

Staten Island History and Bluebelt Land Acquisitions

by Dana F. Gumb, Jr.

In comparison to the hustle and bustle of the other four boroughs, Staten Island is indeed an anomaly. The Island's population of 450,000 is considerable, making it the second largest city in New York State if it were a separate city. However, despite that sizable population and the rapid growth the Island has experienced, it still retains a unique character when compared to the rest of the City. This is especially true in South Richmond at the far end of the Island, the most southerly point of New York City and the State.

Because of that isolation, South Richmond is the final frontier for sewer development in New York City. One reason for the long delay was the lack of a stormwater management strategy in the area, given that the last significant stand of freshwater wetlands in the City exists there. The conventional approach of putting all stormwater in a pipe would have dewatered most of those wetlands, since many are dependent on surface runoff. An inability to resolve that question put the sewer capital program at a standstill. Neither sanitary sewers nor separate storm sewers could be built in the area since good practice is to build both at the same time. The City's policy is to dig up streets only once; by building both sewers, the storm sewer system can complement the sanitary network by keeping storm flows out of it.



Photo courtesy of NYCDEP

The construction of the Verrazano-Narrows Bridge ignited a construction boom on Staten Island.



Photo courtesy of NYCDEP

Areas of the Island, especially on the southern shore, have retained their rural character.

Bluebelt Concept Emerges

The logjam in the sewer capital program for South Richmond was broken by introduction of the Bluebelt concept in the 1980s. The new approach relies upon the preservation of streams, ponds and other wetland areas, allowing them to perform their natural functions of conveying, storing and filtering stormwater. The preserved wetland areas are dubbed "Bluebelts" because they tend to be linear, riparian corridors. This idea is in line with the concept of stream valley parks which has been a familiar idea for suburban land planners since the 1960s.

As described elsewhere in more detail, the Bluebelts accept stormwater from conventional storm sewers in the beds of city streets. At each discharge point for the sewers where the gray infrastructure ends and the green infrastructure begins, a best management practice (BMP) is created in the Bluebelt. These BMPs are special drainage facilities that mitigate the impacts of urban stormwater discharges into the wetland systems.

This article presents some of the historical background of the Bluebelt system and also focuses on the land acquisition effort that enabled it. Securing the land along the drainage corridors was the most important factor in creating the Bluebelt. In locating a gas station or a housing development, many different locations in South Richmond can be considered. But the Bluebelt can be located only in the low-lying, wetland areas where the hydraulic grades are appropriate for drainage.

History of Island's Development

Among the many notables who have been connected with Staten Island, Henry David Thoreau worked there tutoring children of Ralph Waldo Emerson's brother. According to *The New York Times*, Staten Island had 22 species of orchids and 1,000 ponds in Thoreau's time (1817-1862), though the tally now is only six species of orchids and 28 ponds. The first wave of development that ultimately resulted in such a change of the natural landscape was the construction of a railroad line across the Island. Land development was concentrated in villages that grew up around the stations. The railroad exists today as the Staten Island Rapid Transit System.

During the booming 1920s, a land rush took place in South Richmond. Small urban lots, typically 40 feet wide by 100 feet deep, were created by subdivision. In many cases, they were probably sold sight unseen to unsuspecting customers. A grid system of streets was mapped with no regard for topography or other natural features, such as streams and ponds. Many of these streets were graded but never opened and are known as "paper streets."

In the Depression of the 1930s, many owners of those lots could not make their property tax payments, and the City took title to them through the *in rem* process. The properties that went into the City's ownership tended to be the least developable ones, because they were either underwater or located in marshes or swamps. Only later did those areas become known as "wetlands" and take on some significance beyond simply being wastelands waiting to be "reclaimed."

Since the opening of the Verrazano-Narrows Bridge connecting Brooklyn with Staten Island in 1964, and the construction of the ancillary highway network, land development has been in the



Preservation of South Richmond's unique open space areas is a key goal of the Bluebelt.

scattered pattern of auto-oriented settlement. In 1967, developer and visionary James Rouse attempted to do better and proposed a Columbia, Maryland-style new town in the largest concentration of City-owned property. The plan featured clustered housing and high-density town centers. It prompted intense public opposition and was disapproved, leading to the establishment in 1975 of the Special South Richmond Development District in the Zoning Resolution of the City of New York.

