

34N 1E 26

SK 170

ALSO FORMERLY KNOWN AS 15 205

1. SITE I.D. NO										HAER INVENTORY										Historic American Engineering Record Department of the Interior, Washington, D.C. 20240									
2. INDUSTRIAL CLASSIFICATION										3. PRIORITY										4. DANGER OF DEMOLITION? (SPECIFY THREAT)									
Bridges, Trestles, and Aqueducts										1										<input type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> UNKNOWN									
TRUSS: steel cantilever										5. DATE										6. GOVT SOURCE OF THREAT									
										1935										OWNER ADMIN									
ARCH: steel																				7. OWNER/ADMIN									
8. NAME(S) OF STRUCTURE																				State Department of Transportation									
NR Deception Pass 20/204																				9. OWNER'S ADDRESS									
SR Canoe Pass 20/207																				Highway Administration Building Olympia, Washington 98504									
10. STATE COUNTY										COUNTY NAME										CITY/VICINITY									
W A										Skagit ISLAND										Anacortes									
0 5 2																				0 2									
11. SITE ADDRESS, STREET & NO.																				12. EXISTING SURVEYS									
On Route 20; 0.0 and .2 miles north of Island County																				<input type="checkbox"/> NH <input type="checkbox"/> NHL <input type="checkbox"/> HABS <input type="checkbox"/> HAER-I <input type="checkbox"/> HAER <input type="checkbox"/> NPS <input type="checkbox"/> CL6									
																				<input type="checkbox"/> CONF <input type="checkbox"/> STATE <input type="checkbox"/> COUNTY <input type="checkbox"/> LOCAL <input type="checkbox"/> OTHER									
																				13. SPECIAL FEATURES (DESCRIBE BELOW)									
																				<input type="checkbox"/> INTERIOR INTACT <input type="checkbox"/> EXTERIOR INTACT <input type="checkbox"/> ENVIRONS INTACT									
14. UTM ZONE										EASTING										NORTHING									
1 0										5 2 6 4 0 0										5 3 6 1 3 0 0									
1 0										5 2 6 3 0 0										5 3 6 1 5 7 0									
15. CONDITION										70 <input type="checkbox"/> EXCELLENT 71 <input type="checkbox"/> GOOD 72 <input type="checkbox"/> FAIR 73 <input type="checkbox"/> DETERIORATED										74 <input type="checkbox"/> RUINS 75 <input type="checkbox"/> UNEXPOSED 76 <input type="checkbox"/> ALTERED 82 <input type="checkbox"/> DESTROYED 85 <input type="checkbox"/> DEMOLISHED									
16. INVENTORIED BY										AFFILIATION										DATE									
Lisa Soderberg										HAER/Washington State Bridge Inventory										August 1979									
17. DESCRIPTION AND BACKGROUND HISTORY, INCLUDING CONSTRUCTION DATE(S), HISTORICAL DATE(S), PHYSICAL DIMENSIONS, MATERIALS, EXISTANT EQUIPMENT, AND IMPORTANT BUILDERS, ENGINEERS, ETC.																													
In 1908, extensive surveys were made to determine the cost of constructing a system of roads and bridges to connect Island and Skagit Counties. Plans were even drawn for two steel arches, and a miniature of the proposed bridge was displayed at the Alaska-Yukon-Pacific Exposition of 1909. "The project is entirely feasible," stated the "First Biennial Highway Report," "but its utility is open to question." More than two decades after the original proposal, two steel structures were finally constructed across the swiftly moving tidal water of Deception and Canoe Passes.																													
On August 6, 1934, with the assistance of a CCC Camp, the Puget Construction Company of Seattle began work on the excavation of the piers. A 511 foot steel structure composed of a 350 foot arch and three concrete T-beam approach spans was built across the passage way between Fidalgo and Pass Islands. A 976 foot steel structure consisting of two 175 foot anchor spans, two 175 foot cantilever spans, one 200 foot suspended span and four concrete T-beam approach spans was erected between Pass and Whidbey Islands. The two bridges support a 22 foot wide roadway with two 3 foot																													
18. ORIGINAL USE										PRESENT USE										ADAPTIVE USE									
vehicular										vehicular																			
19. REFERENCES—HISTORICAL REFERENCES, PERSONAL CONTACTS, AND/OR OTHER																													
State Department of Transportation bridge files.																													
Carl Condit, American Building Art, 2 Vols., (New York, 1961), 2:104																													
"Long Steel Bridges Added to Washington Highway System," Engineering News-Record, 25 October 1934, p. 519.																													
"Decades of 'Fighting' are Ended; Nature's Barrier Finally Bridged,"																													
(CONT OVER)																													
20. URBAN AREA 50 000 POP OR MORE?										21. NPS REGION										22. PUBLIC ACCESSIBILITY									
<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO										N W										<input type="checkbox"/> YES, LIMITED <input checked="" type="checkbox"/> YES, UNLIMITED <input type="checkbox"/> NO <input type="checkbox"/> UNKNOWN									
23. EDITOR INDEXER																													
24. LOCATED IN AN HISTORIC DISTRICT?																				DISTRICT ID NO									
<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO																													

## sidewalks.

The steel arch across Canoe Pass was completed first. It was designed as a three-hinged arch for dead loads. After erection was completed, the central hinge was riveted, creating a two-hinged arch for live loads.

