

P2 Bridge Preservation - Replacement/Rehab Projects

2013-15 Bien Priority Array - Olympic Region

(Sorted by Priority Number)

13-15 #	Bridge Number	Bridge Name	Mile post	Region	Length	Future work Description
1	167/20E	PUYALLUP R	6.40	Olympic	477	Replace Bridge
3	167/13	SR 167 OVER RR	0.64	Olympic	211	Rehabilitate Bridge
4	302/105	PURDY BR	15.69	Olympic	550	Rehabilitate Bridge
6	12/12S	WISHKAH R HERON CS1415	0.08	Olympic	235	Rehabilitate Bridge
16	107/6	SLOUGH	7.79	Olympic	279	Replace Bridge
17	107/5	SLOUGH	7.59	Olympic	294	Replace Bridge
24	300/1	MISSION CR	0.28	Olympic	51	Replace Bridge

Total Number of Bridges = 7



P2 Bridge Preservation - Replacement/Rehab Projects

2013-15 Bien Priority Array - Olympic

(Sorted by Bridge Number)

13-15 #	Bridge Number	Bridge Name	Mile post	Region	Length	Future work Description
6	12/12S	WISHKAH R HERON CS1415	0.08	Olympic	235	Rehabilitate Bridge
17	107/5	SLOUGH	7.59	Olympic	294	Replace Bridge
16	107/6	SLOUGH	7.79	Olympic	279	Replace Bridge
3	167/13	SR 167 OVER RR	0.64	Olympic	211	Rehabilitate Bridge
1	167/20E	PUYALLUP R	6.40	Olympic	477	Replace Bridge
24	300/1	MISSION CR	0.28	Olympic	51	Replace Bridge
4	302/105	PURDY BR	15.69	Olympic	550	Rehabilitate Bridge

Total Number of Bridges = 7



Bridge Preservation Program (P2)

Bridge Replacement Form

Bridge Number: 12 / 12S	Structure ID 000000LM	Bridge Name: HERON STREET BRIDGE	Milepost: 0.08	Region: Olympic
Year Built / YR Widened: 1949	Bridge Type: Steel(open)Girder - Swing Span	Number of Main/Appr span 2 / 1	Sufficiency Rating: 43.48 SD	
Bridge Width (curb-curb): 28.0 ft	Bridge Length: 235 ft	Max Span: 93 ft	 <p>Bridge Deck View</p>	
Average Daily Traffic: 15,000	Truck% 12%	Number of Lanes: 2		
Vertical Clearance: NA	Detour Length (miles): 2	Appr Rdway Width: 30.0 ft		
Design Load: H 20	HS: 1.21	Load Restricted Bridge? <input type="checkbox"/>		
Op Rating: 64.00	A1: 1.41	BL Load:	 <p>Bridge Profile View</p>	
Inv Rating: 39.00	A2: 1.42	CL-8 Load:		
	A3: 1.71	SA Load:		
<p align="center">Bridge Inspection Information</p> <p>Date Inspected: 3/8/2011 Structr Adequacy: 4</p> <p>Superstr Code: 5 Safe Load: 5</p> <p>Substr Code: 4 Deck Geometry: 3</p> <p>Deck Code: 3 Underclearance: 9</p> <p>Scour: 5 Waterway: 8</p>				
<p align="center">Proposed Bridge Replacement / Rehab Information</p> <p>New Bridge Width: ft Bridge \$'s:</p> <p>New Bridge Length: ft. Total \$'s: \$7,000,000</p> <p>Priority Array #: 6</p> <p>PIN Number: Repl/Rehab Year: 2018</p> <p>WIN Number: Ad Date:</p> <p>Contract Number: Funding Cat: P2</p>				
<p>THE BRIDGE IS CLASSIFIED "SD" DUE TO THE SUBSTRUCTURE CONDITION.</p> <p>This is a steel swing span bridge that was built with untreated timber piles. The bridge sags during operation due to additional weight added after the grid deck was replaced in 1990.</p> <p>A previous review has determined that the center pier should be reinforced with four new shaft foundations to reinforce this bridge against future seismic activity.</p> <p>This project will rehabilitate the bridge.</p>				



Bridge Preservation Program (P2)

Bridge Replacement Form

Bridge Number: 107 / 5	Structure ID 0004381A	Bridge Name: SLOUGH	Milepost: 7.59	Region: Olympic
Year Built / YR Widened: 1953	Bridge Type: Treated Timber Trestle		Number of Main/Appr span 16 / 0	Sufficiency Rating: 53.35 FO
Bridge Width (curb-curb): 22.4 ft	Bridge Length: 294 ft	Max Span: 19 ft	Bridge Deck View 	
Average Daily Traffic: 4,113	Truck% 17%	Number of Lanes: 2		
Vertical Clearance: NA	Detour Length (miles): 40	Appr Rdway Width: 28.0 ft		
Design Load: HS 15	HS: 1.27	Load Restricted Bridge? <input checked="" type="checkbox"/>		
Op Rating: 46.00	A1: 1.51	BL Load: 20,000	Bridge Profile View 	
Inv Rating: 32.00	A2: 1.65	CL-8 Load: 40,000		
	A3: 1.83	SA Load: 40,000		
Bridge Inspection Information				
Date Inspected: 4/6/2010	Structr Adequacy: 5			
Superstr Code: 6	Safe Load: 5			
Substr Code: 5	Deck Geometry: 2			
Deck Code: 6	Underclearance: 9			
Scour: 5	Waterway: 6			
Proposed Bridge Replacement / Rehab Information				
New Bridge Width: 37 ft	Bridge \$'s:			
New Bridge Length: 306 ft.	Total \$'s: \$11,162,236			
Priority Array #: 17				
PIN Number: 310708A	Repl/Rehab Year: 2018			
WIN Number: C10708D	Ad Date: 2/12/2018			
Contract Number:	Funding Cat: P2			
<p>This bridge was added to the Bridge Replacement Priority Array in 1990. Currently the latest Bridge Inspection does not classify the bridge as being "SD".</p> <p>There are 28 of the 48 interior timber piles that are "Yellow Tagged" due to splits or rot within 3 inches of their center. The timber cap @ piers 8 and 11 are "Red Tagged" and have a 1 inch shell in selected locations.</p> <p>The new replacement bridge will be a prestressed concrete hollow slab.</p>				



Bridge Preservation Program (P2)

Bridge Replacement Form

Bridge Number: 107 / 6	Structure ID 0004381B	Bridge Name: SLOUGH	Milepost: 7.79	Region: Olympic
Year Built / YR Widened: 1953	Bridge Type: Treated Timber Trestle	Number of Main/Appr span 15 / 0	Sufficiency Rating: 36.79 SD	
Bridge Width (curb-curb): 22.5 ft	Bridge Length: 279 ft	Max Span: 19 ft		
Average Daily Traffic: 4,113	Truck% 17%	Number of Lanes: 2		
Vertical Clearance: NA	Detour Length (miles): 40	Appr Rdway Width: 28.0 ft		
Design Load: HS 15	HS: 1.26	Load Restricted Bridge? <input checked="" type="checkbox"/>		
Op Rating: 45.00	A1: 1.50	BL Load: 21,000		
Inv Rating: 32.00	A2: 1.64	CL-8 Load: 41,000		
	A3: 1.82	SA Load: 41,000		
Bridge Inspection Information				
Date Inspected: 4/6/2010	Structr Adequacy: 4			
Superstr Code: 6	Safe Load: 5			
Substr Code: 4	Deck Geometry: 2			
Deck Code: 6	Underclearance: 9			
Scour: 5	Waterway: 8			
Proposed Bridge Replacement / Rehab Information				
New Bridge Width: 37 ft	Bridge \$'s:			
New Bridge Length: 306 ft.	Total \$'s: \$11,162,236			
Priority Array #: 16				
PIN Number: 310708A	Repl/Rehab Year: 2018			
WIN Number: C10708D	Ad Date: 2/12/2018			
Contract Number:	Funding Cat: P2			
<p>THIS BRIDGE IS CLASSIFIED "SD" DUE A SUBSTRUCTURE CONDITION. Substructure coded a "4" due to extensive rot in piles and caps.</p> <p>There are 5 of the 40 interior timber piles that are "Yellow Tagged" due to splits and have been temporarily repaired with steel rings.</p> <p>The new replacement bridge will be a prestressed concrete hollow slab.</p>				



Bridge Preservation Program (P2)

Bridge Replacement Form

Bridge Number: 167 / 13	Structure ID 0001784A	Bridge Name: SR 167 OVER RR	Milepost: 0.64	Region: Olympic
Year Built / YR Widened: 1934	Bridge Type: Concrete T-Beam	Number of Main/Apr span 5 / 0	Sufficiency Rating: 26.62 SD	
Bridge Width (curb-curb): 48.0 ft	Bridge Length: 211 ft	Max Span: 50 ft	<p align="center">Bridge Deck View</p> 	
Average Daily Traffic: 28,097	Truck% 4%	Number of Lanes: 4		
Vertical Clearance: NA	Detour Length (miles): 2	Appr Rdway Width: 52.0 ft		
Design Load: H 15	HS: 0.83	Load Restricted Bridge? <input type="checkbox"/>		
Op Rating: 35.00	A1: 1.17	BL Load:	<p align="center">Bridge Profile View</p> 	
Inv Rating: 21.00	A2: 1.16	CL-8 Load:		
	A3: 1.29	SA Load:		
Bridge Inspection Information				
Date Inspected: 10/14/2010	Structr Adequacy: 4			
Superstr Code: 4	Safe Load: 5			
Substr Code: 6	Deck Geometry: 2			
Deck Code: 5	Underclearance: 9			
Scour: N	Waterway: 9			
Proposed Bridge Replacement / Rehab Information				
New Bridge Width: ft	Bridge \$'s:			
New Bridge Length: ft	Total \$'s: \$3,246,500			
Priority Array #: 3				
PIN Number: 316730A	Repl/Rehab Year: 2016			
WIN Number: C16730A	Ad Date:			
Contract Number:	Funding Cat: P2			
<p>Concrete girder webs have hairline vertical and diagonal cracks. Girders have scattered small delaminations and spalls. Pier 2 girder haunches have leaching diagonal cracks. Diaphragm haunches have longitudinal leaching cracks. Concrete sidewalk soffit has many areas with shallow spalls and rusty exposed transverse rebar as well as transverse rusty leaching cracks. Sidewalk supports have diagonal cracks; some of which are leaching - especially the west side in Span 4. WEST SIDEWALK: Concrete sidewalk supports on the west side of Span 4 have large spalls, hairline to wide cracks, delaminations, and exfoliation. In March of 2006, due to these conditions, Olympic Region Bridge Maintenance constructed and installed steel bracing along the length of both sides of Girder 4A to support the west sidewalk.</p> <p>This project will rehabilitate the concrete girders and sidewalk.</p>				



Bridge Preservation Program (P2)

Bridge Replacement Form

Bridge Number: 167 / 20E	Structure ID 0003960A	Bridge Name: PUYALLUP RIVER	Milepost: 6.40	Region: Olympic
Year Built / YR Widened: 1925 / 1951	Bridge Type: Steel Thru Truss	Number of Main/Appr span 1 / 5	Sufficiency Rating: 2.00 SD	
Bridge Width (curb-curb): 21.0 ft	Bridge Length: 477 ft	Max Span: 371 ft	 <p style="text-align: center;">Bridge Deck View</p>	
Average Daily Traffic: 17,936	Truck% 5%	Number of Lanes: 2		
Vertical Clearance: 18 FT 07 in	Detour Length (miles): 2	Appr Rdway Width: 24.0 ft		
Design Load: H 15	HS: 0.69	Load Restricted Bridge? <input checked="" type="checkbox"/>		
Op Rating: 21.00	A1: 0.93	BL Load:	 <p style="text-align: center;">Bridge Profile View</p>	
Inv Rating: 12.00	A2: 0.97	CL-8 Load:		
	A3: 1.07	SA Load:		
Bridge Inspection Information				
Date Inspected: 7/17/2011	Structr Adequacy: 2			
Superstr Code: 4	Safe Load: 5			
Substr Code: 6	Deck Geometry: 2			
Deck Code: 5	Underclearance: 2			
Scour: 7	Waterway: 8			
Proposed Bridge Replacement / Rehab Information				
New Bridge Width: 40 ft	Bridge \$'s:			
New Bridge Length: 482 ft.	Total \$'s: \$30,010,285			
Priority Array #: 1				
PIN Number: 316725A	Repl/Rehab Year: 2014			
WIN Number:	Ad Date:			
Contract Number:	Funding Cat: P2			
<p>THIS BRIDGE IS CLASSIFIED "SD" DUE TO THE SUPERSTRUCTURE and STRUCTURAL ADEQUACY CODE.</p> <p>This bridge was added to the P2 Program Bridge Replacement List in the 2011-13 biennium. The Legislature mandated that this project use the Design-Build process.</p> <p>The Bridge Preservation Engineer initially recommended this bridge be load restricted in December 2010. A further review determined that if the trucks stay in the Right lane then Trucks carrying legal loads would be OK. Trucks are restricted to the right lane.</p>				



Bridge Number: 300 / 1	Structure ID 0007342A	Bridge Name: MISSION CR	Milepost: 0.28	Region: Olympic
Year Built / YR Widened: 1963	Bridge Type: Treated Timber Long. Laminated	Number of Main/Appr span 3 / 0	Sufficiency Rating: 32.72 SD	
Bridge Width (curb-curb): 26.0 ft	Bridge Length: 51 ft	Max Span: 17 ft	<p align="center">Bridge Deck View</p> 	
Average Daily Traffic: 6,584	Truck% 5%	Number of Lanes: 2		
Vertical Clearance: NA	Detour Length (miles): 50	Appr Rdway Width: 28.0 ft		
Design Load: HS 20	HS: 1.05	Load Restricted Bridge? <input type="checkbox"/>		
Op Rating: 38.00	A1: 1.32	BL Load:		
Inv Rating: 28.00	A2: 1.39	CL-8 Load:		
	A3: 1.60	SA Load:		
<p align="center">Bridge Inspection Information</p> Date Inspected: 3/2/2010 Structr Adequacy: 4 Superstr Code: 7 Safe Load: 5 Substr Code: 4 Deck Geometry: 2 Deck Code: 7 Underclearance: 9 Scour: 3 Waterway: 6			<p align="center">Bridge Profile View</p> 	
<p align="center">Proposed Bridge Replacement / Rehab Information</p> New Bridge Width: 42 ft Bridge \$'s: New Bridge Length: 56 ft. Total \$'s: \$8,129,567 Priority Array #: 24 PIN Number: Repl/Rehab Year: WIN Number: Ad Date: Contract Number: Funding Cat: P2				
<p>THIS BRIDGE IS CLASSIFIED "SD" BASED ON A SUBSTRUCTURE / SCOUR CONDITION. This is a 3 span Treated Timber bridge built in 1963 with 2 intermediate piers in the waterway. The intermediate pierwalls are on spread footings. Bridge has been closed due to scour failure in the past.</p> <p>Substructure coded a "4" due to scour where Pier 3 has previously experienced settlement. A Scour report says The calculated scour depth is well below the bottom of the foundations shown on the original layout sheet and notes in the file indicate the bridge has experienced a failure due to scour in 1966 and was repaired. The previous recommend scour repair of riprap placement around the piers has been completed.</p>				



Bridge Preservation Program (P2)

Bridge Replacement Form

Bridge Number: 302 / 105	Structure ID 000000JQ	Bridge Name: PURDY BRIDGE	Milepost: 15.69	Region: Olympic
Year Built / YR Widened: 1936 / 1966	Bridge Type: Concrete Box	Number of Main/Appr span 5 / 0	Sufficiency Rating: 24.45 SD	
Bridge Width (curb-curb): 20.0 ft	Bridge Length: 550 ft	Max Span: 190 ft	<p align="center">Bridge Deck View</p> 	
Average Daily Traffic: 21,346	Truck% 3%	Number of Lanes: 2		
Vertical Clearance: NA	Detour Length (miles): 50	Appr Rdway Width: 26.0 ft		
Design Load: H 15	HS: 0.88	Load Restricted Bridge? <input checked="" type="checkbox"/>		
Op Rating: 37.00	A1: 1.21	BL Load: 19,500	<p align="center">Bridge Profile View</p> 	
Inv Rating: 22.00	A2: 1.09	CL-8 Load:		
	A3: 1.06	SA Load: 32,500		
Bridge Inspection Information				
Date Inspected: 6/12/2010	Structr Adequacy: 4			
Superstr Code: 6	Safe Load: 5			
Substr Code: 4	Deck Geometry: 2			
Deck Code: 6	Underclearance: 9			
Scour: 5	Waterway: 8			
Proposed Bridge Replacement / Rehab Information				
New Bridge Width: ft	Bridge \$'s:			
New Bridge Length: ft.	Total \$'s: \$4,000,000			
Priority Array #: 4				
PIN Number:	Repl/Rehab Year: 2016			
WIN Number:	Ad Date:			
Contract Number:	Funding Cat: P2			

THIS BRIDGE IS CLASSIFIED "SD" DUE TO THE SUBSTRUCTURE CODE.

