture critical." I also note that the 2013 Caltrans Fracture Critical Inspection Report gave the steel truss span a complete bill of health, stating that there was no corrosion, no cracks, and the condition of the paint was "excellent." In addition, the 2014 Caltrans Load Rating Sheet states that the strength of the steel truss elements (as well as timber elements) remains the same as it was when the bridge was originally designed and built.

5. **Caltrans reason to replace ARB: The steel truss main span is "riveted" and is "recycled from an old railroad bridge"**

   Engineering Review Comment: The above statement is not true.

   Research, laboratory tests, and actual performance indicate that "riveted" bridges have much better performance than the bolted and welded bridges when it comes to cyclic stresses due to earthquakes and passage of trucks over the bridge. Also, a steel truss being "recycled from an old railroad bridge" does not automatically mean there is anything wrong with it unless a problem is actually detected, which is not the case here. Because the steel trusses were part of a railroad bridge indicates that they have plenty of additional strength since they were designed originally to carry trains, which are much heavier than cars and trucks. In fact, it could be argued that these riveted steel trusses should be kept in place because of the improved performance of rivets over welds and

the enhanced strength of the trusses given their original purpose.

6. **Caltrans reason to replace ARB: The bolts in timber connections need to be replaced frequently in this bridge because of corrosion, therefore the bridge should be replaced**

   Engineering Review Comment: The above statement is not true.

   Based on facts, the problem with corrosion of bolts and their replacement have been overstated. The bolts are galvanized and the extent of corrosion is minimal. The inspection of bridge indicated that in fact, many of the bolts in the bridge are the original bolts that remain in serviceable condition with minor or no corrosion. Standard bridge maintenance requires replacing bolts and is not a legitimate argument for replacing an entire bridge.

7. **Caltrans reason to replace ARB: The asphalt on the bridge is cracking and the potholes are because the deck supporting it is rotting and crushing.**

   Engineering Review Comment: The above statement is not true

   As discussed in Item 2 earlier, the deck is in very good condition, it is not rotting or crushing. The statement about potholes and cracks on the asphalt is not related to the structure being a timber bridge. The reason the asphalt has developed cracks and potholes are primarily due to deferred maintenance: the asphalt on this bridge has not been replaced in more than 14 years. The item needing replacement is the asphalt pavement and not the bridge. In 2016, the old asphalt was removed and replaced with new asphalt.

8. **Caltrans reason to replace ARB: The Albion River Bridge cannot be seismically retrofitted.**

   Engineering Review Comment: The above statement is not true.

   The Caltrans website on Earthquake Retrofit Program states that 99.9% of more than 12,000 Caltrans bridges have been seismically retrofitted if they required it. However, it did not include the Albion River Bridge in the major $10 billion plus retrofit budget that the State of California provided. In 2014, under pressure from the Albion Community Advisory Board and the Reviewer who were demanding seismic retrofit for the Albion River Bridge, Caltrans developed seismic retrofit plans. In 2017, Caltrans implemented the Interim Seismic Retrofit on the Albion River Bridge making it, from the seismic retrofit point of view, similar to other bridges in California that have been retrofitted after the 1989 Loma Prieta earthquake.

9. **Caltrans reason to replace ARB: The Bridge cannot carry its traffic load.**

   Engineering Review Comment: The above statement is not true.

   The 2014 Load Rating Sheet for the Albion River Bridge states that the strength of bridge elements is the same as it was when the bridge was originally designed and built. The bridge is sufficiently strong for its traffic loads and is compatible with the surrounding roads.

10. Caltrans reason to replace ARB: A tsunami can collapse part of the bridge

Engineering Review Comment: The above statement is not true.

Caltrans documents discussing the tsunami effects state that the bridge will be able to withstand the tsunami when the water waves arrive and hit the bridge. It is anticipated that when the tsunami water passes the bridge and enters Albion Flats, it will return with heavy debris and this debris hitting the bridge will cause it to collapse. This scenario is not based on facts. First of all, when tsunamis come in, they have a very high speed and much more mass than when they return. Given that the Albion Flats to the east of the bridge are very flat, the water return will be very slow. The Flats are currently a campground with a small café and a residential building on the side. Unlike earthquakes, tsunami do not happen suddenly and without warning.