Because the Deception and Canoe Pass structures rise to a height of 180 feet above the channels providing a navigable passageway, it was not possible to build falsework. Consequently, both spans were erected by the cantilever method.

The Deception Pass structure was built in the same year as the Grand Coulee Bridge. Though the Deception Pass Bridge is of the deck type, and the Grand Coulee Bridge is of the through truss type, the cantilever and Warren truss suspended span are of equal lengths in both bridges. Riveted connections were used for both cantilever structures, except for those connections at the four corners of the suspended span. There, pin-connected links were used to allow for changes in length due to live load and temperature.

The Wallace Bridge and Structural Steel Company of Seattle provided 465 tons of steel for the arch bridge and 1,130 tons of steel for the Deception Pass Bridge. The design and construction of the bridges was supervised by L.V. Murrow, Director of Highways and O.R. Elwell, Bridge Engineer. The Emergency Relief Administration allocated \$245,000 to the project which was matched by \$150,000 in county funds and \$87,000 in federal funds.

The simple, undulating lines of the arched steel structures conform to the rugged contours of the surrounding land, and compound the drama of their setting. The Deception Pass Bridge demonstrates the evolution and progressive refinement of the cantilever truss in the 20th century. Its distilled, structural simplicity epitomizes the merging of a functional and an aesthetic form in the cantilever truss.

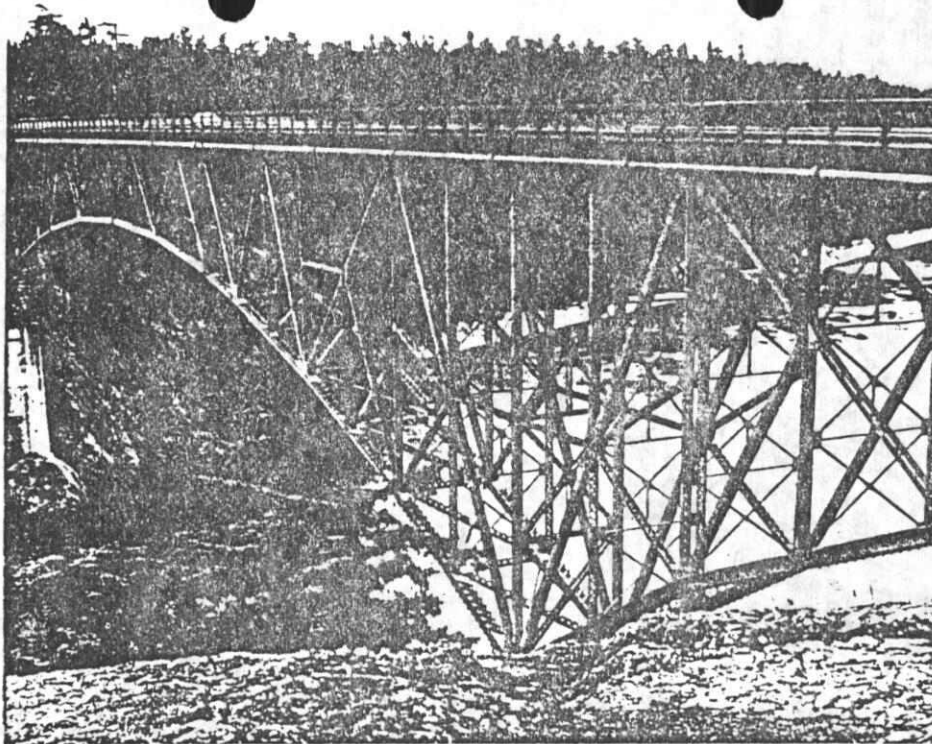
#### REFERENCES (CONTINUED)

"Deception Pass Bridge," Compressed Air Magazine, September 1935, p. 4834.

