US Army Corps of Engineers
New York District

US Army Corps of Engineers
New Jersey Department of Environmental Protection

NEPA SCOPING MEETING

Rahway River Basin
Flood Risk Management Feasibility Study

7:00 – 7:30	**Welcome and Poster Board Viewing**
7:30 – 8:00	**US Army Corps of Engineers Presentation**
8:00 – 9:00	**Poster Board Session and Information Exchange**

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Rahway River Basin Flood Risk Management Feasibility Study

Identifying What Impacts to Assess

NEPA Scoping: The Corps of Engineers and the New Jersey State Department of Environmental Protection are conducting NEPA scoping.

- This provides the public with the opportunity to present any potential environmental concerns they may have with any alternatives being evaluated.
- Concerns brought up during this process will be addressed in the Environmental Impact Statement that will be prepared.
- To compare the feasible alternatives identified in the previous posters in terms of their potential to affect the environment, each of their impacts on the following resources will be assessed, as well as cumulative impacts.

Topography and Soils

Land Use and Zoning

Water Resources
- *Groundwater*
- *Surface Water*
- *Water Quality*

Vegetation

Fish and Wildlife
- *Fish*
- *Aquatic Macroinvertebrates*
- *Mammals*
- *Birds*
- *Amphibians and Reptiles*

Threatened and Endangered Species

Socioeconomics
- *Population*
- *Housing*
- *Environmental Justice*
- *Economy/Income*

Cultural Resources

Environmental Contamination

Aesthetics and Scenic Resources

Recreation
- *New Jersey Green Acres*

Transportation

Air Quality

Noise

Cumulative Impacts (nearby past/ ongoing/proposed projects)

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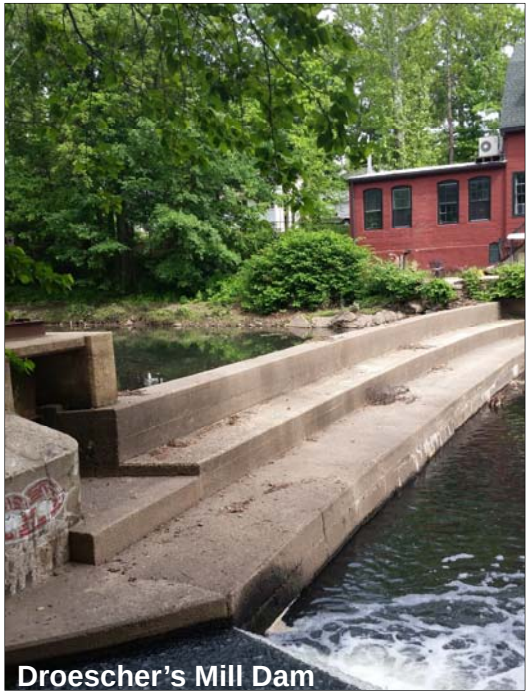
Rahway River Basin Flood Risk Management Feasibility Study

Environmental Considerations


Droescher's Mill Dam

Wetlands

Environmental Contamination

Endangered & Threatened Species

New Jersey Green Acres Lands

Cultural Resources


Great Blue Heron on Droescher's Mill Dam


www.fws.gov

Indiana bats

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Rahway River (Fluvial) Flood Risk Management Feasibility Study

Alternative #4: Channel Improvements & Modifications to Orange Reservoir Outlet

Concept of Channel Improvements:

- Rahway River would be dredged so as to increase the capacity of the river in the city of Cranford.
- This will increase the capacity of the river, so it can hold more water and thus would exceed its banks and flood the community less often.

Concept of Orange Reservoir Outlet Modifications:

- Construction of new outlets at the Orange Reservoir would allow for drawdown ahead of storm events.
- Outlets would be operated manually and managed by the non-federal sponsor.
- This would allow for increased storage capacity in the Orange Reservoir ahead of storm events, so it could contain water that would otherwise flood communities downstream.