Depending on which major fault in the Pacific Ocean causes tsunami, the Albion River Bridge has four to eight hours of warning time on the tsunami's arrival. During the tsunami created by the Great 2011 Japan earthquake, the Sheriff's office dispatched officers to warn people on the arrival of tsunami. When it arrived, the tsunami waves were barely 3 feet high and did not pose a hazard to the bridge.

11. Caltrans reason to replace ARB: The railing of the bridge needs to be replaced

Engineering Review Comment: The above statement is not true

The timber railing of the Albion River Bridge does not comply with the requirements of the current standards. However, as the standards change and become more stringent over time, many elements of a bridge end up not satisfying those standards developed after the bridge was designed. The national policy on this issue is that as long as the element (in this case railing) is serviceable and serves its intended purpose as it was originally designed, there is no need to replace them to comply with the current standards. The rationale for this is obvious: otherwise, railings of hundreds of thousands of bridges would need to be replaced. Even if the railings were not serviceable, it would be a small part of the bridge to be replaced and not the entire bridge. The timber railings of the Albion River Bridge are in very good and satisfactory condition (see Figure 1 on Page 6 earlier.) They are an essential historical and aesthetic feature of the bridge, which is eligible to be listed as a National Historic Place by the National Park Service of the Department of the Interior.

12. Caltrans reason to replace ARB: The Bridge is "Functionally Obsolete" because of its deck width and needs to be replaced

Engineering Review Comment: The above statement is not true

The National Bridge Inventory Database lists the Albion River Bridge as "functionally obsolete" because of its deck width is 26 feet instead of current standard of 28 feet. More than 30% of all bridges in the U.S. and in California are Functionally Obsolete. Being Functionally Obsolete does not mean there are safety concerns or that the bridge needs to be replaced. In this case, increasing the width of the deck from current 26 feet to a width of 55 feet in a replacement bridge does not make any engineering nor economic sense. The State Route 1, which is carried by this bridge for hundreds of miles, is a two-lane road with no shoulders.

13. Caltrans reason to replace ARB: The Bridge does not have bike and pedestrian lanes and needs to be replaced with a new bridge that does.

Engineering Review Comment: The above statement is not true

This is not a valid reason to justify replacing a fine bridge that is not structurally deficient and has a structural rating of 7 out of a maximum of 9. State Route 1 that is carried by this bridge, for its entire length to the north and south of this bridge, does not have bike or pedestrian lanes. Replacing the bridge to create bike and pedestrian lane for only 960 feet of the State Route that is more than 400 miles long does not make any engineering or economic sense.

Conclusions

After reviewing the latest Caltrans official reports; the 2015 Routine Inspection Report, the 2014 Fracture Critical Report and the 2014 Structure (Load) Rating Data Sheet and Calculations, the earlier versions of these reports, Caltrans official reports, as-built drawings, as well as relevant documents, some listed in the References, the following conclusions are reached:

1. There is no Engineering, Scientific, Economic or Transportation Planning/Management reason that can be used to justify any of the Rehabilitation and Replacement Alternatives developed and proposed by Caltrans. Many of the reasons given by Caltrans in support of its Rehabilitation and Replacement plans for the Albion River Bridge are inaccurate or misleading.
2. Caltrans official documents and inspection reports, signed and stamped by Caltrans Registered Professional Engineers and submitted to the Federal Highway Administration (FHWA) as part of the requirements of the National Bridge Inspection Standards contain numerous incorrect, incomplete, and/or erroneous data.
3. The 2015 Routine Inspection Report for Albion River Bridge, which was submitted to the Federal Highway Administration in 2016, has downrated the structural condition of the bridge from an actual 7 out of a maximum of 9 to a 3. There is not, to this author's knowledge, inspection data to support this change of the structural condition of this bridge.
4. Given that Caltrans' own inspection data in 2013 factually reflects the very good to excellent conditions of steel, concrete and timber elements of the Albion River Bridge, there is no justification for rehabilitation. Naturally, it follows that if the bridge is sound enough that rehabilitation is not required, then replacing the bridge should be out of the question.
5. None of the reasons that California Department of Transportation (Caltrans) has stated in official documents to justify funds to replace the Albion River Bridge are based on sound engineering principles. According to the available factual data, the structure of the Albion River Bridge remains in satisfactory to good condition, which justifies preserving it as a registered National Historic Place.