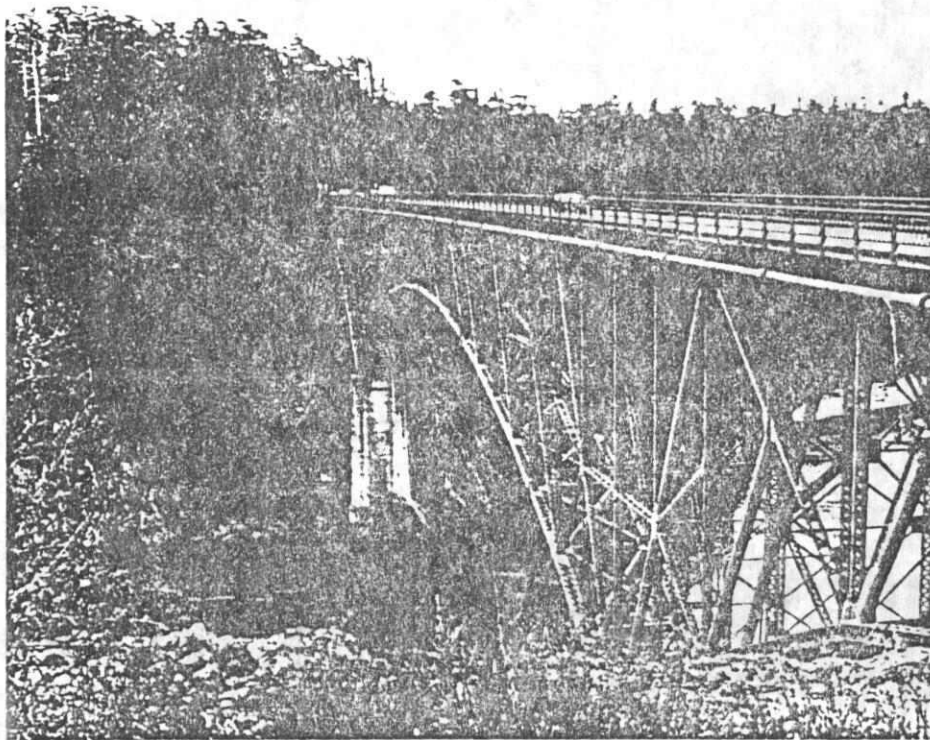
"First Biennial Report of the Highway Commissioner for the Period Ending November 15, 1906," Olympia, Washington, p. 15.

[illegible]

