

**CRP 2159M, King MP 12.26 Bridge Scour**

**Engineer's Estimate**

**for Preliminary Engineering Costs**

Description:

There is channel migration, vertical slopes, & undermining of abutment fill. The project is to excavate, install scour countermeasures, replace abutment fill, and return stream channel to the center of the bridge span.

| Item | Item Description                     | Quantity | Unit | Unit Cost   | Total Cost  |
|------|--------------------------------------|----------|------|-------------|-------------|
| 1    | Contract Preparation                 | 1        | L.S. | \$10,300.00 | \$10,300.00 |
| 2    | Contract Review                      | 1        | L.S. | \$5,303.00  | \$5,303.00  |
| 3    | Field - Project Layout               | 1        | L.S. | \$52,400.00 | \$52,400.00 |
| 4    | Field - Project Site Survey          | 1        | L.S. | \$33,600.00 | \$33,600.00 |
| 5    | Project Estimates                    | 1        | L.S. | \$5,200.00  | \$5,200.00  |
| 6    | Project Plans                        | 1        | L.S. | \$32,900.00 | \$32,900.00 |
| 7    | Project Specifications               | 1        | L.S. | \$8,100.00  | \$8,100.00  |
| 8    | Consultant (see consultant estimate) | 1        | L.S. | \$40,000.00 | \$40,000.00 |
| 9    | WSDOT Charge Items                   | 1        | L.S. | \$1,000.00  | \$1,000.00  |
| 10   |                                      |          |      |             |             |
| 11   |                                      |          |      |             |             |
| 12   |                                      |          |      |             |             |
| 13   |                                      |          |      |             |             |
| 14   |                                      |          |      |             |             |
| 15   |                                      |          |      |             |             |
| 16   |                                      |          |      |             |             |
| 17   |                                      |          |      |             |             |
| 18   |                                      |          |      |             |             |
| 19   |                                      |          |      |             |             |
| 20   |                                      |          |      |             |             |
| 21   |                                      |          |      |             |             |
| 22   |                                      |          |      |             |             |
| 23   |                                      |          |      |             |             |
| 24   |                                      |          |      |             |             |

**Total Estimated Cost - \$188,803.00**

Prepared by:



**CRP 2159M, King MP 12.26 Bridge Scour**

**Engineer's Estimate**

**for Consultant Costs**

Description:

Environmental, Archeological, and Hydraulic consultants, and other related work

| Item | Classification              | Man Hours | Direct Labor Rate | Overhead @ 195% | Fixed Fee @ 30% | Hourly Billing Rate | Total Cost  |
|------|-----------------------------|-----------|-------------------|-----------------|-----------------|---------------------|-------------|
| 1    | Principal/Senior Ecologist  | 30.00     | \$ 40.00          | \$ 78.00        | \$ 12.00        | \$ 130.00           | \$ 3,900.00 |
| 2    | Senior Biologist            | 85.00     | \$ 28.00          | \$ 54.60        | \$ 8.40         | \$ 91.00            | \$ 7,735.00 |
| 3    | Biologist                   | 55.00     | \$ 20.25          | \$ 39.49        | \$ 6.08         | \$ 65.82            | \$ 3,620.10 |
| 4    | Graphics Manager            | 35.00     | \$ 22.23          | \$ 43.35        | \$ 6.67         | \$ 72.25            | \$ 2,528.75 |
| 5    | Administrative Staff        | 40.00     | \$ 16.50          | \$ 32.18        | \$ 4.95         | \$ 53.63            | \$ 2,145.20 |
| 6    |                             |           |                   |                 |                 |                     |             |
| 7    | PI/OM Senior Archeologist   | 22.00     | \$ 42.00          | \$ 81.90        | \$ 12.60        | \$ 136.50           | \$ 3,003.00 |
| 8    | Supervising Archeologist    | 40.00     | \$ 26.00          | \$ 50.70        | \$ 7.80         | \$ 84.50            | \$ 3,380.00 |
| 9    | Staff Archeologist          | 26.00     | \$ 24.15          | \$ 47.09        | \$ 7.25         | \$ 78.49            | \$ 2,040.74 |
| 10   | GIS-Graphics                | 8.00      | \$ 30.01          | \$ 58.52        | \$ 9.00         | \$ 97.53            | \$ 780.24   |
| 11   | Administrative Staff        | 10.00     | \$ 24.36          | \$ 47.50        | \$ 7.31         | \$ 79.17            | \$ 791.70   |
| 12   |                             |           |                   |                 |                 |                     |             |
| 13   | Principal Engineer          |           |                   |                 |                 |                     |             |
| 14   | Sr. Geotechnical Engineer I |           |                   |                 |                 |                     |             |
| 15   | Sr. Engineering Geologist   |           |                   |                 |                 |                     |             |
| 16   | Engineering Geologist       |           |                   |                 |                 |                     |             |
| 17   | Project Administrator       |           |                   |                 |                 |                     |             |
| 18   | CAD/Micro Station Design    |           |                   |                 |                 |                     |             |
| 19   |                             |           |                   |                 |                 |                     |             |
| 20   | Manager, Lead Investigator  | 6.00      | \$ 47.00          | \$ 91.65        | \$ 14.10        | \$ 152.75           | \$ 916.50   |
| 21   | Principal Lead              | 20.00     | \$ 43.50          | \$ 84.83        | \$ 13.05        | \$ 141.38           | \$ 2,827.60 |
| 22   | Geomorphologist             | 30.00     | \$ 38.50          | \$ 75.08        | \$ 11.55        | \$ 125.13           | \$ 3,753.90 |
| 23   | Hydraulic Modeler           | 16.00     | \$ 32.00          | \$ 62.40        | \$ 9.60         | \$ 104.00           | \$ 1,664.00 |
| 24   | Administrative Staff        | 12.00     | \$ 19.50          | \$ 38.03        | \$ 5.85         | \$ 63.38            | \$ 760.56   |
| 25   |                             |           |                   |                 |                 |                     |             |

