

The National Bridge Inventory contains data submitted by state transportation departments to the Federal Highway Administration in coded format.
 Form Interface Design: www.historicbridges.org. Data Conversion Assistance By www.bridgehunter.com. None of the involved parties make any guarantee of accuracy.

Basic Information

Washington [53]	Chelan County [007]	Monitor [46615]	00.07W SR 97	47-29-13.50 = 47.487083	120-24-53.60 = -120.414889
81736000000000	Highway agency district 2	Owner County Highway Agency [02]	Maintenance responsibility	County Highway Agency [02]	
Route 94200	OLD MONITOR ROAD	Toll On free road [3]	Features intersected	WENATCHEE RIVER	
Design - main	Concrete continuous [2]	Design - approach	Concrete continuous [2]	Kilometerpoint	251 km = 155.6 mi
3	Arch - Deck [11]	6	Slab [01]	Year built	1930
				Year reconstructed	N/A [0000]
				Skew angle	25
				Structure Flared	
				Historical significance	Bridge is not eligible for the NRHP. [5]
Total length	108.8 m = 357.0 ft	Length of maximum span	39.9 m = 130.9 ft	Deck width, out-to-out	9.4 m = 30.8 ft
				Bridge roadway width, curb-to-curb	6.1 m = 20.0 ft
Inventory Route, Total Horizontal Clearance	6.1 m = 20.0 ft	Curb or sidewalk width - left	1.2 m = 3.9 ft	Curb or sidewalk width - right	1.2 m = 3.9 ft
Deck structure type	Concrete Cast-in-Place [1]				
Type of wearing surface	Monolithic Concrete (concurrently placed with structural deck) [1]				
Deck protection					
Type of membrane/wearing surface					

Weight Limits

Bypass, detour length	Method to determine inventory rating	Allowable Stress(AS) [2]	Inventory rating	27.9 metric ton = 30.7 tons
0.8 km = 0.5 mi	Method to determine operating rating	Allowable Stress(AS) [2]	Operating rating	43.2 metric ton = 47.5 tons
	Bridge posting	Equal to or above legal loads [5]	Design Load	M 18 / H 20 [4]

Functional Details

Average Daily Traffic	2345	Average daily truck traffi	4	%	Year	2009	Future average daily traffic	3292	Year	2029
Road classification	Major Collector (Rural) [07]	Lanes on structure	2		Approach roadway width	8.5 m = 27.9 ft				
Type of service on bridge	Highway-pedestrian [5]	Direction of traffic	2 - way traffic [2]			Bridge median				
Parallel structure designation	No parallel structure exists. [N]									
Type of service under bridge	Waterway [5]	Lanes under structure	0		Navigation control					
Navigation vertical clearanc	0 = N/A		Navigation horizontal clearance	0 = N/A						
Minimum navigation vertical clearance, vertical lift bridge			Minimum vertical clearance over bridge roadway	99.99 m = 328.1 ft						
Minimum lateral underclearance reference feature	Feature not a highway or railroad [N]									
Minimum lateral underclearance on right	0 = N/A				Minimum lateral underclearance on left	0 = N/A				
Minimum Vertical Underclearance	0 = N/A		Minimum vertical underclearance reference feature	Feature not a highway or railroad [N]						
Appraisal ratings - underclearances	N/A [N]									

Repair and Replacement Plans

Type of work to be performed	Work done by	Work to be done by contract [1]								
Replacement of bridge or other structure because of substandard load carrying capacity or substantial bridge roadway geometry. [31]	Bridge improvement cost	168000	Roadway improvement cost	17000						
	Length of structure improvement	121.9 m = 400.0 ft		Total project cost	252000					
	Year of improvement cost estimate	2013								
	Border bridge - state				Border bridge - percent responsibility of other state					
	Border bridge - structure number									

