

# THE NARRAGANSETT BAY COMMISSION

## Division of Environmental Science & Compliance

### PROJECT HIGHLIGHT

#### Field's Point Wastewater Treatment Facility, Providence, RI



*Aerial view of the Field's Point WWTF*

The Field's Point Wastewater Treatment Facility (WWTF) is one of the oldest treatment facilities in the country, originally constructed in 1901. It is the second largest WWTF in New England, serving 250,000 people and approximately 8,000 industrial and commercial customers located in the cities of Providence, North Providence, and Johnston. Field's Point is regulated and permitted by the Rhode Island Department of Environmental Management (RIDEM).

Field's Point is designed to provide advanced secondary treatment for up to 91 million gallons of wastewater per day (MGD). Processes include screening and grit removal, primary settling, biological nutrient removal (BNR), secondary settling, and disinfection via chlorination and dechlorination. Field's Point is also able to provide primary treatment and chlorine disinfection to an additional 109 MGD of wet weather flows, when the flow rate to advanced secondary treatment is exceeded.

Over the past 30 years, the plant has undergone numerous upgrades. One of the most recent upgrades was addition of Biological Nitrogen Removal (BNR), to reduce effluent total nitrogen to 5 mg/L or less. The BNR process at Field's Point is achieved through an Integrated Fixed-Film Activated Sludge system (IFAS), the largest such system in the world. The process uses millions of small "wagon-wheel" shaped media to increase surface area for the growth of nitrogen-removing bacteria. Since 2003, the effluent nitrogen from Field's Point has been reduced by over 80%. This reduction in nitrogen has contributed to significant nitrogen reductions throughout Narragansett Bay.



*IFAS media covered in biological growth*



*Field's Point wind turbines*

The NBC built the first wind farm in Rhode Island in 2012

at Field's Point to provide power to the facility and reduce greenhouse gases. The three 365-foot tall wind turbines are each capable of generating up to 1.5 mW of electricity, and produce approximately 45% of the energy needed for plant operations.

The efficient operation of the Field's Point WWTF is of utmost importance to public health and the health of Narragansett Bay. Treatment plant processes are continuously monitored, and samples are collected throughout the day for analysis at the onsite NBC Laboratory. The Field's Point WWTF has received numerous awards for its outstanding operation including recognition from the EPA and the National Association of Clean Water Agencies.

For further information, please contact the NBC at:  
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Visit the NBC's websites – [www.narrabay.com](http://www.narrabay.com) & <http://snapshot.narrabay.com/app/>  
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