

New Jersey Department of Community Affairs

**SUPERSTORM SANDY
COMMUNITY DEVELOPMENT BLOCK GRANT - DISASTER RECOVERY**

Public Law 113-2; January 29, 2013

FR-5696-N-01; March 5, 2013

FR-5696-N-06; November 18, 2013

FR-5696-N-11; October 16, 2014



CONSOLIDATED ACTION PLAN

Philip D. Murphy
Governor

Lt. Governor Sheila Y. Oliver
Commissioner





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ACTION PLAN AMENDMENTS

Action Plan

Public Comment: March 12, 2013, 5:00pm (EST) to March 19, 2013 at 5:00pm (EST)

Submitted to HUD: March 27, 2013

Approved by HUD: April 29, 2013

The following amendments have been incorporated into this Consolidated Action Plan:

Action Plan Amendment 1 (*Non-substantial*)

Submitted to HUD: July 18, 2013

Approved by HUD: July 23, 2013

- Modified Elevation Requirements
- Clarification to the Selection for the Homeowner Reconstruction, Rehabilitation, Elevation and Mitigation (RREM) Program
- Revision of Eligible Activity in the Pre-Development Fund for Affordable Rental Housing Program
- Revision to the Neighborhood and Community Revitalization Program Description of Administering Agency
- Clarification to the FEMA Match for Public Assistance Program

Action Plan Amendment 2 (*Non-substantial*)

Submitted to HUD: July 29, 2013

Resubmitted to HUD: August 27, 2013

Approved by HUD: September 1, 2013

- Financial and Performance Projections

Action Plan Amendment 3 (*Non-substantial*)

Submitted to HUD: September 30, 2013

Approved by HUD: October 5, 2013

- Clarification to Code Enforcement Program Related to Zoning
- Clarification of Homeowner Resettlement Program Damage Validation
- Update to Government Entities in the Supportive Services Program
- Inclusion of Reimbursement in Rental Housing Programs and Economic Revitalization Programs
- Clarification of Listed Entities in the Neighborhood and Community Revitalization Program

Action Plan Amendment 4 (*Substantial*)

Public Comment: November 6, 2013 to November 20, 2013

Submitted to HUD: November 22, 2013

Approved by HUD: January 8, 2014

- Transfer of Funds from the Grants/Forgivable Loans to Small Businesses Program to the Homeowner Reconstruction, Rehabilitation, Elevation and Mitigation (RREM) Program
- Transfer of Funds from the Grants/Forgivable Loans to Small Businesses Program to the Homeowner Resettlement Program
- Creation of New Program on Demolition of Unsafe Structures

Action Plan Amendment 5 (Non-substantial)

Submitted to HUD: December 10, 2014

Approved by HUD: December 15, 2014

- Clarification to Section 4.5 Supportive Services Program
- Clarification to Section 4.3.3 Neighborhood and Community Revitalization Program related to CDFIs
- Clarification to Section 4.2.6 Sandy Special Needs Housing Fund

Action Plan Amendment 6 (Substantial)

Public Comment: February 3, 2014 to March 5, 2015

Submitted to HUD: March 25, 2014

Approved by HUD: May 2, 2014

- Transfer of Funds from the Landlord Incentive Program to the Supportive Services Program
- Creation of the Lead Hazard Reduction Program

Action Plan Amendment 7 (Substantial)

Public Comment: February 3, 2014 to March 5, 2014

Submitted to HUD: March 25, 2014

Approved by HUD: May 30, 2014

- Second allocation of CDBG-DR funds

Action Plan Amendment 8 (Non-substantial)

Submitted to HUD: April 11, 2014

Approved by HUD: April 16, 2014

- Clarification to Section 4.3.2 Direct Loans for Impacted Small Businesses
- Modification to Section 4.1.1 Homeowner Reconstruction, Rehabilitation, Elevation and Mitigation (RREM) Program related to Substantial Damage Documentation

Action Plan Amendment 9 (Non-substantial)

Submitted to HUD: July 8, 2014

Approved by HUD: August 21, 2014*

- Modification to Section 3.2.2 LMI Homeowners Rebuilding Program of Action Plan Amendment #7 (Second Allocation) related to prioritization of funds for manufactured housing units.
- Clarification to Section 3.2.3 Blue Acres Buyout Program of Action Plan Amendment #7 (Second Allocation) related to definition of eligible residential properties.

- Defining Program Funds under Section 4.5.1 Supportive Services Programs of Action Plan (original) related to Case Management
- Clarification of Green Building Standard for Residential Housing under Section 6.3 Green Building of Action Plan (original) under Section 6: Other Criteria

* HUD did not approve a submitted clarification related to HMFA multi-family housing definition of public housing; therefore, the request has been removed.

Action Plan Amendment 10 (Non-substantial)

Submitted to HUD: August 28, 2014

Approved by HUD: September 10, 2014

- Financial and Performance Projections

Action Plan Amendment 11 (Substantial)

Public Comment: December 16, 2014 – January 15, 2015

Submitted to HUD: April 10, 2015

Approved by HUD: April 20, 2015

- Third allocation of CDBG-DR funds

Action Plan Amendment 12 (Substantial)

Public Comment: December 16, 2014 – January 15, 2015

Submitted to HUD: April 10, 2015

Approved by HUD: April 20, 2015

- Third allocation of CDBG-DR funds: Rebuild by Design

Action Plan Amendment 13 (Substantial)

Public Comment: December 16, 2014 – January 15, 2015

Submitted to HUD: February 18, 2015

Approved by HUD: April 20, 2015

- Transfer of Funds from Tourism Marketing to the Rehabilitation, Reconstruction, Elevation and Mitigation (RREM) program
- Transfer of Funds from the Non-Federal Cost Share (Match) program to the Rehabilitation, Reconstruction, Elevation and Mitigation (RREM) program
- Clarification to HMFA definition of public housing units from APA 7

Action Plan Amendment 14 (Non-substantial)

Submitted to HUD: February 5, 2015

Approved by HUD: February 10, 2015

- Clarification to Section 4.3 Economic Revitalization related to Program Income
- Clarification to Section 4: Method of Distribution related to the definition of structures “not suitable for rehabilitation”

Action Plan Amendment 15 (Non-substantial)

Submitted to HUD: April 27, 2015

Approved by HUD: May 2, 2015

- Consolidation for Reporting Purposes of the Administration Funds Assigned to Programs into the General “Administration” Category

Action Plan Amendment 16 (Substantial)

Public Comment: July 6, 2015 – August 4, 2015

Submitted to HUD: August 13, 2015

Approved by HUD: September 16, 2015

- Transferring Funds from the Homeowner Resettlement Program, the Neighborhood Enhancement Program and the Essential Services Grant Program to the LMI Homeowners Rebuilding Program

Action Plan Amendment 17 (Non-substantial)

Submitted to HUD: July 14, 2015

Resubmitted to HUD: August 20, 2015

Approved by HUD: November 10, 2015

- Financial and Performance Projections (Inclusive of Third CDBG-DR Allocation & Rebuild by Design – Action Plan Amendments 11 and 12)

Action Plan Amendment 18 (Substantial)

Public Comment: March 8, 2016 – April 7, 2016

Submitted to HUD: April 15, 2016

Approved by HUD: June 16, 2016

- Transferring Funds to the Stronger NJ Business Loans Program
- Transferring Funds to the Rental Assistance Program
- Clarifying Potential Uses of CDBG-DR Program Income

Action Plan Amendment 19 (Substantial)

Public Comment: March 8, 2016 – April 7, 2016

Submitted to HUD: April 15, 2016

Approved by HUD: July 6, 2016

- Expanding Eligible Applicants to the Energy Resilience Bank to Include For-Profit and Private Utility Critical Facilities

Action Plan Amendment 20 (Substantial)

Public Comment: April 1, 2017 – April 30, 2017

Submitted to HUD: June 1, 2017

Approved by HUD: August 30, 2017

- Final Design of Rebuild by Design Hudson River Project for Release of Project Construction Funds

Action Plan Amendment 21 (Substantial)

Public Comment: April 19, 2017 – May 19, 2017

Submitted to HUD: May 30, 2017

Approved by HUD: June 29, 2017

- Transferring Funds to the Blue Acres Buyout Program from the Reconstruction, Rehabilitation, Elevation and Mitigation Program, the Landlord Rental Repair Program and the Unsafe Structures Demolition Program
- Transferring Funds to the Fund for Restoration of Multifamily Housing

Action Plan Amendment 22 (Substantial)

Public Comment: April 22, 2017 – May 22, 2017

Submitted to HUD: June 1, 2017

Approved by HUD: September 13, 2017

- Rebuild by Design Meadowlands Project Update

Action Plan Amendment 23 (Non-substantial)

Submitted to HUD: August 15, 2017

Approved by HUD: August 22, 2017

- Clarifies the distribution of funds in the Non-Federal Cost Share (Match) Program

Action Plan Amendment 24 (Non-substantial)

Submitted to HUD: October 18, 2017

Approved by HUD: October 25, 2017

- Exclusion of expenditures associated with the Rebuild by Design (RBD), Hudson River project from the overall low- to moderate-income (LMI) benefit calculation

Action Plan Amendment 25 (Substantial)

Public Comment: January 13, 2018 – February 11, 2018

Submitted to HUD: March 28, 2018

Approved by HUD: May 18, 2018

- Rebuild by Design Meadowlands Project Update

Action Plan Amendment 26 (Non-substantial)

Submitted to HUD: March 29, 2018

Approved by HUD: April 3, 2018

- Financial and Performance Projections (Inclusive of the Implications of Extension Approvals for all Round 3 and 5)

Action Plan Amendment 27 (Substantial)

Public Comment: July 9, 2018 – August 7, 2018

Submitted to HUD: September 7, 2018

Approved by HUD: October 18, 2018

- Transferring Funds to the Housing Counseling Program from the Tenant-Based Rental Assistance Program
- Transferring Funds for Program Administration Costs for the general management, oversight and coordination of the CDBG-DR grant
- Transferring Funds to the Rental Assistance Program from the Lead Hazard Reduction Program
- Clarification of Funding for the Fund for the Restoration of Multi-Family Housing

Action Plan Amendment 28 (Substantial)

Public Comment: December 11, 2018 – January 9, 2019

Submitted to HUD: January 23, 2019

Approved by HUD: February 22, 2019

- Transferring Funds to the Reconstruction, Rehabilitation, Elevation, and Mitigation Program and the Low- To Moderate-Income (LMI) Homeowners Rebuilding Program
- Transferring Funds to the Fund for the Restoration of Multi-Family Housing (FRM)
- Clarification to the Non-Federal Cost Share (Match) Program
- Clarification to the Rental Assistance Program
- Clarification to the Blue Acres Buyout Program

Action Plan Amendment 29 (Non-substantial)

Submitted to HUD: December 14, 2018

Approved by HUD: December 21, 2018

- Financial and Performance Projections (Inclusive of Implications of Program Funds Transfer – Action Plan Amendment #27)

Action Plan Amendment 30 (Substantial)

Public Comment: December 21, 2018 – January 19, 2019

Submitted to HUD: January 23, 2019

Approved by HUD: February 12, 2019

- Transferring Funds to the Fund for the Restoration of Multi-Family Housing (FRM)

Action Plan Amendment 31 (Non-substantial)

Submitted to HUD: May 6, 2019

Approved by HUD: May 13, 2019

- Financial and Performance Projections (Inclusive of Implications of Program Funds Transfer – Action Plan Amendments #28 and #30)

Action Plan Amendment 32 (Non-substantial)

Submitted to HUD: July 16, 2019

Approved by HUD: July 18, 2019

- Transferring Funds to the Rental Assistance Program
- Acknowledgement of Extension Approval for Expenditure Deadlines

Action Plan Amendment 33 (Non-substantial)

Submitted to HUD: October 3, 2019

Approved by HUD: October 11, 2019

- Transferring Funds to the Landlord Rental Repair Program
- Transferring Funds to the Rental Assistance Program
- Transferring Funds to Planning
- Clarification of the Recording of Administrative Costs

Action Plan Amendment 34 (Non-substantial)

Submitted to HUD: October 15, 2019

Approved by HUD: October 21, 2019

- Financial and Performance Projections (Inclusive of the Implications of Program Funds Transfer – Action Plan Amendments #32 and #33)

Action Plan Amendment 35 (Substantial)

Public Comment: November 18, 2019 – December 18, 2019

Submitted to HUD: January 8, 2019

Resubmitted to HUD: January 16, 2020

Approved by HUD: February 7, 2020

- Transferring Funds to the Atlantic City Resilience Program
- Creation of a Special Purpose Revolving Loan Fund
- Clarification on the Substantial Amendment Cap

Action Plan Amendment 36 (Non-substantial)

Submitted to HUD: March 26, 2020

Approved by HUD: March 27, 2020

- Transferring Funds to the Rental Assistance Program

Action Plan Amendment 37 (Non-substantial)

Submitted to HUD: May 5, 2020

Approved by HUD: May 12, 2020

- Financial and Performance Projections (Inclusive of Implications of Program Funds Transfer – Action Plan Amendment #35 and #36)

Action Plan Amendment 38 (Non-substantial)

Submitted to HUD: October 27, 2020

Resubmitted to HUD: November 10, 2020

Approved by HUD: November 17, 2020

- Transferring Funds to Administration
- Transferring Funds to Planning
- Transferring Funds to the Rental Assistance Program
- Clarifying the Flood Hazard Risk Reduction & Resiliency Measures (Easement

Acquisition) Program

Action Plan Amendment 39 (Non-substantial)

Submitted to HUD: February 9, 2021

Approved by HUD: February 16, 2021

- Financial and Performance Projections (Inclusive of Implications of Program Funds Transfer – Action Plan Amendment #38)

Action Plan Amendment 40 (Substantial)

Public Comment: November 18, 2021 to December 18, 2021

Submitted to HUD: December 20, 2021

Approved by HUD: January 19, 2022

- Clarifying Potential Uses of CDBG-DR Program Income
- Acknowledging the Extension of the Expenditure Deadline

Action Plan Amendment 41 (Non-substantial)

Submitted to HUD: December 20, 2021

Approved by HUD: December 27, 2021

- Transferring Funds to Housing Counseling

Action Plan Amendment 42 (Substantial)

Public Comment: January 20, 2022 to March 7, 2022

Submitted to HUD: March 8, 2022

Approved by HUD:

- Clarifying Potential Uses of CDBG-DR Program Income

Action Plan Amendment 43 (Non-substantial)

Submitted to HUD: March 21, 2022

Approved by HUD: March 29, 2022

- Financial and Performance Projections (Inclusive of Implications of Program Funds Transfer – Action Plan Amendment #40, 41, & 42)

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EXECUTIVE SUMMARY

Superstorm Sandy caused unprecedented damage to New Jersey's housing, business, infrastructure, health, social service and environmental sectors. Indeed, President Obama's October 30th disaster declaration designated all twenty-one New Jersey counties major disaster areas. Yet storm damage was particularly concentrated in communities bordering or near the Atlantic Ocean or the Hudson River, many of which were flooded by Sandy's storm surge. Atlantic, Bergen, Cape May, Essex, Hudson, Middlesex, Monmouth, Ocean and Union Counties have been identified by the U.S. Department of Housing and Urban Development (HUD) as New Jersey's most impacted areas.

The breadth of Sandy's impact across New Jersey emphasizes the need for a thoughtful and comprehensive long-term recovery process. This Community Development Block Grant Disaster Recovery Action Plan (Action Plan) is part of that process. It quantifies the level of damage and describes New Jersey's plan for spending the \$4,174,429,000 Community Disaster Block Grant Disaster Recovery (CDBG-DR) funds, which HUD allocated to New Jersey. CDBG-DR funds must be used to satisfy "unmet needs," that is, financial needs not satisfied by other public or private funding sources like FEMA Individual Assistance funds, Small Business Administration (SBA) disaster loans or private insurance. HUD also requires that CDBG-DR programs focus predominantly, but not exclusively, on the State's most impacted counties and on the State's low and moderate income (LMI) populations.

On April 29, 2013, HUD approved the State's CDBG-DR Action Plan outlining New Jersey's intended programmatic uses of the first of three CDBG-DR funding allocations. New Jersey was able to begin accessing the first tranche of CDBG-DR funds in May 2013. The State quickly implemented a portfolio of programs targeting critical unmet needs. In standing up the programs, the State leveraged CDBG-DR funds with other funding sources to: (i) help homeowners and renters with unanticipated, non-construction storm-related expenses; (ii) repair or replace damaged owner-occupied and rental housing; (iii) provide much-needed capital to affected small businesses and investments in economic development and revitalization; (iv) allow for post-storm community planning; and (v) support hardest hit and financially strained municipalities to ensure essential services continue to be provided to residents. As needs were more fully realized, the State added funding to some of the established homeowner and renter programs, as well as those to stabilize and revitalize municipalities; bolstered ongoing efforts to purchase properties in targeted repetitive flood loss areas and convert the land to open space; and created and/or funded programs to integrate CDBG-DR funds into a broader strategy to realize multi-faceted resiliency solutions. As a direct result of these efforts, the support of federal, state and local recovery partners, and the hard work of volunteers and affected New Jerseyans, the State has seen clear and substantial progress in recovering from the most costly disaster in its history.

Together, we are meeting recovery challenges and building back better and stronger. Since the outset of recovery, the State has remained committed to approaching disaster recovery holistically. To achieve this vision, the State continues to pursue and leverage available federal, state, private and philanthropic recovery funding to realize critical recovery initiatives across all storm impacted sectors and to maximize resources for recovering New Jerseyans. As damage and impact assessment continues and additional tranches of CDBG-DR funding have been provided by HUD, the State has continued to prioritize programs that focus on unmet needs and offer additional assistance to affected New Jerseyans. This consolidated Action Plan reflects that ongoing commitment.

SECTION 1: INTRODUCTION

On October 29, 2012, Superstorm Sandy made landfall near Atlantic City, New Jersey. The storm surge, which measured 8.9 feet at its highpoint in Sandy Hook, inundated and severely affected regions of the State's shore from Cape May to Raritan Bay, including the barrier islands and many areas along the Hudson River. Other overland flooding, wind damage, and an ensuing snowstorm further damaged these communities as well as other communities throughout New Jersey. Superstorm Sandy affected, in some way, virtually every household, business and community in New Jersey.

In the immediate aftermath of the storm, New Jersey quickly embarked on the road to recovery. Millions of cubic yards of debris were removed from impacted communities. Risks to public health and welfare were addressed. Essential infrastructure, including roadways, railways, and utilities were restored. And countless other steps were undertaken by the State, by local communities and by New Jersey citizens to pick up the pieces with the support of federal agency partners. Short-term response now has given way to focus on long-term recovery and rebuilding. The State is committed to implementing a thoughtful, comprehensive strategy that expeditiously, efficiently and effectively addresses the State's long-term recovery, rebuilding and revitalization needs.

To assist New Jersey's and other disaster-impacted states' recovery efforts, the federal government enacted the Disaster Relief Appropriations Act of 2013 (Public Law 113-2, approved January 29, 2013) (the Act). The Act appropriates monies targeted for disaster recovery to various federal agencies. Among those monies, the federal government appropriated \$16,000,000,000 in Community Development Block Grant Disaster Recovery (CDBG-DR) funds to be split among states that experienced natural disasters in 2011 or 2012, or that experience natural disasters in 2013, which the President declared or declares to be Major Disasters. These CDBG-DR funds are administered by HUD and are to be used to address unmet disaster recovery needs, that is, funding needs not satisfied by other public or private funding sources like FEMA Individual Assistance, SBA Disaster Loans or private insurance. Per an evaluation performed by HUD, New Jersey has received \$4,174,429,000 in CDBG-DR funds, between three separate allocations to assist in the State's recovery efforts.

On February 6, 2013, HUD announced its initial allocation of CDBG-DR funds to Sandy-impacted states and awarded \$1,829,520,000 to New Jersey. On April 29, 2013, HUD approved the State's CDBG-DR Action Plan outlining New Jersey's intended programmatic uses of the first of three CDBG-DR funding allocations. New Jersey was able to begin accessing the first tranche of CDBG-DR funds in May. Following on October 28, 2013, HUD announced the second allocation of CDBG-DR funds to Sandy-impacted states, of which New Jersey received \$1,463,000,000. On November 18, 2013, HUD published a notice to the Federal Register (FR-5696-N-06) prescribing rules for the use of these funds, and placing a particular focus on using second tranche funds for infrastructure projects. Action Plan Amendment #7 describing the State's plan for the second allocation of funds was approved by HUD on May 30, 2014.

On October 16, 2014, HUD issued Federal Register Notice FR-5696-N-11 (effective October 21, 2014) which allocated \$881,909,000 of third round CDBG-DR funds to New Jersey. Of that total, \$380 million must be expended in connection with two projects selected by HUD through HUD's Rebuild by Design (RBD) initiative. The RBD projects are described in detail in Action Plan Amendments #12, 20, 22 and 25 to New Jersey's CDBG-DR Action Plan and are consolidated herein. Action Plan Amendment #11 set forth

how the State will allocate the remaining \$501,909,000 of third round CDBG-DR funds and was approved by HUD on April 20, 2015.

CDBG-DR funds appropriated in the Act are subject to additional guidance provided by HUD in the Federal Register (FR-5696-N-01). For example, HUD requires that each grantee expend at least 80% of its allocation in the most impacted and distressed counties, which in New Jersey HUD identified to be Atlantic, Bergen, Cape May, Essex, Hudson, Middlesex, Monmouth, Ocean and Union Counties. Funds only can be used for eligible disaster-related activities unless HUD provides a waiver. Moreover, sufficient monitoring protections must be in place to prevent waste, fraud and abuse. And as a precondition to receiving CDBG-DR funds, New Jersey must submit a comprehensive Action Plan that details its unmet needs and describes the proposed uses of CDBG-DR funds to address those needs. The Action Plan must be amended as conditions change and additional needs are identified. This consolidated Action Plan reflects the initial Action Plan as refined over Amendments #1-42.

New Jersey Action Plan

New Jersey Department of Community Affairs (DCA) was designated as the entity responsible to HUD for administering the distribution of CDBG-DR funds for New Jersey. This Action Plan was developed after having received considerable input from other State departments and agencies, affected communities and stakeholder groups and with support from federal government partners.

Section 2 of the Action Plan provides an impact and unmet needs assessment that details many of the impacts of Superstorm Sandy and identifies the State's current projection of unmet need. The State continues to refine its unmet needs assessment.

Section 3 outlines disaster relief and long-term recovery activities, focusing on the reconstruction and rehabilitation of primary residences and rental properties, assisting small businesses and promoting economic revitalization, and restoring critical infrastructure. Within each area, the State will focus on meeting the needs of low and moderate income populations and the most impacted counties as identified by HUD.

Section 4 sets forth New Jersey's CDBG-DR programs. While housing and economic recovery were the leading priorities addressed with the first allocation of CDBG-DR funds from HUD, the State has used subsequent allocations of CDBG-DR funds to support infrastructure projects, enable municipalities to provide essential services to their communities, address health and social services for individuals in need, and provide code enforcement support to localities.

Section 5 addresses New Jersey's performance schedule for its proposed programs.

Section 6 describes the State's outreach efforts and public comment process with respect to Substantial Amendments.

This document serves as New Jersey's CDBG-DR Action Plan, incorporating Amendments #1-42. All sections of the initial Action Plan, as adapted by amendments 1-42, remain in effect, unless otherwise noted.

SECTION 2: IMPACT AND UNMET NEEDS ASSESSMENT

2.1 Background

HUD requires the State to complete an unmet needs assessment that quantifies the funding needed for recovery. The assessment is used to determine the extent of unmet needs and to help prioritize among those needs, with a focus on low and moderate income households and the most impacted counties. In accordance with HUD requirements, the State continues to refine this analysis with current data. Data sources relied on in this assessment include:

- Federal Emergency Management Agency (FEMA) Individual Assistance (IA) Data
- Federal Emergency Management Agency Inundation Shapefiles
- Federal Emergency Management Agency Public Assistance (PA) Data
- Federal Emergency Management Agency Point Surveys
- Department of Housing and Urban Development (HUD) Comprehensive Housing Affordability Strategy (CHAS) 2012 Data
- InfoUSA Business Records
- Local, Municipal and County Governments
- Marshall and Swift Construction Cost Estimator
- National Atmospheric and Oceanic Administration Data
- New Jersey Board of Public Utilities
- New Jersey Department of Banking and Insurance
- New Jersey Department of Children and Families
- New Jersey Department of Community Affairs
- New Jersey Department of Education
- New Jersey Department of Environmental Protection
- New Jersey Department of Health
- New Jersey Department of Human Services
- New Jersey Department of Labor and Workforce Development
- New Jersey Department of Transportation
- New Jersey Economic Development Authority
- New Jersey Housing Mortgage Finance Agency
- New Jersey Redevelopment Authority
- Rutgers University
- Small Business Administration (SBA) data
- U.S. Census data

2.2 Impact on New Jersey Communities

Per HUD guidance, the State has undertaken an analysis below that summarizes storm damage to heavily impacted communities in the nine most impacted New Jersey counties as determined by HUD and provides a description of demographic information about these communities and counties. The data were generated using the 2011 American Community Survey 5-Year Survey data and FEMA Individual Assistance Data (effective March 12, 2013). Additionally, Appendix B of the Action Plan provides a detailed chart summarizing demographic information by census tract in heavily impacted communities.

Atlantic County

As a result of Superstorm Sandy, 9% of the households in Atlantic County had homes that sustained “severe” or “major” damage, as those terms are defined by HUD. According to HUD, “severe” damage is defined as homes FEMA determined to have greater than \$28,800 worth of physical damage or more than four feet of flooding on the first floor, while “major” damage is defined as homes FEMA determined to have between \$8,000 and \$28,799 worth of physical damage or more than one foot of flooding on the first floor. One census tract within Brigantine and one census tract in Atlantic City had more than 50% of households experience major or severe damage, another 12 communities had between 25% and 49% of households experience such damage, and 10 census tracts had between 10% and 24% of households experience such damage.

In Atlantic County, 34% of the residents report a disability and 7% of the households is over age 65 and living alone. Atlantic County also contains a significant number of second homes, including many in heavily damaged communities.

Bergen County

As a result of Superstorm Sandy, 1% of the households in Bergen County had homes that sustained “severe” or “major” damage. Damage is largely concentrated in communities along the Hackensack River in Little Ferry, Moonachie, and Hackensack. The homes with major or severe damage in Bergen County account for almost 5% of all major and severe damage across the State. The vast majority of damage occurred to owner-occupied homes.

Within Bergen, two census tracts had more than 50% of households experience severe or major damage, and one census tract had between 10% and 24% of households experience such damage.

In Bergen County, 8% of the residents report a disability and 7% of the households is over age 65 and living alone.

Cape May County

As a result of Superstorm Sandy, 5% of the households in Cape May County had homes that sustained “severe” or “major” damage, totaling 2,446 units. Cape May County includes New Jersey’s southern-most coastal communities. More than half of the County’s 98,400 homes are used as seasonal vacation homes. While most homes are seasonal, the year-long residents who reside in these communities and fuel the local economy can largely be described as working families. More than half the households in all of the impacted communities earn less than the State median income. Within Cape May County, four census tracts had between 25% and 49% of households experience severe or major damage, and

another four had between 10% and 24% of households experience such damage.

In Cape May County, 13% of the residents report a disability and 10% of the households are over 65 years of age and living alone.

Essex County

As a result of Superstorm Sandy, less than 1% of the households in Essex County had homes that sustained “severe” or “major” damage, totaling 397 units. While a relatively smaller percentage of units in Essex County experienced severe or major damage, flooding was widespread. In Essex County, 3,100 units experienced some level of damage, including 71% owner units and 29% rental units. No census tract in Essex had more than 10% of households with severe or major damage to the units. In Essex County, 10% of the resident report a disability and 4% of the households is over the age of 65 and living alone.

Hudson County

As a result of Superstorm Sandy, 2% of the households in Hudson County had homes that sustained “severe” or “major” damage, totaling 4,407 units. Flooding was concentrated in Jersey City, Bayonne, and Hoboken. In these areas, 3,702 units experienced major or severe damage, including 62% to owner units and 38% to rental units. Within Hudson County, nine census tracts had between 10% and 24% of households experience severe or major damage. In Hudson County, 9% of the residents report a disability and 3% of households is over age 65 and living alone.

Middlesex County

As a result of Superstorm Sandy, less than 1% of the households in Middlesex County had homes that sustained “severe” or “major” damage as those terms are defined by HUD, totaling 1,975 units. Flooding occurred along the South River and along the coast facing Staten Island. Within Middlesex County, one census tract in Sayreville had between 25% and 49% of households experience severe or major damage and three census tracts had between 10% and 24% of their households experience major or severe damage in the Borough of Carteret, the Borough of South River, and the Township of Woodbridge.

Eight percent of Middlesex County residents report a disability and 6% of the households are over the age of 65 and living alone.

Monmouth County

As a result of Superstorm Sandy, 5% of the households in Monmouth County had homes that sustained “severe” or “major” damage, totaling 11,467 units. Monmouth County represents 20% of all major and severe housing damage in the State. A large percentage of the housing units in Keansburg, Highlands, Union Beach, and Sea Bright sustained major and severe damage. Of these communities, Long Branch, Keansburg and Union Beach have significant lower income populations. Within Monmouth County, three census tracts had more than 50% of households experience severe or major damage, nine census tracts had between 25% and 49% of households experience such damage, and six census tracts had between 10% and 24% of households experience such damage.

Seven percent of Monmouth County’s households are over 65 years of age and living alone and 9% of households report a disability.

Ocean County

As a result of Superstorm Sandy, 10% of the households in Ocean County had homes that sustained “severe” or “major” damage. As a community with a large number of vacant second homes, Ocean County’s year-round residents include lower-income persons and retirees who will have challenges in the recovery. Within Ocean County, 15 census tracts had more than 50% of households experience severe or major damage, 10 census tracts had between 25% and 49% of households experience such damage, and 10 census tracts had between 10% and 24% of households experience such damage.

Fourteen percent of Ocean County’s year round population is 65 years or older and 32% of those individuals has a disability.

Union County

As a result of Superstorm Sandy, less than 1% of the households in Union County had homes that sustained “severe” or “major” damage, totaling 643 units, but minor damage was common. In total, 2,998 units experienced some level of damage, including 80% owner units and 20% rental units. Within Union County, one census tract in the City of Linden had between 10% and 24% of households experience major or severe damage.

In Union County, 9% of the residents report a disability and 6% of the households are over age 65 and living alone.

Information provided in the preceding analyses has been used to ensure that funds are targeted where damage occurred. Demographic information referenced above has been used for, among other things, assessing language barriers and case management needs to be accounted for in standing up housing recovery centers to maximize the benefit to impacted New Jerseyans.

2.3 Assessment of Unmet Needs

According to HUD, “unmet needs” are financial resources necessary to recover from a disaster that are not satisfied by other public or private funding sources like FEMA Individual Assistance, SBA Disaster Loans, or private insurance. Per HUD’s guidelines, this unmet needs analysis focuses on the housing, economic and infrastructure sectors. As required by HUD, the State continues to update its unmet needs analysis as funding is allocated and demand for the programs becomes clear.

Of course, the State’s unmet needs extend far beyond the housing, economic and infrastructure sectors. New Jersey’s recovery effort must focus not only on economic recovery, but also economic revitalization. New Jersey also must provide critical health and social services to certain populations affected by Superstorm Sandy, protect municipalities from losing critical services as a result of the storm, and address environmental issues. CDBG-DR funds must address these unmet needs as well.

	Need	Other Funds Allocated	Unmet Need
Housing	\$4,458,185,055	\$1,953,191,063	\$2,504,993,992
Economic Development	\$1,873,278,430	\$145,465,017	\$1,727,813,413
Infrastructure/Community Facilities	\$25,440,800,963	\$10,942,262	\$25,432,594,266
Total	\$31,772,264,448	\$2,109,598,342	\$29,665,401,671

Sources: FEMA Individual Assistance and Public Assistance data, SBA claims, insurance claims provided by the New Jersey Department of Banking and Insurance, InfoUSA, NOAA, and input from State agencies, effective March 12, 2013.

*Note: Infrastructure funds have either been disbursed or are eligible under FEMA Public Assistance. FEMA Public Assistance recipients will likely be required to provide 25% match reflected in the Unmet Need Calculation

The following assessment describes the State’s approach to addressing the unmet need, including any leveraged funds, identified in each sector.

2.3.1 Housing

Superstorm Sandy significantly impacted New Jersey’s housing sector. Using the methodology outlined in HUD’s Federal Register Notice ([FR-5696-N-01](#)) of FEMA Individual Assistance data effective March 12, 2013, approximately 40,500 owners’ primary residences and 15,600 renter-occupied homes sustained “severe” or “major” physical damage. **Table 2-2** describes housing damage by severity among FEMA Individual Assistance applicants who occupied homes in Coastal Zone A, Coastal Zone V, or other areas.

	Minor	Major	Severe	Total
Owned	19,505	28,946	11,520	59,971
Rented	6,289	12,544	3,067	21,900
Total	25,794	41,490	14,587	81,871

Source: FEMA Individual Assistance Data, effective March 12, 2013

To estimate the unmet housing need in New Jersey, the State first used available data to quantify the cost to repair damage to the housing sector caused by the storm as well as the costs to perform required housing elevations. The State then added together amounts received from other funding sources like FEMA Individual Assistance, SBA disaster loans, and private insurance to quantify funding that has been provided for repairs to the housing sector. Subtracting the latter figure from the former arrives at New Jersey’s estimate of its unmet housing need.

To estimate the cost of repair, this assessment multiplies the average construction cost per square foot (\$135 in New Jersey per a 2012 Marshall & Swift report) by the damage category and the total square footage. The extent of the damage uses the following defined categories of FVL combined with flood depth for owner and renter occupied homes as shown in **Table 2-3**.

Category	Reported FVL	Reported FVL- Renters	Percent Damaged
None	\$0	\$0	0%
Minor – Low	\$1 - \$3,000	\$1 - \$999	2%
Minor – High	\$3,000 - \$7,999	\$1,000 - \$1,999	5%
Major – Low	\$8,000 - \$14,999	\$2,000 - \$3,499	10%
Major – High	\$15,000 - \$28,799	\$3,500 - \$7,499	20%
Severe	>\$28,800	>\$7,500	100%

Source: GCR Inc. using HUD Damage Classifications and FEMA Individual Assistance data, effective March 12, 2013

All homeowners and renters with more than four feet of flooding were assumed to be severely impacted. In addition to physical damage to housing stock caused by the storm, the need for home elevations also represents a substantial cost. This unmet needs assessment assumes all of the owner-occupied homes with more than four feet of flooding and newly added to the 100-year floodplain will require elevation.

Having performed this analysis based on currently available data, the total cost to repair New Jersey’s housing sector presently is projected at \$4,458,185,055. The current total amount of federal and non-federal funds distributed for repairs to New Jersey’s housing sector and for elevations – including FEMA Individual Assistance funds, SBA loans and private insurance proceeds – totals \$1,953,191,063. As a result, New Jersey currently projects an unmet housing need of \$2,504,993,992.

	Repair/Replace Costs ¹	Elevation Costs for Homes with 4’ Flood Depth and Newly Added to 100-Year Floodplain ²	Insurance Claims (Residential and Flood) ³	FEMA Grant and SBA Loan ⁴	Unmet Need
Total	\$4,294,935,055	\$163,250,000	\$1,434,422,611	\$518,768,452	\$2,504,993,992
Uninsured Homeowners with Major to Severe Damage	\$1,081,221,565	\$-	\$-	\$129,255,611	\$951,965,954

Source:

¹ Analysis using FEMA Individual Assistance data FVL values, flood depth, HUD damage categories and associated damage estimates.

² Geospatial analysis of FEMA Q3 and ABFE maps overlaid with FEMA HAZUS data to determine total homes shifting into a 100-year floodplain effective March 12, 2013. Elevation costs assumed at \$50,000 per unit.

³ Private insurance data provided by NJ Department of Banking and Insurance.

⁴ FEMA Individual Assistance data, effective March 12, 2013 and SBA data effective February 6, 2013.

However, this figure understates the extent of New Jersey’s unmet housing needs. It does not represent the universe of damaged homes, but instead is limited to individual FEMA applicants determined by FEMA to have sustained damage. Further, this does not take into account the substantial need of case management, housing counseling and other supportive housing services.

Thus, the State has committed approximately \$2,600,000,000 (or 63 percent) of its entire allocation of CDBG-DR funds to housing initiatives (including \$145 million of first tranche CDBG-DR funds that were initially allocated for economic programs but later were moved to housing programs with HUD approval). In addition, the State has committed approximately \$41,107,737 to supportive services to assist with needs associated with housing, but not captured in the total unmet need estimation.

2.3.1.1 Addressing the Needs of Homeowners

Homeowners throughout New Jersey were significantly affected by Superstorm Sandy. Based on available data, as well as input from federal and state departments and agencies, local communities, stakeholder groups and citizens, New Jersey’s owner-occupied housing needs include:

- Assisting homeowners with the reconstruction or rehabilitation of their homes;
- Assisting homeowners in Sandy-impacted communities who are now required to elevate their “substantially damaged” homes to meet ABFEs;
- Providing case management and technical assistance to help Sandy-impacted homeowners in need of housing counseling services;
- Providing interim assistance to Sandy-impacted homeowners to encourage them to resettle and reoccupy homes they owned prior to the storm; and
- Providing buyout assistance where appropriate for homeowners residing in flood-prone areas where large scale buyouts would serve a public health and safety benefit, as well as an environmental benefit.

The State has taken the following steps to encourage adequate, flood resistant housing for all income levels.

Reconstruction, Rehabilitation, and Elevation

Homeowners throughout New Jersey were significantly affected by Superstorm Sandy. Based on FEMA Individual Assistance data effective March 12, 2013, 59,971 owners’ primary residences sustained some amount of physical damage. Of this number, 40,466 homes sustained severe or major damage.

The State created the Reconstruction, Rehabilitation, Elevation and Mitigation (RREM) and Low to Moderate Income (LMI) Homeowners Rebuilding Programs to provide grant awards to eligible homeowners for activities necessary to repair storm-damaged homes. The State has allocated \$1.4 billion through the RREM and LMI Programs to help homeowners reconstruct, rehabilitate and elevate their homes, and to incorporate mitigation measures. As of Winter 2022, RREM has completed nearly 6,850 projects and disbursed almost \$950 million to eligible homeowners. In addition, the State has allocated over \$50 million to the LMI Program, resulting in over 250 projects completed.

Throughout administration, the State has continued to re-evaluate the unmet need for assistance in

rehabilitation, reconstruction and elevation. Per federal regulations and the approved program requirements, if a homeowner's reconstruction needs exceeded the maximum available through the grant, funding to cover the difference must be identified by the applicant before CDBG-DR funds will be invested in the rebuilding project. In addition to conducting an analysis on duplicative funds received, the State leveraged donated funds to assist homeowners in meeting their construction needs. Philanthropic dollars committed through a "gap funding" program administered by the Community Development Financial Institution New Jersey Community Capital, with initial support of \$15 million from the American Red Cross and the Superstorm Sandy New Jersey Relief Fund, was one source that was leveraged by LMI homeowners to address funding gaps. Other funding sources, including private loans, may be available for housing construction needs above the maximum grant for those who could qualify.

Despite the State's progress, some homeowners were finding it difficult to make meaningful progress in their construction. Applicants faced delays for a variety of reasons including fraudulent contractors and a lack of qualified builders, but most of all, applicants lacked the necessary funding to complete construction. In response to the outstanding need, the State introduced a "Supplemental Fund" to offer applicants additional construction funds to complement the grant award received through the programs. In Amendment #28, the State reallocated \$50 million in funding from programs with a lesser need to address the more immediate unmet need of homeowners in reconstruction.

Some homeowners faced construction needs that were not as extensive, but no less urgent. The State has used CDBG-DR funds and leveraged other sources of funding to address the construction needs of those not in the RREM or LMI Programs.

For some homeowners, Superstorm Sandy exacerbated issues with lead hazards. Paint will typically begin to flake once surfaces that were submerged in water begin to dry. As a result, flooded homes built prior to 1978 are more likely to experience increased lead and other health hazards. The State leveraged federal Social Services Block Grant (SSBG) funds received by the Department of Health for a Lead Risk Assessment Program for Young Children. This program provided funding for community outreach and testing of young children, pregnant women, and adults performing physical recovery work for blood lead levels and case management services. However, the SSBG funding does not cover lead assessment and remediation. To address this need, DCA implemented a Lead Hazard Reduction Program with a primary focus on providing funding for lead assessment, lead hazard reduction, and clearance. To avoid a duplication of benefits, the program was open only to those not participating in the RREM and LMI Programs and expended \$1.2 million towards providing lead assessment, lead remediation, mold and moisture testing and repair of conditions contributing to the hazardous environmental factors. In addition to the households served under this program, the State provided funding for lead remediation to thousands of homeowners through the RREM and LMI Programs, as well as to renters through the Landlord Rental Repair Program.

Other homeowners simply needed assistance in elevating their homes. Therefore, the State leveraged FEMA Hazard Mitigation Grant funding to provide \$30,000 grants to homeowners not participating in the RREM or LMI Programs to elevate their homes.

The State will continue to prioritize the use of CDBG-DR funds to address the housing needs of LMI

populations.

Housing Counseling

The needs of homeowners are not limited to construction-related activities. Recognizing the need for financial education and access to available community resources, DCA incorporated HUD-certified housing counselors into the housing recovery effort to provide housing assistance and related services to individuals through the Supportive Services program. This Housing Counseling Program was developed by DCA to provide a wide range of counseling services to both renters and homeowners impacted by Superstorm Sandy. The Housing Counseling Program is a collaboration of HUD-certified, non-profit, community-based organizations which provide assistance with application intake for the LMI Homeowner Rebuilding Program and the TBRA program, as well as the upcoming Supplemental Fund. Counselors assist with application intake as well as other supportive services such as foreclosure prevention and debt management. The Housing Counseling Program has created another avenue for those still very vulnerable populations to be directly engaged by community organizations.

Interim Assistance

After disasters, displaced homeowners often find themselves making both mortgage and rent payments on budgets still strained by other unanticipated storm-related expenses. As long as homeowners remain displaced, these storm-related expenses will persist, straining household budgets and reducing household disposable income that otherwise might support economic recovery and reconstruction.

Over the past three years, the State has leveraged multiple funding sources to provide nearly \$320 million in interim assistance for families displaced by Sandy damage or reconstruction. The Homeowner Resettlement Program, funded with approximately \$200 million of CDBG-DR funds, provided \$10,000 grants to over 18,000 homeowners for various non-construction storm-related expenses. To receive a grant, applicants had to agree to continue to reside in their communities for at least three years after Sandy, combating the harm of out-migration from hard hit communities that occurred in other major disasters. The Homeowner Resettlement Program was targeted to alleviate storm-related financial pressures and encourage those who were able to resettle and reoccupy the homes they owned prior to Superstorm Sandy.

Following the popularity of the Resettlement Program, the State funded the Sandy Homeowners and Renters Assistance Program (SHRAP), funded with Social Services Block Grant (SSBG) monies. Through this program, the State provided up to \$15,000 to homeowners and renters for rental assistance and/or to replace storm-damaged appliances.

Once SHRAP funds were exhausted, the State created the Rental Assistance Program (RAP) to assist those displaced by construction on their primary residence. Initially funded with \$19.5 million of SSBG monies, RAP provides rental assistance of up to \$1,300 per month for up to nine months to homeowners in RREM or the LMI Program paying rent because they are displaced by storm damage or construction. These investments have made a difference for tens of thousands of families, and the breadth of the need for rental assistance for rebuilding applicants appears to be significantly diminishing. However, for those homeowners now able to complete construction with the influx of

additional funds through the Supplemental Fund, rental assistance remains an outstanding need. Enabled by waivers granted by HUD, the State has allocated a total of \$18,000,000 in CDBG-DR funds to provide for these applicants and will continue to evaluate the needs of these homeowners.

Buyout

Targeted buyouts of clusters of homes in repetitive flood loss areas are also a critical recovery priority for the State. While the primary purpose of buyouts is to move people out of harm's way, buyouts also convert properties to permanent open space, allowing communities to create natural buffers to absorb flood waters from future storms and make communities more resilient to future severe weather events. Buyouts also enable state and local governments to create or expand public recreation areas, wetlands, forests and wildlife management areas, while addressing the impact of sea level rise.

At the time the initial Action Plan was approved, more than 30,000 additional homes were included in the 100-year flood plain as a result of revision of the FEMA Flood Maps. Consequently, the State prioritized providing buyout assistance for homeowners residing in flood-prone areas where large scale buyouts would serve a public health and safety benefit, as well as an environmental benefit.

In May 2013, the New Jersey Department of Environmental Protection (DEP) launched the Superstorm Sandy Blue Acres Buyout Program, leveraging multiple federal funding sources to purchase homes from willing sellers in flood-prone areas, many of which sustained severe flooding damage in past disasters as well as in Sandy.

The State has allocated HMGP funds as well as funding through the Department of Environmental Protection's (DEP) Green Acres program and the United States Department of Agriculture's (USDA) Natural Resources Conservation Service for Blue Acres Program buyouts.

The State has committed \$137 million of CDBG-DR monies to fund additional buyouts. DEP also continues to work with officials and residents in other municipalities that have expressed interest in, and are being considered for, buyouts.

The State remains committed to using recovery funds to target repetitive flood loss areas in order to reduce the number of homes in these areas and to enhance community resiliency and continues to evaluate funding opportunities to meet its buyouts goal.

2.3.1.2 Needs of Renters

As a result of the storm, there is a significant shortage of rental housing in the State, particularly in the most impacted communities. Based on FEMA Individual Assistance data effective March 12, 2013, approximately 27% of all housing damage occurred to rental stock, equivalent to 21,900 units, with 15,611 rental units sustaining severe or major damage. Increased demand, coupled with the storm-related depletion of rental stock, substantially increased rents in some areas. As of October 2014, Zillow reported increases in rental rates between 1% and 5% year-over-year for some of the nine most-impacted counties. Taken together, the loss of units, low vacancy rates and increased costs created particular hardships for LMI households seeking affordable rental housing.

Superstorm Sandy also had a significant impact on housing that is subsidized by both the state and federal governments, which includes public housing as well as housing financed primarily for older

adults and Housing Choice Voucher (HCV) recipients. According to preliminary estimates effective mid-February 2013, 2,188 federally subsidized units in 192 multi-family properties were damaged, and 53 households remain displaced. These properties are predominately located in Atlantic City, Flanders, Hoboken, Jersey City, New Brunswick, Ocean City, and Port Monmouth. Eight-hundred and twenty-four (824) public housing units were damaged in the storm, and 100 public housing households remain displaced. Atlantic City suffered the greatest concentration of damage to federally owned housing, with 84 impacted units that housed 250-300 residents. Additionally, 740 HCV recipient households were displaced by Superstorm Sandy, and only 310 of those households have returned to their former home.

Based on available data, as well as input from federal and state departments and agencies, local communities, stakeholder groups and citizens, New Jersey's rental housing needs include:

- Rental programs to repair or replace damaged rental units, particularly those that service low and moderate income households;
- Rental programs to assist currently displaced low and moderate income households; and
- Rental programs that address the unique needs of New Jersey's special needs populations.

Repair or Replacement of Damaged Rental Units

The State's foremost unmet rental need remains the repair or replacement of storm damaged rental housing stock, which will stabilize the rental market and create more affordable housing. The State has funded a number of housing recovery programs to address this need.

The State has provided over \$815 million through five programs: Fund for the Restoration of Multi-Family Housing, Landlord Rental Repair Program, Sandy Special Needs Housing Fund, Neighborhood Enhancement Program and the Pre-Development Loan Fund. . In addition to providing CDBG-DR funding to repair or replace rental stock, the State has leveraged CDBG-DR and other funds to assist renters directly with storm-related needs.

Rental Assistance for Displaced LMI Households

Many storm-affected renters received funding for storm-related needs through FEMA Individual Assistance. More than \$418 million in FEMA Individual Assistance was approved for homeowners and renters in New Jersey. The Working Families Living Expenses Voucher Program (also known as SHRAP), funded with U.S. Department of Health & Human Services Social Services Block Grant (SSBG) monies, also provided funding directly to individuals for rent and to replace necessary household items damaged by Sandy. The State has provided CDBG-DR funds to address the remaining unmet rental need.

The State has allocated over \$17 million in CDBG-DR funds to the Landlord Incentive Program (LIP), which provides funding to landlords to make existing units available at affordable rates to low to moderate income renters. The program supplements rental payments to assist individual renters and increase the number of available affordable units.

The State has allocated more than \$18 million in CDBG-DR funds to the Sandy Homebuyer Assistance Program to provide grants up to \$50,000 to assist low- and moderate-income individuals with home

purchases. Among other accomplishments, this assistance provided some renters with financial support to become first-time homebuyers.

Through the Tenant-Based Rental Assistance Program, the State has targeted CDBG-DR funds to supplement housing vouchers to very low income families displaced by Superstorm Sandy. The vouchers subsidized the rents of these families, making housing more affordable. Following a regulatory waiver from HUD in July 2014 ([FR-5696-N-10](#)), the State transitioned \$17 million of LIP funds to its Supportive Service program in order to provide direct rental assistance to renters (rather than having to provide funding to landlords through LIP to subsidize rent costs in order to comply with HUD regulations pertaining to direct income payments). This funding is in addition to the approximately \$5 million of Supportive Services program funding that addressed the cost of vouchers for very low income households through December 2013. In all, a total of \$27 million in housing vouchers were provided to very low income families to assist with rental costs.

Public Housing and HUD-Assisted Housing Support

Superstorm Sandy also affected public housing. The State has conducted significant outreach to Public Housing Authorities (PHAs) to gauge the issues faced by certain PHAs as a result of the storm. Shortly following the storm, DCA held a meeting with thirteen PHA Executive Directors from the nine counties most impacted by Superstorm Sandy. Furthermore, in the Spring of 2013, DCA distributed an assessment questionnaire to PHA's around the state to allow them to quantify and describe the damage sustained to public housing units and common property. In an effort to define PHAs' unmet needs, the questionnaire also solicited data related to costs to repair damage, anticipated insurance proceeds, FEMA eligible expenses, project reserves and any other sources of funds. The responses received were overwhelmingly positive. PHA representatives commended the State on the speed with which it produced a thorough and thoughtful plan that addressed the range of needs arising from the storm. Additional information has been provided through direct outreach calls with PHAs.

In the initial Action Plan, the State had established a set-aside of \$20 million to provide the necessary resources to support repairs to damaged public housing units, damaged federally-owned housing units, and damaged HUD-assisted multi-family housing. The State committed to continue reviewing the unmet needs of public housing and to allocate an appropriate level of funding as needs were determined. An additional \$10 million was then initially reserved for Public Housing Authority (PHA) recovery projects in the second allocation of federal funding. As of Autumn 2021, over \$27 million has been expended towards the creation of LMI units under the PHA set-aside.

Many of the PHA projects in the pipeline have not yet determined a start date. Therefore, Amendment #27 allowed for a portion of the \$30 million initially reserved for public housing authority projects through FRM to be used for other FRM projects in the event the identified public housing authority projects will not be completed by the 2022 federal expenditure deadline. However, funding PHA's and other HUD-assisted housing support remains a priority.

After establishing the set-aside, HMFA separately contacted the directors of all PHAs to explain the State's PHA recovery program and to provide contact information to direct any questions regarding the pursuit of recovery funding. HMFA again reached out directly to Sandy-affected PHAs and subsidized housing in connection with assessing unmet needs for distributing second round CDBG-DR funds. In June 2014, HMFA sought another update on remaining unmet needs as a result of Sandy.

And as part of the direct outreach relating to third round CDBG-DR funding, in November 2014 DCA and HMFA met with PHAs to continue the discussion of Sandy needs. This information continues to inform the State's distribution of CDBG-DR funds and to connect PHAs to resources that may address specific needs.

The State continues to promote the availability of affordable housing in areas of opportunity where appropriate and support plans that are equitable to racial, ethnic and low-income concentrations.

Homeless and Special Needs Support

Individuals with special needs often may be vulnerable as a result of natural disasters, due to disrupted support networks, accessibility issues or increases in cost of living. Special needs populations displaced by Superstorm Sandy include the elderly as well as adults, children, and youth who are homeless or at risk of homelessness, who have intellectual or developmental disabilities, who have physical disabilities or who have behavioral health needs.