The capacity of the bridge to carry vehicular traffic is low because of its age and poor shear strength design.

Substructure coded "4" based on Piers 3 and 4 pier walls heavily spalled in all four corners with rebar that is corroded through and missing, and other areas where exposed rebar is heavily corroded and covered with marine life. The pier walls are box structures with interior voids, and the corner spalls have reduced the wall thickness in areas from 16" to about 7" thick. The reduced wall thickness near and below the water surface increases the likelihood of local failure of the submerged pier walls.

This project will rehabilitate the piers and the concrete box superstructure.



Special Bridge Repairs - 2013-15 Biennium - Olympic

(Sorted by Priority#)

2013-15 Priority#:	Bridge Number	Bridge Name	Milepost	Region	Repair Description	Total\$'s
1	016/110E	TACOMA NARROWS	7.28	Olympic	Replace Maintenance Traveler	\$10,000,000
2	104/005.1	HOOD CANAL-W.A. BUGGE	13.93	Olympic	Replace 18 anchor cables	\$5,891,760
12	104/005.1	HOOD CANAL-W.A. BUGGE	13.93	Olympic	Mechanical Rehab	\$4,000,000
13	101/125E	HOQUIAM R-RIVERSIDE 141	87.31	Olympic	Mechanical-Electrical Rehab	\$9,109,000
23	101/115	CHEHALIS R	83.22	Olympic	Mechanical-Electrical Rehab	\$5,500,000
26	005/342W	MCALLISTER CR	114.09	Olympic	Column Repair	\$400,000
27	012/012N	WISHKAH R CS1413	0.50	Olympic	Mechanical rehab	\$3,000,000
28	005/342W-S	MCALLISTER CR	114.09	Olympic	Column Repair	\$651,000
36	101/269	FULTON CR	313.55	Olympic	Repair Concrete Columns	\$600,000
37	101/432E	KENNEDY CR	356.17	Olympic	Repair Concrete Columns	\$1,080,000
38	101/432W	KENNEDY CR	356.17	Olympic	Repair Concrete Columns	\$1,080,000
39	167/032E	VALLEY AVE & UPRR O'XIN	7.22	Olympic	Replace Expansion Joint	\$250,000
46	167/040E	8TH ST E O'XING	10.66	Olympic	Repair Bridge Rail	\$50,000
49	005/337E	MARTIN WAY OC	109.14	Olympic	Replace Strip Seal Exp Joints	\$400,000
50	005/337W	MARTIN WAY OC	109.14	Olympic	Replace Strip Seal Exp Joints	\$400,000
54	410/031	WHITE R (STUCK R)	8.99	Olympic	Replace Exp Joints	\$216,000
63	005/452W	PORTLAND AVE OC	134.87	Olympic	Replace Exp Jnt	\$393,000
64	005/453	SR 167 E-N RAMP OC	135.17	Olympic	Replace Exp Jnt	\$835,500
67	101/115N-W	N-W RAMP	83.22	Olympic	Replace Exp Jnt	\$120,000
19 Repairs					Sum of Bridge \$'s =	\$43,976,260

Special Bridge Repairs - 2013-15 Biennium - Olympic

(Sorted by Bridge#)

2013-15 Priority#:	Bridge Number	Bridge Name	Milepost	Region	Repair Description	Total\$'s
49	005/337E	MARTIN WAY OC	109.14	Olympic	Replace Strip Seal Exp Joints	\$400,000
50	005/337W	MARTIN WAY OC	109.14	Olympic	Replace Strip Seal Exp Joints	\$400,000
26	005/342W	MCALLISTER CR	114.09	Olympic	Column Repair	\$400,000
28	005/342W-S	MCALLISTER CR	114.09	Olympic	Column Repair	\$651,000
63	005/452W	PORTLAND AVE OC	134.87	Olympic	Replace Exp Jnt	\$393,000
64	005/453	SR 167 E-N RAMP OC	135.17	Olympic	Replace Exp Jnt	\$835,500
27	012/012N	WISHKAH R CS1413	0.50	Olympic	Mechanical rehab	\$3,000,000
1	016/110E	TACOMA NARROWS	7.28	Olympic	Replace Maintenance Traveler	\$10,000,000
23	101/115	CHEHALIS R	83.22	Olympic	Mechanical-Electrical Rehab	\$5,500,000
67	101/115N-W	N-W RAMP	83.22	Olympic	Replace Exp Jnt	\$120,000
13	101/125E	HOQUIAM R-RIVERSIDE 141	87.31	Olympic	Mechanical-Electrical Rehab	\$9,109,000
36	101/269	FULTON CR	313.55	Olympic	Repair Concrete Columns	\$600,000
37	101/432E	KENNEDY CR	356.17	Olympic	Repair Concrete Columns	\$1,080,000
38	101/432W	KENNEDY CR	356.17	Olympic	Repair Concrete Columns	\$1,080,000
2	104/005.1	HOOD CANAL-W.A. BUGGE	13.93	Olympic	Replace 18 anchor cables	\$5,891,760
12	104/005.1	HOOD CANAL-W.A. BUGGE	13.93	Olympic	Mechanical Rehab	\$4,000,000
39	167/032E	VALLEY AVE & UPRR O'XIN	7.22	Olympic	Replace Expansion Joint	\$250,000
46	167/040E	8TH ST E O'XING	10.66	Olympic	Repair Bridge Rail	\$50,000
54	410/031	WHITE R (STUCK R)	8.99	Olympic	Replace Exp Joints	\$216,000
19	Repairs				Sum of Bridge \$'s =	\$43,976,260

Bridge Preservation Program (P2)

Bridge Repair Form

Bridge Number: 5 / 342W		Structure ID 0008100F		Bridge Name: MCALLISTER CR		Milepost: 114.09		Region: Olympic					
Year Built / YR Widened: 1968		Bridge Type: PCG		Bridge Length: 272 ft		Bridge Width (curb-curb): 48.0 ft		Sufficiency Rating: 75.34					
Average Daily Traffic 48,832	Truck% 12%	Freight Route		Num of Lanes 3									
Date Inspected: 11/8/2010		Structr Adequacy: 5		Superstr Code: 7						Safe Load: 5		Substr Code: 5	
BMS Element Num: 227		BMS Element Descr: Concrete Submerged Pile/Column											
BMS Element Quantity: 3													
Project Number:		2013-15 Priority#: 13		Repair Year: 2014		2011-13 Priority#:		Bridge \$'s:					
CPMS Ad Date:		Repair Total\$'s: \$400,000											
													
Repair Description: Repair three concrete deteriorated columns @ pier 2													
COMMENTS													
Columns 2B and 2C are showing signs of deterioration and need to be repaired with a fiberglass jacket. A fiberglass jacket should also be added to Column 2A. This work should be similar to the column repair work completed in 2009 on bridge 5/342E (contract 7584).													

Bridge Preservation Program (P2)

Bridge Repair Form

Bridge Number: 5 / 342W-S		Structure ID 0008100H		Bridge Name: MCALLISTER CR		Milepost: 114.09		Region: Olympic	
Year Built / YR Widened: 1968		Bridge Type: CS		Bridge Length: 168 ft		Bridge Width (curb-curb): 23.0 ft		Sufficiency Rating: 88.18	
Average Daily Traffic 830		Truck% 2%		Freight Route		Num of Lanes 1			
Date Inspected: 7/14/2010		Structr Adequacy: 5		Superstr Code: 7		Safe Load: 5			
Substr Code: 5		Scour: 8		BMS Element Num: 227		BMS Element Descr: Concrete Submerged Pile/Column			
BMS Element Quantity: 8		Project Number:		2013-15 Priority#: 14		2011-13 Priority#: 29			
Repair Year: 2014		CPMS Ad Date:		Bridge \$'s: \$200,000		Repair Total\$'s: \$300,000		 	
Repair Description:		Repair concrete deteriorated columns @ piers 2 & 4.		COMMENTS					
<p>The columns are showing signs of corrosion in the reinforcing steel. The Repair should be similar to what was completed on bridge 5/342E in 2009 (contract 7584). Fiberglass jackets will likely be used to repair the columns.</p>									

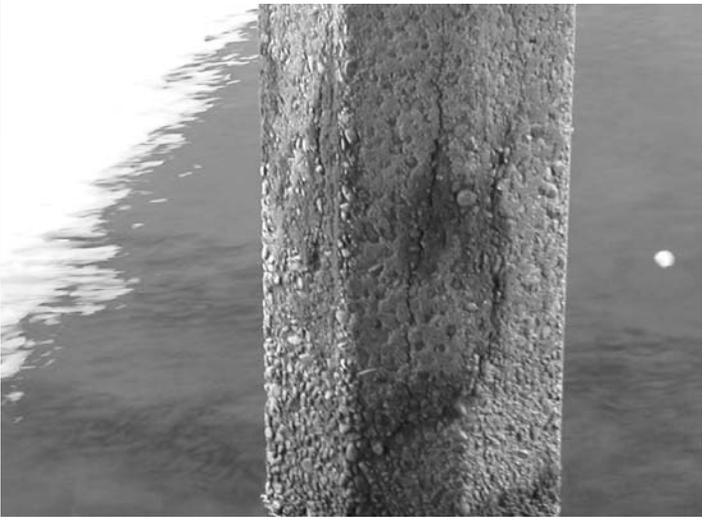
Bridge Preservation Program (P2)

Bridge Repair Form

Bridge Number: 101 / 269		Structure ID 0000987A		Bridge Name: FULTON CR		Milepost: 313.55		Region: Olympic	
Year Built / YR Widened: 1926		Bridge Type: CTB		Bridge Length: 127 ft		Bridge Width (curb-curb): 24.0 ft		Sufficiency Rating: 46.21 FO	
Average Daily Traffic 2,063		Truck% 17%		Freight Route		Num of Lanes 2			
Date Inspected: 10/6/2010		Structr Adequacy: 5		Superstr Code: 7		Safe Load: 5			
Substr Code: 5		Scour: 3		BMS Element Num: 227		BMS Element Descr: Concrete Submerged Column			
BMS Element Quantity: 8		Project Number:		2013-15 Priority#: 27		2011-13 Priority#: 45			
Repair Year: 2016		CPMS Ad Date:		Bridge \$'s: \$200,000		Repair Total\$'s: \$400,000		 	
Repair Description: Repair and encase section of concrete columns exposed to saltwater.									
COMMENTS									

Bridge Preservation Program (P2)

Bridge Repair Form

Bridge Number: 101 / 432E		Structure ID 0006383B		Bridge Name: KENNEDY CR		Milepost: 356.17		Region: Olympic	
Year Built / YR Widened: 1960		Bridge Type: CVS		Bridge Length: 129 ft		Bridge Width (curb-curb): 28.0 ft		Sufficiency Rating: 49.51 SD	
Average Daily Traffic 8,357	Truck% 7%	Freight Route T-2	Num of Lanes 2						
Date Inspected: 9/28/2010		Structr Adequacy: 4							
Superstr Code: 6		Safe Load: 5							
Substr Code: 4		Scour: 3							
BMS Element Num: 227				BMS Element Descr: Concrete Submerged Column					
BMS Element Quantity: 18									
Project Number:		2013-15 Priority#: 28		Repair Year: 2016		2011-13 Priority#: 46		CPMS Ad Date:	
		Bridge \$'s: \$200,000				Repair Total\$'s: \$400,000			
									
Repair Description:									
Clean and encase concrete columns with fiberglass jackets.									
COMMENTS									
The concrete columns are beginning to show signs of deterioration. A repair is needed similar to what was done on the US 101 Mud Bay bridges (101/508E and W) in 2008 as part of contract 7467.									

Bridge Preservation Program (P2)

Bridge Repair Form

Bridge Number: 101 / 432W		Structure ID 0006383A		Bridge Name: KENNEDY CR		Milepost: 356.17		Region: Olympic	
Year Built / YR Widened: 1960		Bridge Type: CVS		Bridge Length: 129 ft		Bridge Width (curb-curb): 28.0 ft		Sufficiency Rating: 40.00 SD	
Average Daily Traffic 8,357	Truck% 7%	Freight Route T-2	Num of Lanes 2						
Date Inspected: 9/28/2010		Structr Adequacy: 4							
Superstr Code: 7		Safe Load: 5							
Substr Code: 4		Scour: 3							
BMS Element Num: 227		BMS Element Descr: Concrete Submerged Column							
BMS Element Quantity: 18									
Project Number:		2013-15 Priority#: 29							
Repair Year: 2016		2011-13 Priority#: 47							
CPMS Ad Date:		Bridge \$'s: \$200,000							
		Repair Total\$'s: \$400,000							
									
<p>Repair Description: Clean and encase concrete columns with fiberglass jackets.</p>									
COMMENTS									
<p>The concrete columns are beginning to show signs of deterioration. A repair is needed similar to what was done on the US 101 Mud Bay bridges (101/508E and W) in 2008 as part of contract 7467.</p>									

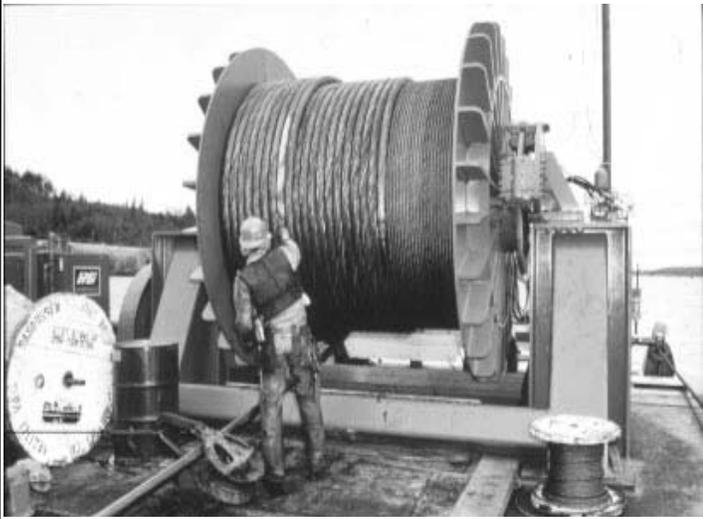
Bridge Preservation Program (P2)

Bridge Repair Form

Bridge Number: 104 / 5.1		Structure ID 0011964A		Bridge Name: HOOD CANAL Bridge		Milepost: 13.93		Region: Olympic	
Year Built / YR Widened: 1982		Bridge Type: CFP PCG STRus		Bridge Length: 4,245 ft		Bridge Width (curb-curb): 28.0 ft		Sufficiency Rating: 47.98	
Average Daily Traffic 13,327		Truck% 		Freight Route T-2		Num of Lanes 2			
Date Inspected: 8/4/2009		Structr Adequacy: 5		Superstr Code: 6		Safe Load: 4			
Substr Code: 6		Scour: 8							
BMS Element Num: 		BMS Element Descr: Movable Bridge		BMS Element Quantity: 					
Project Number: 		2013-15 Priority#: 1		Repair Year: 2014		2011-13 Priority#: 20			
CPMS Ad Date: 		Bridge \$'s: \$2,000,000		Repair Total\$'s: \$4,000,000					
									
Repair Description: Electrical and Mechanical rehabilitation									
COMMENTS									
Mechanical and Electrical Inspections by consultants hired by the Bridge Preservation Office have identified a list of needs for the bridge.									

