

# GIS Services: Watershed and Water Distribution System Management

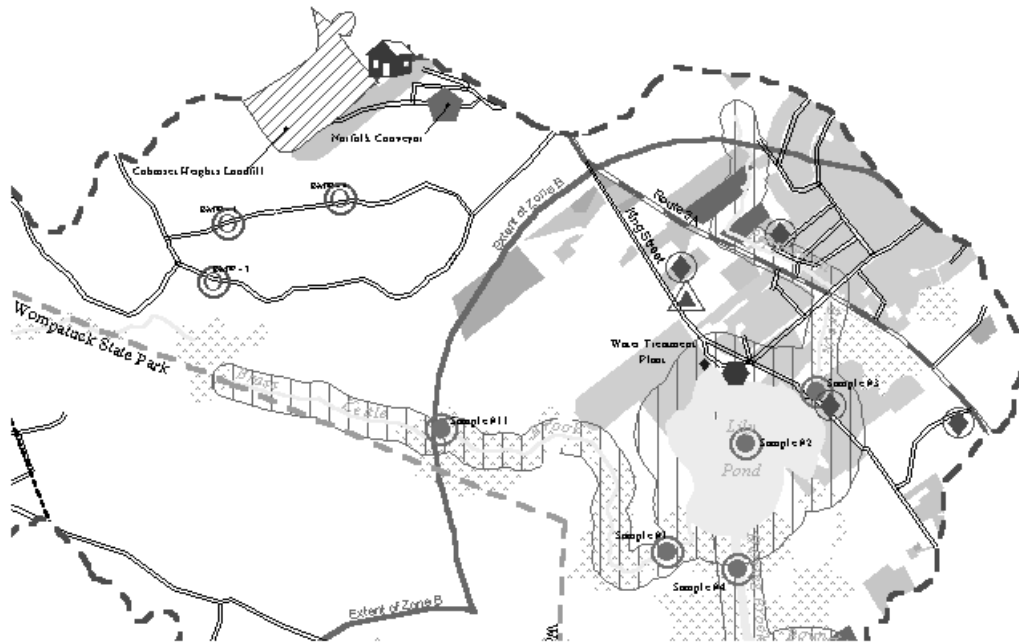


Figure 1 Potential Threats to the Lily Pond/Aaron River Reservoir Watershed

## Watershed Mapping

ArcView is a type of Geographic Information System (GIS) software that facilitates the organization, maintenance, visualization, analysis and dissemination of maps and spatial data. Norfolk Ram Group, LLC (NRG) utilized ArcView to develop a suite of maps of the Lily Pond/Aaron River Watershed for the Cohasset Board of Water Commissioners.

The maps were generated to delineate the following characteristics associated with the Cohasset Watershed:

- Land-Use Activity
- Potential Threats to the Watershed (e.g.: spills, releases, and the presence of 21E sites)
- Municipal Zoning and Open Space/Protected Areas
- Parcels of Unknown Ownership
- Parcels Deemed Undevelopable

An ArcView map excerpt depicting potential threats to the watershed is illustrated in Figure 1.

In this example, an ArcView user has the ability to query historical sampling data point locations within the watershed. The sampling data might include information such as conductivity, turbidity, nitrate concentration, and alkalinity. Based on this information, trends in water quality can be assessed and graphed using the graphics function within ArcView.

## Water Distribution System

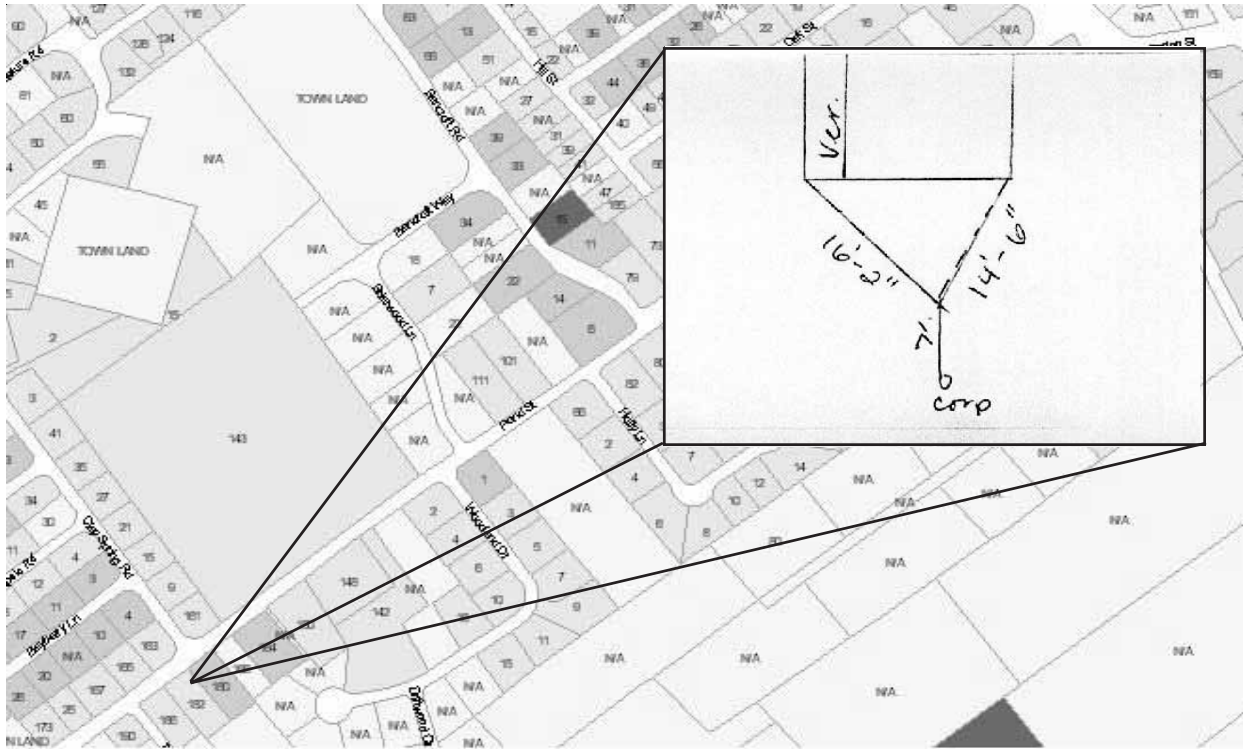
NRG developed a customized ArcView application which will assist personnel at the Cohasset Water Treatment Plant in managing water distribution records more efficiently. This computer customization of ArcView provides information on Cohasset's existing water distribution infrastructure.

Using ArcView, a user can obtain information from scanned field cards through clicking an assessor parcel, hydrant, or gate valve. The user can then print selected scanned field cards for use on the site.

Furthermore, a user can click on water main segments and view water system as-built drawings, as well as any scanned images associated with each segment. The user can then pan and zoom to a selected area within an as-built "window" and print the results.



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**Figure 2**, Example of Assessor Parcel map with Service Connection Field Card extracted from GIS database

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**Contact Information:** For more information regarding NRG’s work on SWSPPs or other services, please contact Mark Bartlett, P.E. at 508-747-7900 or reach us online at [www.norfolkram.com](http://www.norfolkram.com).

### Norfolk Ram Group Services

NRG 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, regulatory compliance, environmental permitting, environmental due-diligence, site assessment, remedial design and construction, site remediation, waste minimization, and water management. NRG’s primary goal is to provide clients with a full-service commitment, immediate responses, high quality consulting, and cost-effective solutions to environmental concerns.

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