In the three months following Superstorm Sandy, statistics from the Homeless Management Information System (HMIS) showed a 12% increase, or slightly greater than 4,200 in total individuals, in the All Agency Homeless Programs report. Therefore, in Amendment #6, the State shifted \$17,000,000 to provide tenant-based rental assistance, ultimately providing a total of approximately \$27 million in housing subsidies to very low income families and individuals. Per the federal waiver provided in Federal Register Notice [FR-5961-N-02](#), all subsidies were scheduled to end December 31, 2018. The program spent nearly the entire allocation prior to the prescribed deadline, resulting in assistance being provided to 1,788 families throughout 115 municipalities. The State then worked with those needing continuing assistance to transition them into other federally assisted housing programs.

Based on the unmet needs identified, the State has leveraged existing programs to support special needs populations, including: homeless populations, households at risk of becoming homeless, persons with disabilities, older adults, and other special needs. These programs include but are not limited to: residential services for group homes, apartments and family care homes, and programs to assist individuals who are homeless or at imminent risk of becoming homeless. Currently, the State provides housing for special needs populations through the following agencies: the Department of Human Services, Department of Community Affairs, Housing and Mortgage Finance Agency, the Department of Veterans Affairs, and the Department of Children and Family Services. The State has implemented these programs designed to afford special needs populations access to affordable, long-term housing, as part of realizing its identified CDBG-DR objectives.

The Department has continued to provide these services, focusing additional resources as appropriate to solve storm-related issues.

- **Actions New Jersey Will Take to Assist Homeless Persons Transition to Permanent Housing:** The State currently has a number of programs to address special needs residents including the homeless. The special needs funding rounds in the Low Income Housing Tax Credits Program produce new permanent housing units for the homeless and other special needs populations. The Special Needs Housing Trust Fund is used to support the operation and provision of services in these developments. The CDBG-DR Rental Housing Programs

support these efforts for the homeless as well as significantly increase the overall supply of affordable housing to help prevent homelessness.

- **Actions to Prevent Low-Income Individuals and Families with Children (especially those with incomes below 30% of area median) from Becoming Homeless:** DCA provides a number of programs to support low-income families. Following the storm, the State made available an allocation of 1,000 Section 8 Housing Choice Vouchers to prevent low-income families from becoming homeless. The State also has a rental assistance program that is designed for low income populations.
- **Actions to Address Supportive Housing Services:** The State has strong existing programs to produce and provide permanent supportive housing services. These services have been supplemented by special permanent supportive housing projects to be developed through the CDBG-DR rental and housing programs. The State will provide permanent supportive housing “set asides” in the multi-family components by requiring developers to provide a certain percentage of their units for people with special needs. These new units will also be eligible for services provided by the Division of Mental Health and Addiction Services to ensure the best outcomes for tenants. Through its slate of housing recovery programs, the State will seek to increase its stock of permanent supportive housing units, which provide stable, permanent housing to the formerly homeless and those persons with special needs.

To assist households and individuals having special needs, the State has allocated nearly \$60,000,000 in CDBG-DR funding to capitalize the Sandy Special Needs Housing Fund. This program, which received significant demand, provides funding to experienced for-profit and nonprofit developers to construct quality, permanent affordable rental housing throughout New Jersey. Many of the housing units being developed under the Sandy Special Needs Housing Fund restore the availability of units in Sandy-impacted communities, and as an ancillary effect, contribute to the Olmstead settlement requirements related to providing services and housing for persons moving out of institutionalized settings.

2.3.2 Economic Development

Superstorm Sandy severely impacted New Jersey’s economy. The storm is estimated to have affected over 1,000,000 employees, crippling New Jersey’s labor force. As of February 2013, \$3.4 million has been spent in disaster unemployment benefits, including disaster unemployment claims which are aimed towards individuals who do not qualify for full unemployment benefits. The loss of employee income hinders the overall economy, creating a ripple effect as households have less disposable income to support businesses. While the anticipated high demand for rebuilding projects may afford some opportunity to offset job losses that may occur in other sectors, it is expected that the current labor force with adequate skills to perform rebuilding projects will not be able to satisfy demand.

The storm also severely impacted specific industries across the State. The warehousing and shipping industries are at risk of job losses, as companies may stop shipping and storing goods in areas prone to flooding. The manufacturing industry also experienced significant losses in inventory and suffered from a lack of workforce in the immediate aftermath of the storm when transportation routes were compromised. The State’s fishing industry, comprised of commercial and recreational fishing and

seafood processing, contributed more than \$2.7 billion to the economy in 2011 and directly employed 8,500 people. This industry suffered sizable losses in inventory and business interruption. Processing plants, docks, boats, roads and railways were destroyed or severely comprised. In addition, the storm caused significant ecological impacts by destroying the natural habitat of many species.

To estimate the extent of the unmet need in New Jersey's economic sector, this assessment subtracts funding provided to date by FEMA, SBA and private insurance from the current estimate of the total cost to repair commercial property damages and total amount of losses from interrupted business in the aftermath of the storm.

Commercial property damage is defined as any storm-related damage to commercial buildings, loss of inventory, and damage to fixtures, machinery and equipment. To estimate commercial property damage, the unmet needs assessment uses information on insurance claims reported by the New Jersey Department of Banking and Insurance rather than SBA loans. Its dataset represents a greater universe of business damage than the SBA loan information, showing more than 15,000 business claims compared to the SBA's reported 1,579 commercial applicants.

To estimate damage caused by business interruptions the unmet needs assessment assumes, based on power outages throughout much of the State, that businesses experienced a business interruption of seven to ten days. The calculation assumes a 7.2% profit yield which is a 35-year average based on S&P and Bloomberg data. This does not take into account lost wages or unemployment.

Based on this analysis, New Jersey businesses suffered an estimated \$1,873,278,430 in total commercial loss and interrupted business operations. So far, recovery funds disbursed, including SBA loans and commercial insurance, amount to \$145,465,017. This leaves \$1,727,813,413 in current unmet need.

Following the disaster, access to capital for rebuilding and to offset business operations shortfalls presented the most critical unmet need with respect to economic development and revitalization. A number of recovery resources were directed toward addressing that need. Private insurance is one of the most critical sources of funding for business recovery. SBA loans were distributed to eligible, affected New Jersey businesses, though that federal program was not without challenges. As of September 2013, more than \$46 million in SBA loans had been disbursed to almost 900 New Jersey businesses. Other private funding sources, including microloans offered through Community Development Financial Institutions (CDFIs), provided capital to recovering businesses. To supplement this assistance and help meet the identified unmet need, the State has allocated approximately \$272 million.

2.3.2.1 Needs of the Small Business Community

Superstorm Sandy affected thousands of businesses across New Jersey and across all business sectors. The storm caused significant physical damage as well as short-term and long-term business operations losses. Many of the businesses in hardest hit communities fall within the leisure and hospitality industry or depend on tourism revenues for sustainability.

The State has undertaken various efforts to identify the needs of New Jersey's small business community. The New Jersey Economic Development Authority and Business Action Center engaged

in meetings and outreach on a local level, county-by-county, to better understand the economic impacts of the storm. Not only did the agencies meet with local Chambers of Commerce, business community leaders and planners, but the BAC's call center collected information from businesses on their recovery needs, which was shared with state and federal departments and agencies and informed the creation of the State's economic recovery programs.

To augment assistance directly supporting economic development and revitalization, the State implemented two recovery programs funded by CDBG-DR monies and administered by the New Jersey Economic Development Authority (EDA). The Stronger NJ Business Grant Program provides grants of up to \$50,000 to affected businesses for working capital and construction needs. The Stronger NJ Business Loan Program provides loans of up to \$5 million to allow businesses to rebuild and expand, which in turn creates jobs for recovering New Jersey households. Between the two programs, the State has created and/or retained nearly 6,500 jobs. At the same time, the State coordinated direct assistance for impacted employees. Approximately \$5,000,000 in Disaster Unemployment Assistance was paid to affected New Jerseyans. The State has leveraged more than \$15 million in federal National Emergency Grant funds to provide temporary employment related to disaster response and recovery efforts. The State also created talent networks to connect unemployed individuals with employers. The federal Sandy Task Force cited these recovery networks as a best practice in disaster recovery.

To further support economic recovery and revitalization, the State implemented the Neighborhood and Community Revitalization (NCR) program, funded with \$72 million of CDBG-DR monies. The State committed funds for municipalities to support streetscape projects such as lighting and façade replacement in business districts as well as for development and public improvement projects including planned physical improvements that have recreational or cultural uses.

2.3.2.2 Tourism Needs

New Jersey's tourism industry, the State's third largest industry, contributes more than \$38 billion to the State's Gross Domestic Product and, for 2011, represented 24.5% of private sector employment. Superstorm Sandy had severe and far-reaching impacts on this vital sector. The substantial concentration of damage across many of New Jersey's shore communities — particularly those in Atlantic, Monmouth, and Ocean Counties — demonstrated the breadth of the storm's impact on the tourism industry.

In order to better understand the impact of the storm on tourism, the State met with local travel and tourism officials, elected and non-elected officials, as well as industry groups, all who identified the same issue. As a result of Superstorm Sandy, many potential tourists were under the misperception that the entire Jersey Shore was decimated. According to Oxford Economics, Potential Impact of the Gulf Oil Spill on Tourism, U.S. Travel Association 2010, ongoing misperceptions of the level of damage caused by disasters hurts tourism economies even after assets have been restored. These misperceptions have endured an average of 10 to 27 months. The negative effects of the misperception manifest in myriad ways. It resulted in convention center cancellations. It also threatened the hotel/motel industry at the shore, which projected to have lower revenues and less need to retain employees if fewer tourists are patronizing the shore. The Jersey Shore, where the majority of tourism dollars are spent, is an iconic and long-established tourist destination, with retail,

hospitality, and entertainment venues that contribute significantly not only to local community vitality but also to the overall State employment and business tax revenue base. For these and other reasons, the misperception regarding the Jersey Shore threatened a robust recovery for the tourism industry in New Jersey.

To combat that misperception, the State sought a waiver from HUD to use CDBG-DR funds to support a tourism marketing campaign. HUD granted the waiver request, and the State allocated \$25 million of first tranche CDBG-DR funds to create New Jersey's "Stronger than the Storm" campaign. The campaign included: outreach and community events; local, regional and national advertising; and marketing tools and techniques. This campaign began in May 2013, immediately after HUD approved New Jersey's CDBG-DR Action Plan when the State could begin drawing down first tranche CDBG-DR funds. The majority of the campaign occurred between Memorial Day and Labor Day, driven largely by when the State could access the CDBG-DR funds to support tourism; the State also held some autumn events to support tourism at that time.

The "Stronger than the Storm" campaign incorporated advertising across different forms of media to reach New Jersey's target tourism market in a variety of ways. A television advertising effort introduced New Jersey's "Stronger than the Storm" campaign to key markets such as New Jersey, New York, Philadelphia, other areas on the Eastern Seaboard and eastern Canada. Billboard advertising in top commuter locations around New York City supported the advertising campaign. Digital advertising appeared on sites popular with target audiences. Radio spots were created and aired throughout New Jersey and surrounding locales. A website designed around tourism and recovery was launched; it received over 390,000 visits and attracted 105,000 online fans. Social media was utilized and yielded 98,057 "likes" on Facebook and 6,616 followers on Twitter and 217 million Twitter impressions.

Community events across the Jersey Shore were organized and held to attract tourists and media coverage that reinforced the message that the Jersey Shore was open for business. In total, 43 events were held in shore communities that were attended by over 334,000 people, with 16,320 pieces of collateral materials distributed. Beginning with Memorial Day Weekend launch events, the campaign generated 1,746 total media placements and 1.25 billion total media impressions.

Following the most devastating natural disaster in New Jersey's history, preliminary data on tourism metrics suggest that New Jersey's 2013 summer season largely exceeded expectations. In nearly all cases the summer 2013 tourism season, as measured by these preliminary statistics, outperformed the summer seasons for 2009 through 2011, and only slightly trailed New Jersey's record-breaking tourism year in 2012. This occurred despite that June 2013 was the wettest June in New Jersey's history. Importantly, these are cumulative figures spread across all communities; many hardest hit areas saw significant declines in 2013 tourism revenues. The "Stronger than the Storm" campaign made a significant difference for tourism across the State, bringing revenues into recovering communities and protecting most hospitality and leisure jobs threatened by the impact of the storm.

However, the State's local and business partners, especially those in New Jersey's shore communities, emphasized the importance of additional advertising in 2014 in order to fully recover from the storm, revitalize damaged communities, and prevent any backslide from the recovery gains made by tourism-recovery investments in 2013. In particular, the hardest hit communities could not take full

advantage of the 2013 tourism season because of the damage caused by the storm need a strong 2014 tourism season to support their ongoing recovery efforts. Following the success of the first tranche of CDBG-DR funds in driving tourism, support for the tourism industry in 2014 presented the State's most immediate unmet business need. Thus, in Amendment #7, the State dedicated additional recovery resources for tourism marketing in 2014, proposing to leverage multiple funding sources to achieve a timely and effective 2014 tourism marketing campaign.

Assuming HUD was to grant the State's waiver request to increase by \$5 million the State's cap on using CDBG-DR funds for tourism – making New Jersey's cap the same as that approved for New York State – the State planned to add \$5 million of second tranche CDBG-DR funds to bolster the tourism marketing effort. While the State did not envision a 2014 tourism campaign investment on par with the investment in 2013, the State proposed that a meaningful investment was required in 2014 to be responsive to the storm-related needs of the tourism industry, given the importance of that industry to employees, business owners, local communities and the State. While a reallocation of funds in Amendment #7 was approved by HUD, the delay in providing the necessary waiver to increase the marketing funding cap caused the State to execute a scaled back version of the marketing campaign using remaining CDBG-DR funds from the first round and state funds. The excess funds were reallocated to address an unmet housing need.

2.3.3 Infrastructure

Superstorm Sandy significantly affected New Jersey's infrastructure. The combination of storm surge, wave action, and high winds damaged or destroyed much of New Jersey's existing coastal risk reduction infrastructure. Breach of New Jersey's dune systems and other extensive flooding in non-coastal areas resulted in significant damage to homes, businesses, and critical infrastructure throughout the State.

The State has collaborated with FEMA, the U.S. Army Corps of Engineers, U.S. Department of Transportation, U.S. Environmental Protection Agency, and other federal agencies to leverage available funding streams to allow for the repair of key infrastructure and public building assets and also to pursue significant resilience initiatives.

Significant needs remain unmet in all infrastructure sectors. The State continues to analyze and update its unmet needs assessment across infrastructure sectors. Specifically, New Jersey's agencies have conducted extensive damage assessments of infrastructure facilities and equipment throughout the State. The State has also taken steps to improve New Jersey's resiliency for future severe weather events. To that end, New Jersey has partnered with several federal agencies to assess and identify opportunities to rebuild more resilient infrastructure. The State has also engaged six universities to evaluate repetitive loss areas and develop innovative flood risk reduction strategies. The estimated cost of these resiliency measures has been factored into the unmet needs assessment.

Specifically, this assessment calculates: (i) the cost of repairing storm-induced damage minus the amount eligible for Federal Assistance (including Army Corps, EPA, Federal Highway Administration (FHWA), Federal Transit Administration (FTA), FEMA, and other federal agencies) plus local match; and (ii) the cost of implementing identified hazard mitigation projects as reported through state agencies as of December 31, 2013. Based on this analysis, New Jersey currently has an estimated

unmet infrastructure need of more than \$17.3 billion.¹

Table 2-5: Summary of Unmet Infrastructure Needs				
Infrastructure Category	Estimated Damages	Mitigation and Resilience Opportunity Cost	Eligible Expenses and Other Funding	Resulting Unmet Need
Flood Hazard	\$46,854,315	\$6,177,032,189	\$1,268,557,374	\$4,955,329,131
Energy	\$787,257,003	\$4,831,256,727	\$10,979,143	\$5,607,534,587
Water/Wastewater	\$803,941,989	\$2,141,682,936	\$306,004,498	\$2,639,620,426
Transportation	\$810,175,282	\$3,251,402,178	\$353,263,699	\$3,708,313,761
Community Facilities	\$514,252,632	\$72,018,619	\$349,723,060	\$236,548,191
Debris Removal/Dredging	\$730,360,727	-	\$504,954,463	\$225,406,264
Total	\$3,692,841,948	\$16,473,392,649	\$2,793,482,237	\$17,372,752,360

Source: FEMA Project Worksheets; Army Corps of Engineers; NJOEM, NJBPU, EITS DONA Survey, NJDEP, NJ Transit, NJTA, SJTA

The State has implemented programs in a targeted effort to mitigate this need.

2.3.3.1 Flood Hazard Risk Reduction & Resiliency Needs

Superstorm Sandy highlighted New Jersey’s vulnerability to coastal and other flooding. All along New Jersey’s 126-mile Atlantic coast, the combination of storm surge, wave action, and high winds overcame and eroded engineered beach and dune systems. According to the National Weather Service, Sandy produced record wave heights of more than 30 feet near Sandy Hook, resulting in a storm surge 8.57 feet above sea level. Significant inundation also occurred in densely populated urban areas as well as non-coastal communities in many of New Jersey’s floodplains.

When Sandy hit, large sections of the New Jersey coast were outfitted with beach and dune systems built by the U.S. Army Corps of Engineers (Army Corps) in partnership with the State and local governments. However, large segments of New Jersey, including densely populated areas along the Hudson River, did not have risk reduction measures in place at the time of the storm and experienced significant flood inundation. Those areas which had been the beneficiaries of the Army Corps’ coastal risk reduction projects, including sand dunes, berms, and engineered beaches, suffered significantly less damage than those without similar risk reduction infrastructure.

Although New Jersey’s existing coastal risk reduction infrastructure effectively protected some communities, it was also significantly damaged by Sandy’s record storm surge. Dunes and other risk reduction measures that cushioned the storm surge’s blow during Sandy were significantly eroded and in some cases washed away entirely. According to the CRC’s Beach-Dune Performance Assessment of Atlantic County, “huge breakers [from Superstorm Sandy] essentially bulldozed the berm, beach and irregular dune system all along the . . . Atlantic shoreline.”

To restore the beaches and coastal infrastructure damaged by Sandy, the State has taken several steps to pave the way for the Army Corps to begin construction of previously designed and

¹ This estimate from Amendment No. 7 was revised from \$25 million in the initial Action Plan in accordance with the additional sources of information provided by HUD in FR-5696-N-06 to calculate infrastructure unmet need.

congressionally authorized projects on an accelerated schedule. Many beaches and coastal areas of the State are privately owned. Prior to beginning construction, the Army Corps requires that the State acquire the necessary property rights, or easements, to allow for the construction of coastal risk reduction measures. The State has worked hand-in-hand with community leaders to encourage homeowners to voluntarily provide easements to allow projects to be constructed to benefit their neighbors and larger communities. The State continues to seek voluntary easements from properties for upcoming projects. An Executive Order by Governor Christie directed the State's Attorney General to take legal action to acquire the necessary easements to build dunes and construct engineered beaches. The State also created the Office of Flood Hazard Risk Reduction Measures to support these efforts. In collaboration with the State, the Army Corps has already undertaken construction of certain dunes and engineered beaches, but significant areas of the State remain vulnerable.

The State has identified substantial unmet needs in connection with the Army Corps repair and restoration of engineered beaches, dunes, and other existing risk-reduction measures in 14 project areas. The Army Corps has identified over \$1.6 billion in total funding towards flood hazard/coastline projects, approximately \$1.2 billion of which will be federally funded. The State's local match obligation of these Sandy-related Army Corps projects is \$369,450,000. HUD Federal Register Notice [FR-5696-N-06](#) provides that the use of CDBG-DR funds to satisfy Army Corps local match obligation is limited to \$250,000 per project. Based on this restriction, the CDBG-DR-eligible portion of the State's local match obligation is \$2,250,000. In addition, local communities have identified more than 350 flood risk reduction and resiliency projects – including the installation of pump stations, the construction of new flood walls, and other system improvements – at an estimated implementation cost of \$4,573,207,003. \$46,854,315 in project worksheets have been submitted to the FEMA Public Assistance (FEMA PA) program for flood infrastructure repair, of which \$34,182,188 has been deemed eligible for federal funding. Therefore, excluding the federal share, New Jersey's estimate of its unmet flood risk reduction and resiliency needs totals approximately \$4,955,329,131.

In response to this need, the State has allocated \$100 million to the Flood Hazard Risk Reduction Programs, which provide grants for short- and intermediate-term projects, such as the installation of pump stations, outfall pipes, and stormwater collection systems. The program also funds efforts to work with New Jersey's coastal municipalities to acquire easements to allow for reduction and flood control projects in partnership with the Army Corps. Through these efforts, the State has funded eight projects and acquired 195 easements.

In addition, the State has allocated nearly \$75 million to provide the required match for FEMA-funded projects. This program was allocated \$75 million to reimburse both State agencies and local government entities their match requirement for FEMA funded recovery projects. The State Program has reimbursed projects at 22 State agencies. The Local Non-Federal Cost Share Program has reimbursed the match requirement paid by 149 municipalities, counties and school districts. Now the Local Program is providing the match for FEMA-funded resilience projects, including home elevations. The balance will cover the active municipal agreements.

The State continues to make substantial progress in DEP's Blue Acres program, which acquires properties in flood-prone areas in order to remove residents from harm's way and, through the creation of open space, enhance natural protections against future severe weather events. The State has allocated \$137 million in CDBG-DR funds towards purchasing and demolishing properties within

the floodplain. The State continues to evaluate homes located in repetitive flooding communities. The buyouts program also serves as one of many examples in which the State has leveraged multiple funding sources to maximize resources for critical recovery initiatives. Thus far, New Jersey has leveraged funding through HMGP, CDBG, and the federal Natural Resource Conservation Service, as well as State monies, to purchase properties in flood-prone areas.

DEP also is moving forward on two large-scale flood mitigation projects in the Meadowlands region and along the Hudson River. Both projects were selected by HUD and funded through HUD's Rebuild by Design (RBD) initiative. Working with HUD, our local communities, and stakeholders, DEP will focus on scaling these projects to available funding to realize flood protection measures consistent with the vision in the RBD project submissions. These RBD projects are discussed in more detail in Action Plan Amendment #12, 20, 22, and 25.

Finally, DEP continues to evaluate and fund other critical flood protection initiatives leveraging various funding sources, including State funds, and funds from HUD, EPA, FEMA, and the U.S. Department of Interior, among others. These initiatives will continue to focus on critical risk reduction measures, which include, among other things, addressing flood risks posed by coastal lakes and inland waterways, enhancing storm water management systems, and incorporating both man-made flood barriers and nature-based solutions where appropriate.

2.3.3.2 Utility Infrastructure Needs

In the aftermath of Superstorm Sandy, an estimated 2.6 million New Jersey residents were without power due to damaged switching and substations, damaged poles and electrical equipment, and downed trees that brought down wires. At least one-third of these residents lacked power for at least six days. Damage to homes delayed reconnection to the power grid. One month after Superstorm Sandy made landfall in New Jersey, approximately 18,800 households were still without power.

Schools, small businesses, and other commercial enterprises did not have power restored, in some cases, for more than a week. Electricity interruption also impacted 9-1-1 facilities, hospitals, nursing homes, long-term care facilities, domestic violence shelters, foster homes, mental health facilities, and other infrastructure that provides critical social services throughout the State. In many cases, electricity outages rendered unusable New Jersey's petroleum production and delivery systems, by disabling the refineries, terminals, pipeline operations, and gas stations needed to deliver petroleum products to end users.

Superstorm Sandy's impacts were not limited to electric utilities. Interruption of natural gas service – critical for heating in winter months – impacted 32,000 households. Five miles of natural gas line spanning Bay Head to Seaside experienced substantial damage.

Water and wastewater infrastructure, which is largely owned by municipalities and other government entities, suffered an estimated \$2.7 billion in direct damages. Sand infiltrated and blocked a number of sewer lines, and other lines were determined to be structurally damaged beyond repair. At the height of the storm, 94 wastewater treatment systems suffered failures or disruptions, including inadequate treatment, broken sewer mains, and other operational issues.

The costs of building a more resilient utility infrastructure will be substantial. For energy and water/wastewater-related infrastructure alone, the unmet need is over \$8 billion.

New Jersey is already taking steps to fully assess the impact to statewide utilities and develop long-term recovery plans. Complete repair and restoration of service is essential. In the long term, it is critical that New Jersey's electric, natural gas, and water and wastewater systems become more durable and stable to withstand the impacts of severe weather events. In some cases, systems need to be hardened and redundant systems may need to be developed.

Investor-owned public utilities have also identified potential projects to make utility infrastructure less susceptible to storm damage, such as that which results from high winds, flying debris, storm surge and flooding. Potential projects include proposals to raise, relocate, or protect switching and substations in ABFE flood zones; the modernization of gas mains in flood-prone areas; the improvement of pole distribution systems; and the construction of additional redundancy in the system.

In addition to these efforts, New Jersey has identified a number of initiatives, funded with \$327 million in CDBG-DR funds to help address the unmet need and fortify the State's infrastructure.

Energy Infrastructure

New Jersey's critical energy infrastructure and assets experienced significant disruption in service, which brought everyday operations to a standstill and had significant, and in some cases life-threatening, community impacts. Hospitals, nursing homes, long-term care facilities, domestic violence shelters, foster homes, mental health facilities, and other critical social service providers throughout the State were forced to contemplate evacuation in light of prolonged power outages. Even those critical infrastructure and assets reliant on diesel generators for back-up power experienced electric reliability issues, due to limitations on the availability of liquid fuel. Petroleum production, transport, distribution, and retail sales were also significantly impacted. In many cases, flooding and wind damage to key facility components, coupled with electrical outages, rendered petroleum production and delivery systems unusable, by disabling refineries, terminals, pipeline operations, and gas stations needed to deliver petroleum products to end users. Over 70 percent of gas stations in northern New Jersey were unable to operate for as much as a full week after the storm. As one of the largest petroleum product hubs in the northeast, damage and loss of power to New Jersey's petroleum infrastructure – including the Colonial Pipeline – caused interruption to fuel distribution across the region, including to New York City and Long Island.

Immediately following the storm, the State and its utilities took steps to restore the State's energy services. The State mobilized over 17,000 crew workers, the largest mutual aid response to a hurricane in history, to restore electrical services. In addition, natural gas service was restored to all customers who could safely accept it. The State has taken action to address supply- and retail-side liquid fuel interruptions in preparation for future hazards or events, using FEMA HMGP funds. New Jersey's Retail Fuel Station Energy Resiliency Program targets retail fuel stations within one-quarter of a mile of identified evacuation routes in the State and incentivizes the permanent installation of a back-up electric generator or "quick connect" capability. In addition, the State has partnered with the U.S. Department of Homeland Security to explore opportunities to increase the resiliency of the State's petroleum storage, distribution and supply systems. New Jersey has also taken steps to fully assess the impact to the State's energy infrastructure and develop long-term recovery plans focused on increased energy resilience. To that end, the State partnered with the U.S. Department of Energy

(USDOE), the USDOE's National Renewable Energy Laboratory (NREL), and FEMA to study opportunities to expand energy resilience for the State's critical infrastructure and assets.

As part of the State's partnership, NREL conducted a comprehensive analysis of energy needs of critical facilities in municipalities and counties and identified opportunities for communities to build energy resilience by pursuing innovative – but cost-effective – energy solutions. In some cases, NREL's analysis identified cost-saving opportunities, including retrofitting existing solar panels on public buildings to “island off” from the larger electric grid. The State has increased funding to the New Jersey Clean Energy Program, to provide increased rebates to projects that are rebuilding with clean energy and Energy Star projects to reduce grid demand in affected areas. In addition, the State has undertaken a cross-agency initiative to enhance the State's mapping capabilities to assist the State in identifying cost-effective candidates for distributed generation.

The State also partnered with President Obama's Hurricane Sandy Rebuilding Task Force, the USDOE, and Sandia National Laboratories to study energy resilience through expanded use of micro-grid networks to protect critical facilities in urban centers and transportation networks. Despite widespread failure of the electric distribution system, there were several entities throughout New Jersey in storm impacted areas that maintained full power; even in the face of prolonged and diffuse failures of the larger electric grid. These “islands of power” had distributed generation units, which allowed these facilities to operate as micro-grids while the distribution grid was down. Several medical facilities were also able to maintain power through CHP micro-grids, becoming larger shelters as well as accepting patients from other facilities. Further, as the President's Hurricane Sandy Rebuilding Task Force's Rebuilding Strategy noted, the Bergen County Utilities Authority (BCUA) was able to operate its sewage facilities both during and after the storm by relying primarily on a biogas-powered CHP system. The resilience of these facilities during and after the storm highlights opportunities to protect certain critical infrastructure by pursuing technologies that allow facilities to operate independently from the grid or by utilizing more cost-effective, energy efficient and cleaner resilient power options.

The costs of building a more resilient energy infrastructure will be substantial. Additionally, combatting significant storm related increases in service costs is critical for financially strained, recovering households, particularly low-income households still suffering from the impacts of Superstorm Sandy. Publicly regulated utilities in New Jersey have identified a need of \$945,919,000 to repair damage to utility infrastructure. These utilities have also estimated costs of \$4,038,500,000 in projects to prevent future storm damage to generation, transmission and fuel delivery infrastructure. Additionally, \$301,838,003 in project worksheets have been submitted to the FEMA Public Assistance (FEMA PA) program for energy infrastructure and emergency generator projects, of which \$10,891,643 has been deemed eligible for federal funding. There has also been an identified need of \$332,169,227 in Hazard Mitigation Grant Program funding for energy infrastructure. Therefore, excluding the federal share, New Jersey's current estimate of its unmet energy infrastructure needs totals approximately \$5,607,534,587.

In response, the State announced \$40 million in HMGP Energy Allocations to municipalities, counties and critical facilities that can support a variety of alternative energy solutions – microgrids, solar power with battery back-up, and natural gas-powered emergency generators, among others – so they can operate even if the power grid fails.

To address the liquid fuel shortages experienced during Sandy, the State formulated a multi-pronged approach. The State established a \$10 million HMGP-funded initiative providing grants to retail fuel stations along key evacuation routes for backup generators or quick connect devices that allow a station to quickly connect to a portable generator. The New Jersey Office of Emergency Management also procured a cache of portable generators that are strategically positioned across the State and can be mobilized in the time of emergency to power, among other critical facilities, retail fuel stations. To address longer-term supply issues, the New Jersey Office of Homeland Security and Preparedness partnered with the U.S. Department of Homeland Security on a detailed assessment of the State's liquid fuel supply and distribution system to explore ways to enhance resilience. The joint assessment is ongoing.

To supplement these funds, the State has allocated \$199 million to create the New Jersey Energy Resilience Bank that will fund projects that will help prevent a reoccurrence of the energy disruptions and build energy resilience at facilities that experienced a disaster-related impact from Superstorm Sandy, or other qualifying disasters. In addition, the State has allocated \$81 million to provide matching funds for projects funded by FEMA.

Water & Wastewater Infrastructure

At the height of the storm, 94 wastewater treatment systems in all 21 counties suffered failures or disruption, including reduction or complete loss of power; reduction or loss of treatment capacity; broken sewer mains; and other operational issues. Treatment facilities, pump stations, and sewer mains in several areas on the barrier islands sustained catastrophic surge and flood damage or, in some cases, complete destruction. Salt water inundation of pump stations destroyed electrical equipment, including pumps, motors, and electric controls. Damage also spread to municipal storm water systems, many of which were clogged with sand or other sediment. Several regional wastewater facilities were either rendered inoperable following Sandy or operated with reduced capacity for an extended period of time.

New Jersey's drinking water and wastewater operations were significantly compromised as a result of Superstorm Sandy, resulting in \$2.6 billion in estimated needs (including emergency repair, recovery, mitigation and resiliency). A variety of sources confirm the significant unmet needs that New Jersey's environmental infrastructure faces in the long-term recovery process. Following Superstorm Sandy, New Jersey's Environmental Infrastructure Trust collected information from over 380 water and wastewater utilities, on their total needs, including resiliency costs. Through this process, water and wastewater utilities and municipalities identified \$636 million in damages and resilience projects that will cost an additional estimated \$1.6 billion. These resilience projects are critical to ensure that facilities impacted by Superstorm Sandy and other qualifying disasters are better able to withstand and recover from future extreme weather events. Ultimately, any resilience project identified by the State would need to meet eligibility requirements of the administering funding agencies. Separately, as of December 31, 2013, \$167.5 million in project worksheets have been submitted to the FEMA PA program for drinking water, wastewater, and storm water infrastructure projects, of which nearly \$123 million have been obligated with federal funds; the total remaining funding is about \$38 million. In addition, Letters of Intent for State Revolving Funds (SRF) 2015 funding estimated nearly \$1.1 billion in funding needed for environmental infrastructure-related projects. In addition, there are Sandy-related drinking water funds for New Jersey from EPA

totaling \$38 million with a match requirement of more than \$7.6 million. Clean water funds for New Jersey from EPA totaling \$191 million carry a match requirement of more than \$38 million. While there is likely some overlap between these three data sources, at least \$2.6 billion in damages and resilience opportunities have been identified as unmet needs.

To address impacts of Superstorm Sandy on water and wastewater facilities, the State will devote \$229 million of recovery funding through the U.S. Environmental Protection Agency to resilience initiative. These funds, administered through the State Revolving Fund programs, will modernize and improve these critical facilities, including through projects aimed at preventing future sewage overflows. The SAIL Bridge Loan Program will assist with the financing for projects to repair Sandy damaged infrastructure and improve the resiliency of Clean Water and Drinking Water Systems. Additionally, Sandy NJEIFP Loans (with principal forgiveness up to 18%) are available for environmental infrastructure projects to improve the resilience of Sandy damaged systems in future natural disasters. Recognizing that the demand may exceed available funds, resilience projects will also receive funding priority in the Traditional SFY2015 NJEIFP, subject to the availability of funds. To supplement these funds, the State has allocated \$47 million in CDBG-DR funds as a matching contribution to EPA funding through the Clean Water and Drinking Water State Revolving Funds. The State also has sought to leverage other funding sources to support these and other critical facilities.

As detailed above, the State is targeting Sandy-impacted water and wastewater facilities in the first round of funding through the New Jersey Energy Resilience Bank. Additionally, the State, primarily through the New Jersey Office of Emergency Management, has sought to maximize the impact of mitigation funding available through Section 406 of the federal Stafford Act. Section 406 mitigation awards have been incorporated into approximately 87 percent of New Jersey's large FEMA Public Assistance projects (i.e., projects over \$500,000) – an unprecedented figure. In the most significant example of this effort, this past summer the State secured a \$260 million FEMA Public Assistance Section 406 mitigation award – the largest mitigation award in FEMA history – to incorporate storm-hardening measures and energy resilience at the Newark wastewater treatment plant operated by the Passaic Valley Sewerage Commission, which serves more than two million customers in New Jersey and New York. In addition to the \$199 million in CDBG-DR funds provided to fortify energy infrastructure through the Energy Resilience Bank, the State has also provided \$81 million through matching funds for FEMA projects.

2.3.3.3 Transportation Infrastructure Needs

Superstorm Sandy significantly affected New Jersey's transportation and transit infrastructure, crippling mobility across the region. To protect life and mitigate the potential for damage, the State closed three quarters of the 173-mile long Garden State Parkway prior to the storm – an unprecedented safety precaution. New Jersey Transit (NJ Transit) also instituted a system-wide shutdown of all services, including bus, rail, light rail, and ferry services. Superstorm Sandy's strong storm surge and high winds wreaked havoc on New Jersey's roadways. A number of roads in shore communities were entirely washed out, as were the berms and seawalls that protected the roadways. For example, in Mantoloking Township, the Atlantic Ocean breached over 1,000 feet of State Route 35 in three locations. Highways, including parts of State Route 37 in Toms River Township, experienced severe erosion and scour.

Even roadways that did not flood experienced significant damage. In Jersey City and Point Pleasant, the arms of barrier gates were torn off due to excessive wind. Guiderails and fences along roads throughout the State sustained damage from falling trees and other debris. Hardwired warning signs – intended to guide residents in times of disaster – were damaged and disabled by the storm’s powerful winds. Traffic signals throughout the State were knocked down or otherwise rendered inoperable by power outages. Sandy also caused sinkholes throughout the State; on State Routes 35 and 36 alone, the storm created approximately eighty sinkholes.

Immediately following Sandy, the State completed emergency repairs and implemented protective measures to ensure that primary roadways were passable. Among these initial efforts to restore the roadways to operational condition, the State removed trees and large debris – including cars, watercraft, and other structures – from public roads and rights-of-way; removed over 4,000 truckloads of sand; and replaced over 1,000 traffic signals. In reconstructing the State’s transportation infrastructure, the State aims to build back a more resilient infrastructure. For example, State Route 35’s reconstruction will incorporate best practices in mitigation, including an improved drainage system, pump stations, and 24-inch thick pavement and sub-base materials. In addition, the State has undertaken the installation of more than four miles of steel sheeting to further protect Route 35. The State is also using advanced technologies in rebuilding, including radar, to detect voids under roadways. Other long-term projects are also underway, including the construction of a new bridge, among other improvements, to be built parallel to the State Route 72 Manahawkin Bay Causeway. The new bridge will provide the safety of a redundant route on or off Long Beach Island in the event a span needs to be closed.

The storm also significantly impacted New Jersey’s public transit systems. Commuter rail service was disrupted for months in what has been described by the President’s Hurricane Sandy Rebuilding Task Force as “the worst disaster for public transit systems (e.g., bus, subway, commuter rail) in the nation’s history.” NJ Transit’s rail network experienced substation flooding, track washouts, downed overhead catenary wires, and damage to signal and communications systems.

The cost of rebuilding a more resilient transportation and transit infrastructure will be substantial. Superstorm Sandy is estimated to have caused a total of \$810 million in damages to systems maintained by the New Jersey Department of Transportation, the New Jersey Turnpike Authority, NJ Transit, the South Jersey Transportation Authority, and county and municipal transportation agencies. Nearly 50 percent of that amount pertains to NJ Transit assets. An additional \$3,251,402,178 in resiliency projects is needed to ensure protection of roadways and transit systems from future events.

In rebuilding, the State has incorporated best practices and a layered approach to hazard mitigation to make transportation infrastructure less susceptible to future storm damage. Rebuilding Route 35 is one example of the types of layered mitigation projects being implemented in New Jersey. The State is installing a two-foot thick stone-and asphalt roadway, providing a more stable road and smoother driving surface. A new storm-water drainage system has been designed to handle 25-year storms and will feature nine pump stations and treatment facilities to filter and purify the storm water prior to discharge into Barnegat Bay. In addition, the State has undertaken the installation of more than four miles of steel sheeting – funded by the Federal Highway Administration – to further protect Route 35 and surrounding communities. The steel sheeting project is expected to be completed by the middle

of next month, and will be incorporated into a dune system as part of U.S. Army Corps' engineered beach project. In addition to protecting the road infrastructure, these measures also provide increased protection for the surrounding communities.

On the transit side, more than \$2 billion is being invested to enhance resilience. In September 2014, the State was awarded \$1.276 billion by the Federal Transit Administration to fund five projects designed to enhance energy resilience and harden NJ Transit key infrastructure assets. One of the projects – "NJ TransitGrid" – will be a first-of-its-kind microgrid capable of providing highly reliable power to support regional transit services even when the power grid is compromised. In addition, NJ Transit is pursuing other resilience initiatives for its system, including: raising substations in flood prone areas; building new storage, service, and inspection facilities; and implementing various flood control strategies for vulnerable facilities.

To supplement funding provided by the Federal Highway Administration, the State has provided \$68 million in CDBG-DR matching funds to repair critical roadways.

2.3.3.4 Community Facilities Infrastructure Needs

Superstorm Sandy significantly damaged many New Jersey community facilities including schools, parks, police and fire departments and other public buildings.

Schools

Flood waters and power outages forced at least 370 school districts to close for at least one week. Seventy-seven New Jersey schools suffered physical damage as a result of the storm, including flooding, roof and other structural damage, and window damage. The damage inflicted on schools by Superstorm Sandy is estimated at more than \$36 million, \$21 million of which was not covered by insurance or FEMA funds. In the aftermath of the storm, the New Jersey Department of Education coordinated alternative accommodations and transportation needs for more than 2,800 displaced students. Within three weeks of the storm, 99 percent of New Jersey schools were reopened. Damage to six New Jersey schools was so severe that they remained permanently closed for the remainder of the school year. On Long Beach Island, one Sandy-damaged school remains closed and is expected to reopen in March 2014.

FEMA's Community Disaster Loan (CDL) program is the primary source of direct funding for municipalities and other government entities with budget challenges following a natural disaster, including challenges created by unanticipated storm-related expenses and losses of ratables or other revenues. However, the regulations presently governing the CDL program result in its not being sufficient to ensure all affected entities are able to continue providing essential public services to residents within the constraints of existing local government and school district budgets. Recognizing that Community Disaster Loans are either unavailable or insufficient to fund the continuation of eligible essential public services such as police protection, fire protection, health and welfare (including public works, garbage collection/ disposal, and water/ and sewer), and education, the State established the Essential Services Grant (ESG) Program. Funded with \$134 million in CDBG-DR funds, this program provided funding to counties, municipalities, school districts and other government entities to ensure continued funding of essential public services for residents.

State and Community Parks

Superstorm Sandy also caused substantial damage to New Jersey's State and community parks. Throughout impacted communities, State and local officials worked to repair and reopen community parks. In many cases, cleanup involved significant and costly debris removal. Statewide, New Jersey marinas, beaches, parks and boardwalks suffered more than \$80 million in damage. As part of the disaster cleanup, the State conducted aerial surveillance of New Jersey beaches; assisted in the removal of 200 vessels from state waters; completed side scan sonar of 195,000 underwater acres; and cleared debris from 275 marinas. In addition, recreational beach water quality monitoring was performed at 175 ocean and 43 bay monitoring stations to ensure public safety. As a result of these efforts, nearly 100 percent of New Jersey beaches were open prior to Memorial Day Weekend. Moreover, the State spent considerable effort to restore public boardwalks despite severe damage or total destruction of many of New Jersey's iconic boardwalks. There is approximately \$23 million in projects remaining to be completed.

In complement of these efforts, the State has provided nearly \$75 million in matching CDBG-DR funds for FEMA projects. Moreover, as described above, the State provided \$134 million in CDBG-DR funds through the Essential Services Grant Program to ensure continued funding of essential public services for residents.

Public Health and Safety

Police departments across the State suffered damage. Local fire departments, which are predominantly volunteer-led in New Jersey, were crippled, sustaining an estimated \$237 million in damage. The loss of facilities as well as public safety and emergency vehicles caused increased response times for fire and medical services, further endangering local residents. Since the storm, the State has worked with local communities in repairing and rebuilding this critical infrastructure. While some facilities have been restored, more than \$56 million in damage remains, forcing some communities to rely on neighboring towns to share services.

In addition, the State has worked to protect New Jerseyans' health during Sandy recovery. For example, the State created the Hope and Healing program, which offers confidential mental health information and referrals from trained counselors. Moreover, once surfaces of homes were submerged in water, the paint typically begins to flake, causing increased lead and other health hazards for those residing in homes built prior to 1978. The Department of Health received Social Services Block Grant (SSBG) funding for a Lead Risk Assessment Program for Young Children. This program provided funding for community outreach and testing of young children, pregnant women, and adults performing physical recovery work for blood lead levels and case management services. However, the SSBG funding did not cover lead assessment and remediation. To address this need, The State has provided \$1.1 million in CDBG-DR funds to create the Lead Hazard Reduction Program with a primary focus on providing funding for lead assessment, lead hazard reduction, and clearance.

In addition, the New Jersey Department of Health launched a public awareness campaign – including radio, op-ed articles and flyers – encouraging people working on recovery efforts to protect their health by getting a tetanus booster and by wearing goggles, rubber gloves, boots and a respirator; using insect repellent to protect against West Nile Virus and other mosquito-borne diseases; and taking measures to minimize storm-related mosquito-breeding habitats. The Department also published a pamphlet that provides guidelines to residents on how to assess mold and hire

contractors to remove mold, distributing more than 13,000 copies in English and Spanish, as well as providing free training classes to more than 800 participants. To this end, the State allocated \$1.6 million through the Supportive Services program to Mosquito Surveillance and Mosquito Control Programs, administered by the Departments of Health and Environmental Protection, respectively, to support efforts to address the increased mosquito population resulting from changes in the environment due to Superstorm Sandy.

Public and Community Buildings

Superstorm Sandy did more than \$231 million in estimated damage to many public and community buildings, which provide critical services to New Jersey residents including city/town halls, courthouses, libraries, post offices, correctional facilities, day care, family and social services centers and senior care facilities. As with public health and safety infrastructure, many of these facilities remain damaged. Complete and immediate repair of these buildings is critical to New Jersey's recovery. The current unmet need exceeds \$136,000,000. New Jersey's overall unmet infrastructure need for community facilities is \$236,548,191. Although the State is limited in its ability to provide CDBG-DR funds to public facilities, the State has ensured municipalities were adequately assisted through the allocations to Non-Federal Cost Share and Essential Government Services programs to provide assurances that citizens would not lose essential services while vital community infrastructure was being rebuilt.

2.3.3.5 Debris Removal Infrastructure Needs

In the process of damaging homes, businesses, and infrastructure, Sandy's violent storm waters have had devastating and continuing impacts in the form of newly accumulated debris and sediment in waterways across the State, in confined disposal facilities and landfills that now have reduced long-term capacity. In allocating funding to CDBG-DR grantees, HUD did not consider the present and future unmet needs associated with debris and sediment management, but the already realized (and expected future) costs are substantial and will impact the State's ability to respond to recovery challenges by diverting already limited resources. Sandy-related sediment can be found in approximately 160 of the State's over 200 coastal navigation channels. This sediment is a threat to navigation (commercial, recreational, commuting) and must be addressed as an important part of New Jersey's long-term recovery efforts. The New Jersey Department of Transportation's Office of Maritime Resources has identified potential dredging projects at an approximate cost of \$150,000,000. New Jersey has already made substantial progress in dredging and debris removal, using side-scan sonar and other technologies to prioritize areas of need. The State is working actively with FEMA to dredge channels, but coastal lakes and other sediment-laden bodies of water will continue to present flooding and other challenges.

Because of Sandy, numerous homes were knocked off their foundations, were left in a state of dilapidation or disrepair, or were made a fire hazard or danger to public health or welfare (collectively, "unsafe structures"). Municipalities have been responsible for addressing unsafe structures within their borders. In many cases, property owners have taken steps to remediate or demolish Sandy-impacted unsafe structures on their properties. Some municipalities also have offered programs to impacted property owners whereby, with the consent of the property owner, the town will incur all costs of demolition, provided that the structure being demolished is considered

by FEMA to be in “imminent danger of partial or total collapse.” Under FEMA’s Private Property Debris Removal (PPDR) program, FEMA will reimburse 90 percent of eligible costs to demolish these structures. The philanthropic community also has provided assistance to some impacted property owners needing to demolish unsafe structures. By these combined efforts, substantial strides have been made toward addressing unsafe structures. This program provides funding to be used by state agencies to obtain resources to identify unsafe structures in need of demolition, to demolish unsafe structures, to remove debris, and to perform any additional activities or address other costs ancillary or related to demolitions. Where applicable, demolition and debris removal activities under this program will comply with the New Jersey Superstorm Sandy Demolition Guidance Document issued in April 2013, which incorporates the federal requirements imposed by the National Emission Standards for Hazardous Air Pollutants.

As of December 31, 2013, throughout the State, the damage estimates reflected in FEMA project worksheets was \$730,360,727 for debris removal and clearance/demolition of storm-related debris. The federal share of this damage is \$504,954,463, which leaves the unmet need for debris removal for the State at over \$225 million. In addition to the nearly \$75 million in matching CDBG-DR matching funds allocated by the State, New Jersey also implemented the Unsafe Structures Demolition Program with \$4 million in CDBG-DR funds to assist the ongoing efforts to remove debris and unsafe structures. The program completed demolitions for 95 eligible properties.

2.3.3.6 Port Authority of New York and New Jersey

The Port Authority of New York and New Jersey is a bi-state agency that provides transportation, terminal and other facilities of commerce in the New York-New Jersey Port District, including bridges, tunnels, airports, transit and bus terminals. In Federal Register Notice FR-5696-N-11, HUD directed New Jersey to “update the needs assessment” for Port Authority in Action Plan Amendment No. 7. Specifically, the State again must assist the Port Authority in “address[ing] resiliency and local cost share requirements for damage to . . . the Port Authority or demonstrate that such resiliency needs and local cost share has otherwise been met.”

Superstorm Sandy caused significant damage to Port Authority assets, including, but not limited to, extensive damage to the Port Authority Trans-Hudson (PATH) transit system, an interurban rapid transit system, which links Manhattan with neighboring New Jersey urban communities and suburban commuter railroads. The State worked with the Port Authority to assess the agency’s needs. The Port Authority’s General Counsel’s Office and other staff were consulted as part of this process. The Port Authority has estimated total damages from Superstorm Sandy to exceed approximately \$2 billion, which does not include possible future latent damages. The Port Authority has also identified additional resiliency and mitigation projects.

While the State continues to evaluate infrastructure needs, the Port Authority’s recovery needs are anticipated to be satisfied, in part, by grant proceeds from the Federal Transit Administration and FEMA Public Assistance programs, among other federal sources. The Port Authority will meet remaining recovery needs, including funding for non-federal projects and meet non-federal cost shares associated with FTA and FEMA funding streams, through proceeds from insurance and available Port Authority capital funds, including through the issue of its debt obligations.

2.3.3.7 Rebuild by Design

As described in Federal Register Notice [FR-5696-N-11](#) (October 16, 2014), RBD Projects are considered as having met the requirement for impact and unmet needs assessment as a result of the RBD competition process.

2.3.4 Community Development, Planning, and Other Needs

2.3.4.1 Zoning and Code Enforcement Needs

The devastation from Sandy left New Jersey's communities in various stages of disrepair. To rebuild, communities must assess and manage a range of recovery activities including demolition, clearance, reconstruction and rehabilitation. The steps in this process, even in the ordinary course can be time consuming and costly. The number of homes and other buildings damaged by Sandy dramatically increased the demand for services performed by local code and zoning officials.

Most property owners have now settled insurance claims and are beginning the process of reconstruction. In hard hit communities, the number of applications for zoning and building permits has put an enormous burden on municipal personnel.

With the first tranche of CDBG-DR funds, the State created a program designed to increase municipalities' capacity to respond to increased demand for building code enforcement services and to enhance the New Jersey Department of Community Affairs' (DCA's) continuing education curriculum for code officials to include training in flood hazard mitigation practices and other storm-related code issues. Immediately after Sandy, state inspectors were dispatched to supplement many local code enforcement offices in the nine most-impacted counties. The State also hired four full-time code officials and fifty part-time code officials to assist in that effort. Approximately twenty-eight state inspectors will remain in at least 11 of those municipalities for the foreseeable future. The State also created a program to allow municipalities to hire additional staff or pay for additional staff hours to cover the increased need for zoning officials. The State allocated \$5.2 million to assist in meeting this need.

2.3.4.2 Local Public Services Need

Demand for essential public services provided by local government entities increased substantially following the storm, as local budgets were strained by unanticipated storm-related costs and loss of revenue. Of the 193 unique individual first responder capabilities impacted, 69 fire departments, First Aid stations, EMS squad, police, and sheriff units have long-term rebuilding needs. Public schools which can serve as the backbone of a community were also affected. Of the 241 distinct public boards of education, school districts and/or charter schools initially eligible for FEMA funding post Sandy, 211 of these school systems had damage that required rebuilding funds.

With the first tranche of CDBG-DR funds, the State created a program that made financial assistance available to local government entities in those instances where FEMA Community Disaster Loans (CDLs) were either unavailable or insufficient to fund the continuation of eligible essential public services such as police protection, fire protection, health and welfare (including public works, garbage collection/disposal, and water/sewer), and education. Demand for this program has been considerable.

Many municipalities and local government agencies have experienced difficulties in meeting the demands and costs for critical public services as a result of the impacts of Superstorm Sandy. CDBG-DR grant awards have been provided to communities and/or boards of education to sustain or expand: public safety services such as fire and police; housing services; and public works such as trash collection. Funds were also provided to pay teacher salaries in school districts that found their student bodies swelling as students who would normally attend a school damaged in the storm were transferred to an undamaged school within the district. Analyses by DCA's Division of Local Government Services show that, particularly for hardest hit communities, this program has been imperative to ensure that resources are available for essential public service needs that still exist after other federal and State resources have been exhausted.