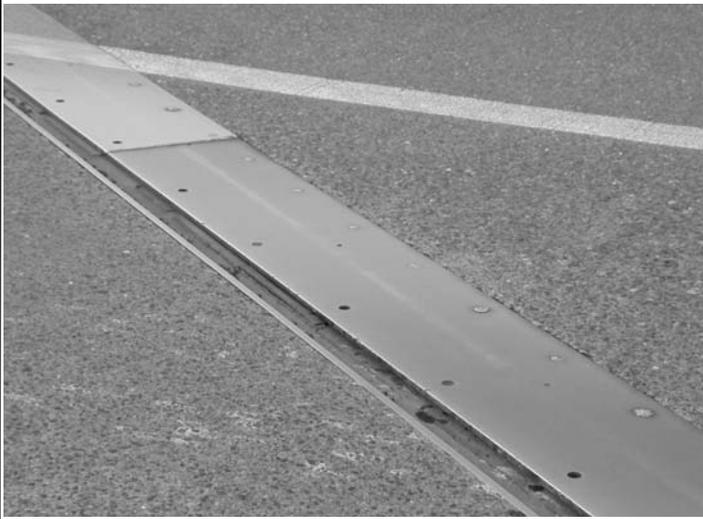
Bridge Preservation Program (P2)

Bridge Repair Form

Bridge Number: 104 / 5.1		Structure ID 0011964A		Bridge Name: HOOD CANAL-WEST HALF		Milepost: 13.93		Region: Olympic	
Year Built / YR Widened: 1982		Bridge Type: CFP PCG STRus		Bridge Length: 4,245 ft		Bridge Width (curb-curb): 28.0 ft		Sufficiency Rating: 47.98	
Average Daily Traffic 13,327		Truck% 		Freight Route T-2		Num of Lanes 2			
Date Inspected: 8/4/2009		Structr Adequacy: 5		Superstr Code: 6		Safe Load: 4			
Substr Code: 6		Scour: 8		BMS Element Num: 148		BMS Element Descr: Floating Bridge - Anchor Cable			
BMS Element Quantity: 18 Each		Project Number: 2013-15 Priority#: 1		Repair Year: 2014		2011-13 Priority#: 20			
CPMS Ad Date:		Bridge \$'s: \$5,040,000		Repair Total\$'s: \$5,891,760					
									
Repair Description: Replace 18 anchor cables and purchase 1 spare cable.									
COMMENTS									
The bridge has 24 anchor cables that are 3 inches in diameter, of which 18 are 29 years old. These 18 should be programmed for replacement when they reach 30 years old. This project also needs to include the purchase of 1 spare cable in case of a need to replace a cable by an emergency. Cables - An, As, Bs, Dn, Fs, Gn, Gs, Hn, Hs, Jn, Js, L1n, L1s, L2s, Mn, Ms.									
Bridge Item estimate (\$250,000 installation + \$30,000 materials) per cable x 18 cables. = \$5,040,000. Total cost = \$5,891,760									

Bridge Preservation Program (P2)

Bridge Repair Form

Bridge Number: 167 / 32E		Structure ID 0009075D		Bridge Name: VALLEY AVE UPRR O'XING		Milepost: 7.22		Region: Olympic	
Year Built / YR Widened: 1973		Bridge Type: PCG		Bridge Length: 925 ft		Bridge Width (curb-curb): 50.5 ft		Sufficiency Rating: 95.35	
Average Daily Traffic 26,125	Truck% 8%	Freight Route T-1	Num of Lanes 2						
Date Inspected: 11/30/2010		Structr Adequacy: 7							
Superstr Code: 7		Safe Load: 5							
Substr Code: 7		Scour: N							
BMS Element Num: 409		BMS Element Descr: Steel Sliding Plate Exp Joint							
BMS Element Quantity: 100									
Project Number:		2013-15 Priority#: 30							
Repair Year: 2016		2011-13 Priority#: 48							
CPMS Ad Date:		Bridge \$'s: \$200,000							
		Repair Total\$'s: \$500,000							
					<h1 style="text-align: center;">No Photo Available</h1>				
<p>Repair Description: Replace Expansion joints @ piers 4 and 6.</p>									
COMMENTS									
Bridge Item cost based on \$1,000 / ft. Total project cost based on \$2,500 / ft.									

Bridge Preservation Program (P2)

Bridge Repair Form

Bridge Number: 167 / 40E		Structure ID 0010558A		Bridge Name: 8TH ST E O'XING		Milepost: 10.62		Region: Olympic	
Year Built / YR Widened: 1977		Bridge Type: PCG		Bridge Length: 185 ft		Bridge Width (curb-curb): 38.0 ft		Sufficiency Rating: 89.94	
Average Daily Traffic 26,125		Truck% 8%		Freight Route T-1		Num of Lanes 2			
Date Inspected: 7/14/2009		Structr Adequacy: 7		Superstr Code: 7		Safe Load: 5			
Substr Code: 7		Scour: N		BMS Element Num: 331		BMS Element Descr: Concrete Bridge Rail			
BMS Element Quantity: 56		Project Number:		2013-15 Priority#: 36		2011-13 Priority#: 54			
Repair Year: 2016		CPMS Ad Date:		Bridge \$'s: \$25,000		Repair Total\$'s: \$100,000			
									
Repair Description: Replace 56 feet of bridge rail.									
COMMENTS									
Southeast six sections of bridge rail has severe exfoliation of top 1 foot, and requires repair/replacement. Also, Northwest end section has severe exfoliation of top 1 foot, and requires repair/replacement. -- (Revised the priority to 2 from 4 per GCS. RLS 12/19/05).									

P2 Bridge Preservation - Moveable Bridge Projects

2013-15 Bien Priority Array

(Sorted by Priority Number)

13-15 #	Bridge Number	Bridge Name	Mile post	Region	Length	Bridge \$
2	104/5.1	HOOD CANAL-W.A. BUGGE B	13.93	Olympic	4,245	\$2,003,000.00
3	101/115	CHEHALIS R	83.22	Olympic	2,638	\$2,820,000.00
5	12/12N	WISHKAH R CS1413	0.50	Olympic	363	\$1,420,000.00
6	101/125E	HOQUIAM R-RIVERSIDE 1417	87.31	Olympic	465	\$4,054,000.00

Total Number of Bridges = 4



P2 Bridge Preservation - Moveable Bridge Projects

2013-15 Bien Priority Array

(Sorted by Bridge Number)

13-15 #	Bridge Number	Bridge Name	Mile post	Region	Length	Bridge \$
5	12/12N	WISHKAH R CS1413	0.50	Olympic	363	\$1,420,000.00
3	101/115	CHEHALIS R	83.22	Olympic	2,638	\$2,820,000.00
6	101/125E	HOQUIAM R-RIVERSIDE 1417	87.31	Olympic	465	\$4,054,000.00
2	104/5.1	HOOD CANAL-W.A. BUGGE B	13.93	Olympic	4,245	\$2,003,000.00

Total Number of Bridges = 4



*WSDOT Bridge Preservation Office
Movable Bridge Rehabilitation Recommendations*

Wishkah River Bridge

12/12N

Olympic Region

Electrical

Item No	Description	Est. Cost	Date Completed
<i>Recommended By:</i> Stafford Bandlow <i>Inspection Type:</i> In-Depth Electrical <i>Date of Recommendation:</i> 2002			
2	Install CCTV system.	\$0	2003
4	Install additional outdoor lighting, end lock lighting and emergency lighting.	\$17,500	
Subtotal:		\$17,500	

Mechanical

Item No	Description	Est. Cost	Date Completed
<i>Recommended By:</i> Stafford Bandlow <i>Inspection Type:</i> In-Depth Mechanical <i>Date of Recommendation:</i> 2002			
1	Inspect trunnion bearings. Note: "A consultant cost of \$15,000 is estimated to perform the trunnion bearing inspection."	\$0	2008
2	Replace span locks.	\$0	2007
3	Replace/adjust/relocate fully seated limit switch.	\$0	2007
4	Adjust/relocate span lock hook receivers. Relocate live load supports.	\$0	2007
<i>Recommended By:</i> Stafford Bandlow <i>Inspection Type:</i> In-Depth Mechanical <i>Date of Recommendation:</i> 2008			
1	Rehabilitate all span support bearings and operating strut bearings. Cost includes complete replacement of two main trunnion bearings, two counterweight trunnion bearings, four link pin bearings, and two operating strut pin bearings.	\$1,400,000	
2	Replace the span drive motor pinion shaft to restore the interference fit with pinion G7.	\$9,500	
3	Repair the North over travel bumper block frame.	\$7,500	
Subtotal:		\$1,417,000	
Total All:			\$1,434,500

*WSDOT Bridge Preservation Office
Movable Bridge Rehabilitation Recommendations*

Wishkah River - Heron St. Bridge

12/12S

Olympic Region

Electrical

Item No	Description	Est. Cost	Date Completed
<i>Recommended By: Stafford Bandlow Inspection Type: In-Depth Electrical Date of Recommendation: 2002</i>			
1	Provide analog span position system.	\$18,000	
2	Modify span control for locking operation.	\$20,000	
3	Replace junction box at movable span.	\$9,000	
4	Install additional vertical clearance gauge.	\$4,000	
5	Replace navigational tip lights.	\$8,000	
6	Provide motor safety cutout switch at west barrier gate.	\$3,000	
7	Replace southeast roadway lighting pole.	\$5,000	
Subtotal:		\$67,000	

Mechanical

Item No	Description	Est. Cost	Date Completed
<i>Recommended By: Stafford Bandlow Inspection Type: In-Depth Mechanical Date of Recommendation: 2002</i>			
1	Adjust end supports.	\$21,200	
2	Rehabilitate end support cylinders.	\$47,200	
3	Replace end locks.	\$47,500	
4	Replace center bearing.	\$28,000	
Subtotal:		\$143,900	

Total All: \$210,900

*WSDOT Bridge Preservation Office
Movable Bridge Rehabilitation Recommendations*

Chehalis River Bridge

101/115

Olympic Region

Electrical

Item No	Description	Est. Cost	Date Completed
<i>Recommended By:</i> Stafford Bandlow <i>Inspection Type:</i> In-Depth Electrical <i>Date of Recommendation:</i> 2002			
1	Provide DC rated local motor disconnect switches at north motors (NEMA 4X).		
2	Correct sequence of operation of the motor and machinery brakes		
3	Replace and properly integrate fully closed limit switches.		
4	Provide and properly integrate "Brake Set" limit switches.		
5	Replace plan navigation tip lights.		
6	Replace all motor drives.		
7	Rehabilitate existing DC drive motors.		
8	Replace north side MCC.		
9	Provide two new CCTV camerats with monitor.		
10	Replace PLCs and radio modems (with site survey).		
11	Replace operator's control desk.		
12	Replace deficient conduit and conductors.		
13	Replace 4160 VAC service cables and transformers.		
14	Replace north side 4160 VAC disconnect switch.		
<i>Recommended By:</i> WSDOT BPO <i>Inspection Type:</i> In-Depth Electrical <i>Date of Recommendation:</i> 2007			
0			
1	Replace all motor drives		
2	Rehabilitate existing DC drive motors		
3	Replace MCC's		
4	Provide new CCTV System		
5	Replace PLC's and radio modems		
6	Replace operators control desk		
7	Replace deficient conduit and conductors		
8	Replace 4160 VAC service cables and transformers		

Chehalis River Bridge**101/115****Olympic Region**

9	Replace north side 4160 VAC disconnect switch	
<i>Recommended By:</i> Hardesty & Hanover <i>Inspection Type:</i> In-Depth Electrical <i>Date of Recommendation:</i> 2008		
1	Replace service disconnects on near and far side of bridge.	\$100,000
2	Replace utility service entrance cables on near and far side of bridge	\$100,000
3	Replace manual transfer switches on near and far side of bridge.	\$80,000
4	Replace generator plugs on near and far side of bridge.	\$15,000
5	Replace Motor Control Centers on near and far side of bridge.	\$100,000
6	Replace Control Desk on near side of bridge.	\$30,000
7	Replace PLC control system and radio communication system.	\$75,000
8	Replace Remote I/O Panel.	\$30,000
9	Replace conduit.	\$350,000
10	Replace wiring.	\$450,000
11	Provide new drive pre-processors for proper load sharing.	\$50,000
12	Provide new flux vector drives.	\$260,000
13	Provide new span drive motors and disconnect switches.	\$260,000
14	Provide new bridge position limit switches.	\$4,000
15	Provide new rotary cam limit switches.	\$30,000
Subtotal:		\$1,934,000

Mechanical

Item No	Description	Est. Cost	Date Completed
<i>Recommended By:</i> Stafford Bandlow <i>Inspection Type:</i> In-Depth Mechanical <i>Date of Recommendation:</i> 2002			
1	No rehab items recommended this inspection.	\$0	
<i>Recommended By:</i> WSDOT BPO <i>Inspection Type:</i> In-Depth Mechanical <i>Date of Recommendation:</i> 2007			
1	Replace brakes and drive shaft couplings		
<i>Recommended By:</i> Hardesty & Hanover <i>Inspection Type:</i> In-Depth Mechanical <i>Date of Recommendation:</i> 2008			
1	Provide new motor brakes and brake wheels.	\$100,000	
2	Provide new motor brakes and brake wheels.	\$100,000	
3	Provide new motor and brake supports.	\$40,000	
4	Provide new B4A and B4B bearings.	\$40,000	

