

P2 Bridge Preservation - Scour Repair

2009-11 Bien Priority Array

(Sorted by Priority#)



09-11 #	Bridge Number	Bridge Name	Mile post	Width	Length	Region	Bridge Item\$'s
1	12/624	TOUCHET R	319.35	28.0	156	South Central	\$334,500
4	107/4	CHEHALIS R 	6.83	26.0	1,302	Olympic	
2	142/13	SPRING CR	29.92	23.5	22	Southwest	\$75,500
3	410/101	WHITE R	21.99	32.0	292	Northwest	\$141,000
4	97/120	CANAL DRAIN DITCH	60.82	40.0	121	South Central	\$50,000
5	503/155.25	DOG CREEK CULVERT 	35.85	0.0	40	Southwest	
6	224/10	YAKIMA OVERFLOW BRIDGE	9.43	72.0	80	South Central	\$150,000
7	823/3E	YAKIMA RIVER	0.09	28.0	335	South Central	\$120,000
8	3/15	SHERWOOD CR	20.36	26.0	147	Olympic	\$192,000
9	2/227S	WENATCHEE RIVER	106.17	30.0	356	North Central	\$220,000
10	155/111SP	OKANOGAN R 	80.40	20.0	410	North Central	
11	2/39	ANDERSON CR	34.25	25.0	93	Northwest	\$90,000
12	2/40	S FK SKYKOMISH R	35.21	24.0	446	Northwest	\$140,000
13	7/105	MASHEL R	27.91	24.0	195	Olympic	\$80,000
14	2/119	S FORK SKYKOMISH RIVER	51.02	24.0	260	Northwest	\$110,000
15	108/4	WILDCAT CR	0.50	29.5	26	Olympic	\$55,000
16	97/22	KUSSHI CR	32.78	28.0	60	Southwest	\$60,000
17	101/269	FULTON CR	313.55	24.0	127	Olympic	\$100,000
18	20/661.25	BONAPARTE CREEK	278.55	0.0	7	North Central	\$110,000
19	112/4	BULLMAN CR	1.48	26.4	95	Olympic	\$105,000
20	25/130	COLUMBIA R @ NORTHPORT	113.92	24.0	1,540	Eastern	\$1,440,000

Total Number of Bridges = 21

Total of Bridge Item\$ = \$3,573,000



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12	2/40	S FK SKYKOMISH R	35.21	24.0	446	Northwest	\$140,000
14	2/119	S FORK SKYKOMISH RIVER	51.02	24.0	260	Northwest	\$110,000
9	2/227S	WENATCHEE RIVER	106.17	30.0	356	North Central	\$220,000
8	3/15	SHERWOOD CR	20.36	26.0	147	Olympic	\$192,000
13	7/105	MASHEL R	27.91	24.0	195	Olympic	\$80,000
1	12/624	TOUCHET R	319.35	28.0	156	South Central	\$334,500
18	20/661.25	BONAPARTE CREEK	278.55	0.0	7	North Central	\$110,000
20	25/130	COLUMBIA R @ NORTHPORT	113.92	24.0	1,540	Eastern	\$1,440,000
16	97/22	KUSSHI CR	32.78	28.0	60	Southwest	\$60,000
4	97/120	CANAL DRAIN DITCH	60.82	40.0	121	South Central	\$50,000
17	101/269	FULTON CR	313.55	24.0	127	Olympic	\$100,000
4	107/4	CHEHALIS R 	6.83	26.0	1,302	Olympic	
15	108/4	WILDCAT CR	0.50	29.5	26	Olympic	\$55,000
19	112/4	BULLMAN CR	1.48	26.4	95	Olympic	\$105,000
2	142/13	SPRING CR	29.92	23.5	22	Southwest	\$75,500
10	155/111SP	OKANOGAN R 	80.40	20.0	410	North Central	
6	224/10	YAKIMA OVERFLOW BRIDGE	9.43	72.0	80	South Central	\$150,000
3	410/101	WHITE R	21.99	32.0	292	Northwest	\$141,000
5	503/155.25	DOG CREEK CULVERT 	35.85	0.0	10	Southwest	
7	823/3E	YAKIMA RIVER	0.09	28.0	335	South Central	\$120,000

