



alternative  
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# WASTEWATER DISPOSAL COMMUNITY DRIP IRRIGATION SYSTEMS

## Overview

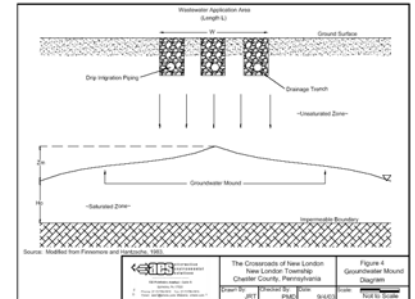
Our client plans to subdivide an approximately 193-acre rural site in southeast Pennsylvania into 104 lots for development as a residential subdivision. Water service will be provided by two onsite community water wells, with sewage service provided by a community sewer system consisting of a package treatment plant that discharges to an onsite community wastewater drip irrigation system.



Drip Area Soil Evaluation

## Challenge

- Sewage disposal planning was the key issue for the municipality.
- Avoid or minimize the loss of building lots onsite.
- Satisfy PADEP concerns for groundwater mounding and high quality stream issues related to the proposed discharge system.
- Identify sufficient areas of suitable soils to handle the volume of wastewater generated by the proposed subdivision and prepare a successful hydrogeological portion of the Sewage Facilities Module.



Groundwater Mounding Assessment

## Solution

To meet project goals, AES developed and implemented a work scope to evaluate the depth of perched seasonal high water table, depth to bedrock, slope, soil series, and onsite suitability for a drip irrigation system. The work scope was implemented in a phased approach, with each phase gathering more detailed information and building on prior work efforts. Coupled with good communication with our client, this approach enabled appropriate site layout modifications.



Drip Irrigation Area Layout

## Results

- 142 building lots, an increase of 38 units over original plans.
- Subdivision has sewage flows of ~33,400 gpd; the site has capacity for 90,000 gpd. Thus an agreement was developed with the municipality to increase the treatment system size and to use this reserve capacity to accommodate the municipality's future needs; an approach that enabled better 537 Plan revisions.
- The wooded nature of the site was retained without compromising building lots or drip irrigation system areas.

- Exceeded Client Expectations
- Satisfied Municipality
- Satisfied PADEP