

STATE OF NEW YORK
COMMUNITY DEVELOPMENT BLOCK GRANT
DISASTER RECOVERY (CDBG-DR) PROGRAM
SUBSTANTIAL AMENDMENT NO. 21

September 28, 2018

Additions to: New York State Action Plan Incorporating Amendments 8-20

In sections: NY Rising Community Reconstruction Program and NY Rising Infrastructure Program.

Summary:

Action Plan Amendment 21 (APA 21) will address the following items:

- A. *NY Rising Community Reconstruction Program*: The State is clarifying that the eligible activities – for approved projects underway or moving forward –include those specified in the March 5, 2013 Federal Register Notice (FR-5696-N-01).
- B. *Covered Infrastructure Project*: The State is providing HUD additional information about the Tottenville Shoreline Protection Project, in accordance with federal Covered Project requirements. The additional information will simply update HUD on the status of the project; there are no changes to scope of the Shoreline Protection Project.

Changes are to existing text are indicated in red text. New items are identified as such in their respective ‘Description of changes’ sections.

A. NY Rising Community Reconstruction Program

Description of changes: The State is clarifying that the eligible activities – for approved projects underway or moving forward –include those specified in the March 5, 2013 Federal Register Notice (FR-5696-N-01).

From page 82 of the New York State Action Plan:

NY Rising Community Reconstruction (NYRCR) Program

Through its ground up planning process, the NYRCR Program identified numerous infrastructure, housing, and economic development initiatives which will be implemented through this Program.

Activity Name: NYRCR Program

Type: Infrastructure, Housing, Economic Development, Planning

National Objective: Low- and Moderate- Income, Urgent Need, or Slum and Blight

Geographic Eligibility: Disaster-declared counties, including New York City

Eligible Activity: 105 (a) all provisions 42 U.S.C. 5305(a), including 105 (a) (8) 42 U.S.C. 5305(a)(8), as amended by FR-5696-N-01 (VI) (B) (30).

B. Covered Infrastructure Project

Description of changes: The State is providing HUD additional information about the Tottenville Shoreline Protection Project, in accordance with federal Covered Project requirements. The additional information will simply update HUD on the status of the project; there are no changes to scope of the Shoreline Protection Project.

From page 84 of the New York State Action Plan:

Covered Infrastructure Project

Activity Name: Tottenville Shoreline Protection Project (TSPP)

Eligible Activity Type: Public facilities, reconstruction/rehabilitation of a public park

National Objective: Low- and Moderate-Income or Urgent Need

Eligible Activity: 105(a)(2) Public Facilities

Program Description: Superstorm Sandy's tropical storm force winds caused particularly intense waves, flooding and erosion along the south shore of Staten Island, including the community of Tottenville which is the southernmost point on the island. The peak storm surge in Tottenville measured approximately 16 feet, and resulted in the destruction of many homes in the community. The New York City Department of City Planning's (NYCDCP's) *Urban Waterfront Adaptive Strategies* study (June 2013), concluded that the South Shore of Staten Island is particularly vulnerable to erosion during extreme events, as well as on a day-to-day basis. The need for this project is further highlighted by the *New York City Hazard Mitigation Plan* (2014), which states "coastal erosion can cause extensive damage to public and private property because it brings structures closer to the water's edge. If erosion is not mitigated, the structures will become inundated with water, resulting in damage or destruction."

The Staten Island New York Rising Community Reconstruction (NYRCR) Planning Committee, working collaboratively with the NYC Department of Parks and Recreation (NYCDPR) and the New York City Mayor's Office of Recovery and Resiliency, developed the TSPP which will provide shoreline protection features as a coastal resiliency strategy for the Tottenville area. The project area extends from approximately Carteret Street to Page Avenue, an area which is within NYCDPR's Conference House Park (CHP). The TSPP is being developed in coordination with the HUD-funded Rebuild by Design 'Living Breakwaters Project', which is largely focused on the offshore area immediately adjacent to the CHP. The two projects will complement each other to reduce risk, enhance ecology, and foster community and stewardship along the Tottenville shoreline. The environmental review of both projects has been jointly addressed in a single Environmental Impact Statement (EIS). The Living Breakwaters Project is being designed by a separate design team than the TSPP, however the design will be coordinated given their overlapping objectives and functions. The total project cost of the TSPP is \$38.5 million, including \$13.3 million of CDBG-DR funding. The remainder of the funding will come from New York State and the City of New York. As the TSPP and the Living Breakwaters Projects meet the definition of 'related infrastructure projects'¹, the combined cost of each (\$38.5 million and \$74 million, respectively) exceeds HUD's threshold for the Covered Project definition.

The TSPP has been designed to withstand storm wave action and overtopping of the shoreline structures (incorporating a sea level rise of 30 inches), and to reduce the risk of coastal flooding.