Total Number of Bridges = 21

Total of Bridge Item\$ = \$3,573,000



Bridge Foundation Scour Repair

Bridge Preservation Program

Bridge ID: 0001706C	Bridge Number: 2/39	Bridge Name: ANDERSON CR	State Route: 2 Mile Post: 34.25	Northwest Cnty: Snohomish	
Year Built: 1933 Rebuilt:	Span Type: CTB	ADT: 6726 ADT Truck Pct: 10 %	Structure Length: 93 ft. Width: 25 ft.	main span 3 aprch: 0	Detour Length: 99 miles
Substructure Stability: Code: 1 Spread footing, simple spans.		Streambed Material: 3 Gravel	Scour History: Code: H History of scour problems but scour conditions are now stable.		Last Scour repair Project Yr: 1996 C#: 005000
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: 58.57 FO



Deficiencies:

Photo 1 shows bridge scour, 6/2006. Photo 2 shows exposed footing at SE retaining wall, 4/2004. Piers 2 and 3 are scour critical. Rip rap must be maintained. Thalweg elevation is less than 5' above footing bottom elevation. Last repair by contract was in 1996.

First Noted: 4/28/2004

BPO Repair List Priority: 1

Funding - P2 or M: P2

07-09 Priority Rank: 7

09-11 Priority Rank: 11

Recommended Action:

BPO - Replace missing rip rap at SE retaining wall. Replace missing rip rap at the downstream side of P3. Bridge Management Unit - Program a P2 funded project, prioritize against other needs for 2009-11.

PIN:

Bridge\$ Est: \$90,000

Total\$ Est: \$457,000

Bridge Foundation Scour Repair

Bridge Preservation Program

Bridge ID: 0001667A	Bridge Number: 2/40	Bridge Name: S FK SKYKOMISH R	State Route: 2 Mile Post: 35.21	Northwest Cnty: Snohomish	
Year Built: 1933 Rebuilt:	Span Type: STrus CTB	ADT: 6726 ADT Truck Pct: 10 %	Structure Length: 446 ft. Width: 24 ft.	main span 1 aprch: 4	Detour Length: 99 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: 1996 C#: 005004		
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: 41.98 FO



Deficiencies:

Approach CTB piers on spread footings. Main Truss piers on piles. There is riprap and river boulders at the east face and the nose of Pier 3. The tail and west side of Pier 3 has up to 3' of the side of the footing exposed (no undermining found). The upstream bank is eroding next to pier 2. The last contract repair was in 1996.

First Noted: 12/15/1998

BPO Repair List Priority: 1

Funding - P2 or M: P2

07-09 Priority Rank:

09-11 Priority Rank: 12

Recommended Action:

BPO - Repair the missing riprap at the downstream end of pier 3.
Bridge Management Unit - Program a P2 funded project, prioritize against other needs for 2009-11.

PIN:

Bridge\$ Est: \$140,000

Total\$ Est: \$675,000

Bridge Foundation Scour Repair

Bridge Preservation Program

Bridge ID: 0002561B	Bridge Number: 2/119	Bridge Name: S FORK SKYKOMISH RIVER	State Route: 2 Mile Post: 51.02	Northwest Cnty: King	
Year Built: 1940 Rebuilt:	Span Type: CTB	ADT: 4882 ADT Truck Pct: 15 %	Structure Length: 260 ft. Width: 24 ft.	main span 5 aprch: 0	Detour Length: 4 miles
Substructure Stability: Code: 4 Pile foundation, continuous spans.	Streambed Material: 3 Gravel	Scour History: Code: C Current scour problems.	Last Scour repair Project Yr: 1996 C#: 005005		
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: 75.05 FO



Deficiencies:

No rip rap along pier 3 columns. Up to 3 ft. exposed of face on Southeast corner. Top of pile cap is totally exposed. East face stream side footing is totally exposed. Sufficient pile length.

First Noted: 6/12/2006

BPO Repair List Priority: 1

Funding - P2 or M: P2

07-09 Priority Rank: 31

09-11 Priority Rank: 14

Recommended Action:

BPO - Rip rap along Pier 3 columns. Up to 3 ft. exposed of face on southeast corner. Top of pile cap is totally exposed. East face stream side footing is totally exposed.
Bridge Management Unit - Program a P2 funded project, prioritize against other needs for 2009-11.

