

Bridge Replacement Project

North Main Street over Miller Brook

NHDOT Br. 172/088

Antrim, NH



During the period of May 12 to May 23, 2006, heavy rains in the Antrim area caused unusually high flow through the North Main Street Arch Culvert. The structure and stone masonry wingwalls were subjected to a high level of water and extreme flow velocity.

QCC performed a damage assessment and confirmed that the foundations had lost material beneath the arch due to stream scour. Soil loss through the stone masonry abutments occurred from receding water following the submerged condition. A large sinkhole formed in the roadway fill behind the south abutment and southeast masonry wingwall. A sewer and water line were on the bridge and at risk during flood events.

QCC performed a hydraulic study and found that this waterway has the potential to serve as a flood relief to the downtown area. QCC evaluated mitigation alternatives and recommended replacement with a new concrete box structure with natural streambed materials placed in the invert. The water line was relocated to be protected in the roadway fill above the structure and the sewer line was installed under the streambed.

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