Estimated time for refill of Orange Reservoir after a potential flood events:

Events	Time
Drawdown Time	2 days
25 yr	30 hrs to re-fill
1 yr	One week to re-fill
Base Flow	Two weeks to re-fill
*Maximum drawdowns and re-fill depth = 15 ft	

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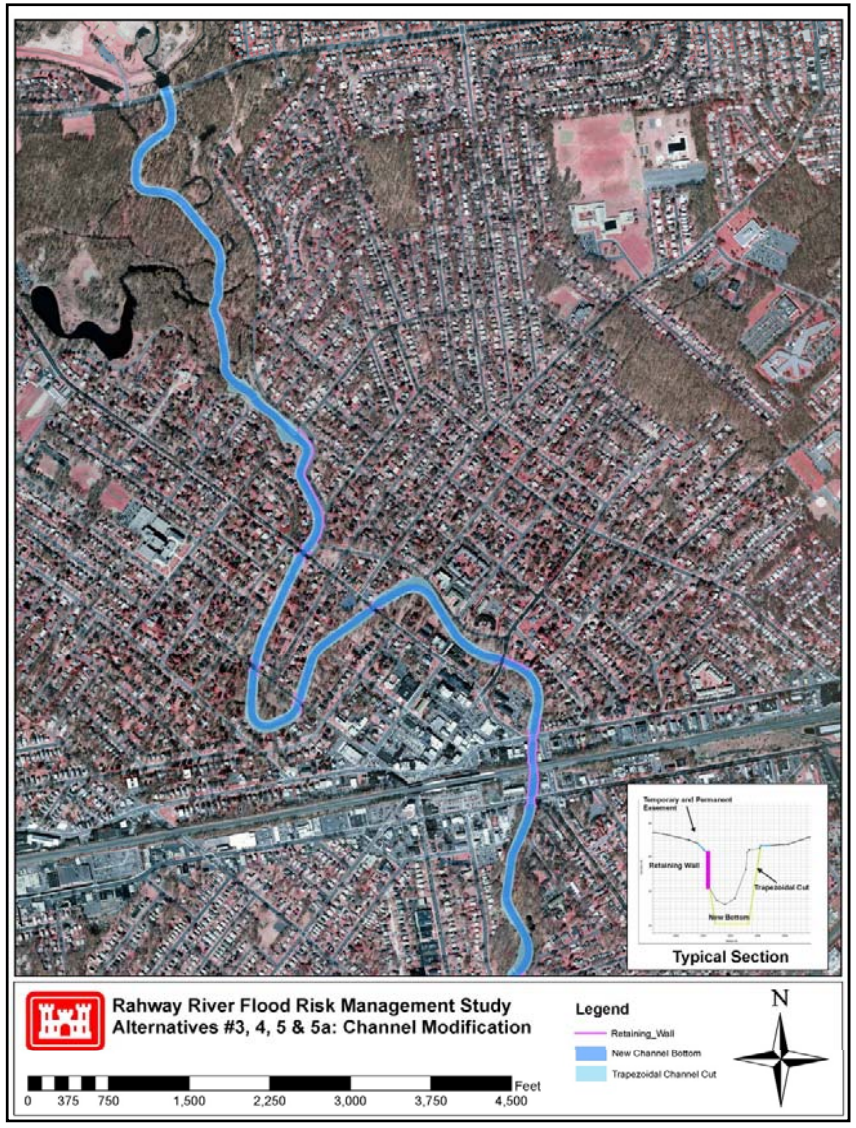
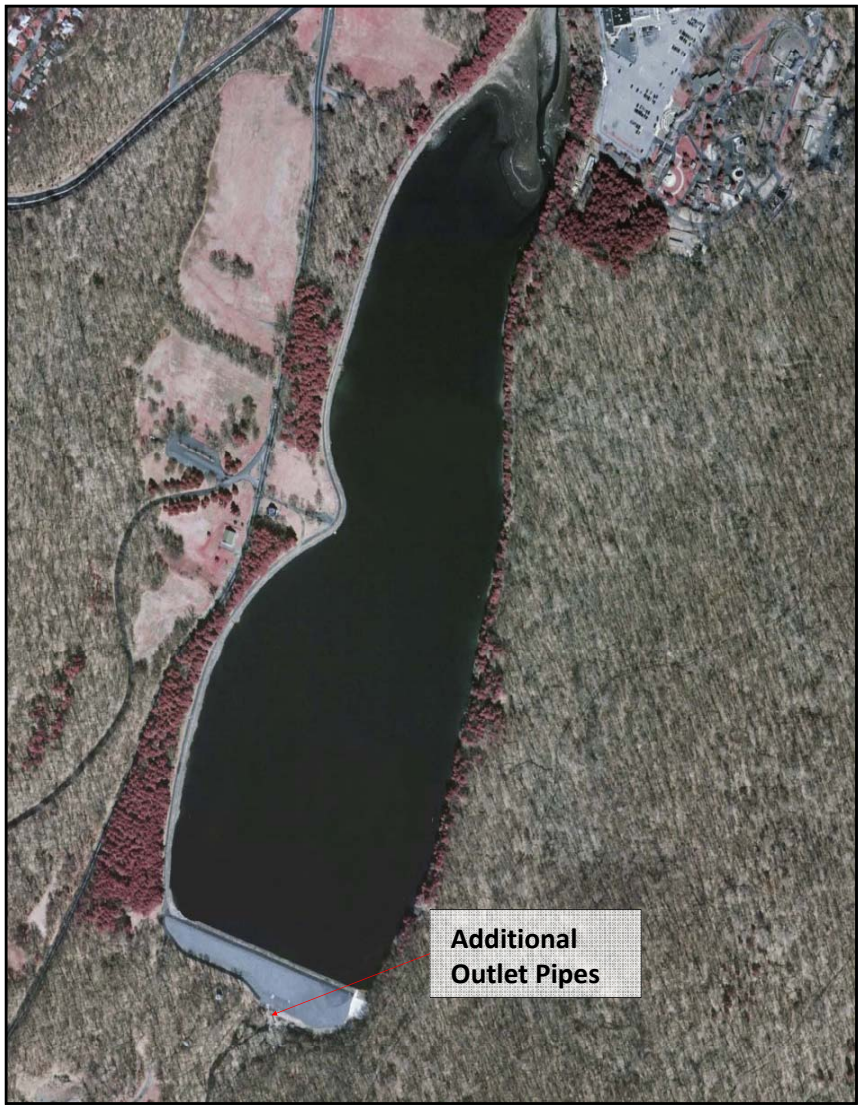
Rahway River (Fluvial) Flood Risk Management Feasibility Study