Inspection and Sufficiency

Structure status	<input type="text" value="Open, no restriction [A]"/>	Appraisal ratings - structural	<input type="text" value="Equal to present minimum criteria [6]"/>
Condition ratings - superstructure	<input type="text" value="Satisfactory [6]"/>	Appraisal ratings - roadway alignment	<input type="text" value="Equal to present desirable criteria [8]"/>
Condition ratings - substructure	<input type="text" value="Satisfactory [6]"/>	Appraisal ratings - deck geometry	<input type="text" value="Basically intolerable requiring high priority of replacement [2]"/>
Condition ratings - deck	<input type="text" value="Good [7]"/>		
Scour	<input type="text" value="Bridge foundations determined to be stable for assessed or calculated scour condition. [5]"/>		
Channel and channel protection	<input type="text" value="Banks are protected or well vegetated. River control devices such as spur dikes and embankment protection are not required or are in a stable condition. [8]"/>		
Appraisal ratings - water adequacy	<input type="text" value="Equal to present minimum criteria [6]"/>	Status evaluation	<input type="text" value="Functionally obsolete [2]"/>
Pier or abutment protection	<input type="text"/>	Sufficiency rating	<input type="text" value="73.7"/>
Culverts	<input type="text" value="Not applicable. Used if structure is not a culvert. [N]"/>		
Traffic safety features - railings	<input type="text"/>		
Traffic safety features - transitions	<input type="text"/>		
Traffic safety features - approach guardrail	<input type="text"/>		
Traffic safety features - approach guardrail ends	<input type="text"/>		
Inspection date	<input type="text" value="August 2011 [0811]"/>	Designated inspection frequency	<input type="text" value="24"/> Months
Underwater inspection	<input type="text" value="Unknown [Y60]"/>	Underwater inspection date	<input type="text" value="August 2011 [0811]"/>
Fracture critical inspection	<input type="text" value="Not needed [N]"/>	Fracture critical inspection date	<input type="text"/>
Other special inspection	<input type="text" value="Not needed [N]"/>	Other special inspection date	<input type="text"/>

BRIDGE INSPECTION REPORT

Ver Date: 10/24/2013

Agency: Chelan County

Status: Released

Printed On: 10/03/20

Program Mgr: Roman G. Peralta

Bridge No. 305
Bridge Name MONITOR
Structure ID 08173600

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Structure Type
Route 94200 **Location** 00.07W SR 97
MilePost 1.56 **Intersecting** WENATCHEE RIVER

Inspector's Signature PHC

IDent# G0114

Co-Inspector's Signature JH

										Inspections Performed				
6		Structural Adqcy (657)	N		Pier/Abut/Protect (679)	1930	Year Built (332)	IT	NT	HRS	Date	Rep	Type	
2		Deck Geometry (658)	5		Scour (680)	0	Year Rebuilt (336)	Y	24	1.5	08/12/2013	Routine		
9		Underclearance (659)	9		Retaining Walls (682)	48	Oper Rating (551)					Fract Crit		
5		Operating Level (660)	9		Pier Protection (683)	31	Inv Rating (554)	D	60	3.5	08/31/2011	Underwater		
8		Alignment Adqcy (661)	0		Bridge Rails (684)	A	Open Close (293)					Special		
6		WaterwayAdqcy (662)	0		Transition (685)	9999	Vert Over Deck (360)					Interim		
7	6	Deck Overall (663)	0		Guardrails (686)	0000	Vert Under (374)	Y	48	1.5	08/12/2013	Equipment		
7		Drains Condition (664)	0		Terminals (687)	N	Vert Und Code (378)					Damage		
6		Superstructure (671)			Revise Rating (688)	1.00	Asphalt Depth					Safety		
1		Number Utilities (675)			Photos Flag (691)	25	Speed Limit					Short Span		
6		Substructure (676)			Soundings Flag (693)									
8		Chan/Protection (677)			Measure Clearance (694)									
9		Culvert (678)												
											Total: 3.0			
											Suff Rating: 73.72 FO		73.84 FO	

