Seltice-Warner Bridge Case Study

Short Span Steel Bridge Alliance

W. Mark Storey, PE
Whitman County Engineer
Pre-Fabricated Modular Beam

Seltice-Warner Bridge, White Road, Whitman County, WA

Fabricator: BigR/Contech Engineered Solutions  
Contractor: Whitman County Crew  
Design Engineer: Mark Storey, County Engineer

Existing Structure – 30 ft Span, 20 ft Wide
Built/Rebuilt 1952/1986
Wood with Wood Piles & Wood Backwalls
Wood Deterioration & Susceptibility to Scour

Replacement Structure Requirements
Increase Hydraulic opening – 30 ft Channel
Raise Clearance for 100 yr Flood
Gravel Roadway
Piles with Alluvium Soils / Scouring
Pre-Fabricated Modular Beam

Foundation and Abutment
County Owned Pile Driver (44 ton/pile)
H12x53 Pile Cap
Pre-Fabricated Modular Beam

Bridge Structure
- 35 ft Span x 28 ft Wide
- 2-Girder Modules / 3 Modules
- Shipped on One Truck
- Fully-Assembled
- CSD and Dams
- Simple Connections
Pre-Fabricated Modular Beam
SuperStructure Erection
# Pre-Fabricated Modular Beam

## Timing
- Excavation, Stream Restoration & Bridge Installation ~ 4 Weeks

## Costs

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
<th>Cost/ft²</th>
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</thead>
<tbody>
<tr>
<td>Steel Superstructure</td>
<td>$59,000</td>
<td></td>
</tr>
<tr>
<td>Labor &amp; Equipment</td>
<td>$70,000</td>
<td></td>
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<tr>
<td>Pile Foundations</td>
<td>$20,000</td>
<td></td>
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<tr>
<td>Permitting</td>
<td>$10,000</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>$159,000</strong></td>
<td><strong>$162.25/ft²</strong></td>
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</tbody>
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Concrete Superstructure Alternative $82,000
## Pre-Fabricated Modular Beam

**Take-Aways – Steel Bridges**

- Economical
  - Lighter Superstructure
  - Lighter Equipment
  - Lighter Abutments
- Ease of Erection
  - Modular
  - Accelerated Bridge Construction
  - Match-Fit Fabrication
- Sustainability
  - Recyclable
  - Reusable / Movable
5 Ways to Keep Learning About Steel Bridges

1. Subscribe to the Weekly Newsletter
2. Find a Supplier
3. Design a Bridge in 5-Minutes
4. Receive Free Project Assistance
5. Schedule a Workshop/Webinar

www.ShortSpanSteelBridges.org

Questions? Dan Snyder, Director, SSSBA, dsnyder@steel.org, (301) 367-6179