

## 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	101/150	HUMPTULIPS R	109.00	26.0	450	Olympic	
1	107/4	CHEHALIS R	6.83	26.0	1,302	Olympic	
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
15	108/4	WILDCAT CR	0.50	29.5	26	Olympic	\$55,000
17	101/269	FULTON CR	313.55	24.0	127	Olympic	\$100,000
19	112/4	BULLMAN CR	1.48	26.4	95	Olympic	\$105,000

Total Number of Bridges = 7

Total of Bridge Item\$ = \$532,000



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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
Total Number of Bridges = 7					Total of Bridge Item\$ =		\$532,000



# Bridge Foundation Scour Repair

Olympic Region

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

Olympic Region

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: Code: 3 Pile foundation, simple 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: 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:

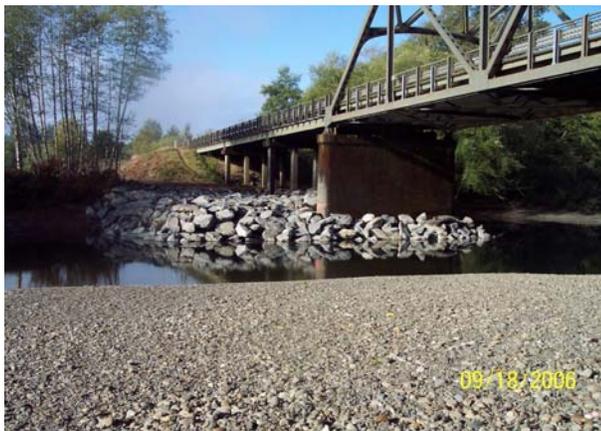
Bridge\$ Est: \$80,000

Total\$ Est: \$546,000

# Bridge Foundation Scour Repair

Olympic Region

Bridge ID: 0003765B	Bridge Number: 101/150	Bridge Name: HUMPTULIPS R	State Route: 101 Mile Post: 109.00	Olympic Cnty: Grays Harbor
Year Built: 1950 Rebuilt:	Span Type: STrus SRB	ADT: 3574 ADT Truck Pct: 20 %	Structure Length: 450 ft. Width: 26 ft.	main span 1 aprch: 3 Detour Length: 32 miles
Substructure Stability: Unknown, simple spans.	Code: 7	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: 4 sufficiency_rating: 36 SD



**Deficiencies:**

In 2006, the old riprap was removed and heavy riprap was placed all around Pier 4 and pier 3. There is a pool between piers 3 and 4 downstream of bridge River flow is eroding the south bank up and down stream. Pier 4 is scour critical.

First Noted: 10/11/2000

BPO Repair List Priority: 1

Funding - P2 or M: P2

07-09 Priority Rank: 1

09-11 Priority Rank: 1

**Recommended Action:**

BPO - Complete the scour repair.  
Bridge Management Unit - Next phase of repair will add more heavy riprap around pier 4 and install 5 barbs upstream from the bridge. Construction is planned for 2008.

PIN: 310129C

Bridge\$ Est:

Total\$ Est: \$1,692,000

# Bridge Foundation Scour Repair

Olympic Region

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

Olympic Region

Bridge ID: 0005827A	Bridge Number: 107/4	Bridge Name: CHEHALIS R	State Route: 107 Mile Post: 6.83	Olympic Cnty: Grays Harbor
Year Built: 1958 Rebuilt:	Span Type: STrus CBox	ADT: 4392 ADT Truck Pct: 16 %	Structure Length: 1302 ft. Width: 26 ft.	main span 1 aprch: 41 Detour Length: 25 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: 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: 40.45 SD



**Deficiencies:**

Riprap along bank by the south truss span is missing.

First Noted: 12/30/1997

BPO Repair List Priority: 1

Funding - P2 or M: P2

07-09 Priority Rank: 1

09-11 Priority Rank: 1

**Recommended Action:**

BPO - Add riprap to bank around south Truss pier.  
Bridge Management Unit - Olympic Region Maintenance is scheduled to perform the riprap work in 2007.

PIN: 310710A

Bridge\$ Est:

Total\$ Est: \$107,000

# Bridge Foundation Scour Repair

Olympic Region

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

Olympic Region

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: 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: 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