PIN:

Bridge\$ Est: \$110,000

Total\$ Est: \$598,000

Bridge Foundation Scour Repair

Bridge Preservation Program

Bridge ID: 0006927C	Bridge Number: 2/227S	Bridge Name: WENATCHEE RIVER	State Route: 2 Mile Post: 106.17	North Central Cnty: Chelan	
Year Built: 1962 Rebuilt:	Span Type: CBox	ADT: 7139 ADT Truck Pct: 8 %	Structure Length: 356 ft. Width: 30 ft.	main span 7 aprch: 0	Detour Length: 1 miles
Substructure Stability: Code: 2 Spread footing, continuous spans.		Streambed Material: 3 Gravel	Scour History: Code: C Current scour problems.	Last Scour repair Project Yr: 1994 C#: 004474	
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: 70.21



Deficiencies:

Pier 4 footing is exposed up to 4 feet deep, Pier 5 up to 6 feet. Piers 4 and 5 have 8 feet deep foundations.

A scour repair that added riprap around the foundations in the water was done in 1994 under contract 4474.

First Noted: 8/8/2006

BPO Repair List Priority: 2

Funding - P2 or M: P2

07-09 Priority Rank:

09-11 Priority Rank: 9

Recommended Action:

BPO - Install scour mitigation measures per direction of Bridge Preservation Scour Engineer to address exposed footings at Piers 4 and 5.

Bridge Management Unit - recommend raising priority to "1". Rank and prioritize this bridge with other statewide needs in the 2009-11 biennium.

PIN:

Bridge\$ Est: \$220,000

Total\$ Est: \$788,000

Bridge Foundation Scour Repair

Bridge Preservation Program

Bridge ID: 0004133A	Bridge Number: 3/15	Bridge Name: SHERWOOD CR	State Route: 3 Mile Post: 20.36	Olympic Cnty: Mason
Year Built: 1952 Rebuilt:	Span Type: CTB	ADT: 8920 ADT Truck Pct: 5 %	Structure Length: 147 ft. Width: 26 ft.	main span 3 aprch: 0 Detour Length: 22 miles
Substructure Stability: Code: 2 Spread footing, continuous spans.	Streambed Material: 3 Gravel	Scour History: Code: C Current scour problems.	Last Scour repair Project Yr: C#:	
Scour Code: 2	Scour Rating Description:	Bridge is scour critical; field review indicates that extensive scour has occurred at bridge foundations. Immediate action is required to provide scour countermeasures.	Substr Code: 5	sufficiency_rating: 52.21 FO



Deficiencies:

Bridge has spread footings. Riprap near piers 2 and 3 is no longer in place. Riprap placed just upstream that protect NW embankment is now in the middle of stream. The embankment is being undermined. P2 and P3 have 2ft footings on 6ft seals. P2 seal bottom is 12ft below channel, P3 is 8ft.

First Noted: 11/20/2000

BPO Repair List Priority: 1

Funding - P2 or M: P2

07-09 Priority Rank: 18

09-11 Priority Rank: 8

Recommended Action:

BPO - The rip rap has settled into the stream and the bank is beginning to erode. Place D50=1.2' riprap against the eroded upstream banks at both abutments.
Bridge Management Unit - Prioritize with other statewide scour repair needs in the 2009-11 bien.

PIN:

Bridge\$ Est: \$192,000

Total\$ Est: \$850,000

Bridge Foundation Scour Repair

Bridge Preservation Program

Bridge ID: 0003404A	Bridge Number: 7/105	Bridge Name: MASHEL R	State Route: 7 Mile Post: 27.91	Olympic Cnty: Pierce
Year Built: 1948 Rebuilt:	Span Type: SRB	ADT: 5000 ADT Truck Pct: 16 %	Structure Length: 195 ft. Width: 24 ft.	main span 3 aprch: 0 Detour Length: 6 miles
Substructure Stability: Pile foundation, simple spans.	Code: 3	Streambed Material: 3 Gravel	Scour History: Code: N No history of scour.	Last Scour repair Project Yr: C#:
Scour Code: 2	Scour Rating Description:	Bridge is scour critical; field review indicates that extensive scour has occurred at bridge foundations. Immediate action is required to provide scour countermeasures.		Substr Code: 3 sufficiency_rating: 7.88 SD



Deficiencies:

Damaged riprap at Pier 2. Pier 2 is pile foundation. Pier 2 is scour critical, with tips below calculated scour depth (see photo 1). Riprap must be maintained at both piers.