¹ As set out in the November 18, 2013 FRN (FR-5696-N-06) p. 69107

The TSPP's continuous series of on-shore risk-reduction measures will augment the wave attenuation and risk reduction measures provided by the Living Breakwaters Project. The TSPP involves a comprehensive design of shoreline treatments that respond to the specific characteristics of the approximately 1.5-mile-long project site (See Figure 1). The shoreline risk reduction measures include:

- An Earthen Berm – From approximately Carteret Street to Brighton Street through a wooded portion of CHP, extending approximate 948 linear feet at a height of between approximately 1 and 7.5 feet above grade.
- Eco-Revetments – Between Brighton and Manhattan Streets 338 linear feet along the landward edge of a delineated wetland, and between Loretto St. and Sprague Avenue, 396 linear feet.
- Hybrid Dune/Revetment – Between Manhattan and Loretto Streets extending approximately 937 linear feet and at an elevation of 14 feet.
- Raised Edge (revetment and trail) – From Sprague Avenue to Page Avenue for approximately 2,536 linear feet, to control erosion while accounting for future sea level rise.

Transition nodes will connect certain project elements such as Loretto Street and Sprague Avenue. The entire system will include native plantings and green infrastructure as well as a continuous trail system along the shoreline.

Figure 1: Shoreline Risk Reduction Measures



EARTHEN BERM



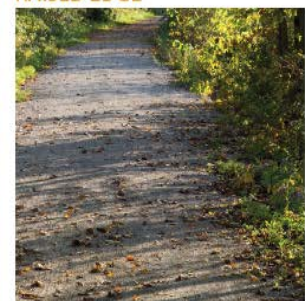
HYBRID DUNE / REVETMENT



ECO-REVETMENT



RAISED EDGE



Geographic Eligibility: The project is located in the Tottenville community of Richmond County. The project area is exposed to extreme wave action and coastal flooding during hurricanes and other severe storm events due to its location at the mouth of New York Bight, which funnels storm-

driven waves into New York Harbor, Raritan Bay, and the shoreline of Staten Island. This area was once the home of a rich marine environment but over the last century has suffered significant land loss and habitat degradation. Tottenville, a town which thrived in the 19th century based on its oyster harvesting economy, now completely lacks these species. The project area has experienced dramatic net erosion between 1978 and 2012 – in the southern portion of CHP the erosion rate has been over 3 feet per year.

In 2014, the New York City Economic Development Corporation (NYCEDC) announced its intention to study and identify high-risk shorelines citywide that are most vulnerable to sea level rise and erosion, and then prioritize those shorelines for future design and construction of resiliency measures. This study analyzed approximately 43 miles of at-risk shoreline across the five boroughs, and included the South Shore of Staten Island, with a goal to evaluate localized measures to reduce coastal risk, make recommendations for resiliency investments, and coordinate with other local coastal protection actions. As part of this coordination, coastal strategy recommendations for the area in Tottenville identified by the NYCEDC study along the eastern stretch of CHP have been incorporated into the TSPP.

CHP is a 265-acre park under the jurisdiction of NYCDPR. Extensive natural areas make up the park, including large tracts of maritime forest, creeks, ponds, bluffs, coastal wetland and beaches. A man-made temporary dune, installed following the damage from Superstorm Sandy, provides interim erosion control and coastal flood risk reduction from approximately Swinerton Street to Sprague Avenue.

Use of Impact and Unmet Needs Assessment: The damage to the Tottenville community was recognized in the State’s post-Sandy assessment of unmet recovery needs. The TSPP is consistent with the State’s risk analyses, including the comprehensive risk analysis, as this project aligns with GOSR’s strategy of drawing upon science-based risk to guide the location and type of infrastructure projects implemented to protect vulnerable coastal communities from future storms. The TSPP has been designed to withstand storm wave action and overtopping of the shoreline structures (resilient to sea level rise of 30 inches), and provide some level of risk reduction from coastal flooding. The TSPP utilized several modeling efforts to design the four main elements of the project, according to the specific characteristics of each section of the shoreline - the earthen berm, hybrid dune/revetment system, eco-revetments, and raised edge (revetment with trail). Using collected cross-shore transect data, the existing condition of Tottenville beach at each transect was modeled using USACE’s SBEACH model, a numerical model that simulates beach profile change by predicting beach, berm, and dune erosion caused by storm waves and water levels. The condition of the shoreline (overtopping, run-up, and scour) at each transect was simulated under various storm conditions. Each simulation included consideration of sea level rise. Additional models were used to simulate sediment settlement, slope stability, and drainage and seepage patterns at each of the project’s components.