Chehalis River Bridge**101/115****Olympic Region**

5	Provide new C1 and C2 bearings.	\$20,000
6	Provide new floating shafts.	\$20,000
7	Provide safety guards over the C1 and C2 couplings.	\$15,000
8	Provide new bearing cap screws and fasteners.	\$200,000
9	Shim shaft bearing NE-B3.	\$5,000
10	Drill drainage holes in racks.	\$50,000
11	Provide new live load shoes.	\$200,000
12	Paint the span drive machinery.	\$30,000
Subtotal:		\$820,000
		Total All: \$2,754,000

*WSDOT Bridge Preservation Office
Movable Bridge Rehabilitation Recommendations*

Hoquiam River Riverside

101/125E

Olympic Region

Electrical

Item No	Description	Est. Cost	Date Completed
<i>Recommended By:</i> Hartford Eng <i>Inspection Type:</i> In-Depth Electrical <i>Date of Recommendation:</i> 2006			
1	Replace or refurbish resistor networks.		
2	Acquire rebuilt spare drive/synchro-tie motor.		
3	Replace the wound-rotor resistor network contactors.		
4	Convert control system to 120VAC operation or replace. (Est. cost is for conversion.)		
5	Replace traffic gates.		
6	Modify the control desk to conform to requirements in AASHTO Section 8.7 which calls for span drive brake released and hand-release indicator lights.		
7	Install disconnects within line of site of all motors and brakes per NEC article 430.102(B).		
8	Replace two phase motor overload protection with three phase overloads in each motor starter as required by NEC article 430.37.		
9	Replace 1/2 inch conduit and associated wiring with 1 inch conduit and install correct conduit supports.		
<i>Recommended By:</i> WSDOT BPO <i>Inspection Type:</i> In-Depth Electrical <i>Date of Recommendation:</i> 2007			
1	Refurbish existing drive and synchrotie motors	\$120,000	
2	Install New drives	\$500,000	
3	Replace control system with a new PLC	\$350,000	
4	Replace operators control desk	\$150,000	
5	Replace traffic gates and traffic controls	\$250,000	
6	Install local disconnect switches at all motors	\$100,000	
7	Install a new motor control center	\$150,000	
8	Replace deficient conduit and conductors	\$450,000	
		Subtotal:	\$2,070,000

Mechanical

Item No	Description	Est. Cost	Date Completed
<i>Recommended By:</i> Stafford Bandlow <i>Inspection Type:</i> Wire Rope <i>Date of Recommendation:</i> 2004			
1	There were no rehabilitation recommendations this inspection.	\$0	
<i>Recommended By:</i> Hartford Eng <i>Inspection Type:</i> In-Depth Mechanical <i>Date of Recommendation:</i> 2006			
1	Machine and polish all eight trunnion shafts. Machine a larger transitional fillet radius at eight locations. Provide 8 new trunnion bearing and bearing cap bushings sets.	\$1,100,000	
2	Replace both lift span machinery enclosed gearbox reducers.	\$240,000	
3	Replace all lift span motor and output shaft couplings	\$31,000	
4	Replace four motor brakes.	\$60,000	
5	Polish all eight span drive shaft journals using abrasive belts. Adjust bearing clearances.	\$18,000	
6	Align all span lift machinery: gearboxes, motors, brakes, shafts and couplings.	\$60,000	
7	Align fixed live load shoes. Replace strike plates, anchor bolts and grout pads beneath expansion live load shoes.	\$84,000	
8	Replace all sprockets and chains of both the skew and height limit switches of the lift span machinery.	\$7,000	
9	Align lock bars of the span machinery in coordination with resetting and aligning of live load shoes.	\$30,000	
10	Replace span lock machinery including the motors with integral brakes, gearboxes, couplings, drive shafts, shaft bearings and supports.	\$120,000	
11	Rehabilitate barrier gate machinery, rehabilitate the drum boxes and replace barrier net.	\$240,000	
12	Replace all four traffic warning gates. (See electrical recommendation)	\$0	
13	Contingency 20%	\$0	
Subtotal:		\$1,990,000	
Total All:		\$4,060,000	

WSDOT Bridge Preservation Office
Movable Bridge Rehabilitation Recommendations

Hood Canal Bridges East & West Halves 104/5.1 & 5.2

Olympic Region

Electrical

Item No	Description	Est. Cost	Date Completed
<i>Recommended By:</i> Parsons Brinckerhoff <i>Inspection Type:</i> Cathodic Protection <i>Date of Recommendation:</i> 2008			
1	Rectifier replacement. (104/5.1)	\$103,651	
2	Replacement of all platinum-niobium anodes. (104/5.1)	\$77,962	
<i>Recommended By:</i> Electro Hyd. Mach. Co <i>Inspection Type:</i> In-Depth Electrical <i>Date of Recommendation:</i> 2010			
1	Replacement of the Intelligent Transportation System. (104/5.1)	\$300,000	
2	Replacement of the center lock electrical system components. (104/5.1)	\$18,000	
Subtotal:		\$499,613	

Mechanical

Item No	Description	Est. Cost	Date Completed
<i>Recommended By:</i> Electro Hyd. Mach. Co <i>Inspection Type:</i> Hydraulic <i>Date of Recommendation:</i> 2010			
1	Replace North and South Center Lock hydraulic power units and cylinders. (104/5.1)	\$85,000	
2	Replace rod boots and band clamps on all West Span Lift Deck cylinders. (104/5.1)	\$36,000	
3	Replace West Lift Deck flexible hydraulic cylinder hoses. (104/5.1)	\$95,000	
<i>Recommended By:</i> Steward Machine Co. <i>Inspection Type:</i> In-Depth Mechanical <i>Date of Recommendation:</i> 2010			
1	Install pre-lube pumps at all span drive reducers. (104/5.1 & 5.2 and Spare)	\$36,000	
2	Rehabilitate all span drive open gear assemblies. (104/5.1 & 5.2)	\$790,400	
3	Redesign and replace the center lock machinery. (Cost estimate by BPO. The cost estimate accounts for the mechanical and electrical portion but does not include the structural.)	\$150,000	
4	Refurbish or replace the wear plate assemblies for the centering pyramid yokes. Reshim the assemblies for correct alignment with the pyramids. (104/5.1)	\$100,000	
5	Shim the span guide roller assemblies for both the East and West halves to establish appropriate clearances and draw pontoon alignments. (104/5.1 & 5.2)	\$180,000	
Subtotal:		\$1,472,400	
Total All:		\$1,972,013	

P2 Bridge Preservation - Concrete Deck Repair / Overlay Projects



2013-15 Bien Priority Array

(Sorted by Priority Number)



13-15 #	Bridge Number	Bridge Name	Mile post	Region	Width	Length	Total\$'s
22	162/22	SPIKETON CREEK	19.64	Olympic	21.6	226	\$488,200
23	110/15	BOGACHIEL RIVER	8.64	Olympic	26.0	288	\$572,688
24	5/408	I-5 OC, DUPONT	119.01	Olympic	34.3	111	\$380,700
Total Number of Bridges = 3						Totals \$ =	\$1,441,588



P2 Bridge Preservation - Concrete Deck Repair / Overlay Projects



2013-15 Bien Priority Array

(Sorted by Bridge Number)



13-15 #	Bridge Number	Bridge Name	Mile post	Region	Width	Length	Total\$'s
24	5/408	I-5 OC, DUPONT	119.01	Olympic	34.3	111	\$380,700
23	110/15	BOGACHIEL RIVER	8.64	Olympic	26.0	288	\$572,688
22	162/22	SPIKETON CREEK	19.64	Olympic	21.6	226	\$488,200
Total Number of Bridges = 3					Totals \$ =		\$1,441,588





<p style="text-align: center;">BRIDGE DATA</p> <p>BRIDGE NUMBER: 110/15 MP: 8.64 BRIDGE NAME: BOGACHIEL RIVER REGION: Olympic YEAR BUILT / YR WIDENED: 1967 SUFFICIENCY RATING: 64.31 SD BRIDGE TYPE: SG CS BRIDGE WIDTH: 26.0 ft. BRIDGE LENGTH: 288 ft. AVERAGE DAILY TRAFFIC: 1,000 NUMBER OF LANES: 2 SIDEWALK / CURB WIDTH: 0.4 Lt 0.4 Rt CURB HEIGHT: in</p>	<p style="text-align: center;">BRIDGE PHOTO</p> 														
<p style="text-align: center;">PAVING VERTICAL CLEARANCE</p> <p>VC to pavement under bridge: Not Available VC over bridge deck: Not Available</p>	<p style="text-align: center;">WEARING SURFACE or DECK PROTECTION</p> <p>SURFACE TYPE: orig conc with BST 1ST YEAR BRIDGE OVERLAY OVERLAY CONTRACT HISTORY</p>														
<p style="text-align: center;">BRIDGE RAIL</p> <p>BRIDGE RAIL TYPE: Conc Base - Type S RAIL MEETS CURRENT STANDARDS? YES RAIL CONTRACT HISTORY</p>	<p style="text-align: center;">BRIDGE RESURFACING / DECK COMMENTS</p> <p>The volume of bridge deck patching and deterioration warrants a deck repair.</p> <p>The Bridge Office recommends using a hydromilling machine to scarify the deck then applying a 1.5" modified concrete overlay.</p>														
<p style="text-align: center;">EXPANSION JOINTS</p> <p>Modifications will be required to accommodate the proposed overlay.</p> <p>EXPANSION JOINT CONTRACT HISTORY</p>															
<p>BRG NUMBER: 110 / 015 BRIDGE DECK HMA PAVING DESIGN OPTIONS Max. Bridge HMA Depth:</p>															
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">DESCRIPTION</th> <th rowspan="2">PAVING CLASSIFICATION</th> <th rowspan="2">EXISTING HMA DEPTH</th> <th colspan="2">MAX. PLANE DEPTH</th> <th rowspan="2">PAVING HMA DEPTH</th> </tr> <tr> <th>PART./FULL</th> <th>DEPTH</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		DESCRIPTION	PAVING CLASSIFICATION	EXISTING HMA DEPTH	MAX. PLANE DEPTH		PAVING HMA DEPTH	PART./FULL	DEPTH						
DESCRIPTION	PAVING CLASSIFICATION				EXISTING HMA DEPTH	MAX. PLANE DEPTH		PAVING HMA DEPTH							
		PART./FULL	DEPTH												
<p style="text-align: center;">BRIDGE CONTACTS</p> <p>Bridge Projects and Design Ron Lewis 360.705.7396 Bridge Rail/Barrier and Retrofit David Sawahata 360.705.6941 Vertical Clearance George Comstock 360.570.2540 BCRs - Brg HMA - P2 Bruce Thill 360.705.7393 Bridge Website: http://wwwi.wsdot.wa.gov/eesc/bridge/</p>	<p>See Bridge website for information on Bridge HMA Overlay Policies/Specs, Scoping, Region Design, and Construction Inspection: http://wwwi.wsdot.wa.gov/eesc/bridge/bridgeoverlays/</p> <p>REVIEWED BY: <i>Bruce Thill</i> DATE: 7/12/2011</p>														



BRIDGE DATA	BRIDGE PHOTO																				
BRIDGE NUMBER: 162/22 MP: 19.64 BRIDGE NAME: SPIKETON CREEK REGION: Olympic YEAR BUILT / YR WIDENED: 1936 SUFFICIENCY RATING: 37.50 SD BRIDGE TYPE: CBox BRIDGE WIDTH: 21.6 ft. BRIDGE LENGTH: 226 ft. AVERAGE DAILY TRAFFIC: 4,970 NUMBER OF LANES: 2 SIDEWALK / CURB WIDTH: 0.0 Lt 0.0 Rt CURB HEIGHT: in																					
PAVING VERTICAL CLEARANCE	WEARING SURFACE or DECK PROTECTION																				
VC to pavement under bridge: Not Available VC over bridge deck: Not Available	SURFACE TYPE: HMA with membrane 1ST YEAR BRIDGE OVERLAY 1976 Current Year: 3/24/2008 OVERLAY CONTRACT HISTORY <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:20%;">3/24/2008</td> <td style="width:20%;">017508</td> <td>RR 0.15' HMA OVERLAY with WATERPRO</td> </tr> <tr> <td>8/1/1989</td> <td>013679</td> <td>RMV/RPL 0.06' ACP</td> </tr> </table>	3/24/2008	017508	RR 0.15' HMA OVERLAY with WATERPRO	8/1/1989	013679	RMV/RPL 0.06' ACP														
3/24/2008	017508	RR 0.15' HMA OVERLAY with WATERPRO																			
8/1/1989	013679	RMV/RPL 0.06' ACP																			
BRIDGE RAIL	BRIDGE RESURFACING / DECK COMMENTS																				
BRIDGE RAIL TYPE: Steel Post - Thrie Beam RAIL MEETS CURRENT STANDARDS? YES RAIL CONTRACT HISTORY <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:20%;">8/1/1989</td> <td style="width:20%;">013679</td> <td>THRIE BEAM RETROFIT</td> </tr> </table>		8/1/1989	013679	THRIE BEAM RETROFIT																	
8/1/1989	013679	THRIE BEAM RETROFIT																			
EXPANSION JOINTS	<p>The concrete bridge deck was repaired and a chain drag test was performed during the last asphalt removal and replacement project.</p> <p>The amount of concrete patching and delamination warrants a future deck repair project. The Bridge Office recommends the existing asphalt be removed and a hydromilling machine be used to scarify the deck then a new 1.5" modified concrete overlay be applied.</p>																				
Coordinate with your Region's Maintenance Office to determine if any repairs are required. Use Std. Plan A40.20, Detail 8 at the ends of the bridge deck and where roadway is cracked approximately 25' beyond the end of the bridge deck. EXPANSION JOINT CONTRACT HISTORY <table border="1" style="width:100%; height: 40px; border-collapse: collapse;"> <tr> <td style="width:20%;"></td> <td style="width:20%;"></td> <td></td> </tr> </table>																					
BRIDGE DECK HMA PAVING DESIGN OPTIONS	Max. Bridge HMA Depth:																				
BRG NUMBER: 162 / 022	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">DESCRIPTION</th> <th rowspan="2">PAVING CLASSIFICATION</th> <th rowspan="2">EXISTING HMA DEPTH</th> <th colspan="2">MAX. PLANE DEPTH</th> <th rowspan="2">PAVING HMA DEPTH</th> </tr> <tr> <th>PART./FULL</th> <th>DEPTH</th> </tr> </thead> <tbody> <tr> <td>BST Design:</td> <td></td> <td>0.15</td> <td></td> <td></td> <td>0.03</td> </tr> <tr> <td>HMA Design:</td> <td>Not Restricted</td> <td>0.15</td> <td>Partial</td> <td>0.05</td> <td>0.15</td> </tr> </tbody> </table>	DESCRIPTION	PAVING CLASSIFICATION	EXISTING HMA DEPTH	MAX. PLANE DEPTH		PAVING HMA DEPTH	PART./FULL	DEPTH	BST Design:		0.15			0.03	HMA Design:	Not Restricted	0.15	Partial	0.05	0.15
DESCRIPTION	PAVING CLASSIFICATION				EXISTING HMA DEPTH	MAX. PLANE DEPTH		PAVING HMA DEPTH													
		PART./FULL	DEPTH																		
BST Design:		0.15			0.03																
HMA Design:	Not Restricted	0.15	Partial	0.05	0.15																
BRIDGE CONTACTS	See Bridge website for information on Bridge HMA Overlay Policies/Specs, Scoping, Region Design, and Construction Inspection: http://wwwi.wsdot.wa.gov/eesc/bridge/bridgeoverlays/ REVIEWED BY: <i>Bruce Thill</i> DATE: 7/12/2011																				
Bridge Projects and Design Ron Lewis 360.705.7396 Bridge Rail/Barrier and Retrofit David Sawahata 360.705.6941 Vertical Clearance George Comstock 360.570.2540 BCRs - Brg HMA - P2 Bruce Thill 360.705.7393 Bridge Website: http://wwwi.wsdot.wa.gov/eesc/bridge/																					