Travel and Per Diem - \$ 152.71  
Reproduction Expenses - \_\_\_\_\_  
Computer Expenses - \_\_\_\_\_  
Communication - \_\_\_\_\_  
Sampling and Testing - \_\_\_\_\_

Prepared by: \_\_\_\_\_

**Total Estimated Cost - \$40,000.00**

**CRP 2159N, Sargent MP 1.33 Bridge Scour**

**Engineer's Estimate**

**for Preliminary Engineering Costs**

Description:

The thalweg is 4' below abutments, 5' vertical slopes, & scour within 3' of pier pile tips. The project is to excavate, install scour countermeasures, and return stream channel to original profile.

| Item | Item Description                     | Quantity | Unit | Unit Cost   | Total Cost  |
|------|--------------------------------------|----------|------|-------------|-------------|
| 1    | Contract Preparation                 | 1        | L.S. | \$11,854.00 | \$11,854.00 |
| 2    | Contract Review                      | 1        | L.S. | \$6,100.00  | \$6,100.00  |
| 3    | Field - Project Layout               | 1        | L.S. | \$60,700.00 | \$60,700.00 |
| 4    | Field - Project Site Survey          | 1        | L.S. | \$38,900.00 | \$38,900.00 |
| 5    | Project Estimates                    | 1        | L.S. | \$6,100.00  | \$6,100.00  |
| 6    | Project Plans                        | 1        | L.S. | \$38,200.00 | \$38,200.00 |
| 7    | Project Specifications               | 1        | L.S. | \$9,400.00  | \$9,400.00  |
| 8    | Consultant (see consultant estimate) | 1        | L.S. | \$40,000.00 | \$40,000.00 |
| 9    | WSDOT Charge Items                   | 1        | L.S. | \$1,000.00  | \$1,000.00  |
| 10   |                                      |          |      |             |             |
| 11   |                                      |          |      |             |             |
| 12   |                                      |          |      |             |             |
| 13   |                                      |          |      |             |             |
| 14   |                                      |          |      |             |             |
| 15   |                                      |          |      |             |             |
| 16   |                                      |          |      |             |             |
| 17   |                                      |          |      |             |             |
| 18   |                                      |          |      |             |             |
| 19   |                                      |          |      |             |             |
| 20   |                                      |          |      |             |             |
| 21   |                                      |          |      |             |             |
| 22   |                                      |          |      |             |             |
| 23   |                                      |          |      |             |             |
| 24   |                                      |          |      |             |             |

**Total Estimated Cost - \$212,254.00**

Prepared by:



**CRP 2159N, Sargent MP 1.33 Bridge Scour**

**Engineer's Estimate  
for Consultant Costs**

Description:

Environmental, Archeological, and Hydraulic consultants, and other related work

| Item | Classification              |               | Man Hours | Direct Labor Rate | Overhead @ 195% | Fixed Fee @ 30% | Hourly Billing Rate | Total Cost  |
|------|-----------------------------|---------------|-----------|-------------------|-----------------|-----------------|---------------------|-------------|
| 1    | Principal/Senior Ecologist  | Environmental | 30.00     | \$ 40.00          | \$ 78.00        | \$ 12.00        | \$ 130.00           | \$ 3,900.00 |
| 2    | Senior Biologist            |               | 85.00     | \$ 28.00          | \$ 54.60        | \$ 8.40         | \$ 91.00            | \$ 7,735.00 |
| 3    | Biologist                   |               | 55.00     | \$ 20.25          | \$ 39.49        | \$ 6.08         | \$ 65.82            | \$ 3,620.10 |
| 4    | Graphics Manager            |               | 35.00     | \$ 22.23          | \$ 43.35        | \$ 6.67         | \$ 72.25            | \$ 2,528.75 |
| 5    | Administrative Staff        |               | 40.00     | \$ 16.50          | \$ 32.18        | \$ 4.95         | \$ 53.63            | \$ 2,145.20 |
| 6    |                             |               |           |                   |                 |                 |                     |             |
| 7    | PI/OM Senior Archeologist   | Archeological | 22.00     | \$ 42.00          | \$ 81.90        | \$ 12.60        | \$ 136.50           | \$ 3,003.00 |
| 8    | Supervising Archeologist    |               | 40.00     | \$ 26.00          | \$ 50.70        | \$ 7.80         | \$ 84.50            | \$ 3,380.00 |
| 9    | Staff Archeologist          |               | 26.00     | \$ 24.15          | \$ 47.09        | \$ 7.25         | \$ 78.49            | \$ 2,040.74 |
| 10   | GIS-Graphics                |               | 8.00      | \$ 30.01          | \$ 58.52        | \$ 9.00         | \$ 97.53            | \$ 780.24   |
| 11   | Administrative Staff        |               | 10.00     | \$ 24.36          | \$ 47.50        | \$ 7.31         | \$ 79.17            | \$ 791.70   |
| 12   |                             |               |           |                   |                 |                 |                     |             |
| 13   | Principal Engineer          | Geotechnical  |           |                   |                 |                 |                     |             |
| 14   | Sr. Geotechnical Engineer I |               |           |                   |                 |                 |                     |             |
| 15   | Sr. Engineering Geologist   |               |           |                   |                 |                 |                     |             |
| 16   | Engineering Geologist       |               |           |                   |                 |                 |                     |             |
| 17   | Project Administrator       |               |           |                   |                 |                 |                     |             |
| 18   | CAD/Micro Station Design    |               |           |                   |                 |                 |                     |             |
| 19   |                             |               |           |                   |                 |                 |                     |             |
| 20   | Manager, Lead Investigator  | Hydraulic     | 6.00      | \$ 47.00          | \$ 91.65        | \$ 14.10        | \$ 152.75           | \$ 916.50   |
| 21   | Principal Lead              |               | 20.00     | \$ 43.50          | \$ 84.83        | \$ 13.05        | \$ 141.38           | \$ 2,827.60 |
| 22   | Geomorphologist             |               | 30.00     | \$ 38.50          | \$ 75.08        | \$ 11.55        | \$ 125.13           | \$ 3,753.90 |
| 23   | Hydraulic Modeler           |               | 16.00     | \$ 32.00          | \$ 62.40        | \$ 9.60         | \$ 104.00           | \$ 1,664.00 |
| 24   | Administrative Staff        |               | 12.00     | \$ 19.50          | \$ 38.03        | \$ 5.85         | \$ 63.38            | \$ 760.56   |
| 25   |                             |               |           |                   |                 |                 |                     |             |

Travel and Per Diem - \$ 152.71  
Reproduction Expenses - \_\_\_\_\_  
Computer Expenses - \_\_\_\_\_  
Communication - \_\_\_\_\_  
Sampling and Testing - \_\_\_\_\_

Prepared by: \_\_\_\_\_

**Total Estimated Cost - \$40,000.00**