Type: Glued-laminated timber stringers and transverse glued-laminated deck
County: Granite
Owner: Granite County, Montana
Built in: 1991
Engineer: Merv Eriksson
Spans over: Flint Creek
Bridge length: 39’-0”
Roadway width: 24’-0”

Directions: From Philipsburg and the intersection of MT 1 and CR 348. Travel north on MT 1 approximately 1.5 miles to the intersection of MT 1 and Black Pine Road. Turn left onto Black Pine Road and the bridge site is approximately 0.3 miles from the intersection.
GEOMETRY

Number of Spans: 1  
Out-to-out length: 40'-6"  
Center-of-bearing span lengths: 39'-0"  
Skew: 0 degrees  
Number of lanes: 2  
Out-to-out width: 26'-0"  
Curb-to-curb width: 24'-0"  
Number of beams and spacing: 6 @ 4'-4"  
Superstructure square footage: 1053  
Design load: HS-20  
Deadload: Approx. 245 lbs/ft/beam  
Averaged daily traffic: 100  
Superstructure design by: Merv Eriksson, USDA Forest Service  
Substructure design by: Merv Eriksson, USDA Forest Service  
Total project cost: $74,430  
Total superstructure cost: $30,500  
Total superstructure cost /sq ft: $28.96

MATERIAL

**DECK**  
Material: Wood/glulam  
Species: Coastal Douglas-fir  
Allowable bending stress: 1,760 psi  
Sizes used: 5-1/8" x 48" x 26'-0"  
Quantity: 5,330 bf  
Preservative treatment: Pentachlorophenol, Type A Solvent (heavy oil)  
Wearing surface: 3" x 12" coastal Douglas-fir planks

**BEAMS/STRINGERS**  
Material: Wood/glulam  
Species: Coastal Douglas-fir  
Allowable bending stress: 2,200 psi  
Sizes used: 8-3/4" x 31 1/2" x 40'-0"  
Quantity: 5,512 bf  
Preservative treatment: Pentachlorophenol, Type A Solvent (heavy oil)

**BRIDGE GUIDERAIL & APPROACH RAIL POSTS**  
Material: Wood/glulam  
Species: Coastal Douglas-fir, Grade No. 1  
Sizes used: 8" x 10", 6" x 8", 10" x 10"  
Preservative treatment: Pentachlorophenol, Type A Solvent (heavy oil)

**ABUTMENTS**  
Material: Wood  
Species: Coastal Douglas-fir  
Grade: No. 1 or better  
Preservative treatment: Pentachlorophenol, Type A Solvent (heavy oil)  
Hardware & structural steel: A 36 black steel, A 307 bolts & nuts (uncoated)

**ABUTMENTS(continued)**  
Abutment type: Treated timber retaining wall w/tie-backs  
Abutment height (bottom of footings to top of deck): 10'-6"

**LOCAL IMPACT:** This bridge carries Black Pine Road over Flint Creek in Granite County, Montana. The bridge is used by mining, ranching, and recreational/tourist traffic.

**BRIDGE PERFORMANCE:** This two lane, glued-laminated timber bridge replaced a 38 year old single lane untreated king post timber bridge. The existing bridge was removed, the treated timber abutments installed, beam and deck panels set, bridge and approach guardrail system installed, and roadfill placed during an 8 day construction period.

**FUNDING SOURCES:** USDA Forest Service: $45,000; Balance of funding from Granite County, Montana.

**LOCAL CONTACT:** Merv Eriksson, Structural Engineer  
USDA Forest Service  
1800 Strand Avenue  
Missoula, MT 59801  
Phone: 406-329-3147  
Fax: 406-329-3384

Information provided by Merv Eriksson

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