The Development District established a conservative land policy

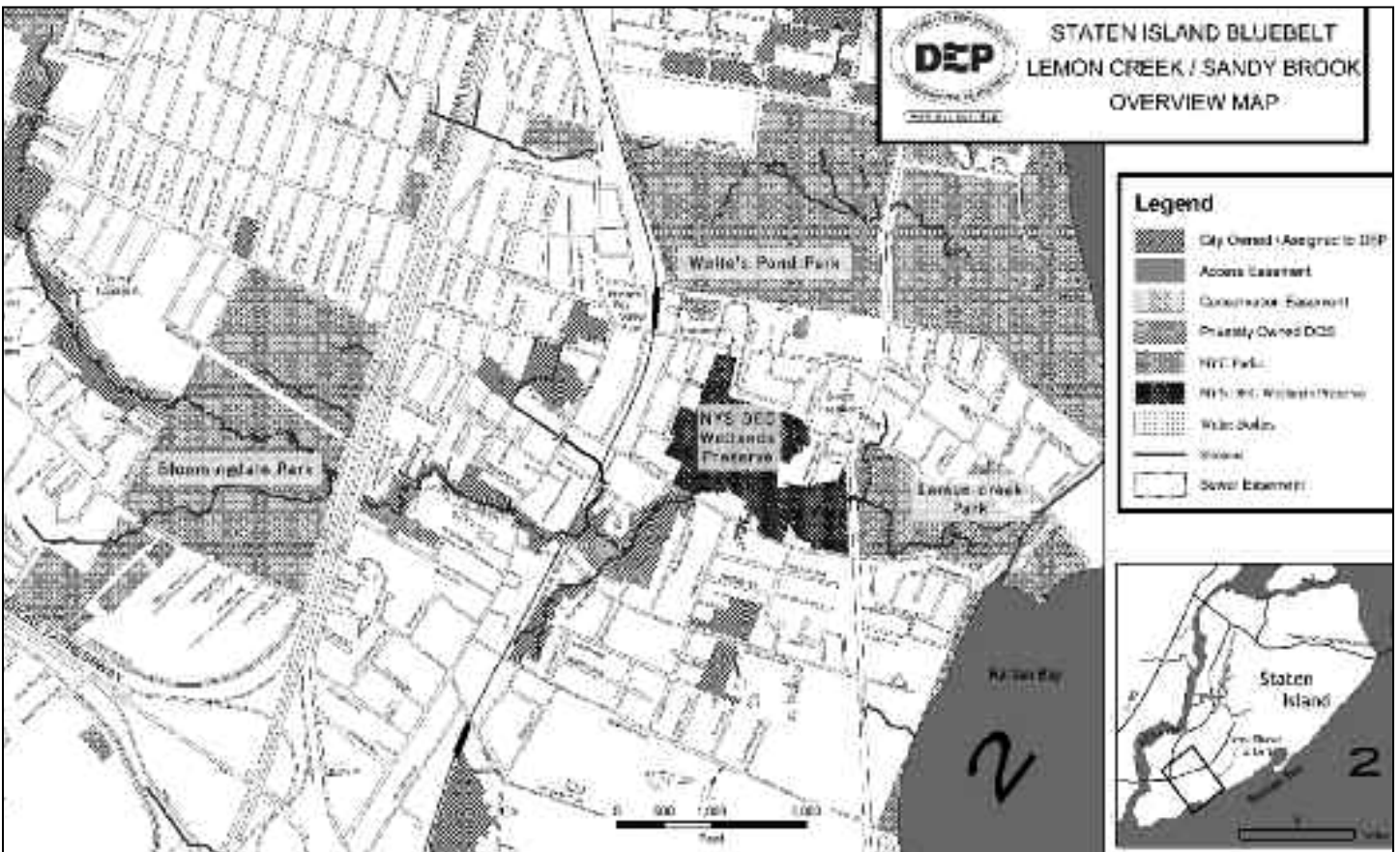
for South Richmond, seeking to preserve its low-density open character. Most importantly for the Bluebelt, the district was the City's first effort to preserve some of the stream systems. Earlier in the 1970s, during the era of Mayor John Lindsay, some city planners had advocated a system of Staten Island "fenways" (a fen is a type of wetland fed by surface and/or ground waters), harking back to Frederick Law Olmsted's vision for Boston's "Emerald Necklace" – several linked green spaces of parks and waterways. The district's Open Space Network (OSN) was the first real effort at preservation, albeit through regulation rather than acquisition.

The OSN consists of about 700 acres that are to remain in their natural state. The open space was mapped primarily on City-owned property taken through tax delinquencies. The mapping had the effect of land-banking the property and prevented the City from auctioning it off for development

Following the creation of the OSN, the New York State Department of Environmental Conservation (NYSDEC) began regulating development in an extensive system of freshwater and tidal wetlands. During the 1980s, the state issued a series of maps for the freshwater wetlands on the Island, including the streams and ponds of importance for stormwater management. The ongoing regulatory program has resulted in the preservation of some wetland areas with significance for the overall drainage system.