The 2013 Structure Inventory & Appraisal Report for the Albion River Bridge

STRUCTURE INVENTORY AND APPRAISAL REPORT

********** IDENTIFICATION **********

(1) STATE NAME- CALIFORNIA 069
(8) STRUCTURE NUMBER 10 0136
(5) INVENTORY ROUTE(ON/UNDER)- ON 131000010
(2) HIGHWAY AGENCY DISTRICT 01
(3) COUNTY CODE 045 (4) PLACE CODE 00000
(6) FEATURE INTERSECTED- ALBION RIVER
(7) FACILITY CARRIED- STATE ROUTE 1
(9) LOCATION- 01-MEN-001-43.74
(11) MILEPOINT/KILOMETERPOINT 43.74
(12) BASE HIGHWAY NETWORK- PART OF NET 1
(13) LRS INVENTORY ROUTE & SUBROUTE 000000000101
(16) LATITUDE 39 DEG 13 MIN 35.2 SEC
(17) LONGITUDE 123 DEG 46 MIN 08.55 SEC
(98) BORDER BRIDGE STATE CODE % SHARE %
(99) BORDER BRIDGE STRUCTURE NUMBER

******** STRUCTURE TYPE AND MATERIAL *********

(43) STRUCTURE TYPE MAIN:MATERIAL- STEEL
TYPE- TRUSS - DECK CODE 309
(44) STRUCTURE TYPE APPR:MATERIAL- WOOD OR TIMBER
TYPE- STRINGER/MULTI-BEAM OR GDR CODE 702
(45) NUMBER OF SPANS IN MAIN UNIT 1
(46) NUMBER OF APPROACH SPANS 33
(107) DECK STRUCTURE TYPE- TIMBER CODE 8
(108) WEARING SURFACE / PROTECTIVE SYSTEM:
A) TYPE OF WEARING SURFACE- BITUMINOUS CODE 6
B) TYPE OF MEMBRANE- NONE CODE 0
C) TYPE OF DECK PROTECTION- NONE CODE 0

********** AGE AND SERVICE **********

(27) YEAR BUILT 1944
(106) YEAR RECONSTRUCTED 0000
(42) TYPE OF SERVICE: ON- HIGHWAY 1
UNDER- WATERWAY 5
(28) LANES:ON STRUCTURE 02 UNDER STRUCTURE 00
(29) AVERAGE DAILY TRAFFIC 2100
(30) YEAR OF ADT 2009 (109) TRUCK ADT 6 %
(19) BYPASS, DETOUR LENGTH 51 KM

********** GEOMETRIC DATA **********

(48) LENGTH OF MAXIMUM SPAN 39.6 M
(49) STRUCTURE LENGTH 295.4 M
(50) CURB OR SIDEWALK: LEFT 0.0 M RIGHT 0.0 M
(51) BRIDGE ROADWAY WIDTH CURB TO CURB 7.9 M
(52) DECK WIDTH OUT TO OUT 8.6 M
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 7.3 M
(33) BRIDGE MEDIAN- NO MEDIAN 0
(34) SKEW 0 DEG (35) STRUCTURE FLARED NO
(10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR 7.9 M
(53) MIN VERT CLEAR OVER BRIDGE RDWY 99.99 M
(54) MIN VERT UNDERCLEAR REF- NOT H/RR 0.00 M
(55) MIN LAT UNDERCLEAR RT REF- NOT H/RR 0.0 M
(56) MIN LAT UNDERCLEAR LT 0.0 M

********** NAVIGATION DATA **********

(38) NAVIGATION CONTROL- BR PERMIT REQ CODE 1
(111) PIER PROTECTION- NOT REQUIRED CODE 1
(39) NAVIGATION VERTICAL CLEARANCE 50.0 M
(116) VERT-LIFT BRIDGE NAV MIN VERT CLEAR M
(40) NAVIGATION HORIZONTAL CLEARANCE 35.7 M

