

P2 Bridge Preservation - Replacement/Rehab Projects

2009-11 Bien Priority Array

(Sorted by 2009-11 Priority Number)

09-11 #	Bridge Number	Bridge Name	Mile post	Region	Length	Future work Description
1	002/005N	SNOHOMISH RIVER BRIDGE	0.18	Northwest	2,980	Rehabilitate Bridge
1	002/006N	EBEY ISLAND VIADUCT	0.75	Northwest	6,923	Rehabilitate Bridge
1	002/006S-W	EBEY-W RAMP AL RAMP	1.13	Northwest	381	Rehabilitate Bridge
6	005/670W	STILLAGUAMISH R	209.35	Northwest	859	Replace Deck
10	548/010	DAKOTA CR	11.54	Northwest	182	Replace Bridge
13	524/015	SWAMP CREEK	6.68	Northwest	31	Replace Bridge
28	020/265	GULCH	93.13	Northwest	135	Replace Bridge

Total Number of Bridges = 7



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2009-11 Bien P2 Bridge Replacements/Rehab Candidates

Bridge Number: 2 / 5N		Structure ID 0008266B		Bridge Name: SNOHOMISH RIVER BRIDGE		Milepost: 0.18		Region: Northwest		
Year Built / YR Widened: 1968		Bridge Type: SG CBox CS		Number of Main/Appr span 5 / 33		Sufficiency Rating: 67.59				
Bridge Width (curb-curb): 30.0 ft		Bridge Length: 2,980 ft		Max Span: 204 ft		Bridge Deck View				
Average Daily Traffic: 29,304		Truck% 8%	Number of Lanes: 2		NHS: YES					
Vertical Clearance: NA		Detour Length (miles): 2		Appr Rdway Width: 30.0 ft						
Design Load: HS 20		HS: 1.15	Load Restricted Bridge? <input type="checkbox"/>							
Op Rating: 58.00		A1: 1.97	BL Load:							
Inv Rating: 35.00		A2: 1.51	CL-8 Load:							
		A3: 1.48	SA Load:							
Bridge Inspection Information										
Date Inspected: 7/22/2006		Structr Adequacy: 5								
Superstr Code: 5		Safe Load: 5								
Substr Code: 6		Deck Geometry: 4								
Deck Code: 6		Underclearance: 8								
Scour: 5		Waterway: 8								
Proposed Bridge Replacement Information										
New Bridge Width: ft.		Bridge \$'s:								
New Bridge Length: ft.		Total \$'s:								
Priority Array #: 1										
PIN Number: 100205E		Repl/Rehab Year:								
WIN Number:		Ad Date: 8/9/2010								
Contract Number:										
Bridge Profile View										
										

Bridge 2/5N has 15 spans of precast concrete girder (PRC) units near Home Acres Road (piers 18 to 33) in need of rehabilitation. There are 6 units across the width of the bridge in each span.

These PRC units were designed with a 1 inch concrete cover around the main reinforcing steel in the stem. Many of these units have rebar that is corroding causing the concrete cover to crack and debond.

The repair will remove the loose concrete, clean the reinforcing steel, add new concrete and Carbon Fiber strips to the webs of the girders.



2009-11 Bien P2 Bridge Replacements/Rehab Candidates

Bridge Number: 2 / 6N		Structure ID 0008378E		Bridge Name: EBEY ISLAND VIADUCT		Milepost: 0.75		Region: Northwest			
Year Built / YR Widened: 1968		Bridge Type: PRCB PCG		Number of Main/Appr span 1 / 178		Sufficiency Rating: 13.99 SD					
Bridge Width (curb-curb): 30.0 ft		Bridge Length: 6,923 ft		Max Span: 82 ft		Bridge Deck View					
Average Daily Traffic: 29,304		Truck% 8%	Number of Lanes: 2		NHS: YES						
Vertical Clearance: NA		Detour Length (miles): 2		Appr Rdway Width: 30.0 ft							
Design Load: HS 20		HS: 0.84	Load Restricted Bridge? <input checked="" type="checkbox"/>								
Op Rating: 27.00		A1: 1.06	BL Load: 20,000								
Inv Rating: 17.00		A2: 1.12	CL-8 Load: 21,000				Bridge Profile View				
		A3: 1.30	SA Load:								
Bridge Inspection Information											
Date Inspected: 4/10/2006		Structr Adequacy: 3									
Superstr Code: 4		Safe Load: 4									
Substr Code: 6		Deck Geometry: 4									
Deck Code: 6		Underclearance: 4									
Scour: 8		Waterway: 8									
Proposed Bridge Replacement Information											
New Bridge Width: ft.		Bridge \$'s:									
New Bridge Length: ft.		Total \$'s: \$22,570,488									
Priority Array #: 1											
PIN Number: 100205E		Repl/Rehab Year:									
WIN Number: A00205C		Ad Date: 8/9/2010									
Contract Number:											

THIS BRIDGE IS CLASSIFIED "SD" DUE TO A SUPERSTRUCTURE CONDITION.

