

SEWER SEPARATION MODIFICATION (SSM) CONSTRUCTION FACTSHEET

How the planned storm sewer management (SSM) construction relates to the ongoing Rebuild by Design Hudson River project

REBUILD BY DESIGN HUDSON RIVER

JERSEY CITY HOBOKEN WEEHAWKEN | NEW JERSEY



BACKGROUND

The U.S. Department of Housing and Urban Development (HUD) created the **Rebuild by Design competition** following Superstorm Sandy in 2012 to develop ideas on how to improve the physical, ecological, and economic resilience of coastal areas following times of flood.

Hoboken, Weehawken, and Jersey City were selected through the competition based on damages suffered from Sandy and the long-term historical flooding patterns of the region. The project is being led by the **New Jersey Department of Environmental Protection (NJDEP)**.



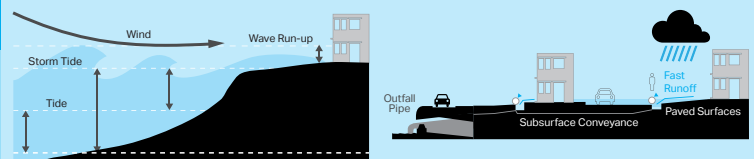
A COMPLEX PROBLEM

The world's climate is changing. Sea levels are rising. Storms are occurring more often and with more rainfall. These changes make it harder for communities to address flood risk.

Hoboken relies on waterfront infrastructure to resist flooding from coastal storm surge and high tide cycles. **However, portions of the waterfront are well below the 1% annual chance flood height, and over 70% of the city is within the 1% annual chance floodplain. The combined sewer system in Hoboken outfalls below mean high tide.** These conditions increase Hoboken's risk profile and led to widespread flood damage from Hurricane Irene (approximately 50-year event) in 2011 and Superstorm Sandy (more than 100-year event) in 2012.

PROTECTION FOR THE FUTURE

The Project Area, comprising the entire **City of Hoboken and adjacent areas of Weehawken and Jersey City**, is vulnerable to flooding from coastal storm surge events. The Project intends to **minimize the impacts from surge and rainfall flood events** on the community including adverse impacts to public health and safety, as well as economic vitality.



Coast

High water levels from the Atlantic Ocean are the result of a combination of causes, including storm surge, increased wave action, and high tide scenarios

Urban Drainage

Precipitation may lead to flash flooding or inland flooding. High amounts of rain water that cannot be stored or drained in a timely manner leads to overwhelming of the drainage system and flooding.

RESIST

DELAY

STORE

DISCHARGE



REBUILD BY DESIGN HUDSON RIVER

The Rebuild by Design – Hudson River (RBDH) Project is a **comprehensive urban stormwater management program** that takes a multi-faceted approach intended to **address flooding from major storm surges and high tide, as well as from heavy rainfall events**. These events often occur individually but can also occur together and increase the total impact of a single storm event.

The program includes four components: Resist, Delay, Store, and Discharge.

RESIST

Hard infrastructure + soft landscaping to act as coastal barriers during high tide/storm surge events

DELAY

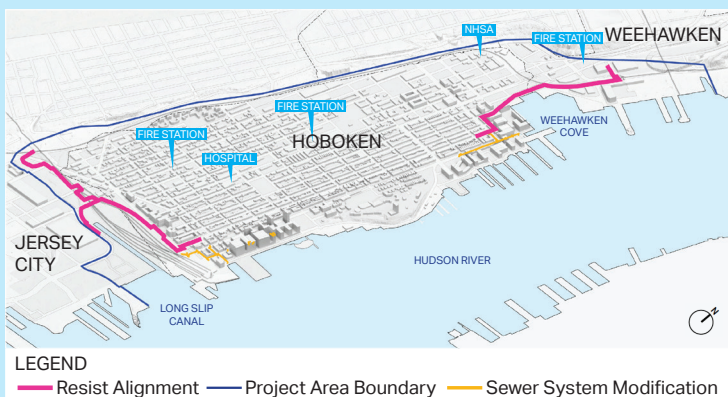
Reduce the volume of stormwater entering the combined sewer system during rainfall events

