



YONKERS FLOOD DAMAGE REDUCTION PROJECT



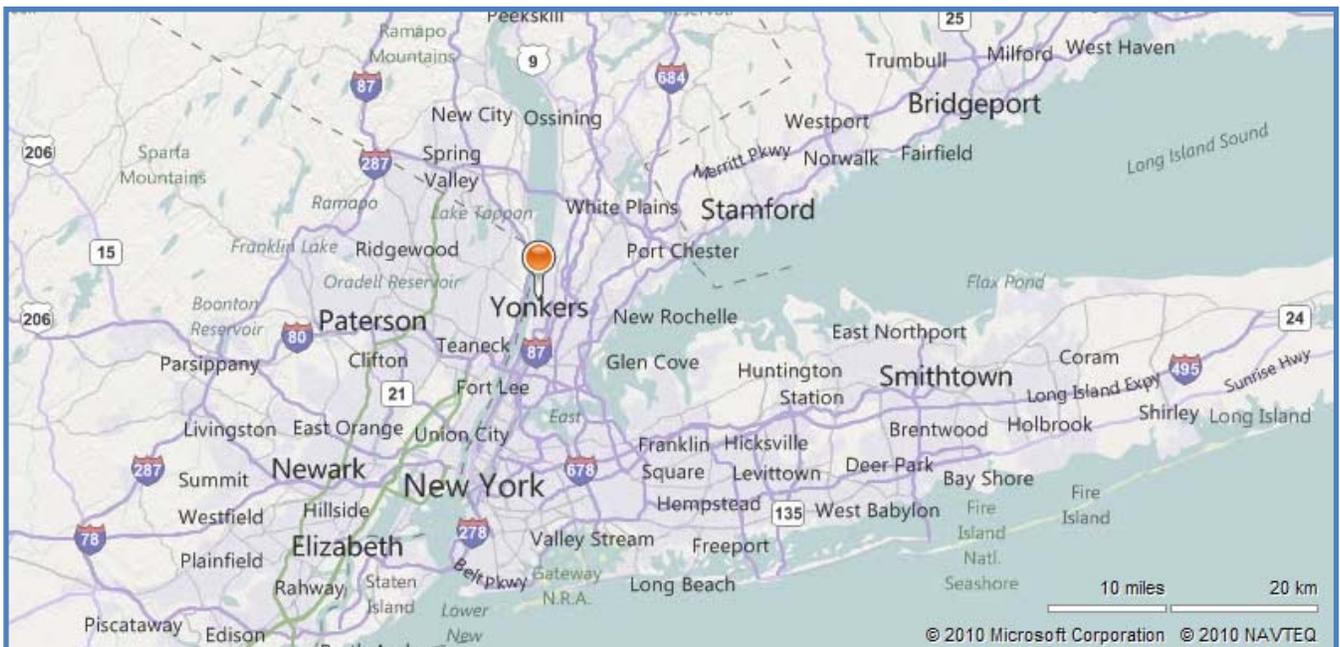
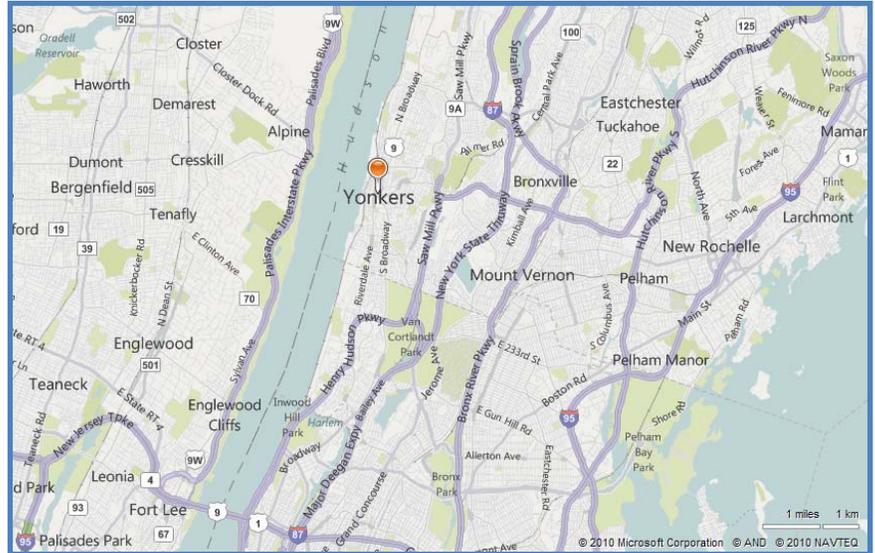
Department of
Environmental Conservation