Alternative #4: Channel Improvements and Modifications to Orange Reservoir Outlet



Channel Improvements



Orange Reservoir Outlet Modifications

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Rahway River (Fluvial) Flood Risk Management Feasibility Study

Alternative #7a & 7b: Non-Structural 10-yr & 100-yr Plan

- Non-structural measures are being finalized for approximately 700 structures contained in the 1% annual exceedance (100-yr event) and approximately 100 structures contained in the 10% annual exceedance (10-yr event) flood inundation areas for the Rahway River in Cranford.

- All structures will be treated to an elevation of one foot above the 1% annual exceedance event.

Non-structural Measures	Chance of Exceedance	
	10% (10-yr)	1% (100-yr)
Dry Flood proofing	0	11
Wet Flood proofing	1	326
Ringwall	1	37
Raise	62	311
Buyout	2	41
Total of Structures	66	726

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Rahway River (Fluvial) Flood Risk Management Feasibility Study

Alternative #8: Modification to Lenape Park Dam & New Outlets at Orange Reservoir

Concept of Modification to Lenape Park Dam:

- Approximately 9,500 ft of dam embankment will be raised by 6 ft.
- Similar existing spillway design, 400 ft long and raised by 6 ft. Orifice will be 3.5 ft wide by 40 ft long.
- Auxiliary spillway to be increased to a length of 1400 ft and raised by 6 ft.
- Impact to vegetation along both sides of the dam embankments.

