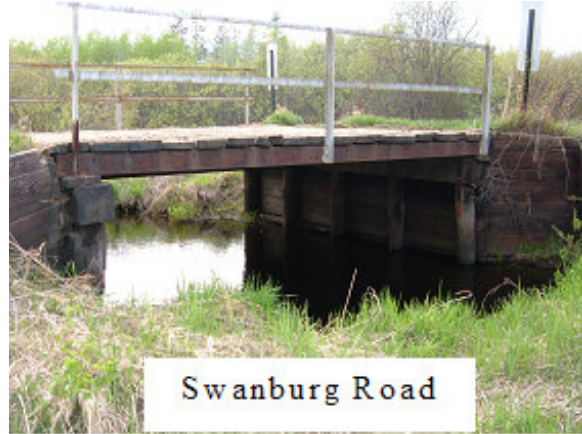


Two Bridges For Thompson Creek

Thompson Creek runs under Swanburg Road and then under Crow Wing County State Highway 1 before it reaches Upper Whitefish Lake. Progressive Consulting Engineers, Inc. (PCE) was retained to replace the Township Bridge on Swanburg Road and the downstream bridge on CSAH 1.

After conducting a Hydraulic Risk Analysis, we selected a pair of 6' x 6' precast concrete square box culverts at 20 degree skew angle for the Timothy Township Bridge. A 6" thick concrete distribution slab was placed over the culverts to accommodate logging trucks that use this gravel Township road.



CSAH 1 presented several problems. The highway was low and level. We could not raise the elevation without significant highway reconstruction. Soils were poor and required muck removal and fill for 10 ton bedding. There are no convenient east-west alternative travel routes north of Whitefish Lake, so construction in this tourist area would have to be completed without a detour.



PCE selected a pair of 6' x 6' precast concrete square box culverts for this location also. This provided the needed strength, while keeping the bedding footprint as small as possible. Additional bituminous material was added above the culverts to increase the pavement thickness for improved dynamic load distribution.

The County offered the contractor a bonus for replacing the bridge in five working days to accommodate weekend tourist traffic.

Client: Crow Wing County

Client Contact: Robert Hall, Assistant County Engineer

Construction Year: 2007

Project Cost: Township Bridge: \$77,000

CSAH 1 Bridge: \$150,000 (Including a \$20,000 Bonus)



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