Reinvesting in Urban Water Infrastructure through Combined Sewer Overflow

Long Term Control Plans

THURSDAY, JANUARY 8, 2015
RUTGERS UNIVERSITY
NEWARK, NEW JERSEY

GETTING MORE FOR YOUR MONEY:
CSO UPGRADES, PARKS AND FLOOD CONTROL —

STEPHEN D. MARKS, PP, AICP, CFM
MUNICIPAL MANAGER, CITY OF HOBOKEN
Welcome to Hoboken
A little about Hoboken...
Population: 52,575
Households: 26,855
Real Property Ratable Base: $9.7 Billion
Land Area: 1.275 Square Miles
Severe and Repetitive Flooding...

Hurricane Irene 2011

Superstorm Sandy 2013

HURRICANE SANDY
FEMA (IA) Program: $100 million+
FEMA (PA) Program: $25 million+
SBA Program: $1.6 million
Flooded Homes + Businesses = >1,800
Automobiles Damaged/Destroyed = >2,000
Flood Hazard Area

Landmass within Flood Zone (A): 63.85%
Landmass within Flood Zone (V): 7.41%
Landmass within Flood Zone (X): 7.66%
Hoboken NFIP Total Liability: $1,922,187,500
Hoboken NFIP Annual Premiums: $5,984,720
Lack of Parks and Green Space...
Combined Sewer Overflows...

Public demand for parks, recreation and access to the Hudson River waterfront
Form Partnerships...

North Hudson Sewerage Authority (Sewer Atlas)

Emnet Report 2011
Leverage Resources...

Mayor’s Institute on City Design 2011

Columbia University Research Project 2012
Green Infrastructure Strategic Plan 2013

Special Thanks to:
Together North Jersey
Green Infrastructure BMPs

- Constructed Wetlands
- Permeable Pavements
- Stormwater Tree pits
- Vegetated Swales
- Rainwater Harvest/Reuse
- Basins or Ponds
- Raingardens
- Stormwater Infiltration
- Planters
- Subsurface Storage
- Greenroofs
Hoboken City Hall Sustainable Stormwater Demonstration Pilot Project

Special Thanks to:
Rutgers University Center for Urban Environmental Sustainability (CUES)

Low Interest Loan Application pending before the NJ Environmental Infrastructure Trust
Estimated Cost: $300,000
Rain Garden Curb Extensions

Special Thanks to:
Sustainable Jersey and Rutgers University
Estimated Cost: $10,000 per intersection

Washington Street Redesign and Frank Sinatra Drive Redesign
Hoboken Block 12 Southwest Park

Special Thanks to:
Hudson County Open Space Trust Fund
and National Fish and Wildlife Foundation

Low Interest Loan Application LOI to
the NJ Environmental Infrastructure
Trust Fund
Estimated Price: TBD
Hoboken (BASF) Resiliency Park

Rotterdam Museumpark, NL
Special Thanks to:
✓ Rockefeller Foundation,
✓ Re.Invest Initiative, and
✓ Refocus Partners
Low Interest Loan LOI Application pending before the NJ Environmental Infrastructure Trust Fund.
Estimated Price: TBD
Rebuild By Design

**RESIST**
- Terraced Edge
- Bulkhead
- Deployable Flood Wall

**DELAY**
- Parkland / Terraced Edge
- Green Roof
- Bioswale

**STORE**
- Cistern
- Bioretention Basin
- Constructed Wetlands

**DISCHARGE**
- Stormwater Pump
- Storm Drain