

Wastewater Engineering: Pressurized Sewer Force Main



Figure 1, Horizontal Directional Drilling, in Order to Connect the Pump Chambers to the Nearby Town Sewer Manhole.

Wastewater Engineering

Norfolk Ram Group, LLC (Norfolk) was retained by the client, in order to solve wastewater disposal problems associated with their multi-parcel industrial property. The existing on-site septic systems would not pass Title V inspection due to the combination of system age and elevated water table. The engineering work included design and permitting services, construction cost estimates, bidding services, and construction oversight. After evaluation of existing site conditions, wastewater flows, and alternative solutions and costs, Norfolk prepared design plans and specifications for a new local sewer system tied to a pressurized sewer force main system to serve that parcel site, and the abutting businesses, located in Wareham, Massachusetts. The new sewer force main system collects and discharges the domestic sewage into the Town's sewer system located approximately 350 feet away (the Town was unwilling to extend sewer service to this area).

Norfolk completed and submitted all of the necessary licensing and permitting applications for this project, including the license agreement with the Executive Office of Transportation and Construction (for pipeline crossing of a rail line), a Project Notification Form for the Massachusetts Historical Commission, and a Sewer Connection Permit for the Massachusetts Department of Environmental Protection.

Scope of Services

In an effort to provide wastewater engineering services for the client, Norfolk performed the following tasks:

- Project design included new gravity sewers and manholes to tie in the existing sewer lines from seven separate locations where flow is transferred into two new pump chambers.
- Pump chambers were designed to provide 24-hour emergency storage of the site's design flow, and were equipped with high/low level probes connected to both audible and visual alarms.
- The two pump chambers were each equipped with dual stainless steel grinder pumps.
- Horizontal directional drilling was used to install the force main, in order to connect the pump chambers to the nearby Town sewer manhole, allowing for time, cost and local traffic pattern minimizations.



Figure 2, Sewer Pipe Installation

Contact Information: For more information regarding Norfolk’s work on wastewater engineering, or other services, please contact Mark S. Bartlett, P.E. at 508-747-7900, or reach us online at www.norfolkram.com.

Norfolk Ram Group Services

Norfolk is an engineering, consulting and project management firm specializing in comprehensive environmental management for industrial and real estate clients, municipal and government agencies, and the military. The company’s capabilities include, environmental site assessments, risk characterizations, remedial investigations and design, and civil/environmental engineering for site development, including water and wastewater services. Norfolk’s primary goal is to provide clients with a full-service commitment, immediate responses, high quality consulting, and cost-effective solutions to engineering and environmental concerns.

Core Service Areas

- Site Assessment & Remediation
- Brownfields Sites
- Forensic Work
- LSP Services
- 21J Management
- Environmental Permitting
- Civil/Site Development
- Municipal Consulting
- Stormwater Controls & Management
- Air & Wastewater Treatment
- Watershed Management
- Industrial Consulting
- TURA/Waste Minimization

www.norfolkram.com

One Roberts Road • Plymouth, MA • 02360
Phone: (508) 747-7900 Fax: (508) 747-3658

25 Birch Street, Bldg B • Milford, MA • 01757
Phone: (508) 478-1276 Fax: (508) 478-1498