First Noted: 10/1/1996

BPO Repair List Priority: 1

Funding - P2 or M: P2

07-09 Priority Rank: 32

09-11 Priority Rank: 13

Recommended Action:

BPO - Place heavy loose riprap at Pier 2 to repair damaged protection.
Bridge Management Unit - Prioritize with other statewide scour repair needs in the 2009-11 bien.

PIN:

Bridge\$ Est: \$80,000

Total\$ Est: \$546,000

Bridge Foundation Scour Repair

Bridge Preservation Program

Bridge ID: 0002241A	Bridge Number: 12/624	Bridge Name: TOUCHET R	State Route: 12 Mile Post: 319.35	South Central Cnty: Walla Walla
Year Built: 1900 Rebuilt: 1936	Span Type: CEFA CS	ADT: 5500 ADT Truck Pct: 20 %	Structure Length: 156 ft. Width: 28 ft.	main span 2 aprch: 0 Detour Length: 4 miles
Substructure Stability: Code: 2 Spread footing, continuous spans.	Streambed Material: 3 Gravel	Scour History: Code: C Current scour problems.	Last Scour repair Project Yr: C#:	
Scour Code: 2	Scour Rating Description:	Bridge is scour critical; field review indicates that extensive scour has occurred at bridge foundations. Immediate action is required to provide scour countermeasures.		Substr Code: 6 sufficiency_rating: 65.99 FO



Deficiencies: Rip Rap and Debris at Upstream End of Pier 2, looking southwest. Rip Rap Installed at Downstream End of Span 1 Apron and upstream and downstream ends of Pier 2. Concrete apron has deteriorated.	First Noted: 12/20/2005
	BPO Repair List Priority: 1
	Funding - P2 or M: P2
	07-09 Priority Rank: 1
	09-11 Priority Rank: 1
Recommended Action: BPO - Repair deteriorated concrete apron. Add riprap downstream of bridge. Bridge Management Unit - Repair of Concrete Apron project is under design.	PIN:
	Bridge\$ Est:
	Total\$ Est: \$582,000

Bridge Foundation Scour Repair

Bridge Preservation Program

Bridge ID: 00200268	Bridge Number: 20/661.25	Bridge Name: BONAPARTE CREEK	State Route: 20 Mile Post: 278.55	North Central Cnty: Okanogan
Year Built: 1990 Rebuilt:	Span Type: CCulv	ADT: 1100 ADT Truck Pct: 10 %	Structure Length: 7 ft. Width: 0 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: 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: 9	sufficiency_rating: 83.74



No Photo Available

Deficiencies:

Culvert Outlet apron is undermined (North end). The undermining is up to 4ft deep and there is up to 3ft penetration on the west edge and 19 inches on the east edge on 7/26/2006.

First Noted: 6/9/2004

BPO Repair List Priority: 2

Funding - P2 or M: P2

07-09 Priority Rank: 37

09-11 Priority Rank: 18

Recommended Action:

BPO - Fill in undermining with quarry spalls and light loose riprap with consideration of fish passage.
Bridge Management Unit - Prioritize with other statewide scour needs in the 2009-11 biennium.

PIN:

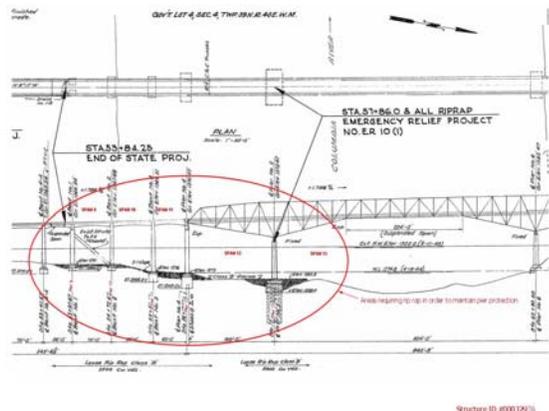
Bridge\$ Est: \$110,000

Total\$ Est: \$589,000

Bridge Foundation Scour Repair

Bridge Preservation Program

Bridge ID: 0003297A	Bridge Number: 25/130	Bridge Name: COLUMBIA R @ NORTHPORT	State Route: 25 Mile Post: 113.92	Eastern Cnty: Stevens
Year Built: 1948 Rebuilt:	Span Type: STrus CTB C	ADT: 580 ADT Truck Pct: 40 %	Structure Length: 1540 ft. Width: 24 ft.	main span 3 aprch: 12 Detour Length: 99 miles
Substructure Stability: Spread footing, continuous spans.	Code: 2	Streambed Material: 3 Gravel	Scour History: Code: H History of scour problems but scour conditions are now stable.	Last Scour repair Project Yr: C#:
Scour Code: 2	Scour Rating Description:	Bridge is scour critical; field review indicates that extensive scour has occurred at bridge foundations. Immediate action is required to provide scour countermeasures.		Substr Code: 5 sufficiency_rating: 43.12 SD