STORE

Create additional storage capacity in the system to detain stormwater during rainfall events

DISCHARGE

Actively pumping stormwater from the combined sewer system during rainfall events



FLOOD RISK REDUCTION

In addition to providing flood risk reduction to Hoboken and neighboring areas of Jersey City and Weehawken, the Resist structure will also protect critical infrastructure located in those communities, including **three fire stations, one hospital, and the North Hudson Sewerage Authority (NHTSA)** wastewater treatment plant. This alignment provides coastal flood risk reduction to approximately **85 percent of the population** residing within the Project Area 100-year floodplain.

RESIST COMPONENT

The Resist component of the RBDH Project will be implemented by the DEP in the coming years. **The Resist portion includes the installation of a flood risk reduction Alignment** which incorporates hard infrastructure (i.e. walls, gates, and supporting drainage features) for coastal defense, as well as soft (i.e. landscaping and public amenity) improvements.

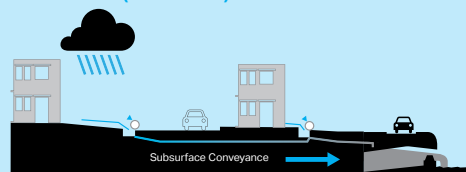
Currently, the NJDEP is beginning the construction phase for a component of the Resist portion of the coastal defense: **the separation of stormwater structures from the combined sewer system** on the exterior of the Resist structure. This component of the Resist portion of the coastal defense will be called the **Sewer System Modifications (SSM)**.



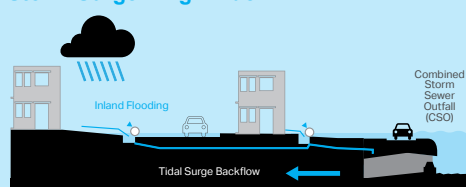
Dry Conditions



Rainstorm (Low Tide)



Storm Surge / High Tide



WHY IS THE SSM INTEGRAL TO THE RESIST COMPONENT?

The City of Hoboken has a combined sewer system. The location of the Resist Alignment away from the shoreline of the Hudson River results in portions of the existing combined system being outside the line of protection (LOP). **The exterior inlets and manholes are subject to inundation by a storm surge**, which during times of tidal flooding, could allow water to breach the LOP and flood the existing North Hudson Sewerage Authority (NHTSA) Wastewater Treatment Plants well as portions of the City.

To prevent this, **on the exterior of the LOP, a separate storm sewer system, the SSM, is being designed.** In addition to the installation of this new storm sewer system, the existing NHTSA combined sewer inlets will be removed and disconnected and the manholes will be sealed and lined. **Separation of the stormwater system in the exterior areas will prevent tidal surge backflow into the combined system** that could cause flooding on the protected or interior side of the LOP. Stormwater collected in the SSM separated area will gravity flow into the Hudson River.

WHAT CAN WE EXPECT DURING THE MONTHS OF CONSTRUCTION?

The upcoming work involves separating portions of the existing combined sewer system into separate sanitary and stormwater lines.

Included in the scope of construction is:

- Laying approximately **4,000 linear feet of pipe**
- Sealing and waterproofing **existing manholes**
- Installing **new manholes and catchbasins**
- Installing **water quality control units** to remove suspended solids from stormwater
- Connecting to **existing outfalls** which empty into the Hudson River

HOW TO STAY INFORMED? Sign up to receive Weekly Construction Advisories [here](#).

QUESTIONS? If you have questions, or would like to learn more about the Sewer Separation Modification Work, please contact your Community Construction Liason (CCL): **Erin Percifull** | **1-800-252-0219** | **rbdhinquries@portal3.pbid.com**

LOOKING FOR MORE INFORMATION? Visit the NJDEP website: <https://www.nj.gov/dep/floodresilience/rbd-hudsonriver.htm>