****

SUFFICIENCY RATING = 63.9
STATUS FUNCTIONALLY OBSOLETE
HEALTH INDEX 93.5
PAINT CONDITION INDEX = 100.0

********** CLASSIFICATION ********** CODE

(112) NBIS BRIDGE LENGTH- YES Y
(104) HIGHWAY SYSTEM- NOT ON NHS 0
(26) FUNCTIONAL CLASS- MINOR ARTERIAL RURAL 06
(100) DEFENSE HIGHWAY- NOT STRAHNET 0
(101) PARALLEL STRUCTURE- NONE EXISTS N
(102) DIRECTION OF TRAFFIC- 2 WAY 2
(103) TEMPORARY STRUCTURE-
(105) FED.LANDS HWY- NOT APPLICABLE 0
(110) DESIGNATED NATIONAL NETWORK - NOT ON NET 0
(20) TOLL- ON FREE ROAD 3
(21) MAINTAIN- STATE HIGHWAY AGENCY 01
(22) OWNER- STATE HIGHWAY AGENCY 01
(37) HISTORICAL SIGNIFICANCE- ELIGIBLE 2

********** CONDITION ********** CODE

(58) DECK 5
(59) SUPERSTRUCTURE 7
(60) SUBSTRUCTURE 7
(61) CHANNEL & CHANNEL PROTECTION 8
(62) CULVERTS N

********* LOAD RATING AND POSTING ********* CODE

(31) DESIGN LOAD- M-13.5 OR H-15 2
(63) OPERATING RATING METHOD- LOAD FACTOR 1
(64) OPERATING RATING- 30.8
(65) INVENTORY RATING METHOD- LOAD FACTOR 1
(66) INVENTORY RATING- 22.7
(70) BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOADS 5
(41) STRUCTURE OPEN, POSTED OR CLOSED- A
DESCRIPTION- OPEN, NO RESTRICTION

********** APPRAISAL ********** CODE

(67) STRUCTURAL EVALUATION 6
(68) DECK GEOMETRY 3
(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N
(71) WATER ADEQUACY 9
(72) APPROACH ROADWAY ALIGNMENT 8
(36) TRAFFIC SAFETY FEATURES 0010
(113) SCOUR CRITICAL BRIDGES 5

********** PROPOSED IMPROVEMENTS **********

(75) TYPE OF WORK- DECK REPLACEMENT CODE 37
(76) LENGTH OF STRUCTURE IMPROVEMENT 295.4 M
(94) BRIDGE IMPROVEMENT COST $2,540,000
(95) ROADWAY IMPROVEMENT COST $508,000
(96) TOTAL PROJECT COST $4,267,200
(97) YEAR OF IMPROVEMENT COST ESTIMATE 2010
(114) FUTURE ADT 5080
(115) YEAR OF FUTURE ADT 2031

********** INSPECTIONS **********

(90) INSPECTION DATE 01/14 (91) FREQUENCY 24 MO
(92) CRITICAL FEATURE INSPECTION: (93) CFI DATE
A) FRACTURE CRIT DETAIL- YES 24 MO A) 03/12
B) UNDERWATER INSP- NO MO B)
C) OTHER SPECIAL INSP- NO MO C)

The 2015 Structure Inventory & Appraisal Report for the Albion River Bridge

STRUCTURE INVENTORY AND APPRAISAL REPORT

********** IDENTIFICATION **********

(1) STATE NAME- CALIFORNIA 069
(8) STRUCTURE NUMBER 10 0136
(5) INVENTORY ROUTE(ON/UNDER)- ON 131000010
(2) HIGHWAY AGENCY DISTRICT 01
(3) COUNTY CODE 045 (4) PLACE CODE 00000
(6) FEATURE INTERSECTED- ALBION RIVER
(7) FACILITY CARRIED- STATE ROUTE 1
(9) LOCATION- 01-MEN-001-43.74
(11) MILEPOINT/KILOMETERPOINT 43.74
(12) BASE HIGHWAY NETWORK- PART OF NET 1
(13) LRS INVENTORY ROUTE & SUBROUTE 000000000101
(16) LATITUDE 39 DEG 13 MIN 30.32 SEC
(17) LONGITUDE 123 DEG 46 MIN 09.83 SEC
(98) BORDER BRIDGE STATE CODE % SHARE %
(99) BORDER BRIDGE STRUCTURE NUMBER