No Photo Available

Deficiencies:

Pier 10 pedestals and the top surface of the footings are exposed. Small scour hole around column 11A. Pier 12 footing is exposed 2 ft vertically at NW corner per underwater inspection report of 10/21/2000. Exposed footing observed in 2006.

First Noted: 5/30/2006

BPO Repair List Priority: 1

Funding - P2 or M: P2

07-09 Priority Rank:

09-11 Priority Rank: 20

Recommended Action:

BPO - Place riprap at Piers 10, 11, and 12 and maintain riprap at Piers 9 and 13 in order to provide pier protection. Riprap should taper out 20 ft to 40 ft in the east-west directions.
Bridge Management Unit - Program a P2 funded project, prioritize against other needs for 2009-11.

PIN:

Bridge\$ Est: \$1,440,000

Total\$ Est: \$2,933,000

Bridge Foundation Scour Repair

Bridge Preservation Program

Bridge ID: 0003015A	Bridge Number: 97/22	Bridge Name: KUSSHI CR	State Route: 97 Mile Post: 32.78	Southwest Cnty: Klickitat
Year Built: 1945 Rebuilt:	Span Type: CTB	ADT: 3596 ADT Truck Pct: 26 %	Structure Length: 60 ft. Width: 28 ft.	main span 2 aprch: 0 Detour Length: 39 miles
Substructure Stability: Code: 2 Spread footing, continuous spans.	Streambed Material: 3 Gravel	Scour History: Code: U Scour history is unknown.	Last Scour repair Project Yr: C#:	
Scour Code: 2	Scour Rating Description:	Bridge is scour critical; field review indicates that extensive scour has occurred at bridge foundations. Immediate action is required to provide scour countermeasures.	Substr Code: 7	sufficiency_rating: 69.6



Deficiencies:

Pier 3 (North Abutment) has exposed footing for full length. Sill exposed up to 1.5' along East half of P3. Heavy riprap placed on the NW bank. Debris is building up on the abutment. Footings are 2 feet thick with no seals. Plans indicate footings may be on bedrock.

First Noted: 4/18/2000

BPO Repair List Priority: 1

Funding - P2 or M: P2

07-09 Priority Rank: 5

09-11 Priority Rank: 16

Recommended Action:

BPO - Repair riprap at Pier 3.
Bridge Management Unit - Prioritize against other statewide scour needs in the 2009-11 biennium.

PIN: 409705S

Bridge\$ Est: \$60,000

Total\$ Est: \$447,000

Bridge Foundation Scour Repair

Bridge Preservation Program

Bridge ID: 0001516B	Bridge Number: 97/120	Bridge Name: CANAL DRAIN DITCH	State Route: 97 Mile Post: 60.82	South Central Cnty: Yakima
Year Built: 1931 Rebuilt: 1975	Span Type: CS	ADT: 3802 ADT Truck Pct: 26 %	Structure Length: 121 ft. Width: 40 ft.	main span 6 aprch: 0 Detour Length: 22 miles
Substructure Stability: Code: 4 Pile foundation, continuous 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: 67.95



Deficiencies:

Scour hole behind Piles 2D, 2E, 2F in Pier 1 embankment. Debris hung up on Piles 3A, 3E and 3F. Calculated scour falls below pile tips at Pier 2. Monitor for channel migration. Current bottom of south channel is 4' above pile tips at Pier 2.

First Noted: 5/16/2003

BPO Repair List Priority: 1

Funding - P2 or M: P2

07-09 Priority Rank: 22

09-11 Priority Rank: 4

Recommended Action:

BPO - Fill scour area in Span 1 with quarry spalls back to original ground line.
Bridge Management Unit - Prioritize with other statewide scour needs in the 2009-11 biennium.

