

Crow Wing County State Aid Highway 19

CSAH 19 is part of the Great River Road, passing between Mission Lakes and the Mississippi River northeast of Brainerd, MN. Progressive Consulting Engineers, Inc. (PCE) was retained by Crow Wing County to prepare preliminary and final designs for reconstruction of this scenic highway under Minnesota State Aid Standards.



The Mission Lakes community is a historic and cultural area. American Indian burial mounds, large trees, cemeteries, resorts, wetlands, Mississippi floodplains, and numerous lake homes are located along the route. The Indian burial mounds offered a challenging, controversial, and unique aspect to the project. Archaeological studies were performed along CSAH 19 to document the amount of cultural artifacts in this area. PCE worked extensively to minimize any negative impact of the new roadway on these sensitive areas. Large trees and other aesthetic qualities of the

roadway were of great concern to residents and cabin owners. Field data was collected for trees and was documented using PCE's Eaglepoint® roadway computer model. The highway was designed to save almost all of the trees lining this roadway. Three "open house" meetings were held to gain public input and to ensure context sensitive designs along this unique and beautiful roadway.

Crow Wing County designated the most critical northern segment of CSAH 19 as a Natural Preservation Route. This allowed PCE to use innovative designs that deviated slightly from normal MnDOT State Aid Rural Highway Design Standards. Lower operating speeds, use of curb and gutter, guardrail and other safety features, along with reduced right-of-way, helped to preserve the "Up North" character of this area.

Drainage basins and ponding areas were designed to manage storm water and to preserve areas with erodable soils. Geo-textile fabrics were specified to "float" the roadway over poor soil areas, reducing excavation costs and minimizing the work area footprint.

Client: Crow Wing County
Client Contact: Duane Blanck, County Engineer
Construction Year: 2005
Project Cost: Phase I & II = \$2.2 Million



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