2.3.4.3 Planning Needs

Developing goals and objectives that promote sound revitalization and growth that is sustainable and resilient is essential to achieving long-term recovery. Planning for the future often demands a post-disaster evaluation of community vulnerabilities and an assessment of what must be rectified, both within and across municipal borders. The State has determined that there is still an unmet need for local and regional planning support to assess the issues and opportunities facing storm-damaged communities, and articulate priority actions that will improve public safety and stimulate economic recovery after Sandy. To accomplish that, the State dedicated over \$12 million in CDBG-DR funds to the Post Sandy Planning Grant Assistance Program, which supplements the ongoing efforts of storm-impacted local and county governments to rebuild and revitalize. This program was specifically designed to augment and not conflict with other planning initiatives that local governments may be undertaking as a result of Superstorm Sandy. Through the Post-Sandy Planning Grant Program, the State assisted 49 municipalities and three universities to produce 308 municipal plans and 3 university products.

Demand for the Post Sandy Planning Grant Assistance Program was considerable, and continuing to support the planning needs of communities remains a priority for the State. As a recipient of CDBG-DR funds, New Jersey is responsible for providing the funding to support "studies" used to mitigate historic preservation or archeological findings from the environmental review of properties in CDBG-DR funded projects. The funds were pooled to be more efficient. For each single-family property or a property with up to four units receiving CDBG-DR funds listed in or identified as eligible for listing in the National Register, DCA set aside \$3,000 for undertakings that may have an adverse effect on an above-ground historic property and \$6,000 for undertakings involving ground disturbance that will have an adverse effect on an archaeological historic property. Based on the number of properties that triggered compliance, \$950,000 has been set aside from CDBG-Planning to fund five historical projects and one archeological project.

Supporting statewide and regional coordinated planning-related initiatives remains a critical recovery need.

2.4 Leveraged Funds

As described in this section, the State has, and will continue to, leverage its CDBG-DR funds with other federal and non-federal funding sources to maximize the impact of disaster relief monies and prevent

duplication of benefits. CDBG-DR funds will complement, not supplant, these resources. The State also provides technical assistance to ensure that local and county governments exhaust FEMA and other federal funding options prior to providing assistance through CDBR-DR programs.

In addition, through an ongoing focus toward developing and strengthening public-private partnerships with corporations, foundations, nonprofits, and other stakeholders, the State will assist and integrate efforts of the organizations already active, or that will become active in the recovery.

SECTION 3: OBJECTIVES FOR LONG-TERM RECOVERY

In the weeks and months following the storm, the State worked with federal, local, nonprofit and other stakeholder partners to assess the nature and scope of damages caused by the storm. Priorities were established to facilitate thoughtful and effective recovery, and the State has continued to refine its framework to streamline recovery in a manner consistent with its priorities.

3.1 Long-Term Recovery Recommendations

The State has taken, and continues to take, steps toward implementing and executing a sustainable and resilient long-term recovery. In accordance with HUD regulations, the State also continues to examine its long-term recovery goals and objectives, which include designing, implementing and administering policies, programs, strategies and streamlined implementation methods informed by post-disaster evaluations and input from citizens, local communities, and other stakeholders. Moreover, consistent with HUD guidance, the State continues to undertake and promote hazard mitigation techniques and programs and seek to utilize green technologies and practices where doing so is feasible and cost-effective. In addition, the State remains committed to assisting local municipalities by providing resources, technical assistance and targeted programs to support their efforts to recover and rebuild efficiently, effectively and expediently.

The State, through DCA and in coordination with the Governor's Disaster Recovery Office and relevant State departments, has coordinated planning activities with communities statewide to ensure that the long-term planning process benefits New Jersey citizens and meets HUD CDBG-DR objectives. These planning efforts outline the State's vision to coordinate public and private investments to create economic opportunities and support workforce development. Contemporaneously, efforts have been made to balance the need to preserve open space and promote sustainable communities. DCA's Office of Local Planning Services (LPS) has provided municipalities with sound planning strategies to ensure long term recovery.

To further assist local governments with recovery, the State has significantly enhanced recovery operations within the Office of Emergency Management to work with localities and other eligible applicants to maximize and expedite projects funded by FEMA's Public Assistance program.

The State has recognized that municipalities likely need assistance to build smart, safe, and strong communities and the State has provided technical assistance as needed. DCA has assisted local governments by holding a series of workshops for impacted communities that have introduced them to a range of land use and zoning issues that they may have to consider because of new building and environmental standards. Speakers from Mississippi and Louisiana provided first-hand insight and guidance regarding the challenges of resettling and rebuilding. New Jersey land use lawyers and planners offered problem solving tools and resources. These workshops were targeted to mayors, governing bodies and planning board members. After, LPS planners were provided to municipalities that request that support.

The State has been facilitating discussions between federal agencies, local governments, nonprofits, and other concerned stakeholders regarding long-term recovery needs. The following recommendations were compiled from initial efforts.

3.1.1 Housing: Long-Term Recovery Recommendations

As detailed in Section 2, Superstorm Sandy caused catastrophic damage to a broad range of New Jersey's suburban and urban communities and had a substantial negative impact on New Jersey families of all income levels. Low and moderate income households were hit especially hard, particularly in the most significantly impacted counties. To address New Jersey's housing needs, the State has undertaken a number of initiatives including:

- Providing funding assistance for reconstruction and rehabilitation programs that focus primarily, but not exclusively, on low and moderate income households;
- Developing adequate, storm-resistant housing that will meet building standards and incorporate mitigation measures including green technologies where feasible and/or housing elevations which may require construction to FEMA's Advisory Base Flood Elevation maps;
- Providing resettlement and re-occupancy incentives to homeowners contemplating selling or abandoning their homes post-storm;
- Developing affordable rental housing across household income levels, with a focus on serving low and moderate income households and priority given to the nine counties identified by HUD as most impacted by the storm; and
- Developing a housing plan for supportive services for special needs populations.

3.1.2 Economic Vitality: Long-Term Recovery Recommendations

Restoring economic vitality to New Jersey's businesses and communities has been essential for the State's long-term economic recovery and revitalization. Accomplishing this goal has required opportunities to recover from losses and to spark new economic activity within communities. Economic recovery initiatives following Superstorm Sandy have included grants and loans to small businesses that suffered damage. A broad spectrum of programs of programs has been implemented to offer support for the varied needs of communities, including housing redevelopment, small business financial and technical assistance, commercial redevelopment or enhancement, tourism marketing, and planning for economic growth.

The State has undertaken a number of economic initiatives as part of its recovery which have included, or will include:

- Focusing on economic revitalization;
- Conducting a state workforce study;
- Conducting entrepreneurial and small business needs assessments;
- Providing grants to eligible small businesses;
- Addressing infrastructure improvements in commercial/retail corridors;
- Providing unemployment assistance;
- Considering New Jersey Economic Development Authority initiatives;
- Considering New Jersey Casino Redevelopment Authority initiatives;

- Considering New Jersey Redevelopment Authority initiatives;
- Considering other economic/financial incentives for business retention and growth;
- Restoring public parks and recreational facilities;
- Restoring public streetscapes and public spaces; and
- Providing workforce training.

3.1.3 Infrastructure: Long-Term Recovery Recommendations

Programs for the long-term recovery of infrastructure and public facilities coordinate with local and regional efforts and leverage funding from FEMA Public Assistance and other funding sources. Repairing and restoring public infrastructure that was damaged by Superstorm Sandy involve infrastructure initiatives including:

- Undertaking planning studies to assess strategic infrastructure initiatives inclusive of hazard mitigation plans and incorporating results of planning studies in constructing more resilient infrastructure projects; and
- Developing a match program to subsidize the local cost share of public assistance projects.

3.2 Recovery Objectives

3.2.1 Promotion of High Quality, Durable, Energy Efficient, and Mold Resistant Construction Methods

Newly constructed or substantially rehabilitated housing units must meet all locally adopted and enforced building codes, standards, and ordinances. New Jersey has adopted the 2009 International Residential Code, which provides for quality, durable, energy efficient and mold resistant construction. Housing rehabilitation and reconstruction activities will be designed to achieve maximum energy efficiency to the extent achievable on a cost-effective basis, considering construction and operating costs over the life cycle of the structure. Efficiency may be demonstrated through design based on LEED, ENERGY STAR™, and/or other comparable guidelines and rating systems. Construction methods should comply with local building codes and incorporate mold resistant construction materials.

The State, by emergency order, has adopted FEMA’s updated Advisory Base Flood Elevation (ABFE). Using these more current advisory maps provides residents and communities with FEMA’s best available data for mitigating against the risk of future flood events. Further, the State ensures compliance for use of its grants funds with the requirement that elevating or floodproofing new construction and substantially improved structures will be to one foot above the latest FEMA issued base flood elevation, in accordance with Executive Order 11988 and 24 CFR Part 55.

The State has adopted the following provisions for rebuilding stronger structures:

- **Advisory Base Flood Elevation Maps:** Adopts the height and construction requirements in FEMA’s ABFE maps as a State standard for reconstruction. The ABFEs reflect the best available and most current scientific data.
- **Permits by Rule:** Allows property owners who rebuild to the ABFEs (plus one additional

foot, as has been required by the New Jersey Flood Hazard Area Control Act) to do so via Permit by Rule. This should eliminate the need for thousands of property owners to apply for permits, saving them at least \$500 in permit fees plus the design and engineering costs associated with an application, and allowing them to begin reconstruction without waiting for review.

- **Wet Floodproofing:** Allows “wet floodproofing” for non-residential buildings. Wet floodproofing means that a building may flood but will structurally withstand the water, and enables reconstruction in urban areas in a safer and less costly manner than requiring elevations or dry floodproofing.
- **Foundation Requirements:** Prohibits certain building foundations from having only three walls, a potentially unsafe construction method.

The State requires replacement and new residential construction to meet green building standards by requiring compliance with ENERGY STAR™. New Jersey further encourages green building practices throughout all other proposed programs. New Jersey and its grantees can utilize the Center for Green Building at Rutgers University and its New Jersey Green Homes Remodeling Guidelines as a resource for green building practices. The New Jersey Green Home Remodeling Guidelines was funded with grants from the New Jersey Department of Environmental Protection and the United States Environmental Protection Agency. The Guidelines were developed with broad participation and the concurrence of an advisory group composed of residential building and remodeling professionals, interior designers, landscape architects, and experts in the field of green building and energy-efficient design.

Further, New Jersey has had several meetings with various agencies including Northeast Energy Efficiency Partnerships, U.S. Green Building Council (USGBC), International Code Council, New Jersey Chapter of USGBC, and New Jersey Chapter of American Institute of Architects (AIA) to develop a plan for encouraging sustainable community initiatives and implementing green building, energy efficiency and storm hazard mitigation measures.

3.2.2 Sea Level Rise

Per HUD guidance (FR-5696-N-01), New Jersey’s Action Plan must account for and address sea level rise. New Jersey incorporates, where applicable, appropriate mitigation measures and floodplain management throughout its programs.

3.2.3 Prevention of Duplication of Benefits

As provided by the Stafford Act, duplication of benefits is prohibited in accordance with the HUD Federal Register 5582-N-01. DCA continuously monitors, or causes to be monitored, for compliance with this requirement. FEMA, National Flood Insurance Program, private insurers, the U. S. Army Corps of Engineers, SBA and other agencies have been contacted and data sharing agreements put into place to ensure that there is no duplication of benefits occurring within the various programs.

3.2.4 Floodplain Restrictions

Floodplain restrictions are monitored closely. Funds may not be used for persons who have received previous federal assistance (including loans) where the purchase and maintenance of flood insurance was a requirement, and the individual has allowed his or her flood insurance to lapse. In addition, all grantees must inform participating property owners of any future requirements related to the purchase and maintenance of flood insurance.

No funds are used for activities in areas delineated as a Special Flood Hazard Area in FEMA's most current flood advisory maps unless it also ensures that the action is designed or modified to minimize harm to, or within, the floodplain.

3.2.5 Anti-Displacement and Relocation

The State plans to minimize displacement of persons or entities and assist persons or entities displaced as a result of implementing a project with CDBG-DR funds. This is not intended to limit the ability of the State to conduct buyouts or acquisitions for destroyed and extensively damaged units or units in a floodplain.

The State ensures that the assistance and protections afforded to persons or entities under the Uniform Relocation Assistance and Real Property Acquisition Policies Act (URA), and Section 104(d) of the Housing and Community Development Act of 1974 are available. The State plans to exercise the waivers set forth in Federal Register 5696-N-01 pertaining to URA and HCD Acts given its priority to engage in voluntary acquisition and optional relocation activities to avert repeated flood damage and to improve floodplain management.

3.2.6 Reporting

Each awarded applicant reports information necessary and relative to the status of its activities, and other information as required by HUD. Additional reporting requirements (i.e., annual audits, contractual obligations, labor and minority business enterprise reports, as applicable) will be specified in the contract documents.

3.3 Administration and Staffing

Initially, additional personnel and contractors were hired to administer and carry out the CDBG-DR Program. The State continues to scale staff to appropriately meet the needs of managing the disaster recovery effort. DCA has established a Division of Disaster Recovery and Mitigation focused on the administration of the recovery programs, who continues to coordinate with existing DCA divisions. Tasks include ensuring overall program direction, financial controls, procurement, outreach and communications, compliance, information management, and recovery subject matter experts in program operations and budgets. In addition, DCA has developed detailed written process maps and program guidelines to direct the work of all staff and subrecipients for each program. DCA has adapted existing procedures to cover all crosscutting topics such as Davis Bacon, Fair Housing, Section 3 and file management for disaster recovery. The recovery staff also provides technical assistance to grantees and undertakes monitoring activities to ensure compliance with applicable requirements. These regulations include, but are not limited to: fair housing, nondiscrimination,

labor standards, environmental regulations, and procurement. DCA has expanded upon its existing staff of over 900 employees and experience in managing CDBG, Section 8, NSP, Weatherization, and several federal and State community development, housing, and local government programs and appropriately scaled staffing levels to meet disaster recovery needs.

In accordance with New Jersey Executive Order No. 125, Accountability Officers have been appointed to oversee the responsible disbursement and utilization of federal reconstruction resources allocated by or through each department. Each Accountability Officer will serve as a liaison to the Governor's Disaster Recovery Office and to the State Comptroller. Internal auditors will monitor and review for compliance with federal and state laws and regulations. Internal auditors will report directly to the Commissioner of DCA.

3.3.1 Program Income

Program income is the gross income received by the CDBG-DR Grantee (here, DCA) or any of its subrecipients (e.g., EDA; HMFA; DEP) that is directly generated from the use of CDBG-DR funds. While program income can be generated various ways, perhaps the most common example is payments of principal and interest on loans that were made using CDBG-DR funds. Additional information regarding how program income may be generated and used is available at [24 CFR 570.489](#) and [24 CFR 570.504](#), as well as on HUD's website, available [here](#).

The receipt of program income can create challenges in recovery programs. For example, any program income generally must be disbursed before any other program funding. This can result in timing concerns for CDBG-DR funds that have strictly defined obligation and expenditure deadlines.

In Amendment #18, the State clarified the potential uses of CDBG-DR program income, in compliance with governing HUD regulations that may be generated through of its recovery initiatives. Consistent with HUD Federal Register Notice [FR-5696-N-01](#), New Jersey allows three options for the use of program income: (1) program income is maintained by the state agency administering the program (DCA or a subrecipient) to pay the agency's next CDBG-DR eligible expense; (2) program income is transferred from a subrecipient to DCA to pay the next CDBG-DR eligible expense; and (3) program income is used as a revolving loan fund for CDBG-DR eligible purposes. In Amendment #42, New Jersey expanded the State's potential uses of program income to include all eligible uses under the federal requirements, including the ability to transfer unbudgeted program income to the annual CDBG program. This use is consistent with FR-5696-N-01. Collectively, these options ensure rapid expenditure of program income and minimize any impact on the timely obligation and expenditure of CDBG-DR funds.

Program income is referenced in a few sections of the Action Plan and in six Action Plan Amendments. Technical, conforming edits across relevant sections of the Action Plan and Amendments are reflected in this consolidated Action Plan and are consistent with respect to the treatment of program income, and more specifically, conform to the options outlined above.¹

¹ In Action Plan Amendment #35, the State created a Special Purpose Revolving Loan Fund to provide funding for new mitigation and resilience efforts leading up to and following the federal expenditure deadline. All future program income was to be

3.3.2 Training and Technical Assistance

Increasing Capacity at the Local Level

Technical assistance and training are provided to sub-recipients and State agencies with a role in administering and implementing CDBG-DR programs. These include the Departments of Environmental Protection, Human Services, Children and Families, Health, the Economic Development Authority, the New Jersey Redevelopment Authority and the Housing and Mortgage Finance Agency. Through both in-house staff and engaged consultants, DCA provides initial training to all subrecipients and grantees on CDBG-DR regulations, reporting requirements, payment procedures, and monitoring compliance. DCA assigns disaster recovery program staff to each subrecipient to provide continued Technical Assistance (TA) throughout the program. Additionally, the compliance and monitoring staff and/or consultants regularly visits subrecipients to enhance capacities and ensure knowledge transfer.

Applications and guidelines for local government programs have been issued by DCA. Other State or federal agencies were asked to review and comment on applications, as appropriate.

3.3.3 Monitoring Standards and Procedures

DCA oversees all activities and expenditures of the CDBG-DR funds. Existing State employees are utilized and additional personnel and contractors may be hired to aid in the administration of, and to carry out, recovery programs. Not only do these personnel remain involved in ensuring that there are layers of financial control, they also provide technical assistance to the State, and undertake administrative and monitoring activities to better assure compliance with applicable requirements, including, but not limited to, meeting the disaster threshold, eligibility, national objective compliance, fair housing, nondiscrimination, labor standards, environmental regulations, and procurement regulations at Part 85.

Each activity funded meets the disaster threshold and one of HUD's three national objectives, with emphasis on achieving the primary national objective of benefiting low and moderate income persons, and is an eligible activity. DCA staff perform the monitoring in accordance with a DCA CDBG-DR monitoring plan.

DCA maintains a high level of transparency and accountability by using a combination of risk analysis of programs and activities, desk reviews, site visits, and checklists modeled after HUD's Disaster Recovery Monitoring Checklists and existing monitoring checklists used in monitoring regular program activities. DCA determines appropriate monitoring of grants, taking into account prior CDBG-DR grant administration performance, audit findings, as well as factors such as the complexity of the project.

The primary purpose of the State's monitoring strategy is to ensure that all projects comply with applicable federal regulations and are effectively meeting their stated goals. The frequency and areas monitored will be determined by a risk analysis. All projects will be monitored at least once on-site

dedicated to that purpose. However, the State found there was no need for the Fund and dissolved the program in Action Plan Amendment #40, reverting back to the initial use of program income, as reflected in Action Plan Amendment #18.

during the life of the activity. The results of monitoring and audit activities will be reported to the Commissioner of DCA.

The DCA determines the areas to be monitored, the number of monitoring visits, and their frequency. Communities and State agencies have been provided training and technical assistance if requested, or if the DCA determines that in-house or on-site monitoring is needed.

The State continues to follow all guidelines it uses to monitor projects funded under the regular CDBG program. The monitoring addresses program compliance with contract provisions, including, but not limited to environmental reviews, fair housing, Section 3 compliance, compliance with the Davis-Bacon Act as well as other labor standard provisions, procurement regulations, fair housing and equal opportunity requirements, and compliance with the OMB A-87, program income, and other CDBG financial requirements. Initially, the State plans allowed state agency and authority subrecipients to retain program income to pay eligible costs for CDBG-DR activities, prior to withdrawal of additional grant funds. The State may also elect to have program income returned to DCA, where it will be used to pay for subsequent eligible costs for any CDBG-DR funded eligible activity, prior to withdrawal of additional grant funds. The State also may permit any state agency or authority to use any program income to establish revolving loan fund(s) for existing CDBG-DR activities. The State may also elect to transfer program income to the annual CDBG program, or enact any other eligible use under federal requirements. DCA and its subrecipients have developed and implemented procedures to track manage, and report program income as well as the oversight of any programs that may be funded with program income.

3.3.4 Additional Steps to Avoid Occurrence of Fraud, Abuse, and Mismanagement

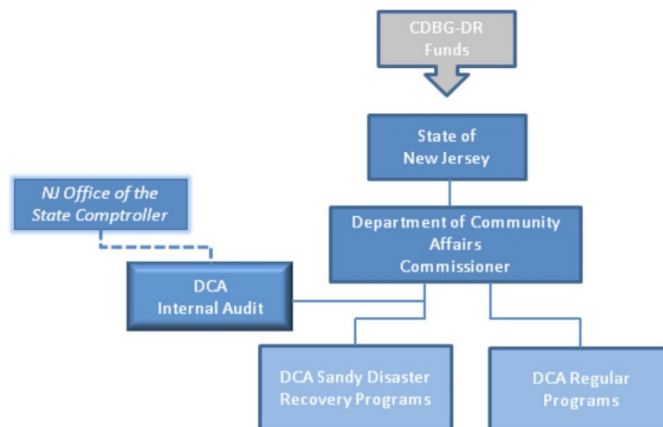
On February 8, 2013, Governor Chris Christie signed Executive Order No. 125 concerning the monitoring and oversight of federal reconstruction funds. The Executive Order directed all Executive Branch departments administering federal reconstruction resources to follow a framework that will provide comprehensive and stringent safeguards to make certain all federal resources are utilized through an ethical and transparent process. Such safeguards include:

- Each principal department of the State shall submit all potential State procurements involving expenditure of federal reconstruction resources to the New Jersey Office of the State Comptroller for review prior to commencement of the procurement process. The State Comptroller shall determine whether the proposed procurement process complies with applicable public contracting laws, rules and regulations. Pursuant to its enabling legislation, the State Comptroller's Office is an independent office that is charged with evaluating the efficiency, effectiveness and transparency of all government entities and to identify and eliminate fraud, waste and abuse throughout State and local government.
- Each principal department and agency of the State is directed to appoint an "Accountability Officer" to oversee the responsible disbursement and utilization of federal reconstruction resources allocated by or through that department or agency. Each Accountability Officer shall serve as a liaison to the Governor's Office of Recovery and Rebuilding and the State Comptroller.

- The New Jersey Office of the State Comptroller shall maintain a transparency website that will provide access to approved State contracts for the allocation and expenditure of federal reconstruction resources. The website also will provide information to the public regarding available federal funding streams and funding criteria, the tracking of federal funding allotments, and contract vendor information.

The State adheres to the conflict of interest provisions referenced at [24 CFR §570.611](#).

To establish an effective system of internal control and a program of audit and evaluation to provide assurances and safeguards concerning DCA's disbursement of federal reconstruction funds, DCA's Office of Auditing, in conjunction with other departmental personnel, will conduct a thorough and comprehensive enterprise wide risk assessment related to federal reconstruction funds every six months. The organizational diagram of DCA's Internal Audit office is shown below.



The risk-assessment serves as the basis for the audit and compliance plans which will address the following:

- Audit paper application files for anomalies through risk-based judgmental sampling.
- Evaluate and test selected internal controls, including IT-related controls.
- Deliver training to all staff responsible for monitoring or administering federal reconstruction funds that will focus on the identification of risk factors and fraud indicators, and the implementation of a system of internal controls that provides reasonable assurances that funds are being administered in accordance with law, code and policy. The training sessions will emphasize that sound internal controls require the efforts of all departmental personnel, not only auditors and compliance staff.
- Ensure that anti-fraud brochures and posters that include a fraud tip-line to the State Comptroller's Office are distributed and prominently displayed throughout the department, satellite offices and construction sites.
- Coordinate with applicable Federal, State and Local law enforcement authorities concerning the disbursement of federal reconstruction funds.
- Implement a comprehensive and effective compliance program that includes: investigative

protocols, whistle-blower procedures, and a process to refer matters to local, state and federal authorities.

- Ensure DCA’s auditing, monitoring and evaluation process effectively mitigates the risk of fraud, waste and abuse and the disbursement of reconstruction funds is transparent to all stakeholders.

3.3.5 Substantial Amendments to Action Plan

The following events would require a substantial amendment to the Action Plan:

- Change in program benefit or eligibility criteria
- A new allocation or re-allocation of more than \$10,000,000²
- The addition or deletion of an activity

A substantial amendment to the New Jersey Action Plan will follow federal transparency and publication requirements in accordance to the Citizen Participation Plan.

3.3.6 Expenditure Deadline

To ensure timely expenditure of funds, section 904(c) of Title IX of Public Law 113-2 (“the Appropriations Act”) requires that all funds be expended within two years of the date HUD obligates funds to a grantee. The Appropriations Act requires that HUD obligate all funds no later than September 30, 2017. Section 904(c) of the Appropriations Act also authorizes the Office of Management and Budget to grant a waiver of the 24-month expenditure deadline. However, 31 U.S.C. 1552(a) continues to apply to funds appropriated under the Appropriations Act. Thus, CDBG-DR funds are to remain available for expenditure for five years following the period of availability for obligation. New Jersey applied for, and received, an extension of the expenditure deadline until September 30, 2022. All funds under the Appropriations Act, including those subject to a waiver of the expenditure deadline, must be expended by September 30, 2022.

In December 2020, Congress passed, and the President signed, Public Law 116-260 which, under Title XIII, Section 1301(a), extended the federal expenditure deadline to September 30, 2023 for funds appropriated through the Appropriations Act. The State acknowledged the extension in Action Plan Amendment #40.

² In the March 5, 2013 Federal Register Notice, HUD established the criteria for substantial amendments to action plans for disaster recovery, including among them that an allocation or re-allocation of more than \$1 million would constitute a substantial amendment. However, recognizing that Grantees under Public Law 113-2 are nearing the end of their recovery programs and will require more flexibility in re-allocations, HUD updated their criteria to allow the State to establish a reasonable threshold for substantial amendments. Therefore, in accordance with 84 FR 4386 (February 29, 2019), the State set that threshold at \$10 million in Action Plan Amendment #35. The State is confident that setting the threshold at \$10 million allows the maximum amount of transparency, while ensuring that funds are directed to the places where they are needed without delay.

SECTION 4: METHOD OF DISTRIBUTION

Based on the unmet needs assessment in Section 2 and input from impacted communities throughout New Jersey, the State has prioritized a portfolio of programs that aim to meet the short- and long-term recovery needs of its residents and communities. While the impact of the storm was much greater than the resources available, these programs have begun to address the unmet needs in owners' primary residences and rental housing, economic recovery and revitalization, infrastructure, environmental needs and public services activities.

The [Disaster Relief Appropriations Act of 2013](#), requires that all CDBG-DR funded activities address an impact of the disaster for which funding was appropriated. The CDBG-DR provisions require that each activity: (1) be CDBG eligible (or receive a waiver), (2) meet a national objective as defined by [24 CFR 570.483](#), and (3) address a direct or indirect impact from the disaster in counties declared by the President to have been impacted by the disaster. A disaster impact can be addressed through a number of eligible CDBG activities listed in [Section 105\(a\) of the Housing and Community Development Act of 1974, as amended](#).

The recovery activities herein make full use of the national objectives under [24 CFR 570.483](#) and detailed in related Federal Register Notices, which include benefitting low and moderate income persons, preventing or eliminating slums or blight, and meeting urgent needs to implement a robust and comprehensive recovery for the residents of New Jersey.

Additionally, the Quality Housing and Work Responsibility Act of 1998 ([Title V of Pub. L. 105-276](#)) and the guidance provided by HUD in the Federal Register ([FR-5696-N-01](#)) each contain a provision allowing the use of an alternate methodology for determining low and moderate income limits for select jurisdictions. Under these provisions, grantees may use "uncapped" income limits that reflect 80% of the actual median income for the area. The State uses the uncapped limits for disaster recovery activities in affected jurisdictions covered by these limits.

HUD requires that the State define what would constitute a unit "not suitable for rehabilitation" that may be demolished or converted in connection with CDBG-DR assisted activity without a replacement requirement, consistent with the waiver and allowances in Federal Register Notice FR-5696- N-01.¹ For these purposes, "not suitable for rehabilitation" is defined as the following:

1. Substandard dwellings that cannot be brought into compliance with the New Jersey Sandy recovery programs housing rehabilitation standards and/or applicable state and local code requirements shall be deemed not suitable for rehabilitation, as determined by the program and consistent with program guidelines. The determination may be established based on the calculation that the cost of rehabilitation exceeds 75% of the market value of the property or that the property is deemed a blighted structure consistent with state or local ordinance; in which case the property would be a candidate for demolition and/or reconstruction and not subject to one-for one replacement.

OR

¹ As defined in Amendment #14.

2. A “blighted structure” is any structure unfit for use, habitation, or dangerous to persons or other property. In addition, a structure is blighted when it exhibits objectively determinable signs of deterioration sufficient to constitute a risk to human health, safety, and public welfare. This includes structures showing evidence of physical decay or neglect, or lack of maintenance. Characteristics may also include any nuisance conditions including but not limited to:

Any “Nuisance” as defined by law, or

- a. Any residential property that poses a public nuisance, which may be detrimental to the health or safety whether in a building, on the premises of a building, or upon an unoccupied lot. This includes, but is not limited to: abandoned wells, shafts, basements, excavations, unclean swimming pools or spas, abandoned iceboxes, refrigerators, motor vehicles, and any structurally unsound fences or structures, lumber, trash, fences, or debris which may prove a hazard for inquisitive minors;
- b. Unsanitary conditions or anything offensive to the senses or dangerous to health including, but not limited to, the emission of odors, sewage, human waste, liquids, gases, dust, smoke, vibration or noise, or whatever may render air, food, or drink detrimental to the health of human beings;
- c. Physical conditions such as, but not limited to, old, dilapidated, abandoned: scrap or metal, paper, building materials and equipment, bottles, glass, appliances, furniture, rags, rubber, motor vehicles, and parts thereof; or
- d. Physical conditions posing fire hazards,
- e. Physical conditions posing a hazard such as but not limited to dead or damaged trees.

OR

3. Residential properties that have experienced repetitive losses under FEMA’s National Flood Insurance Program (NFIP).

Additional guidance and applicability related to the definition of “not suitable for rehabilitation” is determined by the applicable program and may be found in the guidelines for specific programs.

Unless otherwise stated or expanded upon in the program descriptions below, the various types of Sandy recovery assistance are provided generally on a first- received, first-evaluated basis until all available funds are obligated. This method promotes fairness and provides an incentive to apply and begin activities quickly. Shortly after approval of the initial Action Plan, DCA conducted statewide outreach as applicable and reasonable in both English and Spanish regarding the availability of programs and encouraging applications. This outreach encouraged households, businesses and communities to begin gathering needed application documentation. In addition, DCA created enduring partnerships with local government agencies, nonprofits, faith-based organizations and other community leaders to conduct local meetings to answer questions about the application process and encourage participation. All HUD regulations regarding lead-based paint, asbestos removal, environmental, housing quality standards, procurement and other applicable standards apply to these programs.

Based on the revised unmet needs assessment, as well as input received from citizens, stakeholder groups, local government officials and other partners, the State dedicated second tranche funds in Amendment #7 to programs approved by HUD for which demand has exceeded available funding. However, the State also prioritized new recovery initiatives, particularly for infrastructure, consistent with Federal Register Notice [FR-5696-N-06](#), which strongly encouraged the use of second tranche CDBG-DR funds to support infrastructure recovery initiatives. In Amendment #11, the State dedicated the third tranche to housing and rental programs. This did not include the \$380 million in the third round of CDBG-DR funds allocated by HUD to New Jersey exclusively for the two HUD-selected Rebuild by Design (RBD) projects. The RBD projects were allocated and detailed in Action Plan Amendment #12. Consistent with HUD requirements, 50% of the aggregate CDBG-DR funds provided to the State for recovery must benefit LMI households, businesses or communities.

Details of proposed programs are below (Table 4-1).

4.1 Homeowner Assistance Programs

Homeowners suffered great losses to their physical property as a result of Superstorm Sandy. In response, the State has used federal funds to support the repair or replacement of damaged owner-occupied housing and dedicated funding for buyouts in targeted repetitive flood loss areas. The State continues to prioritize the needs of LMI households in its homeowner programs. In addition to assisting homeowners in their recovery efforts, these programs provide stability to communities impacted by the storms and support job growth in the construction industries.

The homeowner assistance programs have also contributed to more sustainable communities. Many homeowners face challenging decisions of how to best rebuild their homes given the increased costs of insurance, decreases in property values and the costs of mitigation. The State's rebuilding programs help homeowners to stay in their homes as well as to rebuild and repair safer and smarter.

Reconstruction and rehabilitation of impacted housing provides an opportunity to incorporate green building technology and energy efficient development and meet modern building standards such as:

Reconstruction Standard: When applicable, replacement and new construction will meet the 2009 Residential International Code and the green building standards by requiring compliance with ENERGY STAR™.

Rehabilitation Standard: When applicable, the programs will adhere to the following housing rehabilitation standards:

- The State of New Jersey's Uniform Construction Code
- The Single Family Housing Rehabilitation Standard provided by the program
- The HUD CPD Green Building Retrofit checklist

All reconstruction, new construction and rehabilitation must be designed to incorporate principles of sustainability, including water and energy efficiency, resilience, and mitigating the impact of future disasters.

The State is committed to affirmatively furthering fair housing through its housing programs, following all applicable federal and state statutes and regulations, and vigorously enforcing fair housing laws. The State continues to ensure that housing assistance is prioritized and allocated based on financial hardship and disaster-related need, without regard to race or ethnicity, color, religion, sex, handicap, familial status or national origin. Information relating to demographics of impacted communities are utilized to ensure that assistance is accessible and reaches New Jerseyans in need. Demographic information is used for, among other things, assessing language barriers and case management needs to be accounted for to the reasonable extent possible in standing up these centers to maximize the benefit to impacted New Jerseyans.

In support, the State initially established household assistance centers in each of the nine most impacted counties to assist residents and communities with the recovery programs and the application process. Local Centers have been determined with key considerations such as their central location within the impacted counties, ease and provision of accessibility, appropriate

size and the level of multilingual services recommended addressing the demographic needs as analyzed for the communities and counties. The centers are equipped to conduct outreach, and deploy staff for home visits as needed, to accommodate the needs of the elderly and/or populations with identified special needs. As the need decreases, the State is consolidating these centers based on region.

The State likewise affirms its commitment to implementing Section 3 requirements, as applicable, including as applied to jobs, training and contracting opportunities for Section 3 residents and businesses. The State continues to adhere to additional standards and requirements for housing programs identified in its Action Plan (including all amendments).

4.1.1 Homeowner Reconstruction, Rehabilitation, Elevation and Mitigation (RREM) Program

The RREM program provides grant awards to eligible homeowners for activities necessary to restore their storm-damaged homes, including rehabilitation, reconstruction, elevation and/or other mitigation activities. The program also provides reimbursement for eligible expenses incurred prior to the implementation of this program, to the extent permitted by HUD.¹

Initially, the State prioritized LMI households as well as homeowners whose homes were substantially damaged. The program was quickly oversubscribed. Given the existing waitlist, the State continued to prioritize LMI households, as well as those whose homes were substantially damaged with the second tranche of funds. The third allocation, as well as subsequent reallocations, has enabled the RREM program to serve the needs of the waitlist. With all eligible applicants being served by the program, the State has also been able to reallocate RREM funds to the Rental Assistance program to provide temporary rental assistance to RREM homeowners and to assist in funding the Blue Acres Buyout Program to offer buyouts to homeowners in flood-prone areas.² The State has concluded that the reallocations will not impact the ability to fully serve all eligible RREM grantees or to pay for program delivery costs. The State closely monitors the award amounts and impact on overall LMI benefit, with a goal of allocating up to approximately 50 percent of the overall funding for LMI households.

In total, RREM Program provides \$1.3 billion towards rebuilding damaged owner-occupied homes. The program initially set a maximum award of \$150,000, based on the average cost to rebuild an average-sized home in a coastal area as described in 2013 Marshall and Swift construction cost estimates. Previous CDBG-DR programs also established grant ceilings for housing programs by calculating the average cost to rebuild. After the Gulf Coast disaster, an average cost of \$75.00 per square foot was used to determine the program allocation. With construction costs on the New Jersey coast averaging \$135.00 per square foot, the State initially anticipated that this program would assist

¹ The State can reimburse itself and its subrecipients for eligible pre-award costs, as allowed by Federal Register Notice [FR-5696-N-01](#). Further, [HUD Notice CPD-13-05 \(July 30, 2013\)](#) provides additional guidance for reimbursing pre-award costs for eligible expenses incurred by homeowners, business, and other qualifying entities. A reference in the initial Action Plan to the Housing and Community Development Act (HCDA) of 1974 as amended, (Section 18. Reimbursement of disaster recovery expenses), under “Eligibility” was removed by revisions in APA #7 with the publication of the aforementioned notices.

² Amendment #18 and 21, respectively.

approximately 6,000 homeowners, though subsequent allocations have increased this estimate, which varies based on several dependent factors.³

As of early 2019, RREM has completed approximately 6,300 projects and disbursed more than \$900 million to eligible homeowners. Despite the State's progress, some homeowners found it difficult to make meaningful progress in their construction. Applicants faced delays for a variety of reasons including fraudulent contractors and a lack of qualified builders, but most of all, applicants lacked the necessary funding to complete construction. To address the needs of these applicants the State created a "Supplemental Fund" ("Fund") in Amendment #28 to offer applicants additional construction funds to complement the grant award received through the Programs. The award is calculated based on unmet need and carries a five-year residency requirement, which is secured by a subordinate mortgage on the subject property. No monthly principal payments are required upon completion. Rather, the mortgage is forgiven after five-years following the completion of construction. The mortgage burns off or is forgiven at the rate of 20% per year. Upon sale of the subject property prior to completing the five-year residency requirement, the applicant is required to pay back to the State any unforgiven portion of the loan. These additional funds will be available exclusively to RREM and LMI Homeowner's Rebuilding Program applicants who still have an unmet need.

Importantly, this additional financing can be used only toward eligible costs incurred to complete an eligible scope of work under the RREM or LMI Programs; applicants cannot use this funding to enhance or expand their rebuilding plan. The Fund is intended to fill the gap for RREM and LMI Program applicants who have no other means to complete construction. Therefore, homeowners who have not completed construction but who have addressed their funding gap with other government, non-profit or philanthropic funds are not eligible. Homeowners who have completed construction are also not eligible for additional financing through the Fund. The State remains committed to providing the necessary funding for all eligible applicants.

Allocation for Activity:

The initial Action Plan allocated \$600,000,000 to benefit approximately 6,000 homeowners. The first phase of the program allocated 70% for low and moderate income (LMI) households and 30% for non-LMI households. The second federal allocation, detailed in Amendment #7, designated \$390,000,000 with the goal of allocating 50% of this tranche of funding to LMI households. Amendment #11 allocated \$226,543,202 of the final federal tranche to serve the waitlist. The total, with subsequent amendments, is charted below.

- Total: \$1,348,505,500

³ Action Plan Amendment (APA) #4 allocated \$110 million estimated to serve an additional 800 to 1,100 homeowners. While APA #7 revised the estimate to reflect the allocation of \$710 million to serve approximately 5,124 homeowners, APA #11 estimated that the \$1.1 billion allocation will serve approximately 8,800 people. After reallocations were made in APA #18 and #21, APA #21 further revised the estimate to 7,600 applicants, reflecting the number of applicants being served by the program. Current statistics can be found on the [reNewJerseyStronger website](#).

RREM PROGRAM ALLOCATION WALK		
ACTION PLAN AMENDMENT	DATE OF APPROVAL	CDBG-DR FUNDING
<i>Action Plan</i> Initial Allocation	April 29 th , 2013	\$600,000,000
<i>Action Plan Amendment #4</i>	January 8 th , 2014	\$110,000,000
<i>Action Plan Amendment #7</i> Second Allocation	May 30 th , 2014	\$390,000,000
<i>Action Plan Amendment #11</i> Third Allocation	April 20 th , 2015	\$226,543,202
<i>Action Plan Amendment #13</i>	April 20 th , 2015	\$30,000,000
<i>Action Plan Amendment #18</i>	June 16, 2016	(\$12,500,000)
<i>Action Plan Amendment #21</i>	June 29 th , 2017	(\$40,358,421)
<i>Action Plan Amendment #28</i>	February 12 th , 2019	\$46,000,000
<i>Action Plan Amendment #41</i>	December 27, 2021	(\$1,179,281)
TOTAL		\$1,348,505,500

Maximum Award: While the maximum award was initially determined to be \$150,000, not inclusive of design and other soft costs, as applicable, the creation of the Supplemental Fund removed the grant cap in Amendment #28, as described above. ⁴

Eligible Applicants: Homeowners whose primary residences sustained substantial, severe or major damage from Superstorm Sandy. The residence must be located in one of the nine most impacted counties. Because the State has limited CDBG-DR funds, the priorities among eligible applicants listed below are intended to ensure that the focus of the first tranche of CDBG-DR funds is placed where storm damage was greatest. Similarly, to target affected households whose unmet need is likely most significant, the State has capped eligibility for the RREM program to households with adjusted gross income of \$250,000 or less.

The program prioritizes homeowners within the nine most impacted counties as determined by HUD. Priorities include:

Priority 1: Homes with “substantial damage,” as determined by New Jersey floodplain

⁴ Action Plan Amendment #7 allowed for the RREM Program to provide temporary relocation assistance to homeowners who must vacate their home during reconstruction or who must move out because of the nature of their rehabilitation. However, the State separately allocated \$320 million for mortgage and rental assistance through the Resettlement program, the Sandy Homeowners and Renters Assistance program and, using Social Services Block Grant funds, the Rental Assistance program. Because the Rental Assistance program was designated for this purpose and continues to provide temporary rental assistance for RREM homeowners, this language was removed by revisions in Action Plan Amendment #11 and additional funds were reallocated from RREM to the Rental Assistance program in Action Plan Amendment #18 to serve a continuing need.

managers, DCA or the RREM contractor, regardless of zone⁵

Priority 2: (if demand and funds remain after Priority 1) Severe/major damage only in A/V zones

Priority 3: (if demand and funds remain after Priority 2) Severe/major damage in all other zones

Eligibility Criteria:

- Home must have been owner-occupied at the time of the storm;
- Home must have served as primary residence;
- Home must have been in one of the nine most-impacted and distressed counties;
- Homeowner must have been registered with FEMA; and
- Homeowner must have a household adjusted gross annual income of \$250,000 or less.
- The RREM program will follow the reconstruction and rehabilitation standards noted previously.

Criteria for Selection:

The State prioritizes LMI households and homeowners whose homes were substantially damaged, as long as the need exists.⁶

Eligibility: Section 105(a)(4); Section 105(a)(8); Section 105(a)(11)

National Objective: Low- and moderate-income housing; alleviate slums and blight; urgent need

4.1.2 LMI Homeowners Rebuilding Program

The Low- to Moderate-Income (LMI) Homeowners Rebuilding Program is designed to provide reconstruction, rehabilitation, elevation and mitigation assistance specifically to homeowners of low- to moderate-income who were impacted by Superstorm Sandy and whose damaged primary residence is located in one of the nine most impacted counties, as determined by HUD. This program is additionally designed to serve LMI homeowners of Limited English Proficiency and owners of Manufactured Housing Units, as well as those LMI homeowners who did not apply for RREM.

DCA undertook extensive outreach in connection with its homeowner programs in areas impacted by Superstorm Sandy, emphasizing outreach to affected LMI communities. Among other things, during the more than two-month application period for the RREM program, LMI neighborhoods were

⁵ Amendment #8 did not change the definition of substantial damage but expanded the source of documentation for purposes of program efficiency.

⁶ Initially, 70% of the first allocation was targeted to LMI households. In details described in the initial Action Plan and expanded by Amendment #1, applicants received in the established initial phase were randomized at the end of the phase to determine their numeric ordering. The ordering then underwent the stated prioritization in a randomized number order until DCA reached the maximum for each bucket, reserving 70% of RREM project funds for LMI applicants. Applications submitted by homeowners whose homes were substantially damaged were processed in the order in which they were received in Phase I and prioritized ahead of other applicants whose homes were not substantially damaged until that priority has been exhausted. In the case of oversubscription to the program, the State also pledged to review the geographic distribution of awardees to ensure a reflective distribution relative to damage levels and consistent with prioritization.

canvassed with flyers and door hangers in many Sandy-impacted towns, including Atlantic City, Carteret, Jersey City, Keansburg, Little Egg Harbor Township, Long Branch, Union Beach and Wildwood. DCA also advertised the RREM program in newspapers and on radio stations that serve LMI and other communities. In addition, DCA reached out to a diverse group of partner organizations, including the long-term recovery groups in each of the nine most-impacted counties, which assist low- and moderate-income families affected by Superstorm Sandy. DCA also partnered with mayors and local officials to provide recovery information to affected communities, and numerous mobile cabinets also were held in various impacted communities. These are some examples of the considerable outreach prior to and during the more than two- month RREM application period.

The extent of the State's outreach efforts is demonstrated by the fact that the State received more than 15,000 RREM applications of which more than 12,000 satisfied preliminary eligibility criteria. The RREM program heavily weighted funding towards eligible LMI households, with 70 percent of first tranche program funding reserved for LMI households.

The State remains committed to providing assistance to those households with the most limited financial resources and significant rebuilding needs. Given the dedication of RREM recovery resources targeting LMI populations, DCA was able to serve the entire LMI RREM waitlist with second tranche CDBG-DR funds. Despite DCA's extensive outreach efforts with respect to the RREM program, the State wanted to ensure that vulnerable LMI households eligible for RREM assistance are served. To do so, the State, in response to the comments submitted to the Action Plan Amendment as first proposed and in consultation with HUD, allocated \$40 million of second tranche CDBG-DR funds to target LMI households that may have been eligible for RREM assistance but did not submit an application during the RREM application period. The allocation establishing the LMI Homeowners Rebuilding Program includes a \$10 million initial reserve for eligible applicants who own manufactured housing units/mobile homes.⁷

As with RREM, the program allows for reimbursement for eligible expenses to the extent permitted by HUD. DCA engaged community-based non-profit organizations to disseminate information about this program to ensure that the population the program is intended to serve is aware of the program. Outreach for the program was extensive. The program also follows the reconstruction and rehabilitation standards noted above.

The application period for the program opened in January 2015 and extended to March 20, 2015. Based on the number of applicants deemed preliminarily eligible for the LMI Homeowners Rebuilding Program, additional funds needed to be transferred to the program in Amendment #16 in order to avoid having to create a waitlist. Once all eligible applicants were identified, the State transferred the remaining funds to the Fund for the Restoration of Multi-Family Development in Amendment #21 to address the remaining unmet need of multi-family housing caused by Superstorm Sandy. The allocation continues to be adjusted as described below to fit the needs of the program.

⁷ Amendment #9 clarifies that Manufactured Homes are an eligible housing type under the program. \$10 million of the \$40 million initially allocated for the program was initially reserved under the approved program for those homeowners occupying manufactured homes as their primary residence at the time of the storm and who meet the program criteria. The clarification is in accordance with the State's Voluntary Compliance Agreement with HUD Fair Housing and Equal Opportunity Office and the Latino Action Network, the NAACP, and Fair Share Housing Center.

An additional allocation was made to the LMI Program in Amendment #28 in order to support additional construction funding through the Supplemental Fund, as described in Section 4.1.1. The State remains committed to funding all eligible applicants.

Allocation for Activity:

- Total: \$51,359,800

LMI PROGRAM ALLOCATION WALK		
ACTION PLAN AMENDMENT	DATE OF APPROVAL	CDBG-DR FUNDING
<i>Action Plan Amendment #7</i> Second Allocation	May 30 th , 2014	\$40,000,000
<i>Action Plan Amendment #16</i>	September 16 th , 2015	\$29,000,000
<i>Action Plan Amendment #21</i>	June 29 th , 2017	(\$18, 705,242)
<i>Action Plan Amendment #28</i>	February 12 th , 2019	\$4,000,000
<i>Action Plan Amendment #27</i>	October 18 th , 2018	(\$1,358,483)
<i>Action Plan Amendment #38</i>	November 17 th , 2020	(\$934,958)
TOTAL		\$51,359,800

Maximum Award: While the maximum award was initially determined to be \$150,000, not inclusive of design and other soft costs, as applicable, the creation of the Supplemental Fund removed the grant cap in Amendment #28, as described in Section 4.1.1. ⁸

Eligible Applicants and Eligibility Criteria:

- Homeowner must qualify as low- to moderate-income;
- Homeowner must have been registered with FEMA;
- Homeowner must not have submitted an application for the RREM program;
- Home must have been owner-occupied at the time of the storm;
- Home must have served as a primary residence for the homeowner;
- Home must have been in one of the nine most-impacted and distressed counties; and
- Home must have sustained damage as a result of Superstorm Sandy of at least \$8,000 or had more than one foot of water on the first floor.

⁸ Action Plan Amendment #7 included a note that the LMI Homeowners Rebuilding Program may also provide temporary relocation assistance to homeowners who must vacate their home during reconstruction or who must move out because of the nature of their rehabilitation. However, with the creation of the Rental Assistance Program, this function became redundant and thus, was never actualized. This language is removed from the Consolidated Action Plan.

Selection Process: At the conclusion of the application period, the applications received were electronically randomized and then prioritized based on damage levels, with the manufactured housing units receiving in order, the reserved \$10 million, as long as the need exists during the application period.

Eligibility for CDBG-DR: Section 105(a)(4); Section 105(a)(8); Section 105(a)(11)

National Objective: Low- and moderate-income housing; alleviate slums and blight; urgent need.

4.1.3 Homeowner Resettlement Program

Natural disasters can often cause significant out-migration of homeowners from the affected communities, particularly among homeowners unable for a period of time to occupy their storm-damaged homes. Out-migration can significantly impact communities and also affect local economies by shrinking local tax bases. Mitigating that risk in New Jersey is therefore critical to realizing a successful recovery.

As would be expected based on past natural disasters, many homeowners in New Jersey affected by Superstorm Sandy faced significant financial pressures that, left unaddressed, could make it more likely that they decide to abandon their communities. Many homeowners considering rebuilding were concerned with rising insurance costs. For example, the Biggert-Waters Flood Insurance Reform Act of 2012 (the “Biggert-Waters Act”) removed subsidies that lowered flood insurance premiums for many New Jersey property owners. Over time, homeowners could see increases in their flood insurance premiums of 25% per year until the premium reflects actuarially determined flood risk. Based on premiums noted on the FEMA FloodSmart.gov website, a \$250,000 home with full coverage, if previously subsidized, could see up to \$10,760 in premium increases over a three-year period. Additionally, many homeowners with homes that are not “substantially damaged” were still likely to decide to make expensive adjustments to properties, such as elevation and storm hardening because once FEMA’s ABFE maps are finalized, the maps will be part of the calculation for assessing flood risk and therefore in setting flood insurance rates. Based on the rates on the FEMA website noted above, some homeowners could see possible rate increases of between \$2,800 and \$6,700.

The State estimated that a \$10,000 grant that households could use toward addressing any increases in insurance premiums, in addition to other needs, would alter the calculation for many homeowners and incentivize them to remain part of their communities during New Jersey’s recovery and rebuilding effort and beyond. The Resettlement program was open only to those who have registered with FEMA and have received damage to their homes. As a condition of receiving program funds, applicants committed to continued residence within one of the nine most-impacted counties for a period of at least three consecutive years.

The program has served all eligible applicants, disbursing more than \$185 million across more than 18,500 households. Among other things, the Homeowner Resettlement Program along with FEMA Individual Assistance (approximately \$190 million), the Working Families Living Expenses Voucher Program, also known as SHRAP (approximately \$100 million) and, now, the Rental Assistance Program (\$9.5 million) has provided funding to support households paying both a mortgage and rent while displaced by Sandy-related damage or reconstruction. The program has been critical in helping

families stay in their communities, preserving the character of storm-impacted neighborhoods, stabilizing the municipal tax base, and helping bring a return to normalcy after Sandy.

DCA has reviewed compliance of Resettlement grant recipients to ensure that they fulfill the three-year residency commitment that was a condition of receiving program funds. As DCA verified compliance, the State transferred funds to other programs in need.

Allocation for Activity:

The initial Action Plan designated \$180,000,000 to benefit up to 18,000 owners. The initial phase was allocated 60% for LMI households and 40% for non-LMI households. Subsequently, in Action Plan Amendment #4, \$35,000,000 was allocated to benefit existing eligible owners on the waitlist. The total, with subsequent amendments, is charted below.