PIN:

Bridge\$ Est: \$50,000

Total\$ Est: \$414,000

Bridge Foundation Scour Repair

Bridge Preservation Program

Bridge ID: 0000987A	Bridge Number: 101/269	Bridge Name: FULTON CR	State Route: 101 Mile Post: 313.55	Olympic Cnty: Jefferson
Year Built: 1926 Rebuilt:	Span Type: CTB	ADT: 2063 ADT Truck Pct: 10 %	Structure Length: 127 ft. Width: 24 ft.	main span 3 aprch: 0 Detour Length: 99 miles
Substructure Stability: Code: 3 Pile foundation, simple spans.	Streambed Material: 4 Sand	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: 46.21 FO



Deficiencies:

12/2000 Pier 2 embankment & Pier protection is undermined.
7/2002 Embankment at SW corner of Pier 4 Abutment looking South.
Bridge is on pile foundations.

First Noted: 8/15/2000

BPO Repair List Priority: 1

Funding - P2 or M: P2

07-09 Priority Rank: 42

09-11 Priority Rank: 17

Recommended Action:

BPO - Repair undermined embankment protection and pier protection at Piers 2 and 3. Concrete sack protection has sloughed away. Slope protection concrete bags at Pier 2 are undermined at the base between Columns 2A and 2C.
Bridge Management Unit - Prioritize with other statewide scour repair needs in the 2009-11 bien.

PIN:

Bridge\$ Est: \$100,000

Total\$ Est: \$554,000

Bridge Foundation Scour Repair

Bridge Preservation Program

Bridge ID: 0002214A	Bridge Number: 108/4	Bridge Name: WILDCAT CR	State Route: 108 Mile Post: 0.50	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: 2	Scour Rating Description:	Bridge is scour critical; field review indicates that extensive scour has occurred at bridge foundations. Immediate action is required to provide scour countermeasures.	Substr Code: 5	sufficiency_rating: 69.33



Deficiencies:

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.

First Noted: 7/22/2001

BPO Repair List Priority: 1

Funding - P2 or M: P2

07-09 Priority Rank: 13

09-11 Priority Rank: 15

Recommended Action:

BPO - Repair undermining of apron at NE corner of Pier 2 and all of Pier 1.
Bridge Management Unit - Prioritize with other statewide scour repair needs in the 2009-11 bien.

PIN:

Bridge\$ Est: \$55,000

Total\$ Est: \$415,000

Bridge Foundation Scour Repair

Bridge Preservation Program

Bridge ID: 0006391A	Bridge Number: 112/4	Bridge Name: BULLMAN CR	State Route: 112 Mile Post: 1.48	Olympic Cnty: Clallam
Year Built: 1960 Rebuilt:	Span Type: TTC	ADT: 904 ADT Truck Pct: 10 %	Structure Length: 95 ft. Width: 26.4 ft.	main span 5 aprch: 0 Detour Length: 99 miles
Substructure Stability: Spread footing, simple spans.	Code: 1	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: 43.98



Deficiencies:

Undermining of footings corrected at pier 5 looking West in Aug 2002. Completed Repair of undermined footings looking East in 5/2003.

First Noted: 8/24/2004

BPO Repair List Priority: 1

Funding - P2 or M: P2

07-09 Priority Rank: 9

09-11 Priority Rank: 19

Recommended Action:

BPO - Place light-loose riprap around footing at Pier 5, see photo 8. Previous repair (#10000) of quarry spalls has washed away.
Bridge Management Unit - Prioritize with other statewide scour repair needs in the 2009-11 bien.

PIN:

Bridge\$ Est: \$105,000

Total\$ Est: \$543,000

Bridge Foundation Scour Repair

Bridge Preservation Program

Bridge ID: 000000BE	Bridge Number: 142/13	Bridge Name: SPRING CR	State Route: 142 Mile Post: 29.92	Southwest Cnty: Klickitat
Year Built: 1950 Rebuilt:	Span Type: SB	ADT: 1125 ADT Truck Pct: 15 %	Structure Length: 22 ft. Width: 23.5 ft.	main span 1 aprch: 0 Detour Length: 6 miles
Substructure Stability: Code: 1 Spread footing, simple spans.	Streambed Material: 2 Sediment	Scour History: Code: N No history of scour.	Last Scour repair Project Yr: C#:	
Scour Code: 2	Scour Rating Description:	Bridge is scour critical; field review indicates that extensive scour has occurred at bridge foundations. Immediate action is required to provide scour countermeasures.	Substr Code: 6	sufficiency_rating: 73.97



Deficiencies:

Stream flows against both abutments. Heavy silt deposition 2' thick at west abutment. Abutments are Stone & mortar wall. Unknown foundation depth. Mortar has been eroded by the stream action. Bridge has contraction scour problem and needs as much hydraulic opening as possible.