Concept of Orange Reservoir Outlet Modifications:

- Construction of new outlets at the Orange Reservoir would allow for drawdown ahead of storm events.
- Outlets would be operated manually and managed by the non-federal sponsor.
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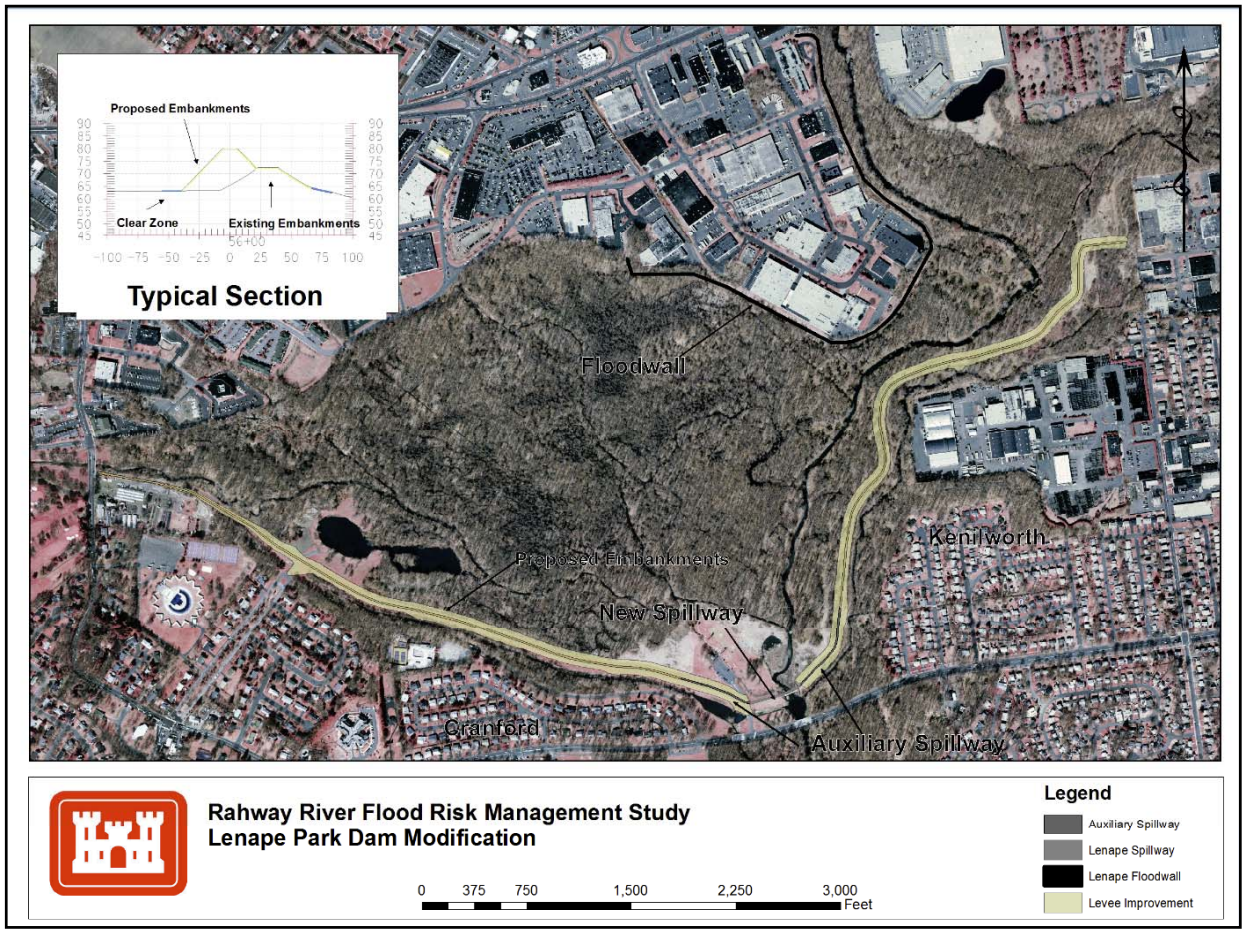
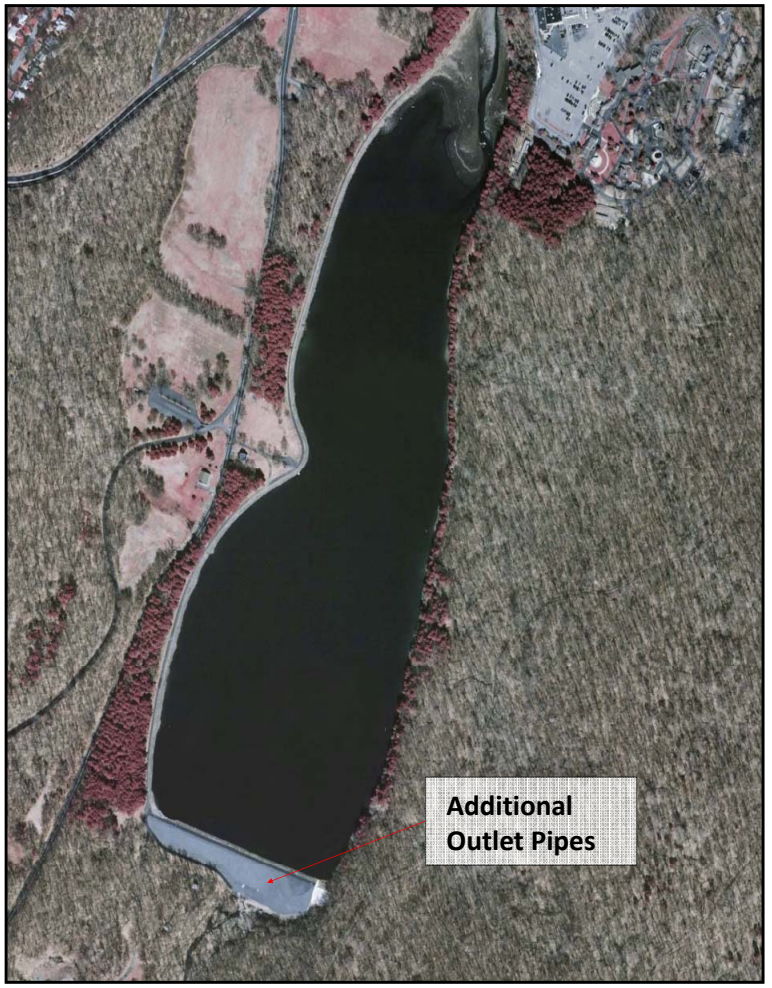
Rahway River (Fluvial) Flood Risk Management Feasibility Study