Operated and Maintained by: *The City of Yonkers*

*Region 3 Counties: Dutchess,
Orange, Putnam, Rockland,
Sullivan, Ulster, Westchester*

PROJECT LOCATION

The project area is located on the Saw Mill River in the City of Yonkers, Westchester County, in New York State. The project begins 300 feet downstream of the Old Croton Aqueduct and extends upstream 8,722 feet to a point about 470 feet upstream of the Old Nepperhan Avenue Bridge



PROJECT DESCRIPTION

Initial project at Yonkers

The drainage area of the Saw Mill River at the upstream limit of the project area is 24 square miles, 25.6 square miles at the downstream limit, and 26.5 square miles at the mouth. The project is described as follows:

- The first section is 50 feet of excavated and riprap lined channel required to transition from the existing river section 300 feet downstream of the Old Croton Aqueduct, to the downstream end of the concrete channel 250 feet downstream of the Old Croton Aqueduct.
- The second section is a concrete channel that extends from 250 feet downstream of the aqueduct to 170 feet upstream of the aqueduct, and from 170 feet downstream of the Ashburton Avenue Bridge to the upstream face of the Old Nepperhan Avenue Bridge. This channel is U-shaped, and is the major portion of the project. It includes all modification of existing structures, relocation of utilities, access ramps, and a drainage structure, as well as interior drainage facilities, and planting requirements.
- The third section extends from 170 feet upstream of the Old Croton Aqueduct to 170 feet downstream of the Ashburton Avenue Bridge, and is a combination of concrete and riprap channel, 20 feet wide at the bottom, with sides alternating between vertical concrete walls and 1:2 riprapped side slopes. Smooth concrete transitions are provided at each change of section. This reach includes interior drainage facilities.
- The fourth section begins at the upstream face the Old Nepperhan Avenue Bridge, and extends 472 feet upstream. It is a riprap lined trapezoidal channel 20 feet wide with 1:2 side slopes. Steel sheet piling wing-walls provide a transition from the concrete channel to this section.

PROJECT DESCRIPTION (continued)

Nepera Park and Tie-In Modifications

The drainage area of the Saw Mill River in the vicinity of Tompkins Avenue is approximately 22.6 square miles.

The project consists of the following:

- A channel modification that follows the alignment of the Saw Mill River. In the Nepera Park part of the project, the channel has a trapezoidal shape, with side slopes of 1: 2.5 and a bottom width of 10 feet.
- Length of the total improvement is 8,332 feet. All bridges within the project limit have riprap for a distance of 50 feet on the upstream and downstream sides.
- Approximately 7,500 linear feet of the channel-improvement is lined with crushed stone blanket to assure stability. The crushed stone layer was placed to a height of one foot above the one-year frequency flood along the channel side slopes. The remainder of the side slopes was grassed to the top of the bank.
- The old water works dam above Old Nepperhan Avenue was replaced with a new concrete weir structure.
- A sanitary siphon located 900 feet downstream of Tompkins Avenue replaced a 15-inch diameter sanitary line below the improved channel cut.
- Capping of channel walls at the existing Yonkers flood control project. The walls were capped for a total of 895 feet
- 9 automatic drainage gates were installed within the Yonkers project limits, between Ashburton Avenue and Torres Place
- The Tie-in portion consists of 1,066 feet of trapezoidal channel with bottom widths varying from 20 feet to 10 feet and side slopes of 1:2.

PROTECTION PROVIDED

The authorized project provides protection to the area, against a stream discharge of 1,450 cubic feet, which at the time of this project’s construction was 42 percent greater than the largest flood on record, which occurred in September 1975. The design discharge at this time was also 55 percent of the Standard Project Flood, and had a frequency of occurrence of approximately once 180 years.

Saw Mill River at:	Largest Flood of Record: April 1984 (cfs)	Design Flood : Peak Discharge (cfs)	Design Flood as a percentage of Largest Flood of Record
Yonkers	1245	1638	132
Tie-in	1215	1405	116
Nepera Park	1207	1430	118

The new Largest Flood of Record took place during Tropical Storm Irene of August 2011, which is 1,970 cfs, or ft³/sec.

PROJECT AUTHORITY

Initial project at Yonkers

The project was authorized by Section 204 of the Flood Control Act of 1965, and endorsed by the New York State Department of Environmental Conservation on April 9, 1974.