First Noted: 6/6/2006

BPO Repair List Priority: 1

Funding - P2 or M: P2

07-09 Priority Rank:

09-11 Priority Rank: 2

Recommended Action:

BPO - Place well graded light loose riprap, two to three layers deep (1' thick min.) along both stone & mortar abutment walls, tapering out at a 2:1 slope, blending into the existing groundline and banks. Repair modified 6/6/06 to priority 1 due to undermining of the east abutment per JHL/DCC.
Bridge Management Unit - Prioritize against other statewide scour needs in the 2009-11 biennium.

PIN:

Bridge\$ Est: \$76,000

Total\$ Est: \$432,000

Bridge Foundation Scour Repair

Bridge Preservation Program

Bridge ID: 0014085C	Bridge Number: 224/10	Bridge Name: YAKIMA OVERFLOW BRIDGE	State Route: 224 Mile Post: 9.43	South Central Cnty: Benton
Year Built: 1993 Rebuilt:	Span Type: CS	ADT: 17125 ADT Truck Pct: 10 %	Structure Length: 80 ft. Width: 72 ft.	main span 2 aprch: 0 Detour Length: 1 miles
Substructure Stability: Code: 2 Spread footing, continuous spans.	Streambed Material: 2 Sediment	Scour History: Code: C Current scour problems.	Last Scour repair Project Yr: C#:	
Scour Code: 2	Scour Rating Description:	Bridge is scour critical; field review indicates that extensive scour has occurred at bridge foundations. Immediate action is required to provide scour countermeasures.	Substr Code: 5	sufficiency_rating: 86.13



Deficiencies:

High water, high flow event has caused severe erosion. Abutments are exposed, see photos 3, 6, and 7. Scour hole around Column 3B. Riprap has been washed from Pier 3 abument at the north. Riprap in place at remaining corners of bridge.

First Noted: 5/3/2005

BPO Repair List Priority: 1

Funding - P2 or M: P2

07-09 Priority Rank: 17

09-11 Priority Rank: 6

Recommended Action:

BPO - Mitigate scour at abuments and Pier 2. Repair design in progress; construction not likely before 2009; review/update status each inspection; monitor until construction.
Bridge Management Unit - Prioritize with other statewide scour needs in the 2009-11 biennium.

PIN:

Bridge\$ Est: \$150,000

Total\$ Est: \$592,000

Bridge Foundation Scour Repair

Bridge Preservation Program

Bridge ID: 0003523A	Bridge Number: 410/101	Bridge Name: WHITE R	State Route: 410 Mile Post: 21.99	Northwest Cnty: Pierce
Year Built: 1949 Rebuilt:	Span Type: STrus CTB	ADT: 16066 ADT Truck Pct: 8 %	Structure Length: 292 ft. Width: 32 ft.	main span 1 aprch: 3 Detour Length: 38 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: 2	Scour Rating Description:	Bridge is scour critical; field review indicates that extensive scour has occurred at bridge foundations. Immediate action is required to provide scour countermeasures.	Substr Code: 5	sufficiency_rating: 53.1



Deficiencies:

Pier 2 consists of spread footings 14' x 16' and 2.25' on 4' seals. The as-built plans say the foundation is on cemented sands. The footing at North end of Pier is exposed 1.3ft on the upstream side and 2.4ft on the down stram side. Hydraulics Office 5/28/96 - This bridge is scour critical if the thalweg migrates to Pier 2 or Pier 3. Riprap must be maintained at pier 2. Calc scour depth is 10ft below bottom of footings.

Recommended Action:

BPO - Place heavy loose riprap, 2 layers thick over footing, at a minimum of 2:1 slope.
Bridge Management Unit - The PE phase (\$80,000) for this P2 funded project is part of the 2007-09 bien.

