

## **20: SEPTIC SUITABILITY**

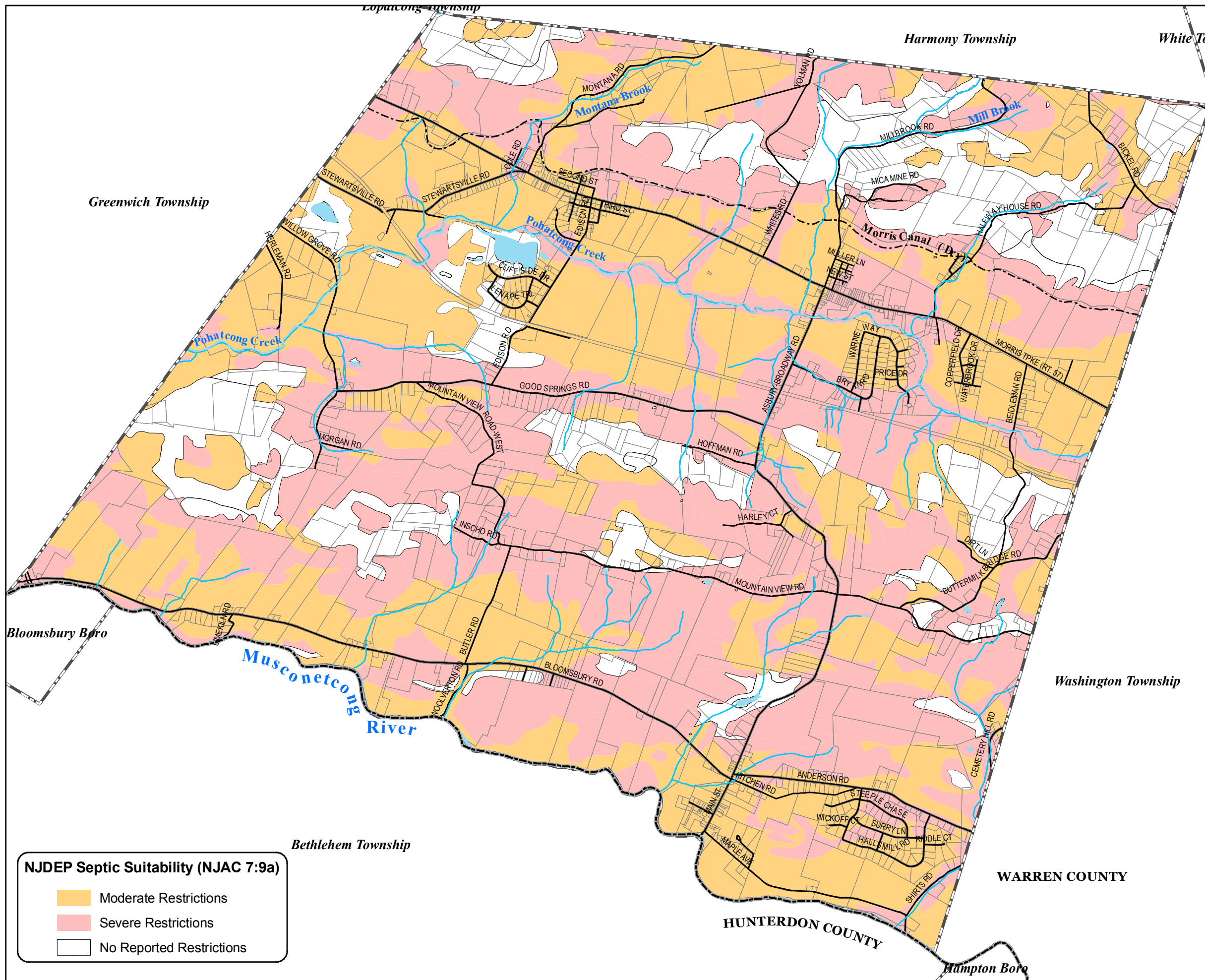
Onsite wastewater treatment (septic) systems are the dominant form of wastewater treatment in many rural and suburban townships throughout the region. As such, septic suitability is a key factor in determining whether a parcel of land may be developed for residential or other purposes requiring onsite wastewater treatment. Septic suitability may therefore be better described in terms of septic restrictions. Septic restrictions are based upon those factors that limit the performance of septic systems. There are many physical factors that can limit performance and certain limitations imposed on the discharge of septic effluent in an effort to preserve natural resources; these factors are usually codified by regulations restricting septic system construction.

