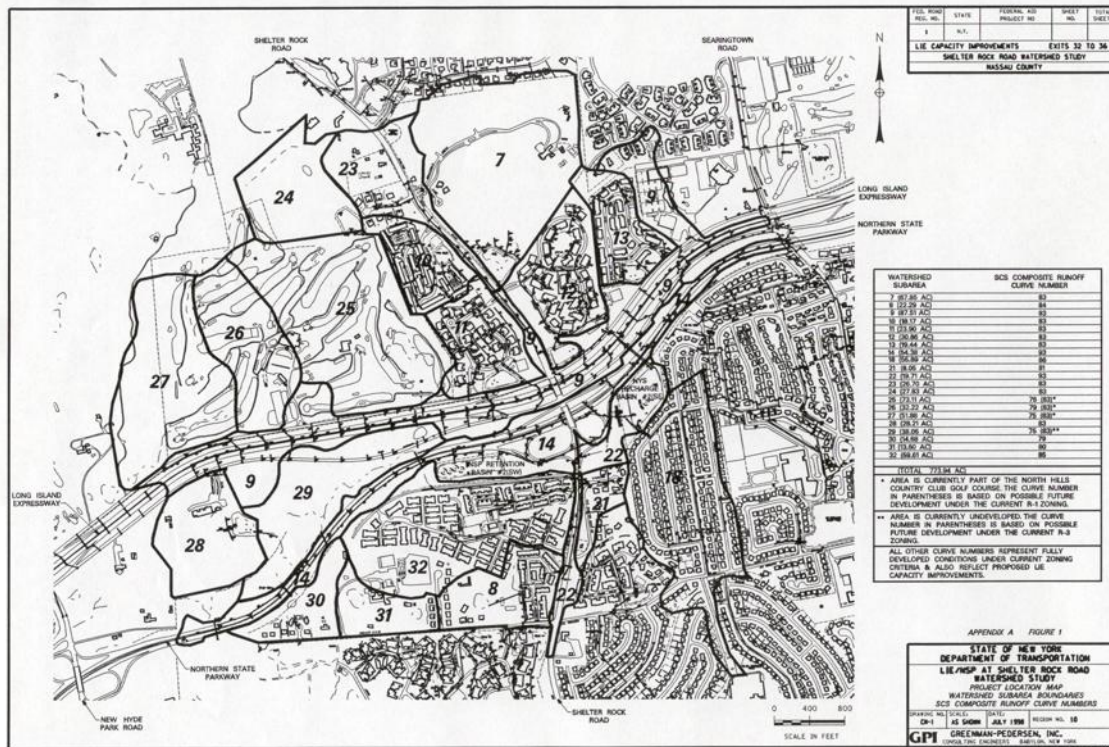


## Shelter Rock Road Watershed Study



**Client/Owner:** New York State Dept. of Transportation

**Project Location:** Nassau County, NY

GPI performed a comprehensive watershed analysis to address the intermittent flooding experienced on the Northern State Parkway in the vicinity of Shelter Rock Road. The study also evaluated the impacts from the proposed capacity improvements on the LIE on the enmeshed LIE and NSP drainage networks within this watershed. Although several recharge basins were provided in the initial construction, very poor water transmission characteristics of the soil in the project area has rendered these basins as useless.

The total watershed area analyzed was 775 acres. Because of the complexity of the existing drainage networks comprised of interconnected storage basins, looped pipe networks, pressure flow, and various outflow structures, a powerful drainage software (XP-SWMM32) was utilized to perform the complex hydrologic and hydraulic analysis.

Several series of simulations were run in order to evaluate the impacts of proposed improvements. Several alternatives including providing additional detention areas within the project limits, raising the profile of the NSP, and providing a pumping station to lower the static water elevations in existing detention basins were investigated and presented along with our recommendations to the client in a Watershed Study Report. NYSDOT chose the pumping station alternative that was then designed by GPI and will be constructed under the LIE Exits 32 to 36 Capacity Improvements Project.