BMS Elements

Element	Element Description	Total	Units	State 1	State 2	State 3	State 4
13	Bridge Deck Surface	10960	SF	10115	140	705	0
35	Concrete Deck Soffit	10960	SF	10960	0	0	0
38	Concrete Slab	10960	SF	10952	3	5	0
144	Concrete Arch	357	LF	356	0	1	0
150	Concrete Column on Spandrel Arch	112	EA	112	0	0	0
212	Concrete Submerged Pier Wall	62	LF	62	0	0	0
215	Concrete Abutment	61	LF	61	0	0	0
220	Concrete Submerged Pile Cap/Footing	3	EA	2	0	1	0
234	Concrete Pier Cap / Crossbeam	1680	LF	1680	0	0	0
266	Concrete Sidewalk & Supports	2984	SF	2924	50	10	0
331	Concrete Bridge Railing	714	LF	713	1	0	0
361	Scour	3	EA	2	0	1	0

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Bridge Name MONITOR	Route 94200	Location 00.07W SR 97
Structure ID 08173600	MilePost 1.56	Intersecting WENATCHEE RIVER

402	Hot Poured and/or Premolded Joint Filler	110	LF	110	0	0	0
407	Steel Angle Header	66	LF	66	0	0	0
800	Asphaltic Concrete (AC) Overlay	440	SF	200	180	60	0

Notes

0	Bridge is oriented from west to east, opposite of original plans, with SR 2 at the east end. Attempting to correct orientation in 2013 inspection report.
9	Echelon Engineering performed the underwater inspection of the Monitor bridge over the Wenatchee River on August 31, 2011. Based on the observed condition, all inspected substructure components appear sound. Although several spalls and cracks were noted on Pier 2, the damage does not appear to have increased significantly since the previous inspection. The footing was found to be exposed for a maximum height of 4.5 feet. No exposure of the foundation piles was found. No evidence of any debris build-up was in the channel or around the pier. No significant general or localized scour patterns were identified. Conditions appear similar to that reported in the 2006 underwater inspection report.
13	<p>DECK: Deck is covered with an ACP overlay in Spans 1 through Midspan 4 . See element note 800. Deck from Midspan 4 through Span 9 is worn to aggregate with many hairline transverse, longitudinal, and map cracks. Scattered areas of heavy scaling are up to 3/4" deep and have exposed rebar.</p> <p style="margin-left: 20px;">Span 3 (Plan Span 3): many patches; failing in 2 places</p> <p style="margin-left: 20px;">Span 5 (Plan Span 2): 76 sqft of scaling with 3" of exposed rebar</p> <p style="margin-left: 20px;">Span 5 (Plan Span 2): westbound shoulder has small area that has been patched.</p> <p style="margin-left: 20px;">Span 6 (Plan Span 1): 72 sqft of scaling with 12" of exposed rebar due to shallow cover over 3 separate areas.</p> <p style="margin-left: 20px;">Span 7 (Plan Span 1): 20 sqft of spalls</p> <p style="margin-left: 20px;">Span 8 (Plan Span 1): 35 sqft of spalls with 2 places of exposed rebar.</p> <p style="margin-left: 20px;">Span 9 (Plan Span 1): 120 sqft delamination and spalls in WB lane 100 sqft delamination and spalls in EB lane</p> <p style="margin-left: 20px;">Span 10 (Plan Span 1): 100 sqft delamination and spalls in WB lane 20 sqft delamination and spalls in EB lane</p> <p style="margin-left: 20px;">Last span (Plan Approach Span): WB lane, has full map cracking and appears delaminated throughout with a 3'x6' patch</p> <p style="text-align: center; margin-left: 20px;">EB lane has 100% moderate scaling</p>
35	DECK SOFFIT: Span1 (Plan Approach Span), south, has full length leaching crack. Photo 2011.
38	<p>CONCRETE SLAB: The bottom of the Concrete Slab has many longitudinal hairline cracks scattered throughout and the approach spans have a few longitudinal leaching cracks. Edges have many horizontal hairline cracks to narrow cracks at the construction joints. Edges are scaling and have shallow delaminations, especially on the north side.</p> <p style="margin-left: 20px;">Span 4(Plan Span 3), near Pier 5 (Plan Pier 3): the north edge has a 20" x 7" x 1" deep spall with 15" of exposed rusty rebar.</p> <p style="margin-left: 20px;">Span 6 (PSpan 1), near Pier 6 (PP2): the north edge has a 32" x 3" x 3" deep spall with 30" of exposed rusty rebar.</p> <p style="margin-left: 20px;">Span 7 (PSpan 1), near Pier 8 (above Plan Pier 1): the south edge spall has been repaired.</p> <p style="margin-left: 20px;">Plan Span 1 has a leaching longitudinal crack at centerline.</p>
144	<p>CONCRETE ARCH: Some hairline diagonal and vertical cracks, especially at the piers near the bottom by the construction joints. Some cracks have rust stains.</p> <p style="margin-left: 20px;">Span 5 (Plan Span 2), east end, north side: 1' x 1' x 1" deep spall.</p>