Alternative #8: Modification to Lenape Park Detention Dam & New Outlets at Orange Reservoir



Lenape Dam Modification



Orange Reservoir Outlet Modifications

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Rahway River (Fluvial) Flood Risk Management Feasibility Study

Alternative #9: Modification to Lenape Park Detention Dam, New Outlets at Orange Reservoir & Channel Improvements

Concept of Modification to Lenape Park Dam:

- Approximately 9,500 ft of dam embankment will be raised by 6 ft.
- Similar existing spillway design, 400 ft long and raised by 6 ft. Orifice will be 3.5 ft wide by 40 ft long.
- Auxiliary spillway to be increased to a length of 1400 ft and raised by 6 ft.
- Impact to vegetation along both sides of the dam embankments.

Channel improvements:

- Some channel work is expected from Nomahegan Park to Lincoln Ave. Bridge.
- The channel work will be approximately 9,000 ft long with up to 2.5 ft deepening in the Hansel Dam area.
- Modification of Hansel and Droescher's Dam may be possible for this alternative.
- No bridge modification will be considered and a minimum use of retaining walls.

Concept of Orange Reservoir Outlet Modifications:

- Construction of new outlets at the Orange Reservoir would allow for drawdown ahead of storm events.
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Estimated time for refill of Orange Reservoir after a potential flood events:

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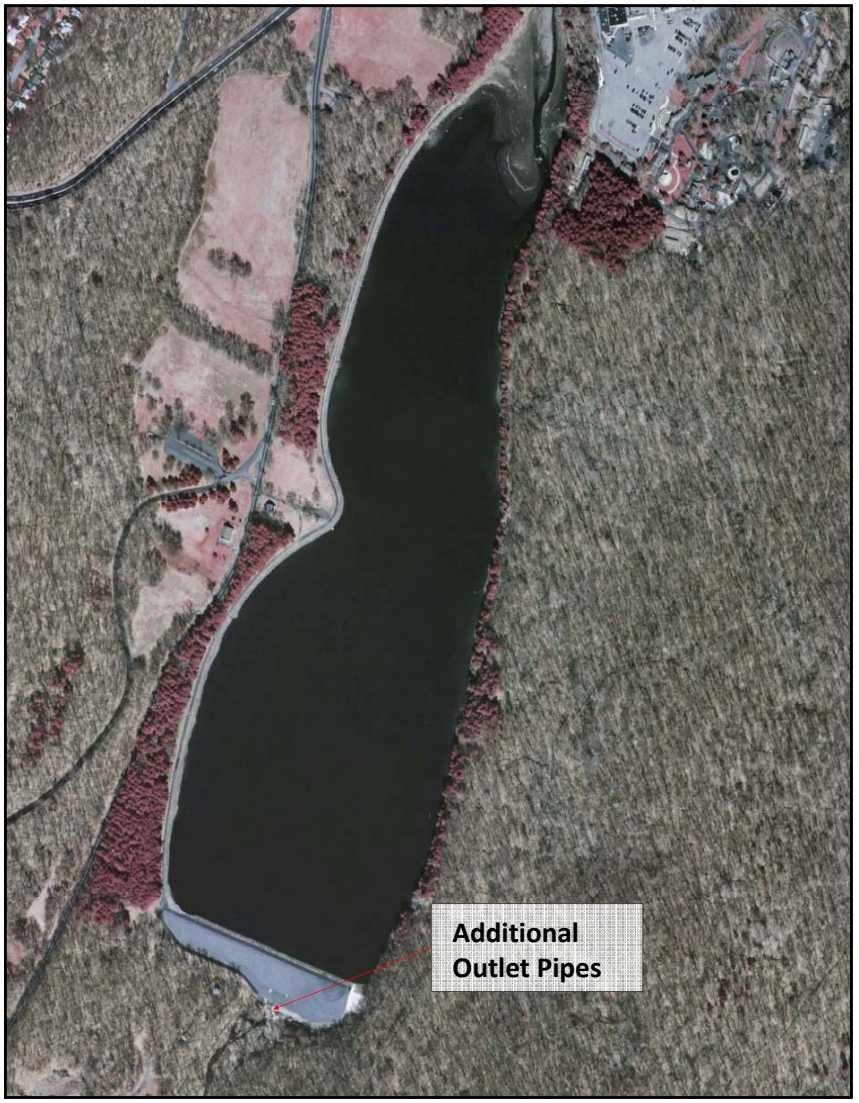
Rahway River (Fluvial) Flood Risk Management Feasibility Study

Alternative #9: Modification to Lenape Park Detention Dam, New Outlets at Orange Reservoir & Channel Improvements

