

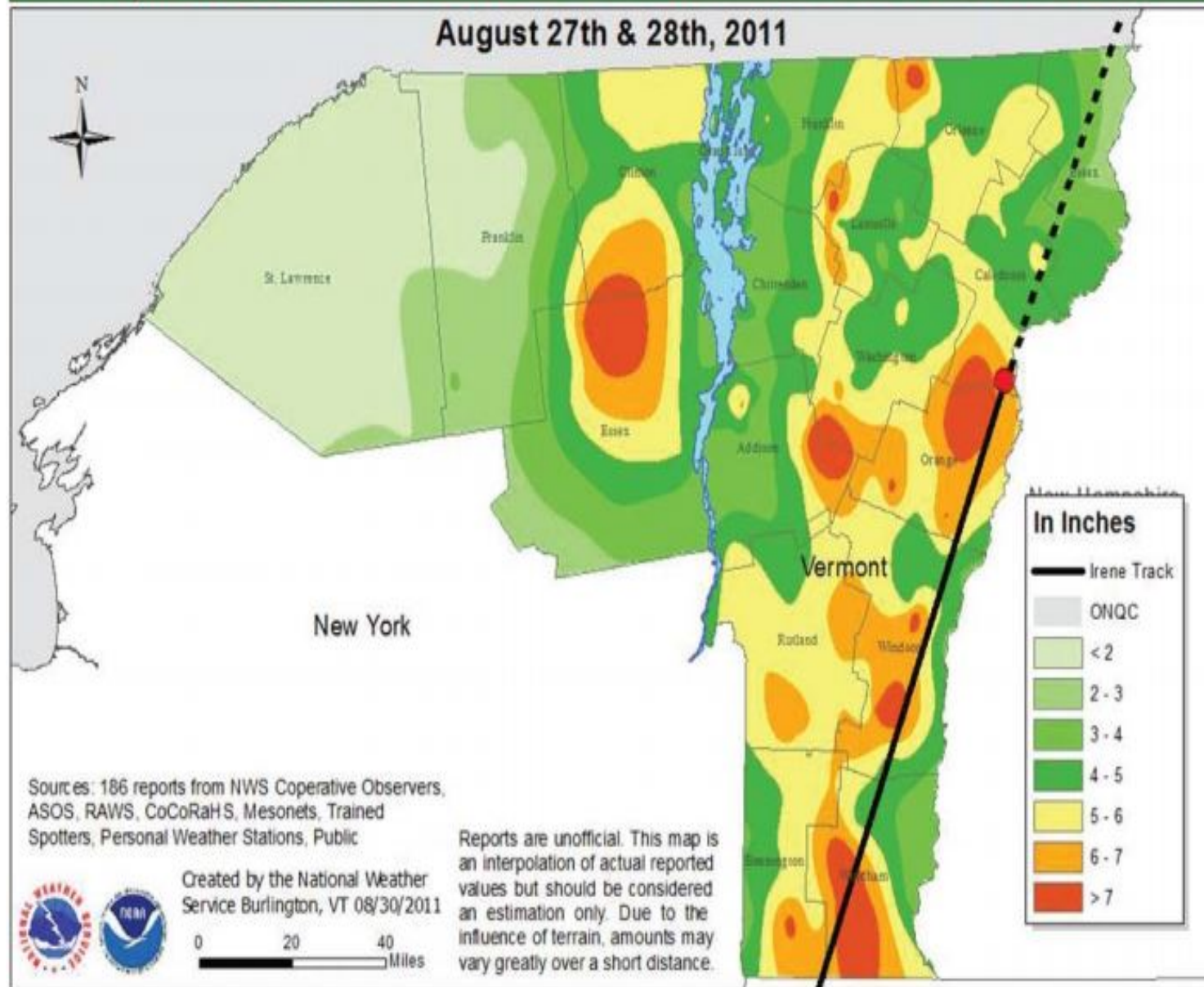
WASTEWATER RESILIENCY

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Tropical Storm Irene Total Rainfall - Northern New York & Vermont