Finally, the New York City Department of City Planning issued a report in October 1989, "South Richmond's Open Space Network – An Agenda for Action: Stormwater and Open Space Management." The report advocated using the network as a stormwater management system. It propelled the New York City Department of Environmental Protection (NYCDEP) into the next phase of the project, the land acquisition program for the Bluebelt.

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The Bluebelt property corridor is made up of NYCDEP acquisitions, Parks and Recreation property, state conservation lands and other open spaces.

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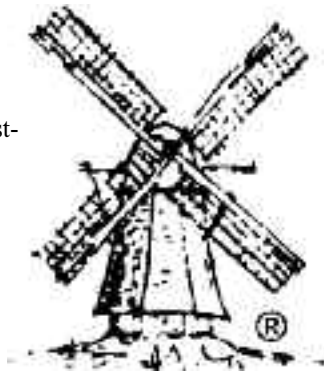
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Land Acquisition Effort

Starting in the mid-1990s, the NYCDEP embarked on a major wetland acquisition effort that has resulted in the creation of seven Bluebelt corridors in South Richmond. Approximately 325 acres have been purchased by NYCDEP in South Richmond and are under Bluebelt management. In addition, Bluebelt streams are preserved and in some cases Bluebelt BMPs are constructed and maintained on other publicly-owned properties such as city parkland and state wetland preserves.

At the outset, justification was necessary for acquiring wetland areas with public funds when they were already highly regulated. Many thought that wetland regulation was synonymous with complete wetland protection when, in fact, mapping of a regulated wetland on a piece of property is not a guarantee that the wetland will be there in perpetuity. On Staten Island, many of the individual properties are so small – many only 40 by 100 feet – that there is no way to accommodate both a reasonably scaled development and significant wetland preservation. More importantly, the NYCDEP has to have control of the wetlands in order to build and manage BMPs. Those arguments proved effective in making the point that public acquisition of some key parcels along the Bluebelts was essential.

Also at the outset, NYCDEP top management made the fundamental decision to proceed immediately with the acquisition of wetland parcels that were most needed along the streams. The land acquisition began immediately and did not wait for preparation of drainage plans that fit the wetlands into the overall stormwater management system. Those plans ended up taking many years to complete, and wetland properties would have been lost to development if acquisition had not begun at the outset. The NYCDEP decided to acquire only unimproved properties. Displacing residences and buying houses or other improvements only to tear them down did not make economic sense.

Approval Process for Acquisitions

The first hurdle in the approval process for the acquisitions was review by the City's Office of Management and Budget. The underlying economic rationale for the wetland acquisition program was that the preservation of streams, ponds and other wetlands would be less expensive than the construction of conventional storm sewers. For each wetland acquisition project, this hypothesis had to be proved with a detailed cost/benefit study that compared the costs of conventional trunk storm sewer construction to the cost of wetland acquisitions. The economic rationale for wetland acquisition, using comparisons with storm sewer construction, may be unusual in the world of natural resource preservation. The current buzzword in that world is "ecosystem services" which attempts to quantify the economic benefits of natural areas like wetlands that provide a service such as stormwater management.

The cost/benefit studies used the 30-year-old drainage plans for South Richmond as a baseline. These plans were prepared before wetlands regulation become effective, the OSN was created and many city and state wetland preserves were mapped. The old plans called for paving over streams and other surface water features and assumed that storm water would flow into trunk sewer lines. With the Bluebelt approach, many sewer lines would not have to be built, since the stream and adjacent floodplain property could accommodate the flow, assuming that BMPs are in place for flood peak reductions. If storm sewer construction costs were greater than wetland acquisition and BMP costs, then the project was approved. In total, the Bluebelt project has saved about \$80 million over the conventional trunk

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Photo courtesy of NYCDEP

Aerial photo: As part of the Bluebelt system, the NYCDEP acquires undeveloped property along stream corridors, which often includes the rights-of-way of streets that would bisect wetlands. These streets are then “demapped.”

sewer approach.

By linking wetland acquisition to savings in the construction of stormwater sewers, NYCDEP was able to establish a strong economic argument for wetland preservation. That argument secured support from the budgetary oversight agency within city government, while other positive benefits of wetland preservation, such as providing both neighborhood open space and wildlife habitat, helped garner backing from the general community.

In the most recent phase of wetland acquisition for the Bluebelt, NYCDEP is in the process of doubling Bluebelt acreage by creating three new Bluebelts in the Mid-Island area of Staten Island – New Creek, South Beach and Oakwood Beach. In its role as the provider of stormwater management, NYCDEP has become a major owner of wetland properties which serve a valuable flood control function.

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