First Noted: 7/18/2005

BPO Repair List Priority: 1

Funding - P2 or M: P2

07-09 Priority Rank: 2

09-11 Priority Rank: 3

PIN:

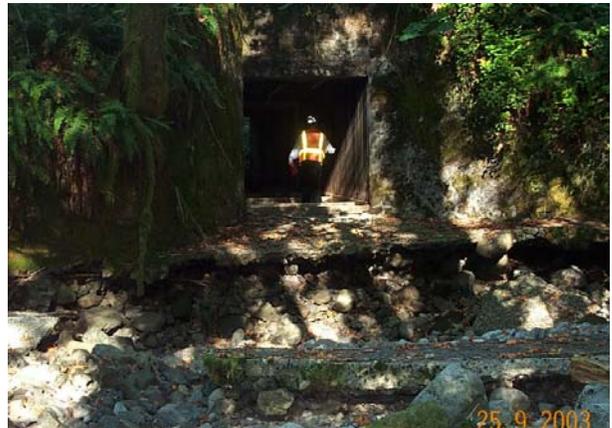
Bridge\$ Est: \$141,000

Total\$ Est: \$646,000

Bridge Foundation Scour Repair

Southwest Region

Bridge ID: 00000BDJ	Bridge Number: 503/155.25	Bridge Name: DOG CREEK CULVERT	State Route: 503 Mile Post: 35.85	Southwest Cnty: Cowlitz	
Year Built: 1945 Rebuilt:	Span Type: TCulv	ADT: 800 ADT Truck Pct: 12 %	Structure Length: 10 ft. Width: 0 ft.	main span 1 aprch: 0	Detour Length: 99 miles
Substructure Stability: Code: 7 Unknown, simple spans.		Streambed Material: 9 Unknown	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: 9		sufficiency_rating: 86.45	



<p>Deficiencies:</p> <p>A large scour hole downstream of the structure. Half of the downstream concrete apron has broken off and is laying 20' downstream. The stream drops down 3' off the remaining apron which is undermined 4'. The upstream scour needs further mitigation.</p>	First Noted: 8/16/1999
	BPO Repair List Priority: 1
	Funding - P2 or M: P2
	07-09 Priority Rank: 43
	09-11 Priority Rank: 5
<p>Recommended Action:</p> <p>BPO - Correct for erosion and repair the concrete apron at the downstream end. Erosion has undermined the apron approx 4ft. and the NE masonry wingwall. Bridge Management Unit - Replacement of the culvert needs to be planned due to the estimated high cost of a scour repair.</p>	PIN: 450312B Bridge\$ Est: \$221,000 Total\$ Est: \$989,000

Bridge Foundation Scour Repair

Bridge Preservation Program

Bridge ID: 0003209A	Bridge Number: 823/3E	Bridge Name: YAKIMA RIVER	State Route: 823 Mile Post: 0.09	South Central Cnty: Yakima
Year Built: 1947 Rebuilt:	Span Type: CTB	ADT: 13500 ADT Truck Pct: 5 %	Structure Length: 335 ft. Width: 28 ft.	main span 5 aprch: 0 Detour Length: 3 miles
Substructure Stability: Code: 2 Spread footing, continuous spans.	Streambed Material: 3 Gravel	Scour History: Code: N No history of scour.	Last Scour repair Project Yr: C#:	
Scour Code: 2	Scour Rating Description:	Bridge is scour critical; field review indicates that extensive scour has occurred at bridge foundations. Immediate action is required to provide scour countermeasures.	Substr Code: 5	sufficiency_rating: 63.92



No Photo Available

No Photo Available

Deficiencies:

Previous inspections: Footing of P3 exposed up to 12" along the middle 12 feet of the so side. Rip-rap at nose and tail of Pier 3. The footing face of P4 exposed 5" along the north half, east end and exposed 2" along the south half, east end. The top of the east half of the Pier 4 footing is fully exposed. The top of the nw footing is exposed for 5 ft.

First Noted: 10/31/2001

BPO Repair List Priority: 1

Funding - P2 or M: P2

07-09 Priority Rank: 30

09-11 Priority Rank: 7

Recommended Action:

BPO - Replace missing riprap at piers 3 & 4.
Bridge Management Unit - Prioritize with other statewide scour needs in the 2009-11 biennium.

PIN:

Bridge\$ Est: \$120,000

Total\$ Est: \$581,000