- Total: \$202,840,024

RESETTLEMENT PROGRAM ALLOCATION WALK		
ACTION PLAN AMENDMENT	DATE OF APPROVAL	CDBG-DR FUNDING
<i>Action Plan</i> Initial Allocation	April 29 th , 2013	\$180,000,000
<i>Action Plan Amendment #4</i>	January 8 th , 2014	\$35,000,000
<i>Action Plan Amendment #16</i>	September 16 th , 2015	(\$10,000,000)
<i>Action Plan Amendment #27</i>	October 18 th , 2018	(\$1,358,483)
<i>Action Plan Amendment #32</i>	July 18 th , 2019	(\$568,364)
<i>Action Plan Amendment #33</i>	October 11 th , 2019	(\$51,626)
<i>Action Plan Amendment #27</i>	October 18 th , 2018	(\$1,358,483)
<i>Action Plan Amendment #38</i>	November 17 th , 2020	(\$65,042)
<i>Action Plan Amendment #41</i>	December 27, 2021	(\$78,688)
TOTAL		\$202,840,024

Maximum Award: \$10,000

Eligible Applicants: Homeowners whose primary residence sustained major and severe damage from Superstorm Sandy. The residence must be located in one of the nine most impacted counties.

Eligibility Criteria:

- Homeowner must have owned and occupied the home at the time of the storm;
- Home must have served as primary residence; and

- Home must have sustained a FVL of \$8,000 or greater or more than one foot of flooding on the first floor (Determined by FEMA or third-party verification determined relevant by DCA, such as FEMA affiliated recovery partners, including: SBA damage inspection; National Flood Insurance Program (NFIP) property damage assessment; verified private insurance property damage estimates, and determinations by the local Flood Plain Manager).

Controls to Ensure Compliance with Program Guidelines:

- Prior to funds being released, threshold eligibility criteria have been validated.
- Prior to funds being released, the homeowner will sign a promissory note to reside in the county for three years or funds will be repaid to the State.
- The State will initiate monitoring of the incentive award within six months of award to ensure that the homeowner is meeting the terms of the agreement.

Criteria for Selection:

- First received, first evaluated.
- Initially, 60% of the funds are reserved for LMI income families in accordance with HUD income guidelines.

Determination of Reasonable and Necessary Incentive Award Amounts: HUD requires all CDBG Disaster funds be justified as “reasonable” and “necessary.” Based on the continued uncertainty of homeowners who face the costs of increased mitigation measures, insurance premiums and questions about the viability of the most impacted areas which are still recovering, the Resettlement incentive award is both a reasonable and necessary investment in the recovery.

Eligibility: Federal Register Notice FR-5696-N-01

National Objective: Low- and moderate-income, urgent need

4.1.4 Blue Acres Buyout Program

Superstorm Sandy substantially affected certain New Jersey communities that repeatedly sustain significant flood losses. Many residents of these communities have expressed a preference for buyouts to allow them to relocate to less flood-prone areas. The decision to pursue a buyout is a difficult, personal choice unique to every household, and the State is committed to an expedited, voluntary buyout process to assist those households that want to relocate.

Buyouts are an important component of the State’s holistic approach to smart and resilient housing sector recovery. Buying out flood-prone properties removes people from harm’s way. Converting the land to open space creates more open areas that can help absorb flood waters in future storms, making the State more resilient to future weather events. Buyouts may also allow communities to create, or add to, local park lands, or expand wetlands, forests and wildlife management areas.

Buying out flood-prone properties not only reasonably compensates people for moving out of harm’s way, but it also results in the conversion of the developed land to open space. And, as an added benefit of reducing the amount of homes in flood-plains, fewer homeowners are required to purchase flood insurance policies through the National Flood Insurance Program (NFIP), leading to reduced flood risk ratings and premiums for entire communities. Recognized by FEMA as a “National Best Practice,”

the goal of the Blue Acres Buyout Program is to dramatically reduce the risk of future catastrophic flood damage, and to help New Jersey families move out of harm's way.

The Blue Acres Buyout Program is administered by the New Jersey Department of Environmental Protection (DEP). DEP has a long and successful history of voluntary acquisition of real estate for open space, recreation, and natural resource restoration. The Green Acres program has been purchasing land for preservation for over fifty years. For the past two decades, the State, through the Blue Acres Program, has been purchasing flood-prone properties and restoring the natural landscape.

The State continues to make progress in DEP's Blue Acres program by acquiring properties in flood-prone areas to remove residents from harm's way and, through the creation of open space, enhancing natural protections against future severe weather events. Additional coastal flooding has occurred as a result of a number of Nor'easters in coastal areas still recovering from Superstorm Sandy. This has contributed to a continued high level of interest in buyouts on the part of these communities and their residents. The rate of acceptance of buyout offers has increased from 63% in the fall of 2014 to over 75.5% in March 2017, as more homeowners seek to avoid the emotional and financial toll that severe repetitive flooding has taken on their families.

The State continues to evaluate homes located in repetitive flooding communities, as many significantly damaged homes remain. In some neighborhoods, flood-damaged properties have been abandoned by owners as the houses are considered "unsaleable" due to their location. This unfortunate situation has contributed to New Jersey's status as one of the states with continuing high rates of foreclosures. The Blue Acres staff has learned how to successfully work with lenders to facilitate payoff approvals, thus enabling the reduction of these "zombie" properties.

To reduce administrative burden and maximize funding available for buyouts, the program was initially limited to households in pre-defined targeted buyout areas.⁹ Amendment #28 allowed the program to expand to include eligible properties impacted by Superstorm Sandy, Tropical Storm Lee, or Hurricane Irene or having an impact exacerbated by one of these storms, in accordance with Federal Register Notice [FR-5696-N-01](#).

Homes will be purchased at 100 percent of their pre-storm fair market value as determined through Blue Acres' established valuation process. Consistent with Federal Register Notice [FR-5696-N-01](#), the State will uniformly apply its valuation methodology. Until a written agreement on the purchase price of the home has been reached, DEP, at its discretion, may decide not to move forward with the purchase of any home being considered for a buyout (as may the homeowner). After properties are acquired, CDBG-DR funds through this program also may be used to conduct demolition and debris removal activities, and other related activities necessary to convert the purchased property to open space.

As State continues to evaluate homes located in repetitive flooding communities, funds were transferred to other programs with remaining need.

Allocation for Activity:

- Total: \$137,056,576

⁹ Amendment #9 clarified an intention to extend eligibility to single residential properties and rental properties. Thus "homeowners" was changed to "households."

BLUE ACRES PROGRAM ALLOCATION WALK		
ACTION PLAN AMENDMENT	DATE OF APPROVAL	CDBG-DR FUNDING
<i>Action Plan Amendment #7</i> Second Allocation	May 30 th , 2014	\$100,000,000
<i>Action Plan Amendment #15</i>	May 2 nd , 2015	(\$500,000) ¹
<i>Action Plan Amendment #21</i>	June 29 th , 2017	\$75,000,000
<i>Action Plan Amendment #28</i>	February 12 th , 2019	(\$7,951,174)
<i>Action Plan Amendment #30</i>	February 12 th , 2019	(\$10,000,000)
<i>Action Plan Amendment #33</i>	October 11 th , 2019	\$507,750 ²
<i>Action Plan Amendment #35</i>	February 7 th , 2020	(\$20,000,000)
TOTAL		\$137,056,576

¹ Non-Substantial Amendment for the Consolidation of Administration Funds into the General Category

² Non-Substantial Amendment to Clarify the Recording of Administrative Costs

Maximum Award: Amount set through the Blue Acres valuation process at pre-storm fair market value, and also may include additional funding in the amount of costs for eligible necessary activities as defined by program criteria necessary to purchase property or convert purchased property to open space.

Eligible Applicants: Property owners in a floodway, a flood-prone area or an area that has sustained severe repetitive flood losses in all counties.

Eligibility Criteria:

- Property must be located in the floodplain.
- Property must be in a floodway, flood-prone area or an area that has sustained severe repetitive flood losses.
- Property must have been impacted by Superstorm Sandy, Tropical Storm Lee, or Hurricane Irene or have an impact exacerbated by one of these storms.
- Property must be a one-unit, two-unit, three-unit or four-unit private residence.

Criteria for Selection:

- Property is located in pre-defined targeted buyout area determined by the State.
- Pre-defined targeted buyout area may include LMI households targeted for buyouts.
- Purchase of property will meaningfully enhance resilience against future storms.

Eligibility for CDBG-DR: Section 105(a)(1); Section 105(a)(2); Section 105(a)(4); Section 105(a)(11); Federal Register Notice FR-5696-N-01

National Objective: Low- and moderate-income area and/or limited clientele; alleviate slums and blight; urgent need

4.2 Rental Housing and Renter Programs

New Jersey implemented a range of rental housing activities designed to (i) replenish the stock of rental housing lost due to Superstorm Sandy, (ii) rehabilitate and restore affordable rental units left uninhabitable by Sandy, (iii) restore rental housing inventory that received the majority of damage to rental property and (iv) provide affordable housing for special needs populations. In recognition of the breadth of damage inflicted by Superstorm Sandy, at least 80% of the rental allocation in the initial tranche was allocated to projects to address the need for affordable housing in the nine most impacted counties as determined by HUD. Further, priority was given to projects serving communities most impacted within these counties, as detailed in the unmet needs assessment in Section 2. Additionally, at the time of the initial allocation, the State recognized that rental housing needs pushed displaced residents to other areas of the State, which increased demand in those areas, resulting in rental shortages. Therefore, the State committed to provide funding for much-needed rental housing in these areas as well.

The State implemented programs to restore or create a variety of rentals from “1 to 4 unit” buildings to large multi-family housing developments. Such an approach involves a range of construction models from new construction to substantial rehabilitation of foreclosed or vacant properties to moderate rehabilitation of buildings that are currently uninhabitable but could be brought back to code with targeted repairs. New Jersey takes a holistic approach to this important facet of recovery, taking stock of existing rental housing resources (e.g. LIHTC, HOME, CDBG, Section 8 Vouchers, Tax Exempt Bonds, Federal Home Loan Bank, Conduit Bond Financing) and leveraging them, when appropriate, with this funding. In keeping with this approach, New Jersey utilizes the State’s existing array of governmental agencies and the legal powers/authority they hold, including DCA, NJHMFA, the New Jersey Redevelopment Authority, and the Department of Human Services (DHS) and other public housing authorities, to oversee and deliver rental housing recovery efforts. While the State directly oversees all disaster recovery rental housing efforts, private and nonprofit partners are utilized, when appropriate, to perform particular program functions.

In addition to expanding the supply of affordable rental housing, these initiatives create both construction and permanent jobs, provide a new platform for commercial development in neighborhoods left devastated by Superstorm Sandy, and better link housing to employment opportunities. Rental housing activities are in compliance with all Fair Housing Act requirements to ensure that special needs populations are served and include an initiative to promote the creation of permanent supportive housing for that purpose. The programs require affordability controls for at least the minimum period required by federal regulations. Program activities including Low Income Housing Tax Credits (LIHTCs) require an affordability period as prescribed by the LIHTC regulations, or as required by the New Jersey Housing and Mortgage Finance Agency.

The rental housing programs promote sustainable communities and help to protect the environment by requiring the incorporation of green building technology and energy efficient development. Reconstruction and rehabilitation of rental housing meet modern building standards such as:

Reconstruction Standard: When applicable, replacement and new construction meet the 2009 Residential International Code and the green building standards by requiring compliance with ENERGY STAR™.

Rehabilitation Standard: When applicable, the programs adhere to the following housing rehabilitation standards:

- Chapter 23 of the State of New Jersey’s Uniform Construction Code, Subchapter 6: Rehabilitation Subcode
- The HUD CPD Green Building Retrofit checklist

All reconstruction, new construction and rehabilitation must be designed to incorporate principals of sustainability, including water and energy efficiency, resilience, and mitigating the impact of future disasters. The rental programs, as applicable, also provide reimbursement for eligible expenses, or pre-award cost, as in line with [CPD-13-05](#) guidance, July 30, 2013.¹

To support the recovery of renters, the State used the second and third tranche of CDBG-DR funds to support rental programs that increase the supply of affordable rental housing in the State. As part of the third allocation, the State also provided additional funding for tenant-based rental assistance in a manner consistent with Federal Register Notice [FR-5696-N-10](#) (July 11, 2014), as extended by Federal Register Notices [FR-5696-N-15](#) and [FR-5961-N-02](#).

4.2.1 Fund for Restoration of Multi-Family Housing

The Fund for the Restoration of Multi-Family Housing (FRM) is administered by the New Jersey Housing and Mortgage Finance Agency (HMFA). The program provides multiple funding mechanisms to facilitate the creation of quality, affordable housing units to help New Jersey recover from the loss of multi-family housing. CDBG-DR funds are provided as zero- and low-interest loans to qualified developers to leverage 9% and 4% low income housing tax credits, tax-exempt bonds and stand-alone financing to support development. Development may include new construction, conversion of vacant commercial/ industrial buildings, or substantial rehabilitation of uninhabitable dwellings. In addition, a portion of the fund is used to assist in the development of new permanent supportive housing units for people with special needs as well as public housing and other federally-supported housing. Funding is allocated to the individual program components within the fund as needed in order to maximize the effectiveness of the fund and ensure that those with the greatest needs are assisted as rapidly as possible.

- The first component of the fund leverages zero- and low-interest CDBG-DR loans with 9% low income housing tax credits in order to stretch both funding sources and to create projects that accomplish several goals. The program follows the model New Jersey established several years ago with its HOME Express and State Balanced Housing Programs and incorporates several features that proved effective in Louisiana’s “Piggyback Program.”
- The second component combines zero- and low-interest CDBG-DR loans with the State’s allocation of tax-exempt bonds and 4% low income housing tax credits to create or rehab affordable housing units. The program incentivizes developers to produce mixed income buildings providing opportunities for the full spectrum of New Jersey’s citizens including extremely low-income households usually overlooked in traditional tax credit projects; households with incomes between 60% and 80% of AMI (not eligible for tax credit assistance) and market rate tenants.
- The third component is a program that utilizes stand-alone CDBG-DR funds to provide zero- and low-interest loans to create new multi-family projects that are safer, stronger, and more resilient. These funds may be used in conjunction with tax credits or stand alone.

¹ Originally written in the Amendment #1 as “CPD 13-038,” unfound. CPD 13-05 has since been superseded by [CPD-15-07](#), September 2015.

- Finally, in order to address the need for repairs in public housing and other federally-funded housing, the State has established a set-aside of \$30 million to provide the necessary resources to support repairs to damaged public housing units, damaged federally-owned housing units, damaged HUD assisted multi-family housing. The State will continue to review the unmet needs of public housing and will allocate an appropriate level of future funding.²

Beginning in Amendment #7, HMFA set a goal for each round of funding that 80 percent of the non-PHA FRM funds will be initially prioritized for projects to repair or replace multi-family housing within the nine most-impacted counties as determined by HUD.

FRM was quickly oversubscribed and additional funds were allocated in Amendments #7 and 11. Yet the need for affordable multi-family housing persisted. Superstorm Sandy significantly reduced the supply of rental housing stock, and displacement caused by the storm increased the demand for rental housing. Increased demand, coupled with the storm-related depletion of rental stock, increased (and in some cases, substantially increased) rent as in all the impacted counties.

Table 4-2 below shows the change in Fair Market Rents between 2015 and 2017 for a 2-bedroom unit:

Table 4-2

County	Fair Market Rent for 2-Bedroom Apartment			Percentage Change in Fair Market Rental Rates from 2015-2017
	2015	2016	2017	
Atlantic	\$1,176	\$1,152	\$1,310	11.4%
Bergen	\$1,371	\$1,440	\$1,557	13.6%
Cape May	\$1,122	\$1,051	\$1,133	1.0%
Essex	\$1,269	\$1,324	\$1,288	1.5%
Hudson	\$1,315	\$1,460	\$1,519	15.5%
Middlesex	\$1,495	\$1,578	\$1,654	10.6%
Monmouth	\$1,373	\$1,417	\$1,484	8.1%
Ocean	\$1,373	\$1,417	\$1,484	8.1%
Union	\$1,269	\$1,324	\$1,288	1.5%

Reports indicated that almost one-third of New Jersey households are tenants facing rents that rank among the costliest in the nation, with only California, the District of Columbia, Hawaii and New York being less affordable than the New Jersey. Taken together, the loss of units, low vacancy rates and increased costs created particular hardships for LMI households seeking affordable rental housing. The State’s foremost unmet rental need remains the repair or replacement of storm damaged rental housing stock, which will stabilize the rental market and create more affordable housing. Therefore, Amendment #21 reallocated \$60 million to allow the State to fund a fourth round of FRM affordable

² In the initial Action Plan, the State established a set-aside of \$20 million to provide the necessary resources to support repairs to damaged public housing units, damaged federally-owned housing units, and damaged HUD-assisted multi-family housing. An additional \$10 million was then initially reserved for Public Housing Authority (PHA) recovery projects in the second allocation of federal funding. As of May 2018, over \$12 million has been expended towards the creation of 528 LMI units under the PHA set-aside and another 1,173 units are in the pipeline. Many of the PHA projects in the pipeline have not yet determined a start date. Therefore, Amendment #27 allowed for a portion of the \$30 million initially reserved for public housing authority projects through FRM to be used for other FRM projects in the event the identified public housing authority projects will not be completed by the federal expenditure deadline. This is reflective of changes identified in Amendment #13.

housing projects to repair or replace multi-family housing. To continue to meet outstanding demand in underserved markets, additional funds were allocated to FRM from the Sandy Homebuyer Assistance Program and Blue Acres in Amendments #28 and #30, respectively.

Allocation for Activity:

The initial Action Plan allocated \$179,520,000 for the creation of rental housing. Of the initial allocation, \$20 million was set aside for resources to support repairs to damaged public housing units, damaged federally-owned housing units, damaged HUD assisted multi-family housing. In the second allocation, detailed in Amendment #7, \$200,000,000 was added, inclusive of a \$10 million allocation initially reserved to support the recovery of public housing authorities.

- Total: \$661,331,203

FRM ALLOCATION WALK		
ACTION PLAN AMENDMENT	DATE OF APPROVAL	CDBG-DR FUNDING
<i>Action Plan</i> Initial Allocation	April 29 th , 2013	\$179,520,000
<i>Action Plan Amendment #7</i> Second Allocation	May 30 th , 2014	\$200,000,000
<i>Action Plan Amendment #11</i> Third Allocation	April 20 th , 2015	\$215,000,000
<i>Action Plan Amendment #15</i>	May 2 nd , 2015	(\$2,972,600) ¹
<i>Action Plan Amendment #21</i>	June 29 th , 2017	\$60,000,000
<i>Action Plan Amendment #28</i>	February 12 th , 2019	\$379,500
<i>Action Plan Amendment #30</i>	February 12 th , 2019	\$10,000,000
<i>Action Plan Amendment #33</i>	October 11 th , 2019	\$527,506 ²
<i>Action Plan Amendment #36</i>	March 27 th , 2020	(\$1,123,204)
TOTAL		\$661,331,203

¹ Non-Substantial Amendment for the Consolidation of Administration Funds into the General Category

² Non-Substantial Amendment to Clarify the Recording of Administrative Costs

Maximum Award: Amount of the award is to be based on underwriting the gap in the project rather than setting a maximum amount per unit. Standard HMFA underwriting applies.³

Eligible Applicants: Private for-profit and nonprofit housing developers, as well as public housing authorities capable of developing and managing large multi-family developments.

Eligibility Criteria:

³ The initial Action Plan stated the maximum award as \$120,000/unit. Amendment #11 and #21 placed the maximum award at \$170,000/unit.

Projects must:

- Rehabilitate or replace affordable rental units that were damaged as a result of the storm;
- Build new rental housing that addresses an unmet need resulting from the storm; or
- Convert existing structures into affordable housing that addresses an unmet need resulting from the storm. This conversion may include conducting substantial rehabilitation and as a result transitioning market rate units to affordable units, changing a property that was not a rental housing use into permanent, affordable rental housing or rehabilitating vacant, dilapidated units.⁴

Criteria for Selection: Eighty percent of FRM funds will be initially prioritized for projects to repair or replace multi-family housing within the nine most-impacted counties as determined by HUD.

Eligibility for CDBG-DR: Section 105(a)(1); Section 105(a)(4); Federal Register Notice FR-5696-N-01

National Objective: Low- and moderate-income housing; alleviate slums and blight; urgent need.

4.2.2 Landlord Rental Repair Program

More than 70% of rental properties in the most impacted areas have less than 20 units. Often, this rental type is provided by a homeowner that has an extra unit that contributes rental income to the owner, or by landlords with fewer than 25 properties. As a way to rebuild important rental assets in keeping with the neighborhood fabric, the Landlord Rental Repair Program (LRRP) will provide zero interest forgivable loans to existing and new owners of rental properties with 1 to 25 units requiring significant rehabilitation. Formerly labelled as “Fund for Rehabilitation of Small Rental Properties, LRRP produces additional rental units in areas facing severe shortages. It also works to alleviate blight in some of the areas that were hit hardest by the storm.

The program provides zero percent forgivable loans to “original” or new owners of small rental properties that received significant damage through Superstorm Sandy. To qualify as an original owner, the owner must have owned the property continuously from the time of the storm until the time of application for assistance.

Eligible new owners include those entities that: (1) purchased the property after the storm or have an option to purchase, or other suitable form of site control for an eligible property that received a significant amount of damage during the storm; and, (2) wish to exercise that option in order to rehabilitate the property. To be eligible, the landlord must rent the assisted unit(s) to LMI households at approved affordable rental rates following completion of repairs. First priority was given to properties with less than eight units and properties serving certain special needs populations which typically are four units or less. Properties with mold remediation needs were prioritized. Priorities were also set for properties of seven or fewer units and units for special needs populations regardless of unit count under the program cap.

The program has made significant progress in rehabilitating affordable rental units. Therefore, in Amendment #21, LRRP was able to provide funding to the Blue Acres Program in a way that would not impact the State’s ability to fully serve all eligible landlords or to pay for program delivery costs. The State remains committed to funding up to the maximum award of \$50,000 per unit for all eligible landlords in the program.

⁴ Eligibility Criteria was further detailed in Amendment #7.

Allocation for Activity:

- Total: \$54,363,663

LRRP ALLOCATION WALK		
ACTION PLAN AMENDMENT	DATE OF APPROVAL	CDBG-DR FUNDING
<i>Action Plan</i> Initial Allocation	April 29 th , 2013	\$70,000,000
<i>Action Plan Amendment #21</i>	June 29 th , 2017	(\$15,936,337)
<i>Action Plan Amendment #33</i>	October 11 th , 2019	\$300,000
TOTAL		\$54,363,663

Maximum Award: \$50,000 per unit

Eligible Applicants: Existing and new owners of small rental properties damaged by Superstorm Sandy

Eligibility Criteria:

- Properties must have 25 units or less;
- Owners will have to certify that the property is used for year-long rental housing, and not as a second home;
- Units must be targeted to low- and moderate-income households;
- Rents may not exceed 30% of income for a household earning 80% of AMI; and
- Projects must have received damage from Superstorm Sandy and must now require rehabilitation or contain a number of units that are in need of rehabilitation.

Criteria for Selection:

- Demonstrate that the building or unit will be brought up to code using an award that is within the funding limits of the program component.
- Properties with seven or fewer units and properties containing units for special needs populations will have priority for funding in the program. Properties larger than seven units that do not contain units reserved for populations with special needs may receive funding through this program after all qualified properties with seven or fewer units and those properties with units reserved for populations with special needs are awarded. Varies by program components within the fund (please see below).

Eligibility: Section 105(a)(4)

National Objective: Low- and moderate-income benefit for housing

Project Size/Building Type: All projects must have 25 units or less. Developments with smaller buildings containing more than 25 units in total are ineligible.

4.2.3 Housing Programs for Targeted Development Areas

Superstorm Sandy caused statewide damage and destruction of property and infrastructure and displaced thousands of households. The storm also impaired the economic vitality of heavily impacted communities and threatens to substantially reduce local tax revenues in those communities. New Jersey CDBG-DR will fund programs that will restore housing in targeted communities that, due to the impact of the storm, are at risk of physical decay and economic decline. These programs will also continue to address the unmet housing needs resulting from the loss of owner occupied homes, the loss of affordable rental housing, and the storm's impact on populations with special needs, all in ways that reduce the possibility of loss from future storms.

4.2.3.1 Predevelopment Fund for Affordable Rental Housing

The Predevelopment Fund was created to address the affordable rental housing shortage exacerbated by Superstorm Sandy. The fund is overseen by the New Jersey Redevelopment Authority (NJRA) and provides financing to help nonprofit developers cover the pre-development costs of properties that are unsafe, underutilized, or in foreclosure. This program offers support at the early stages of development to allow nonprofit developers to complete site preparation work as well as work to finalize construction and permanent financing. The fund will cover costs related to pre-development including feasibility studies, architectural costs, environmental and engineering studies, legal costs, or other eligible soft costs.

This program helps target areas of redevelopment in which New Jersey is working with local leadership to meet the development needs of the municipality in the aftermath of the storm. This program will facilitate the development of real property deemed unsafe or counterproductive to the welfare (including economic welfare) of its residents.

Given the State's commitment to increasing the availability of affordable rental units, the State shifted unused funds in Amendment #21 to the Fund for the Restoration of Multi-Family Development to increase the provision of affordable rental units to Sandy-impacted households. Ultimately, the program provided funding for pre-development loans resulting in the construction of over 200 rental units, fully serving all eligible nonprofit developers. As the program closed, the State transferred the remaining funds for the general administration of recovery programs and to the RREM program to fund the Supplemental Fund in Amendments #27 and 28, respectively.

Allocation for Activity:

- Total: \$3,395,041

PREDEVELOPMENT FUND ALLOCATION WALK		
ACTION PLAN AMENDMENT	DATE OF APPROVAL	CDBG-DR FUNDING
<i>Action Plan</i> Initial Allocation	April 29 th , 2013	\$10,000,000
<i>Action Plan Amendment #15</i>	May 2 nd , 2015	(\$50,000)*
<i>Action Plan Amendment #21</i>	June 29 th , 2017	(\$6,180,999)
<i>Action Plan Amendment #27</i>	October 18 th , 2018	(\$102,295)
<i>Action Plan Amendment #28</i>	February 12 th , 2019	(\$271,665)
TOTAL		\$3,395,041

* Non-Substantial Amendment for the Consolidation of Administration Funds into the General Category

Eligible Applicants: Nonprofit developers

Eligibility Criteria:

- Projects must aid in the process of preparing a site for development;
- Projects must create new affordable rental housing developments; and
- Projects must help to revitalize a community that has been directly or indirectly impacted by Superstorm Sandy.

Criteria for Selection:

- Nonprofit developers; and
- Projects must meet the program’s underwriting and feasibility standards.

Maximum Award: \$500,000

Eligibility: Section 105(a)(12)⁵

National Objective: Low- and moderate-income, and urgent need

Cost Effectiveness: All projects will be individually underwritten so as to minimize the amount of public funds spent to deliver the proposed development.

4.2.3.2 Neighborhood Enhancement Program

The Neighborhood Enhancement Program, (formerly called the Blight Reduction Pilot Program) provides zero percent loans to eligible nonprofit and for-profit developers to rehabilitate and reuse foreclosed, vacant or abandoned properties in targeted communities to create affordable for-sale or rental housing units. The purpose of the program is to stabilize “threatened but viable” neighborhoods through the creation of affordable housing. The Neighborhood Enhancement Program will support efforts to develop a mixed-income model of rebuilding to prevent concentrations of poverty and rebuild strong neighborhoods. The program is intended to be a

⁵ Amendment #1 removed eligibility under Section 105(a)(1).

component of local plans to invest in and rebuild communities.

The Neighborhood Enhancement Program will encourage development of affordable rental or homeownership housing in the nine most impacted counties as well as areas deemed priority areas throughout the State. The program is designed to alleviate the shortage of rental and for-sale housing and potential blight caused by the storm. The properties may be rented, developed as lease-to-purchase, or provide homeownership opportunities for low- and moderate-income households.

As of January 13, 2014, the State awarded the first round of NEP project funds, and the program was considered fully subscribed. Given the success of the NEP pilot program supported by first tranche CDBG-DR funds, the State continued to fund the program, and expand its impact by seeking to further integrate the program with local redevelopment and rebuilding plans.

Of the \$20 million of second round NEP funds allocated in Amendment #7, the first \$10 million was made available for Community Development Financial Institutions (CDFIs) and Community Housing Development Organizations (CHDOs) to submit applications for funding based on projects that further program goals and satisfy program guidelines. The application period opened in March 2015, and closed on June 26, 2015, with applications reviewed and funded based on the established objective program criteria. The remaining \$10 million of second round NEP funds was held in reserve to evaluate the demand for the initial \$10 million of second 2-3 round NEP funds by CDFIs and CHDOs and the nature of the projects submitted. The uncommitted funding was transferred in Amendment #16 and #21 to address the unmet need in affordable housing. As the program closed, the remaining funds were transferred to the RREM Program in Amendment #28 to fund the Supplemental Fund and to the Rental Assistance Program in Amendment #32.

Allocation for Activity:

- Total: \$35,798,396

NEP PROGRAM ALLOCATION WALK		
ACTION PLAN AMENDMENT	DATE OF APPROVAL	CDBG-DR FUNDING
<i>Action Plan</i> Initial Allocation	April 29 th , 2013	\$30,000,000
<i>Action Plan Amendment #7</i> Second Allocation	May 30 th , 2014	\$20,000,000
<i>Action Plan Amendment #16</i>	September 16 th , 2015	(\$10,000,000)
<i>Action Plan Amendment #21</i>	June 29 th , 2017	(\$1,272,994)
<i>Action Plan Amendment #28</i>	February 12 th , 2019	(\$2,707,105)
<i>Action Plan Amendment #32</i>	July, 18 th , 2019	(\$221,505)
TOTAL		\$35,798,396

Maximum Award: \$250,000 per unit

Eligible Applicants: Nonprofit and for-profit developers. Community Development Financial Institutions may also apply as administrators of program funding or as developers, and propose projects or as programs that would meet program eligibility criteria and achieve the goals of NEP, as described above.⁶

Eligibility Criteria:

- Project must provide housing for households that are LMI;
- Units must be affordable at 30% of the gross income of the resident applicant;
- Properties must have an unaddressed funding need to bring the structure into compliance with all building code ordinances;
- Properties may have seven units or less; and
- Projects must be feasible within funding caps and underwriting standards.

Criteria for Selection: Impacted areas that are viable but threatened and in need of rehabilitation.

Eligibility: Section 105(a)(4); Federal Register Notice FR-5696- N-01

National Objective: Low- and moderate-income housing, alleviate slum or blight, and unmet need.

4.2.4 Programs for Immediate Housing Needs

4.2.4.1 Landlord Incentive Program

Incentive payments will be provided to qualified rental property owners to (1) quickly address the need for affordable housing in the State that has been exacerbated by Superstorm Sandy and (2) provide for the immediate needs of displaced low- and moderate-income households. Subsidies for units will be provided based on the level of affordability mirroring the federal Section 8 project-based methodology. Priority will be given to households earning at or below 50% of AMI.

Given the Department of Community Affairs' commitment to increasing the availability of affordable rental units, coupled with an increased demand for individual rental assistance, the State shifted funds to provide tenant-based rental assistance in Amendment #6. The ultimate goal was preserved in this funding shift -- to increase provision of affordable rental units to low- to moderate-income households. Additionally, in Amendment #6, the State transferred funds from the Landlord Incentive Program (LIP) to the new Lead Hazard Reduction Program to provide funding for lead assessment, lead hazard reduction, and clearance.

All landlord agreements in the program expired in August 2017, tenants have transitioned to alternative housing, and final reimbursements to landlords are complete. To continue the use of this funding for affordable rental housing, the remaining funds was transferred to the Fund for the Restoration of Multi-Family Housing in Amendment #21. As the program closes, funds not used for program delivery were transferred for the general administration of recovery programs in Amendment #27.

⁶ Eligibility expanded in Amendment #7 to allow Community Development Financial Institutions to apply.

In the initial Action Plan, this program was described as “Project Based Incentives for Landlords to Provide Affordable Housing.”

Allocation for Activity:

- Total: \$17,189,631

LIP PROGRAM ALLOCATION WALK		
ACTION PLAN AMENDMENT	DATE OF APPROVAL	CDBG-DR FUNDING
<i>Action Plan</i> Initial Allocation	April 29 th , 2013	\$40,000,000
<i>Action Plan Amendment #6</i>	May 2 nd , 2014	(\$22,000,000)
<i>Action Plan Amendment #21</i>	June 29 th , 2017	(\$226,297)
<i>Action Plan Amendment #27</i>	October 18 th , 2018	(\$584,072)
TOTAL		\$17,189,631

Eligible Applicants: Property owners who agree to lease their units at affordable rents to low- and moderate-income households established by the State.

Eligibility Criteria:

- Projects must provide affordable units to relieve the shortage of affordable rental housing; and
- Rents payable by the household may not exceed 30% of income for a household earning 80% of AMI; rents payable by the household may not exceed 30% of income for a household earning 50% of AMI for deeply affordable units.

Criteria for Selection: First received, first evaluated

Eligibility: Federal Register Notice FR-5696-N-01

National Objective: Low- and moderate-income

4.2.5 Sandy Homebuyer Assistance Program

Superstorm Sandy depleted both owner-occupied and rental housing stock, causing rents to increase. The Sandy Home Buyer Assistance Program (SHAP) provides low- and moderate-income households the opportunity to purchase a home by providing financial incentives to do so, effectively creating first time home buyers from renters. The program not only provides an affordable alternative to leasing, but has created a market for rebuilt and restored homes, thereby protecting ratable bases in the counties hardest hit by the storm. The program is administered by the New Jersey Housing and Mortgage Finance Agency.

The Program provides equity contributions of up to \$50,000 to eligible applicants seeking to purchase homes within the nine counties most-impacted by Superstorm Sandy, as determined by HUD. The application period for the SHAP program closed in September 2013. Thus, funds were transferred in Amendment #21 and 28 to the Fund for the Restoration of Multi-Family Development address the remaining unmet need of multi-family housing caused by Superstorm Sandy. As the program closes, the remaining funds are transferred to programs with a remaining need. .

Allocation for Activity:

- Total: \$18,503,783

SHAP PROGRAM ALLOCATION WALK		
ACTION PLAN AMENDMENT	DATE OF APPROVAL	CDBG-DR FUNDING
<i>Action Plan</i> Initial Allocation	April 29 th , 2013	\$40,000,000
<i>Action Plan Amendment #15</i>	May 2 nd , 2015	(\$125,000)*
<i>Action Plan Amendment #21</i>	June 29 th , 2017	(\$5,938,680)
<i>Action Plan Amendment #27</i>	October 18 th , 2018	(\$3,037)
<i>Action Plan Amendment #28</i>	February 12 th , 2018	(\$379,500)
<i>Action Plan Amendment #36</i>	March 27 th , 2020	(\$50,000)
TOTAL		\$18,503,783

* Non-Substantial Amendment for the Consolidation of Administration Funds into the General Category

Eligible Applicants: Potential LMI home buyers

Eligibility Criteria:

- Home buyers must have a credit score of 620 or higher; and
- The loans will be restricted to LMI households, and will be secured by second mortgages that will be forgiven over a five-year period.

Maximum Award: \$50,000

Eligibility: Section 105(a)(24)

National Objective: Low- and moderate-income

4.2.6 Sandy Special Needs Housing Fund

Because of the storm’s impact on housing that accommodates special needs populations, as well as victims of domestic violence, a direct allocation will be made to the New Jersey Housing and Mortgage Finance Agency to operate a fund in a manner similar to the New Jersey Special Needs Housing Trust Fund dedicated to the construction of quality, permanent supportive housing throughout New Jersey

to expand housing options for these groups.

Under the Olmstead Lawsuit settlement, the State will continue its progress in moving people with developmental disabilities from residential developmental centers to community placements. Placements are selected in consultation with residents, family members and guardians. At the time of the initial Action Plan, 427 individuals had indicated a location preference when appropriate housing becomes available. A number of these individuals expressed the desire to be near family or to return to their hometowns, which include storm impacted communities. A State and local government partnership created to respond to the facility closings and expand the supply of supportive housing for people with disabilities is scheduled to deliver over 300 beds in 75 three or four-bedroom ranch style homes in the coming months. In addition, the State’s Low-Income Housing Tax Credit Qualified Allocation Plan encourages special needs units in new development. Based on the spending rate of the State’s recently depleted Special Needs Housing Trust Fund, the State estimated it could spend at least \$25,000,000 within two years.

Based on the interest in the program following the first allocation, as described in the unmet needs assessment, the State anticipated that additional requests for funding under this program would be made by special needs housing developers. Continuing its commitment to the restoration or replacement of damaged housing that supports special needs populations, the State allocated funds in the second and third tranche of CDBG-DR funds to the Sandy Special Needs Housing Trust Fund (SSNHF). Seventy-five percent of funding was reserved initially to benefit households with annual gross incomes at or below 30 percent of Area Median Income. The remaining 25 percent was reserved initially to benefit households with annual gross incomes between 30 percent and 80 percent of Area Median Income. All funding in this program is projected to benefit LMI households.

Allocation for Activity:

- Total: \$59,448,511

SSNHF PROGRAM ALLOCATION WALK		
ACTION PLAN AMENDMENT	DATE OF APPROVAL	CDBG-DR FUNDING
<i>Action Plan</i> Initial Allocation	April 29 th , 2013	\$25,000,000
<i>Action Plan Amendment #7</i> Second Allocation	May 30 th , 2014	\$25,000,000
<i>Action Plan Amendment #11</i> Third Allocation	April 20 th , 2015	\$10,000,000
<i>Action Plan Amendment #15</i>	May 2 nd , 2015	(\$300,000)*
<i>Action Plan Amendment #33</i>	October 11 th , 2019	(\$251,489)
TOTAL		\$59,448,511

* Non-Substantial Amendment for the Consolidation of Administration Funds into the General Category

Maximum Award: Amount of the award is to be based on underwriting the gap in the project, not to

exceed the cap as stated in the Agency's underwriting guidelines. Standard HMFA underwriting applies. However, more mixed occupancy projects only, there will be a CDBG-DR funding cap per unit of \$170,000.⁷

Affordability Restrictions: Units will be deed restricted

Eligible Applicants: For-profit and nonprofit housing developers and public housing authorities capable of developing and managing the permanent supportive housing projects, and providing supportive services directly or indirectly through a service provider, to the targeted special needs populations.

Eligibility Criteria:

- Developer must demonstrate that the Special Needs Housing Fund dollars can be fully expended within the allowable time frame (two years)
- 75% of the fund will benefit households at or below 30% of the Area Median Income. The remaining 25% will benefit households with gross income between 30% and 80% of the Area Median Income
- Financing will be structured as an amortizing loan. Cash flow loans may be available for projects that cannot support an amortizing loan as determined by the New Jersey Housing Mortgage and Finance Agency
- Loans cannot exceed 80% of total development cost. For 100% special needs projects the maximum loan amount is \$2,500,000. For mixed occupancy the maximum loan amount is \$100,000 per unit

Criteria for Selection: Experienced for-profit and nonprofit housing developers preferably with experience developing permanent, supportive housing; public housing authorities.

Eligible Uses: Capital financing for acquisition of land or buildings, rehabilitation of existing buildings or new construction.

Eligibility: Section 105(a)(8); Section 105(a)(2); Section 105(a)(4), Federal Register Notice FR-5696-N-01⁸

National Objective: Low- and moderate-income housing and/or limited clientele; alleviate slums and blight; urgent need

4.2.7 Rental Assistance Program

In the three years following the storm, the State allocated nearly \$320 million for mortgage and rental assistance for families displaced by Sandy damage or reconstruction. The Homeowner Resettlement Program, funded with approximately \$200 million of CDBG-DR funds, provided \$10,000 grants to homeowners for non-construction related recovery assistance, including mortgage and rent

⁷ In Amendment #7, "Criteria for Selection" noted that there is no cap on the amount of funding that can be provided for a given Special Needs Housing Project, as long as that assistance is eligible and cost reasonable. Amendment #11 revised this assessment to base the maximum award on the underwriting gap in the project and, for mixed occupancy projects, \$170,000.

⁸ Eligibility was expanded in Amendments #5 and 11.

payments. After that program, the Sandy Homeowners and Renters Assistance Program (SHRAP), funded with nearly \$100 million of Social Services Block Grant (SSBG) monies, provided up to \$15,000 to homeowners and renters for rental assistance and/or to replace storm-damaged appliances. Once SHRAP funds were exhausted, the State created the Rental Assistance Program (RAP). Funded with \$19.5 million of SSBG monies, RAP provides rental assistance of up to \$1,300 per month for up to nine months to homeowners in RREM or the LMI Program paying rent because they are displaced by storm damage or construction. Through these State programs a homeowner could have received more than \$36,000 in interim financial assistance -- (\$10,000 from Resettlement; \$15,000 from SHRAP, and \$11,225 from RAP). This is in addition to assistance provided through FEMA's Individual Assistance Program.

These investments have made a difference for tens of thousands of families, and the breadth of the need for rental assistance for rebuilding applicants significantly diminished. However, three years after the storm, there was still an unmet need for interim rental assistance for some applicants rebuilding through RREM or the LMI Homeowners Rebuilding Program. At that time, about 20%-30% of RAP recipients were projected to have ongoing rental assistance needs after exhausting nine months of RAP assistance, and the majority of those in need would be LMI.

In response to that need, the State announced that RAP payments would be extended from up to nine months to up to twenty-one months. Of course, RAP only could provide assistance while funding is available. There are no additional SSBG funds to recapitalize RAP, and the temporal expansion of the program would result in exhausting the remaining SSBG funds more quickly. As a result, the State looked to CDBG-DR funds to continue to provide interim rental assistance to families rebuilding through RREM or the LMI Program after SSBG funds are exhausted.

Thus, in Amendment #18, the State proposed that after SSBG funds were exhausted, the New Jersey Housing and Mortgage Finance Agency, which administers RAP, begin drawing CDBG-DR funds for the rental payments of applicants in RAP who have an unmet need and who have not exhausted their 21 months of RAP assistance, as well as for applicants who seek RAP funds and meet RAP eligibility criteria after all SSBG monies are exhausted. Because the CDBG-DR funds will fund an existing recovery initiative, the program eligibility criteria, available on HMFA's website [here](#), remained unchanged.

As a mechanism to ensure the CDBG-DR funds are used for their authorized purpose (i.e., rental assistance), RAP funds will only be used toward rent. Rental deposits, utilities, moving expenses, and other types of out of pocket expenses are not eligible costs.

HMFA affirmatively contacted eligible RAP applicants who already had exhausted all nine months of RAP assistance to inform them about the RAP extension and their eligibility for additional rental assistance, assuming they still can show a need.

To use CDBG-DR funds for this purpose, in addition to approving this Amendment, HUD had to issue a waiver of the prohibition in [24 C.F.R. § 570.207\(b\)\(4\)](#) against providing direct income payments, which include rent, for more than three consecutive months. The State submitted a waiver request to HUD for that purpose, which was approved in Federal Register Notice [FR-5961-N-01](#) on August 15, 2016. The waiver allowed the State to use up to \$30 million of CDBG-DR funds to provide up to twenty-one months of RAP assistance to eligible RREM and LMI program applicants. Per the waiver, RAP accepted its last application on December 31, 2017. Thus, eligible homeowners were allowed to receive a full twenty-one months of CDBG-DR assistance, in accordance with the waiver.

As homeowners continued to work towards completing construction, financial strain and a lack of available resources made the additional rental payment the difference between completing construction and abandoning the project. To that end, the State reallocated funds in Amendment #27 from the Lead Hazard Reduction Program to provide rental assistance for eligible homeowners who had not yet exhausted their assistance. Yet, beginning in January 2019, homeowners reached their full twenty-one months of CDBG-DR rental assistance but continued to be plagued by construction delays caused by contractor fraud and exacerbated by a lack of resources. Thus, the State decided to make additional funds available for construction through the Supplemental Fund in Amendment #28. However, until those homeowners could finish construction, they would remain out of their homes. Therefore, as part of New Jersey’s two-step approach to full homeowner construction completion, the State requested a new waiver to allow homeowners an additional nineteen months of rental assistance. Thus, eligible homeowners would be able to receive a full forty months of CDBG-DR rental assistance. Further, to ensure applicants receive the maximum allowable assistance under the waiver, the State has requested an extension of those funds beyond June 2019. This will afford homeowners the ability to place additional funding and attention towards completing their project over the course of the next two building seasons in 2019 and 2020. The waiver was granted in Federal Register Notice [FR-6136-N-01](#) on February 19, 2019.

Allocation for Activity:

- Total: \$18,147,311

RAP PROGRAM ALLOCATION WALK		
ACTION PLAN AMENDMENT	DATE OF APPROVAL	CDBG-DR FUNDING
<i>Action Plan Amendment #18</i>	June 16 th , 2016	\$12,500,000
<i>Action Plan Amendment #27</i>	October 18 th , 2018	\$3,000,000
<i>Action Plan Amendment #32</i>	July 18 th , 2019	\$832,741
<i>Action Plan Amendment #33</i>	October 11 th , 2019	\$303,115
<i>Action Plan Amendment #36</i>	March 27 th , 2020	\$1,211,455
<i>Action Plan Amendment #38</i>	November 17 th , 2020	\$300,000
TOTAL		\$18,147,311

4.3 Economic Revitalization

Assisting communities in economic recovery and revitalization is imperative. Many of New Jersey's small businesses sustained physical damage during the storm and/or short-term and long-term economic losses. These losses were compounded by damage in the housing and infrastructure sectors. Moreover, the vast majority of impacted small businesses had substantial unmet needs, perhaps best reflected by the fact that 93% of SBA business applicants at the time of the initial Action Plan had been denied.

The State has developed programs to assist in satisfying many of the unmet needs of the small business sector. In addition to activities which only serve to alleviate direct damage caused by the storm, the State provides funding for activities that restore and improve local economies.

New Jersey utilizes the economic revitalization activities allowed under CDBG-DR to support the resurgence of the economy at the local and State level. For purposes of the programs detailed herein, economic revitalization is not limited to activities that are "special economic development" activities under the HCD Act, or to activities that create or retain jobs. For CDBG-DR purposes, economic revitalization can include any activity that demonstrably restores and improves some aspect of the local economy. Thus, an eligible activity also may address job losses, or negative impacts to tax revenues or businesses. All economic revitalization activities must address an economic impact(s) caused by the disaster (e.g., loss of jobs, loss of public revenue).

Proposed economic revitalization activities are intended to enable a broad spectrum of activities to support the varied needs of communities recovering from the disaster. Activities supporting the business sector may include small business financial and technical assistance, commercial redevelopment or enhancement, special economic development projects, workforce training, wage subsidies, tourism marketing, planning for economic growth and other activities to catalyze the State's economic recovery. Because of a wide variation in the structure of industries in these sectors, there is no common size or standard pattern.

New Jersey small businesses are the backbone of the State's economy. At the time of the initial Action Plan, according to SBA statistics, 98.4% of the businesses in the State are classified as small. Most are very small with less than 20 employees. Nearly 76% are one-person businesses. In keeping with HUD's requirement, recovery resources are only used to support small businesses.

Eligible activities also may include infrastructure development for economic purposes as well as mitigation and resiliency to protect and strengthen investments. It is through this comprehensive approach to revitalization that the State is able to support its communities as they rebuild and grow. Funds will not be used to cover economic loss.

An allocation of nearly \$300 million supports programs developed by the New Jersey Economic Development Authority (NJEDA), an independent state authority whose primary mission is to strengthen New Jersey's economy by retaining and growing businesses through financial assistance and by renewing and revitalizing communities. NJEDA has implemented a multi-pronged approach to ensure the businesses in New Jersey's most impacted areas are provided the support they require, including:

- Direct financial support to small businesses to satisfy unmet needs;
- Financial support to impacted communities for economic revitalization efforts;
- A comprehensive, national, marketing campaign to prevent further economic loss to the State’s tourism industry by informing the public that New Jersey’s tourism assets are open and visitors are welcome; and
- The economic revitalization programs, as applicable, will also provide reimbursement for eligible expenses, or pre-award cost, as in line with [CPD-13-05](#) guidance, July 30, 2013.¹

As noted in Section 2.3 of this Action Plan, HUD, in its methodology for assessing economic unmet needs, acknowledges that there is a substantial gap in the financial assistance needs of small businesses and the ability for initial federal recovery resources to cover these needs. Initial programs developed by the State aimed at rapidly providing funds for operating expenses and commercial rehabilitation to small businesses that are experiencing time-critical cash flow issues resulting from the storm. Financial assistance is also providing catalytic resources to small and medium-sized businesses to support economic recovery. Funds are also used for economic revitalization activities

to grow local economies. Additionally, funding is provided to fuel economic revitalization activities to promote the growth of local businesses together with other eligible uses.

Table 4-3 Impacted Businesses Estimated Value

\$10K or less	512	30%
\$10K-\$25K	366	21%
\$25K-\$50K	221	13%
\$50K-\$100K	206	12%
\$100K-\$250K	198	11%
\$250K-\$500K	110	6%
\$500K-\$1M	24	1%
\$1M or	63	4%
N/A	35	2%
Total	1,735	

Source: State survey of storm impacted businesses

According to data from a State-conducted survey, 64% of the surveyed businesses suffered \$50,000 or less in damage (Table 4-3). As a result, the State allocated \$260,000,000 of CDBG-DR funds to provide grants to small businesses up to \$50,000 to address unmet needs.

Based on NJEDA’s experience with construction and non-construction costs incurred by businesses, the State developed and, with HUD’s approval, implemented a loan program that provides loans up to \$5,000,000 to address storm damage not addressed by the grant program and promote economic revitalization activities. A portion of the loan may be forgiven after one year if certain conditions are met.² With

the grant and loan programs, the State has also allocated nearly \$75,000,000 for community revitalization projects based on need that will spur economic growth, and \$30,000,000 for a tourism marketing campaign to bolster that vital sector of the State and local economies.

The funding limits identified for the following programs to be administered by NJEDA are considered suggested amounts and may be reallocated among these programs based on demand and need. Future allocations may be dedicated to other entities such as the New Jersey Redevelopment Authority and the Casino Reinvestment Development Authority.

¹ Originally written in the Amendment #1 as “CPD 13-038,” unfound. CPD 13-05 has since been superseded by [CPD-15-07](#), September 2015.

² Loans through the Stronger NJ Business Loans Program are offered at 0% interest for first 24 months, with a rate reset at 5-year US Treasury after the initial interest free period. Thus Amendment #9 removed language indicating the loan program would accrue no interest for the first year, but a portion of the loan may be forgiven after one year under certain conditions.

4.3.1 Grants and Forgivable Loans to Small Businesses

With a focus on the most impacted communities throughout the State, New Jersey offers aid through grants or forgivable loans of up to \$50,000 to small businesses which sustained physical damage from Superstorm Sandy. This program is known as the Stronger NJ Business Grant Program.

Eligible uses of funds include costs related to rehabilitation, new construction, equipment, inventory, mitigation, refinancing, flood insurance and working capital. The working capital and other uses may be structured as forgivable loans. In following HUD's recent guidance, funds may not be used to recover financial losses from the storm.

This assistance provides impacted small businesses with the low-cost, flexible capital that they need to resume and sustain their businesses in the months and years following Superstorm Sandy. Financial assistance under this program is focused in geographic areas determined as storm-related priorities for the State. Other priority areas may be determined by the NJEDA as relevant to economic recovery. This program will assist supporting the long-term recovery of businesses by enabling them to repair damage and access working capital to stabilize their business operations function, return to profitability, and retain or hire new employees, thus contributing again to the State's economy.

All business types may receive this benefit with the exception of uses customarily prohibited. Types of businesses served may be limited based on additional criteria. Businesses may be required to apply to the SBA for one or both of their applicable disaster-related loan products until the respective application deadlines lapse. Nonprofits undertaking commercial/industrial activities or operating a public facility may also be eligible for rehabilitation, construction, or reconstruction assistance and may be subject to alternate criteria.

After completing an analysis of demand for the Stronger NJ Business Grant Program, the allocation was adjusted in Amendments #4 and #18 to accurately address the demand. The transferred funds were used to provide needed funds to support RREM, Resettlement, and RAP programs in Amendment #4 and to satisfy all eligible but unfunded applicants and waitlisted applicants in the Stronger NJ Business Loan Program in Amendment #18. After disbursing \$55.8 million to 1,150 small businesses, the State concluded that a transfer of funds in Amendment #28 to the RREM Program to fund the Supplemental Fund would not impact the program's existing obligations.

Allocation for Activity:

- Total: \$74,749,536

STRONGER NJ BUSINESS GRANT PROGRAM ALLOCATION WALK		
ACTION PLAN AMENDMENT	DATE OF APPROVAL	CDBG-DR FUNDING
<i>Action Plan</i> Initial Allocation	April 29 th , 2013	\$260,000,000
<i>Action Plan Amendment #4</i>	January 8 th , 2014	(\$160,000,000)
<i>Action Plan Amendment #15</i>	April 27 th , 2015	(\$500,000)*
<i>Action Plan Amendment #18</i>	June 16, 2016	(\$24,000,000)
<i>Action Plan Amendment #28</i>	February 12 th , 2019	(\$750,464)
TOTAL		\$74,749,536

*Non-Substantial Amendment for the Consolidation of Administration Funds into the General Category

Maximum Award: \$50,000. The actual award will be based on EDA’s underwriting and feasibility standards.