P2 Bridge Preservation - Steel Bridge Painting Projects

2013-15 Bien Priority Array

(Sorted by Priority Number)



13-15 #	Bridge Number	Bridge Name	Mile Post	Region	Yr Work Planned	Total Project\$
6	5/345W	NISQUALLY R	114.86	Olympic	2014	\$3,475,918
7	5/345E	NISQUALLY RIVER	114.86	Olympic	2014	\$3,617,082
10	101/125W	HOQUIAM R-SIMPSON CS141	87.99	Olympic	2014	\$4,147,000
16	101/125E	HOQUIAM R-RIVERSIDE 1417	87.31	Olympic	2018	\$3,939,000
20	101/310	SOL DUC R	194.30	Olympic	2018	\$756,000
21	101/322	SOL DUC RIVER #5	212.46	Olympic	2018	\$1,029,000
22	107/4	CHEHALIS R	6.83	Olympic	2018	\$2,233,000
23	101/256	BIG QUILCENE R	296.67	Olympic	2018	\$847,000
24	109/10	HUMPTULIPS R	10.24	Olympic	2018	\$1,582,000
51	101/115	CHEHALIS R	83.22	Olympic	2024	\$9,142,500
52	305/10	AGATE PASS	6.82	Olympic	2024	\$10,289,500
Total Number of Bridges = 11					Total Project \$ =	\$41,058,000

P2 Bridge Preservation - Steel Bridge Painting Projects

2013-15 Bien Priority Array

(Sorted by Bridge Number)



13-15 #	Bridge Number	Bridge Name	Mile Post	Region	Yr Work Planned	Total Project\$
7	5/345E	NISQUALLY RIVER	114.86	Olympic	2014	\$3,617,082
6	5/345W	NISQUALLY R	114.86	Olympic	2014	\$3,475,918
51	101/115	CHEHALIS R	83.22	Olympic	2024	\$9,142,500
16	101/125E	HOQUIAM R-RIVERSIDE 1417	87.31	Olympic	2018	\$3,939,000
10	101/125W	HOQUIAM R-SIMPSON CS141	87.99	Olympic	2014	\$4,147,000
23	101/256	BIG QUILCENE R	296.67	Olympic	2018	\$847,000
20	101/310	SOL DUC R	194.30	Olympic	2018	\$756,000
21	101/322	SOL DUC RIVER #5	212.46	Olympic	2018	\$1,029,000
22	107/4	CHEHALIS R	6.83	Olympic	2018	\$2,233,000
24	109/10	HUMPTULIPS R	10.24	Olympic	2018	\$1,582,000
52	305/10	AGATE PASS	6.82	Olympic	2024	\$10,289,500
Total Number of Bridges = 11					Total Project \$ =	\$41,058,000

Steel Bridge Paint Form

2013-15 Biennium Priorities

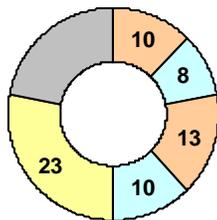


Bridge Number: 5 / 345E		Bridge Name: NISQUALLY RIVER		Milepost: 114.86	Region: Olympic
Year Built 1937	Bridge Type: ST PCB	Steel Span Length: 323 ft.	Width (curb-curb): 42.6 ft.	Steel Tonnage: 530	
Paint Age: 23	Paint Color: Evergreen	34097	Steel Surf. Area: 79,500 sqft	BMS Cond State 2: 23,850 sqft	BMS Cond State 3: 4,500 sqft
Next Paint Year: 2014	2013-15 Rank: 7	Past Due / Due / OK Past Due	CPMS Ad date:	Paint Pin Number:	Future Paint Cost: \$3,445,000

Past Paint History

Years	Cycle
1988	10
1978	13
1965	8
1957	10
1947	

Painting Cycle



■ = Current Paint Age



May 2009 bridge inspection report notes:

Heavy accumulation of dirt and debris on and inside the truss bottom chords, heaviest in many panel point connections. Rust blooms and some rivet section loss inside bottom chords. Some pack rust noted. Some Laminar rust along top flange of steel floor beams. Top flange rust on steel stringers. Many of the top sway braces between the two truss over the roadway deck are heavily rusted.

Fatigue cracks in the steel stringers were repaired by contract in 2009.

Next Paint Project:

Full removal of the existing lead paint system is required. The new paint system will include a zinc primer and moisture cured urethane.

Steel Bridge Paint Form

2013-15 Biennium Priorities

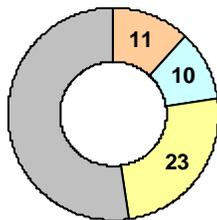


Bridge Number: 5 / 345W		Bridge Name: NISQUALLY R		Milepost: 114.86	Region: Olympic
Year Built 1967	Bridge Type: ST PCB		Steel Span Length: 322 ft.	Width (curb-curb): 48 ft.	Steel Tonnage: 506
Paint Age: 23	Paint Color: Evergreen	34097	Steel Surf. Area: 75,900 sqft	BMS Cond State 2: 26,565 sqft	BMS Cond State 3: 3,795 sqft
Next Paint Year: 2014	2013-15 Rank: 6	Past Due / Due / OK Past Due	CPMS Ad date:	Paint Pin Number:	Future Paint Cost: \$3,303,835

Past Paint History

Years	Cycle
1988	10
1978	11
1967	

Painting Cycle



= Current Paint Age



April 2009 bridge inspection report notes:

The paint is thin and chalky throughout. There is peeling paint, surface rust and rust blooms inside the steel bottom chord and other members.

Next Paint Project:

Full removal of the existing lead paint system is required. The new paint system will include a zinc primer and moisture cured urethane.

Steel Bridge Paint Form

2013-15 Biennium Priorities

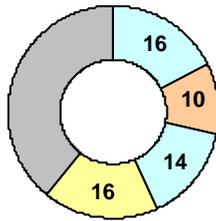


Bridge Number: 101 / 115		Bridge Name: CHEHALIS R		Milepost: 83.12	Region: Olympic
Year Built 1955	Bridge Type: BAS SG CBOX CTB		Steel Span Length: 606 ft.	Width (curb-curb): 28 ft.	Steel Tonnage: 2,438
Paint Age: 16	Paint Color: 26307 Light Gray	Steel Surf. Area: 365,700 sqft	BMS Cond State 2: 0 sqft	BMS Cond State 3: 0 sqft	
Next Paint Year: 2024	2013-15 Rank: 51	Past Due / Due / OK Due	CPMS Ad date:	Paint Pin Number:	Future Paint Cost: \$9,142,500

Past Paint History

Years	Cycle
1995	14
1981	10
1971	16
1955	16

Painting Cycle



= Current Paint Age



Steel Bridge Paint Form

2013-15 Biennium Priorities

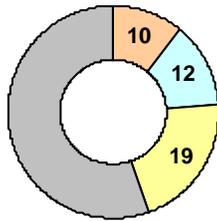


Bridge Number: 101 / 125E		Bridge Name: HOQUIAM R-RIVERSIDE 1417		Milepost: 87.31	Region: Olympic
Year Built 1970	Bridge Type: SL SB		Steel Span Length: 465 ft.	Width (curb-curb): 28 ft.	Steel Tonnage: 606
Paint Age: 19	Paint Color: Steel Gray	26329	Steel Surf. Area: 90,900 sqft	BMS Cond State 2: 10,000 sqft	BMS Cond State 3: 0 sqft
Next Paint Year: 2018	2013-15 Rank: 16	Past Due / Due / OK Past Due		CPMS Ad date:	Paint Pin Number: Future Paint Cost: \$3,939,000

Past Paint History

Years	Cycle
1992	12
1980	10
1970	

Painting Cycle



■ = Current Paint Age



Steel Bridge Paint Form

2013-15 Biennium Priorities

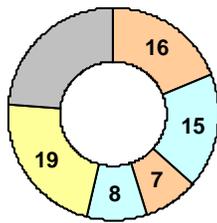


Bridge Number: 101 / 125W		Bridge Name: HOQUIAM R-SIMPSON CS1412		Milepost: 86.76	Region: Olympic
Year Built 1928	Bridge Type: BAS ST CG CST		Steel Span Length: 470 ft.	Width (curb-curb): 20 ft.	Steel Tonnage: 638
Paint Age: 19	Paint Color: Steel Gray	26329	Steel Surf. Area: 95,700 sqft	BMS Cond State 2: 87,200 sqft	BMS Cond State 3: 8,500 sqft
Next Paint Year: 2014	2013-15 Rank: 10	Past Due / Due / OK Past Due	CPMS Ad date:	Paint Pin Number:	Future Paint Cost: \$4,147,000

Past Paint History

Years	Cycle
1992	8
1984	7
1977	15
1962	16
1946	

Painting Cycle



■ = Current Paint Age



The bridge was rehabilitated in 2007 thru 2008.

Bridge Inspector's notes:

Primer coat on bascule span stringer and floorbeams is failed. Paint is peeled off exposing red lead primer. Paint is failed on floor system bracing. Paint is moldy on the bascule floor system beams and is peeled off in large areas exposing red lead. The paint is covered with wet dirt and moss in many parts of the floor system. Paint on the west 150 ft. steel truss bottom chord is rusted through and blistered along the 4" diameter utility.

Next Painting Project - Full removal of all the existing paint is required.

Steel Bridge Paint Form

2013-15 Biennium Priorities

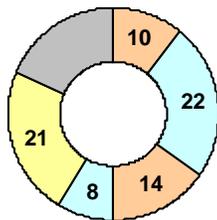


Bridge Number: 101 / 256		Bridge Name: BIG QUILCENE R		Milepost: 296.67	Region: Olympic
Year Built 1936	Bridge Type: ST CTB	Steel Span Length: 240 ft.	Width (curb-curb): 24 ft.	Steel Tonnage: 121	
Paint Age: 21	Paint Color: Evergreen	34097	Steel Surf. Area: 18,150 sqft	BMS Cond State 2: 5,000 sqft	BMS Cond State 3: 1,500 sqft
Next Paint Year: 2018	2013-15 Rank: 23	Past Due / Due / OK Past Due	CPMS Ad date:	Paint Pin Number:	Future Paint Cost: \$847,000

Past Paint History

Years	Cycle
1990	8
1982	14
1968	22
1946	10
1936	

Painting Cycle



■ = Current Paint Age



The 1990 painting project specified that areas on top of the bottom chord that entrap water on the sidewalk side of the bridge were to receive 16 mils of coal tar epoxy. Bridge Inspectors Notes:
Top coat of paint is peeling on bottom flanges of steel stringers. Paint underneath is still intact with very little rust, mostly on top flange at the deck. Paint peeling on face of top chord of thru truss approximately 30% to previous layer of paint.

Next Paint Project will require full paint removal.

Steel Bridge Paint Form

2013-15 Biennium Priorities

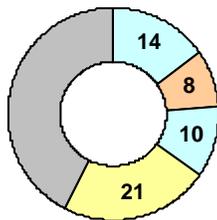


Bridge Number: 101 / 310		Bridge Name: SOL DUC R		Milepost: 194.30	Region: Olympic
Year Built 1958	Bridge Type: ST CTB		Steel Span Length: 150 ft.	Width (curb-curb): 26 ft.	Steel Tonnage: 108
Paint Age: 21	Paint Color: Evergreen	34097	Steel Surf. Area: 16,200 sqft	BMS Cond State 2: 8,100 sqft	BMS Cond State 3: 1,620 sqft
Next Paint Year: 2018	2013-15 Rank: 20	Past Due / Due / OK Past Due	CPMS Ad date:	Paint Pin Number:	Future Paint Cost: \$756,000

Past Paint History

Years	Cycle
1990	10
1980	8
1972	14
1958	

Painting Cycle



= Current Paint Age



Bridge Inspection Note:

The steel stringers have scattered areas of peeling paint. The top surfaces of the top chord members have rust blooms and peeling paint. The bottom chord interiors have paint failure causing active corrosion on the inside surfaces, at the rivet heads, and at the plate edges.

Next Paint Project will require full paint removal.

Steel Bridge Paint Form

2013-15 Biennium Priorities

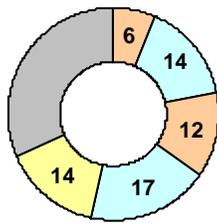


Bridge Number: 101 / 322		Bridge Name: SOL DUC RIVER #5		Milepost: 212.46	Region: Olympic
Year Built: 1948	Bridge Type: ST CTB	Steel Span Length: 160 ft.	Width (curb-curb): 24 ft.	Steel Tonnage: 147	
Paint Age: 14	Paint Color: Evergreen	Steel Surf. Area: 22,050 sqft	BMS Cond State 2: 4,400 sqft	BMS Cond State 3: 1,100 sqft	
Next Paint Year: 2018	2013-15 Rank: 21	Past Due / Due / OK: Past Due	CPMS Ad date:	Paint Pin Number:	Future Paint Cost: \$1,029,000

Past Paint History

Years	Cycle
1997	17
1980	12
1968	14
1954	6
1948	

Painting Cycle



■ = Current Paint Age



Bridge Inspection Notes:

Paint on the stringers is starting to peel in the webs and flanges with light rust. Some areas of the bottom chord has peeling paint. 15% of the paint is missing on the top chords of the truss.

Next Paint Project will require full paint removal.

Steel Bridge Paint Form

2013-15 Biennium Priorities

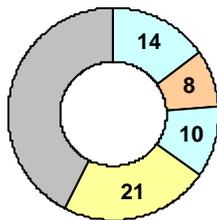


Bridge Number: 107 / 4		Bridge Name: CHEHALIS R		Milepost: 6.83	Region: Olympic
Year Built 1958	Bridge Type: ST CBOX TTT		Steel Span Length: 300 ft.	Width (curb-curb): 26 ft.	Steel Tonnage: 319
Paint Age: 21	Paint Color: Evergreen	34097	Steel Surf. Area: 47,850 sqft	BMS Cond State 2: 32,000 sqft	BMS Cond State 3: 3,000 sqft
Next Paint Year: 2018	2013-15 Rank: 22	Past Due / Due / OK Past Due	CPMS Ad date:	Paint Pin Number:	Future Paint Cost: \$2,233,000

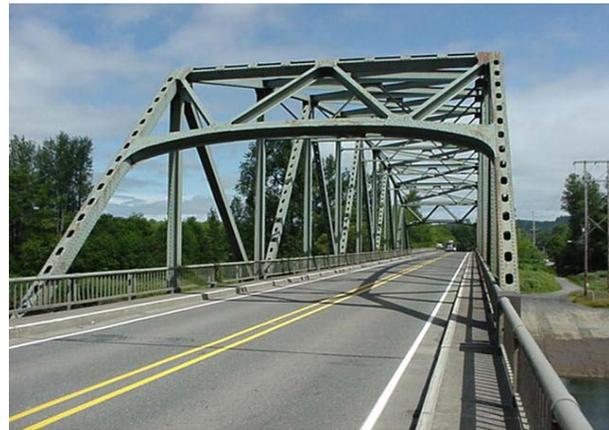
Past Paint History

Years	Cycle
1990	10
1980	8
1972	14
1958	14

Painting Cycle



■ = Current Paint Age



Bridge Inspector's Notes:

Peeling paint is typical, especially on and in the bottom chords. The stringer and floorbeam top flanges as well as the truss portal tops and west truss above deck members all have surface rust. The truss also has a few rust blooms.