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150	<p>SPANDREL COLUMNS: Span 1 has 19 rows of Columns. Span 2 has 16 rows of Columns. Span 3 has 18 rows of Columns.</p> <p>Many spandrel columns have hairline diagonal and horizontal cracks. These cracks tend to be at the top and bottom of the columns. Some of the taller columns, near the piers, have hairline vertical cracks, small delaminations, and shallow spalls with exposed rebar due to lack of cover.</p> <p>Arches in good shape. Spandrel arches have hairline vertical cracking.</p> <p style="padding-left: 40px;">Span 4 Col.14D (Plan Span 3, Col. 1A): 4-feet up south side, has 4" diameter spall with exposed rebar. Span 4 Col.14C (Plan Span 3, Col. 1B): horizontal crack approximately 1/16" wide and 3/4' around. Span 5 Col.1A (Plan Span 2, Col. 16D): south face, has full vertical hairline crack. Span 5 Col.1D (Plan Span 2, Col. 16A): south face has vertical crack. Span 5 Col.1B and C (Plan Span 2, Col. 16B & C): have full length delamination. Span 6 Col.14A (Plan Span 1, Col. 6D) on south face: has delamination 1/2 way up to the top of the column. Photo 2011. Pier 8 Col.A (Plan Pier 1, Col. 3D) at top of NE corner: has diagonal cracking. Photo 2011. Last row of columns Col.1A (Plan Pier 1, Col. 1A): SW edge has 5' crack with 3 rebar exposed and spalls on east face. Span 2 (Plan Span 1, Col. 16A): east joint cracking and scaling, Midspan 1 on soffit and column cap have hairline cracking at column arches. Span 3, 6 and 7 (Plan Pier 4, Span 1 and Pier 1) have leaching cracks in soffit at midspan.</p> <p>SPANDREL BENT CAPS: The spandrel bent caps have vertical cracks between girder lines B and C. Many of the expansion joint split bent caps, near the 1/3 points, have horizontal hairline to narrow cracks which run across the entire width of the bridge and extend into the sidewalk supports.</p> <p style="padding-left: 40px;">Pier 7 Col. B (Plan Pier 1, Col. 4C): has 1/16" crack. Photo 2011. 9A (Plan Pier 1, Col. 2D): NW face at base of bent cap has large delamination. 10A (Plan Pier 1, Col. 1D): NW face at base of bent cap has crack.</p>
212	<p>CONC SUBMERGED PIER WALLS: Pier walls have hairline to narrow cracks, delaminations, and are moderately abraded on the north upstream side. The nose of Plan Pier 3 has cracks on west face. 2013 Photo.</p>
215	<p>CONCRETE ABUTMENT: Concrete abutment crossbeams have hairline vertical, diagonal, and map cracks. At the west abutment, the soil is sloughing below the pier cap and creating small voids. At the east abutment, sloughing soil which was causing approach settlement due to loss of fill material has been repaired using gabions and ecology blocks. East abutment, north, has a diagonal crack 1/16" wide. Concrete is exfoliating on southerly end.</p>
220	<p>CONC SUMBERGED FOOTING: Piers 4 and 7 are thrust blocks for the arch and are Abutment 1 and 4 on the Plans. Pier 5 (Plan Pier 2): south side of the footing is heavily exfoliated. Pier 6 (Plan Pier 3): the pier wall footing is exposed. See element 361.</p>
234	<p>CROSSBEAMS: The approach span crossbeams have hairline vertical cracks between column lines B and C.</p>

