



# FEMA

## Overpass Culvert Replacement Results in Safer Road

**Charlevoix County, MI** - With over 2,700 vehicles using it daily, Thumb Lake Road is the second busiest road in Charlevoix County. Formerly the road's overpass of the Boyne River was a sight of continual flooding due to inadequate culverts and poor drainage atop the road, but it was restructured to ensure safer travel and eliminate repetitive repairs. Funds were allocated through the Hazard Mitigation Grant Program (HMGP) to rebuild the structure and reduce future risk.

The project consisted of several mitigation techniques on the overpass. The main target was replacing two 48-inch culverts. The culverts had inadequate capacity to accommodate storm-water flow during significant precipitation events. The project replaced the twin pipe culverts with a 22-foot-wide concrete box culvert. Concrete headwalls were also installed and stream bank stabilization measures, such as rip-rap, were taken.

The reduction of water over topping the bridge was a particularly important problem, with damages of \$10,000 per event being prevented in the future. Problems with the hydraulics of the water flowing under the roadway, which resulted in debris back-ups, were also resolved with the new, larger culvert.

Thanks to cooperation between FEMA and the Charlevoix County Road Commission, the mitigation of the Thumb Lake Road crossing will result in flood damage prevention ranging between 95 and 100 percent. This means less expense for the county and a safer road for motorists to drive on.



State-wide,  
Michigan



### Quick Facts

Sector:

**Public**

Cost:

**\$280,000.00 (Actual)**

Primary Activity/Project:

**Flood-proofing**

Primary Funding:

**Hazard Mitigation Grant Program (HMGP)**