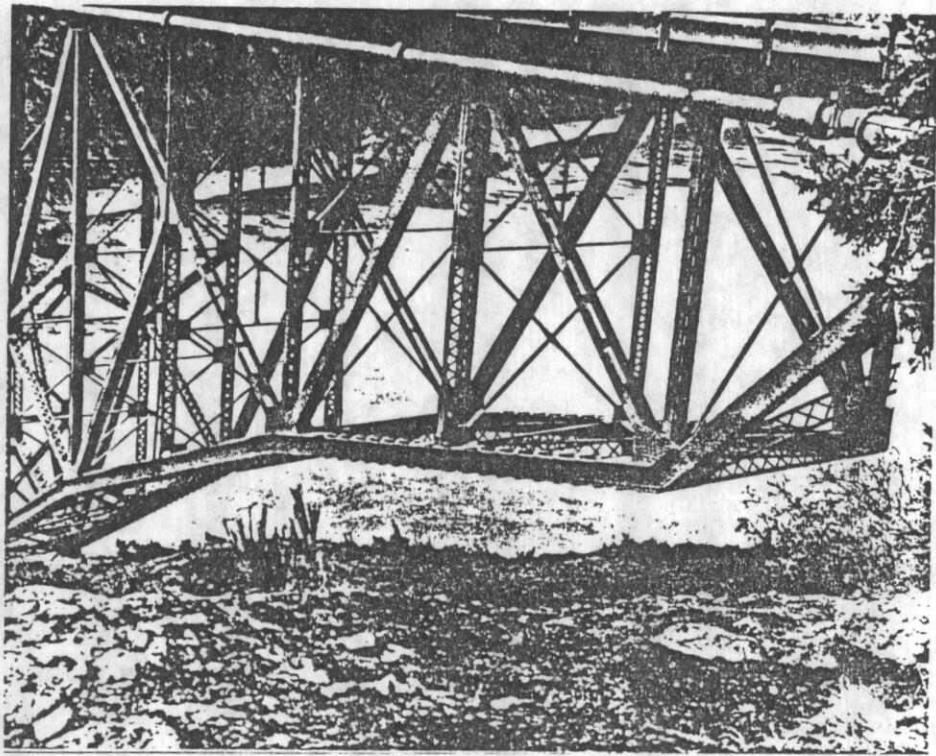
## 46



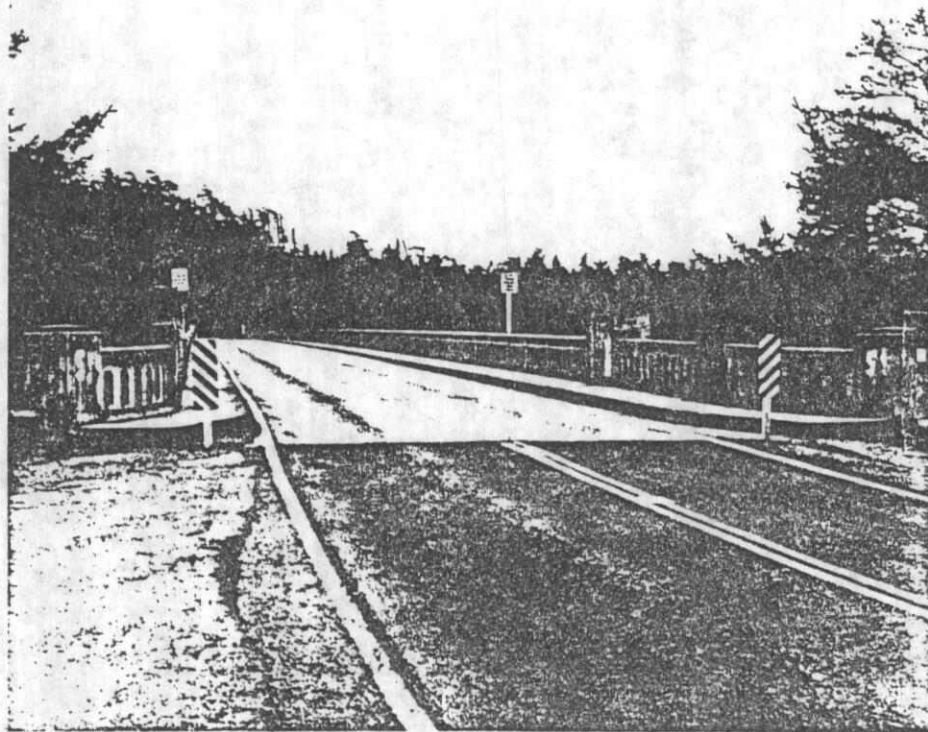
Deception Pass



Deception Pass



Deception Pass



Deception Pass

(10)

1. NAME *Deception Pass*  
Historic

TBUNRIE S26

and/or Common

SK 60170

2. LOCATION

UTM References:

Zone Easting

Northing

Street & Number

*Between Jidalgo Island & Whidbey Island.*

not for publication

City, Town

*Anacortes (West & south)*

vicinity of

*West Pt. & Reservations Bay*

State

*Wash.*

County

*Ska-git*

3. CLASSIFICATION

Ownership:

public

private

both

Status:

occupied

unoccupied

work in progress

Present Use:

agriculture

commercial

educational

entertainment

government

industrial

military

museum

park

private residence

religious

scientific

transportation

other: *waterway with bridge*

4. OWNER OF PROPERTY

Name

*Washington State*

Street & Number

*Puget Sound inland waterway*

City, Town

*Anacortes*

*Cornett Bay*  
- vicinity of

State

*Wash.*

5. MAJOR BIBLIOGRAPHICAL REFERENCES

13881

6. FORM PREPARED BY

Name/Title

*Tom Kemmer*

Organization

Date

*8/1/79*

Street & Number

*1310 - 5<sup>th</sup> St.*

Telephone

*293-3892*

City or Town

*Anacortes*

State

*Wash.*



## 7. DESCRIPTION

Condition:      excellent      good      fair      deteriorated      ruins      unexposed  
 Circle one:      unaltered                      altered  
 Circle one:      original site      moved      date \_\_\_\_\_

Describe the present and original (if known) physical appearance

attach photo

*A narrow channel with churning, white-topped, incoming and outgoing tide currents as wind velocities are strengthened.*

Verbal boundary description:

Acreage:

## 8. SIGNIFICANCE

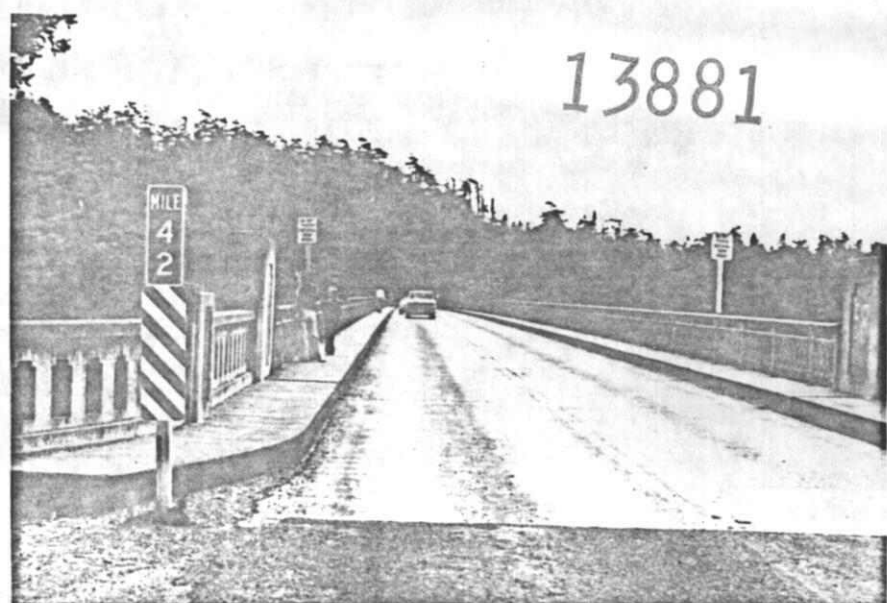
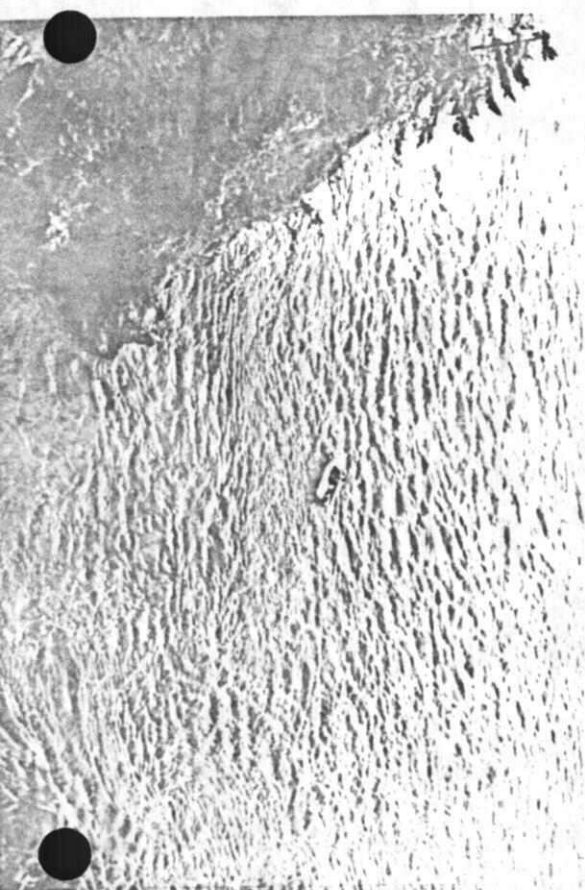
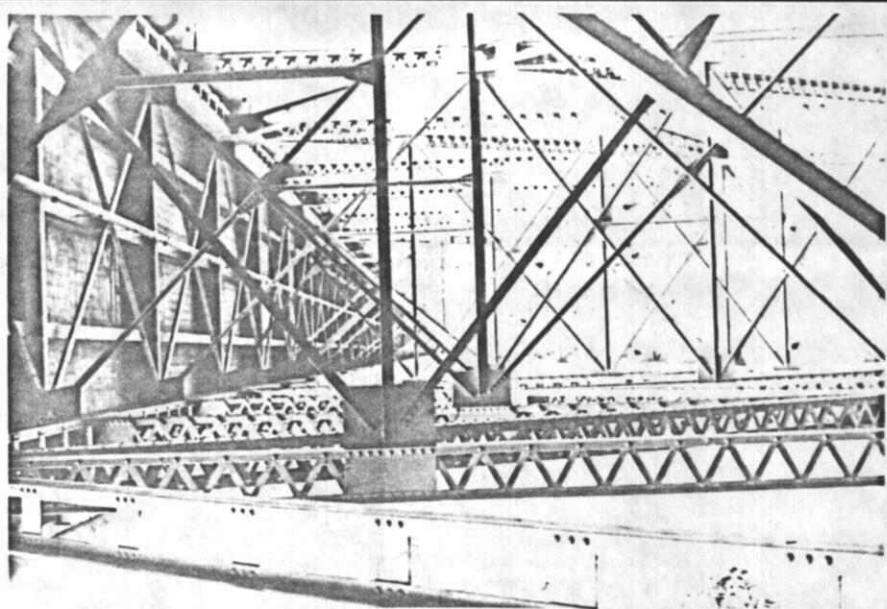
Specific dates

Builder/Architect

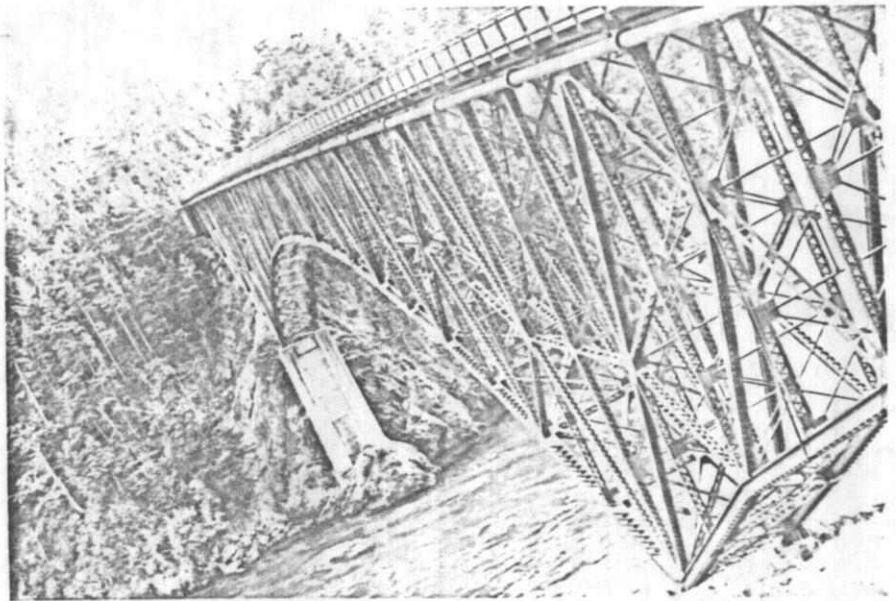
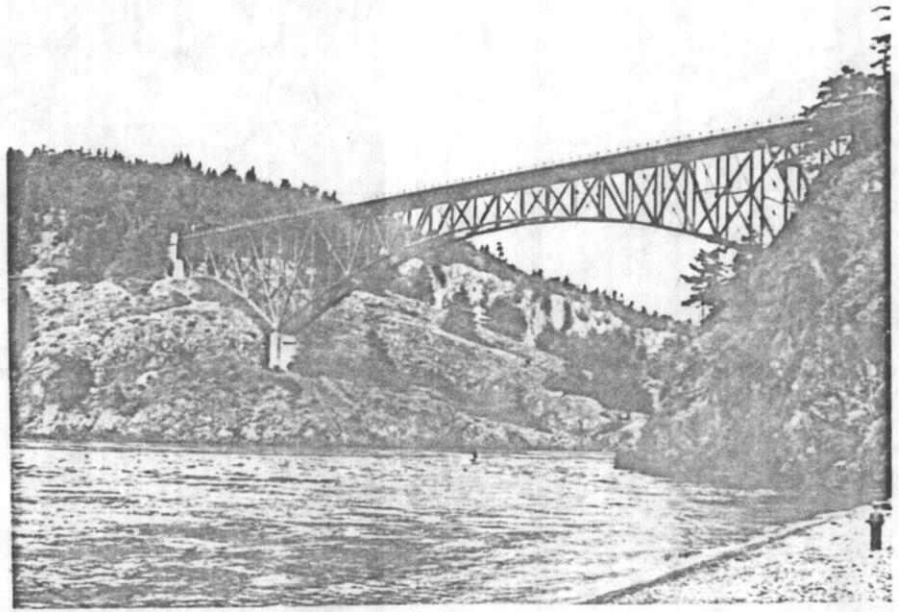
a. History *Very narrow, precipitous cut-through, which has been bridged. It is one of nature's spectacularly arranged oceanic entries, and is a constant tourist attraction.*