Nepera Park and Tie-In Modifications

The project at Nepera Park was authorized under the small project authority provided by Section 205 of the Flood Control Act of 1948, as amended.

CONSTRUCTION

Initial project at Yonkers

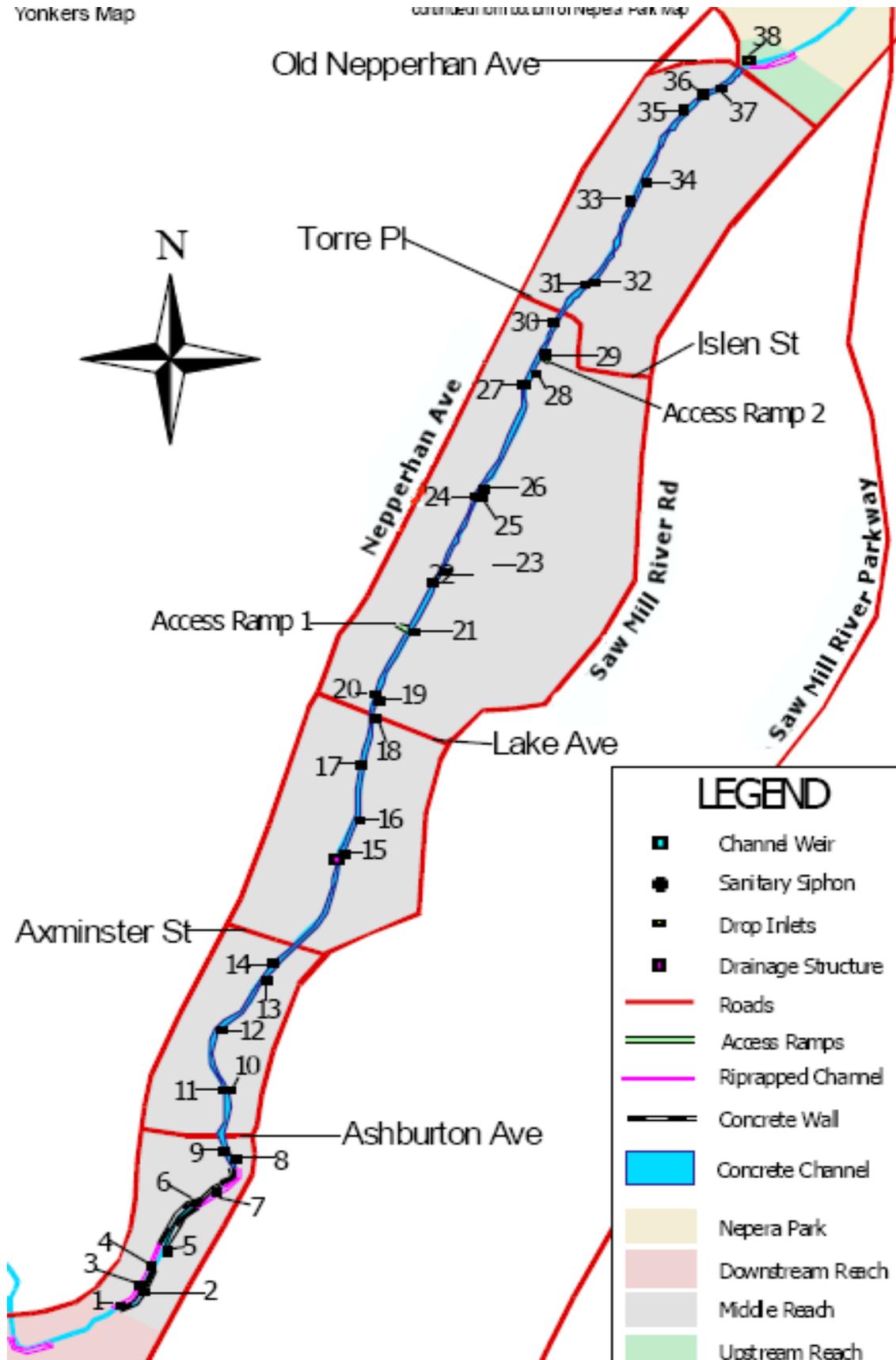
Work was initiated August 9, 1967, and was operationally completed November 1968.

Nepera Park and Tie-In Modifications

Work was initiated November 1993 and was completed June 1997.

YONKERS – GENERAL PLAN

Yonkers Map



YONKERS - BIRD'S EYE VIEW



YONKERS – GENERAL PLAN AND AERIAL MAP OVERLAY