Bridge 2/6N has 170 spans of precast concrete girder (PRC) units. These units were designed with a 1 inch concrete cover around the main reinforcing steel in the stem. There are 4 - #10 reinforcing bars located at the bottom of the stems. An in-depth inspection was performed in 1986. Approximately 82% of the T-beam spans have cracks parallel to the #10 bars in the stem. Approximately 34% of the spans have moderate to severe cracking with the main #10 bars exposed. Eight spans of bridge 2/6N were repaired in 1999 (Contract 5550). The deck was repaired and overlaid with an ACP w/membrane in 2001 (C#6157). The concrete superstructure of the bridge from milepost 1.20 to bridge 2/7N limits (121 spans) has been repaired in 2007 as part of contract 7304. The next project in 2010 will repair another portion of the bridge.



2009-11 Bien P2 Bridge Replacements/Rehab Candidates

Bridge Number: 5 / 670W	Structure ID 0001652A	Bridge Name: STILLAGUAMISH R	Milepost: 209.35	Region: Northwest
Year Built / YR Widened: 1933	Bridge Type: STrus CTB		Number of Main/Appr span 3 / 5	Sufficiency Rating: 45.07 SD
Bridge Width (curb-curb): 48.0 ft	Bridge Length: 859 ft	Max Span: 200 ft	Bridge Deck View	
Average Daily Traffic: 36,500	Truck% 13%	Number of Lanes: 3	NHS: YES	
Vertical Clearance: 16 FT 05 in	Detour Length (miles): Appr Rdway Width: 2 58.0 ft		Bridge Profile View 	
Design Load: H 15	HS: 1.04	Load Restricted Bridge? <input type="checkbox"/>		
Op Rating: 35.00	A1: 1.38	BL Load:		
Inv Rating: 21.00	A2: 1.52	CL-8 Load:		
	A3: 1.64	SA Load:		
Bridge Inspection Information				
Date Inspected: 5/9/2006	Structr Adequacy: 4			
Superstr Code: 5	Safe Load: 5			
Substr Code: 6	Deck Geometry: 4			
Deck Code: 4	Underclearance: 2			
Scour: 3	Waterway: 8			
Proposed Bridge Replacement Information				
New Bridge Width: 48 ft.	Bridge \$'s:			
New Bridge Length: 606 ft.	Total \$'s: \$10,180,800			
Priority Array #: 6				
PIN Number:				
WIN Number:	Repl/Rehab Year:			
Contract Number:	Ad Date: 1/1/2013			
<p>THIS BRIDGE IS CLASSIFIED "SD" BASED ON THE DECK CONDITION. A modified concrete overlay was applied in 1992. The concrete deck on the truss spans warrants replacement based on its condition. The length of the 3 truss spans is 606 feet.</p> <p>Transverse hairline cracks in most panel points. Soffit: Transverse and map cracking in soffit, some were leaching or had rust stains throughout all steel truss spans of bridge; see photos #5 and #21. Some movement in the deck was observed under heavy traffic in areas of all truss spans, most notably between Panel Points L0 and L1. There are exposed rusty transverse bars with section loss, up to 6 ft. in length with 2" deep spalls; Some areas of delaminated and honeycombed concrete were observed between the stringers. Spalls, up to 10 ft. long, and longitudinal cracks were observed along the east edge of the deck. Spalls were also observed at the interface of the floorbeams and deck.</p>				



2009-11 Bien P2 Bridge Replacements/Rehab Candidates

Bridge Number: 20 / 265	Structure ID 0004342A	Bridge Name: GULCH	Milepost: 93.13	Region: Northwest
Year Built / YR Widened: 1953	Bridge Type: TTC		Number of Main/Appr span 7 / 0	Sufficiency Rating: 41.98 FO
Bridge Width (curb-curb): 27.0 ft	Bridge Length: 135 ft	Max Span: 19 ft	Bridge Deck View	
Average Daily Traffic: 2,300	Truck% 13%	Number of Lanes: 2	NHS: No	
Vertical Clearance: NA	Detour Length (miles): 63		Appr Rdway Width: 32.0 ft	
Design Load: H 15	HS: 0.99	Load Restricted Bridge? <input type="checkbox"/>		
Op Rating: 36.00	A1: 1.17	BL Load:		
Inv Rating: 23.00	A2: 1.29	CL-8 Load:		
	A3: 1.43	SA Load:		
Bridge Inspection Information			Bridge Profile View	
Date Inspected: 5/31/2005	Structr Adequacy: 5			
Superstr Code: 6	Safe Load: 5			
Substr Code: 5	Deck Geometry: 3			
Deck Code: 7	Underclearance: 9			
Scour: N	Waterway: 9			
Proposed Bridge Replacement Information				
New Bridge Width: 40 ft.	Bridge \$'s: \$700,000			
New Bridge Length: 115 ft.	Total \$'s: \$8,036,058			
Priority Array #: 28				
PIN Number: 102061W				
WIN Number: A02061W	Repl/Rehab Year: 2009			
Contract Number:	Ad Date:			
<p>This bridge was added to the Bridge Replacement Priority Array in 1990.</p> <p>Several piles are not centered under caps as follows = 2 A is 60% bearing, 3 A 3 B, & 3 C 70 % bearing. Pile 5E, 6E, & 7E have been shimmed at cap bearing. Pile 5E split opening to 2 1/2" at top. Movement is downhill (South) and several piles appear to have been shoved East. Bridge rail at South is bowed ~ 1 1/2" to the south. Seasonal run off is cutting channels near pier 3, 4, 5 and 6 and between pier 7 and East abutment. The bank near pier 3 is 6' high other channels are 2 to 4 feet deep.</p> <p>The current plan is to replace this bridge with a new PCB bridge along with some retaining walls on the approach roadway. The Bridge PS&E has been completed and placed "on-the-shelf".</p>				