Next Paint Project:

Pressure wash bridge with 5,000psi
 Assume about 15% of the bridge will need rust to be spot blasted
 Prime blasted areas then Overcoat with two new paint layers

Steel Bridge Paint Form

2013-15 Biennium Priorities

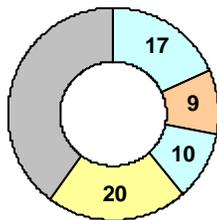


Bridge Number: 109 / 10		Bridge Name: HUMPTULIPS R		Milepost: 10.24	Region: Olympic
Year Built 1956	Bridge Type: ST CTB	Steel Span Length: 234 ft.	Width (curb-curb): 26 ft.	Steel Tonnage: 226	
Paint Age: 20	Paint Color: Evergreen	34097	Steel Surf. Area: 33,900 sqft	BMS Cond State 2: 8,500 sqft	BMS Cond State 3: 7,800 sqft
Next Paint Year: 2018	2013-15 Rank: 24	Past Due / Due / OK Past Due	CPMS Ad date:	Paint Pin Number:	Future Paint Cost: \$1,582,000

Past Paint History

Years	Cycle
1991	10
1981	9
1972	17
1955	

Painting Cycle



= Current Paint Age



Bridge Inspector's Notes:

Paint is chalky throughout with scattered rust blooms especially on the upper areas of the truss. Many areas of peeling paint and rusty rivet heads on the bottom chord of the truss with areas of exposed metal. Top flanges of upper cross bracing have areas of peeling paint and exposed metal.

Scattered small areas of peeling paint in a few places on lower 10 feet of vertical and diagonal members.

Floorbeams have areas of paint missing on both top and bottom flanges exposing metal which is rusting.

Next Paint Project:

Pressure wash bridge with 5,000psi

Assume about 20% of the bridge will need rust to be spot blasted

Prime blasted areas then Overcoat with two new paint layers

Steel Bridge Paint Form

2013-15 Biennium Priorities

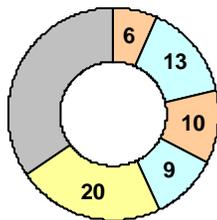


Bridge Number: 305 / 10		Bridge Name: AGATE PASS		Milepost: 6.82	Region: Olympic
Year Built 1950	Bridge Type: ST CTB	Steel Span Length: 1020 ft.	Width (curb-curb): 26 ft.	Steel Tonnage: 1,583	
Paint Age: 20	Paint Color: Evergreen	Steel Surf. Area: 237,450 sqft	BMS Cond State 2: 71,000 sqft	BMS Cond State 3: 23,000 sqft	
Next Paint Year: 2024	2013-15 Rank: 52	Past Due / Due / OK Due	CPMS Ad date:	Paint Pin Number:	Future Paint Cost: \$10,289,500

Past Paint History

Years	Cycle
1991	9
1982	10
1972	13
1959	6
1953	

Painting Cycle



■ = Current Paint Age



Bridge Inspector's notes:

Floorbeams in general have thin chalky paint and essentially no topcoat. Many stringers have thin and flaking paint on flanges. Welded steel girders in Span 13 have small areas of flaking and thin paint as well as holidays. Piers 16 and 17 steel columns have peeling rough paint on struts and cross bracing. Paint is generally in deteriorating condition due to age, weather and poor surface preparation.

Next Paint Project:

Pressure wash bridge with 5,000psi
 Assume about 10% of the bridge will need rust to be spot blasted
 Prime blasted areas then Overcoat with two new paint layers

P2 Bridge Preservation - Seismic Retrofit

2013-15 Bien Priority Array (priority 1-50)

(Sorted by priority Number)

13-15 #	Bridge Number	Bridge Name	Mile post	Region	Bridge Item\$'s	Total\$'s
1	5/332	PACIFIC AVE OC	107.45	Olympic	\$406,692	\$813,384
2	5/445E	SR7&CW RR OC (CMSTP&P)	133.71	Olympic	\$1,519,744	\$3,039,487
4	20/15	SNC RR OC (CMSTPP)	9.16	Olympic	\$133,667	\$267,333
6	5/445N-N	N-N RAMP I-5 TO I-705	133.71	Olympic	\$121,561	\$243,122
7	8/104N	SR 101 OC MUD BAY	20.63	Olympic	\$149,793	\$299,585
8	8/104S	SR 101 OC MUD BAY	20.63	Olympic	\$141,400	\$282,799
10	5/445S-S	S-S RAMP OVER SR 7	133.71	Olympic	\$135,377	\$270,754
11	5/446S-S	S-S RAMP OVER RAILROAD	133.71	Olympic	\$209,506	\$419,012
12	107/4	CHEHALIS R	6.83	Olympic	\$1,114,047	\$2,228,094
13	5/442A	S-S RAMP OC, S 30TH ST	133.63	Olympic	\$83,347	\$166,694
16	5/433	S-N RAMP OC	132.26	Olympic	\$1,077,192	\$2,154,383
17	5/437	S M ST OC	132.84	Olympic	\$1,125,036	\$2,250,072
18	5/445W	SR7&CW RR OC (CMSTP&P)	133.71	Olympic	\$1,519,744	\$3,039,487
Total Number of Bridges = 13				Total\$ =	\$7,737,103	\$15,474,206



P2 Bridge Preservation - Seismic Retrofit

2013-15 Bien Priority Array (priority 1-50)

(Sorted by Bridge Number)

13-15 #	Bridge Number	Bridge Name	Mile post	Region	Bridge Item\$'s	Total\$'s
1	5/332	PACIFIC AVE OC	107.45	Olympic	\$406,692	\$813,384
16	5/433	S-N RAMP OC	132.26	Olympic	\$1,077,192	\$2,154,383
17	5/437	S M ST OC	132.84	Olympic	\$1,125,036	\$2,250,072
13	5/442A	S-S RAMP OC, S 30TH ST	133.63	Olympic	\$83,347	\$166,694
2	5/445E	SR7&CW RR OC (CMSTP&P)	133.71	Olympic	\$1,519,744	\$3,039,487
6	5/445N-N	N-N RAMP I-5 TO I-705	133.71	Olympic	\$121,561	\$243,122
10	5/445S-S	S-S RAMP OVER SR 7	133.71	Olympic	\$135,377	\$270,754
18	5/445W	SR7&CW RR OC (CMSTP&P)	133.71	Olympic	\$1,519,744	\$3,039,487
11	5/446S-S	S-S RAMP OVER RAILROAD	133.71	Olympic	\$209,506	\$419,012
7	8/104N	SR 101 OC MUD BAY	20.63	Olympic	\$149,793	\$299,585
8	8/104S	SR 101 OC MUD BAY	20.63	Olympic	\$141,400	\$282,799
4	20/15	SNC RR OC (CMSTPP)	9.16	Olympic	\$133,667	\$267,333
12	107/4	CHEHALIS R	6.83	Olympic	\$1,114,047	\$2,228,094
Total Number of Bridges = 13				Total\$ =	\$7,737,103	\$15,474,206

Washington State Department of Transportation Bridge Seismic Retrofit Information

Structure ID: 0005455A		Bridge Name: PACIFIC AVE OC		Route: 00005	Milepost: 107.45	Region: Olympic County: Thurston	
Bridge Number: 005/332							
Location: 3.2 N JCT US 101		Longitude: 122 51 6.7	Latitude: 47 2 28.1	Structure Length: 351 ft.		Out to Out Width: 138 ft.	
Feature Intersected: PACIFIC AVE		500 yr PGA: 25.9 %g	1,000 yr PGA: 39.1%	Span Type: CBOX POBX		Main Spans: 3 Appr. Spans: 0	
Year Built: 1957	ADT: 120135	Detour Length: 0 miles	Skew Angle: 0	Pier Type: Single Column Pier		Footing Type: Concrete Pile	
Year Rebuilt: 1987	Truck Pct: 11 %						



Bridge Notes:

Piers 2 and 3, each has four 6'-0" diameter columns. Retrofit two center columns per pier (built in 1957) only. These columns have #4 hoops @12", longitudinal #14 bars have splices at top of pedestal. Splice lengths are 2'-10". Footings have no top mat. Longitudinal expansion joints between bridges built in 1957 and widening portion built in 1987.

Retrofit Program Notes:

The 2005 Transportation Partnership Account (TPA) included funding to perform seismic retrofit work on this bridge.

Completed Retrofit Notes:

Remaining Retrofit Notes:

A seismic analysis will be done to determine what work is required. Typical retrofit measures and costs are: Cross-Beam Bolsters = \$1,500/LF of Cross Beam, Girder Stops = \$1,500/Each, Column Jackets (Dry) = \$50,000/Col. (Wet) = \$125,000/Col.

All Bridge Retrofit Status: R

Special Br Retrofit Status:

Superstr Retrofit Status: N

Substr Group 3 Status: R

Substr Group 4 Status: N

Estimated Bridge Item Cost: \$406,692

C=Complete P=Partially Complet

R=Required N=Not Required

D=Differed X=Excluded I=In Progress

Single Columns - Number: 4

Total Number of Columns: 4

Washington State Department of Transportation Bridge Seismic Retrofit Information

Structure ID: 0006145B		Bridge Name:		Route:	Milepost:	Region: Olympic
Bridge Number: 005/433		S-N RAMP OC		00005	132.26	County: Pierce
Location:		Longitude:	Latitude:	Structure Length:		Out to Out Width:
4.9 N JCT SR 512		122 27 44.83	47 13 46.06	195 ft.		121 ft.
Feature Intersected:		500 yr PGA:	1,000 yr PGA:	Span Type:	Main Spans: 3	
S-N RAMP ER17		28.2 %g	40.6%	CBox	Appr. Spans: 0	
Year Built: 1960	ADT: 119517	Detour Length:	Skew Angle:	Pier Type:	Footing Type:	
Year Rebuilt: 1973	Truck Pct: 8 %	1 miles	14	Pier with more than two columns	Spread footing	



Bridge Notes:

Piers 2 and 3, each has ten 3'-0" diameter columns. Analysis will determine if retrofit is needed on the south 9 column each pier only. These columns have #4 hoops @ 12", #10 bars with 3'-8" splices (for 6 columns built in 1960) and #4 @6", #9 bars with 3'-6" splices (for 3 columns built in 1973) . Footing does not have a top mat of rebar.

Retrofit Program Notes:

Engineering analysis needed to determine bridge elements requiring retrofit. Cost estimate based on an assumption to retrofit columns with steel jackets.

Completed Retrofit Notes:

Remaining Retrofit Notes:

Retrofit columns at Piers 2 and 3. (9 ea. 18 total, 3' dia.)

All Bridge Retrofit Status: R

Special Br Retrofit Status:

Superstr Retrofit Status: N

Substr Group 3 Status: N

Substr Group 4 Status: R

Estimated Bridge Item Cost: \$1,077,192

C=Complete P=Partially Complet

R=Required N=Not Required

D=Differed X=Excluded I=In Progress

Single Columns - Number:

Total Number of Columns: 18

Washington State Department of Transportation Bridge Seismic Retrofit Information

Structure ID: 0006088B		Bridge Name: S M ST OC		Route: 00005	Milepost: 132.84	Region: Olympic County: Pierce
Bridge Number: 005/437						
Location: 0.5 N JCT SR 16		Longitude: 122 27 2.07	Latitude: 47 13 49.12	Structure Length: 232 ft.		Out to Out Width: 160 ft.
Feature Intersected: S M ST		500 yr PGA: 28.2 %g	1,000 yr PGA: 40.5%	Span Type: CBox		Main Spans: 3 Appr. Spans: 2
Year Built: 1959	ADT: 206481	Detour Length: 1 miles	Skew Angle: 5	Pier Type: Pier with more than two columns		Footing Type: Spread footing
Year Rebuilt: 1989	Truck Pct: 8 %					



No Photo Available

Bridge Notes:

Piers 2 and 3, each has nine 3'-0" diameter columns. Analysis will determine if retrofit is required on the south 8 column each pier only. These columns have #4 hoops @ 12", #11 bars with 4'-2" splices . Footing without top mat.

Retrofit Program Notes:

Engineering analysis needed to determine bridge elements requiring retrofit. Cost estimate based on an assumption to retrofit columns with steel jackets.

Completed Retrofit Notes:

Remaining Retrofit Notes:

Retrofit columns at Piers 2 and 3. (8 ea. 16 total, 3' dia.)

All Bridge Retrofit Status: R

Special Br Retrofit Status:

Superstr Retrofit Status: N

Substr Group 3 Status: N

Substr Group 4 Status: R

Estimated Bridge Item Cost: \$1,125,036

C=Complete P=Partially Complet

R=Required N=Not Required

D=Differed X=Excluded I=In Progress

Single Columns - Number:

Total Number of Columns: 16

Washington State Department of Transportation Bridge Seismic Retrofit Information

Structure ID: 0007505E		Bridge Name: S-S RAMP OC, S 30TH ST		Route: 00005	Milepost: 133.63	Region: Olympic
Bridge Number: 005/442A						County: Pierce
Location: 0.1 N JCT I-5		Longitude: 122 26 7	Latitude: 47 14 2	Structure Length: 193 ft.		Out to Out Width: 41.2 ft.
Feature Intersected: S-S RAMP		500 yr PGA: 28.0 %g	1,000 yr PGA: 40.5%	Span Type: CBox		Main Spans: 3 Appr. Spans: 0
Year Built: 1965	ADT: 3260	Detour Length: 2 miles	Skew Angle: 0	Pier Type: Single Column Pier		Footing Type:
Year Rebuilt: 0	Truck Pct: 5 %					



Bridge Notes:

At one time it was scheduled to be replaced. Piers 2 and 3, each has a 5'-0" diameter columns. #4 hoops @ 12". #18 bars with welded splices. Footing without top mat. Retaining wall near pier 2.

Retrofit Program Notes:

Renumber as 5/442A. Old bridge number 509/3S-S. No indication that this bridge will be replaced in the near future. Status code revised from D to R by C.R.Boone on 5/6/11.

Completed Retrofit Notes:

Remaining Retrofit Notes:

Add steel Jackets to the columns.