b. Evaluation of Significance

*Most famous for its dangerous inlet tidal and undercurrent variations, but very useful as an entry from Puget Sound to Skagit Bay.*







# HISTORIC BRIDGE INVENTORY

13881

Bridge name Deception Pass Bridge  
SEE SK 170

Bridge number 20/204

Year built

HAER number

1935

Bridge type steel cantilever truss

County Skagit-Island

Span length

Owner State

Location crossing: Deception Pass between Skagit and Island counties

Owner's State Dept. of Transportation  
address Transportation Building  
Olympia, WA 98504

City or vicinity Anacortes

T34N R1E S26

UTM Zone 10

Easting 526400

Westing 5361300

Quad

Deception Pass, Washington

Zone

Easting

Westing

name

Original use vehicular

Present use vehicular

Demolition planned ☐ Yes ☒ No ☐ Unknown

Urban area ☐ >50,000 ☒ <50,000

Access ☐ Yes, limited ☒ Yes, unlimited ☐ No ☐ Unknown

Historic district ☐ Yes ☒ No

Historic district name

Condition Good

Existing ☒ National Register

☐ HABS ☐ Category II

surveys ☐ National Historic Landmark

☐ HAER ☐ Other

Inventoried by Lisa Soderberg

Inventory date August 1979

Amended by EAR

Amended date November 1993

**Narrative** In 1908, extensive surveys were made to determine the cost of constructing a system of roads and bridges that would connect Island and Skagit counties. Plans were even drawn for two steel arches, and a miniature of the proposed bridge was displayed at the Alaska-Yukon-Pacific Exposition of 1909. "The project is entirely feasible," stated the First Biennial Highway Report, "but its utility is open to question." More than two decades after the original proposal, two steel structures were finally constructed across the swiftly moving tidal waters of Deception and Canoe passes.

On August 6, 1934, with the assistance of a Civilian Conservation Corps Camp, the Puget Construction Company of Seattle began work on the excavation of the piers. A 511-foot steel structure [the Canoe Pass Bridge, q.v.] composed of a 350-foot arch and three concrete T-beam approach spans was built across the passage way between Fidalgo and Pass islands. A 976-foot steel structure [the Deception Pass Bridge] consisting of two 175-foot anchor spans, two 175-foot cantilever spans, one 200-foot suspended span and four concrete T-beam approach spans was erected between Pass and Whidbey islands. The two bridges support a 22-foot-wide roadway with two 3-foot-wide sidewalks.

The sheer bluffs of solid rock which line the contours of Whidbey and Fidalgo islands and the rock protrusion of Pass Island provided ideal natural conditions for the excavation of the pier foundations at points well above the high-water level. In order to begin work on Pass Island, it was necessary to erect a cableway system to Fidalgo Island. The cableway was operated by a gasoline engine and served to transport cement and aggregate from the central cement plant on Fidalgo Island for the piers on Pass Island. The structural steel was also transported by this method. A traveler derrick with an 85-foot steel boom was used to handle the materials and to place them in their proper location. Water for the concrete mixture was piped up to a distance of 6,000 feet from nearby lakes.

The steel arch across Canoe Pass was completed first. It was designed as a three-hinged arch for dead loads. After erection was completed, the central hinge was riveted, creating a two-hinged

13881  
arch for live loads.