Eligible Applicants: Small businesses and nonprofits; NJEDA will require businesses to demonstrate need for assistance.

Eligibility Criteria:

- Businesses and nonprofits that sustained a minimum of \$5,000 in physical damage by Superstorm Sandy.
- Businesses meeting the definition of small business at [13 CFR part 121](#) with a minimum of \$25,000 and a maximum of \$5 million in annual revenues.
- Home-based businesses excluded.

Criteria for Selection: First-come, first-served

Eligibility: Section 105(a)(14); Section 105(a)(15); Section 105(a)(17); Section 105(a)(22)

National Objective: Low- and moderate-income, alleviate slum or blight, and urgent need

4.3.2 Direct Loans for Impacted Small Businesses

To further assist impacted small businesses in New Jersey in the short term, NJEDA offers access to capital through zero-interest/low-cost loans to credit-worthy businesses. The products offered are in the form of direct loans to businesses through NJEDA in amounts up to \$5,000,000. These loans are intended to assist businesses that suffered physical damage as a result of Superstorm Sandy as well as spur economic revitalization by providing funding for expansion, and business relocation into storm-impacted areas. Eligible uses include, but are not limited to rehabilitation, expansion, new construction, acquisition, equipment, mitigation, refinancing, flood insurance, and working capital.

All business types may receive these loans with the exception of uses customarily prohibited, and

may be further limited based on additional criteria determined by NJEDA and outlined in program guidelines. Nonprofits undertaking commercial/ industrial activities or operating a public facility may also be eligible for rehabilitation, construction or reconstruction assistance and may be subject to alternate criteria. Credit worthiness, contribution to community revitalization and other factors determining eligibility will be further outlined in programs guidelines.

Initially, all program income generated by the Loan Program will be retained by EDA. EDA will use this program income to pay subsequent eligible costs for its HUD-approved CDBG-DR programs prior to withdrawal of additional grant funds. The State may also elect to have program income returned to DCA, where it will be used to pay for subsequent eligible costs for any CDBG-DR funded eligible activity, prior to withdrawal of additional grant funds. The State also may elect to use program income to establish revolving loan fund(s) for existing CDBG-DR programs.³ No repayment would be expected from the forgivable portion of the loans, provided that the conditions to forgive are satisfied.⁴

In order to satisfy approved applicant demand and waitlist demand, while also ensuring the program has sufficient funding for program delivery costs, including costs of monitoring and close-out, the State transferred funds from the Stronger NJ Business Grants Program to the Loans Program in Amendment #18. After approving approximately \$83 million in loans as of the third quarter of 2018, the State concluded that a transfer to the LMI Homeowners Program to fund the Supplemental Fund in Amendment #28 would not impact the program’s existing obligations.

Allocation for Activity:

- Total: \$100,680,803

STRONGER NJ BUSINESS LOANS ALLOCATION WALK		
ACTION PLAN AMENDMENT	DATE OF APPROVAL	CDBG-DR FUNDING
<i>Action Plan</i> Initial Allocation	April 29 th , 2013	\$100,000,000
<i>Action Plan Amendment #15</i>	April 27 th , 2015	(\$500,000)*
<i>Action Plan Amendment #18</i>	June 16, 2016	\$24,000,000
<i>Action Plan Amendment #28</i>	February 12 th , 2019	(\$22,819,197)
TOTAL		\$100,680,803

*Non-Substantial Amendment for the Consolidation of Administration Funds into the General Category

Maximum Award: \$5,000,000. The actual award will be based on EDA’s underwriting and feasibility

³ Amendment #14 removed language implying that repaid loans would continue to revolve to assist small businesses. This change made the language consistent across economic revitalization programs and reflects that program income generated from the Economic Revitalization programs can be attributed to support eligible CDBG activities, which may include public entities as well as businesses. To provide further clarity across all CDBG-DR programs, Amendment #18 described the potential uses for program income consistent with Federal Register Notices [FR-5696-N-01](#) and [FR-5710-N-01](#). The language here reflects that approach.

⁴ Clarification added in Amendment #8 to note that no repayment would be expected from the forgivable portion of the loan.

standards.

Eligible Applicants: Small businesses and nonprofits. Businesses must meet the SBA definition of small business at 13 CFR Part 121.

Eligibility Criteria:

- Businesses and nonprofits that suffered physical damage during Superstorm Sandy and/or will develop projects that will contribute to community revitalization

Criteria for Selection: First-come, first-served.

Eligibility: Section 105(a)(14); Section 105(a)(15); Section 105(a)(17); Section 105(a)(22)

National Objective: Urgent Need, Alleviate Slum/Blight, LMI Area Benefit depending on the location and the nature of the business, and/or LMI jobs

4.3.3 Neighborhood and Community Revitalization

Because of the severe damage to the economies of affected areas, NJEDA and DCA⁵ will support activities tied to the economic growth and revitalization of the affected areas. This program will support the long-term recovery of small businesses and communities by funding long-term economic revitalization priorities. It will also support businesses to return to profitability and retain or hire new employees thus contributing again to the State's economy.

- Public facility improvements; including but not limited to: streetscapes, lighting, sidewalks, other physical improvements to commercial areas, and other activities for transformative projects such as property acquisition, demolition, site preparation and infrastructure repair and installation
- Assistance to businesses for physical improvements to their places of business
- Assistance to small businesses, including micro-loans for Superstorm-related damage and working capital, loan guarantees for loan loss reserves, and technical assistance
- Façade and code-related improvements

These funds will be administered directly by NJEDA or DCA or awarded to other entities through notices of funds availability or competitive processes which may maximize the economic impact of innovative uses, "Greening of Communities" and other transformative aspects of redevelopment. Funds are anticipated to be prioritized for low and moderate income (LMI) communities. Eligible entities will include redevelopment agencies, municipalities, counties, businesses and nonprofits, including Community Development Financial Institutions (CDFIs), and may be in the form of grants and/or loans up to approximately \$10,000,000. Loan and technical assistance programs may be administered through New Jersey's CDFI network as either sub-grantees or contractors.

Any funds repaid to EDA are CDBG-DR program income and initially will be used to pay the next eligible costs for EDA CDBG-DR programs prior to withdrawal of additional grant funds. The State may also elect to have program income returned to DCA where it will be used to pay for subsequent eligible costs for any CDBG-DR funded eligible activity, prior to withdrawal of additional grant funds. The State also may permit EDA or any other state agency or authority to use any program income to

⁵ Amendment #1 clarified that DCA can administer these programs directly, as appropriate.

establish revolving loan fund(s) for existing CDBG-DR activities. If the CDBG-DR funds are administered by a CDFI or other organization designated as a Community Based Development Organization (CBDO) or as a 105(a)(15) nonprofit and funds are repaid to and retained by that entity, those funds are not considered program income.⁶

As described in Amendment #28, the Neighborhood and Community Revitalization (NCR) Program has invested in municipal projects through two initiatives: Streetscape projects and the Development & Public Improvement (D&I) projects. The Streetscape projects are funded with grants of up to \$1.5 million to support projects such as street lighting, sidewalks, and landscaping in the nine most impacted counties. The NCR D&I projects include larger scale planned physical improvements that contribute to the revitalization of Sandy-damaged areas. Because NCR has committed all its available funding, the State concluded that transferring funds in Amendment #28 to address an unmet need in the RREM program would not impact the program’s existing obligations.

Allocation for Activity:

- Total: \$72,749,656

NCR ALLOCATION WALK		
ACTION PLAN AMENDMENT	DATE OF APPROVAL	CDBG-DR FUNDING
<i>Action Plan</i> Initial Allocation	April 29 th , 2013	\$75,000,000
<i>Action Plan Amendment #15</i>	April 27 th , 2015	(\$375,000) ¹
<i>Action Plan Amendment #28</i>	February 12 th , 2019	(\$2,250,344)
<i>Action Plan Amendment #33</i>	October 11 th , 2019	\$375,000 ²
TOTAL		\$72,749,656

¹ Non-Substantial Amendment for the Consolidation of Administration Funds into the General Category

² Non-Substantial Amendment to Clarify the Recording of Administrative Costs

Maximum Award: Up to \$10,000,000

Eligible Applicants: Eligible entities will include redevelopment agencies, municipalities, counties, businesses and nonprofits, including CDFIs and CBDOs and Section 105(a)(15) nonprofits. ⁷

Eligibility Criteria: Financial assistance will support public facility improvements, including but not limited to: streetscapes, lighting, sidewalks, other physical improvements to commercial areas, and

⁶ Amendment #14 added language to reflect that program income generated from the Economic Revitalization programs can be attributed to support eligible CDBG activities, including projects under the Energy Resilience Bank, which may include public entities as well as businesses. To provide further clarity across all CDBG-DR programs, Amendment #18 described the potential uses for program income consistent with Federal Register Notices [FR-5969-N-01](#) and [FR-5710-N-01](#). The language here reflects that approach.

⁷ Counties were added as eligible applicants in Amendment #3. In addition, as described in Amendment #5, the section of the federal Housing and Community Development Act relating to the CBDO designation is located within Section 105(a)(15) and provides similar requirements to the CBDO designation. Because the section is a more general reference, the State amended Section 4.3.3 of the Action Plan to add Section 105(a)(15) nonprofit as more descriptive of the intention.

other activities for transformative projects such as property acquisition, demolition, site preparation and infrastructure repair and installation; assistance to businesses for physical improvements to their places of business; assistance to small businesses, including micro-loans for Superstorm-related damage and working capital, loan guarantees for loan loss reserves, and technical assistance; and façade and code-related improvements.

Criteria for Selection: Funds are anticipated to be prioritized for low and moderate income (LMI) communities

Eligibility: Section 105(a) HCDA all provisions

National Objective: Urgent need, alleviate slum and blight, LMI area benefit depending on the location and the nature of the business, and/or LMI jobs

Addressing the Needs of the Most Impacted and Distressed Areas: This program will support the long-term recovery of small businesses and communities by funding long-term economic revitalization priorities. It will also support businesses to return to profitability and retain or hire new employees thus contributing again to the State's economy.

4.3.4 Tourism Marketing Campaign to Support Impacted Areas

Tourism is the third largest industry in New Jersey, and is critical to the State, to municipalities with budgets that depend on tourism revenues to provide essential services, to small business owners with businesses in, or dependent on, the hospitality and leisure industry, and to their employees. Tourism contributes \$38,000,000,000 in revenues in New Jersey, of which summer tourism along the New Jersey shoreline accounts for the majority. The national media coverage New Jersey received during Superstorm Sandy highlighted the devastating effects of the storm. Unfortunately, it also left the misconception that the entire shoreline was devastated and closed to tourism. Any significant loss in tourism risked the future of thousands of small businesses along the Jersey Shore and other impacted areas. Many of these businesses in the impacted areas were small services providers or retailers that also employ low- and moderate-income workers. Given this need, the State sought a waiver from HUD to market the vitality of the Jersey Shore and encourage tourism. That waiver was granted by HUD in Federal Register Notice [FR-5696-N-01](#).

New Jersey followed the example of the Lower Manhattan Development Corporation and the Louisiana Tourism Marketing Program by utilizing CDBG-DR funds to revitalize New Jersey's tourism and encourage consumer confidence in the impacted regions. Given the impacts of Superstorm Sandy in October 2012 on New Jersey tourism assets and long-term economic conditions, the State developed a comprehensive marketing effort to promote within and outside the State that the impacted areas of New Jersey, including the Jersey Shore, is recovering or open for business.

This funding was critical to provide a powerful, positive impact on the large number of tourism-related jobs in the impacted regions. The State realized a campaign must be put into place by April 2013 to ensure vacationers understand that many of New Jersey's businesses are operational and that other shore assets will be ready for the Summer 2013 season. A campaign must strengthen consumer confidence, helping to encourage conventions to commit to areas such as Atlantic City, which, at the time of the initial Action Plan, had seen a \$31,000,000 loss in convention business since

Superstorm Sandy. A campaign must also encourage New Jersey residents and those that visit our State to shop local, thereby supporting all the businesses that are operational and ready for business.

The messaging of the campaign was envisioned as follows:

- The Jersey Shore is recovering or open, and visitors are welcome
- Restaurants and other businesses previously affected by Superstorm Sandy are open, fun, and ready for business
- New Jersey residents are encouraged to support impacted communities by shopping local

A core part of the first year of the contract was to design and implement a newly branded message for New Jersey to attract visitors and bolster consumer spending in Sandy-impacted areas. NJEDA issued a competitive Request for Qualifications/Proposals for this Marketing and Outreach campaign, with the scope of services to include outreach/ sponsorship related to community events in the impacted areas, as well as a media campaign to include television/radio, digital media, print advertising, as well as out-of-home advertising (i.e., billboards). The State initially allocated \$25,000,000 to support the first year of this marketing effort, specifically focused on Superstorm Sandy Recovery, with campaigns to support the tourism industry in 2014 and 2015 being developed dependent on subsequent funding availability.

Recovery Campaign Goals:

The goals and intended outcomes of the advertising and marketing campaign are as outlined in both the initial Action Plan and Amendment #7:

- Stabilization or increase in tourism-related revenues in impacted areas for 2013 as compared to 2012 and subsequently continued stabilization or increase in tourism-related revenues in impacted areas for 2014; particularly for hardest hit areas that could not take full advantage of the 2013 tourism season;
- Stabilization or increase in tourism-related employment in impacted areas for 2013 as compared to 2012 and subsequently continued stabilization or increase in tourism-related employment in impacted areas for 2014, particularly for hardest hit areas that could not take full advantage of the 2013 tourism season; and
- Stabilization or increase in tourism-related tax revenues in impacted areas for 2013 as compared to 2012 and subsequently continued stabilization or increase in tourism-related tax revenues in impacted areas for 2014, particularly for hardest hit areas that could not take full advantage of the 2013 tourism season.

The State Tourism Office collects annual statistics and was designated to measure the return rate of tourism activity to the most impacted areas and the state.

In 2013, the “Stronger than the Storm” campaign incorporated various forms of advertising, as well as community events, to drive tourists toward New Jersey tourism assets. The campaign included: outreach and community events; local, regional and national advertising; and marketing tools and techniques. This campaign began in May 2013, immediately after HUD approved New Jersey’s CDBG-

DR Action Plan. The majority of the campaign occurred between Memorial Day and Labor Day 2013.

However, during the Summer of 2013, the hardest hit towns were still recovering and unable to take full advantage of the tourism season because of the extensive damage caused by the storm. As described in the unmet needs assessment, tourism officials and businesses, especially, but not exclusively, those in New Jersey's shore communities, emphasized the importance of a robust advertising campaign in 2014 in order to recover from the storm, revitalize damaged communities, and prevent any backslide from the recovery gains made by tourism-recovery investments in 2013.

Thus, in Amendment #7, the State dedicated additional recovery resources for tourism marketing in 2014, proposing to leverage multiple funding sources to achieve a timely and effective 2014 tourism marketing campaign. Assuming HUD were to grant the State's waiver request to increase by \$5 million the State's cap on using CDBG-DR funds for tourism – making New Jersey's cap the same as that approved for New York State – the State planned to add \$5 million of second tranche CDBG-DR funds to bolster the tourism marketing effort. The State planned to use these funds for many of the same efforts undertaken as part of the 2013 campaign, including television advertising, digital and radio advertising, social media and community events to attract tourists to New Jersey tourism destinations. While the State did not envision a 2014 tourism campaign investment on par with the investment in 2013, the State proposed that a meaningful investment was required in 2014 to be responsive to the storm-related needs of the tourism industry, given the importance of that industry to employees, business owners, local communities and the State.

Simultaneously, the State requested that HUD modify its waiver to increase New Jersey's tourism marketing funding cap from \$25 million to \$30 million. Without the waiver, even if HUD approved Amendment #7, the second round of tourism marketing funds could not be spent. While Amendment #7 was approved, no determination was initially made by HUD on extending the tourism funding cap. As a result, the NJEDA began executing a scaled back version of the planned 2014 "Going Strong" campaign – using remaining CDBG-DR funds from the first round and state funds – and was prepared to expand the campaign once the HUD tourism cap increase was approved. No determination was made on the waiver request as the summer of 2014 drew near an end, at which point the State withdrew the waiver request because the window to support 2014 summer tourism had closed. As a result, the State reallocated \$5 million allocated for tourism marketing in 2014 to address an unmet need in the RREM program in Amendment #13.

Ultimately, the program ended with a small amount of unused funding, which has been transferred to programs with remaining need.

Allocation for Activity:

- Total: \$24,999,276

TOURISM MARKETING ALLOCATION WALK		
ACTION PLAN AMENDMENT	DATE OF APPROVAL	CDBG-DR FUNDING
<i>Action Plan</i> Initial Allocation	April 29 th , 2013	\$25,000,000
<i>Action Plan Amendment #7</i> Second Allocation	May 30 th , 2014	\$5,000,000
<i>Action Plan Amendment #13</i>	April 20 th , 2015	(\$5,000,000)
<i>Action Plan Amendment #21</i>	June 29 th , 2017	(\$246)
<i>Action Plan Amendment #36</i>	March 27 th , 2020	(\$478)
TOTAL		\$24,999,276

Eligibility Criteria:

The projected use of funds for marketing and outreach efforts will be focused as follows: Event and festival planning and sponsorship in impacted areas within New Jersey; advertising creation and media placement (television/radio/digital and out-of-home advertising) in targeted markets throughout New Jersey and nationally, with a focus on areas as noted above with a large base of New Jersey visitors.

New Jersey will issue a Request for Qualifications/Proposals through the Department of Community Affairs under the current procurement policies of New Jersey to select a qualified firm to undertake the services required to implement a marketing and outreach plan as described herein.

Eligibility: Federal Register Notice FR-5696-N-01

National Objective: Urgent need, alleviate slum and blight, LMI area benefit

4.4 Infrastructure

New Jersey's reliance on the proper functioning of its infrastructure systems – including transportation, energy, and water infrastructure – became painfully evident when these same systems failed in the aftermath of Superstorm Sandy. As documented in Section 2, Superstorm Sandy's associated storm surge and flooding caused a series of rippling effects on all New Jersey infrastructure sectors and led to widespread and prolonged failures. Sandy's rising waters overwhelmed water and wastewater treatment plants, hospitals, and other buildings that provide critical services. The storm triggered the State's worst transit disaster in its history and washed away portions of critical evacuation roadways. Electrical substations were crippled, causing power failures in all 21 New Jersey counties. Millions of New Jerseyans were subject to boil water advisories. Lacking both a steady power supply and functioning transportation and water infrastructure, industrial facilities and critical fuel distribution and production facilities shut down causing disruptions over an extensive geographic region.

Detailed in Amendment #7, New Jersey has pursued a holistic approach to identify and realize opportunities to address infrastructure vulnerabilities and to make critical facilities more resilient in the face of future extreme weather events and other hazards. The State is rebuilding infrastructure in a stronger, safer, and smarter way to better mitigate and manage disaster risk. Moreover, as described in the programs below, New Jersey is incorporating resilience performance standards into its infrastructure programs, and will further develop and incorporate those standards programmatically. The programs will only fund projects that meet the resiliency performance standards.

In the days immediately before and after Superstorm Sandy, the State worked with each of the infrastructure sectors to implement a rapid-response strategy to restore infrastructure services in the short term, while laying a foundation for the responsible administration of federal and State resources in the years ahead. State agencies conducted extensive damage assessments of infrastructure, facilities, and equipment across all regions of New Jersey. On a local level, the State comprehensively surveyed communities across New Jersey on vulnerabilities and local resilience needs, and expanded the New Jersey Office of Emergency Management's (OEM's) Disaster Recovery Bureau in order to support community technical needs in the infrastructure recovery process. The State's Office of Homeland Security and Preparedness and New Jersey's Infrastructure Advisory Committee – which includes representatives from utility companies, chemical and pharmaceutical firms, the telecommunications and healthcare industries, and other industries that rely on New Jersey's ability to restore infrastructure services following a disaster – conducted a series of meetings and workshops meant to identify lessons learned from Sandy and opportunities for potential mitigation and resilience. New Jersey brought together cross-agency “working groups” to address recovery issues that cut across multiple sectors.

New Jersey drew on the expertise of academics and researchers, subject matter experts within government, and other leaders in their fields to design projects and programs to make infrastructure more resilient to future hazards. For example, the State partnered with two of the U.S. Department of Energy's (USDOE's) national laboratories to assess statewide energy vulnerabilities and identify opportunities to leverage commercially available technologies to address power generation needs at

critical facilities. In collaboration with the U.S. Department of Homeland Security, the State is exploring opportunities to increase the resiliency of the State's petroleum storage and distribution and supply systems. The State also engaged six universities to devise flood mitigation strategies for particularly flood-prone communities located near the Hudson River, Hackensack River, Arthur Kill, Barnegat Bay and Delaware Bay.

In addition, on March 11, 2014, the State released for public comment a statewide Hazard Mitigation Plan. Perspective from the above-referenced assessments done in the aftermath of Superstorm Sandy was incorporated into its planning and comprehensive risk analysis process which included subject matter experts from state agencies, the New Jersey Office of the State Climatologist, and other experts in flood control, sea level rise, and fire prevention strategies, among other areas. The Hazard Mitigation Plan analyzes New Jersey's risk from a wide range of hazards, including extreme weather events, drought, earthquakes, terrorism, cyber attacks, and other man-made and weather-related hazards. Consistent with FEMA guidelines, the Hazard Mitigation Plan also specifically addresses the risk of coastal erosion from sea level rise and other potential impacts from climate change. Moreover, the Hazard Mitigation Plan also factors in critical considerations like population trends, the location of key industry clusters in New Jersey, and the State's hydrography to inform risk analyses.

Taken together, New Jersey's work with universities and national laboratories, the State's Hazard Mitigation Plan, and the State's cross-agency inventory of unmet disaster recovery needs (as reflected in Section 2 of this Action Plan) provide context on historical trends and also highlight future potential risks, underscoring the need for investment in infrastructure resilience. As Sandy highlighted, flooding and energy vulnerability are two of New Jersey's greatest challenges. Flooding and storm surge events are capable of jeopardizing the health and safety of residents and causing billions of dollars in documented losses. Events, like Sandy, can also lead to widespread and prolonged power outages that impact emergency response functions, delay reinstatement of regional transit services, and strain the capacity and operations of critical infrastructure. As the Hazard Mitigation Plan and science-based analysis following Superstorm Sandy highlight, making New Jersey more resilient in the face of future extreme weather events and other forward- looking hazards requires increased focus on resilience and investment in programs that make New Jersey more resilient from flooding and energy vulnerabilities.

Looking to the future, New Jersey has identified multiple infrastructure needs that must be addressed to best position the State to be prepared for future disasters such as: (i) policies and standards aimed at realizing smart infrastructure investment, (ii) comprehensive planning to identify resilience opportunities; and (iii) technological innovation and "best in class" mitigation designs to meet future challenges and hazards. In designing responsive cross-agency infrastructure programs and projects, New Jersey is infusing policy, planning and innovation in pursuing resilience opportunities at critical facilities across the State.

- **New Jersey adopted more resilient building standards, facilitated the use of nature-based measures to reduce risk from flooding and storm surge, and encouraged communities to incorporate mitigation elements in their rebuilding.** The State established by emergency rule the best available data from FEMA's new flood maps, plus one foot of freeboard, as the general rebuilding standard to adapt to changing flood hazard risks. Federal agencies, and President Obama's Hurricane Sandy Rebuilding Task Force,

subsequently adopted this standard for all reconstruction activities funded by the Sandy Supplemental Appropriation. Beyond immediate Superstorm Sandy rebuilding and reconstruction needs, the State's regulations adopting FEMA's best available data will continue to guide future development in flood zones, and support smart and sustainable long-term building practices. New Jersey is also encouraging the expanded use of nature-based infrastructure solutions in the long-term recovery process, including by adopting rules that enhance coastal protection by simplifying permitting processes to encourage sand fencing, maintenance of engineered beaches and dunes to design levels, and more widely adopting "living shorelines" – projects that utilize strategic placement of native vegetation, sand, organic materials, and oysters, clams, and mussels to reinforce shorelines and prevent flooding naturally. The State also encouraged local communities to not just repair damaged infrastructure, but to incorporate mitigation elements available under Section 406 of the Stafford Act. As of December 2013, over 88 percent of large FEMA Public Assistance projects in New Jersey (i.e., projects over \$500,000) now incorporate Section 406 mitigation elements.

- **New Jersey is planning for a variety of hazard scenarios and evaluating risk using a holistic framework.** Infrastructure must be prepared for a range of potential natural or man-made hazards. New Jersey's risk profile is not limited to Superstorm Sandy's trajectory: the State's 1,800 miles of tidal coastline and its concentration of critical infrastructure assets in densely populated areas render infrastructure particularly vulnerable to future extreme weather events and other hazards. To address and assess risk, State agencies have collaborated to identify those infrastructure assets most vulnerable to future risk and to assist communities in identifying potential resilience solutions. New Jersey also convened representatives from across state government to develop an integrated platform for mapping infrastructure assets in order to explore opportunities for regional resiliency. The State has already mapped existing energy, fuel, and other resources to identify areas where resilience is most needed. The State compiled fifteen years of FEMA Public Assistance data on a community and county basis to inform potential infrastructure resilience needs, and is using historical data as an opportunity to identify with greater precision those areas of the State that routinely experience loss from repetitive flooding. The State is working with all 21 counties to prioritize potential resilience and mitigation measures on a local- and regional-needs basis and to project areas of future vulnerability.
- **Enhanced planning remains a cornerstone of infrastructure project identification and development.** OEM launched a planning initiative under FEMA's HMGP to provide eligible counties with grants to develop multi-jurisdictional hazard mitigation plans, incorporating municipal perspective to address regional vulnerabilities. As part of the State's hazard mitigation planning efforts, a cross-agency effort was initiated to identify regional resiliency opportunities by examining the locations and characteristics of critical infrastructure including drinking water, wastewater, transportation and transit, energy, and communication systems and assessing infrastructure against over 20 potential risks, including coastal erosion, drought, flood, geological hazards, "Nor'Easters", hurricanes, and terrorism events. New Jersey's Statewide Hazard Mitigation Plan will apply the National Oceanic and Atmospheric Administration's Sea Level Rise Tool and other mapping tools to

assess potential future risk to State assets. Studying where multiple infrastructure systems intersect and overlap enables the State to highlight and implement synergistic mitigation initiatives.

- **New Jersey is employing innovative technology and “best in class” mitigation enhancements to build resilience.** Innovation remains a critical cornerstone of New Jersey’s recovery process and the State is employing experts from within the State and across the nation to identify new ways of managing risk and hardening infrastructure assets. New Jersey Transit (NJ Transit) is working with USDOE and Sandia National Laboratories to develop “NJ TransitGrid” – a first-of-its-kind microgrid capable of providing highly reliable, resilient power to NJ Transit’s critical infrastructure and systems. NJ Transit is also collaborating with Stevens Institute of Technology to develop real-time, site-specific, “micro-surge” modeling technology for use during significant weather events to enable potential prediction and modeling of storm surge. DEP, in collaboration with FEMA, employed side-scan sonar technology across nearly 195,000 acres of waterways in an effort that ultimately removed over 360,000 cubic yards of debris and allowed for safer passage and navigation of waterways. The New Jersey Board of Public Utilities (BPU) developed a “Storm Cloud” outage data reporting system – an enterprise-ready, cloud-based application to monitor electric outages throughout the State. And the new Route 35 highway, being reconstructed through a partnership between the New Jersey Department of Transportation and Federal Highway Administration (FHWA), will feature a robust drainage system equipped with tide valves and pump stations to prevent the back-flow of water as well as 40-foot pile-driven sheets of steel to reduce washout of vulnerable areas of roadway while also protecting homes and businesses in the surrounding community.

This comprehensive approach is being applied as the State moves forward with infrastructure projects and programs. The State continues to work actively with FEMA, the Army Corps, EPA, the U.S. Department of Transportation, and other federal partners to realize cross-sector mitigation measures that better protect homes and businesses, public buildings, and critical infrastructure from future hazards. To ensure that recovery resources are purposed for their best and highest uses, New Jersey’s infrastructure agencies have incorporated cost-benefit analyses into project development, and have retained leading economists to advise on the potential benefits of infrastructure investment.

The State is pursuing opportunities to realize Army Corps engineered beach and dune projects, to construct state-of-the-art road and transit projects, and to repair and harden water and wastewater facilities. Leading firms in the nation are designing and implementing these initiatives. In the coming months, the State intends to work with federal partners to realize additional regional and innovative resilience measures, including the potential implementation of the State’s and USDOE’s design of the “NJ TransitGrid” microgrid, which can provide regional energy resilience for critical transportation services that benefit the Northeast’s economy and over 130,000 daily commuters on Amtrak and NJ Transit. For most of the resilient design projects that are or will be undertaken, the federal funding agencies require the State to contribute substantial matching dollars, known as “match” or “local share,” to support project implementation. New Jersey’s total local share obligations will be substantial. CDBG-DR funds, which can be used as a proxy for local share funding in some

circumstances, is especially needed to assist the State in meeting its substantial local share obligations. The State proposes to use a portion of this allocation of CDBG-DR funds as match to support those existing and future projects that are being undertaken by State agencies in partnership with the various federal funding agencies to the extent that proposed projects are CDBG-DR eligible.

Beyond meeting a portion of New Jersey's local share obligations, there are additional opportunities to build resilience and harden critical infrastructure using CDBG-DR funding. As New Jerseyans rebuild and reinvest in their communities, there is a substantial need to examine opportunities to integrate gray and nature-based infrastructure, along with technology and asset management techniques, that can reduce the risk of recurrent flooding and storm surge by better managing the flow of water. The State has partnered with universities from across the State to develop techniques and technology that can be deployed in regions of the State where there are no current Army Corps projects or where the addition of layered measures would complement the Army Corps' existing projects. A CDBG-DR program – the Flood Hazard Risk Reduction & Resiliency Measures Program – enables the State to realize temporary-, short-, or intermediate-term projects that offer appropriate levels of immediate risk reduction for homes, businesses, and critical infrastructure.

To address the energy vulnerabilities that were revealed at critical facilities throughout New Jersey, the State has created the New Jersey Energy Resilience Bank, which allows some of the State's most innovative and resilient energy projects to become a reality. The New Jersey Energy Resilience Bank is the first Bank of its kind in the nation; it focuses exclusively on hardening critical facilities to address energy vulnerabilities. The Bank supports energy infrastructure projects that lack funding and support projects that incorporate energy technologies that are resilient in order to allow infrastructure to continue to operate even if the larger electrical grid fails. To the extent possible, the Bank leverages limited federal dollars with State funding and private sector capital to maximize energy resilience at the most critical of facilities using microgrids or other cutting-edge designs. The Bank provides the resources New Jersey's critical facilities need to invest in fuel cells, combined heat and power, solar with storage, and other technology that will better prepare water and wastewater facilities, schools and hospitals, police and fire stations, and other key community infrastructure for future weather events.

The benefits of executing a smart infrastructure rebuilding strategy extend beyond better preparing the State for the next extreme weather event or other hazard. Infrastructure development can revitalize communities, attract a highly skilled workforce, help develop new industry and manufacturing, and increase economic activity in areas particularly distressed by Sandy's lingering effects. By pursuing resilient energy programs, New Jersey can realize more in-state generation of electricity – which will not only make the State more resilient, but will also make energy more affordable and reliable for critical facilities, and lead to the increased use of renewable technologies and a reduced dependency on diesel fuel.

The incorporation of nature-based approaches in designing flood risk reduction measures will not only blunt the impact of storm surges and flooding, but also preserve ecological functions, provide wildlife habitats, and foster balance between natural and built environments. Communities will benefit from storm-hardened roadways that incorporate "Complete Street" features that provide increased pedestrian and bicyclist access and safety. Over the long term, New Jersey will benefit from

comprehensive planning efforts that seek to maximize limited dollars to harden the public buildings and other infrastructure on which the entire region depends.

4.4.1 Flood Hazard Risk Reduction & Resiliency Measures Program

Superstorm Sandy highlighted the flood and storm surge vulnerabilities of New Jersey's coastal and inland communities. Flooding from Sandy damaged housing stock and businesses and had significant impacts on critical infrastructure, causing widespread energy failures throughout the State. In some cases, existing risk reduction infrastructure was either damaged or destroyed.

The State is committed to building back better and more resilient. To that end, the State has adopted resilient building standards and developed programs and policies designed to infuse resilience and mitigation planning into reconstruction efforts. Through the Flood Hazard Risk Reduction and Resiliency Measures Program, the State and local communities will be able to address the risk of flooding and other hazards from future severe weather events.

As part of an ongoing risk assessment following Superstorm Sandy, the State and local communities have undertaken considerable efforts to evaluate the State's current and future flood plain and storm surge risk, identify communities and regions highly vulnerable to flooding and storm surge, and consider and develop designs for new infrastructure measures or improvements that can blunt storm surge and reduce flood risk. Cost-effective measures that reduce risk from flooding, storm surge, and other current and future disasters will assist the State in protecting federal investments in rebuilding infrastructure, housing, and businesses and will better prepare the State for future potential extreme weather events and other hazards.

To assess risk in repetitive loss areas, the State is analyzing Superstorm Sandy's flooding and surge data in order to identify potential resilient solutions that offer the best risk reduction potential. The State retained leading academic experts in civil and environmental engineering, stormwater management, watershed and water environment restoration, and hydrology from six of the State's universities, including Monmouth University; Montclair State University; New Jersey Institute of Technology; Richard Stockton College of New Jersey; Rutgers, the State University of New Jersey; and Stevens Institute of Technology. Those experts are focused on analyzing regions of the State that were impacted by Sandy and that remain vulnerable to future loss, including areas along the Hackensack and Hudson Rivers, the Arthur Kill tidal strait, Barnegat Bay and the Delaware Bayshore. It is expected that the lessons learned from these vulnerable areas of the State – and the innovations and techniques used and developed in the course of analyzing risk – can be broadly applied to benefit other regions of the State with similar risk profiles.

Part of the State’s work has focused on comprehensively identifying and cataloging the sources of flooding in repetitive flood communities, including communities with recurrent or chronic rainfall- or tidal-induced flooding. By cataloging the volume of rainfall and its impact on stormwater and combined sewer overflow systems, through physical inspection of existing risk reduction measures for damage or breach evidence, and by mapping assets including drainage systems, the State may be able to realize resilience improvements with the highest potential benefits and at the lowest possible implementation cost. The State is also harnessing technological innovation by partnering with universities to develop new methods for modeling flood and surge pathways to inform decision making, including through the use of “crowd-sourcing” (using personal photographs following Sandy to determine water levels on a street-level basis in communities).



Figure 4-1: Physical Inspection of Existing Risk Reduction Infrastructure. Teams assigned by the New Jersey Department of Environmental Protection have endeavored to catalogue Superstorm Sandy’s impact on berms, tidal gates, and other existing risk-reduction infrastructure. Physical inspection is a key part of the State’s assessment of the current condition of measures to identify necessary repairs as well as opportunities to enhance existing measures to address future extreme weather events and maximize federal investment.

Source: State of New Jersey/ New Jersey Institute of Technology Partnership



Figure 4-2: Drainage Systems, Moonachie/ Little Ferry. Addressing drainage issues could offer low-cost investment opportunities to increase New Jersey’s flood resilience. For example, bottlenecks in drainage systems, accumulated debris, and overgrowth may collectively exacerbate the impact of flooding and storm surge on communities. In addition, some drainage systems, constructed piecemeal over the last two centuries, have never been mapped. For example, Rutgers has been evaluating how minor drainage improvements can reduce flooding in the Moonachie/ Little Ferry region (pictured).

Source: State of New Jersey/ Rutgers, the State University of New Jersey Partnership



Figure 4-3: Crowdsourcing to Validate Flood Modeling. In partnership with the State, Stevens Institute of Technology is exploring innovative techniques to gather data to inform risk analysis. This photograph is one of many captured both during and following Superstorm Sandy through crowdsourcing. Geo- and time-stamped photos, like this one, allow the State to validate model projections against documented data points, further refining the accuracy of flood modeling to identify areas of increased flood vulnerability.

Source: State of New Jersey/Stevens Institute of Technology Partnership

Understanding the cause, source, and volume of flooding is critical to designing risk reduction measures that are suitable for specific localities or regions in the State and will lead to the highest and best use of limited recovery funds. Densely populated communities, such as those in Bergen and Hudson counties, will necessarily require solutions different from coastal or agricultural communities, such as those in Ocean, Monmouth and Cumberland counties. In some areas, the enhancement of existing infrastructure to address future risk may provide added layers of risk reduction at lower cost.



Figure 4-4: Flood Pathways, Hoboken, NJ. In Partnership with the State, Stevens Institute of Technology is creating and testing models to understand flood pathways. These models can provide information on local risks and can inform the selection of appropriate risk reduction measures and characterize the benefits and efficacy of different options. The State's assessment of flood pathways in Hoboken, New Jersey (pictured) for example, highlights the State's ongoing work to identify effective strategies for densely populated urban settings.

Source: State of New Jersey/Stevens Institute of Technology Partnership

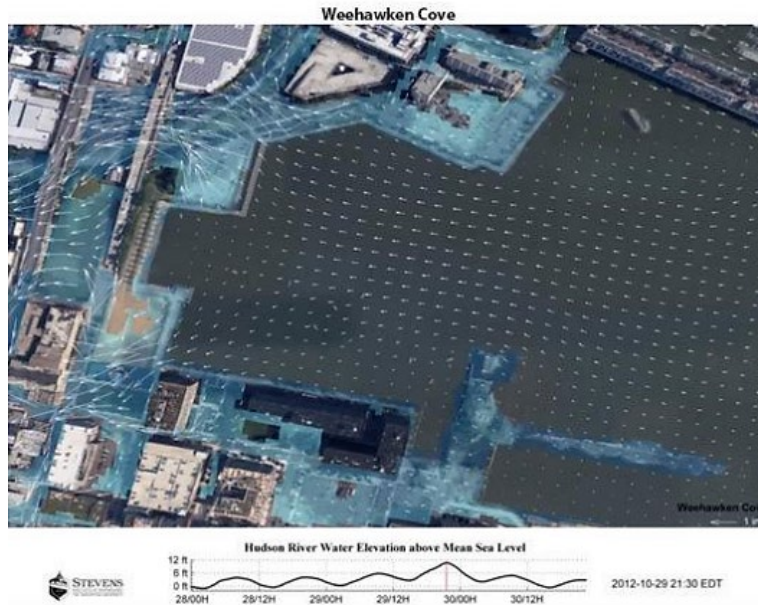


Figure 4-5: Storm Surge Modeling, Weehawken Cove, NJ. Modeling the interaction between land and waterways during a storm surge event reveals impacts to public safety, including to evacuation routes and critical infrastructure. These models can be used to understand local risks from storm surges.

Source: State of New Jersey/Stevens Institute of Technology Partnership

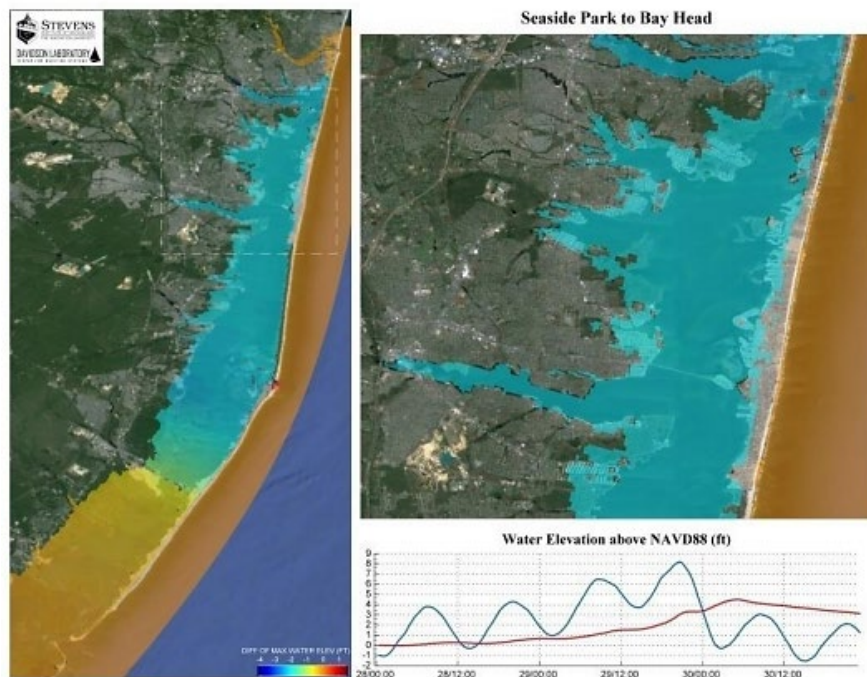


Figure 4-6: Water Elevation Mapping, Seaside Park to Bay Head, NJ. Mapping water elevation using the dynamic models developed by Stevens Institute of Technology in partnership with the State facilitates a better understanding of flood risk. These models can be used to assess flood risk under numerous scenarios.

Source: State of New Jersey/Stevens Institute of Technology Partnership

Ultimately, a mix of risk reduction solutions could be realized through the Flood Hazard Risk Reduction and Resiliency Measures Program. Overseen by the New Jersey Department of

Environmental Protection (DEP), the measures to be considered will vary based on regional and community needs and could include short- and intermediate-term projects, such as clearing debris blocking drainage systems, and installing permeable pavement, rain gardens, mobile flood barriers and bioretention basins. More traditional measures, such as flood walls, pump stations, tide gates, engineered beach systems, and berms are also critical to reducing risk in certain circumstances.

Potential solutions being considered and evaluated by the State and universities include new resilient technologies that currently may not be commercially available or broadly employed. For example, many critical infrastructure owners and operators, including those at water and wastewater facilities, have identified the need for more resilient pumping states to better control flood waters. As a result, the State is considering using CDBG-DR funding to support innovative water pumping state technologies that are not dependent on diesel fuel or the electrical grid, including pumps driven by rainwater, wave action or wind. The State is also studying the efficacy and potential benefits of nature-based infrastructure. For example, through collaboration with Stockton, the State is evaluating the potential of wetlands restoration to reduce wave height.

Quantifying Potential Reductions in Storm Surge and Wave Energy Given Different Levels of Restoration

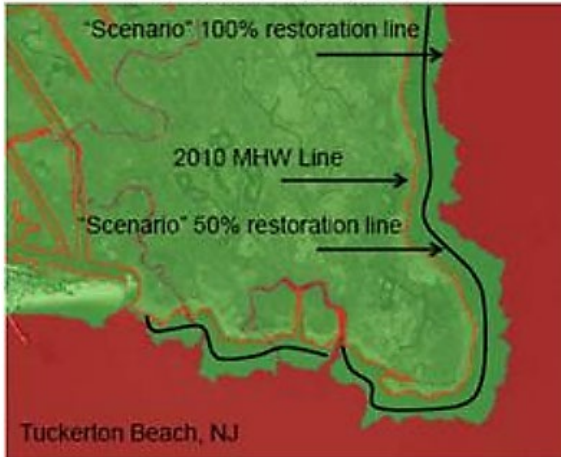


Figure 4-7; Wetlands Restoration, Tuckerton Beach, NJ. The efficacy and cost-effectiveness of nature-based risk reduction measures are being considered as potential solutions to reduce surge and flood risk. For example, by identifying potential impact on wave energy and storm surge, the State can perform quantitative and qualitative analyses of the risk reduction provided by wetland restoration. This effort, undertaken by New Jersey in partnership with the Richard Stockton College of New Jersey, also allows for dynamic benefit-cost calculations.

Source: State of New Jersey/ The Richard Stockton College of New Jersey Partnership

In the process of constructing new risk reduction measures or making improvements to existing measures, natural habitats and other environmental impacts of new flood control solution and interacting with stakeholders to identify potential environmental challenges early on in the design and development process.

Projects funded with CDBG-DR will not, and cannot, supplant the need for Army Corps projects in vulnerable areas of the State. The Army Corps is in the best position to realize projects that will reduce risk in the most highly vulnerable regions of the State, including Hoboken, Jersey City, Little Ferry, and Moonachie, as well as Barnegat Bay, Areas of Cumberland County and other coastal communities which lack existing Army Corps-constructed risk reduction measures. The State is collaborating with the Army Corps on the Corps' Comprehensive Study of the North Atlantic Coastal Region by providing data and other support to catalog the region's vulnerabilities and assist the Corps in the identification of new potential study and project areas. The Comprehensive Study can lead to meaningful future studies and authorized long-term projects to better protect New Jersey's communities. The study is scheduled to be completed by January 2015.

Even when potential projects are identified through the Comprehensive Study, the likely duration of the investigation, study and design, authorization, appropriation, and construction process may leave communities vulnerable and without interim protection for a period of years. The Flood Hazard Risk Reduction and Resiliency Measures Program may be used to support temporary-, short-, or intermediate-term projects that will offer appropriate levels of immediate risk reduction for homes, businesses, and critical infrastructure in a community/region where there is a reasonable expectation that an Army Corps project will be undertaken to provide a future, long-term risk reduction solution. Flood Hazard Risk Reduction and Resiliency Measures Program projects or improvements can also be used to support the development of a layered approach of risk reduction measures for communities and the region. For communities where there are authorized projects that currently exist or will be soon constructed, the Flood Hazard Risk Reduction and Resiliency Measures Program can lay the groundwork to support the Army Corps' efforts to construct projects as soon as possible, by providing support for land and easement acquisition and site preparation.

Comprehensive Risk Analysis Framework for the Selection of Potential Risk Reduction Measures

The State's assessment of risk is an ongoing evaluation of current and future flood and other hazards. This assessment informs the State's framework for the selection of potential risk reduction measures. In applying that framework, the State will employ science-based risk analysis for risk reduction measures on a project-by- project basis.

Risk reduction measures must be developed on a localized and regional basis to address identified and known risks and hazards in specific areas of the State. Solutions must be individually tailored to a project area's risk profile and designed to maximize efficacy against potential future extreme weather events and other hazards, while balancing the cost and potential benefits of the proposed project. Risk reduction measures for densely populated urban areas will differ substantially from those measures that will be needed to reduce risk for shore communities.

Ultimately, there are several key principles that will guide the State's identification of specific risk reduction measures, consistent with HUD Federal Register Notice FR- 5696-N-06. These principles, which are consistent with the State's approach to long- term recovery and the President's Hurricane Sandy Rebuilding Strategy, will guide the identification and selection of risk reduction projects to be funded using CDBG- DR funding:

- **Prioritize the Most Highly Vulnerable Flood Areas of the State for Proposed Projects or Improvements.** The State's ongoing efforts to understand and catalogue flood and storm surge risk will be used to identify those communities and regions most vulnerable.
- **Prioritize Projects that Will Reduce Flood and Surge Risk at Critical Facilities or for Federal and State Sandy Recovery Investments.** Where possible, risk reduction measures are needed to better protect areas in which there is substantial federal and state recovery investment. Through ongoing partnerships with FEMA, HUD, EPA, the U.S. Department of Transportation, and other federal agencies, the State is actively rebuilding areas impacted by Superstorm Sandy. To the extent possible, potential projects funded through the CDBG-DR

Flood Hazard Risk Reduction and Resiliency Measures Program should seek to build on and protect existing investment.

- **Maximize Limited Recovery Funds By Assessing Projects Using a Robust Cost-Benefit Analysis.** The State is committed to ensuring that investment in risk reduction measures will provide a high degree of effectiveness relative to the cost of project development. In selecting individual projects, to the extent feasible and appropriate, the State will use best available economic principles and analytical techniques, including consideration of environmental impacts, public health and safety impacts, social impacts, and environmental impacts. The cost-benefit analysis will also consider population density and other population data, including potential project benefits for low- and moderate-income communities consistent with HUD requirements.
- **Prioritize Regional and Cross-Sector Risk Reduction Measures.** Given the limited availability of funding and substantial need for the deployment of risk reduction measures in highly vulnerable areas throughout the State, proposed projects that benefit more than one community or an entire region of the State will be given priority, as compared to projects that benefit a particular infrastructure sector or single jurisdiction alone. The State is already working with other federal partners, including the EPA, the FHWA and FEMA to maximize available federal funding to support projects that offer regional or cross-sector risk reduction benefits.
- **Consider Regional Impacts of Risk Reduction Measures, Including Water Displacement.** The construction of a risk reduction measure or improvement in one community may lead to the increased flood or storm surge in another community. The design of new risk reduction measures or improvements must account for displaced water flow, and the displacement of water and its impact on surrounding communities and regions. In addition, where proposed projects have the potential to impact other CDBG- DR grantees, including New York State and New York City, or where there are design opportunities that will benefit the larger region, the State will consult with regional partners to consider regional solutions and impacts.
- **Consider Opportunities To Leverage Additional Funding Sources To Realize Large-Scale Projects.** Because of limited funding and substantial statewide need, communities and regions will be encouraged to seek out or leverage other available funding sources, including, for example, innovative public-private partnership models.
- **Require Risk Reduction Measures to Meet Minimum Resilience Performance Standards.** Risk reduction measures to be funded through CDBG-DR funding will be required to meet minimum performance standards that provide acceptable levels of resilience against different types of extreme weather events and other hazards. Potential projects will be assessed on a project's ability to reasonably withstand an extreme weather event and provide a continuing level of protection where reasonably practicable. To the extent possible, the State will rely on performance standards already developed by the Army Corps, DEP, and other experts in the field.

- **Consider Nature-Based Solutions.** In designing resilient coastal risk reduction projects, the State will assess the feasibility, efficacy, and cost-effectiveness of incorporating nature-based infrastructure, including living shorelines, use of wetlands, dunes, and beach nourishment to reduce surge and flood volume.
- **Consider Qualitative and Quantitative Data and Individualized Risk Assessments in Project Design.** The State continues to engage in a cross-agency initiative to identify and map critical infrastructure, to consider dependencies and interdependences of the various sectors, including infrastructure, economic, and housing, and to maximize mitigation and resilience opportunities. As noted, the State has collaborated with universities, national laboratories, and other experts and stakeholders to perform this ongoing analysis. The data compiled through this process will be used to inform the selection of proposed projects where appropriate. To the extent data is provided to the State in connection with HUD’s Rebuild by Design competition, and is appropriately verified or peer reviewed, the State will consider data and analysis supplied.

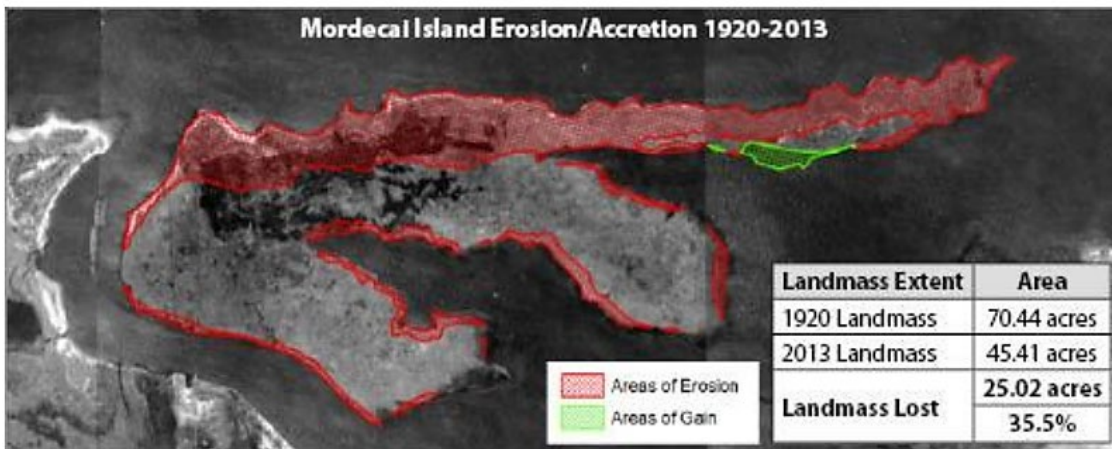


Figure 4-8: Mordecai Island Erosion/ Accretion 1920-2013. This image, prepared as part of the State’s comprehensive analysis in collaboration with the Richard Stockton College of New Jersey, shows areas of erosion and accretion on Mordecai Island, near Beach Haven, New Jersey, since 1920. Over a period of approximately ninety years, Mordecai Island experienced a landmass loss of 35.5% or 25.02 acres. More broadly, erosion and accretion in coastal areas of the State may result in similar types of changes in landmass and may have a significant impact on New Jersey. Understanding erosion and accretion patterns is critical for understanding New Jersey’s risks and for planning for future changes in climate and development patterns.