All Bridge Retrofit Status: R

Special Br Retrofit Status:

Superstr Retrofit Status: N

Substr Group 3 Status: R

Substr Group 4 Status: N

Estimated Bridge Item Cost: \$83,347

C=Complete P=Partially Complet

R=Required N=Not Required

D=Differed X=Excluded I=In Progress

Single Columns - Number: 2

Total Number of Columns: 2

Washington State Department of Transportation Bridge Seismic Retrofit Information

Structure ID: 0007326A		Bridge Name:		Route:	Milepost:	Region: Olympic
Bridge Number: 005/445E		SR 7 & CWRR (CMSTP&P) OC		00005	133.71	County: Pierce
Location:		Longitude:	Latitude:	Structure Length:		Out to Out Width:
1.5 N JCT SR 16		122 25 54	47 14 0	817 ft.		59 ft.
Feature Intersected:		500 yr PGA:	1,000 yr PGA:	Span Type:	Main Spans: 10	
SR 7 & CMSTP&P RY		28.0 %g	40.5%	CBOX	Appr. Spans: 0	
Year Built: 1964	ADT: 81000	Detour Length:	Skew Angle:	Pier Type:	Footing Type:	
Year Rebuilt:	Truck Pct: 8 %	1 miles	0	Single Column Pier	Spread footing	



<p>Bridge Notes:</p> <p>Piers 2-S thru 8-S, each has a 3'-0"x 15'-0" column.</p>	<p>Retrofit Program Notes:</p> <p>Prior to 2008, the future HOV projects through Tacoma was planning on replacing the bridge. The current plan is to leave this bridge in service and rename it 5/445 HOV.</p>
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<p>Completed Retrofit Notes:</p> <p>Longitudinal Rod restrainers and Transverse Pipe Restrainers at in-span hinges near Piers 3 & 7. (Seismic)</p>	<p>Remaining Retrofit Notes:</p> <p>Analyze to determine if retrofit is needed. Possible retrofit would be to add steel Jackets or apply carbon fiber to columns.</p>
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All Bridge Retrofit Status: P	
Special Br Retrofit Status:	
Superstr Retrofit Status: C	
Substr Group 3 Status: R	Estimated Bridge Item Cost: \$1,519,744
Substr Group 4 Status: N	
C=Complete P=Partially Complet	
R=Required N=Not Required	
D=Differed X=Excluded I=In Progress	
Single Columns - Number: 7	Total Number of Columns: 7

Washington State Department of Transportation Bridge Seismic Retrofit Information

Structure ID: 0007326C		Bridge Name: N-N RAMP I-5 TO I-705		Route: 00005	Milepost: 133.71	Region: Olympic County: Pierce
Bridge Number: 005/445N-N						
Location: 6.4 N JCT SR 512		Longitude: 122 25 59.3	Latitude: 47 13 58	Structure Length: 271 ft.		Out to Out Width: 37.6 ft.
Feature Intersected: S-S RAMP I-705 TO SR 7		500 yr PGA: 28.0 %g	1,000 yr PGA: 40.5%	Span Type: CBOX		Main Spans: 4 Appr. Spans: 0
Year Built: 1964	ADT: 14689	Detour Length: 1 miles	Skew Angle: 0	Pier Type: Single Column Pier		Footing Type: Spread footing
Year Rebuilt: 0	Truck Pct: 5 %					



Bridge Notes:

Piers 2, 3 and 4, each has a 5'-0" diameter columns. #4 hoops @ 12". #18 bars with welded splices. Footing without top mat.

Retrofit Program Notes:

This bridge was deferred in the past based on future HOV projects through Tacoma (1/8/98). The HOV Projects did not address this bridge. Status code revised from D to R by C.R. Boone on 5/6/11

Completed Retrofit Notes:

Remaining Retrofit Notes:

All Bridge Retrofit Status: R

Special Br Retrofit Status:

Superstr Retrofit Status: N

Substr Group 3 Status: R

Substr Group 4 Status: N

Estimated Bridge Item Cost: \$121,561

C=Complete P=Partially Complet

R=Required N=Not Required

D=Differed X=Excluded I=In Progress

Single Columns - Number: 3

Total Number of Columns: 3

Washington State Department of Transportation Bridge Seismic Retrofit Information

Structure ID: 0007326D		Bridge Name:		Route:	Milepost:	Region: Olympic
Bridge Number: 005/445S-S		S-S RAMP SR 7 OC		00005	133.82	County: Pierce
Location:		Longitude:	Latitude:	Structure Length:		Out to Out Width:
5.6 N JCT SR 512		122 25 55.1	47 13 59.4	265 ft.		26.6 ft.
Feature Intersected:		500 yr PGA:	1,000 yr PGA:	Span Type:	Main Spans: 3	
S-S RAMP I-705 TO SR 7		28.0 %g	40.5%	CBOX	Appr. Spans: 0	
Year Built: 1965	ADT: 4516	Detour Length:	Skew Angle:	Pier Type:	Footing Type:	
Year Rebuilt: 0	Truck Pct: 5 %	1 miles	99	Single Column Pier	Spread footing	



Bridge Notes:

Piers 2 and 3, each has a 5'-0" diameter columns. #4 hoops @ 12". #11 bars with 4'-2" splices. Footing without top mat.

Retrofit Program Notes:

Past recommendation was to defer the retrofit for future HOV projects through Tacoma (1/8/98). The HOV Projects did not address this bridge. Status code revised from D to R by C.R. Boone on 5/6/11

Completed Retrofit Notes:

Remaining Retrofit Notes:

All Bridge Retrofit Status: R

Special Br Retrofit Status:

Superstr Retrofit Status: N

Substr Group 3 Status: R

Substr Group 4 Status: N

Estimated Bridge Item Cost: \$135,377

C=Complete P=Partially Complet

R=Required N=Not Required

D=Differed X=Excluded I=In Progress

Single Columns - Number: 2

Total Number of Columns: 2

Washington State Department of Transportation Bridge Seismic Retrofit Information

Structure ID: 0007326B		Bridge Name:		Route:	Milepost:	Region: Olympic
Bridge Number: 005/445W		SR7&CW RR OC (CMSTP&P)		00005	133.71	County: Pierce
Location:		Longitude:	Latitude:	Structure Length:		Out to Out Width:
1.5 N JCT SR 16		122 25 54	47 14 0	817 ft.		58.5 ft.
Feature Intersected:		500 yr PGA:	1,000 yr PGA:	Span Type:	Main Spans: 10	
SR 7 & CMSTP&P RY		28.0 %g	40.5%	CBox	Appr. Spans: 0	
Year Built: 1964	ADT: 80775	Detour Length:	Skew Angle:	Pier Type:	Footing Type:	
Year Rebuilt: 1989	Truck Pct: 9 %	1 miles	0	Double Column Pier	Spread footing	



Bridge Notes:

Piers 2-N thru 8-N , each has a 3'-0"x 15'-0" column (built in1964) and a 4'-0" diameter column (built in 1989).

Retrofit Program Notes:

Engineering analysis needed to determine bridge elements requiring retrofit. Cost estimate based on an assumption to retrofit columns with steel jackets.

Completed Retrofit Notes:

Longitudinal restrainers at in-span hinges span 3 near Pier 3 and span 6 near Pier 7. (WIDENING)

Remaining Retrofit Notes:

Retrofit columns at Piers 2 thru 8. (1 ea. 7 total, 15'-0" x 3'-0")

All Bridge Retrofit Status: P

Special Br Retrofit Status:

Superstr Retrofit Status: C

Substr Group 3 Status: N

Substr Group 4 Status: R

Estimated Bridge Item Cost: \$1,519,744

C=Complete P=Partially Complet

R=Required N=Not Required

D=Differed X=Excluded I=In Progress

Single Columns - Number: 7

Total Number of Columns: 14

Washington State Department of Transportation Bridge Seismic Retrofit Information

Structure ID: 0007505C		Bridge Name:		Route:	Milepost:	Region: Olympic
Bridge Number: 005/446S-S		S-S RAMP CWRR OC(CMSTPP)		00005	133.85	County: Pierce
Location:		Longitude:	Latitude:	Structure Length:		Out to Out Width:
0.1 N JCT SR 7		122 25 52.8	47 14 2.3	225 ft.		26.6 ft.
Feature Intersected:		500 yr PGA:	1,000 yr PGA:	Span Type:	Main Spans: 4	
CMSTPR RR		28.0 %g	40.5%	CBOX	Appr. Spans: 0	
Year Built: 1965	ADT: 4516	Detour Length:	Skew Angle:	Pier Type:	Footing Type:	
Year Rebuilt: 0	Truck Pct: 5 %	1 miles	0	Single Column Pier	Concrete Pile	



Bridge Notes:

Piers 2, 3 and 4, each has a 5'-0" diameter column. #4 hoops @ 12". #11 bars with 4'-2" splices. Footing without top mat.

Retrofit Program Notes:

The retrofit of this bridge was deferred in the past based on future HOV projects through Tacoma (1/8/98). HOV Project did not address this bridge. Status code revised from D to R by C.R. Boone on 5/6/11

Completed Retrofit Notes:

Remaining Retrofit Notes:

All Bridge Retrofit Status: R

Special Br Retrofit Status:

Superstr Retrofit Status: N

Substr Group 3 Status: R

Substr Group 4 Status: N

Estimated Bridge Item Cost: \$209,506

C=Complete P=Partially Complet

R=Required N=Not Required

D=Differed X=Excluded I=In Progress

Single Columns - Number: 3

Total Number of Columns: 3

Washington State Department of Transportation Bridge Seismic Retrofit Information

Structure ID: 0005738B		Bridge Name:		Route:	Milepost:	Region: Olympic
Bridge Number: 008/104N		SR 101 OC MUD BAY		00008	20.63	County: Thurston
Location:		Longitude:	Latitude:	Structure Length:		Out to Out Width:
10.1 E GRAYS HARBOR CNTY		123 0 42	47 4 30	186 ft.		33 ft.
Feature Intersected:		500 yr PGA:	1,000 yr PGA:	Span Type:	Main Spans: 3	
US 101		26.8 %g	39.3%	CBox	Appr. Spans: 0	
Year Built: 1958	ADT: 8625	Detour Length:	Skew Angle:	Pier Type:	Footing Type:	
Year Rebuilt: 1981	Truck Pct: 10 %	1 miles	0	Single Column Pier	Spread	



Bridge Notes:

Piers 2 and 3, each has a 5'-0" diameter column on spread footing. Ties are #4 @ 12". Vertical #11 bars have 2'-4" lap splices at top of footing. Footings have no top mat. End piers, 1 and 4, are cantilever "L" abutments. Each abutment has two rocker bearings.

Retrofit Program Notes:

To be completed under PIN 300813A. To go to ad in 2012.

Completed Retrofit Notes:

Remaining Retrofit Notes:

Install Col. Jacket at Piers 2 and 3. Excavate to top of Footings. Install Catcher Blocks & Transv. Restrainers at Piers 1 & 4.

All Bridge Retrofit Status: R

Special Br Retrofit Status:

Superstr Retrofit Status: R

Substr Group 3 Status: R

Substr Group 4 Status: N

Estimated Bridge Item Cost: \$149,793

C=Complete P=Partially Complet

R=Required N=Not Required

D=Differed X=Excluded I=In Progress

Single Columns - Number: 2

Total Number of Columns: 2

Washington State Department of Transportation Bridge Seismic Retrofit Information

Structure ID: 0005738A		Bridge Name: SR 101 OC MUD BAY		Route: 00008	Milepost: 20.63	Region: Olympic
Bridge Number: 008/104S						County: Thurston Cou
Location: 10.1 E GRAYS HBR CO		Longitude: 123 0 42	Latitude: 47 4 30	Structure Length: 186 ft.		Out to Out Width: 33 ft.
Feature Intersected: SR 101 MUD BAY		500 yr PGA: 26.8 %g	1,000 yr PGA: 39.3%	Span Type: CBox		Main Spans: 3 Appr. Spans: 0
Year Built: 1958	ADT: 8625	Detour Length: 1 miles	Skew Angle: 0	Pier Type: Single Column Pier		Footing Type: Spread
Year Rebuilt: 1981	Truck Pct: 10 %					



Bridge Notes:

Piers 2 and 3, each has a 5'-0" diameter column on spread footing. Ties are #4 @ 12". Vertical #11 bars have 2'-4" lap splices at top of footing. Footings have no top mat. End piers, 1 and 4, are cantilever "L" abutments. Each abutment has two rocker bearings.

Retrofit Program Notes:

To be completed under PIN 300813A. Project scheduled to go to ad in 2012.

Completed Retrofit Notes:

Remaining Retrofit Notes:

Install Col. Jacket at Piers 2 and 3. Excavate to top of Footings. Install Catcher Blocks & Transv. Restrainers at Piers 1 & 4.

All Bridge Retrofit Status: R

Special Br Retrofit Status:

Superstr Retrofit Status: R

Substr Group 3 Status: R

Substr Group 4 Status: N

Estimated Bridge Item Cost: \$141,400

C=Complete P=Partially Complet

R=Required N=Not Required

D=Differed X=Excluded I=In Progress

Single Columns - Number: 2

Total Number of Columns: 2

Washington State Department of Transportation Bridge Seismic Retrofit Information

Structure ID: 0005166A		Bridge Name: SNC RR OC (CMSTPP)		Route: 00020	Milepost: 9.16	Region: Olympic County: Jefferson
Bridge Number: 020/015						
Location: 9.2 E JCT US 101		Longitude: 122 48 58	Latitude: 48 5 25	Structure Length: 228 ft.		Out to Out Width: 30 ft.
Feature Intersected: CMSTPP RR (ABANDONED)		500 yr PGA: 29.1 %g	1,000 yr PGA: 40.1%	Span Type: CS		Main Spans: 4 Appr. Spans: 0
Year Built: 1956	ADT: 17430	Detour Length: 2 miles	Skew Angle: 0	Pier Type: Single Column Pier		Footing Type: Spread
Year Rebuilt: 0	Truck Pct: 9 %					



Bridge Notes:

Intermediate Piers, Piers 2, 3 and 4, each has a 4'-0" diameter column on spread footing. #4 hoops spaced at 12" spacing. Vertical #13 bars have 2'-10" lap splices at top of footings. Footings have no top mat. End Piers 1 and 5, each has two 2'-0" square columns on combined spread footing. Hinge at top of column.

Retrofit Program Notes:

Engineering analysis needed to determine bridge elements requiring retrofit. Cost estimate based on an assumption to retrofit columns with steel jackets.

Completed Retrofit Notes:

Remaining Retrofit Notes:

Install Column Jacket at Piers 2, 3 and 4 (1 ea. 3 total, 4' dia.).
Excavate to top of Footings.

All Bridge Retrofit Status: R

Special Br Retrofit Status:

Superstr Retrofit Status: N

Substr Group 3 Status: R

Substr Group 4 Status: N

Estimated Bridge Item Cost: \$133,667

C=Complete P=Partially Complet

R=Required N=Not Required

D=Differed X=Excluded I=In Progress

Single Columns - Number: 3

Total Number of Columns: 3

Washington State Department of Transportation Bridge Seismic Retrofit Information

Structure ID: 0005827A		Bridge Name: CHEHALIS R		Route: 00107	Milepost: 6.83	Region: Olympic County: Grays Harbor
Bridge Number: 107/004						
Location: 6.9 N JCT US 101		Longitude: 123 36 11.2	Latitude: 46 57 34.6	Structure Length: 1302 ft.		Out to Out Width: 32.8 ft.
Feature Intersected: CHEHALIS R		500 yr PGA: 28.3 %g	1,000 yr PGA: 41.6%	Span Type: STrus CBox TTC		Main Spans: 1 Appr. Spans: 42
Year Built: 1958	ADT: 3656	Detour Length: 25 miles	Skew Angle: 0	Pier Type: Single Column Pier		Footing Type: Spread
Year Rebuilt:	Truck Pct: 16 %					



Bridge Notes:

South approach spans are timber trestle spans. Piers 1 and 4, each has two 2'-6"x5'-2" columns. Columns split to two 2'-6" sq. columns at El. 12.50. #3 hoops @ 12". Piers 2 and 3 are pier walls. Piers 5 and 6, each has a 5'-0" diameter column on pile footing. #4 hoops spaced at 12" spacing. Vertical #11 bars have 2'-4" lap splices at top of footings. Footings have no top mat.