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266	<p>SIDEWALK: The sidewalk surface has areas of scaling and shallow spalls, typical throughout. The bottom of the sidewalk has transverse hairline cracks, typical throughout. Several areas of curb top edges have been patched and now show exfoliated areas on the vertical faces below these patches. Many sidewalk support corbels have hairline to narrow cracks and delaminations. Some of these cracks are at the interface with the slab.</p> <p style="padding-left: 40px;">Spall on north face between spandrel columns 2A & 3A full width Spall on north face between spandrel columns 3 & 4, 3-feet long.</p> <p>On Plan Span 3 Arch, SW side. a corbel above the waterline conduit cracked and has a large spall, no rebar observed.</p>																																			
331	<p>CONC. BRIDGE RAILING: Many sections of bridge rail have been completely replaced. There is 38 lineal feet of top rail patches. In Span 4 (Plan Span 3), the south rail has a 10" x 8" x 6" deep top corner spall.</p>																																			
361	<p>SCOUR: The Wenatchee River flows north to south. Piers 5, 6, and 7 (Plan Piers 3, 2, and 1 respectively) are in the normal high water. Riprap is in place at Piers 5 and 7 (Plan Piers 3 and 1), at Pier 6 (Plan Pier 2) riprap is missing.</p> <p>At Pier 6 (Plan Pier 2), the entire top of the footing and the vertical face of the upstream side is exposed:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">YEAR</th> <th style="text-align: left;">NW Corner</th> <th style="text-align: left;">4 ft. east of NW Corner</th> <th style="text-align: left;">Centerline</th> <th style="text-align: left;">NE corner</th> </tr> </thead> <tbody> <tr> <td>2009</td> <td>1.5 ft.</td> <td>4 ft.</td> <td>4.5 ft.</td> <td>4.5 ft.</td> </tr> <tr> <td>2005</td> <td>1.0 ft</td> <td>NA</td> <td>4.0 ft.</td> <td>4.0 ft.</td> </tr> </tbody> </table> <p>Vertical exposure on the east and west faces was minimal.</p>	YEAR	NW Corner	4 ft. east of NW Corner	Centerline	NE corner	2009	1.5 ft.	4 ft.	4.5 ft.	4.5 ft.	2005	1.0 ft	NA	4.0 ft.	4.0 ft.																				
YEAR	NW Corner	4 ft. east of NW Corner	Centerline	NE corner																																
2009	1.5 ft.	4 ft.	4.5 ft.	4.5 ft.																																
2005	1.0 ft	NA	4.0 ft.	4.0 ft.																																
402	<p>POURED JOINT FILLER: New Poured Joint Filler was installed in 2011.</p>																																			
407	<p>STEEL ANGLE HEADER: Joint at Pier 4 has been paved over. Measurements are taken at the north fogline.</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Year</th> <th style="text-align: left;">P4(PP4)</th> <th style="text-align: left;">P5(PP3)</th> <th style="text-align: left;">P6(PP2)</th> <th style="text-align: left;">P7(PP1)</th> <th style="text-align: left;">Time</th> <th style="text-align: left;">Temperature</th> </tr> </thead> <tbody> <tr> <td>2013</td> <td>7/8"</td> <td></td> <td></td> <td>1"</td> <td>10:30 am</td> <td>55° & 64° F</td> </tr> <tr> <td>2009</td> <td>No joint.