Source: State of New Jersey/The Richard Stockton College of New Jersey Partnership

- **Utilize the Sea Level Rise Tool for Sandy Recovery to Inform Individual Project Selection.** The National Oceanic and Atmospheric Administration (NOAA) has identified four scenarios for global mean sea level rise in its 2012 report, “Global Sea Level Rise Scenarios for the United States National Climate Assessment.” Based on these four scenarios, labeled “Lowest,” “Intermediate-Low,” “Intermediate-High,” and “Highest,” NOAA generally has estimated, factoring in future potential conditions, global sea level rise by the year 2050 at the following four levels, respectively: 0.3 feet; 0.7 feet; 1.3 feet; and 2.0 feet. In addition,

NOAA has made available electronic tools for individual communities to assess risk on a local or regional basis, including its Sea Level Rise Tool for Sandy Recovery. In accordance with HUD Federal Register Notice FR-5696-N-06, the State is consistently applying these tools to inform the development of the State of New Jersey's 2014 Hazard Mitigation Plan. In addition, as part of the State's comprehensive effort to assess the potential long-term efficacy and fiscal sustainability of specific risk-reduction measures and improvements using CDBG-DR funding, the State intends to utilize the federal government's available tools to consider the impact of potential sea-level rise and consider whether project designs should be enhanced to address potential sea level rise scenarios, where such enhancements are cost-effective and reasonably practical given the inherent uncertainty in sea-level rise modeling.

Administration:

In Action Plan Amendment #38, the State clarified its easement acquisition strategy. To restore the beaches and coastal infrastructure damaged by Sandy, the State has taken several steps to pave the way for the Army Corps to begin construction previously designed and congressionally authorized projects on an accelerated schedule. Prior to beginning construction, the Army Corps requires that the State acquire the necessary property rights, or easements, to allow for the construction of coastal risk reduction measures. The State has worked hand-in-hand with community leaders to encourage homeowners to voluntarily provide easements to allow projects to be constructed to benefit their neighbors and larger communities. Where easements are not provided voluntarily, State Executive Order 140 directed the State's Attorney General to take legal action to acquire the necessary easements to build dunes and construct engineered beaches along the New Jersey coastline. In some cases, it was necessary to acquire some easements through condemnation actions. Although the property interests have been acquired and the projects have been constructed, condemnation cases have been and will continue to be uncertain. The State has developed a settlement strategy that has yielded more consistent results and has been deemed necessary and reasonable in order to resolve these cases prior to the expiration of funds from the Disaster Relief Appropriation Act of 2013, Public Law 113-2.

Allocation for Activity:

- Total: \$100,000,000

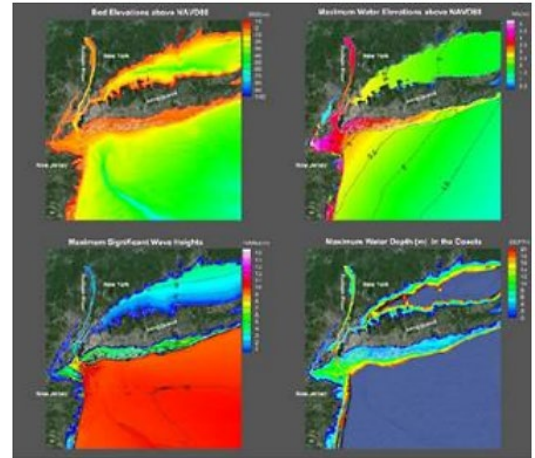


Figure 4-9: Simulated Flood Modeling. In prioritizing projects of CDBG-DR investment, the State will evaluate a potential project's efficacy and cost-effectiveness by considering multiple flood and sea-level rise scenarios. New modeling developed by the New Jersey Institute of Technology (NJIT), in partnership with the State, will allow New Jersey to simulate and analyze potential future extreme water events to inform community- and regional-level flood risk.

Source: State of New Jersey/NJIT Partnership

FLOOD HAZARD RISK REDUCTION PROGRAM ALLOCATION WALK		
ACTION PLAN AMENDMENT	DATE OF APPROVAL	CDBG-DR FUNDING
<i>Action Plan Amendment #7</i> Second Allocation	May 30 th , 2014	\$100,000,000
<i>Action Plan Amendment #15</i>	May 2 nd , 2015	(\$500,000) ¹
<i>Action Plan Amendment #33</i>	October 11 th , 2019	\$500,000 ²
TOTAL		\$100,000,000

¹ Non-Substantial Amendment for the Consolidation of Administration Funds into the General Category

² Non-Substantial Amendment to Clarify the Recording of Administrative Costs

Maximum Award: Award amounts will vary depending on the size and complexity of the project to be funded. The amount will be based upon a review by technical experts at the New Jersey DEP, taking into account, on an as needed basis, input from other resources from government, academia or private industry.

Eligible Applicants: In certain circumstances, DEP or other state agencies and authorities may be best positioned to develop or construct risk reduction measures that benefit regions of the State. Other eligible applicants will include municipalities, counties, improvement authorities, and other government agencies and authorities. Where individual communities seek to construct risk reduction measures, regional coordination will be encouraged.

Prioritization Criteria:

Criteria for prioritizing projects will include:

- Proposed project area must present a high vulnerability or risk to storm surge or flooding, as developed by a science-based analysis.
- Proposed project or improvement must result in storm surge or flood risk reduction or otherwise support the development of risk reduction measures or improvements, including through property or easement acquisition, demolition, site preparation, and infrastructure construction, installation, or repair.
- Proposed project or improvement must be analyzed using a robust benefit- cost analysis, which will consider the benefit of the project, including consideration of environmental impacts, public health and safety impacts, social impacts, environmental impacts, and population data. Proposed project or improvement must meet minimum resilience performance standards. The performance standards developed must consider a wide range of risks, including potential future extreme weather events and other hazards. In addition, the federal government’s available sea-level rise tools will be employed to consider project design enhancements, where such enhancements are cost-effective and reasonably practical given the inherent uncertainty in sea-level rise modeling.
- Nature-based infrastructure will be considered where possible, reasonably practical, and cost-effective.

- Recovery need, and the amount of need, will be a minimum requirement in selecting projects.

Eligibility for CDBG-DR: All Sections of 105(a)

National Objective: Low- and moderate-income area; alleviate slums and blight; urgent need.

4.4.2 New Jersey Energy Resiliency Bank

New Jersey's emergency management personnel were faced with significant challenges when widespread and prolonged electrical outages resulted from Superstorm Sandy's powerful winds and rising flood waters. Wastewater treatment plants were unable to continue operations. Pump stations failed without power, leading to flood waters overwhelming public buildings and causing substantial damage. Hospitals and shelters – dependent on diesel back-up generators – were forced to contemplate evacuation in light of diesel fuel supply challenges. Town centers and other public buildings were rendered unusable because of a total lack of electricity. Power loss caused New Jersey's entire transit network to delay in re-instating critical transportation services to the region.

Critical facilities must have access to highly reliable and resilient energy in order to function. In the widespread electrical outages that followed Superstorm Sandy, those wastewater and water treatment plants, hospitals, schools, and other public buildings with resilient energy solutions were able to continue to operate even when the larger electrical grid failed. Distributed generation technologies – technologies such as combined heat and power, fuel cells, and solar with storage – proved extremely resilient following Superstorm Sandy and can offer critical facilities across New Jersey a path for building energy resilience. When configured to “island” – i.e., operate independently of the larger electrical grid – these distributed generation technologies can harness the energy being produced to sustain critical operations. President Obama's Hurricane Sandy Rebuilding Task Force highlighted the Bergen County Utilities Authority in Little Ferry, New Jersey, as a model for the region and nation because it was able to use a “biogas-powered [combined heat and power] system to keep its sewage treatment facilities working during and after the storm,” even in the face of a prolonged power outage.

Identifying Opportunities to Build Energy Resilience at Critical Facilities Throughout the State

Following Sandy, municipalities and counties re-examined infrastructure hardening needs and prioritized energy solutions that could keep infrastructure operating even when the electrical grid fails. As part of the long-term recovery process, OEM worked closely with municipalities, counties, and other infrastructure operators to assess the long-term resilience and mitigation needs of critical facilities throughout the State. Municipalities and counties were invited to identify potential mitigation and resilience projects that might meet local needs and address the vulnerabilities of their own communities. Through this process, close to 800 resilient energy projects were identified by 425 municipalities, counties, and government entities – resilient energy projects represented the single most requested type of resilience or mitigation project by New Jersey jurisdictions.

A cross-agency effort was initiated to identify critical infrastructure in New Jersey and opportunities for resilient energy solutions. OEM, New Jersey Office of Homeland Security and Preparedness (OHSP), BPU, and DEP used GIS mapping to view potential energy resilience projects across the State, and overlaid existing energy resilience solutions – highlighting opportunities to retrofit existing energy solutions to make those systems “islandable.” In addition, the agencies compiled critical facilities maps with key demographic information and use data for wastewater treatment facilities, prisons, schools, fire departments, law enforcement, municipal buildings, and long-term care

facilities.

The cross-agency effort also resulted in a large-scale analysis of critical facilities throughout New Jersey in partnership with the USDOE's National Renewable Energy Laboratory (NREL). Critical facility operators from across the State who identified energy resilience needs received a detailed questionnaire from the State requesting Sandy impact and energy needs data on a facility level. NREL then reviewed each questionnaire and identified potential distributed generation or other solutions on a micro-facility level. In addition, NREL and BPU conducted several site visits of buildings representing different categories of critical infrastructure to determine the market potential and applicability of technologies that would allow critical facilities to operate independently of the grid during future disaster events. NREL's analysis highlighted the extent to which critical facilities across New Jersey were impacted by Sandy, are vulnerable to future electrical outages, and are capable of pursuing technology solutions that will make these facilities more resilient to future events.

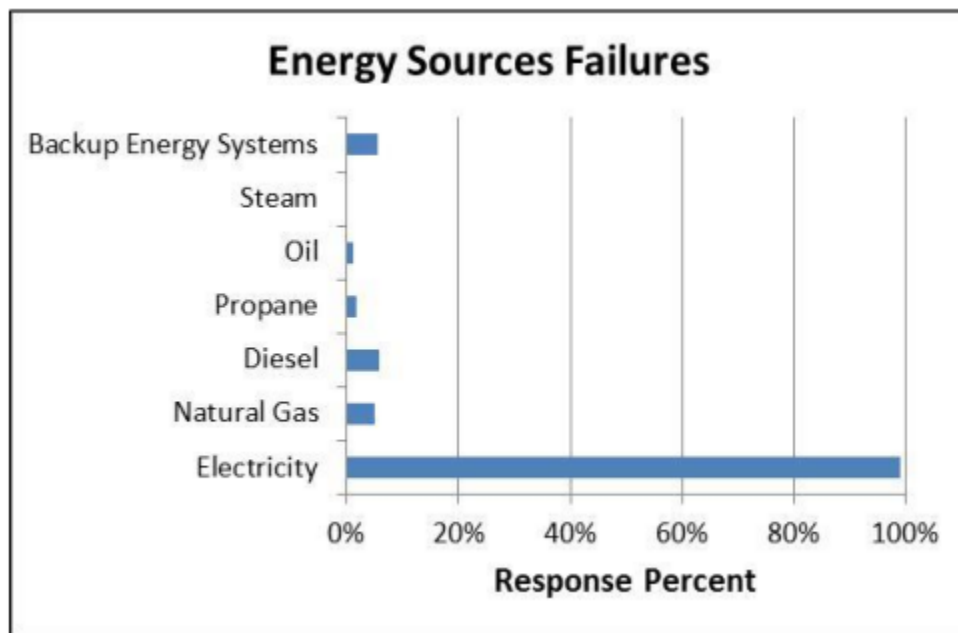


Figure 4-10: Energy Sources Failures. This graph shows the significant relative vulnerability of energy systems in New Jersey by highlighting energy source failures in the weeks following Superstorm Sandy. This data and analysis was developed through a partnership between the State, FEMA, and NREL and based on a survey of municipalities, communities, and other government entities throughout New Jersey. The graph demonstrates that the electricity system is most vulnerable to damage of significant storms, as shown by a near complete energy source failure following Superstorm Sandy. Other energy sources – including natural gas – were substantially more resilient than the larger electrical grid.

Source: State partnership with the U.S. Department of Energy's National Renewable Energy Laboratory (NREL)

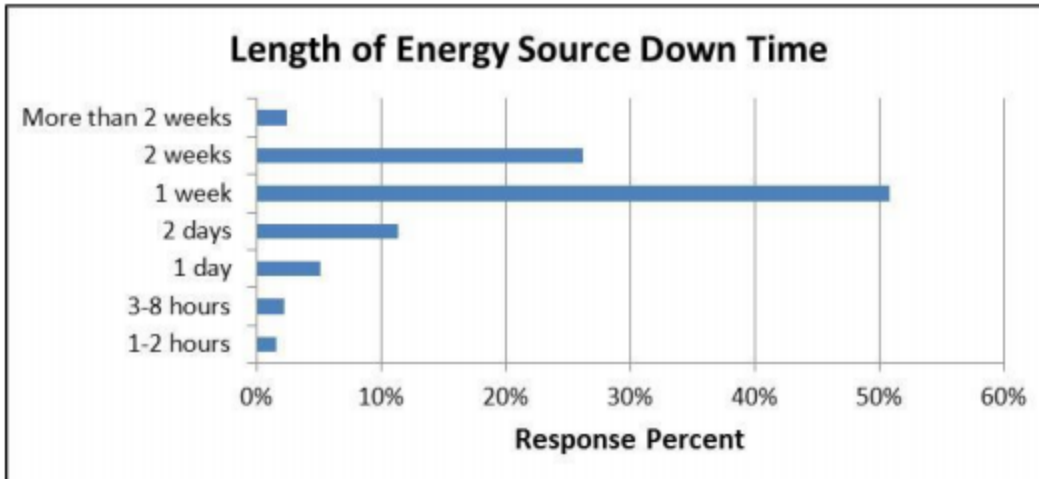


Figure 4-11: Length of Energy Source Down Time. This graph is another indicator of the relative vulnerability of the overall energy system in New Jersey. It shows that roughly 80 percent of all energy failures experienced during Superstorm Sandy required at least one week for repair, thus indicating high exposure of energy assets to coastal or at-risk flood areas. Almost 30 percent of the shutdowns required two or more weeks to restore power.

Source: State partnership with the U.S. Department of Energy's National Renewable Energy Laboratory (NREL)

The State also brought in national experts on distributed generation and other resilience energy solutions to develop workshops for community leaders and emergency management professionals in three locations across New Jersey. Local leaders involved in developing long-term recovery plans for the State's communities learned how microgrids and other technology can lead to enhanced energy resilience.

These efforts culminated in the State's announcement of \$25 million in funding through FEMA's HMGP to support resilient energy projects across more than 145 jurisdictions and entities. Energy projects submitted to the HMGP were assessed through an inter-agency evaluation process using nine sets of objective criteria, including a fifteen-year review of FEMA Public Assistance data, population density, and (in the case of water and wastewater treatment plants) total daily flow in millions of gallons per day. HMGP funding is intended to be used as initial "seed money" to support communities in exploring aspects of larger, resilient energy solutions. However, additional funding will be required to realize substantial projects.

In a parallel effort, the State partnered with the President's Hurricane Sandy Rebuilding Task Force, USDOE, HUD, FEMA, and other federal agencies to explore potential energy resilience opportunities. In June 2013, the State announced a collaboration with USDOE and Sandia National Laboratories to design a microgrid capable of powering the critical electric needs of Hoboken, New Jersey – with a design approach that can be implemented in other communities throughout the State. In August 2013, the State also announced a study to design "NJ TransitGrid" – a first-of-its-kind microgrid capable of providing highly reliable power to support regional transit services. NJ TransitGrid could power commuter trains and stations, even when the traditional grid is compromised. U.S. Energy Secretary Ernest Moniz hailed NJ TransitGrid as "an important example of the sort of resilience we will need throughout the country, and this project can provide a first-of-its-kind example for the Nation, while creating jobs and a more competitive economy." NJ TransitGrid will incorporate innovative technologies, including distributed generation and solar panels with dynamic inverters

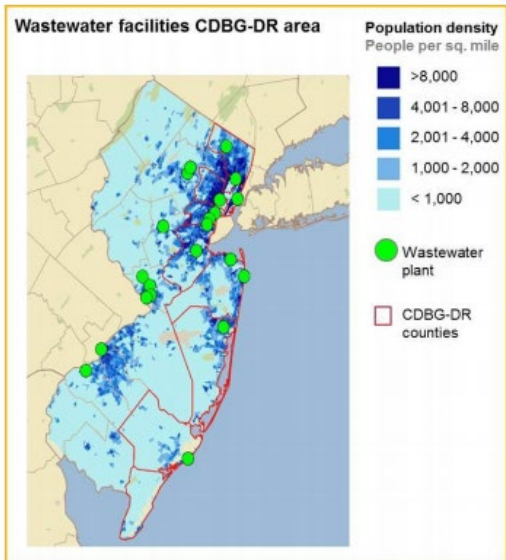
and storage, and can be used as a model for other transit systems in the Nation that are vulnerable to extreme weather or other events.

In recognition of the State's comprehensive planning and efforts to design new opportunities to build energy resilience, the President's Hurricane Sandy Rebuilding Task Force lauded the State of New Jersey for "embrac[ing] the opportunity to provide national leadership in energy resilience."

Creating the New Jersey Energy Resilience Bank to Address Statewide Energy Resilience Needs

The State proposes to create the New Jersey Energy Resilience Bank to continue to pursue innovation and build energy resilience. The Bank could help realize the development of distributed generation projects, microgrids, and other resilient technology designs at critical facilities throughout the State. The Bank could provide technical and financial support, including grants and low-interest loans, to critical facilities to realize energy resilience projects or enhancements to existing energy infrastructure. When eligible projects are identified, CDBG-DR funds could be drawn down to support such projects. Initially, projects identified by the Bank could be funded using CDBG-DR funds, and additional state support could be leveraged on an ongoing basis.

For some time, New Jersey has encouraged the use and deployment of distributed generation technologies. The Christie Administration's Energy Master Plan committed to developing 1,500 megawatts of new distributed generation resources where net economic and environmental benefits can be demonstrated. The Energy Master Plan also emphasizes the need to develop new, clean, cost-effective sources of electricity which lessen the State's reliance on older plants that have more emissions and environmental impacts.¹ The benefits of technologies such as fuel cells, combined heat and power, and resilient solar are indisputable: HUD, USDOE, and EPA have recognized that distributed generation – in addition to providing resilience – can reduce monthly energy costs, reduce emissions, provide stability in the face of uncertain electrical prices, and increase overall efficiency.²



¹ State of New Jersey, *Energy Master Plan*, 2011, available at http://nj.gov/emp/docs/pdf/2011_Final_Energy_Master_Plan.pdf

² U.S. Department of Energy, U.S. Department of Housing & Urban Development, and U.S. Environmental Protection Agency, *Guide to Using Combined Heat and Power for Enhancing Reliability and Resiliency in Buildings*, Sept. 2013, available at <http://portal.hud.gov/hudportal/documents/hudoc?id=CHPSept2013.pdf>.

However, because of the initial cost associated with pursuing distributed generation technologies, many critical facilities do not currently have in place energy resilience solutions. Even those critical facilities with distributed generation technology may not be equipped to “island” – an enhancement to an existing system which could add as much as 10 to 30 percent to the cost of realizing an energy project but would also allow the facility to operate independent of the electrical grid. Many facilities have opted to pursue less expensive diesel-powered generators, but distributed generation is less reliant on liquid fuel supply and availability, has longer continuous run times, and has less environmental impacts. The New Jersey Energy Resilience Bank will help address unmet needs, and allow critical facilities the opportunity to pursue energy projects with resilience enhancements.

Over time, the Bank could be scaled by utilizing a portion of the CDBG-DR funds to encourage private sector investment in resilient energy projects. For example, the Bank could – to support specific eligible projects – use CDBG-DR funds as necessary and reasonable as a loan loss reserve. CDBG-DR funds for the loan loss reserve would be drawn from DRGR and attributed to a project once a project has been determined to meet eligibility requirements set by the Bank and by HUD.

Figure 4-12: Wastewater Facilities in CDBG-DR Area. The State has been cataloging and identifying all critical facilities in the State that could be candidates for energy resilience solutions. The figure above shows the significant relative vulnerability of wastewater treatment facilities in New Jersey. Of the 23 largest wastewater treatment plants in the state, 14 are located in the nine most-impacted counties along the coast, with the majority concentrated near Sandy Hook and New York Bay. Together these critical facilities comprise nearly 70 percent of the State’s water treatment capacity and are the focus of New Jersey’s energy resilience efforts.

Source: New Jersey Board of Public Utilities

As a provider of a loan loss reserve, the Bank could seek financing from the private sector, to ensure that the seed funding has an expansive multiplier effect. The Bank could provide financial assistance in a variety of forms, including direct loans, loan guarantees, early stage grants and loan loss reserve coverage for private lenders to support eligible projects. The Bank could also use grants, principal forgiveness, and other direct investment to further encourage the deployment of resilient energy technologies. The Bank also could securitize some or all of the portfolio of loans. The portion of the proceeds from this activity attributable to CDBG-DR assistance would be

considered program income and used according to CDBG and/or CDBGDR rules. The expansion of financing products is expected to build a larger, more sustainable market for distributed generation that will allow the State to extend its coverage to the maximum number of critical facilities and assets.

Realizing resilient energy solutions at water and wastewater treatment plants will be an early priority of the Bank, consistent with the State’s emergency management and long-term recovery priorities. The National Infrastructure Protection Plan has recognized the importance of resilient water and wastewater treatment plants and the extent to which other infrastructure sectors depend on these critical facilities’ ability to function:

It is necessary to better protect Water Sector infrastructure to safeguard public health and the economic vitality of our Nation. . . . [N]atural disasters, and denial of service that affect the sector could result in large numbers of illnesses or casualties, as well as negative economic impacts. Critical services such as firefighting and health

care (hospitals), to include other dependent and interdependent sectors such as energy, transportation, and food and agriculture, would suffer damaging effects from a denial of potable water or properly treated wastewater.³

As part of the planning process, the State met with the Association of Environmental Authorities of New Jersey and individual facility operators to assess energy resilience needs. Through this process, the State determined that a handful of water and wastewater treatment plants – only 7 percent of New Jersey’s total wastewater capacity – have distributed generation that is capable of being islanded. Facilities without resilient technology remain highly vulnerable to energy supply issues or must otherwise rely on diesel-powered generators to sustain operations. A large number of plants in the State have no existing distributed generation, and many of these facilities are good candidates for combined heat and power or other technologies. Alternatively, these facilities can be incorporated into larger microgrid systems designed to meet the needs of a community’s critical infrastructure. Other plants that already rely on distributed generation technology may need to retrofit existing technology to allow facility islanding. The Bank could assist water and wastewater treatment plants across the State in realizing distributed generation solutions unique to the needs of individual facilities.

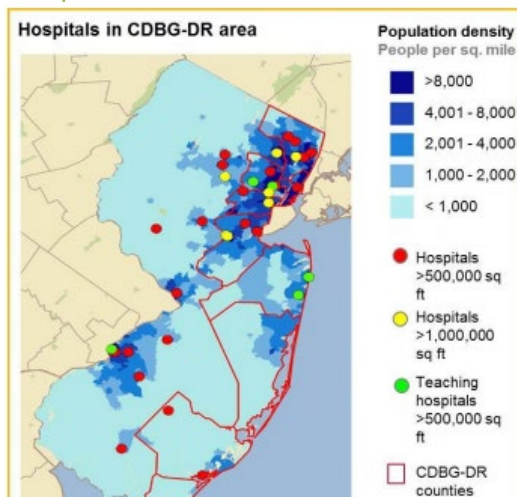


Figure 4-13: Hospitals in CDBG-DR Area. The figure above shows the significant relative energy vulnerability of hospitals in New Jersey. Twenty-two of the State’s largest 35 hospitals are located in the HUD-designated nine most-impacted counties along the coast, including six of the eight largest counties. These hospitals are also clustered in the portion of the State with the highest population density, thus having the potential to impact on a large portion of the State’s residents.

Source: New Jersey Board of Public Utilities

In addition to supporting water and wastewater treatment plants, the Bank could also provide assistance to public facilities, and some select private sector customers that own or operate facilities or assets critical to the State. High priority facilities for energy resilience projects could be those facilities directly associated with the health and safety of citizens in the State, facilities that safeguard the State’s environment, or that serve other critical public facility functions. Possible critical facilities that could be served by the Bank include public housing, hospitals, emergency response facilities, municipal town centers, correctional facilities, transportation and transit networks, and regional high schools that can function as shelters in the case of any emergency. It could also include liquid fuel refineries, distribution facilities, pipelines, or other facilities that serve critical emergency functions.

The New Jersey Energy Resilience Bank represents only one aspect of the State’s ongoing efforts to incorporate energy resilience into the State’s long-term infrastructure recovery. The demand for resilient energy solutions by critical facilities

³ U.S. Department of Homeland Security & U.S. Environmental Protection Agency, *Water Sector-Specific Plan: An Annex to the National Infrastructure Protection Plan*, 2010, available at <http://www.dhs.gov/xlibrary/assets/nipp-ssp-water-2010.pdf>.

and public buildings throughout the State is expected to far exceed the limited recovery funds available to support the Bank. The State is working with other federal funding partners to realize resilient energy projects that will benefit the region, including by working with the U.S. Department of Transportation's Federal Transit Administration and the Regional Infrastructure Resilience Coordination Initiative in the hope of identifying available funds to realize the USDOE's and Sandia National Laboratories' design of NJ TransitGrid.

Comprehensive Risk Analysis Framework for the Selection of Potential Energy Resilience Solutions

Several key principles will guide the State's selection of projects to be supported through the New Jersey Energy Resilience Bank using CDBG-DR funding, including supporting innovative energy resilience solutions through a technology-agnostic program design, considering renewable solutions where possible, and prioritizing microgrid designs. These principles are guided by the State's comprehensive planning efforts and will best harness new, resilient distributed generation opportunities. The selection of individual facilities and the identification of hazards and risks will continue to be supported by a cross-agency effort, which includes the State's emergency management and energy professionals in collaboration with federal agencies.

The following principles will be used to guide the identification and selection of energy resilience projects to be funded using CDBG-DR funding:

- **Prioritize Facilities That Protect Life or Property or Provide Other Critical Services.** Facilities that provide life-critical services on a significant scale during emergencies, or that are critical to recovery efforts following an emergency, could be prioritized. Currently, facilities that fit these criteria are water and wastewater treatment plants, hospitals, town centers, colleges and universities and regional schools capable of sheltering functions, prisons, public housing, and other critical facilities. The Bank will collaborate with OHSP to appropriately prioritize facilities that are included in the OHSP State Asset Database – a database of buildings or facilities that meet pre-established State or national asset criteria or that meet other statewide emergency planning or homeland security objectives.
- **Support Technologies and Designs That Offer Energy Resilience in the Event the Larger Grid Fails.** The New Jersey Energy Resilience Bank will be technology-agnostic and could support a wide variety of distributed generation and renewable technology. The Bank can actively monitor new technological breakthroughs and market changes that make nascent technology commercially available. Ultimately, technology decisions may be informed by a robust cost-benefit analysis that will seek to weigh the relative benefits of the technology, including energy resiliency, against the possible cost to taxpayers. To develop a cost-benefit analysis framework, the BPU collaborated with the Rutgers University Center for Energy, Economics and Environmental Policy (CEEPP) to create a comprehensive distributed generation cost-benefit model that includes the value of lost electrical load as a benefit. This model can be used to assist in determining the cost effectiveness of the selected technologies.

- **Consider Renewable Energy or Other Clean Energy Solutions Where Possible.** Through the BPU’s Clean Energy Program, the State is already promoting increased efficiency and the use of renewable sources of energy including solar, wind, geothermal, and sustainable biomass as well as clean energy technologies, including combined heat and power and fuel cells. The New Jersey Energy Resilience Bank will complement the efforts of BPU’s Clean Energy Program. Where possible and cost-effective, resilient energy solutions supported by the Bank could consider and incorporate the use of renewable or other clean energy sources.
- **Prioritize Microgrids or Other Designs That Maximize Investment by Addressing Resilience at Multiple Facilities or Across Different Infrastructure Sectors.** The State is working with USDOE and its national laboratories to design new microgrids – systems capable of generating highly reliable power for multiple critical facilities. In Hoboken, New Jersey, for example, Sandia National Laboratories is considering how multiple public and other buildings that provide critical services to the community can be systematically powered following a disaster. The NREL also identified critical facilities throughout the State that are capable of sharing electric or thermal loads to power core operations.
- **Require Energy Resilience Projects to Meet Minimum Resilience Performance Standards.** Resilient energy projects to be funded through CDBG-DR funding will be required to meet minimum performance standards that are capable of supporting operations in the event of an electrical grid failure or other outage. Potential projects could be assessed on a project’s ability to support, at least, minimal emergency operations during an electrical outage. Projects may also need to meet other performance standards that are infrastructure-sector specific. The Bank can work with the BPU, DEP, OHSP, and OEM to define minimum resilience performance standards. Potential performance standards for projects could include requirements that the project promote redundancy within the distribution grid and offer enhanced network connectivity, among other potential requirements.
- **Assess Individual Energy Projects for Flood Risk and Other Hazards.** Much of New Jersey’s critical infrastructure that is vulnerable to electrical outages may also be located in the flood plain or otherwise subject to enhanced risk of flooding or storm surge. In prioritizing and selecting energy resilience projects for Bank support, the State will review design options that ensure that energy technology will be appropriately elevated, walled, or otherwise resilient to potential future flooding and storm surge. Consistent with HUD Federal Register Notice FR-5696-N-06, the State will also evaluate potential sites for resilient energy technology using the National Oceanic and Atmospheric Administration’s (NOAA) Sea Level Rise Tool to assess the risk of sea level rise over the useful life of the energy technology to be funded. The State anticipates continued collaboration with USDOE to also incorporate design opportunities which respond to other known risk hazards, including cyber security risks, to the extent that hazard risk reduction designs are appropriate and cost-effective.
- **Utilize Existing Technology Where Possible and Cost-Effective.** The State has mapped

distributed generation and renewable assets across New Jersey. For example, there are over 22,000 solar installations in the State of New Jersey. The Bank can provide critical facilities with assistance in identifying opportunities to retrofit existing technology to make the technology more resilient, where possible, by installing dynamic off-grid inverters (special switches that can isolate or “island” the solar panel system in case of grid failure), storage, and other technology that would allow distributed generation and solar systems to continue to support the critical facility during an electricity outage.

In Federal Register Notice FR-5696-N16 (August 25, 2015), HUD approved the State’s request to fund for-profit and private utility critical facility applicants through the ERB, subject to three requirements: (i) that the scoring methodology for ERB projects provides preferential treatment to LMI areas and populations; (ii) that EDA require an equity contribution for for-profit critical facilities in an amount to be based on EDA’s uniform underwriting standards; and (iii) for for-profit facility applicants, that funding products be a mix of loans, forgivable loans and/or grants based on a business’ financial capacity in order to safeguard against the potential oversubsidization of for-profit facilities. EDA will incorporate those requirements into ERB funding products. The changes effectuated by the waiver were incorporated in Amendment #19 and are reflected in criteria below.

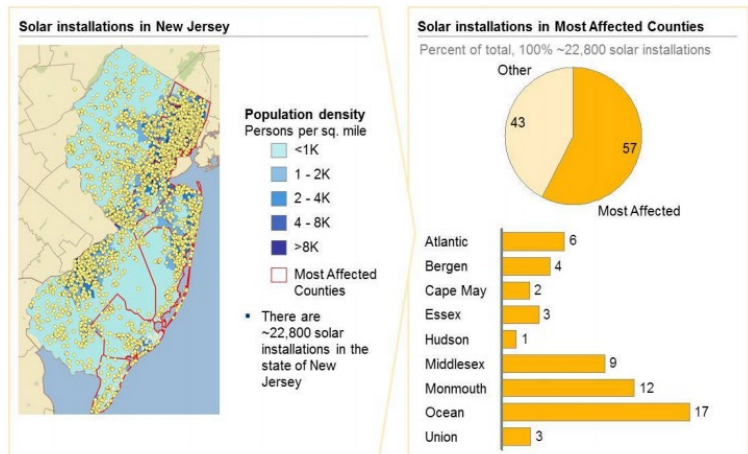


Figure 4-14: Solar Installations in New Jersey and Most Affected Counties. Many public buildings in the State already have solar panels or other distributed generation resources. This technology may have been originally installed for the primary purpose of maximizing energy savings without regard to resilience and risk planning. In the aftermath of Superstorm Sandy, many of these systems failed because the technology was not installed with the additional capability of “islanding,” i.e., maintaining power on its own in the event that the larger electrical grid experiences a power shortage. For additional cost, solar panels can be retrofitted to add dynamic inverters and storage capacity, affording public buildings the opportunity to continue to maintain electrical power even if the electrical grid fails. The State has mapped all of the solar assets in the State to begin the process of identifying those facilities that are best candidates for resilience enhancements. The figure above shows the large proportion of New Jersey’s solar installations that are located in HUD-designated nine most-impacted counties. In fact, of the nearly 23,000 installations state-wide, approximately 57% are located in these nine counties. Solar installations located in Ocean, Monmouth, and Middlesex Counties represent the largest share of potential resilient enhancement opportunities, representing 17, 12, and 9% of all State solar installations, respectively.

Source: New Jersey Board of Public Utilities

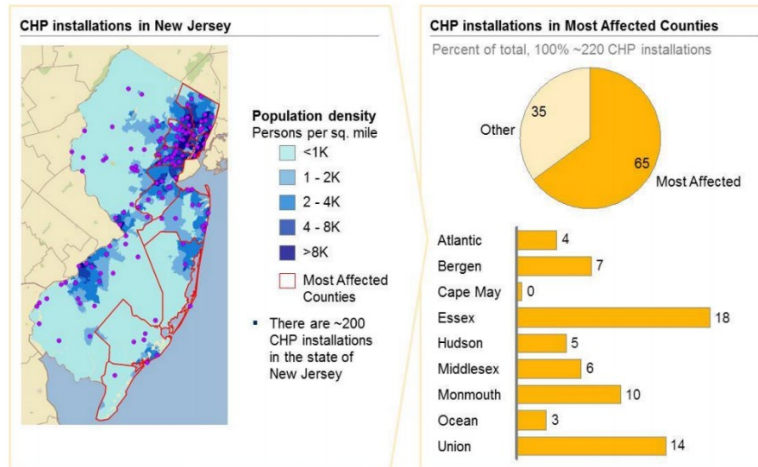


Figure 4-15: CHP Installations in New Jersey and Most Affected Counties. In addition to mapping solar assets to identify opportunities to incorporate dynamic inverters, storage, and other resilience enhancements, the State has actively mapped other existing distributed generation resources that could be candidates to retrofit with “islanding” capabilities. For example, combined heat and power (CHP) systems – which provide highly reliable, on-site electricity and thermal energy – were already constructed at many municipal, county, and other facilities throughout the State. Depending on the criticality of infrastructure, these systems can and should be retrofitted to include “islanding” capability, to continue to operate even if the electrical grid fails. Nearly two-thirds of New Jersey’s 200 CHP installations are located in HUD designated nine most-impacted counties. Combined heat and power installations located in Essex, Union, and Monmouth Counties represent the largest share of vulnerable installations at the county-level, representing 18, 14, and 10% of all State CHP installations, respectively.

Source: New Jersey Board of Public Utilities

Allocation for Activity:

- Total: \$198,690,516

NJ ENERGY RESILIENCE BANK ALLOCATION WALK		
ACTION PLAN AMENDMENT	DATE OF APPROVAL	CDBG-DR FUNDING
<i>Action Plan Amendment #7</i> Second Allocation	May 30 th , 2014	\$200,000,000
<i>Action Plan Amendment #15</i>	May 2 nd , 2015	(\$1,000,000) ¹
<i>Action Plan Amendment #33</i>	October 11 th , 2019	(\$309,484) ²
TOTAL		\$198,690,516

¹ Non-Substantial Amendment for the Consolidation of Administration Funds into the General Category

² Non-Substantial Amendment to Clarify the Recording of Administrative Costs in the amount of (+) \$229,076. This figure includes a (-) \$300,000 transfer to the Landlord Rental Repair Program and (-) \$238,560 transfer to Planning. In addition, there was a typing error in APA #33 that reflects the total allocation as \$198,960,516, The total is reflected accurately here.

Maximum Award: Funded awards will be determined based on projected cost estimates, taking into account project benefits.

Per Federal Register Notice FR-5696-N-16 (August 25, 2015), any award of ERB funds to a for-profit critical facility that is not a “small business” or a private utility that constitutes a critical facility must be in the form of a mix of loans, forgivable loans and/or grants based on the applicant business’

financial capacity in order to safeguard against the potential over-subsidization of for-profit facilities.

Eligible Applicants: Initially, water and wastewater treatment facilities will be prioritized given that infrastructure sector's particular vulnerability to energy interruptions, as assessed through the State's comprehensive planning effort. The State then will prioritize funding for hospitals.⁴ The New Jersey Energy Resilience Bank could also serve other public critical facilities and assets, including emergency response facilities, municipal town centers, correctional facilities, transportation and transit networks, public housing and regional high schools that can function as shelters in the case of any emergency. Depending on HUD's eligibility criteria, for-profit hospitals, liquid fuel refineries, distribution facilities, pipelines, and other private facilities and assets that provide critical services could also be considered.

As a result of requirements in FR-5696-N-16, for-profit and private utility critical facilities, and/or their designated third party owners of the DER system, may be eligible applicants for ERB funding. For ERB funding products, in addition to water and wastewater facilities, and hospitals, eligible entities may include, without limitation: longterm care facilities; emergency response facilities; municipal town centers; correctional facilities; transportation and transit networks; public housing and regional high schools that can function as shelters in the case of any emergency; and campuses that include critical facilities and/or provide sheltering in case of any emergency. Additional private utility and for-profit critical facilities also may be eligible provided that they satisfy HUD's FR-5696-N-16 requirements.

Eligibility Criteria: Must be an eligible applicant pursuing a project that will build energy resilience by ensuring the availability of a highly reliable power supply in the event that the larger electrical grid fails (due to a storm, or any other incapacitating event).

Any eligible for-profit applicant funded through the ERB must provide an equity contribution to the project, with the amount of the contribution to be based on EDA's uniform underwriting standards.⁵

Criteria for Selection: Individual projects will be evaluated based on metrics in three categories: technical feasibility, criticality and resiliency, and credit/economics. Technical feasibility will be assessed based on the technical specifications of the project including the technology used, size and scale, feasibility, environmental review, and cost and revenue estimates. Criticality and resiliency will be assessed based on the criticality and resiliency impact of the project in establishing an "island of power" that has potential to benefit vulnerable populations and decrease dependency on diesel fuel sources. A project's credit and economics will be assessed based on the credit worthiness of the sponsor and the economics of the project to ensure it is cost effective and that Bank risk exposure is managed. Each applicant must meet a minimum eligibility threshold score to be eligible for ERB funding. Priority may be given to applicants who maximize funding opportunities by pursuing microgrids or other designs that can address energy resilience at multiple critical facilities or across different infrastructure sectors. To be eligible for CDBG-DR funding, the individual project must address resilient energy needs at a facility that experienced a disaster-related impact from Superstorm Sandy or other qualifying disasters, and meet other HUD requirements. Recovery need,

⁴ Amendment #19 prioritized funding for hospitals after water and wastewater treatment facilities.

⁵ Clarification added in Amendment #19 to establish an equity contribution for for-profit applicants.

and the amount of need, will be a minimum requirement in selecting projects.

In addition, each ERB funding product will give preferential scoring treatment to applicants based on the LMI population the facility serves. Facilities that have a 51% or greater LMI benefit, or qualify as low-moderate area (LMA), will receive the highest scoring for the LMI Benefit factor. Facilities that have a less than 51% LMI benefit, or do not qualify as a low-moderate area (LMA), will receive scoring preference based on their LMI/LMA benefit (e.g., a facility with a 45% LMI benefit will receive more points than a facility with a 20% LMI benefit).⁶

Eligibility: Section 105(a)(2); Section 105(a)(8); Section 105(a)(11); Section 105(a)(12); Section 105(a)(14); Section 105(a)(15); Section 105(a)(22)

National Objective: Low- and moderate-income area and/or job creation/retention; alleviate slums and blight; urgent need.

4.4.3 State and Local Non-Federal Cost Share (Match)

Numerous federal funding streams used in the recovery effort carry non-federal cost shares, also known as “match” or “local share obligation.” The “match” portion of the project is that portion of the total cost of a project or program that the State, county, municipality or other entity benefitting from the project or program is responsible to satisfy, as opposed to a federal agency. Different federal funding streams can have different non-federal cost shares. Many funding streams target infrastructure-related recovery initiatives, as described below.

The State’s Action Plan committed \$50 million of first tranche CDBG-DR funds to a FEMA match program, primarily to address non-federal cost shares associated with projects like debris removal undertaken in the immediate aftermath of the storm. As recovery has progressed and other infrastructure projects have begun, additional non-federal match obligations have been incurred by the State, counties, municipalities, and other entities. Given the costs associated with the long-term recovery effort, many jurisdictions and entities in New Jersey are fiscally constrained and require enhanced financial support to meet these federal program match obligations.

The State has used \$200,000,000 in second tranche CDBG-DR funds to address many of these match obligations. To arrive at that figure, the State looked to existing recovery commitments that require a match as well as other federal funding reasonably expected to be used in the State’s recovery that will require a match. Specifically:

- The current non-federal cost share for projects authorized by the Army Corps and which have not received construction funds in the last three years is 35 or 50 percent, depending on the type of project. These projects include the construction of sand dunes, berms, engineered beaches, and other gray and nature-based infrastructure. However, federal regulations cap the amount of CDBG-DR funds that can be used to match the Army Corps projects at \$250,000 per project. The State presently projects that there will be fourteen (14) Army Corps projects authorized in New Jersey for Sandy recovery.

⁶ Amendment #19 explained that each applicant meet a minimum eligibility threshold score to be eligible for funding and removed language indicating that applicants need not meet all criteria to be eligible. Information was also added to that section to define the scoring.

- EPA announced that it will award New Jersey \$229 million of its Sandy Supplemental funds to improve water quality following the storm. The State plans to leverage EPA funds through the State’s Environmental Infrastructure Trust and will then target those resources to address storm impacts on water and wastewater systems and associated resilience measures. The EPA funds carry a 20 percent non-federal cost share obligation.
- Projects authorized by the FHWA using Sandy Supplemental funding currently carry a 10 or 20 percent non-federal cost share, depending on the project. These funds are used to repair damage caused by the storm, particularly to roadways, and to build back more resiliency. The ongoing Route 35 project on the Barrier Island – where the State highway is being reconstructed with flood vents, pump stations, and other “best practice” mitigation measures – is one example of a road project primarily funded through FHWA Sandy Supplemental funds in partnership with the New Jersey Department of Transportation. Based on present projections, the State currently estimates that the non-federal cost share for FHWA projects will approach \$66 million.
- FEMA-funded projects and programs currently carry a 10 percent, and in some cases, 25 percent, non-federal cost share. The State currently projects that the total cost of FEMA projects and program investments for Sandy Recovery between the State of New Jersey, municipalities and other eligible FEMA recipients will exceed \$2 billion, creating at least a \$200 million match obligation.

These figures are estimates of unmet needs arising from known non-federal cost share obligations. As recovery progresses, it is likely that some projections may understate or overstate the New Jersey’s actual non-federal cost share needs across all federal funding sources. Additionally, it is possible that other federal funding programs not currently identified may include cost share obligations that will be addressed through this program. Given other critical unmet recovery needs, the State will not be able to cover all cost shares incurred in the recovery by counties, municipalities or other entities that received federal funding that carries match obligations.

The State may use the CDBG-DR funds as a match to repair or construct a wide range of eligible infrastructure projects, including: emergency protective measures such as demolition and removal of health and safety hazards; roads and bridges; dams and reservoirs, and levees; debris removal; public buildings; water treatment plants and delivery systems; power generation and distribution facilities; sewage collection systems and treatment plants; water lines and systems; telecommunication systems; and parks/beaches/recreational facilities. As clarified in Amendments #1 and 28, assistance through this program can fund the match for some or all costs associated with the FEMA Public Assistance program, Direct Federal Assistance, and any federally-funded recovery projects that require a cost share, as long as those activities are CDBG eligible.

Allocation for Activity: See each activity below.

Maximum Award: Up to the maximum amount of CDBG-DR funds that can be applied to the match for a particular project or program.

Eligible Applicants: New Jersey state departments, agencies, and authorities; counties; municipalities; and other entities subject to non-federal cost shares.

Eligibility Criteria: For State non-federal cost shares, the underlying project or program must carry a non-federal cost share, and must be an eligible CDBG-DR activity and address a recovery need. For counties, municipalities or other entities subject to non-federal cost share obligations, the underlying project must carry a non-federal cost share, and must be an eligible CDBG-DR activity. The county, municipality, or other entities subject to non-federal cost shares also must show significant financial hardship if CDBG-DR assistance is not provided for all, or some portion of, the total match obligations.

Eligibility for CDBG-DR: Section 105(a)(1); Section 105(a)(2); Section 105(a)(4); Section 105(a)(9); Federal Register Notices FR-5696-N-01 and FR-5696-N-06

National Objective: Low- and moderate-income, alleviate slums and blight; and urgent need.

4.4.3.1 FEMA Match

FEMA's Public Assistance program requires the State and local government entities to pay a 10 percent match for disaster recovery projects while FEMA pays the remaining 90 percent. Rather than see property taxes increase in communities affected by Sandy, the State covered some or all of the 10 percent cost share for many projects through the Non-Federal Cost Share (Match) Program. This is in addition to the funding provided to State agencies to cover the required match for their FEMA Public Assistance Program projects.⁷

The program will provide critical funding support to eligible applicants that lack resources to provide some, or all, of the FEMA required match for FEMA Public Assistance projects and other FEMA federally-funded recovery projects that require a cost share. The impact of Superstorm Sandy has placed an additional financial burden on governmental entities that are struggling to provide basic services. CDBG-DR funds will be used to provide some, or all, of the match required under FEMA's Public Assistance Program and other FEMA federally-funded recovery programs that require a cost share. According to the Federal Register Notice ([FR-5696-N-01](#)), the "funds may be used as a matching requirement, share, or contribution for any other Federal program when used to carry out an eligible CDBG-DR activity."

Action Plan Amendment #13 allocated \$25 million from the Non-Federal Cost Share (Match) Program to the RREM Program to partially fulfill a \$250 million unmet need and serve households on the waitlist. Action Plan Amendment #21 identified an additional \$10 million in surplus, which was transferred to FRM to address the remaining unmet need of multi-family housing caused by Superstorm Sandy.

After covering the eligible match for local governments and reserving enough funding to cover the required match for the State agencies' FEMA-funded projects, the State concluded that a reallocation of \$10,000,000 in Action Plan Amendment #28 will not impact existing obligations under the Non-Federal Cost Share (Match) Program.

Allocation for Activity:

⁷ This is a subset of the State and Local Non-Federal Cost Share (Match) Program. Action Plan Amendments #1 and #28 expanded the eligible match beyond FEMA Public Assistance projects to include other FEMA federally-funded recovery projects that require a cost share and are eligible CDBG activities in accordance with the Federal Register Notice [FR-5696-N-01](#).

- Total: \$74,700,000

FEMA Match ALLOCATION WALK		
ACTION PLAN AMENDMENT	DATE OF APPROVAL	CDBG-DR FUNDING
<i>Action Plan</i> Initial Allocation	April 29 th , 2013	\$50,000,000
<i>Action Plan Amendment #7</i> Second Allocation	May 30 th , 2014	\$76,000,000 ¹
<i>Action Plan Amendment #13</i>	April 20 th , 2015	(\$25,000,000)
<i>Action Plan Amendment #21</i>	June 29 th , 2017	(\$10,000,000)
<i>Action Plan Amendment #28</i>	February 11 th , 2019	(\$10,000,000)
<i>Action Plan Amendment #38</i>	November 17 th , 2020	(\$6,300,000) ²
TOTAL		\$74,700,000

¹ Part of the \$200 million allocation to Match Programs in Amendment #7.

² Includes \$6 million transfer to Administration and \$300,000 to the Rental Assistance Program.

Maximum Award: No limit

Eligible Applicants: FEMA PA and other FEMA federal cost share Recipients; including State and local governments, governmental entities.

Eligibility Criteria: FEMA PA funded project and other FEMA federally recovery programs requiring a match or cost-share that are CDBG-eligible.

Criteria for Selection:

- Evidence that the project has been determined to be eligible and funded under the FEMA PA program and other FEMA-funded recovery programs.

Eligibility: Section 105(a)(2); Section 105(a)(4); Section 105(a)(8) and Federal Register Notice FR-5696-N-01

National Objective: Low and moderate income, and urgent need

4.4.3.2 Federal Highway Administration Match

In Amendment #7, the State allocated \$76 million of CDBG-DR funds to the Non-Federal Cost Shares Program to cover the 20 percent non-federal cost share to the Federal Highway Administration funded Route 35 project on the Barrier Island where the State highway was reconstructed with flood vents, pump stations, and other “best practice” mitigation measures. Reconstruction was completed in 2016 at a total cost of approximately \$341 million. Consequently, the applicable State match is less than anticipated, leaving a surplus of \$6,159,573.

In Amendment #21, the uncommitted \$6.1 million of Non-Federal Cost Shares (Match) Program funding dedicated to cover match for the Federal Highway Administration funded Route 35 project

was transferred to FRM to address the remaining unmet need of multi-family housing caused by Superstorm Sandy.

Reconstruction on the Route 35 project was completed in 2016. Action Plan Amendment #28 proposes to transfer \$1,714,582 remaining in the program.

Allocation for Activity:

- Total: \$68,125,845

FHWA Match ALLOCATION WALK		
ACTION PLAN AMENDMENT	DATE OF APPROVAL	CDBG-DR FUNDING
<i>Action Plan Amendment #7</i> Second Allocation	May 30 th , 2014	\$76,000,000*
<i>Action Plan Amendment #21</i>	June 29 th , 2017	(\$6,159,573)
<i>Action Plan Amendment #28</i>	February 11 th , 2019	(\$1,714,582)
TOTAL		\$68,125,845

*Part of the \$200 million allocation to Match Programs in Amendment #7.

4.4.3.3 Clean Water/Drinking Water State Revolving Fund Match

In Action Plan Amendment #7, the State allocated \$48,000,000 of CDBG-DR funds to the Non-Federal Cost Shares Program to cover the match to Environmental Protection Agency (EPA) funds awarded to the State to address storm impacts on water and wastewater systems and associated resilience measures. The allocated funds cover the non-federal cost share for the \$229M of Sandy Supplemental funds awarded to New Jersey through EPA to improve water quality. The EPA funds required a 20 percent non-federal cost share.

Following the initial allocation, Action Plan Amendment #15 transferred \$240,000 to cover administrative costs. Yet, by Action Plan Amendment #21, the State confirmed that only \$39,849,902 will be required to satisfy the eligible State match requirement. As such, the State identified a surplus in the amount of \$272,281. These funds were transferred to FRM to address the remaining unmet need of multi-family housing caused by Superstorm Sandy. In Action Plan Amendment 21, the State represented \$39,849,902 in the Non-Federal Cost Share Program was dedicated to provide matching funds to the EPA funded Clean Water program and \$7,637,817 was dedicated to the EPA funded Drinking Water program.

Action Plan Amendment #23 clarified information related to the distribution of funds in the Non-Federal Cost Share (Match) Program, specifically between Drinking and Clean Water activities to align with the amended Environmental Protection Agency’s (EPA) requirements. This is reflected in Table 4-4 below.

Table 4-4 Transfer of Funds between Clean Water and Drinking Water			
Approved NJ Action Plan Project	Activity Previous Allocation	Amount of Transfer	Activity Revised Allocation
Non-Federal Cost Share (Match) – EPA Clean Water	\$39,622,183	(\$23,517,702)	\$16,104,481
Water Program Delivery	\$227,719	\$1,394,812	\$1,622,531
Subtotal	\$39,849,902	\$22,122,890	\$17,727,012
Non-Federal Cost Share (Match) – EPA Drinking Water	\$7,637,817	\$22,122,890	\$29,760,707
Total	\$47,487,719	\$0	\$47,487,719

To correctly align with EPA requirements, the State reduced funds dedicated to the Clean Water match by \$22.1M and correspondingly increasing funds dedicated to the Drinking Water match by the same amount.