Before steel erection was begun on the cantilever span, a light railroad was constructed across the Canoe Pass Bridge to haul materials for the construction of the cantilever span at the Pass Island end. The materials and supplies for the Whidbey Island end of the bridge were shipped by barge to Cornet Bay and then transported three miles to the building site.

Because the Deception Pass and Canoe Pass structures rise to a height of 180 feet above the channels and provide a navigable passageway, it was not possible to build falsework. Consequently, both spans were erected by the cantilever method.

The Deception Pass structure was built in the same year as the Grand Coulee Bridge [q.v.]. Though the Deception Pass Bridge is of the deck type and the Grand Coulee Bridge is of the through truss type, the cantilever span and Warren truss suspended span are of equal lengths in both bridges. Riveted connections were used for both cantilever structures, except for those connections at the four corners of the suspended span. There, pin-connected links were used to allow for changes in length due to live load and temperature.

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[See also the Canoe Pass Bridge entry.]

#### References

- State Department of Transportation bridge files.
- Carl Condit. American Building Art, vol. 2, p. 104. New York, 1961.
- "Long Steel Bridges Added to Washington Highway System," Engineering News-Record, 25 October 1934, p. 519.
- "Decades of 'Fighting' are Ended; Nature's Barrier Finally Bridges," [Engineering News-Record?]
- "Deception Pass Bridge," Compressed Air Magazine, September 1935, p. 4834.
- First Biennial Report of the Highway Commissioner for the Period Ending November 15, 1906, p. 15. Olympia, Wash.

SK 00170

## HAER INVENTORY

Historic American Engineering Record  
Department of the Interior, Washington, D.C. 20240

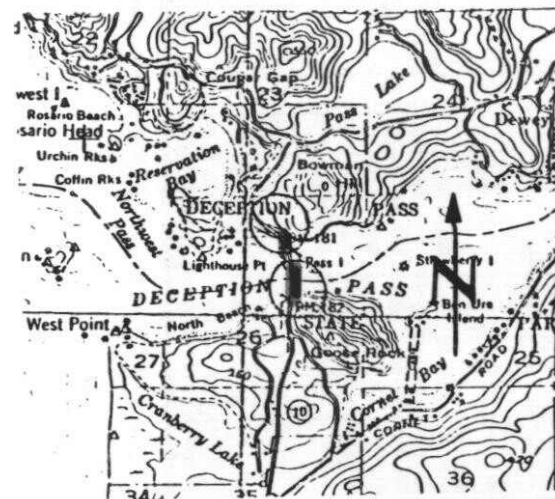
1. SITE I.D. NO		2. INDUSTRIAL CLASSIFICATION		3. PRIORITY		4. DANGER OF DEMOLITION? (SPECIFY THREAT)	
Bridges, Trestles, and Aqueducts		7 6 0 3		1		<input type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> UNKNOWN	
TRUSS: steel cantilever		7 5 9 6		5. DATE		6. GOVT SOURCE OF THREAT	
ARCH: steel		1935		OWNER		ADMIN	
8. NAME(S) OF STRUCTURE		7. OWNER/ADMIN		8. OWNER'S ADDRESS		9. OWNER'S ADDRESS	
✓ Deception Pass 20/204		State Department of Transportation		Highway Administration Building		13881	
Canoe Pass 20/207				Olympia, Washington 98504			
10. STATE		COUNTY NAME		CITY/VICINITY		CONG. DIST.	
W A		Skagit		Anacortes		0 2	
11. SITE ADDRESS (STREET & NO)		12. EXISTING SURVEYS		13. SPECIAL FEATURES (DESCRIBE BELOW)		14. UTM ZONE	
On Route 20; 0.0 and .2 miles north of Island County		<input type="checkbox"/> NR <input type="checkbox"/> NHL <input type="checkbox"/> HABS <input type="checkbox"/> HAER-I <input type="checkbox"/> HAER <input type="checkbox"/> NPS <input type="checkbox"/> CL6		<input type="checkbox"/> INTERIOR INTACT <input type="checkbox"/> EXTERIOR INTACT <input type="checkbox"/> ENVIRONS INTACT		15. UTM ZONE	
		<input type="checkbox"/> CONF <input type="checkbox"/> STATE <input type="checkbox"/> COUNTY <input type="checkbox"/> LOCAL <input type="checkbox"/> OTHER				16. UTM ZONE	
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						99. UTM ZONE	
						100. UTM ZONE	





## Deception Pass &amp; Canoe Pass

## 25. Photos and Sketch Map of Location

29  
2  
129  
2  
429  
2  
729  
2  
229  
2  
529  
2  
329  
2  
6

13881

DECEPTION PASS AND CANOE PASS

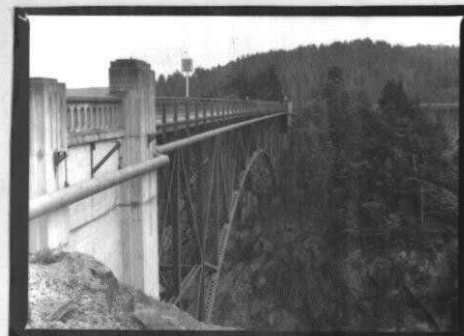
29  
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2  
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CANOE PASS