The TSPP is being designed cooperatively with NYCDPR in an effort to ensure that CHP is better able to withstand coastal flooding and to curtail the significant erosion that has affected the park. By providing for continuous access along the park with a pathway that is integrated with each of the shoreline treatments, the project will expand public use and connection to the waterfront and awareness of both the Living Breakwaters and the TSPP resiliency efforts.

Transparent and Inclusive Decision Process: The Staten Island NYRCR planning process provided the genesis of the TSPP. The Staten Island NYRCR Planning Committee was active 2013 - 2014 and held a series of public meetings to generate and focus priority projects for inclusion in GOSR’s NYRCR Program. In 2014, the complementary Living Breakwaters Project was

conceptualized and vetted by a range of community stakeholders. Because of their layered benefit and close proximity, in 2015 GOSR established the Community Advisory Committee (CAC) to provide input on the plans for both the TSPP and the Living Breakwaters Projects. The CAC is comprised of 22 citizens, largely from Tottenville and the wider Staten Island community, and also includes educators and concerned environmentalists. The CAC typically meets quarterly and all presentations made at CAC meetings are made available on GOSR's website at <https://stormrecovery.ny.gov/LBWCAC>.

Also because of the close relationship between the TSPP and the Living Breakwaters Projects – in terms of purpose, need and design – the two projects are being evaluated jointly in one EIS. Concurrent with ongoing consultation with various federal, state and local agencies, the EIS process began with the release of a draft scoping document which was presented at a public hearing in April 2016. After comments were heard and responded to, a Draft EIS was released and a public hearing held on April 26, 2017. Comments were received from government agencies and from the general public through May 8, 2017. The Final EIS was released on June 13, 2018 and the Record of Decision was issued on August 31, 2018.

Long Term Efficacy and Fiscal Sustainability: The project is designed to make the park more resilient, to counteract erosion of the beachfront and, by so doing, improve the safety of nearby physical shoreline, recreational assets, and homes. The TSPP utilizes risk management tools, including the modeling activities mentioned above, to reflect changing environmental conditions. The Project will also improve public access to the park in general and to the shoreline treatments and off-shore resiliency features in particular. The TSPP improvements will reduce the vulnerability of the park and neighborhood behind it and enhance CHP's role as a public amenity.

The funding for the TSPP has been committed from GOSR's CDBG-DR allocation with additional commitments from the State and City of New York. GOSR and NYCDPR entered into a Memorandum of Understanding in June 2015 providing for the joint design and implementation of the TSPP. Design is therefore being done in close collaboration with NYCDPR which is expected to construct and will ultimately own and manage the improvements. All design elements of the project have been and will continue to be developed in a manner consistent with NYCDPR standards for construction and for long-term maintenance. Monitoring and maintenance is not expected to be more than typical for similar facilities in NYCDPR's portfolio, and NYCDPR is committed to taking on the on-going maintenance of the project including the environmental monitoring required in the wetland enhancement area. NYCDPR will monitor the project on a routine basis as required by the city-wide Waterfront Inspection Program managed by NYCEDC. This will largely consist of typical grounds maintenance, but will also involve surveys of certain beach-nesting birds.

Environmentally Sustainable and Innovative Investments: The TSPP has been designed to maintain its structural integrity during severe storms of up to the 100-year level including 30 inches of sea level rise (likely to occur sometime between the 2050s and 2080s). The TSPP has been informed by analyses of risk for coastal communities, including through mapping and modeling by the DOS and RISE which incorporated rigorous, science-based predictions regarding sea-level rise and other climate risk factors. Each of the segments of the shoreline treatment is especially designed to reduce wave heights during certain storm events assuming 30 inches of sea level rise. The earthen berm is designed to reduce wave heights by approximately 10 and 15 percent for 100-year and 50-year events, respectively. The eco-revetment (between Loretto Street and Sprague Avenue), is designed to reduce wave heights by approximately 25 percent for both 100-year and 50-year events. Due to its higher crest elevation, the proposed hybrid dune/revetment is designed to reduce wave height during a 100-year event with 30 inches of sea level rise by approximately 45 percent. The

proposed raised edge component of the Shoreline Project (revetment and trail) is projected to reduce wave heights by approximately 5 to 10 percent 30 feet inland of the raised edge during the 100-year and 50-year severe storm events and by approximately 20 to 35 percent for the 25-year and 10-year events when including future sea level rise of 30 inches.

While the TSPP is not designed to avoid flooding caused by severe storms, it will reduce or delay flooding of inland areas during certain storm events and reduce damage to inland structures. It is expected that during coastal storm events, in cases where over-topping from storm surge does not occur, some level of risk reduction from coastal flooding would be provided by the project. While the shoreline treatments would be porous in nature, seepage through them is likely to be slowed and of lower volume than with free-flowing water entering the land without the project. In summary, the TSPP improves natural defenses against extreme weather, and does so in a way appropriate for the project area.