

# OLD VANDERBILT ROAD BRIDGE, OTSEGO COUNTY, MI

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**DESIGN TYPE:** STRESS-LAMINATED SLAB DECK

**YEAR BUILT:** 1989

**DESIGN ENGINEER:** WHEELER CONSOLIDATED

**FABRICATED BY:** WHEELER CONSOLIDATED

**INSTALLED BY:** PRINCE CONSTRUCTION

**SPANS OVER:** STURGEON RIVER

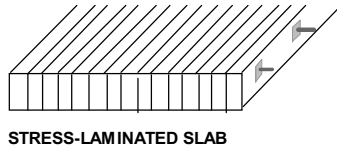
**LOCATION:** SW<sup>1</sup>/<sub>4</sub>, SEC. 29, T32N R2W

FROM THE VILLAGE OF VANDERBILT GO 3½ MILES EAST ON STURGEON VALLEY ROAD, TURN RIGHT ONTO OLD VANDERBILT ROAD, GO DOWN ONE MILE TO BRIDGE.



## Old Vanderbilt Road Bridge

### BRIDGE GEOMETRY



STRESS-LAMINATED SLAB

Spans:	1	Load Rating:	HS-20
Number of Lanes:	2	Average Daily Traffic:	100
Total Length (feet):	40	Abutment Material:	Timber Piling
Out-to-Out Width (feet):	27	Superstructure Lumber Tally:	12.5 MBF
Curb-to-Curb Width:	25	Superstructure Cost:	\$108,000
Lamina Size:	4" x 12"	Superstructure Cost/ft <sup>2</sup> :	\$104
		Total Project Cost:	\$192,000

### BRIDGE MATERIALS

#### DECK

Species: Red Pine  
 Quantity: 12.5 MBF  
 Preservative: Creosote  
 Stressing Rods: 10

#### SUBSTRUCTURE

Type: Timber Piling  
 Species: Red Pine  
 Preservative: Creosote

#### GUIDERAILS

Species: Glu-Lam Douglas Fir 6" x8"  
 Preservative: Creosote

#### WEARING SURFACE

Asphalt (3") over geotextile fabric

### LOCAL IMPACT

Old Vanderbilt Road Bridge was the first bridge built through the efforts of the Michigan Timber Bridge Initiative. The bridge replaced an old jack-arch concrete structure with a 15-ton load limit. The new structure saves about nine miles of travel on lesser quality roads for school buses, snow plows and other heavy traffic.

### BRIDGE PERFORMANCE

The bridge had load tests and has been inspected every two years with no performance problems noted.

### FABRICATION & ERECTION

The bridge panels were nail-laminated into panels and delivered to the site. The panels were placed side-by-side and the stressing rods were threaded through as each panel was placed. Once all the panels were placed, the rods were stressed initially, then one week later and then about a month after that. The panels were re-stressed about four years later.

### FUNDING SOURCES

USDA Forest Service: 18%

Other Sources: 82%

### LOCAL CONTACT

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WIT Program Proposal Number: NA-05-89

Federal Grant Identifier: NA-89-0219

#### COOPERATING AGENCIES



USDA FOREST SERVICE  
 NORTHEASTERN AREA  
 STATE & PRIVATE FORESTRY

**Otsego County Road Commission**

