



**Metal arch structure damaged during Tropical Storm Irene**



**Construction workers set new 9 foot x 15 foot box structure (note baffler designed to hold natural stream material)**

Bridge No. 87 on Center Road in Hardwick, a Federal Aid Highway, was damaged during Tropical Storm Irene. Initial evaluations by Federal Inspectors suggested the existing structure could be repaired, and suggested an evaluation by an engineer. DG provided engineering assistance to survey the site and evaluate the existing structure and stream channel, and determined the existing structure was hydraulically inadequate and damaged beyond repair.

DG worked with Town, VTrans and Federal Highway Administration officials to secure funding to replace the structure using FHWA Emergency Funding. DG prepared plans and bid documents, obtained approvals and permits from VTrans, FHWA and the State of Vermont Agency of Natural Resources and assisted the Town in soliciting bids for the new 9 foot by 16 foot structure which would be buried 3 feet to provide aquatic organism passage.

Since the project was a Federal Aid Highway, the work was completed within 180 days of the disaster declaration, and completed in compliance with FHWA requirements; the Town received 100% reimbursement of projects costs for the bridge replacement.

### KEY FEATURES

- Project received 100% reimbursement from FHWA for Emergency Repairs since contract documents and bid process followed FHWA standards.
- Construction completed and road re-opened within 125 days of initiation of preliminary engineering.
- Irreparably damaged metal arch replaced with precast concrete box culvert.