Channel Improvements



Orange Reservoir Outlet Modifications

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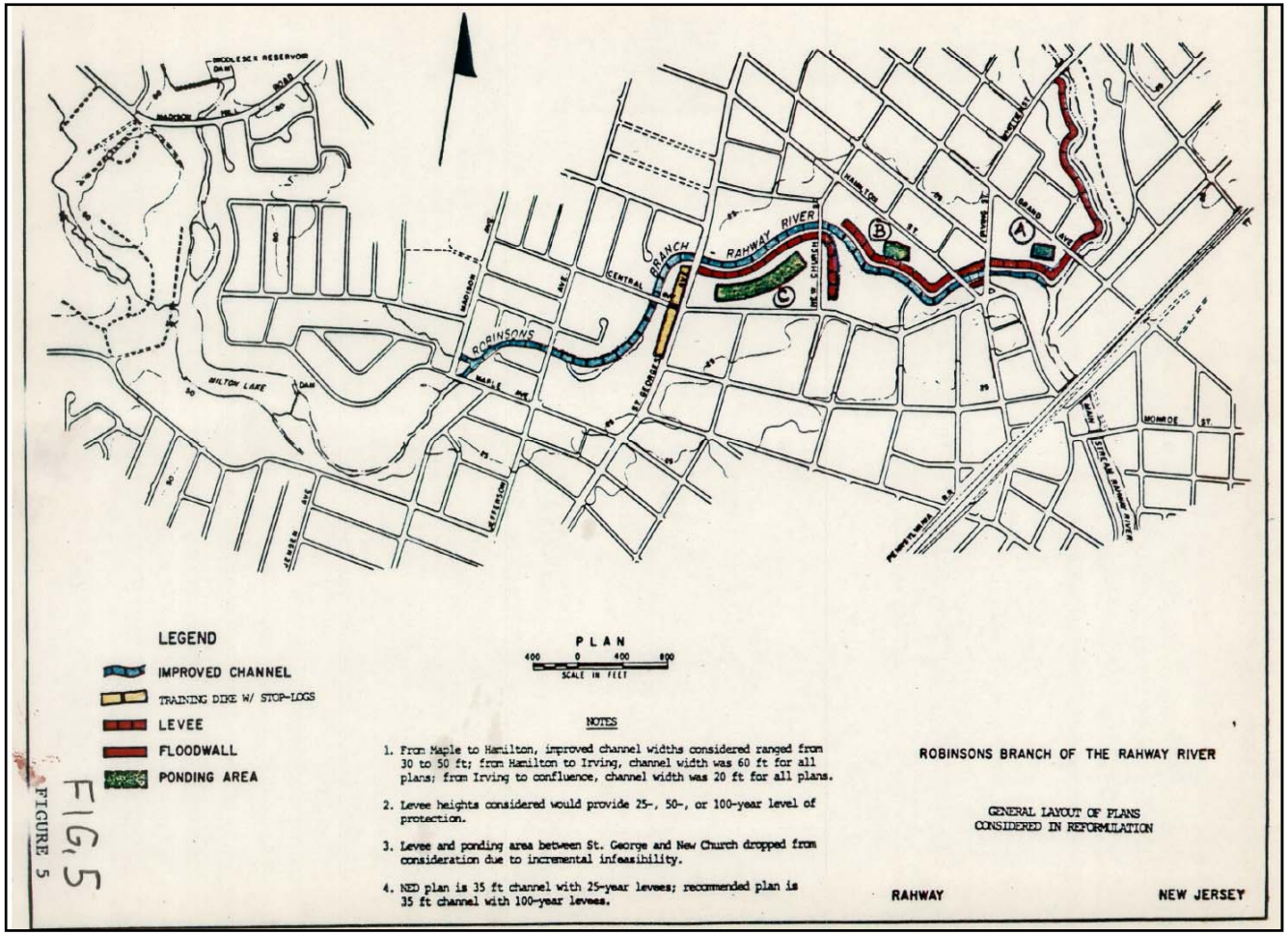
Rahway River (Fluvial) Flood Risk Management Feasibility Study

Alternative #1: Combination of levees/floodwalls and channel improvements

This plan will reevaluate the 1985 GRR Plan:

- Approximately 6,500 ft of channel improvements, a 35 ft wide trapezoidal earthen channel, from Maple Ave. to the confluence with the Rahway River.
- Approximately 6,600 ft of levees and floodwalls.
- Approximately 750 ft of retaining walls.
- 3 ponding areas