******** STRUCTURE TYPE AND MATERIAL *********

(43) STRUCTURE TYPE MAIN:MATERIAL- STEEL
TYPE- TRUSS - DECK CODE 309
(44) STRUCTURE TYPE APPR:MATERIAL- WOOD OR TIMBER
TYPE- STRINGER/MULTI-BEAM OR GDR CODE 702
(45) NUMBER OF SPANS IN MAIN UNIT 1
(46) NUMBER OF APPROACH SPANS 33
(107) DECK STRUCTURE TYPE- TIMBER CODE 8
(108) WEARING SURFACE / PROTECTIVE SYSTEM:
A) TYPE OF WEARING SURFACE- BITUMINOUS CODE 6
B) TYPE OF MEMBRANE- NONE CODE 0
C) TYPE OF DECK PROTECTION- NONE CODE 0

********** AGE AND SERVICE **********

(27) YEAR BUILT 1944
(106) YEAR RECONSTRUCTED 0000
(42) TYPE OF SERVICE: ON- HIGHWAY 1
UNDER- WATERWAY 5
(28) LANES:ON STRUCTURE 02 UNDER STRUCTURE 00
(29) AVERAGE DAILY TRAFFIC 2100
(30) YEAR OF ADT 2009 (109) TRUCK ADT 6 %
(19) BYPASS, DETOUR LENGTH 51 KM

********** GEOMETRIC DATA **********

(48) LENGTH OF MAXIMUM SPAN 39.6 M
(49) STRUCTURE LENGTH 295.4 M
(50) CURB OR SIDEWALK: LEFT 0.0 M RIGHT 0.0 M
(51) BRIDGE ROADWAY WIDTH CURB TO CURB 7.9 M
(52) DECK WIDTH OUT TO OUT 8.6 M
(32) APPROACH ROADWAY WIDTH (W/SHOULDERS) 7.3 M
(33) BRIDGE MEDIAN- NO MEDIAN 0
(34) SKEW 0 DEG (35) STRUCTURE FLARED NO
(10) INVENTORY ROUTE MIN VERT CLEAR 99.99 M
(47) INVENTORY ROUTE TOTAL HORIZ CLEAR 7.9 M
(53) MIN VERT CLEAR OVER BRIDGE RDWY 99.99 M
(54) MIN VERT UNDERCLEAR REF- NOT H/RR 0.00 M
(55) MIN LAT UNDERCLEAR RT REF- NOT H/RR 0.0 M
(56) MIN LAT UNDERCLEAR LT 0.0 M

********** NAVIGATION DATA **********

(38) NAVIGATION CONTROL- BR PERMIT REQ CODE 1
(111) PIER PROTECTION- NOT REQUIRED CODE 1
(39) NAVIGATION VERTICAL CLEARANCE 50.0 M
(116) VERT-LIFT BRIDGE NAV MIN VERT CLEAR M
(40) NAVIGATION HORIZONTAL CLEARANCE 35.7 M

****

SUFFICIENCY RATING = 15.3
STATUS STRUCTURALLY DEFICIENT
HEALTH INDEX 81.7
PAINT CONDITION INDEX = 100.0

********** CLASSIFICATION ********** CODE

(112) NBIS BRIDGE LENGTH- YES Y
(104) HIGHWAY SYSTEM- NOT ON NHS 0
(26) FUNCTIONAL CLASS- MINOR ARTERIAL RURAL 06
(100) DEFENSE HIGHWAY- NOT STRAHNET 0
(101) PARALLEL STRUCTURE- NONE EXISTS N
(102) DIRECTION OF TRAFFIC- 2 WAY 2
(103) TEMPORARY STRUCTURE-
(105) FED.LANDS HWY- NOT APPLICABLE 0
(110) DESIGNATED NATIONAL NETWORK - NOT ON NET 0
(20) TOLL- ON FREE ROAD 3
(21) MAINTAIN- STATE HIGHWAY AGENCY 01
(22) OWNER- STATE HIGHWAY AGENCY 01
(37) HISTORICAL SIGNIFICANCE- ELIGIBLE 2

