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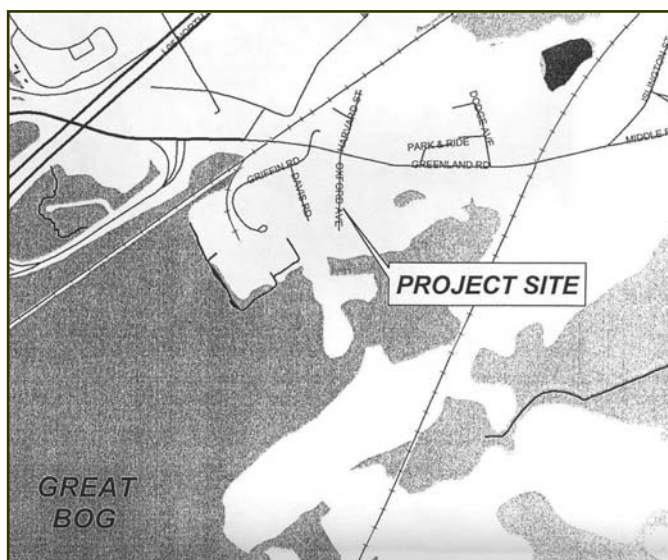
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Oxford Avenue Sewer Extension Project in the City of Portsmouth

A Final Report to
The New Hampshire Estuaries Project



Submitted by

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January 2005

This report was funded by a grant from the New Hampshire Estuaries Project, as authorized by the U.S. Environmental Protection Agency pursuant to Section 320 of the Clean Water Act.



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Executive Summary

Financial support provided by the New Hampshire Estuaries Project (NHEP) to the City of Portsmouth helped with the cost of installing a new sewer line at Oxford Avenue that replaced the on-site subsurface disposal systems (septic systems) for fourteen homes. The homes border the Great Bog and Pickering Creek watersheds. The construction occurred during the autumn of 2004.

Introduction

The City of Portsmouth is actively identifying areas with failing septic systems and, where feasible and practical, extending sewer lines to replace the on-site sanitary waste disposal with sewer service. The New Hampshire Estuaries Project funded a previous sewer extension project in Portsmouth on Brackett Road. The Brackett Road sewer extension resulted in the elimination of direct discharges from failing septic systems into Back Channel. This project involved construction of a new sewer line on Oxford Avenue which borders the Great Bog and Pickering Creek watersheds (Appendix A).

Project Goals and Objectives

The purpose of this project was to eliminate the existing pollution discharge of failed septic systems from the Oxford Avenue residences into the Great Bog and Pickering Brook. This was accomplished through the construction of a combined gravity and low pressure sewer system. Homeowners were responsible for tying into the sewer services at the edge of their property line.

Activities

The City of Portsmouth submitted a proposal for the construction of a new sewer extension to replace failing septic systems to the New Hampshire Estuaries Project Water Quality Team for funding consideration. The Water Quality Team made a recommendation to fund the project during the April 2, 2004 Team meeting. On June 17, 2004, the New Hampshire Estuaries Project Management Committee approved the award of funds to the City of Portsmouth for the new sewer extension in

accordance with the NHEP Management Plan action for improving water quality in the seacoast. The Management Committee approved the use of funds that were originally granted to the New Hampshire Department of Environmental Services (DES) in the 2003 Memorandum of Agreement between DES and the former Office of State Planning approved by the Governor and Executive Council on March 19, 2003. DES administered the project grant.

DES sent the City of Portsmouth a Grant Agreement complete with a scope of services and payment schedule. The signed agreement was returned to DES on July 15, 2004. On August 31, 2004, DES notified the City of Portsmouth that the Grant Agreement was approved by the Governor and Executive Council at the August 18, 2004 meeting. Work could now begin on the project.

The scope of services gave the City the option of issuing a notice of bid for the sewer extension work or conducting the work with City labor and equipment. The City opted for using its own staff and equipment.

Final design plans were completed and materials were purchased. The City installed approximately 400 feet of gravity sewer and 300 feet of low pressure sewer along Oxford Avenue (Appendix B). Each of the residences were provided with individual service with valves to their property line. Permanent pavement repairs were made to the roadway.

Outcomes and Discussion

Fourteen homes in the Pickering Creek/Great Bog watershed had their failing or aging septic systems taken off line through the installation of a sanitary sewer line on Oxford Avenue in Portsmouth.

The New Hampshire Estuaries Project Management Committee carefully reviews requests for funding to support extensions of sanitary sewer lines. Caution is taken to ensure the sewer extension project eliminates pollution discharges to surface waters but does not promote sprawl-like growth in rural areas. The Oxford Avenue sewer extension project, as well as a previous NHEP-funded extension projects on Spur Road in Dover and Brackett Road in Portsmouth, extended sewer to developed areas that are completely or almost completely built out.

The most recent DES Nonpoint Source Management Plan lists Subsurface septic systems as third out of twelve in its priority list of current nonpoint source categories. The prioritization was based on factors that include danger to public health, magnitude and pervasiveness of the potential threat and potential impacts to receiving waters. Pollution from failing or poorly situated septic systems is a real threat to water quality.

Conclusions

Financial support from the NHEP for the Oxford Avenue sewer extension represented only 13% of the total project costs. This relatively small but significant

support results in protection to the Great Bog and Pickering Brook from nutrient and bacterial pollution which helps the NHEP make progress toward its water quality goals. The municipal wastewater treatment facility is capable of treating the additional influent load from the homes and businesses that currently rely on failing and aging septic systems in various areas of the City. While costly, the solution of extending sewer to developed areas with aging waste disposal is an effective way of reducing water quality impacts to surface waters in the Great Bay watershed.

Recommendations

There are still areas in the City of Portsmouth that have buildings serviced by septic systems for sanitary waste disposal. Three areas have been identified by the City as priorities for replacing the septic systems with sewer service. These areas include Davis Road which drains to Hodgson Brook; Jones Avenue which drains to Sagamore Creek; and the Pleasant Point area which drains to Back Channel.

The City will likely be requesting funds to assist with the construction of sewer lines to these already developed areas. Each of these waterbodies has been identified by DES as waterbodies with elevated bacteria levels.

Appendix B