CW/DW State Revolving Fund ALLOCATION WALK				
ACTION PLAN AMENDMENT	DATE OF APPROVAL	Activity	Allocation by Activity	CDBG-DR FUNDING
<i>Action Plan Amendment #7</i> Second Allocation	May 30 th , 2014	Clean Water SRF	\$39,822,183	\$48,000,000 ¹
		Clean Water Program Delivery	\$500,000	
		Drinking Water SRF	\$7,677,817	
<i>Action Plan Amendment #15</i>	April 27 th , 2015	Clean Water SRF	(\$200,000)	(\$240,000) ²
		Drinking Water SRF	(\$40,000)	
<i>Action Plan Amendment #21</i>	June 29 th , 2017	Clean Water Program Delivery		(\$272,281)
<i>Action Plan Amendment #23</i>	February 11 th , 2019	Clean Water SRF	(\$23,517,702)	-
		Clean Water Program Delivery	\$1,394,812	
		Drinking Water SRF	\$22,122,890	
<i>Action Plan Amendment #33</i>	October 11 th , 2019	Clean Water SRF	\$181,236	\$181,236 ³
TOTAL				\$47,668,955

¹ Part of the \$200 million allocation to Match Programs in Amendment #7.

² Non-Substantial Amendment for the Consolidation of Administration Funds into the General Category

³ Non-Substantial Amendment to Clarify the Recording of Administrative Costs

Allocation for Activity:

- Total: \$47,668,955

4.4.4 Atlantic City Resilience Program

The Atlantic City Resilience Program, created in Amendment #35 repairs and replaces infrastructure that sustained damage due to Superstorm Sandy. DCA has determined that each project in the Program is CDBG-DR eligible.

While the funds address unmet needs remaining in the wake of Superstorm Sandy, on a longer-term basis, the improvements help mitigate against repetitive flooding that has handicapped economic development in Atlantic City.

While the media coverage following Superstorm Sandy focused on potential damage to the casinos, to which there was ultimately no serious flooding, the rest of the City was devastated. According to an article from *The New York Times* dated October 29, 2012 (“Empty of Gamblers and Full of Water, Atlantic City Reels”):

“Even as the first samplings of the storm’s ravages descended on the New Jersey Coastline, Atlantic City was already in big trouble. At high tide around 8 a.m., officials said 70-80 percent of the city was underwater. Water as much as eight feet deep coursed through some streets, leaving them impassible ... When the storm hit landfall around 8 p.m. water surged through the streets again.”

This article also pointed out that two (2) of six (6) evacuation shelters had to be vacated because they were flooded and “[a]mid everything else, in early afternoon, a gasoline spill in City Hall from floating gas tanks shorted out some 911 equipment and the city almost had to abandon its 911 system.”

Because of the city’s well documented difficulties, including an extreme shortfall of funds, these projects have remained unaddressed since the storm. Four (4) of the projects identified here address either the repair, replacement, or introduction of bulkheads. All projects include mitigation efforts and are described below in the order of priority. The State will use the funds allocated to this program to complete as many of the following projects as possible based on the priority and feasibility.

Protection of previous and ongoing CDBG-DR investment

By allocating \$20 million in CDBG-DR funds for infrastructure and public facilities projects, the State is protecting the investment already made in public and private projects in Atlantic City. The State has invested almost \$100 million in CDBG-DR funds to restore the housing stock in the City. Projects such as stabilizing bulkheads will serve to protect these homes and other investments made by the State. In addition, the State has made a significant investment in the Atlantic City community, both in government and business, including nearly \$7 million in CDBG-DR funds to rebuild small businesses. The allocation of \$20 million for recovery and future resiliency and mitigation in the largest City at the Jersey Shore will protect investments already made and fortify the City to attract future investment.

Program	Activity Previous Allocation
Fund for the Restoration of Multifamily Housing/Sandy Special Needs Housing Fund	\$39,653,310
RREM	\$44,691,830
LMI	\$3,060,967
Landlord Repair Program	\$4,072,145
Small Business Grants	\$1,874,607
Small Business Loans	\$5,060,145
Total	\$98,413,004

Atlantic City Resilience Program Project Summaries

Lower Chelsea Bulkhead Replacement

This project is the City's highest priority, proposing to replace existing bulkheads on long stretches of the City's Back Bay, west of Albany Avenue, with new elevated bulkheads to prevent damage by flood inundation and wave-overtopping. These bulkheads will complete a Bayfront protection network stretching from the Atlantic City Expressway to the City's border with Ventnor.

Gardner's Basin Park Bulkhead Stabilization and Dredging

Gardner's Basin is a unique waterfront neighborhood in the City. It is home to waterfront dining, shopping, marinas, the Aquarium, and other water-dependent uses. A significant section of the bulkhead is collapsing into the water, which presents environmental and pedestrian risks and contributes to regular flooding. Stormwater outlet pipes have also been submerged under layers of mud over time. This project includes dredging to enable stormwater drainage.

South Boulevard Bulkheads

While the provision of bulkheads in this project is relatively small in scope, these sections of waterfront on South Boulevard in Chelsea Heights do not have bulkheads and are subject to regular flooding at high-tide, which is causing significant erosion.

Ducktown-Chelsea Bayfront Bulkhead Replacement

The Ducktown-Chelsea Bayfront is the most densely populated, low-elevation area of the City. Even a minor surge event brings street flooding to the neighborhood. The bayfront neighborhood contains many older rowhomes that experienced significant damage during Sandy. Although some of these older structures are being replaced or elevated, the neighborhood's viability is threatened by the lack of floodwalls and bulkheads in some waterfront sections and undersized bulkheads in others.

Properties in the vicinity of Sunset Avenue are predominately residential with some interspersed commercial and recreational structures. The bulkheads that currently exist along the back bay are discontinuous. In 2014 the U.S. Army Corps of Engineers completed a Federal Interest Determination for the portion of the bulkhead system along Sunset Avenue. The new bulkhead system would be at least 8 feet NAVD88 and is expected to protect the area against 50-year flood conditions.

Inspection and Replacement of Check Valves along the Bay

To mitigate the impacts from tidal flooding, the City has historically installed check valves to prevent the backflow of the tidal waters into the City's stormwater system. In the back-bay area there are over 100 outflow pipes outfitted with check valves. In recent years the City has observed an increasing amount of flooding in drainage areas that utilize these valves, at or near their points of discharge. Malfunctioning and/or broken check valves are the primary culprit. The City will use CDBG-DR funds to inspect the check valves, evaluate the impact from malfunctioning valves and analyze the need for additional valves where they are not now used. Subsequent to the inspection and evaluation, the malfunctioning check valves will be replaced, and additional valves installed as deemed necessary during the inspection process.

Public Building Dry Floodproofing

Atlantic City's City Hall, including the emergency generators on the first floor, is not flood-proofed. City Hall is home to the 9-1-1 dispatch system that coordinates all emergency services in the City, so the dispatch system is also vulnerable in a flood event (as described in *The New York Times* article). Ensuring that the dispatch system is always operable, particularly during times of flooding, will help ensure the City's resiliency.

Flood waters also damaged the All Wars Building. The installation of temporary steel flood walls at each door will mitigate flood damage from future storm events.

Traffic Signal Upgrades

Traffic signals in 27 locations throughout the City (including Ducktown, Chelsea, and the Inlet) need to be replaced due to damage sustained from Sandy.

Administration of the Program

DCA has executed a subrecipient agreement with Atlantic City and partnering authorities such as the Casino Redevelopment Authority if necessary, to ensure completion of these projects by 2022. The administration of the Program will be a joint effort between Atlantic City and DCA. DCA takes an active role in program management, working directly with City officials and staff in a collaborative and coordinated fashion. DCA retains the decision-making authority for each project. Consequently, DCA requires a physical presence in the City, and will work closely with City officials and partnering authorities to ensure completion of these projects by 2022.

DCA has hired a construction management firm to oversee the projects by utilizing an existing construction management contract procured by the State for Rebuild by Design. All projects need an environmental assessment to comply with the federal environmental requirements prior to any release of funds for engineering and construction. All State procurement rules are followed to ensure that each project remains eligible for CDBG-DR funding. Prior to the submission of their quotes for construction management, construction management bidders will be required to attend a pre-bid conference to connect with women, minority and veteran-owned businesses and members of the local workforce who could assist the bidders with their Section 3 compliance.

Allocation for Activity: \$20,000,000

ATLANTIC CITY RESILIENCE PROGRAM ALLOCATION WALK		
ACTION PLAN AMENDMENT	DATE OF APPROVAL	CDBG-DR FUNDING
<i>Action Plan Amendment #35</i>	February 7 th , 2020	\$20,000,000
TOTAL		\$20,000,000

Maximum Award: Funding is allocated for each project based on priority, up to the stated amount.

Eligibility: HCDA Section 105(a)(2); (a)(12); (a)(14)

National Objective: LMI Area Benefit, Urgent need

4.5 Support for Government Entities

4.5.1 Essential Services Grant Program

Several municipalities and local government agencies experienced difficulties in meeting the demands and costs for critical public services as a result of the impacts of Superstorm Sandy. This program was targeted to fund essential public service needs existing after exhausting other federal and State resources available for the same purpose. Applicants were required to seek a Community Disaster Loan prior to applying for funding. Using \$60 million of first tranche CDBG-DR funds, the program provided funding to counties, municipalities, school districts and other government entities to ensure continued funding of essential public services for residents.

The State's analysis shows that government entities in particularly hard-hit communities required further financial support to ensure delivery of essential services. Based on that analysis, the State allocated \$85 million of second tranche CDBG-DR funds to support these communities in 2014 and 2015. Leveraging the State's authority to approve local budgets and school district budgets, the State incorporated into its guidelines protections to ensure that municipalities did not use CDBG-DR funds as a substitute to cover expenses for essential services that could be funded through other available funding sources based on their existing budgets. The State has done so by establishing programmatic eligibility requirements that continued to ensure that Essential Services Program funding was only provided to those impacted districts. The State will make available for inspection by HUD and the Office of the Inspector General documentation supporting the State's determination of eligible financial assistance for public services.

ESG, administered by DCA's Division of Local Government Services, was allocated \$145 million of CDBG-DR funds and has disbursed grant funding in three separate funding rounds -- one in each of 2013; 2014 and 2015. Accounting for distributions across all three years, including the recently announced 2015 ESG awards to eligible applicants, as well as program administration costs, the Division of Local Government Services concluded that \$136 million was sufficient to fully fund the program. As a result, the remaining \$9 million was transferred to the LMI Homeowners Rebuilding Program to satisfy the identified unmet need in Amendment #16. As projections continued to evolve, ESG identified a remaining funds, which have been transferred to the Fund for the Restoration of Multi-Family Housing to address the unmet need of multi-family housing caused by Superstorm Sandy in Amendment #21 and 27.

Allocation for Activity:

- **Total:** \$134,238,714

ESSENTIAL SERVICES GRANT PROGRAM ALLOCATION WALK		
ACTION PLAN AMENDMENT	DATE OF APPROVAL	CDBG-DR FUNDING
<i>Action Plan</i> Initial Allocation	April 29 th , 2013	\$60,000,000
<i>Action Plan Amendment #7</i> Second Allocation	May 30 th , 2014	\$85,000,000
<i>Action Plan Amendment #16</i>	September 16 th , 2015	(\$9,000,000)
<i>Action Plan Amendment #21</i>	May 30 th , 2017	(\$1,745,574)
<i>Action Plan Amendment #27</i>	September 7 th , 2018	(\$15,712)
TOTAL		\$134,238,714

Maximum Award: Awards will be based upon need as determined by a financial review by the DCA's Division of Local Government Services. Staff will review requests to ensure that only the amount necessary and reasonable will be granted in connection with eligible public services. The maximum award will be determined based on an analysis of the need or funding gap for each type of essential service assistance requested by the local grantee.

Eligible Applicants: Counties, Municipalities, Authorities, Fire Districts, School Districts and other local government agencies providing essential services

Eligibility Criteria: Applications must:

- Demonstrate a financial need resulting from the impact of Sandy that will compromise the delivery of one or more of its public service functions.
- Facilitate the short- and long-term recovery of those local government entities and school districts greatly impacted by Superstorm Sandy by seeking appropriate budget capacity to deliver (i) existing services that, because of the effects of Superstorm Sandy on their baseline budget, would be eliminated or severely curtailed were it not for the grant; and/or (ii) additional services necessitated by Superstorm Sandy.
- Discuss what steps are being taken to contain costs and implement sound fiscal and managerial practices, including but not limited to: personnel cost restraints, nonessential service reductions, procurement initiatives, as well as efforts at identifying opportunities to share services and capital assets with neighboring communities
- Discuss actions being undertaken to facilitate reconstruction of public and private property, and enhance preparedness for, and resiliency in the face of, future storms.

Criteria for Selection: Eligible applicants will be selected based on the following criteria:

- Whether the applicant has insufficient budget capacity to provide essential services, including public safety-related services such as fire, emergency dispatch, security services,

policing/law enforcement; health and welfare-oriented services including public works, garbage collection/ disposal, water/sewer, health and social services; planning/permitting services; and education-related services.

- The DCA has determined through a review of financial information (including but not necessarily limited to FEMA Community Disaster Loan Applications, introduced budgets, and annual financial statements) that there exists an extreme hardship such that the applicant will have to eliminate or severely curtail the requested services due to the effects of Superstorm Sandy and/or will be unable to provide those additional services necessitated by Superstorm Sandy. The funding will be based on a determination of the gap between the level of essential services required by the community and the amount that the community can afford to sustain, given its Sandy-impacted budget.

Eligibility: Section 105(a)(8)

National Objective: Low- and moderate-income; alleviate slums and blight; urgent need.

4.5.2 Unsafe Structures Demolition Program

Because of Sandy, numerous homes were knocked off their foundations, were left in a state of dilapidation or disrepair, or were made a fire hazard or danger to public health or welfare (collectively, “unsafe structures”). Remediating these threats to health or public safety has been of utmost importance. Moreover, these homes have presented a significant risk of blight that, left unaddressed, undermines community and State recovery efforts.

In January 2014, HUD approved Amendment #4 to transfer \$15 million in funding to create a new Unsafe Structures Demolition Program. That investment was expected to fund between 500 and 750 demolitions. As State agencies continued to work with affected municipalities to identify homes that require demolition, it became apparent that initial investment likely would be insufficient to address communities’ need for demolitions. Nearly 1,300 homes had been identified as potential targets for demolition under the program. Therefore, the State committed additional funds in the second allocation (Amendment #7) to support this program.

Yet the State faced significant setbacks in administering the program. Because of regulations governing the use of CDBG-DR funds, demolishing structures using CDBG-DR funds without consent of a property owner is generally cost prohibitive. Therefore, the Unsafe Structures Demolition Program proceeded with demolitions for the approximately 95 eligible properties where the property owner has consented to the demolition. In light of the reduced number of demolitions that were to take place under the program, not all of the funding originally allocated to this program would be utilized by the program. Therefore, in Amendment #21, the State reallocated \$18,705,242 to the Blue Acres Buyout Program where the funds could be used to acquire and demolish properties in floodplains, turning the vacant lots over to the municipality to maintain as green space. Another \$2,303,808 was transferred in the same amendment to the Fund for the Restoration of Multi-Family Housing to repair or replace multi-family housing. After completing all planned demolitions through the program, Amendment #27 reallocated the remaining funds to support the administration of existing recovery programs.

Allocation for Activity:

- Total: \$3,955,969

UNSAFE STRUCTURES DEMOLITION PROGRAM ALLOCATION WALK		
ACTION PLAN AMENDMENT	DATE OF APPROVAL	CDBG-DR FUNDING
<i>Action Plan Amendment #4</i>	January 8 th , 2014	\$15,000,000
<i>Action Plan Amendment #7</i> Second Allocation	May 30 th , 2014	\$10,000,000
<i>Action Plan Amendment #21</i>	May 30 th , 2017	(\$21,009,050)
<i>Action Plan Amendment #27</i>	October 18 th , 2018	(\$34,981)
TOTAL		\$3,955,969

Eligibility Criteria:

- Property must be damaged by Superstorm Sandy.
- Property must be identified as an “unsafe structure” as defined by the New Jersey Department of Community Affairs, Division of Codes.

Eligibility for CDBG-DR: Section 105(a)(3); Section 105(a)(4); Section 105(a)(11)

National Objective: Low- and moderate-income area, housing and/or limited clientele; alleviate slums and blight; urgent need.

4.5.3 Code Enforcement and Zoning Program

Ensuring that homes are built safer and up to code is a precondition of effectively repairing and rebuilding the housing sector. The Code Enforcement and Zoning Program was created to supplement local code enforcement offices with additional personnel and related costs, both directly and through funds to individual municipalities to provide an online plan review and permitting process, increase the municipalities’ capacity to respond to increased demand for zoning code and building code enforcement as a direct result of the damage caused by the storm, the resultant increase in rebuilding activity, and to enhance DCA’s continuing education curriculum for code officials to include training in flood hazard mitigation practices and other storm-related code issues.

The program comprised two separate initiatives. Code Enforcement ensured that homes were rebuilt safer and up to code requirements. The State supplemented local code enforcement offices with additional personnel, and related costs, in an effort to bolster municipalities’ capacity to respond to increased demand for building code enforcement as a result of the damage caused by Sandy. The Code Enforcement Program conducted over 97,000 inspections. By 2016, municipalities established their own financial capacity to hire newly trained personnel entering the job market. The program has thus served all eligible applicants and has since ended operations.

Zoning provided up to \$60,000 to municipalities experiencing record demand for zoning permit approvals due to the high number of property owners rebuilding damaged structures. Municipal

grantees used the funds to support the efficient operations of the local zoning offices, to hire additional or technical staff, fund extended hours of operation or rent additional space. The program provided grants to fourteen municipalities and concluded operations in September 2017.

Action Plan Amendment #21 and 27 transferred remaining funds from the program to the Fund for the Restoration of Multi-Family Housing and reallocated funds for the general administration of all Sandy Recovery programs.

Allocation for Activity:

- **Total:** \$5,278,667
 - **Code Enforcement:** \$4,178,524
 - **Zoning:** \$1,100,143

CODE ENFORCEMENT AND ZONING PROGRAM ALLOCATION WALK				
ACTION PLAN AMENDMENT	DATE OF APPROVAL	Activity	Allocation by Activity	CDBG-DR FUNDING
<i>Action Plan</i> Initial Allocation	May 30 th , 2014	Code Enforcement	\$4,516,050	\$6,000,000
		Zoning	\$1,483,950	
<i>Action Plan Amendment #7</i> Second Allocation	April 27 th , 2015	Code Enforcement	\$3,483,950	\$5,000,000
		Zoning	\$1,516,050	
<i>Action Plan Amendment #21</i>	June 29 th , 2017	Code Enforcement	(\$3,806,878)	(\$5,702,881)
		Zoning	(\$1,896,003)	
<i>Action Plan Amendment #27</i>	October 18 th , 2018	Code Enforcement	(\$14,598)	(\$18,452)
		Zoning	(\$3,854)	
TOTAL				\$5,278,667

Maximum Award: Awards to municipalities will take the form of (i) state staff supplementing local building code officials, and/or (ii) grants to secure additional zoning office personnel directly according to assessed needs.

Eligibility Criteria: To be eligible for a zoning code enforcement grant, a municipality must be in one of the nine most-impacted counties and (i) have had at least one hundred property assessments reduced under N.J.S.A. 54:4-35.1 as a result of the storm, or (ii) have seen a 10 percent increase in zoning application filings since November 2012 that can be ascribed to Superstorm Sandy. To be eligible for building code enforcement assistance, a municipality must demonstrate a backlog or code enforcement assistance need arising from Superstorm Sandy.¹

Eligibility for CDBG-DR: Section 105(a)(3)

National Objective: Low- and moderate-income area and/or housing; alleviate slums and blight; urgent need.

¹ Reflective of changes made in Action Plan Amendment #7

4.6 Supportive Services

Superstorm Sandy had a severe impact on households that include individuals with special needs. The State will fund the Sandy Special Needs Housing Fund to provide capital subsidies for supportive housing development and allocate CDBG-DR funds to the Departments of Human Services, Health, and Children and Families to support the services these agencies provide to assist nonprofit organizations in addressing the needs of this population. State and Federal funding for community placements are available from both the Division of Developmental Disabilities and Division of Mental Health and Addiction Services. These funds are the source of the service dollars to support housing development under the Sandy Special Needs Housing Fund. This CDBG-DR allocation will complement the allocation of Social Services Block Grant Funds to maximize and not duplicate benefit.

4.6.1 Supportive Services Program

DCA will administer the Supportive Services program to deliver grants for critical supportive services needs that have been increased as a result of the storm. In addition, the U.S. Department of Health and Human Services notified the New Jersey Department of Human Services of a \$226,000,000 Disaster Social Services Block Grant (SSBG) award. Eligible expenditures under Disaster SSBG include social service program delivery as well as repairs to health and social services facilities damaged by Superstorm Sandy. State departments, to include Human Services, Children and Families, Environmental Protection and Health, will share in the award.¹ Each of the three departments currently receives funding under regular SSBG. Disaster SSBG will support social and health services targeted to the residents of New Jersey's most impacted areas of the State. DCA will directly manage or establish agreements for effective management of the programs with state agencies and eligible entities, including the Departments of Health and Environmental Protection.²

In Action Plan Amendment #15, \$10,724 was reallocated to cover administrative costs for the entire program.

Allocation for Activity:

- Total: \$42,367,735

¹ Eligible applicants expanded in Amendment #3 to include Department of Environmental Protection.

² Clarifications added in Amendment #5 to further detail the relationship between agencies as it relates to the administration of these programs. These edits are also shown in "Eligible Entities" and "Process" sections.

SUPPORTIVE SERVICES PROGRAM ALLOCATION WALK

ACTION PLAN AMENDMENT	DATE OF APPROVAL	Activity	Allocation by Activity	CDBG-DR FUNDING
<i>Action Plan</i> Initial Allocation	May 30 th , 2014	Housing Counseling	\$5,348,611	\$10,000,000
		Mosquito Surveillance	\$3,098,397	
		Mosquito Control	\$1,542,250	
		Tenant-Based Rental Assistance	\$10,742	
		Lead Hazard Reduction	\$0	
Amendment #6	May 2 nd , 2014	Tenant-Based Rental Assistance	\$17,000,000	\$22,000,000
		Lead Hazard Reduction	\$5,000,000	
Amendment #9	August 21 st , 2014	Housing Counseling	\$2,500,000	\$0
		Mosquito Surveillance	(\$2,500,000)	
Amendment #11 Third Allocation	April 20 th , 2015	Tenant-Based Rental Assistance	\$15,000,000	\$15,000,000
Amendment #15	May 2 nd , 2014	Tenant-Based Rental Assistance	(\$10,742)	(\$10,742)*
Amendment #21	June 29 th , 2017	Mosquito Surveillance	(\$110,833)	(\$366,411)
		Mosquito Control	(\$255,578)	
Amendment #27	October 18 th , 2018	Housing Counseling	\$3,113,983	(\$3,948,472)
		Mosquito Control	(\$146,579)	
		Tenant-Based Rental Assistance	(\$3,113,983)	
		Lead Hazard Reduction	(\$3,801,893)	
Amendment #28	February 12 th , 2019	Tenant-Based Rental Assistance	(\$1,523,768)	(\$1,523,768)
Amendment #32	July 18 th , 2019	Tenant-Based Rental Assistance	(\$42,872)	(\$42,872)
Amendment #41	December 27, 2021	Housing Counseling	\$1,260,000	\$1,260,000
TOTAL				\$42,367,735

*Non-Substantial Amendment for the Consolidation of Administration Funds into the General Category

Eligible Entities: Department of Community Affairs; Department of Children and Families; Department of Health; Department of Human Services; and Department of Environmental Protection

Process: DCA or eligible entities will receive applications for eligible projects and programs. DCA may also directly administer programs and take applications from eligible households.

Eligible activities under this program may include, but are not limited projects that:

- Provide funding to prevent homelessness among low-income residents of the nine most-impacted counties and other disaster-impacted counties. This will include supporting housing choice vouchers provided in response to the needs of displaced LMI families;
- Develop education outreach in impacted communities on possible post-storm health risks;
- Train public health and environmental health specialists to support health assessments in impacted communities;
- Mitigation of environmental health concerns including West Nile Virus;

- Mold remediation training;
- Maintaining a database and systems for emergency communications;
- Establishing protocols to better prepare medical needs shelters following natural disasters;
- Case management;
- Capital funding for group and transitional home development for individuals with disabilities and those at risk of homelessness;
- Emergency homeless shelter replacement; and/or
- Capital grants for elderly, mobility disabled households, and institutions to provide accessibility features such as ramps, rails and elevators.

Eligibility: Section 105(a)(8)

National Objective: Low- and moderate-income, alleviate slum or blight, and urgent need

4.6.1.1 Housing Counseling Program

The use of funds targeted for the purpose of Case Management provides housing counseling and supportive services to primarily low- and moderate-income residents in storm-impacted counties; a listed activity in the Supportive Services Program. Amendment #9 established the Housing Counseling Program in accordance with the State’s Voluntary Compliance Agreement with the HUD Fair Housing and Equal Opportunity Office (FHEO) and the Latino Action Network, the NAACP, and the Fair Share Housing Center. DCA will administer the program as described in Section 4.7.1.

The Housing Counseling Program is a collaboration of HUD-certified, non-profit, community-based organizations which provide a wide range of counseling services to both renters and homeowners impacted by Superstorm Sandy. Counselors provide supportive services, such as foreclosure prevention, relocation services, and debt management, and have assisted with application intake for the LMI Homeowners Rebuilding Program and the Tenant-Based Rental Assistance Program. The agencies participating in the program have also been trained to use the State’s language line and the “I-Speak” cards in order to assist any applicant of limited English proficiency. The Housing Counseling Program has been a valuable resource for vulnerable populations in hard hit communities.

The State’s Voluntary Compliance Agreement stipulates that a minimum of \$2 million per year be available for housing counseling services “until and including the year when the HUD closeout for the CDBG-DR funding occurs, with the final year to be prorated depending on when the closeout occurs and if CDBG-DR funds are available.” Action Plan Amendment #27 reallocated \$3.1 million from the Tenant-Based Rental Assistance program to comply with the Voluntary Compliance Agreement and meet the needs of those impacted by Superstorm Sandy through HUD’s expenditure deadline.

Allocation for Activity:

- Total: \$12,222,594

HOUSING COUNSELING PROGRAM ALLOCATION WALK		
ACTION PLAN AMENDMENT	DATE OF APPROVAL	CDBG-DR FUNDING
<i>Action Plan</i> Initial Allocation	April 29 th , 2013	\$5,348,611
<i>Action Plan Amendment #9</i>	August 21 st , 2014	\$2,500,000
<i>Action Plan Amendment #27</i>	October 18 th , 2018	\$3,113,983
<i>Action Plan Amendment #41</i>	December 27, 2021	\$1,260,000
TOTAL		\$12,222,594

4.6.1.2 Mosquito Surveillance Program

The Mosquito Surveillance Program was administered by the Department of Health. The program has been completed and has a remaining surplus that was transferred to FRM in Amendment #21 to address the remaining unmet need of multi-family housing caused by Superstorm Sandy.

Allocation for Activity:

- Total: \$487,564

MOSQUITO SURVEILLANCE PROGRAM ALLOCATION WALK		
ACTION PLAN AMENDMENT	DATE OF APPROVAL	CDBG-DR FUNDING
<i>Action Plan</i> Initial Allocation	April 29 th , 2013	\$3,098,397
<i>Action Plan Amendment #9</i>	August 21 st , 2014	(\$2,500,000)
<i>Action Plan Amendment #21</i>	June 29 th , 2017	(\$110,833)
TOTAL		\$487,564

4.6.1.3 Mosquito Control Program

The Mosquito Control Program was administered by the Department of Environmental Protection. The program supported efforts to address the increased mosquito population resulting from changes in the environment due to the storm, including responding to requests for aerial spraying and pesticides. The program assisted twenty-one county-based mosquito commissioners or control agencies to expand their efforts in mosquito surveillance and control and ceased operating in early

2017. The Program has been completed and has a remaining surplus that was transferred to FRM in Amendment #21 to address the remaining unmet need of multi-family housing caused by Superstorm Sandy. Amendment #27 reallocated the remaining funding for the general administration of Sandy Recovery programs.

Allocation for Activity:

- Total: \$1,140,093

MOSQUITO CONTROL PROGRAM ALLOCATION WALK		
ACTION PLAN AMENDMENT	DATE OF APPROVAL	CDBG-DR FUNDING
<i>Action Plan</i> Initial Allocation	April 29 th , 2013	\$1,542,250
<i>Action Plan Amendment #21</i>	June 29 th , 2017	(\$255,578)
<i>Action Plan Amendment #27</i>		(\$146,579)
TOTAL		\$1,140,093

4.6.1.4 Tenant-Based Rental Assistance Program

The program was established within the Supportive Services Program under an activity designed to prevent homelessness among low income residents in counties impacted by Superstorm Sandy. Given the Department of Community Affairs’ commitment to increasing the availability of affordable rental units, coupled with an increased demand for individual rental assistance, the State shifted \$17,000,000 in Amendment #6 to provide tenant-based rental assistance. This transfer of funds was subject to HUD’s approval of a waiver request from the State to allow the program to proceed as planned, which was received on July 11, 2014.³

With the third federal allocation, the State provided another \$15,000,000 in Amendment #11 to increase availability of rental units to low- and moderate-income households and revitalize impacted communities. Importantly, HUD’s initial waiver only allowed up to \$17 million of CDBG-DR funds to be used for tenant-based rental assistance. Therefore, this allocation of additional funding for the tenant-based rental assistance program was conditioned on HUD’s extending the CDBG-DR funding cap from \$17 million to \$32 million. That waiver was granted on April 2, 2015.⁴

Intake for the Tenant-Based Rental Assistance (TBRA) program opened in early 2016 and extensive outreach was undertaken leading up to, and during, the application period. Income eligible applicants

³ Federal Register Notice [FR-5696-N-10](#) allows the State to make eligible up to \$17 million in rental assistance and utility payments paid for up to two years on behalf of homeless and at-risk low- and moderate-income households displaced by Superstorm Sandy. The waiver was granted effect from January 1, 2014 to January 1, 2016.

⁴ Federal Register Notice [FR-5696-N-15](#) increased the amount for rental assistance, utility payments, and if necessary, rental costs such as security deposits and utility deposits from \$17 to \$32 million. The waiver also clarified that applications could be approved until January 1, 2016 to provide rental assistance for up to 24 months, but no later than January 1, 2018. In order to allow all applicants to receive a full two years of assistance under the second waiver, HUD modified that waiver in Federal Register Notice [FR-5961-N-02](#) (February 8, 2017) to allow the State to disburse funds until January 1, 2019.

must (i) have resided in one of the nine most-impacted counties at the time of the storm, or (ii) be moving into the nine-most impacted counties. The first group of applicants – residents of one of the nine most-impacted counties at the time of the storm – received first priority in this program. Based on the typical response rate when county tenant-based rental assistance wait lists open, the State projected to receive 500 applications a day, far greater demand than the State has funding to serve. Notably, housing counseling services were provided to assist applicants with submission of on-line in-take forms, and all intake forms will be input into the State’s Housing Pro system.

An electronic lottery was held to select approximately 1,400 applicants who can be served with the allotted funding. To prioritize based on need, in addition to the Criteria for Selection set forth below, seventy-five percent of program funds was initially reserved for families at 30% or less of Area Median Income.

Per the federal waiver provided in Federal Register Notice [FR-5961-N-02](#), all subsidies were scheduled to end December 31, 2018. The program spent nearly the entire allocation prior to the prescribed deadline, resulting in assistance being provided to 1,788 families throughout 115 municipalities. The transfer of \$3.1 million from TBRA to the Housing Counseling Program in Amendment #27 allowed the State continue to serve highly vulnerable populations within the nine most-impacted counties. Remaining funds were transferred to the RREM program in Amendment #28 to meet the remaining unmet need.

Allocation for Activity:

- Total: \$27,317,346

TENANT-BASED RENTAL ASSISTANCE ALLOCATION WALK		
ACTION PLAN AMENDMENT	DATE OF APPROVAL	CDBG-DR FUNDING
<i>Action Plan</i> Initial Allocation	April 29 th , 2013	\$10,742
<i>Action Plan Amendment #6</i>	May 2 nd , 2014	\$17,000,000
<i>Action Plan Amendment #11</i>	April 20 th , 2015	\$15,000,000
<i>Action Plan Amendment #15</i>	May 2 nd , 2015	(\$10,742)*
<i>Action Plan Amendment #27</i>	October 18 th , 2018	(\$3,113,983)
<i>Action Plan Amendment #28</i>	February 12 th , 2019	(\$1,523,768)
<i>Action Plan Amendment #32</i>	July 18 th , 2019	(\$42,872)
<i>Action Plan Amendment #41</i>	December 27 th , 2021	(\$2,031)
TOTAL		\$27,317,346

*Non-Substantial Amendment for the Consolidation of Administration Funds into the General Category

Eligible Applicants: LMI rental households that: (i) resided in one of the nine most-impacted counties at the time of the storm, or (ii) will be moving into the nine most impacted counties.

Criteria for Selection: Because demand for TBRA is expected to exceed available funding, funding will be distributed through a randomized lottery. Initially, funds will be disbursed (in order of lottery number) to applicants at 30% of Area Median Income directly impacted by Superstorm Sandy and residing within one of the nine most impacted counties. If any funds are remaining, funding will then be disbursed (in order of lottery number) to applicants at 30% of Area Median Income residing or seeking to reside in one of the nine most-impacted counties. If any funds are remaining after that second distribution, remaining funds will be disbursed (in order of lottery number) to remaining eligible applicants, prioritizing first remaining applicants who were directly impacted by Superstorm Sandy.

Seventy-five percent of available program funds will be initially reserved for eligible households at or below 30 percent of Area Median Income.

Eligibility for CDBG-DR: Section 105(a)(8); Federal Register Notice FR-5696-N-10 (and subsequent waivers: FR-5696-N-15; FR-5961-N-02)

National Objective: Low- and moderate-income

4.7.2 Lead Hazard Reduction Program

The Department of Health received Social Services Block Grant (SSBG) funding for a Lead Risk Assessment Program for Young Children. This program provided funding for community outreach and testing of young children, pregnant women, and adults performing physical recovery work for blood lead levels and case management services. However, the SSBG funding did not cover lead assessment and remediation. To address this need, in Amendment #6, DCA implemented a Lead Hazard Reduction Program with a primary focus on providing funding for lead assessment, lead hazard reduction, and clearance. Homes targeted for hazard reduction were homes impacted by Superstorm Sandy. Paint typically begins to flake once surfaces that were submerged in water begin to dry. As a result, flooded homes built prior to 1978 are more likely to experience increased lead and other health hazards.

The program expended \$1.2 million towards providing lead assessment, lead remediation, mold and moisture testing and repair of conditions contributing to the hazardous environmental factors. The program also included support for any temporary relocation required while remediation occurred. In addition to the households served under this program, the State provided funding for lead remediation to thousands of homeowners through the RREM, LMI, and Landlord Rental Repair programs. The Lead Hazard Reduction Program has served all applicants and DCA is now preparing to close the program. Thus, Action Plan Amendment #27 reallocated \$3.8 million in surplus Lead Hazard Reduction Program funds to address an unmet need in the Rental Assistance Program and to fund the general administration of all Sandy Recovery programs.

Allocation for Activity:

- Total: \$1,198,107

LEAD HAZARD RISK REDUCTION PROGRAM ALLOCATION WALK		
ACTION PLAN AMENDMENT	DATE OF APPROVAL	CDBG-DR FUNDING
<i>Action Plan Amendment #6</i>	May 2 nd , 2014	\$5,000,000
<i>Action Plan Amendment #27</i>	October 18 th , 2018	(\$3,801,893)
TOTAL		\$1,198,107

Eligible Entities: Community based organizations and units of local and county government with experience in administering lead hazard reduction and/or weatherization programs.

Process: DCA will issue a request for proposals to identify qualified nonprofit community-based organization and local public agencies to conduct lead hazard reduction programs.

Eligible Activities:

- Assessment of lead-based paint hazards in single and multi-family residential units.
- Abatement, remediation or reduction of lead paint hazards in residential units.

DCA may also elect to allow other moderate levels of repair to occur in combination with the lead paint abatement, including addressing other environmental hazards such as mold, as well as other ancillary costs to performing the abatement.

Eligibility: Section 105(a)(4) and Section 105(a)(25)

National Objective: Low- and moderate-income; urgent need

4.7 Administration and Planning

The State must certify and have in place proficient financial controls and procurement processes, adequate procedures to prevent any duplication of benefits as defined by Section 312 of the Stafford Act, processes to ensure timely expenditure of funds, maintain comprehensive websites regarding all disaster recovery activities assisted with these funds, processes to detect and prevent waste, fraud, and abuse of funds, perform environmental reviews on every project and ensure all projects are compliant with the Uniform and Relocation Act, Davis-Bacon and other labor standards, Fair housing, Section 3, Part 85 and other federal laws. Appendix C reflects the anticipated expenditure projections for the first tranche of funds. HUD provides monies to the State for the operating costs associated with day-to-day management of programs. Proper oversight and administration ensures reduction in concerns or findings from HUD. Findings from the Federal Government can require repayment of CDBG Disaster funds back to HUD. Additional oversight and monitoring activities are described in Section 3.

ADMINISTRATION AND PLANNING ALLOCATION WALK

ACTION PLAN AMENDMENT	DATE OF APPROVAL	Activity	Allocation by Activity	CDBG-DR FUNDING
Action Plan Initial Allocation	May 30 th , 2014	Planning	\$5,000,000	\$84,000,000
		Administration	\$79,000,000	
Amendment #7 Second Allocation	May 2 nd , 2014	Planning	\$10,000,000	\$83,000,000
		Administration	\$73,000,000	
Amendment #11 Third Allocation	April 20 th , 2015	Administration	\$35,365,798	\$35,365,798
Amendment #15	May 2 nd , 2014	Planning	\$4,717,690	\$7,073,342
		Administration	\$2,355,652	
Amendment #21	June 29 th , 2017	Planning	(\$1,125,014)	\$3,674,986
		Administration	\$4,800,000	
Amendment #27	October 18 th , 2018	Planning	(\$708,113)	\$3,065,504
		Administration	\$3,773,617	
Amendment #28	February 22, 2019	Planning	(11,700)	(11,700)
Amendment #33	October 11 th , 2019	Planning	\$238,560	(\$5,993,773)
		Administration	(\$6,232,333)	
Amendment #38	November 17 th , 2019	Planning	\$1,000,000	\$9,000,000
		Administration	\$8,000,000	
TOTAL				\$219,174,154

DCA as the State-designated grantee will oversee all activities and expenditures of the CDBG-DR funds through the Division of Disaster Recovery and Mitigation. Existing State employees are providing this function and additional personnel and contractors have been hired to aid in the administration of, and to carry out, recovery programs. Not only will these personnel remain involved in ensuring that there are layers of financial control, they also will undertake administrative

and monitoring activities to better assure compliance with applicable requirements, including, but not limited to, meeting the disaster threshold, eligibility, national objective compliance, fair housing, nondiscrimination, labor standards, environmental regulations, and procurement regulations at 2 CFR Part 200.¹

DCA has established a Sandy Recovery Division (SRD), now the Division of Disaster Recovery and Mitigation (DRM) with departmental and contracted staff. The DRM coordinates with existing DCA divisions and other state agencies to administer recovery programs. Tasks include providing overall program direction, financial controls, procurement, outreach and communications, compliance, information management, and recovery subject matter expertise. DCA has developed process maps and program guidelines to direct the work of all staff and subrecipients for each program. Written procedures address cross-cutting topics such as Davis Bacon, fair housing, Section 3, financial management, and file management for disaster recovery. The recovery staff also provides technical assistance to grantees, and undertakes monitoring activities to ensure regulatory compliance.

New Jersey has implemented the following oversight and monitoring processes, among others: proficient financial controls and procurement processes; adequate procedures to prevent any duplication of benefits as defined by Section 312 of the Stafford Act; processes to ensure timely expenditure of funds; comprehensive websites regarding all disaster recovery activities assisted with these funds; processes to detect and prevent waste, fraud, and abuse of funds; environmental and historic reviews on applicable projects; and processes ensuring all projects are compliant with the Uniform Act (relocation), Davis-Bacon and other labor standards, fair housing, Section 3, uniform administrative requirements at 2 CFR 200, and other applicable federal laws. The State also incorporates all of the oversight and monitoring processes and procedures described in the Action Plan.

DCA will maintain a high level of transparency and accountability by using a combination of risk analysis of programs and activities, desk reviews, site visits, and checklists modeled after HUD's Disaster Recovery Monitoring Checklists and existing monitoring checklists used in monitoring regular program activities. DCA will determine appropriate monitoring of grants, taking into account prior CDBG-DR grant administration performance, audit findings, as well as factors such as the complexity of the project. In accordance with New Jersey Executive Order No. 125, Accountability Officers have been appointed to oversee the responsible disbursement and utilization of federal reconstruction resources allocated by or through each department. Internal auditors will monitor and review for compliance with federal and state laws and regulations, and will report directly to the Commissioner of DCA.

The primary purpose of the State's monitoring strategy is to ensure that all projects comply with applicable federal and state regulations and are effectively meeting stated goals and projected timelines. DCA staff will continue to perform monitoring in accordance with its CDBG-DR monitoring plan, maintaining a high level of transparency and accountability through a combination of risk analysis of programs and activities, desk reviews, site visits, and checklists modeled after HUD's Disaster Recovery Monitoring Checklists and existing monitoring checklists used in monitoring

¹ Amendment #7

regular program activities. All projects will be monitored on a schedule determined by the risk analysis, but at least once on-site during the life of the activity. The results of monitoring and audit activities will be reported to the Commissioner of DCA, and status of the grant programs are reported on two public websites: <http://nj.gov/comptroller/sandytransparency/> and <https://www.newjerseyrebuild.org/>. Both are updated regularly.

Monitoring will continue to address compliance with:

- CDBG-DR and other applicable regulations, such as fair housing, environmental, wage rates, and others
- Floodplain restrictions
- Applicant eligibility
- Restrictions on duplication of benefits.

Moreover, the State will continue to follow all monitoring processes identified in the Action Plan, including those created in response to New Jersey Executive Order 125 as well as state legislation.

Each awarded applicant will continue to report information necessary and relevant to the status of its activities, and other information as required by HUD. Additional reporting requirements (e.g., annual audits, contractual obligations, labor and minority business enterprise reports, as applicable) are specified in contract documents.

The State will continue to follow all of the processes and procedures described in Section 6 of the Action Plan with respect to preventing and detecting waste, fraud and abuse, including those steps required pursuant to New Jersey Executive Order 125 as well as state legislation

The HUD appropriation regulation for the CDBG-DR funds requires the State to examine its goals and objectives to promote sound, sustainable long-term recovery planning that is informed by a post-disaster evaluation and coordinated with other local and regional planning efforts.

Any planning assistance provided through CDBG-DR funds will be required to be coordinated within the framework of the New Jersey Statewide Hazard Mitigation Plan and with other relevant functional land use and critical infrastructure investment plans. The state agency steering committee that coordinates statewide planning efforts will be charged with ensuring that this local and regional planning assistance is complemented with alignment of a wide range of State functional plans and regulations, as well as identifying available non-recovery fiscal resources to facilitate implementation.

Some of the funding will also be utilized to provide technical assistance to subrecipients receiving CDBG-DR funds so that recovery programs will be implemented efficiently, effectively and in compliance with the federal, state and local regulations. This includes ensuring coordinated and streamlined compliance with environmental and historical preservation requirements, which New Jersey's Department of Environmental Protection is actively working toward.

In response to ongoing needs for planning activities, second tranche funding has been allocated in order to guide long-term recovery and redevelopment at the local/regional level. Examples of

planning studies include but are not limited to: community resiliency plans, enhanced GIS mapping as part of a municipal planning program, environmental design studies, sustainable designs for construction and reconstruction in flood hazard areas, economic development plans, zoning ordinances, and land development codes.

Planning grant assistance is available on a local and/or regional basis in order to guide long-term recovery and redevelopment. Examples of planning studies include but are not limited to: comprehensive plans, economic development plans, recreation plans, zoning ordinances, and land development codes. The State will provide up to \$2,500,000 for historic preservation, archeological and other mitigation studies as required by HUD for the implementation of programs.

In furtherance of its mission to provide local government officials with the tools needed to help manage recovery plans and recovery planning projects, DCA created a local planning assistance program that supplements the ongoing efforts of storm impacted local and county governments to rebuild and revitalize. DCA's Office of Local Planning Services was tasked with working to provide municipalities with sound planning strategies to ensure long-term recovery.

The Post Sandy Planning Assistance Grant (PSPAG) program addresses ongoing planning needs resulting from Superstorm Sandy. These include allowing communities to develop community recovery plans that strategically address vulnerabilities exposed by the storm. This program is specifically designed to augment, not conflict with, other planning programs that units of local government may be utilizing as a result of Superstorm Sandy. Communities lacking pre-existing planning resources are particularly encouraged to participate in the program.

The first grants awarded under the PSPAG program were used to underwrite local and county Strategic Recovery Planning Reports (SRPRs). The reports identified vulnerabilities to extreme weather that were revealed in the aftermath of Sandy and established long-term planning goals and priorities for safeguarding communities from future storms. Essentially, the framework of the SRPRs corresponds to the first three elements in Section 105(a)(12) of the Housing and Community Development Act of 1974 – (i) determine needs; (ii) set long-term goals and short-term objectives; and (iii) devise programs and activities to meet these goals and objectives. Reports also contain detailed descriptions of the projects' proposed planned implementation dates and funding sources.

In addition to the continuation of funding currently being provided to municipalities and counties, the State will add new activities to the list of those already eligible for grants and set aside funding to enable communities facing complex challenges that cross municipal boundaries to undertake regional planning to find creative, practical solutions for those more challenging issues. These planning activities may include, without limitation:

- Market value analyses to determine if redevelopment opportunities exist in deteriorating storm-damaged blocks and neighborhoods;
- Developing a comprehensive emergency preparedness plan to coordinate a response that encompasses every prevention and precaution needed to protect lives and property in an extreme weather situation; and
- Mapping information that is needed to strategically plan an evacuation, including the location

of emergency services, shelters and other disaster related prerequisites.

In addition to the PSPAG program, the State has identified other statewide and regional planning needs relating to the recovery, including: (i) mapping of critical infrastructure; and (ii) flood risk reduction initiatives. Some of the CDBG-DR funding will also be utilized to provide technical assistance to staff and subrecipients receiving CDBG-DR funds so that recovery programs will be implemented efficiently, effectively and in compliance with the federal, state and local regulations. Second tranche CDBG-DR funds dedicated to planning also will be used for these and similar types of statewide and regional planning initiatives.

Additionally, as described in Amendment #21, DCA has allocated funding to support coordinated statewide and regional planning activities to address unmet recovery-related planning needs. Grants were awarded to nonprofit organizations, universities, or colleges in need of planning support for statewide and regional recovery-related activities for reducing the risks and recovering from the impacts of natural disasters and which advance statewide and regional resiliency planning.

Allocation for Activity:

- Total: \$19,111,423

PLANNING ALLOCATION WALK				
ACTION PLAN AMENDMENT	DATE OF APPROVAL	Activity	Allocation by Activity	CDBG-DR FUNDING
<i>Action Plan</i> Initial Allocation	May 30 th , 2014	Local/Regional	\$2,500,000	\$5,000,000
		State	\$2,500,000	
<i>Amendment #7</i> Second Allocation	May 2 nd , 2014	Local/Regional	\$5,000,000	\$10,000,000
		State	\$5,000,000	
<i>Amendment #15</i>	May 2 nd , 2014	Local/Regional	\$7,067,690	\$4,717,690
		State	(\$2,350,000)	
<i>Amendment #21</i>	June 29 th , 2017	Local/Regional	(\$1,125,014)	(\$1,125,014)
<i>Amendment #27</i>	October 18 th , 2018	Local/Regional	(\$655,958)	(\$708,113)
		State	(\$52,155)	
<i>Amendment #28</i>	February 12 th , 2019	Local/Regional	(\$11,700)	(\$11,700)
<i>Amendment #33</i>	October 11 th , 2019	Local/Regional	\$238,560	\$238,560
<i>Amendment #38</i>	November 17 th , 2020	Local/Regional	\$1,000,000	\$1,000,000
TOTAL				\$19,111,423

Maximum Award: Up to \$200,000 for individual municipal Post-Sandy Planning Assistance Grants; up to \$5,000,000 for statewide and regional planning activities.

Eligible Applicants: Municipalities; New Jersey departments, agencies and authorities; nonprofit organizations; universities and colleges. (Note: DCA reserves the option to assist communities through direct contracts with nonprofit organizations and educational institutions who will work directly with communities under DCA Local Planning Services direction.)

Eligibility Criteria:

- Post Sandy Planning Assistance Program: Communities in the nine most impacted counties. If demand, based on applications received, exceeds funding, preference will be given to communities with limited professional planning capacity on staff and communities with high ratable losses.
- Other Planning Activities: A governmental unit, nonprofit organization or university determined to be in need of planning support for statewide or regional recovery-related activities.

Criteria for Selection:

- Post Sandy Planning Assistance Program
 - Community’s interest in pursuing planning activities to address post Sandy issues
 - Ratable losses
 - Availability of other local resources to support planning efforts
 - Capacity of community to undertake planning activities without additional support.
- Other Planning Activities:
 - Coordinated statewide and/or regional planning activities to address unmet recovery-related planning needs.

Eligibility for CDBG-DR: Section 105(a)(12) National Objective: Planning activity

4.8 Pre-Agreement Costs and Reimbursement

New Jersey will follow provisions of 24 CFR 570.489(b) and the Pre-Award CPD Guidance issued by HUD in its March 5, 2013 Notice, as well as in 24 C.F.R. § 570.489(b), which permit the State to reimburse itself for otherwise allowable costs incurred by itself or its recipients, subgrantees, or subrecipients (including PHAs), or grantees on or after the incident date of the covered disaster. Section 24 CFR 570.200(h)(1)(i) will not apply to the extent that it requires pre-agreement activities to be included in a consolidated plan. All the pre-agreement costs such as engineering, planning, administration, and program delivery are exempt from the environmental process in accordance to 24 CFR 58.34.

4.9 Rebuild by Design

President Obama's Hurricane Sandy Rebuilding Task Force created the Rebuild by Design competition (RBD) in the summer of 2013 to develop ideas to improve physical, ecological and economic resilience in regions affected by Superstorm Sandy. The competition has two goals: to promote innovation by developing flexible solutions that would increase regional resilience, and to implement proposals with both public and private funding dedicated to the RBD effort. To realize the RBD initiative, HUD Community Development Block Grant – Disaster Recovery (CDBG-DR) funds allocated through the federal Sandy Supplemental legislation were set aside by HUD to develop and incentivize implementation of RBD projects.

Multi-disciplinary teams made up of architects, designers, planners and engineers were engaged by HUD and charged with proposing regional and community-based projects that would promote resilience in various Sandy-affected areas. The teams included experts and thought-leaders from around the world. The teams' proposals, developed with and by the communities where projects were focused, were submitted to HUD, and HUD ultimately selected six "winning" projects.

Two New Jersey projects received funding: one focused in the Hudson River region (allocated \$230 million by HUD) and the other in the Meadowlands region (allocated \$150 million by HUD). Both projects are described in detail below. Comprehensive information about the RBD process and the winning projects also is available on the RBD website (www.rebuildbydesign.org).

The State is committed to implementing the Rebuild by Design projects as set forth in the RBD teams' proposals. Should financial, technical or other issues arise in connection with a project, adjustments may need to be made.

Substantial Amendments to the Action Plan

On October 16, 2014, HUD issued Federal Register Notice [FR-5696-N-11](#) (October 16, 2014) which allocated \$881,909,000 of third round CDBG-DR funds to New Jersey. Of that total, \$380 million is for the two RBD projects. The allocation of the remaining \$501,909,000 was set forth in Amendment #11.

Pursuant to [FR-5696-N-11](#), in order to access the third round CDBG-DR funds allocated for the New Jersey RBD projects, the State prepared Substantial Amendment #12 to its CDBG-DR Action Plan.