********** CONDITION ********** CODE

(58) DECK 7
(59) SUPERSTRUCTURE 7
(60) SUBSTRUCTURE 3
(61) CHANNEL & CHANNEL PROTECTION 8
(62) CULVERTS N

********* LOAD RATING AND POSTING ********* CODE

(31) DESIGN LOAD- M-13.5 OR H-15 2
(63) OPERATING RATING METHOD- LOAD FACTOR 1
(64) OPERATING RATING- 30.8
(65) INVENTORY RATING METHOD- LOAD FACTOR 1
(66) INVENTORY RATING- 22.7
(70) BRIDGE POSTING- EQUAL TO OR ABOVE LEGAL LOADS 5
(41) STRUCTURE OPEN, POSTED OR CLOSED- A
DESCRIPTION- OPEN, NO RESTRICTION

********** APPRAISAL ********** CODE

(67) STRUCTURAL EVALUATION 3
(68) DECK GEOMETRY 3
(69) UNDERCLEARANCES, VERTICAL & HORIZONTAL N
(71) WATER ADEQUACY 9
(72) APPROACH ROADWAY ALIGNMENT 8
(36) TRAFFIC SAFETY FEATURES 0010
(113) SCOUR CRITICAL BRIDGES 5

********** PROPOSED IMPROVEMENTS **********

(75) TYPE OF WORK- DECK REPLACEMENT CODE 37
(76) LENGTH OF STRUCTURE IMPROVEMENT 295.4 M
(94) BRIDGE IMPROVEMENT COST $2,540,000
(95) ROADWAY IMPROVEMENT COST $508,000
(96) TOTAL PROJECT COST $4,267,200
(97) YEAR OF IMPROVEMENT COST ESTIMATE 2010
(114) FUTURE ADT 5182
(115) YEAR OF FUTURE ADT 2037

********** INSPECTIONS **********

(90) INSPECTION DATE 10/15 (91) FREQUENCY 24 MO
(92) CRITICAL FEATURE INSPECTION: (93) CFI DATE
A) FRACTURE CRIT DETAIL- YES 24 MO A) 03/14
B) UNDERWATER INSP- NO MO B)
C) OTHER SPECIAL INSP- NO MO C)

From: Rita Crane
To: Burg, William@Parks
Subject: Albion Bridge / In support of Historic Landmark Status
Date: Tuesday, April 25, 2017 8:12:33 AM

Dear Mr. Burg,
Kindly consider the statement by architect John Johansen in **support** of the nomination of the Albion Bridge for Historic Landmark Status. I agree with his statement wholeheartedly.

"The Albion River Bridge is a rare example of a timber deck over combination steel and timber truss bridge. It is the only surviving bridge of its type in the California state highway system. It was constructed during WW II, when strategic material shortages required innovative engineering design. With its historic integrity entirely intact, the Albion River Bridge stands today, exactly as it was built." - John Johansen

I hope residents and visitors alike will be able to enjoy this historic landmark for decades to come. Given that the village of Albion has restrictions on building homes that are out of character with its historic nature; the town of Mendocino just a few miles north of this bridge is on the National Register of Historic Places; and many visitors come here to enjoy 'going back in time' where they can see old redwood fences, homesteaders' barns, 19th century wooden water towers, several historic churches (in Elk, in Mendocino, in Caspar)....preserving this historic bridge is in keeping with the overall character of this area.

The Albion Bridge is unique and a special part of the history of this coast.

Thanks kindly for your consideration.
Rita Crane

--
Rita Crane Photography P.O. Box 91 Albion, CA 95410 www.ritacranestudio.com

From: Flurry Healy
To: Burg, William@Parks
Subject: Albion River Bridge
Date: Wednesday, April 26, 2017 6:57:25 AM

ALBION RIVER INN

State Historic Preservation Officer
Office of Historic Preservation
1725 23rd St., Suite 100
Sacramento, CA 95816-7100

April 24, 2017

To whom it may concern:

I have been the co-owner of the Albion River Inn for 36 years and have entertained guests from different parts of the world and the United States and I would like to express that everyone who has stayed at the "Albion" have marveled at its (Albion River Bridge) beauty and consider it a magnificent structure with historical significance. They have taken home thousands of photos of the bridge as part of their memory of the area and the Albion River Inn.

