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## Tested and Proven Success: Stormwater Improvement System Prevents Flooding

Hurricane Fran overwhelmed much of eastern North Carolina with nearly 100 mph wind gusts and 8 to 10 inches of rain when it devastated the state in 1996. The storm caused an estimated \$5 billion in damage in NC alone. River Bend, a town in Craven County, experienced massive flood damage so the town officials applied for Federal assistance for a project to relieve the town from future flooding.

“Fran was a wake-up call for our town,” said River Bend Mayor John R. Kirkland.

River Bend town officials applied to the North Carolina Division of Emergency Management (NCEM) for funds from FEMA’s Hazard Mitigation Grant Program (HMGP) to assist with the project costs. River Bend’s stormwater system totaled \$519,709 and FEMA funded \$392,501, leaving the remaining \$127,208 to the state. Under HMGP, eligible states and local governments can apply and be awarded grants for up to 75 percent of total project cost to complete mitigation measures following major disaster declarations.

River Bend’s project consisted of improving the town’s existing stormwater management system. The improvements increased the capacity of the piping system and additional pipes were placed at each site as well, allowing more volume for the stormwater to flow through the town and not back up on properties. Five locations in the town have piping improvements and the residents in these areas will have less risk of flooding during future storms. Two sets of floodgates were installed and two detention ponds to catch the water as it flows through the area. The town also elevated a main road by 2 feet so that the piping could be increased.

Hurricane Irene brought considerable rain to the U.S. in 2011 and eastern NC was once again drenched with massive downpours and strong winds. This time River Bend was prepared for the flooding. The town officials were able to open the floodgates and allow the water to flow as it rushed through the town. The residents who live in the flood-prone areas parked their vehicles on higher ground and the project was a success.



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for NFIP policyholders since every foot above the BFE lowers a structure's flood risk.

The town council will now focus on public education of stormwater management and alleviate a few identified minor problems. The council is now committed to spend \$30,000 a year of the town's funds to do small mitigation measures that will fix those minor problems. In fiscal year 2012, the town anticipates creating stormwater management systems to fix another drainage problem.