Septic effluent is nutrient rich, high in minerals and salts, has elevated organic content, and is laden with pathogens. If improperly treated, the seepage of wastewater into surface waters can negatively impact water quality. Septic discharge is also regarded as a threat to drinking water derived from surface or groundwater sources. It is the septic quality of the water, or the presence of toxic microbes including coliform bacteria, that pose a risk to human health.

Septic systems are performance limited by a variety of factors, most of which are linked to local soils and geologic properties. These include, but are not limited to, proximity to surface waters, slope, depth to seasonal high water tables, and soil composition. Soil composition is an important factor in determining wastewater percolation rates. Percolation describes the movement of surface waters infiltrating the soil to groundwater sources. Soils are limited by permeability, coarse rock fragments, compaction, stratification, and composition. Percolation rates may be neither too slow nor too fast if a soil is to provide a suitable level of wastewater treatment and renovation.

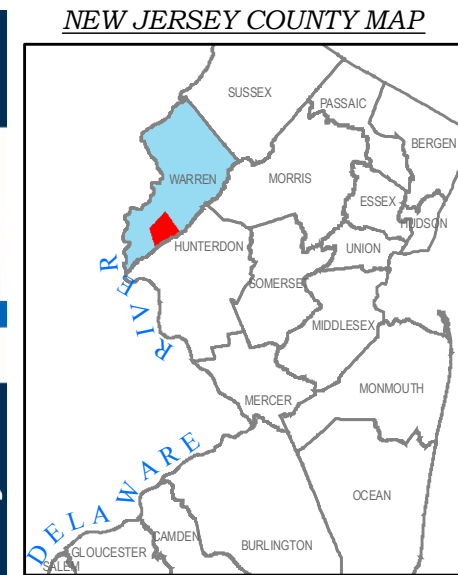
In the context of this report, septic suitability is limited strictly by soil properties, without regard to regulatory considerations as defined and detailed in NJAC 7:9A. Restrictions are classified according to the NRCS use limitations of soil units described in county soil surveys. Restrictions are classified as moderate, severe, or undefined based on six (6) specific limitations as follows: 1) fractured rock or excessively coarse substrata, 2) massive rock or hydraulically restrictive substrata, 3) hydraulically restrictive horizon or permeable substratum, 4) excessively coarse horizon, 5) regional zone of saturation, or 6) perched zone of saturation. Restrictions are classified as severe, moderate or undefined. Four (4) soil types in the Township are unavailable and include mine dump, pits, quarry, rock outcrop, Edneyville-Parker series, and Fluvaquents. All undefined types are unsuitable for septic construction due to hydrology, lack of soil, or slope.

Franklin Township has limited suitability for septic system construction ([Figure 19](#)) 41.35% of the Township has moderate restrictions, while severe restrictions account for 42.16% of the area. Severe restrictions are closely associated with riparian corridors and identified wetlands. Undefined lands, which are not suitable for septic operation, account for the remaining 16.50% of area. These areas are limited to high ridgelines and surface waters.

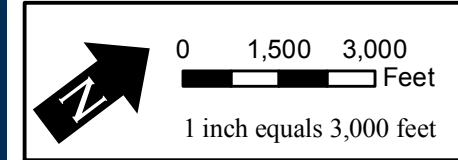


**NJDEP Septic Suitability (NJAC 7:9a)**

- Moderate Restrictions
- Severe Restrictions
- No Reported Restrictions



PRINCETON HYDRO, LLC.  
1108 OLD YORK ROAD, SUITE 1  
RINGOES, NEW JERSEY, 08551



- SOURCES:**
1. Parcel, roads and the Franklin Township Boundary data obtained from Warren County Planning Dept. "This map was developed using the Warren County New Jersey, Geographic Information System digital data, but this secondary product has not been verified by Warren County and is not county-authorized."
  2. Surface water data obtained from the NJDEP, Division of GIS.
  3. Slopes were calculated with GIS utilizing a 10 meter Digital Elevation Model (DEM).

**FIGURE 19**  
**SOILS - SEPTIC SUITABILITY**

NATURAL RESOURCE INVENTORY  
FRANKLIN TOWNSHIP  
WARREN COUNTY, NEW JERSEY

**Legend**

- County Boundary
- Municipal Boundaries
- Ponds/Lakes
- Streams**
- Streams
- Morris Canal (Dry)
- Roads
- Parcels