</td> <td>7/8"</td> <td>7/8"</td> <td>1-1/4"</td> <td>3:00 pm</td> <td>85° F</td> </tr> <tr> <td>2007</td> <td>1-1/4"</td> <td>3/4"</td> <td>3/4"</td> <td>1-1/8"</td> <td>4:00 pm</td> <td>85° F</td> </tr> <tr> <td>2005</td> <td>3/4"</td> <td>1"</td> <td>1-1/4"</td> <td>NA</td> <td>10:00 am</td> <td>55° F</td> </tr> </tbody> </table>	Year	P4(PP4)	P5(PP3)	P6(PP2)	P7(PP1)	Time	Temperature	2013	7/8"			1"	10:30 am	55° & 64° F	2009	No joint.	7/8"	7/8"	1-1/4"	3:00 pm	85° F	2007	1-1/4"	3/4"	3/4"	1-1/8"	4:00 pm	85° F	2005	3/4"	1"	1-1/4"	NA	10:00 am	55° F
Year	P4(PP4)	P5(PP3)	P6(PP2)	P7(PP1)	Time	Temperature																														
2013	7/8"			1"	10:30 am	55° & 64° F																														
2009	No joint.	7/8"	7/8"	1-1/4"	3:00 pm	85° F																														
2007	1-1/4"	3/4"	3/4"	1-1/8"	4:00 pm	85° F																														
2005	3/4"	1"	1-1/4"	NA	10:00 am	55° F																														
664	<p>DRAINS: Open in 2013</p>																																			
675	<p>UTILITIES: A 20" diameter wrapped pipe has been installed under the south sidewalk. The pipe has serpentine bends.</p>																																			
681	<p>APPROACHES: Approaches have less than 1" of settlement with transverse cracks in the ACP. East approach, some potholes have been patched, also new potholes. The ACP sidewalk at NE approach has been repaired.</p>																																			
684	<p>Concrete baluster rail does not meet current crash test standards.</p>																																			
685	<p>Transitions are not in place.</p>																																			
686	<p>Guardrails are not in place.</p>																																			
687	<p>Terminals are not in place.</p>																																			
693	<p>Soundings taken 2011.</p>																																			
800	<p>OVERLAY: There is an ACP overlay in Spans 1 through Midspan 4 (over Plan Pier 4). ACP has approximately 180 sqft of patches and many small areas that are worn through exposing the deck. Spans 1 through 4 (over Plan Pier 4) received BST in 2010. BST covers joints between Span 2 and Span 3. There are potholes in the BST overlay.</p>																																			

Repairs

Repair No	Pr	R	Repair Description	Noted	Maint	Verified
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10003	2	B		08/28/07
10004	2	B		08/12/13
10005	2	B		08/12/13
10011	2	J		08/12/13
10007	3	J		08/22/11 07/10/13
10010	3	B		08/12/13

Inspections Performed and Resources Required

Report Type	Date	IT	Frq	Hrs	Insp	CertNo	Coinsp	Note
Routine	08/12/13		24	1.5	PHC	G0114	JH	
Resources			Use	Hour	Min	Req	Max	Notes
UBIT			30	1.50	ANY	ANY	ANY	UB50 used in 2009.
UBIT			30	2.00				2013 inspection
Underwater	08/31/11	D	60	3.5	SDS	G9912	EBV	
Resources			Use	Hour	Min	Req	Max	Notes
Equipment			48	1.5	PHC	G0114		
Resources			Use	Hour	Min	Req	Max	Notes
UBIT			30	1.50	ANY	ANY	ANY	50' used in 2009
UBIT			30	2.00				2013 Inspection. Coordinate with Craig Yasuda 360.570.2552
Informational	07/22/13				PHC	G0114	JH	
Resources			Use	Hour	Min	Req	Max	Notes