In the past few years I have spoken to my Guests regards Caltrans wanting to tear down the Bridge and build another one....the consensus is Why? ....They feel it should be preserved as a monument and as testament to a "moment in time" along Highway One as an historical site

The Albion River Bridge is an engineering feat, an icon, an architectural wonder on Highway one and part of the community since it open to traffic in 1944. Let's not deny the locals of their Icon and the travelers the experience of crossing it.

Sincerely yours

Flurry Healy
Co-Owner
Albion River Inn
707 937 1919
flurry@albionriverinn.com

April 24, 2017

State Historic Preservation Officer
Office of the History Preservation
1725 23rd Street, Suite 100
Sacramento, CA 95816-7100

Dear History Preservation Officer,

We have lived in Albion Village for over 40 years and see the Albion Bridge from our windows everyday. When we first moved here we noticed that the bridge was maintained on a regular basis. We would see the workmen changing bolts, painting, and inspecting the bridge. Then there was a lapse of many years when nothing was done for maintenance.

Next we heard of plans for a new bridge, but when the current bridge was inspected by an expert it was found to be safe and in fine shape.

We feel that the bridge is a testament to our country's resourcefulness in a time of need during the war. It embodies the American spirit--by using repurposed materials with integrity and should be maintained and declared historic.

Thank you for your consideration.

Yours truly,

Arthur Piscitelli
Charlene Younker
33875 East Lane
Albion, CA 95410

From: Zoe Bachelor Sheppard
To: Burg, William@Parks
Subject: historic status to Albion Bridge
Date: Tuesday, April 25, 2017 11:18:17 AM

Hi,
I wanted to offer my support of the Albion Bridge becoming an historic landmark. It's a beautiful bridge; one that I see everyday, and it's worth keeping this little bit of history in our small, rural town.
Thank you,

Zoé Bachelor Sheppard
Albion, California

From: Jim Heid
To: Burg, William@Parks
Subject: Letter of support for Albion River Bridge historic designation
Date: Tuesday, April 25, 2017 11:36:16 AM

Dear Mr. Burg:

I'm writing to express my enthusiastic support for the historic landmark designation of the Albion River Bridge (which will be discussed at your May 10 meeting).

It's a spectacular piece of architecture and engineering, and its design and construction speak directly to the time period during which it was built: World War II, when a scarcity of building materials forced ingenious Caltrans engineers to use treated wood instead of concrete and steel. Lastly, it's the last of its kind — the last wooden trestle bridge on Highway 1 in California. And according to Caltrans's own engineers, it's in superb condition.

I hope this email makes its way to the appropriate file, and I thank you for your consideration.

Best regards,
Jim Heid
Albion
707-937-1747

OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION
1725 23rd Street, Suite 100
SACRAMENTO, CA 95816-7100
(916) 445-7000 Fax: (916) 445-7053
calshpo@parks.ca.gov
www.ohp.parks.ca.gov

June 9, 2017

J. Paul Loether
Deputy Keeper and Chief, National Register and National Historic Landmark Program
National Register of Historic Places
Mail Stop 7228
1849 C St., NW
Washington, D.C. 20240

Subject: **Albion River Bridge**
(Historic Highway Bridges of California MPD)
Mendocino County, California
National Register of Historic Places

Dear Mr. Loether:

The enclosed disk contains the true and correct copy of nomination for the Albion River Bridge to the National Register of Historic Places. This property is located in Albion, Mendocino County, California. On May 10, 2017, the State Historical Resources Commission unanimously found the property eligible for the National Register under Criteria A and C at the local level of significance, with a period of significance of 1943-1945. The property is nominated under the cover of the Historic Highway Bridges in California Multiple Property Document.

The property is nominated by a third party. The property owner, the California Department of Transportation, did not comment on the nomination. The nomination received thirteen letters of support and one letter of opposition.

If you have any questions regarding this nomination, please contact William Burg of my staff at 916-445-7004.

Sincerely,

Julianne Polanco
State Historic Preservation Officer

Enclosures