August 27th & 28th, 2011







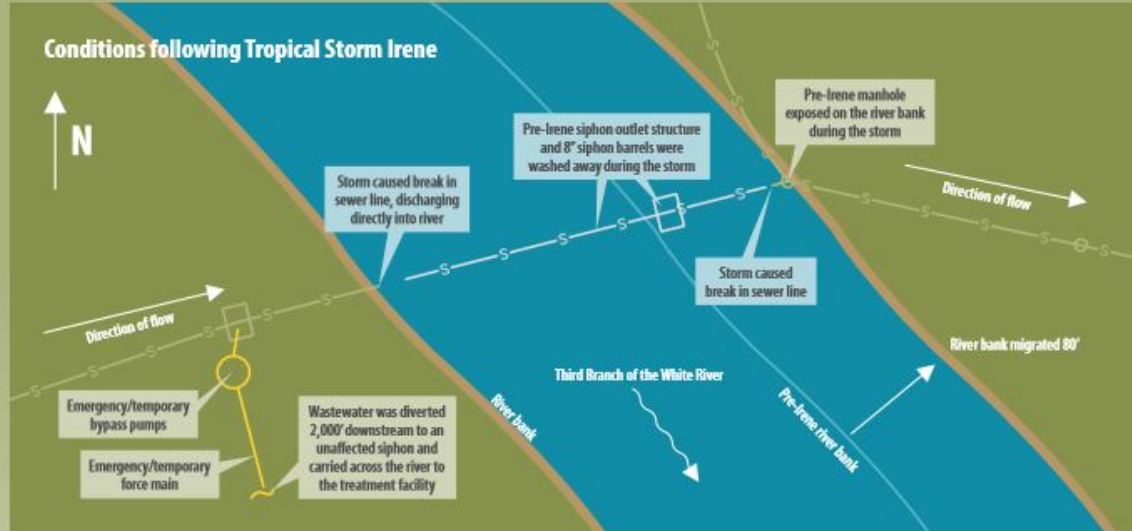




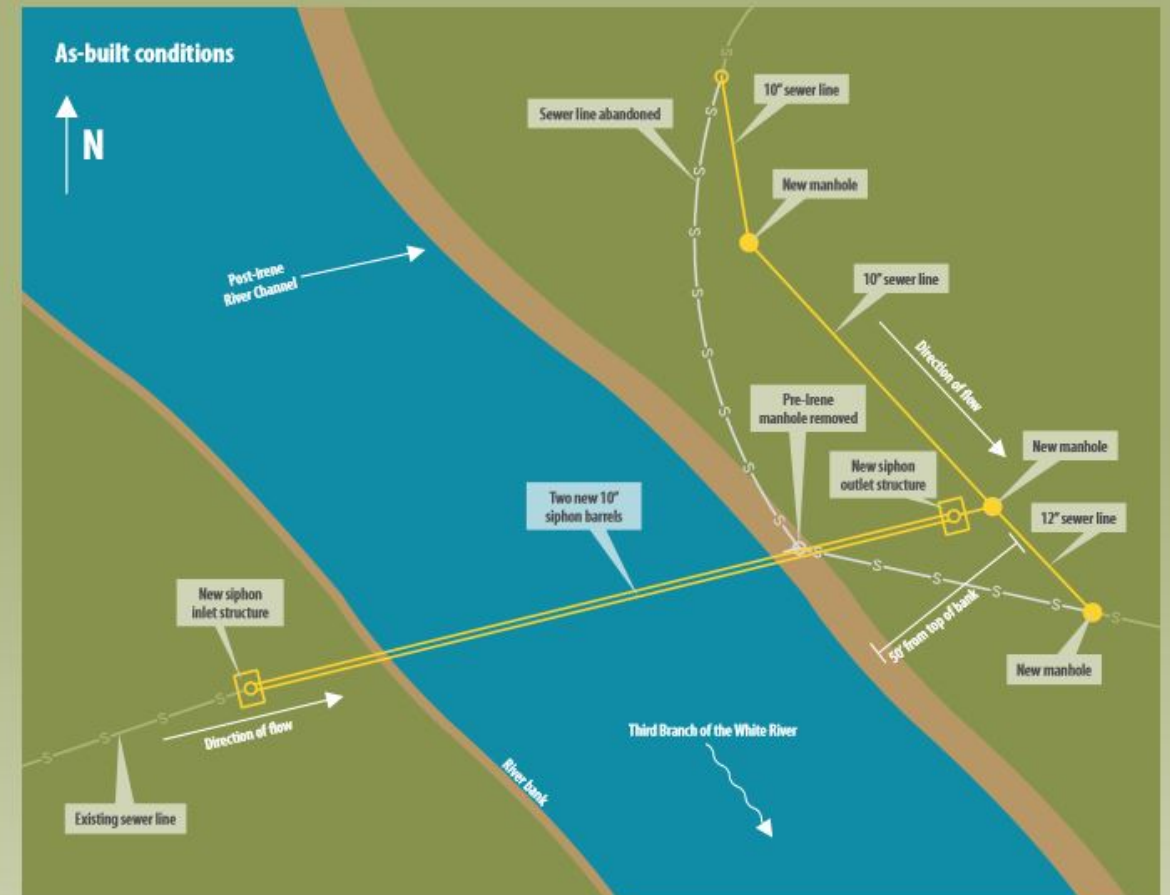




Emergency Siphon Replacement Randolph, Vermont



After flooding from Tropical Storm Irene subsided, 60% of the Town's normal daily flow was not reaching the wastewater treatment facility. At the Prince Street siphon location, the storm swollen Third Branch of the White River eroded away the eastern bank and the river migrated 80' to the east, washing away the outlet structure and the two 8" siphon barrels. This damage resulted in raw sewage from a major portion of the Town's flows discharging directly into the river. Immediate measures were taken to stop the flow of sewage into the river. A temporary bypass pumped sewage downstream about 2,000' to an unaffected siphon to convey flow across the river to the treatment facility, allowing time to design and construct a permanent siphon replacement.



The design of the permanent repair included increasing the siphon barrel diameter to 10" in order to alleviate the frequent surcharging that the 8" lines of the old siphon caused. Directional drilling was used to place the new siphon 15' below the riverbed. The new siphon outlet structure was relocated 50' back from the riverbank to reduce risks from future storm events.















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