

YOUR SANITARY SEWERAGE SYSTEM

The collection and treatment of your sanitary sewage is an important municipal function. When everything is operating properly, this system seems to operate unnoticed, but to keep it running smoothly 24/7 involves multifaceted operations and dedicated, trained staffs.

The Atlantic Highlands/Highlands Regional Sewerage Authority (AH/HRSA) serves residents and properties Atlantic Highlands, Highlands and some parts of Middletown¹. As an overview, the collection and treatment of the sanitary sewage flow from each building involves the property owner, the Borough, the AH/HRSA and two other sewerage authorities. Local topography plus federal and state regulations require specialized conveyance and treatment facilities, and safe and reliable sewage operations is an involved process.

Beginning in the home or other structure, sewage travels through the lines inside the building and through the lines outside of the building (called laterals) to the Borough's collection line, which is usually located in the middle of the street. The property owner is responsible for their lines, laterals and the connection going into the Borough line.

(An Important Note: Although prohibited, the Boroughs have found many connections to these sewer lines of sump pumps, floor drains, roof gutter systems, etc. These connections allow "inflow" of groundwater or stormwater into the sanitary system. Additionally, in some low-lying parts of the Boroughs, or other areas with sub-surface flows or high groundwater levels, leaking joints or breaks in the laterals can be a significant source of "infiltration" of groundwater (laterals are usually as old as the building; older construction methods used brittle clay pipes with many joints). Once this Inflow & Infiltration (I&I) enters the system, this clean groundwater & stormwater must be treated the same as sanitary sewage and it significantly increases the cost for all users. The AH/HRSA, Boroughs and others have ongoing efforts to reduce these unnecessary costs.)

The next step involves the Borough Sewer Departments (one for Atlantic Highlands and one for Highlands) – they are responsible for the lines "collecting" the wastewater delivered through the property laterals and conveying it through their collection system to an AH/HRSA Pumping Station. These Borough lines,

¹ The State has approved the use of septic systems in some of the areas that are not served by Borough collection systems.

manholes and connections (some of which are very old) are also subject to I&I. Each Borough has a state licensed operator and a small staff to service and maintain their system, as well as employing outside contractors for major renovations.

Once the raw sewage is received at an AH/HRSA Pump Station there are several processes necessary before it can be conveyed to the Township of Middletown Sewerage Authority (TOMSA). The AH/HRSA operators (all licensed by the state) operate grinders, equalization basins, mixers and other equipment necessary to pump the sewage through its force mains (pressurized pipes). In most parts of the collection system, sewage flows by gravity through sloped lines² but topography dictates that the AH/HRSA use large and specialized pumps and high pressure lines in its conveyance system. During this step, chemicals are added for odor containment and to minimize the corrosive effects of sewage. The longest path begins at the Highlands Pump Station, where sewage from Highlands, and a small part of Middletown, is pumped to the Atlantic Highlands Pump Station. It is then combined with the sewage from Atlantic Highlands and then pumped to the large TOMSA lines in Leonardo.

Once in the TOMSA lines, the flow combines with sewage from Middletown and flows by gravity to the TOMSA Treatment Plant in Belford. There TOMSA uses several processes to convert sewage into treated, “clean” water. This water is then delivered to the adjacent Monmouth County Bayshore Outfall Authority (MCBOA) pumping plant.

Finally, MCBOA takes the treated water and pumps it back through Middletown, Atlantic Highlands and Highlands and discharges it in the ocean off the coast of Sandy Hook.

Note: The sewer bill you receive from the Borough includes the costs for all of the steps in the collection-treatment-disposal process as well as the long-term (capital) costs of building and upgrading the systems. TOMSA bills AH/HRSA for the costs associated with treating the wastewater as well as costs from MCBOA to transport the water to the ocean; AH/HRSA bills each Borough for those costs plus its operating costs (in proportion to the actual flows from each Borough); the Borough combines these costs with its own operating costs and determines the billing rates for residents.

² In some parts of the Borough collection systems, “lift pumps” are needed for low-lying areas or to go over hills.