Retrofit Program Notes:

Retrofit programed under PIN 310710B. Cost estimate based on an assumption to retrofit columns with steel jackets.

Completed Retrofit Notes:

Remaining Retrofit Notes:

Seismic analysis required to determine retrofit scope.

All Bridge Retrofit Status: R

Special Br Retrofit Status:

Superstr Retrofit Status: R

Substr Group 3 Status: R

Substr Group 4 Status: R

Estimated Bridge Item Cost: \$1,114,047

C=Complete P=Partially Complet

R=Required N=Not Required

D=Differed X=Excluded I=In Progress

Single Columns - Number: 2

Total Number of Columns: 2

WSDOT Scour Projects - 2013-15 Bien

(Sorted by Priority Number)



13-15 #	Bridge Number	Bridge Name	Length	Mile post	Region	PIN #	Year Planned	Project Total\$'s
2	101/115	CHEHALIS R	2638	83.22	Olympic		2014	\$3,358,757
4	108/004	WILDCAT CR	26	0.5	Olympic	310808A	2016	\$587,361
5	012/070	CEDAR CR	121	31.8	Olympic		2016	\$745,233
6	101/302	RUSSELL H. BARKER M	370	185.6	Olympic	310186F	2016	\$788,163
9	101/251	SNOW CREEK	71	282.62	Olympic	310170S	2018	\$768,380
16	706/009	GOAT CREEK	71	12.22	Olympic		2020	\$617,630
17	112/026	PYSHT R	147	26.46	Olympic		2020	\$697,357
Total Number of Bridges = 7							Total Bien\$'s =	\$7,562,881

WSDOT Scour Projects - 2013-15 Bien

(Sorted by Bridge Number)



13-15 #	Bridge Number	Bridge Name	Length	Mile post	Region	PIN #	Year Planned	Project Total\$'s
5	012/070	CEDAR CR	121	31.8	Olympic		2016	\$745,233
2	101/115	CHEHALIS R	2638	83.22	Olympic		2014	\$3,358,757
9	101/251	SNOW CREEK	71	282.62	Olympic	310170S	2018	\$768,380
6	101/302	RUSSELL H. BARKER M	370	185.6	Olympic	310186F	2016	\$788,163
4	108/004	WILDCAT CR	26	0.5	Olympic	310808A	2016	\$587,361
17	112/026	PYSHT R	147	26.46	Olympic		2020	\$697,357
16	706/009	GOAT CREEK	71	12.22	Olympic		2020	\$617,630
Total Number of Bridges = 7						Total Bien\$'s = \$7,562,881		

WSDOT Bridge over Water

Scour Form

Bridge ID: 0001576A	Bridge Number: 12/70	Bridge Name: CEDAR CR	State Route: 12 Mile Post: 31.80	Region: Olympic Cnty: Grays Harbor
Year Built: 1932 Rebuilt:	Span Type: CTB	ADT: 4500 ADT Truck Pct: 22 %	Structure Length: 121 ft. Width: 24 ft.	main span 3 aprch: 0 Detour Length: 3 miles
Substructure Stability: Code: 1 Spread footing, simple spans.	Streambed Material: 5 Cobbles	Scour History: Code: U Scour history is unknown.	Last Scour repair Project Yr: C#:	
Scour Code: 3	Scour Rating Description: Bridge is scour critical; bridge foundations determined unstable for calculated scour depths: 1) Within limits of footings or piles (Figure WB 76-80B) 2) Below footing base or pile tips (Figure WB 76-80C).	Substr Code: 6	sufficiency_rating: 78.60 FO	

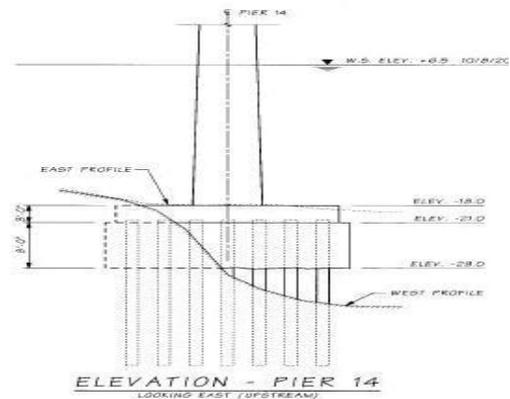
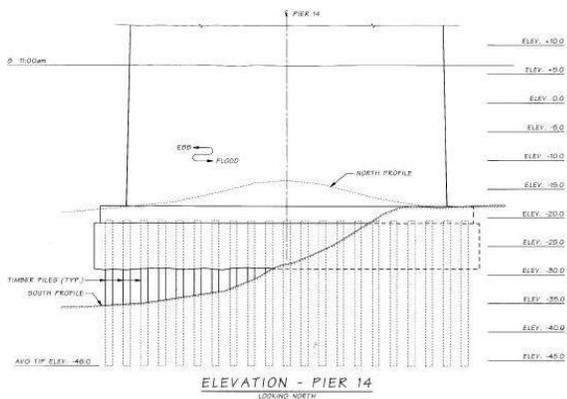


Deficiencies: The intermediate piers next to the waterway (Pier2 and 3) have spread footings that are 4 ft high and 5ft wide. East embankment has up to 4ft vertical cut. Pier 2 exposed up to 4.5ft vertically.	First Noted: 10/7/2010
	BPO Repair List Priority: 1
Recommended Action: Place heavy loose riprap at both Pier2 and east embankment.	Funding - P2 or M: P2
	BPO Repair Num: 11938
	Project PIN:
	11-13 Priority Rank:
	13-15 Priority Rank: 5
	Total Cost Estimate: \$745,233

WSDOT Bridge over Water

Scour Form

Bridge ID: 0004386A	Bridge Number: 101/115	Bridge Name: CHEHALIS R CS1410	State Route: 101 Mile Post: 83.12	Region: Olympic Cnty: Grays Harbor
Year Built: 1955 Rebuilt:	Span Type: BAS SG Cbox	ADT: 11942 ADT Truck Pct: 20 %	Structure Length: 2638 ft. Width: 28 ft.	main span 1 aprch: 24 Detour Length: 25 miles
Substructure Stability: Pile foundation, continuous spans.	Code: 4	Streambed Material: 5 Cobbles	Scour History: Code: U Scour history is unknown.	Last Scour repair Project Yr: C#:
Scour Code: 3	Scour Rating Description: Bridge is scour critical; bridge foundations determined unstable for calculated scour depths: 1) Within limits of footings or piles (Figure WB 76-80B) 2) Below footing base or pile tips (Figure WB 76-80C).	Substr Code: 5	sufficiency_rating: 35.45 FO	



Deficiencies: Pier 14 is a pier wall on timber piles. Underwater inspection on 10/2008 found Pier 14 is undermined up to 6 feet at Southwest Corner.	First Noted: 10/1/2008
	BPO Repair List Priority: 1
Recommended Action: Provide a temporary coffer dam around pier 14 then fill void under footing. Add riprap around pier.	Funding - P2 or M: P2
	BPO Repair Num: 12781
	Project PIN:
	11-13 Priority Rank:
	13-15 Priority Rank: 2
	Total Cost Estimate: \$3,358,757

WSDOT Bridge over Water

Scour Form

Bridge ID: 0013073B	Bridge Number: 101/251	Bridge Name: SNOW CREEK	State Route: 101 Mile Post: 282.62	Region: Olympic Cnty: Jefferson	
Year Built: 1986 Rebuilt:	Span Type: PCS	ADT: 6839 ADT Truck Pct: 10 %	Structure Length: 71 ft. Width: 56.9 ft.	main span 1 aprch: 0	Detour Length: 3 miles
Substructure Stability: Code: 3 Pile foundation, simple spans.	Streambed Material: 3 Gravel	Scour History: Code: C Current scour problems.	Last Scour repair Project Yr: C#: #:		
Scour Code: 8	Scour Rating Description: Bridge foundations determined stable for calculated/evaluated scour conditions. Calculated/evaluated scour is above top of footing. (Figure WB76-80, A).	Substr Code: 7	sufficiency_rating: 95.30		



Deficiencies: Pier 1 is south (west geographically) towards Port Angeles. Bridge Foundations are on steel piles that have approx 50 ft embedment. Creek bears on north abutment. North abutment pile cap is exposed full width up to 36" deep at the west end. South abutment pile cap has been exposed and undermined near centerline.	First Noted: 12/12/2006
	BPO Repair List Priority: 1
Recommended Action: BPO - Place riprap, armor the piers and protect the approach fills.	Funding - P2 or M: P2
	BPO Repair Num: 10000
	Project PIN: 310170S
	11-13 Priority Rank:
	13-15 Priority Rank: 9
	Total Cost Estimate: \$768,380

WSDOT Bridge over Water

Scour Form

Bridge ID: 0012600A	Bridge Number: 101/302	Bridge Name: RUSSELL H. BARKER MEM.	State Route: 101 Mile Post: 185.60	Region: Olympic Cnty: Clallam
Year Built: 1985 Rebuilt:	Span Type: PCG	ADT: 1694 ADT Truck Pct: 20 %	Structure Length: 370 ft. Width: 36 ft.	main span 3 aprch: 0 Detour Length: 99 miles
Substructure Stability: shafts	Code: 9	Streambed Material: 3 Gravel	Scour History: Code: C Current scour problems.	Last Scour repair Project Yr: C#:
Scour Code: 4	Scour Rating Description:	Bridge foundations determined stable for calculated scour condition: field review indicates action is required to protect exposed foundations from effects of additional erosion.	Substr Code: 5	sufficiency_rating: 61.48



Deficiencies: Local scour problem at pier 3, where shaft cap is exposed. Debris piled up behind pier 3. Majority of river water bears against pier 3. High water erosion has caused undermining of heavy riprap bank protection on north bank. Drilled shaft foundations for piers 2 and 3. BPO Priority changed from "4" to "1" in 2005.	First Noted: 6/22/2005
	BPO Repair List Priority: 1
	Funding - P2 or M: P2
	BPO Repair Num: 14934
Recommended Action: BPO - Cover the Pier 3 Cap with special heavy loose riprap at a 2:1 slope and blend into existing groundline and bank.	Project PIN: 310186F
	11-13 Priority Rank:
	13-15 Priority Rank: 6
	Total Cost Estimate: \$788,163

WSDOT Bridge over Water

Scour Form

Bridge ID: 0002214A	Bridge Number: 108/4	Bridge Name: WILDCAT CR	State Route: 108 Mile Post: 0.50	Region: Olympic Cnty: Grays Harbor
Year Built: 1936 Rebuilt:	Span Type: CEFA	ADT: 4765 ADT Truck Pct: 15 %	Structure Length: 26 ft. Width: 29.5 ft.	main span 1 aprch: 0 Detour Length: 3 miles
Substructure Stability: Code: 1 Spread footing, simple spans.	Streambed Material: 3 Gravel	Scour History: Code: C Current scour problems.	Last Scour repair Project Yr: C#:	
Scour Code: 3	Scour Rating Description: Bridge is scour critical; bridge foundations determined unstable for calculated scour depths: 1) Within limits of footings or piles (Figure WB 76-80B) 2) Below footing base or pile tips (Figure WB 76-80C).	Substr Code: 5	sufficiency_rating: 67.15 FO	



<p>Deficiencies:</p> <p>P1 apron is undermined approx. 2' at the NW corner. P2 is undermined up to 4' at the NE corner and it has many holes scattered throughout. The stream appears to have shifted to the East but bends back to the bridge opening. 10" dia. riprap scattered in waterway under and downstream of bridge.</p>	First Noted: 7/22/2001
	BPO Repair List Priority: 1
	Funding - P2 or M: P2
	BPO Repair Num: 10000
<p>Recommended Action:</p> <p>BPO - Repair undermining of apron at NE corner of Pier 2 and all of Pier 1.</p>	Project PIN: 310808A
	11-13 Priority Rank:
	13-15 Priority Rank: 4
	Total Cost Estimate: \$587,361

WSDOT Bridge over Water

Scour Form

Bridge ID: 0002809A	Bridge Number: 112/26	Bridge Name: PYSHT R	State Route: 112 Mile Post: 26.59	Region: Olympic Cnty: Clallam
Year Built: 1944 Rebuilt: 1951	Span Type: SG	ADT: 1022 ADT Truck Pct: 21 %	Structure Length: 147 ft. Width: 25.5 ft.	main span 3 aprch: 0 Detour Length: 34 miles
Substructure Stability: Code: 3 Pile foundation, simple spans.	Streambed Material: 5 Cobbles	Scour History: Code: N No history of scour.	Last Scour repair Project Yr: C#:	
Scour Code: 5	Scour Rating Description: Bridge foundations determined stable for evaluated scour conditions. Scour is within limits of footing or piles. (Figure WB 76-80B).	Substr Code: 6	sufficiency_rating: 69.05 FO	



Deficiencies: Pier 3 is a spread footing that is 4ft high and 8ft wide and has hard shale as a base. Riprap in place at the ends of Pier 3, but the footing is exposed over a length of 8 feet and up to 6 inches at the south end.	First Noted: 8/15/2006
	BPO Repair List Priority: 1
Recommended Action: BPO - Place heavy loose riprap around Pier 3. (Priority changed to a "1", RGP - 8/26/2008)	Funding - P2 or M: P2
	BPO Repair Num: 13262
	Project PIN:
	11-13 Priority Rank:
	13-15 Priority Rank: 17
	Total Cost Estimate: \$697,357

WSDOT Bridge over Water

Scour Form

Bridge ID: 0011420A	Bridge Number: 706/9	Bridge Name: GOAT CREEK	State Route: 706 Mile Post: 12.22	Region: Olympic Cnty: Pierce
Year Built: 1979 Rebuilt:	Span Type: PCBTG	ADT: 3200 ADT Truck Pct: 6 %	Structure Length: 71 ft. Width: 34 ft.	main span 1 aprch: 0 Detour Length: 99 miles
Substructure Stability: Code: 1 Spread footing, simple spans.	Streambed Material: 3 Gravel	Scour History: Code: C Current scour problems.	Last Scour repair Project Yr: C#:	
Scour Code: 3	Scour Rating Description: Bridge is scour critical; bridge foundations determined unstable for calculated scour depths: 1) Within limits of footings or piles (Figure WB 76-80B) 2) Below footing base or pile tips (Figure WB 76-80C).	Substr Code: 7	sufficiency_rating: 70.79	



Deficiencies: Stream bed has eroded laterally towards West abutment. The west abutment has a 4' vertical step close to abutment face. At the NW corner, erosion has cut back to the abutment face. East abutment slope is eroded and rock riprap has slumped down about 18".	First Noted: 7/19/2005
	BPO Repair List Priority: 1
Recommended Action: BPO - Riprap is missing at both banks under the bridge and needs to be replaced.	Funding - P2 or M:
	BPO Repair Num: 10001
	Project PIN:
	11-13 Priority Rank:
	13-15 Priority Rank: 16
	Total Cost Estimate: \$617,630

P2 Bridge Preservation - Misc Structures Projects

2013-15 Bien Priority Array - Olympic Region

(Sorted by Priority Number)

13-15 #	Bridge Number	Bridge Name	Mile post	Region	Length	Total \$
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Total Number of Bridges = 0