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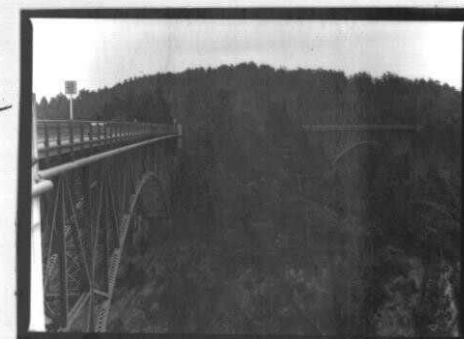
29  
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3



29  
2  
10



29  
2  
4



SK 66170

Skagit

County

NAME: *Deception Pass*

Identification Number/ State, Local: *0200004181 00*

Location: *0.0 N Island Co.*

*13881*

S.T.R.: *26 T.34 IE*

Owner: *State*

Year Built/ Rebuilt: *35/00*

Overall Length: *976*

Curb Width: *22*

Length Max. Span: *550*

Main Unit Span --

Type: *309*

#: *3*

Approach Spans --

Type: *204*

#: *4*

Nature of Threat:

*\*navigable*

References/ Contacts:



## Historic Property Inventory Report

### Location

Field Site No.

DAHP No. SK00170

Historic Name: Deception Pass Bridge

Common Name: Bridge #20/204

Property Address: Between Fidalgo Island and Whidbey Island, vicinity of Anacortes, WA

Comments: Bridge Nomination #45

Tax No./Parcel No.

Plat/Block/Lot

Acreage

Supplemental Map(s)

Township/Range/EW	Section	1/4 Sec	1/4 1/4 Sec	County	Quadrangle
T34R01E	26			Island Skagit	

Coordinate Reference

Easting: 1119623

Northing: 1127186

Projection: Washington State Plane South

Datum: HARN (feet)



## Historic Property Inventory Report

### Identification

Survey Name: LEGACY DATA Date Recorded: 08/01/1979  
Field Recorder: Lisa Soderberg  
Owner's Name: State Dept of Transportation  
Owner Address: Highway Administration Building  
City: Olympia State: WA Zip: 98504  
Classification: Structure  
Resource Status: Comments:  
National Register  
State Register  
Within a District?  
Contributing?  
National Register: Deception Pass Bridge  
Local District:  
National Register District/Thematic Nomination Name:  
Eligibility Status: Not Determined - SHPO  
Determination Date: 1/1/0001  
Determination Comments:

### Description

Historic Use: Current Use:  
Plan: Stories: Structural System:  
Changes to Plan: Changes to Interior:  
Changes to Original Cladding: Changes to Windows:  
Changes to Other:  
Other (specify):  
Style: Cladding: Roof Type: Roof Material:  
Foundation: Form/Type:

### Narrative

Study Unit	Other
Date of Construction:	Builder: Engineer: Architect:
Property appears to meet criteria for the National Register of Historic Places:	
Property is located in a potential historic district (National and/or local):	





## Historic Property Inventory Report

---

Property potentially contributes to a historic district (National and/or local):

Statement of  
Significance:

Description of  
Physical  
Appearance:

Major  
Bibliographic  
References:



## Historic Property Inventory Report

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### Photos

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## Historic Property Inventory Report

### Identification

---

Survey Name: LEGACY DATA Date Recorded: 01/01/1900

Field Recorder:

Owner's Name:

Owner Address:

City: State: Zip:

Classification:

Resource Status: Comments:

Within a District?

Contributing?

National Register:

Local District:

National Register District/Thematic Nomination Name:

Eligibility Status: Not Determined - SHPO

Determination Date: 1/1/0001

Determination Comments:

### Description

---

Historic Use: Current Use:

Plan: Stories: Structural System:

Changes to Plan: Changes to Interior:

Changes to Original Cladding: Changes to Windows:

Changes to Other:

Other (specify):

Style: Cladding: Roof Type: Roof Material:

Foundation: Form/Type:

### Narrative

---

Study Unit	Other
Date of Construction:	Builder:
	Engineer:
	Architect:

Property appears to meet criteria for the National Register of Historic Places:

Property is located in a potential historic district (National and/or local):

Property potentially contributes to a historic district (National and/or local):

Statement of Significance:



## Historic Property Inventory Report

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Description of

Physical

Appearance:

Major

Bibliographic

References:



## Historic Property Inventory Report

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### Photos

---



## Historic Register Report

---

Historic Name: Deception Pass Bridge

Address: Route 20

City: Oak Harbor

County: Skagit

[Download nomination form](#)

Historic Use: Transportation

Style: None

Built: 1935

Architect: Elwell, E.O.

Builder: Puget Sound Constructon Company

Smithsonian Number: 45SK00170

Date Listed: 7/16/1982

Listing Status: WHR/NR

Classification: STR

Resource Count: 1

Area of Significance: Engineering

Level of Significance: State

Listing Criteria: A, C

### Statement of Significance

---

### Photos

---