Layout from 1985 GRR Plan

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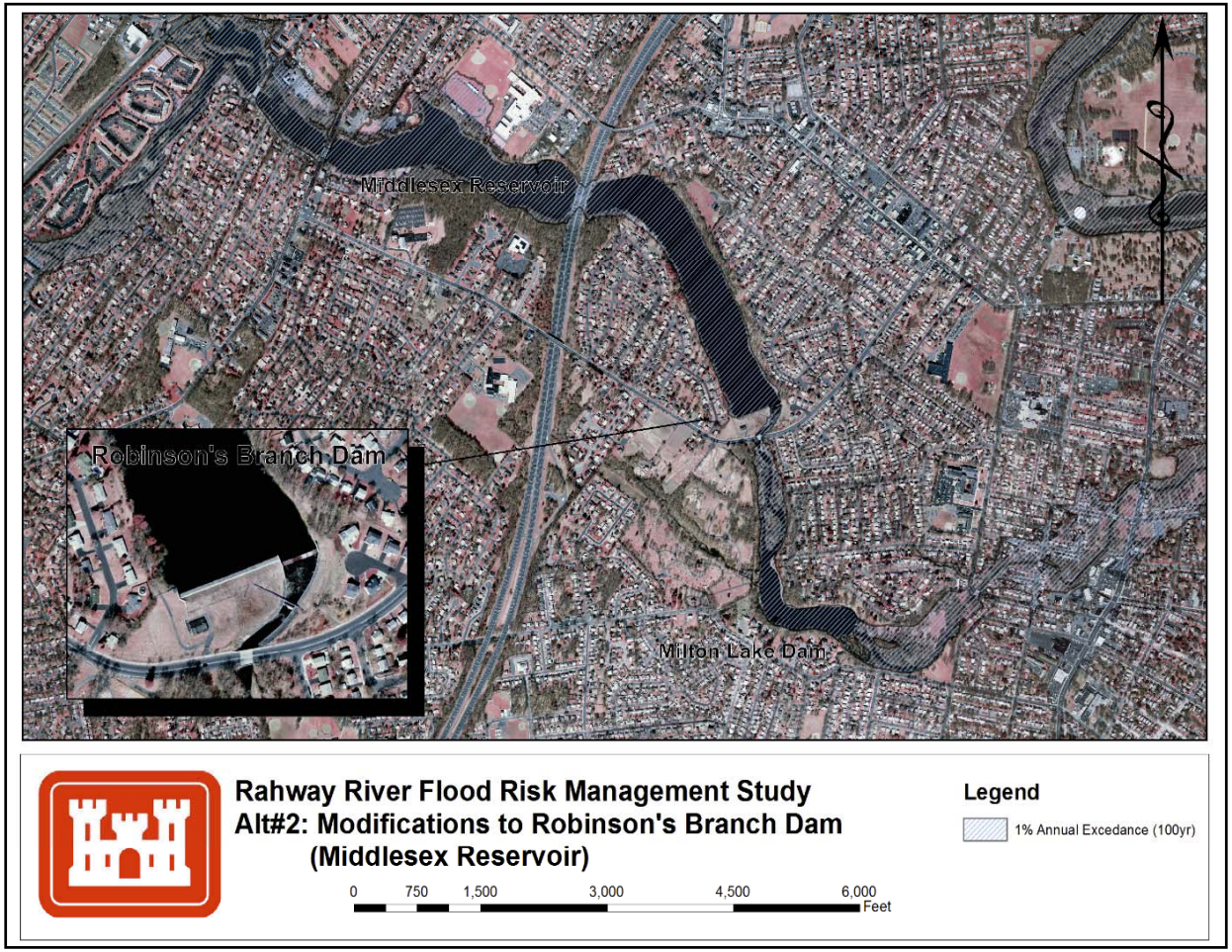
Rahway River (Fluvial) Flood Risk Management Feasibility Study

Alternative #2: Modification of Robinson's Branch Dam (Middlesex Reservoir)

- This plan will include the analysis of the storage available for flood risk reduction in the Robinson's Branch and possible modification of spillway and outlet.
- This plan will require lowering the reservoir level prior to a storm event.
- This alternative may be analyzed in combination with the alternative #1 and/or alternative #3 (non-structural) of the lower segment of the Rahway River Basin



Modification of Middlesex Reservoir

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Rahway River (Fluvial) Flood Risk Management Feasibility Study

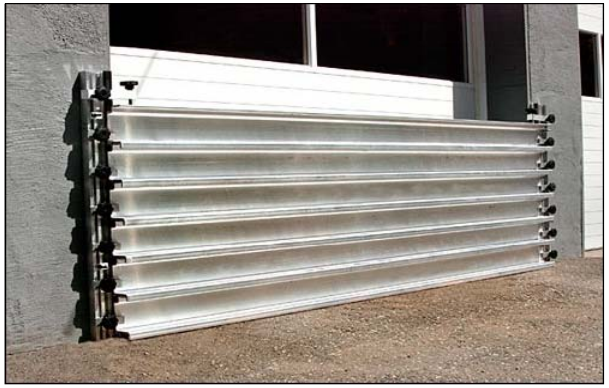
Alternative #3: Non- Structural Measures

The nonstructural analysis will be done for the Robinson's Branch and other areas along the Rahway River for the 10-yr and 100-yr event.

Possible Elements Include:

- Dry Flood-proofing
- Wet Flood-proofing
- Structure Raising
- Ring-walls/Ring levees

Above: Structure Raising



Left: Dry Flood-proofing

Below: Ring levee

US Army Corps of Engineers
New York District

Rahway River Basin Flood Risk Management Feasibility Study

Study Contact and Webpage Information

Project Webpage:

www.nan.usace.army.mil/Rahway

NEPA Scoping Comment Period:
15 June – 15 July 2015

Study Contacts

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Scoping Meeting Comments

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