2009-11 Bien P2 Bridge Replacements/Rehab Candidates

Bridge Number: 524 / 15	Structure ID 08173200	Bridge Name: SWAMP CREEK	Milepost: 6.68	Region: Northwest
Year Built / YR Widened: 1935	Bridge Type: TTC	Number of Main/Appr span 1 / 0	Sufficiency Rating: 45.66 FO	
Bridge Width (curb-curb): 20.1 ft	Bridge Length: 31 ft	Max Span: 29 ft	Bridge Deck View 	
Average Daily Traffic: 16,579	Truck% 4%	Number of Lanes: 2		
Vertical Clearance: NA	Detour Length (miles): 6	Appr Rdway Width: 25.0 ft		
Design Load: H 20	HS: 1.10	Load Restricted Bridge? <input checked="" type="checkbox"/>		
Op Rating: 40.00	A1: 1.37	BL Load:		
Inv Rating: 22.00	A2: 1.39	CL-8 Load:		
	A3: 1.68	SA Load:		
Bridge Inspection Information				
Date Inspected: 7/27/2005	Structr Adequacy: 5			
Superstr Code: 6	Safe Load: 5			
Substr Code: 5	Deck Geometry: 2			
Deck Code: 6	Underclearance: 9			
Scour: 3	Waterway: 8			
Proposed Bridge Replacement Information				
New Bridge Width: 36 ft.	Bridge \$'s: \$518,400			
New Bridge Length: 36 ft.	Total \$'s: \$1,296,000			
Priority Array #: 13				
PIN Number:				
WIN Number:	Repl/Rehab Year:			
Contract Number:	Ad Date:			
<p>This bridge has the highest ADT out of the 26 WSDOT owned bridges with a curb to curb width of 20 feet or less.</p> <p>Scour hole approximately 18" below the bottom of the planks redirecting the stream flow at the base of the West Abutment, north half-- not completed as of 7/25/06.</p> <p>Substructure coded 5 due to temporary shoring and yellow tagged piles.</p>				
Bridge Profile View				
				



2009-11 Bien P2 Bridge Replacements/Rehab Candidates

Bridge Number: 548 / 10	Structure ID 08061500	Bridge Name: DAKOTA CR	Milepost: 11.54	Region: Northwest
Year Built / YR Widened: 1930 / 1951	Bridge Type: SRB TTC		Number of Main/Appr span 1 / 4	Sufficiency Rating: 34.85 SD
Bridge Width (curb-curb): 23.7 ft	Bridge Length: 182 ft	Max Span: 80 ft	Bridge Deck View	
Average Daily Traffic: 6,800	Truck% 14%	Number of Lanes: 2	NHS: No	
Vertical Clearance: NA	Detour Length (miles): 3		Appr Rdway Width: 27.0 ft	
Design Load: H 15	HS: 0.44	Load Restricted Bridge? <input checked="" type="checkbox"/>		
Op Rating: 24.00	A1: 0.60	BL Load:	21,500	
Inv Rating: 14.00	A2: 0.53	CL-8 Load:	21,500	
	A3: 0.54	SA Load:		
Bridge Inspection Information			Bridge Profile View	
Date Inspected: 6/18/2007	Structr Adequacy:	2		
Superstr Code: 5	Safe Load:	0		
Substr Code: 5	Deck Geometry:	2		
Deck Code: 6	Underclearance:	9		
Scour: 5	Waterway:	8		
Proposed Bridge Replacement Information				
New Bridge Width: 42 ft.	Bridge \$'s:	\$7,560,000		
New Bridge Length: 450 ft.	Total \$'s:	\$14,144,629		
Priority Array #: 10				
PIN Number: 154816A				
WIN Number: A54816A	Repl/Rehab Year:	2010		
Contract Number:	Ad Date:			
<p>THIS BRIDGE IS CLASSIFIED "SD" DUE TO THE STRUCTURAL ADEQUACY CODE.</p> <p>The ownership of this bridge was transferred from Whatcom County to the state as part of the 1992 Route Jurisdictional Transfer.</p> <p>This bridge has a posted 15 ton weight limit due to the design of the steel and timber girders. The steel beams are rusty with some pitted areas. There are two yellow tagged piles in the treated timber approach spans.</p>				