At the time of the submission of Substantial Amendment 12 in February 2015, providing specific Project descriptions beyond the RBD proposals, identifying other funding sources, and estimating Project timelines and the roles of partners in the Project was premature. Thus, [FR-5696-N-11](#) required that each of the required elements be updated with a more detailed description for each RBD Project in a subsequent RBD Substantial Action Plan Amendment in order to release funds for construction. This was accomplished in Amendment #20 for the Hudson River Project and Amendments #22 and 25 for the Meadowlands Project.

In accordance with requirements in [FR5696-N-11](#), Amendment #20 included the following updates with regard to the RBD Hudson River Project: (1) Specific Project Description; (2) Updated Implementation Partnerships; (3) Identification of Leveraged or Reasonably Anticipated Funds; (4) Updated Project Timeline; (5) Specific Citizen Participation Plan; (6) Benefit Cost Analysis

Description and Narrative; and (7) Certification Regarding Operation and Maintenance Costs.

At the time of Amendment #22, NJDEP was in the process of conducting a Feasibility Study and preparing a Draft Environmental Impact Statement (DEIS) in order to identify a Preferred Alternative for the RBD Meadowlands project in the Fall of 2017. Pursuant to [FR-5696-N-01](#), HUD allowed grantees to submit a DEIS after they have submitted their subsequent Substantial Action Plan Amendment. Thus, Amendment #22 provided similar updates with regard to the RBD Meadowlands Project: (1) Description of Project Alternatives Under Review; (2) Updated Implementation Partnerships; (3) Identification of Leveraged or Reasonably Anticipated Funds; (4) Updated Project Timeline; (5) Specific Citizen Outreach Plan; and (6) Benefit Cost Analysis Approach.

Following the approval of Amendment #22 on September 13, 2017, the RBD Meadowlands project team continued to analyze and screen the Project Build Alternatives, as well as the No-Build Alternative. A project was identified and Amendment #25 was submitted to HUD on March 28, 2018, and approved on May 18, 2018.

Pursuant to FR-5696-N-11, the State is required to submit a Substantial Action Plan Amendment that reflects the updated RBD Project overview as a condition for release of funds for Project construction.

Project Requirements

Section VI of [FR-5696-N-11](#) sets forth requirements for information that must appear in an Action Plan Amendment in order to access CDBG-DR funds for RBD projects. Among other things, the Federal Register Notice requires a general description of: the proposed RBD Project to be designed and implemented; the feasibility and effectiveness in protecting against future severe weather events; the use of funds dedicated for planning, pre-development and project construction; and other funding that might be brought to bear to realize the RBD project. The Amendment also must identify the state agency responsible for implementing the RBD projects (which, for New Jersey, will be the Department of Environmental Protection) and describe the roles of partners involved in realizing the project. This Section addresses the Federal Register Notice requirements for each of New Jersey's RBD projects.

Additionally, per Section (VII)(a) of [FR-5696-N-11](#), as a result of the RBD competition process, the two New Jersey RBD projects are already deemed to have satisfied the following requirements for infrastructure projects set forth in [FR-5696-N-06](#):

- The definition of infrastructure projects and related infrastructure projects under Section VI(b)(1) of [FR-5696-N-06](#);
- The requirement for impact and unmet needs assessments and the comprehensive risk analysis under Section VI(c) and VI(d) of [FR-5696-N-06](#);
- The process required for the selection and design of green infrastructure projects or activities under Section VI(f) of [FR-5696-N-06](#); and
- The additional requirements for major infrastructure projects under Section VI(g) of [FR-5696-N-06](#).

Any additional, applicable requirements for infrastructure projects set forth in [FR-5696-N-06](#) that are not, through the language of [FR-5696-N-11](#), already deemed satisfied by HUD will be addressed

in connection with each RBD project. Also, while the unmet needs assessment component, including outreach for that assessment, and the comprehensive risk analysis requirements both have been deemed satisfied for purposes of preparing this Amendment, ongoing stakeholder outreach throughout the process and risk analyses will continue to be an important component of RBD projects going forward.

4.9.1 Managing State Agency and Partner Entities

The New Jersey Department of Environmental Protection (DEP) is the state agency responsible for overseeing and implementing both RBD initiatives. The New Jersey Department of Community Affairs (DCA), as the State's Grantee for CDBG-DR funds from HUD, has transferred CDBG-DR funding for RBD projects to DEP under a Memorandum of Understanding, and DEP is administering those funds.

DEP has been chosen as the RBD managing state agency for a number of reasons. DEP has staff experienced in the planning, permitting, design and construction of flood risk reduction projects as well as other large construction projects including wetland enhancement, landfill closure, park development, site remediation, etc. Information about DEP's experience with various types of environmental issues and projects is available on its website at <http://www.state.nj.us/dep/>.

DEP has a long history of successful coordination with the U.S. Army Corps of Engineers (USACE) on flood control projects and has the expertise to work with hired consultants to prepare applications and obtain all necessary State and Federal approvals and permits (e.g., NJDOT; NJ Transit; Landfill Disruption; Site Remediation; Soil Reuse, Historic Preservation; Fish & Wildlife, Green Acres) that may be required for federal flood protection projects. As part of this process DEP frequently conducts field reconnaissance and surveys with the USACE, as necessary, in the planning and construction of flood risk reduction projects. DEP reviews the economic analyses and engineering designs including hydrologic, hydraulic, structural reports and, construction plans and technical specification documents. In addition to the work DEP conducts with the USACE, DEP is also responsible for statewide flood control projects and dam restoration loans under the "Dam, Lake, Stream, Flood Control, Water Resources, and Wastewater Treatment Project Bond Act of 2003", P.L. 2003 C.162, which provided \$25 million for grants to implement state and local flood control projects and \$100 million for dam restoration loans.

Regarding administrative capacity, following Superstorm Sandy the State created a new Office of Flood Hazard Risk Reduction Measures within DEP. The purpose of the Office dovetails directly with the intent of both RBD initiatives. As the design phase of the RBD projects gets underway, and all the way through implementation, DEP routinely assesses its own staffing needs and, if additional staffing is required, uses program delivery funds to bring on resources to meet needs (subject to applicable federal laws and regulations on the permissible use of CDBG-DR funds). The Office is also ultimately responsible for monitoring and evaluating the efficacy and sustainability of RBD projects, as described below, and adds staffing or resources as required in order to perform this function in a manner compliant with Section VII(a)(iv) of [FR-5696-N-11](#).

The NJDEP Bureau of Flood Resilience within the Engineering and Construction Program of the NJDEP will be managing the day-to-day implementation of the Projects. As the design phase of the

RBD Project continues, and all the way through implementation, NJDEP will routinely assess its own staffing needs and, if additional staffing is required, will use program delivery funds to bring on resources to meet needs (subject to applicable federal laws and regulations on the permissible use of CDBG-DR funds). The NJDEP will be ultimately responsible for monitoring and evaluating the efficacy and sustainability of the Project, as described below, and will add staffing or resources as required in order to perform this function in a manner compliant with Section VII(a)(iv) of [FR-5696-N-11](#).

While DEP will be the primary agency involved in designing and implementing the RBD projects, it will not be the only relevant State agency. NJDEP is also working with the Department of Treasury to release Request for Proposal (RFP) to hire a design team to complete engineering and additional design services, construction bid package development, and construction oversight. The NJDEP, in conjunction with the Department of Treasury, has successfully bid and awarded a contract for a Construction Management Firm (CMF). The CMF has been engaged to provide additional engineering support to the NJDEP team. The Department of Treasury will also work cooperatively with NJDEP and its partners to solicit bids for Project construction. NJDEP, Treasury and the design contractor will oversee Project construction to ensure adherence to plans, specifications, permits and all other State and federal requirements. Other state agencies are specific to each project and are further detailed in those sections.

Municipal governments in RBD project areas also will have critical roles to play in realizing RBD projects.

- An Executive Steering Committee has been established with State and municipal representatives to share information and provide input throughout all phases of the RBD projects, from feasibility through construction. Other critical governmental entities have been incorporated into this committee. Among other things, this Committee advises on the direction of the project, policy issues that arise in connection with the projects, as well as issues raised up to the Committee by the Project Management Team working with the Project Development Team.
- The Project Management Team (PMT) and the Project Development Team (PDT) work together on the day-to-day issues that arise in connection with the RBD projects. Any issues that cannot be addressed at this level are synthesized and raised to the Executive Steering Committee for discussion. This integrated approach of a PMT and PDT includes DEP representatives and designees from the municipalities, and may also include designees from other Executive Steering Committee partners, as well as consultants (as necessary, which will be a subject for the Executive Steering Committee).
- A number of smaller teams support the integrated PMT and PDT on issues specific to the RBD projects. These include such issues as: information technology; engineering/design/build; procurement; and stakeholder outreach. Outside resources may be retained to comprise or supplement these teams, though those specific decisions are items to be addressed by the Executive Steering Committee.

Additionally, in the permitting and design phases of RBD projects, among other things, RBD projects trigger local zoning and land use regulations that fall within the municipal purview, provided that the

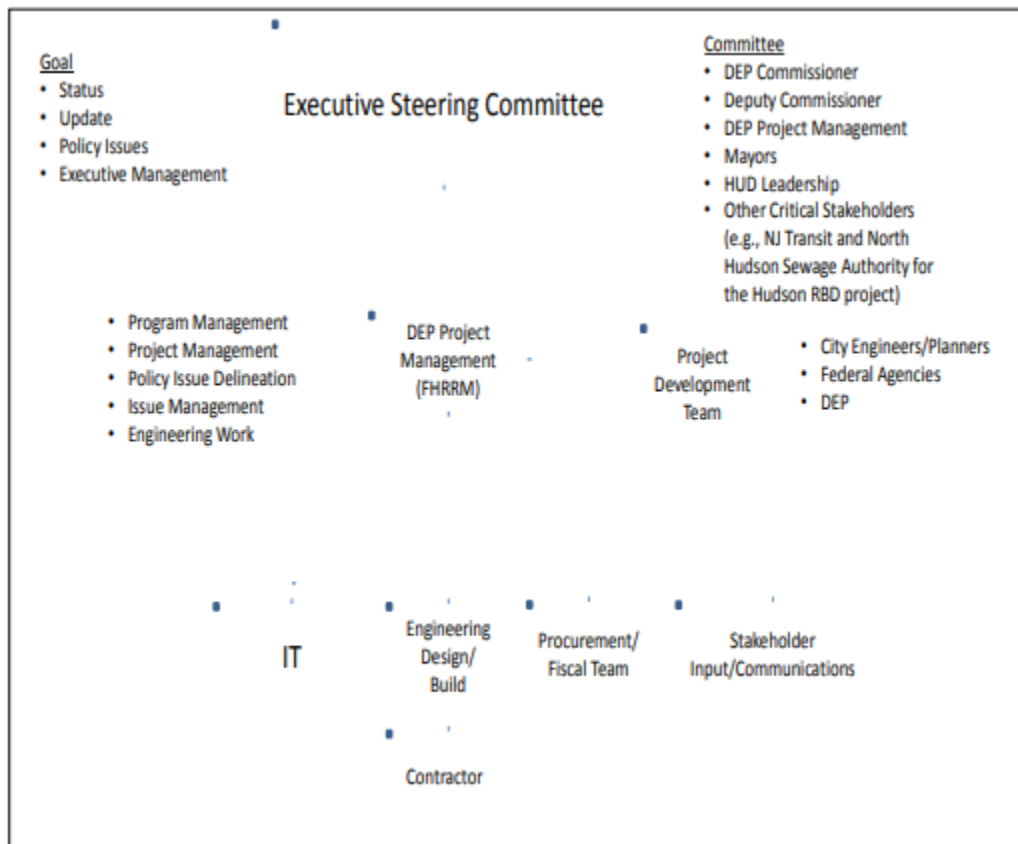
regulations are not inconsistent with state law.

In short, throughout all phases of the project, Executive Steering Committee members have both a voice and input into the RBD process, though to be clear the Executive Steering Committee is advisory, and all final project determinations rest with DEP as the recipient of CDBG-DR funds for RBD projects and the agency responsible for implementation.

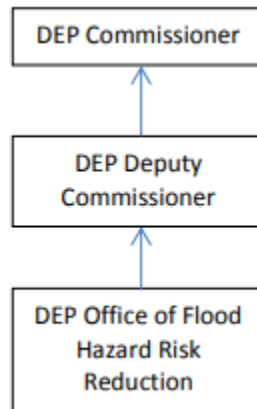
Additional entities, including stakeholder groups or entities that may be able to provide additional private financing to enhance the RBD initiatives, also may be included in the RBD partnership, though private entities are not be permitted to become members of the Executive Steering Committee. Importantly, ways to bring additional financing, including private financing, to support the projects, are being explored, but at this time it is premature to estimate how much, if any, additional financing might become available for either project, or the sources of such funding.

The chart below shows the Advisory Structure and the Decision-Making Structure for each RBD Project. In the Advisory Structure, the bullet points on either side of the Executive Steering Committee reflect the goals and list the participants of that Committee. The remaining bullet points show the composition of DEP Project Management (on left) and the Project Development Team (on right).

Rebuild By Design Organizational Chart: Advisory Structure



Rebuild By Design Organizational Chart: Decision-Making Structure



Advice from the Executive Steering Committees is considered by FHRRM and reported up to the Commissioner who has final decision-making authority. The Commissioner also chairs the Executive Steering Committees and is directly informed of the Committee’s advice. To be clear, FHRRM’s role in the Advisory Structure is primarily a staffing function to facilitate the synthesis and transmission of issues and considerations to the Executive Steering Committee for input. Separate from its role in facilitating the Executive Steering Committee’s advisory role, FHRRM also is involved in DEP’s RBD decision-making process, which includes evaluating the input provided through the advisory structure.

Managing State Agency and Partner Entities has been updated in Amendment #20, specific to the Hudson River project and Amendments #22 and 25, specific to the Meadowlands project and incorporated in further detail below.

Per HUD guidelines, up to 5 percent of this allocation can be spent on administrative costs. DCA and DEP are anticipating \$4.8 million, or slightly more than 1% of the total \$380 million RBD allocation is required to support administrative expenses; therefore, Amendment #21 dedicated \$4.8M to RBD Administrative costs.

4.9.2 Hudson River Project: Resist, Delay, Store, Discharge

The Hudson River project, known as the “Resist, Delay, Store, Discharge” project, is a comprehensive urban water strategy that would deploy programmed hard infrastructure and soft landscape for coastal defense (resist); generate policy recommendations, guidelines and urban infrastructure to slow rainwater runoff (delay); develop a circuit of interconnected green infrastructure to store and direct excess rainwater (store); and deploy water pumps and alternative routes to support drainage (discharge). As proposed, a variety of flood risk reduction infrastructure will be built along the Hudson River in order to reduce flood waters, including at Weehawken Cove (to protect Hoboken, Weehawken and critical regional utilities) and by the Hoboken Ferry Terminal. Along Hoboken’s downtown thoroughfare, green infrastructure measures, such as permeable paving and rain gardens, would help manage the city’s surface water and reduce the risk of flash flooding from rain while enhancing the cityscape. Along NJ Transit’s Hudson-Bergen Light Rail, otherwise discrete rainwater storage initiatives would be connected to make a “green circuit.” This system would serve as the foundations of a parallel green drainage infrastructure that would reduce the risk of flash flooding from rain, filtering and cleaning storm water and serving as a park for the community.

The RBD team’s final submission to HUD for the Hudson River project is available online [here](#). It includes a narrative description of the project, conceptual project renderings, a flood risk assessment and a benefit-cost analysis, among other things. Additionally, the RBD team’s estimate of project costs at the time of Amendment #12, as reflected in the project submission, is as follows:

OMA’s Summary of First Phase Cost Estimates	
Phase 1 Project Components	Costs (Millions)
Capital	~\$470 (excluding O&M)
Hard Costs	\$220
Hoboken Terminal	\$90
Weehawken Cove	\$120
Other Coastal Defenses	\$10
Soft Costs	\$53
Master Plan and Technical Studies	\$20
Coastal Defense Soft Costs	\$33
Contingency	\$51
Hard & Soft Costs of Partner Projects	\$149
Long Slip Canal and NJ Transit Resiliency	\$100
PATH Train Resiliency	\$10
New Pumping Station	\$12
Block 12 Storage Park	\$3
Green Infrastructure Land Acquisition	\$20
“Program Layer” Demonstration Projects	\$2
Green Infrastructure Demonstration Projects	\$2
Operations & Maintenance	\$7.8
Annual Programming Costs	0.5
Annual Maintenance Costs	\$7.3

** These cost estimates will be further evaluated as part of the project feasibility and design phases. As HUD states in the Federal Register Notice as to all RBD approved projects “modification [to RBD projects as proposed] may be necessary in response to the amount of funding ultimately secured” for RBD projects.*

As stated above, the New Jersey Transit Long Slip Canal project is separately funded through Federal Transit Authority monies and is a separate project from Rebuild by Design. OMA incorporated it into the above list to indicate that the projects should be integrated as part of a coastal defense strategy, but RBD and the Long Slip Canal are separate projects. Additionally, the City of Hoboken is taking steps to address some of the above components with its own funds.

The results from the planning, feasibility and design phases of this project, among other things, will yield a work product that addresses what, if any, additional funding sources are available for the project, the components of the project available funding is sufficient to address, the efficacy and sustainability of the final project design, incorporating such analyses as the NOAA Sea Level Rise tool, and also how that final project will meet the resilience performance standards requirements in Section VI(2)(e) of Federal Register Notice [FR-5696-N-06](#). Similarly, once planning and feasibility studies are complete, DEP and its partners will be in a position to determine, in connection with the design phase, how the project will be monitored in order to evaluate efficacy and sustainability. Amendment #20 was updated with the following sections following completion of the draft Environmental Impact Statement to reflect how these requirements will be satisfied.

4.9.2.1 Purpose and Need

The purpose and need statement for the RBD Hudson River Project: “Resist, Delay, Store, Discharge” (referred to herein as “the Project”) was developed through a comprehensive process that began with the development of the original proposal submitted to HUD for funding, continued through the scoping process and concept and alternative development for the Draft Environmental Impact Statement (DEIS).

Purpose

The Study Area, comprising the entire City of Hoboken, and adjacent areas of Weehawken and Jersey City, is vulnerable to flooding from both coastal storm surge and inland rainfall events. The purpose of the Project is to reduce the flood risk to flood prone areas within the Study Area, which comprises the entire City of Hoboken, and adjacent areas of Weehawken and Jersey City. The Project intends to minimize the impacts from surge and rainfall flood events on the community, including adverse impacts to public health, while providing benefits that will enhance the urban condition, recognizing the unique challenges that exist within a highly developed urban area.

Need

Flooding has the potential to impact much of the Study Area's critical infrastructure located in these low-lying areas, including fire stations, hospitals, community centers, transit centers (rail, light rail and ferry), and a waste water treatment plant.

The Study Area is a very dense urban area of Hudson County that is situated along the Hudson River directly west of Manhattan, New York. The Study Area is vulnerable to two interconnected types of flooding: coastal flooding from storm surge and high tide, as well as systemic inland (rainfall) flooding from medium (generally a 5-year, 24-hour) to high (generally over 10-year, 24 hour) rainfall events.

- Coastal flooding happens with much less frequency, but can devastate widespread areas of the Study Area and cause significant economic damage and safety concerns.
- Rainfall-induced flooding occurs with significantly greater frequency than coastal flooding, and is caused in large part by the characteristics of the Study Area's topography and land use patterns as well as the physical constraints of the existing sewer infrastructure.

The flooding problems for both coastal flooding and rainfall-induced flooding can be attributed to several factors, including naturally low topography and proximity to waterways; impervious ground coverage and surface runoff; existing sewer infrastructure, sewershed interconnections, and insufficient discharge capability, particularly during high tide.

The topography of the Study Area is highest along the east-central portion abutting the coastline of the Hudson River at Castle Point. From here, the land slopes gently downward to the north (toward Weehawken Cove), south (toward the Hoboken Terminal and Jersey City) and to the west (toward the foot of the Palisades). This topography reflects the Study Area's history; when originally settled, Castle Point was an island surrounded to the north, south and west by wetlands. These wetlands were gradually filled as the area grew. Today, these areas – in particular those to the southwest – are still extremely low-lying, in some places no more than 3 feet above sea level.

The City of Hoboken's exposure to flood hazard risks is evident by the number of properties included in the FEMA National Flood Insurance Program (NFIP). The NFIP is intended to reduce the impact of flooding on private and public structures by providing affordable insurance to property owners and encouraging adoption of floodplain management regulations. Mortgage lenders for properties within the Special Flood Hazard Area (SFHA) (areas with a 1 percent annual chance of flooding, also referred to as the base floodplain or the 100-year floodplain) require owners to obtain flood insurance from the NFIP. In addition, property owners receiving awards following presidentially-declared disasters

(such as Superstorm Sandy) are often required to obtain NFIP insurance. According to NFIP statistics, as of June 30, 2015, the City of Hoboken had 9,269 NFIP policies in place (the highest in Hudson County), with premiums totaling \$6,734,044 (the highest in Hudson County and fifth highest in New Jersey). In addition, the overall liability to the NFIP from property owners in Hoboken was over \$2 billion (third highest in New Jersey), with an average claim amount of \$26,243.

The interrelationship between coastal flooding and rainfall events contributes to the recurring flooding conditions throughout the Study Area. Each flooding component represents challenges and will need to be addressed comprehensively to reduce the flood risk within the Study Area.

Key Goals and Objectives

A resilient community is able to resist and rapidly recover from disasters or other shocks with minimal outside assistance. The Project is a comprehensive urban water strategy whose overall purpose is to reduce flood hazard risks and which seeks to leverage resiliency investment to enhance the urban condition. The ability to meet this purpose will be measured in terms of Goals and Objectives. Goals are overarching principles that guide decision-making. Goals are measured in terms of Objectives, which are measurable steps to meet the Goal. The Goals and Objectives for the Project are:

Goal: Contribute to Community Resiliency. The Project will seek to integrate flood hazard risk reduction strategies with emergency management and response, civic, and cultural assets (such as Hoboken's fire stations, hospitals, community centers, and transit centers). The Project will reduce flood risks within the Study Area, leading to improved resiliency and the protection of accessibility and on-going operations of services (including protecting physical infrastructure such as hospitals, fire stations and police department buildings as well as roadways and transit resources). This would allow these key assets to support emergency preparedness and community resiliency during and after flood events.

Goal: Reduce Risks to Public Health. In addition to providing protection to critical healthcare infrastructure (such as local hospitals and emergency preparedness services), the Project will aim to reduce the adverse health impacts that result from combined sewage backups onto streets, and within businesses and residences, through a reduction in storm water infiltration into the existing combined sewer collection system.

Goal: Contribute to On-going Community Efforts to Reduce FEMA Flood Insurance Rates. The City of Hoboken's exposure to flood risks has resulted in some of the highest insurance premiums in the state. The City has long had a goal of reducing those rates through a number of comprehensive flood risk reduction programs, such as those identified in the City's Green Infrastructure Plan. The NFIP's Community Rating System (CRS) allows municipalities to reduce their flood insurance rates through implementation of comprehensive floodplain management. The Project will propose concepts and alternatives that are consistent with Hoboken's overall effort of reducing FEMA Flood Insurance Rates.

Goal: Delivery of Co-Benefits. Where possible, the Project will seek to integrate the flood hazard risk reduction strategy with civic, cultural and recreational values. The Project will look to incorporate active and passive recreational uses, multi-use facilities, and other design elements that integrate the

Project into the fabric of the community. In this way, the Project will complement local strategies for future growth.

Goal: Connectivity to the Waterfront. The Study Area’s waterfront is currently the location of a vast length of interconnected parks and public walkways which contribute to the vibrancy of the community. The Project will aim to incorporate features that do not restrict access to the waterfront. Where feasible, the Project will build upon, and enhance, existing waterfront access points while providing flood risk reduction.

Goal: Activation of Public Space. The Project will develop concepts that reduce risks to private and public property from flood impacts while also incorporating design elements that activate public and recreational spaces, thereby enhancing quality of life for the community.

Goal: Consider Impacts from Climate Change. The Project will take into account the projected impacts from climate change, particularly as it relates to sea-level rise and its impacts on the frequency and degree of flooding.

4.9.2.2 Project Description

The Rebuild By Design Hudson River Project, known as the “Resist, Delay, Store, Discharge” or “the Project”, is a comprehensive urban stormwater management strategy intended to address impacts from coastal storm surge flooding as well as systemic inland rainfall flooding seen in low-lying areas of Hoboken and parts of Weehawken and Jersey City during Superstorm Sandy. This comprehensive urban water strategy is designed to deploy programmed hard infrastructure and soft landscape for coastal defense (Resist); generate policy recommendations, guidelines and urban infrastructure to slow rainwater runoff (Delay); develop a circuit of interconnected green infrastructure to store and direct excess rainwater (Store); and deploy water pumps and alternative routes to support drainage (Discharge).

This phase of the Project includes the design and environmental impact analysis of the overall comprehensive master plan of the entire Project (including the Resist and Delay, Store, Discharge components), funding for the construction of the Resist components (the catalytic coastal defense projects) and a pilot study of a DSD component if funding is available. A DEIS was prepared to evaluate environmental impacts, including indirect and cumulative environmental impacts, associated with three Build Alternatives (Alternatives 1, 2 and 3) as well as a No Action Alternative.

On September 8, 2016, during a public meeting at Stevens Institute of Technology in Hoboken, New Jersey, the State of New Jersey recommended the selection of Alternative 3 at that time as the Preferred Alternative for the RBD Hudson Project. A Preferred Alternative is the alternative of a project that best meets the purpose and need of that project while avoiding, minimizing or mitigating impacts to the natural and human environment. The recommendation of the Preferred Alternative as presented in the DEIS resulted from a thorough evaluation process of the three Build Alternatives (i.e., Alternatives 1, 2 and 3) and a No Action Alternative that engaged local officials and residents.

The Preferred Alternative was revised from the earlier “Concept A” and reflected public input to relocate portions of the Resist alignment to areas that would minimize impacts on the community. The Preferred Alternative is described in this document and in the DEIS. Descriptions of Alternative 1 and Alternative 2 are available on the [RBD Hudson website](#).

The flood-resistance structure selected for construction as part of the Preferred Alternative (hereafter referred to as the Project) will provide flood risk reduction for the City of Hoboken, parts of Jersey City and Weehawken and for critical infrastructure located in those communities, such as three fire stations, one hospital and the North Hudson Sewerage Authority (NHSA) wastewater treatment plant. This alternative provides coastal flood risk reduction to approximately 85 percent of the population residing within the Study Area 100-year floodplain.

Key characteristics of the Project include the following:

- Provides a high degree of flood risk reduction while integrating the flood risk reduction strategy with community values by considering public input, cost and urban amenities;
- Incorporates a Resist structure that can be constructed with available funds;
- Has the least impact to the built environment of the three Build Alternatives;
- Results in the lowest annual maintenance cost of the three Build Alternatives;
- Requires the fewest number of movable gates, which results in the lowest operation and maintenance costs and the highest level of reliability among the Build Alternatives; and,
- Is most effective in minimizing impact to waterfront access and views of the three Build Alternatives.

The following is a detailed description of the Project:

Resist Alignment

The Project's Resist alignment travels primarily within inland areas minimizing impacts to waterfront open spaces and provides enhancements to approximately 2.55 acres of open space or parks. The Resist will be designed to blend in seamlessly with the urban streetscape and enhance the quality of life in the area. The system will also use natural higher ground to maximize protection.

The Resist locates portions of the alignment to areas that would minimize impacts on the community. Specifically, utilizing a private alleyway that parallels 14th Street to extend to Washington Street. Washington Street was chosen due to the width of the street to accommodate the necessary structure and potential to blend structural amenities into the commercial nature of the area.

In the northern part of the Study Area, the Resist structure begins near the Hudson Bergen Light Rail (HBLR) Lincoln Harbor station at Waterfront Terrace, traveling south along HBLR, then continuing south along Weehawken Cove towards Garden Street. Opportunities for urban enhancement in the northern portion of the Study Area include lighting, murals, and seating. In addition, a bermed and terraced Cove Park will be incorporated into the southwest corner of Weehawken Cove. Potential amenities at this park may include playgrounds, lawn areas, game courts, and a viewing deck overlooking Weehawken Cove.

A structure would travel down the east side of Garden Street adjacent to the west of the Hudson Tea Parking Garage. The structure would then continue down the alleyway midway between 15th and 14th Streets from Garden to Washington Streets. The structure would then travel south along Washington Street to 13th Street. Street crossings will feature gates to allow for access during non-flood conditions. Consideration will be given to adapting the use of structures in a way to provide urban amenities such as seating and landscape enhancements.

In the southern part of the Study Area, there will then be two options: Option 1 will include an alignment south of Observer Highway within the rail yard (south of the proposed Hoboken Yard Redevelopment Area). Option 2 will feature an alignment along Observer Highway from Washington Street directly to Marin Boulevard. The alignment includes gates for access at various locations including at the Marin Boulevard, Grove Street, and Newark Avenue underpasses beneath the rail lines, as well as protection where HBLR tracks pass below the NJ TRANSIT overpass in the southwest corner of the Study Area. Urban amenities in these areas include lighting, murals, seating, plantings, and wayfinding/signage. Steel sheeting will also be installed along the NJ TRANSIT railroad embankment to support the resist structure. The Option selected for design and construction will be based upon the schedule for the proposed Hoboken Yard Redevelopment Plan

To prevent water intrusion from overtopped bulkheads or through existing inlets and unsealed manholes under the Project, a separation of the sanitary/stormwater collection system is proposed by the construction of a “High Level” storm sewer collection system. In addition to the installation of this new storm sewer system, the existing NHSA combined sewer inlets and manholes would be sealed and lined. This proposed drainage would be designed to prevent additional sewer backflow that could cause major flooding issues within the Preferred Alternative protected areas during a storm surge event. Stormwater collected in this “High Level” storm sewer system would gravity flow into the Hudson River.

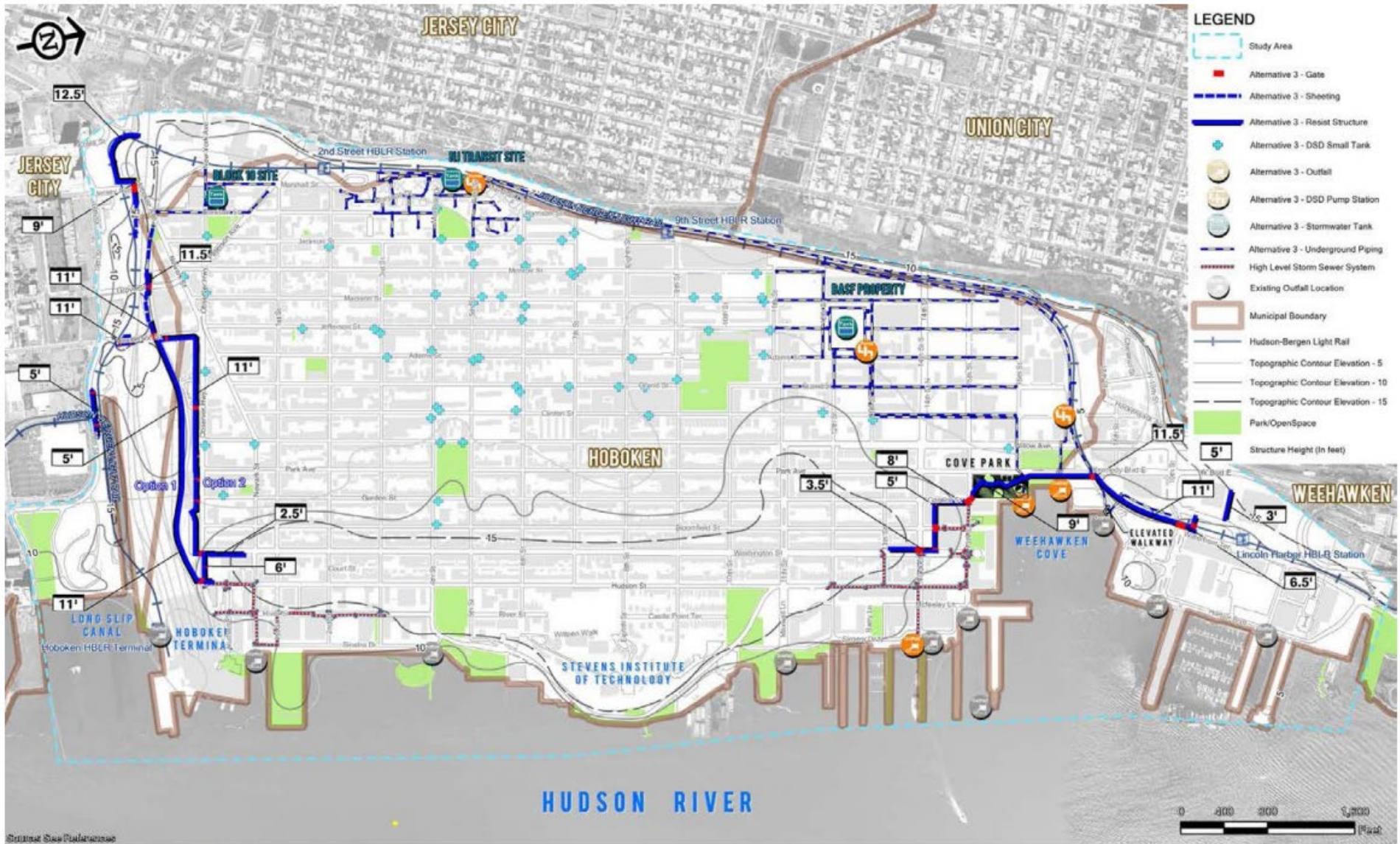


Figure 4-16: Map of Resist Alignment and DSD locations for the Project.

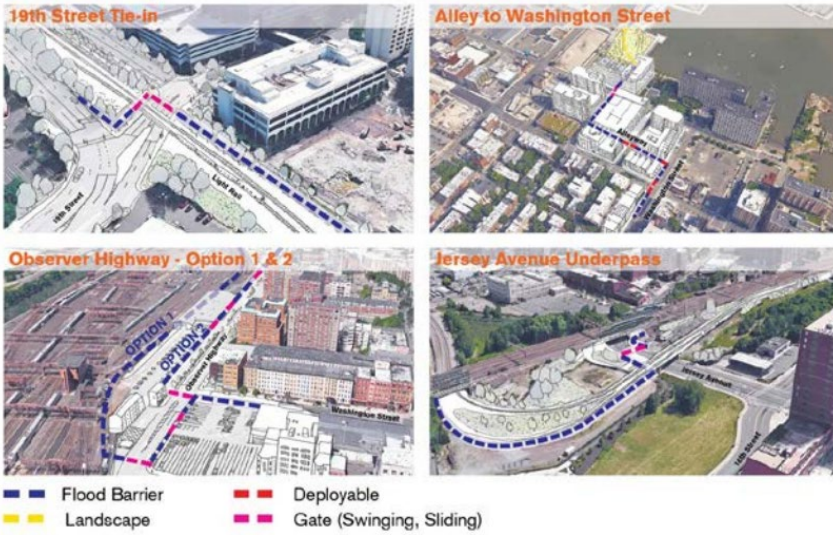


Figure 4-17: Project's Resist alignment features at four locations along alignment.



Figure 4-18: Project's Resist alignment features at Cove Park and Alleyway to Washington Street.

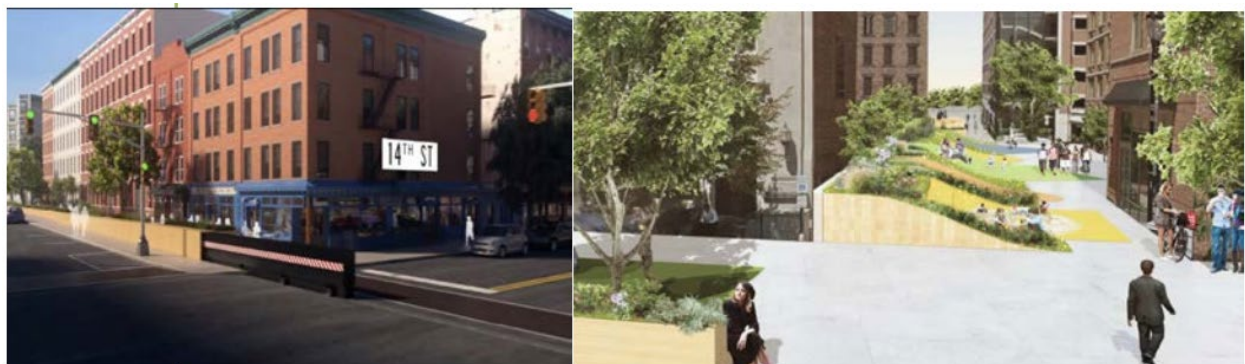


Figure 4-19: Rendering of gate in open position at 14th Street and Washington Street (left picture) and rendering of urban amenities within the alleyway (right picture).

Delay, Store, Discharge

The Delay, Store, Discharge (DSD) portion of the Project represents the framework for a future storm water strategy (Master Plan) that will be implemented by the City of Hoboken and other partners, as funding becomes available.

The Project's DSD features include three large stormwater detention facilities and approximately 61 small tanks (right-of-way [ROW] sites) that will include new and/or improved stormwater management techniques designed to complement other efforts by the City of Hoboken as part of the Green Infrastructure Strategic Plan and multiple redevelopment plans. Details and specific plans on the three-large individual storm water detention sites, known as BASF site or Northwest Resiliency Park, NJ TRANSIT and Block 10, have been developed as part of the feasibility design. The location of these three DSD sites are based on studies of the existing flooding "hotspots" in Hoboken.

Three pump stations will be required as part of the discharge component. One pump station is proposed to discharge the overflow from the proposed NJ TRANSIT site detention facility. A second pump station is required to discharge overflows from the BASF site detention tank. A third pump is proposed to the north of Clinton Street near the NHSA treatment plant. The purpose of the Clinton Street pump station is to release flows from the ditch to compensate the additional flow discharged from the NJ TRANSIT site and to prevent surcharge of the existing ditch during backflow conditions.

Two new outfall pipes in northern Weehawken Cove are proposed as the discharge component of the Project. One outfall would drain the flow of the existing ditch running along the western side of the HBLR line. This outfall is proposed to be located in the northern part of the Cove near Lincoln Harbor. The second outfall is proposed to be located north of Cove Park to drain the BASF site's catchment area via force main discharge.

As envisioned by the original RBD Hudson award, a pilot study of a DSD component is envisioned as part of this phase (i.e., Phase 1) of the Project. Recognizing funding limitations, the DSD portion under the Preferred Alternative is anticipated to be constructed over the next 15 to 20 years. DSD represents the framework for a future storm water strategy that will need to be implemented by the City of Hoboken and other partners, and can be integrated into the city's existing plans. Currently, additional financing, including private financing, to support the DSD components of the Project is being explored by the City of Hoboken and other local agencies. The City of Hoboken is pursuing other state loan and grant funding sources for the design and construction of some DSD components of the Project. Additional entities, including stakeholder groups or entities that may be able to provide additional private financing to enhance the RBD initiatives, associated with the DSD components.

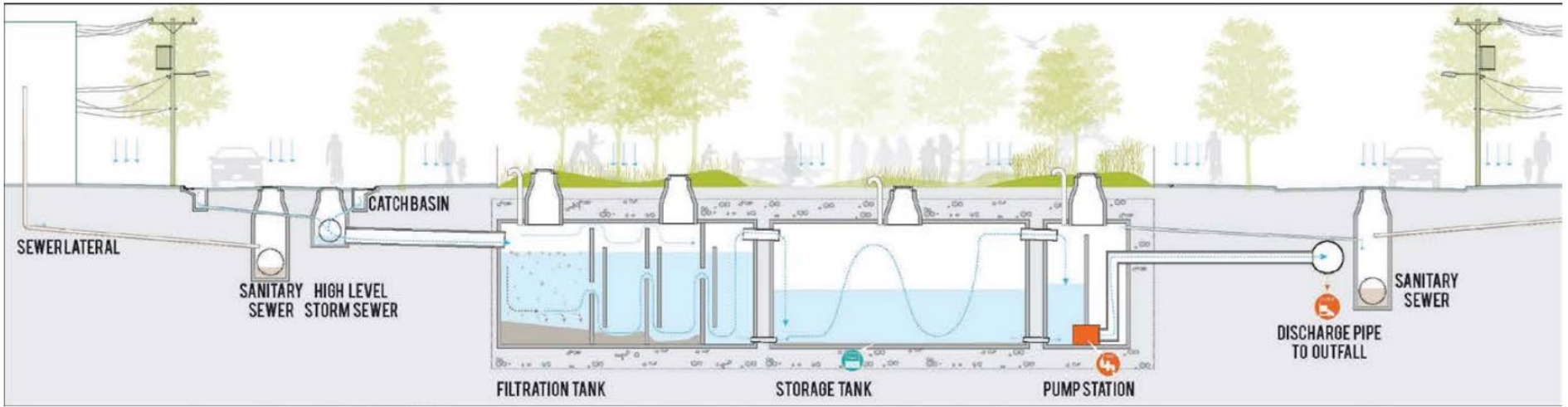


Figure 4-20: Schematic for typical stormwater retention system depicting tanks and typical “High Level” storm sewer system for three DSD sites.

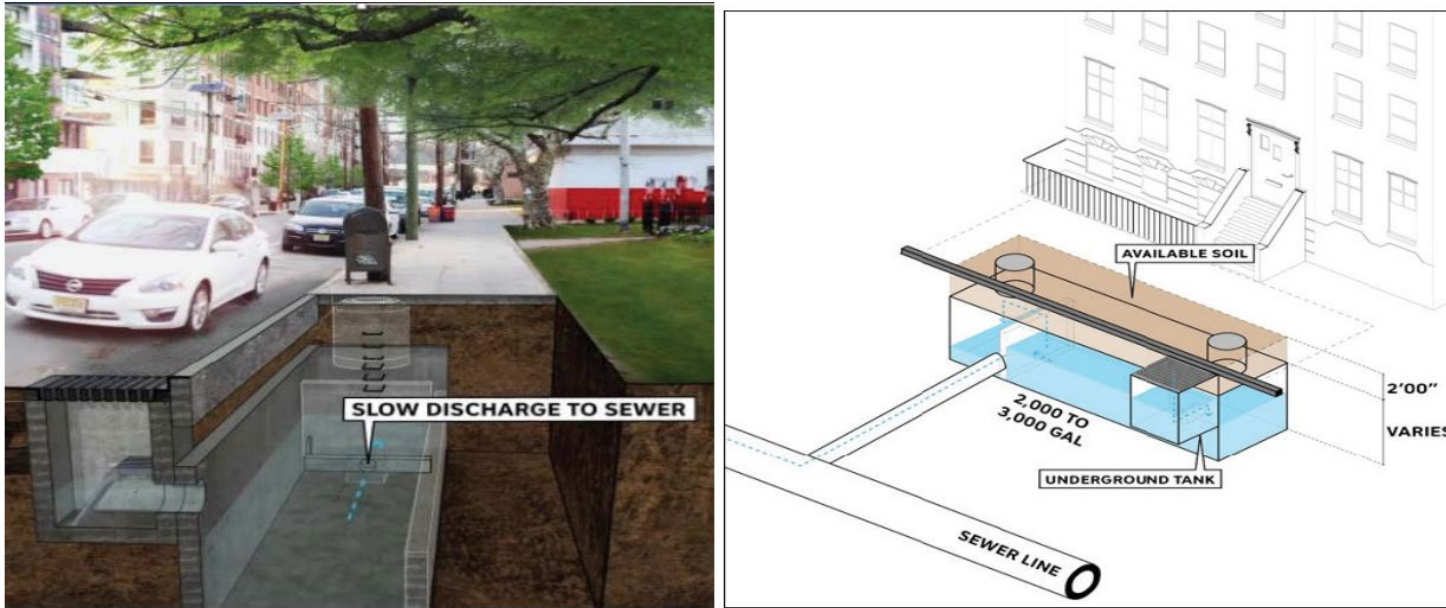


Figure 4-21: Depiction of typical Right of Way (ROW) site with detention tanks (left picture) and detailed depiction of typical ROW underground tank collection and discharge.

During this period, adaptive management techniques will be used to provide for effective implementation and allow for improvements and/or modifications based on lessons learned while implementing the DSD components. A completed Resist alignment will be constructed with the HUD grant of \$230 million, and a pilot or demonstration DSD Project may be funded if there are available funds. The estimated timeline and budget for the Project are shown in **Table 4-6** below.

**Table 4-6 Hudson River Project
Estimated Timeline and Budget (in \$ millions)**

	2015	2016	2017	2018	2019	2020	2021	2022	Total
Planning / Feasibility	\$1	\$7	\$4						\$12
Design / Predevelopment			\$10	\$13	\$7				\$30
Site Development / Construction					\$30	\$62	\$61	\$35	\$188

Allocation for Activity:

- Total: \$229,400,000

RBD HUDSON RIVER ALLOCATION WALK		
ACTION PLAN AMENDMENT	DATE OF APPROVAL	CDBG-DR FUNDING
<i>Action Plan Amendment #12</i>	April 20, 2015	\$230,000,000
<i>Action Plan Amendment #21</i>	June 29, 2017	(\$2,900,000)*
<i>Action Plan Amendment #33</i>	October 8, 2019	\$2,300,000**
TOTAL		\$229,400,000

*Amendment for the Consolidation of Administration Funds into the General Category

**Reallocation of Activity Delivery Costs from Administration to Program Delivery

Eligibility for CDBG-DR: Federal Register Notice FR-5696-N-11(VII)(b) (Rebuild by Design)¹

Final Project design, integrating results of ongoing environmental studies that are being conducted by the New Jersey Department of Environmental Protection (NJDEP), is expected to begin in summer 2017. Construction is expected to begin in 2019 and will take about 3.5 years to complete.

Additionally, in the permitting and design phases of the Project, the Project may trigger local zoning and land use regulations that fall within the municipal purview. New Jersey Department of Community Affairs (NJDEA) has certified that the preliminary design considers the appropriate code, industrial design standards and construction standards, and that a registered professional engineer will certify that the final design meets all relevant codes. To date, the known State and Federal

¹ The following detail regarding eligibility was added in Amendment #20.

permits that will need to be obtained for the Preferred Alternative are as follows:

- Individual Waterfront Development Permit
- Individual Flood Hazard Area Permit
- Freshwater Wetland General Permits 7 and 11
- NJPDES – Discharge to Surface Water (DSW) Permit
- Army Corp of Engineers Nationwide Permit 7
- General Permit (GP-0005A) for emergency generators (DSD pump systems)

The Project is also addressing the long-term efficacy and fiscal sustainability, outlined in Section VI(2)(g)(4) of the November 2013 Federal Register Notice (FR-5696-N-06) by developing the following:

- An Operations and Maintenance (O&M) plan for the Project will be prepared describing the procedures and responsibilities for routine maintenance, communication and timing of activation in the event of an impending storm condition. NJDEP has formed an O&M subcommittee with local and State partners that has helped develop an O&M management strategy framework for the Project. The participants in the O&M planning and development currently include, but are not limited to, entities such as the NJDEP, the cities of Hoboken, Jersey City and Weehawken, Construction Management Firm (CMF), the Design Contractor, HUD, NJ TRANSIT, North Hudson Sewerage Authority, Hudson County, and other important stakeholders who may be impacted by the final Project. The O&M Plan management is a critical component of the overall Project and should contain five very distinct functions: Operations, Maintenance, Engineering, Training, and Administration. The detailed O&M framework for the Project is included as Appendix B in Amendment #20, which also identifies key stakeholders and metrics for O&M Evaluation.
- During the Project development, meetings were held with FEMA to review various issues related to FEMA accreditation of the Project including interior drainage, joint probability analysis, freeboard requirements for coastal flood protection structures, and other aspects of design necessary for accreditation in accordance with 44 CFR 65.10. Based on the information provided, FEMA concurred that historically less than 10-year rainfall coincided with one percent and lower coastal storm surge events. Even though it is not currently required by FEMA, it was agreed that sea level rise should be accounted for, given the life span of the flood reduction system. The accreditation process was reviewed and it was recommended that the Project submit in the design phase a Conditional Letter of Map Revision (CLOMR) to allow early coordination and ensure that map changes will be known prior to Project construction. The Project will need to meet interior drainage analysis 44 CFR 65.10 final O&M, as-builts, certification requirements that includes a Warning and Evacuation Plan and a system exercise schedule. In addition, FEMA will require that a warning system and evacuation system be established for the Project and a certification from a design professional or federal agency is required for accreditation. After final construction, the Project will be looking to pursue the FEMA LOMR. Routine, on-going maintenance will also

be a requirement as part of the Project's FEMA accreditation.

The NJDEP has taken the following steps to meet the resilience performance standards requirements identified in Section VI(2)(e) of the November 2013 Federal Register Notice (FR-5696-N-06). Through the NJDEP Flood Hazard Area Control Act (FHACA) Rules, the State has taken steps to reduce the damage and risks to public safety and health and the environment caused by flooding while assuring the creation of a more resilient coastal community. These steps include incorporating the following amendments to the FHACA Rules into the Project design:

- Amendments issued in 2007 include:
 1. The regulation of all commercial, residential, industrial, and public development within the flood hazard area design flood, which is the 100-year (1 percent) flood plus a 25 percent factor-of-safety to account for potential future increases in flood discharges in fluvial areas.
 2. Restricting the loss of any flood storage volume within the flood hazard area of fluvial surface waters, which ensures continued protection from anticipated flood events of increasing intensity.
 3. Establishment of protected riparian zones around all surface waters, which limit the removal of vegetation, thereby increasing water quality protection, reducing erosion, and preserving flood storage along these waters, all of which ensures continued protection from anticipated flood events of increasing intensity.
 4. Requiring that the lowest floor of buildings and the travel surface of roadways and parking areas be situated at least one foot above the flood hazard area design flood elevation to account for the possibility of impacts from future flood events that may be greater than the predicted levels.
- Emergency amendments in 2013 facilitating rebuilding after Superstorm Sandy in a more resilient manner by:
 1. Ensuring that the best available flood elevation data is used to determine the flood hazard area design flood elevation for a given site, including FEMA's advisory flood maps and subsequently released preliminary maps for New Jersey's coast, which include revised A and V-Zone limits, as well as FEMA mapping issued as final (effective) that is developed in partnership with the NJDEP and depict the NJDEP's flood hazard area design flood elevation and floodway limit.
 - The flood mapping used by the State prior to this rulemaking was outdated and generally underestimated the actual 100-year flood elevation by approximately 1 to 4 feet and, in some circumstances, by as much as 8 feet. This was illustrated during Superstorm Sandy, when many people who had constructed a building with its lowest floor at the 100-year flood elevation shown on FEMA's effective Flood Insurance Rate Maps discovered that the portions of their building that lay below the advisory base flood elevation were subjected to severe flood damage. Had the NJDEP not taken steps to

allow for the use of the best available flood mapping, and to incorporate future FEMA mapping, residents would have been able to reconstruct their substantially damaged structures using the prior and inaccurate flood elevations, creating a potentially significant detriment to public health, safety and welfare during the next flooding event.

2. Allowing flood proofing measures to be used instead of elevating buildings in certain, limited situations where elevating is not feasible or cost-effective.
3. Ensuring consistency between the NJDEP's standards for elevating buildings in flood hazard areas with the building standards of the Uniform Construction Code promulgated by the Department of Community Affairs at N.J.A.C. 5:23.

The FHACA rules are not the State's sole means of protecting residents and their properties from flooding and severe weather events. Many efforts are ongoing throughout the State and in the various other NJDEPs to assist in the recovery from Superstorm Sandy and Hurricane Irene. For example, the NJDEP's Blue Acres Program was established for the purposes of acquiring flood-damaged or flood-prone properties from willing sellers for conservation and recreation purposes, thus removing families from harm's way while creating natural buffers against future severe weather events and returning flood carrying capacity to vital areas. With respect to tidal areas, since 2011, the New Jersey Coastal Management Program (NJCMP) has developed two assessment tools to ensure that coastal communities have consistent and comprehensive guidance to assess their vulnerability to coastal hazards and capacity for resilience: the Coastal Community Vulnerability Assessment and Mapping Protocol and the Getting to Resilience questionnaire. Through the NJCMP, the NJDEP has developed the Resilient Coastal Communities Initiative to further develop these tools into a community-based planning program. The NJCMP has also initiated a Sustainable and Resilient Communities Grant Program to fund a comprehensive planning approach at the municipal level. Further, the 2013 amendments to the NJDEP Coastal Zone Management Rules allow for soft buffers through the establishment of living shorelines. Tidal wetlands are a major component of the coastal ecosystem that provide multiple ecosystem services, as well as a first defense against storm surge. Living shorelines are a means to assist in restoring special areas, such as wetlands, that have been lost and can be designed to adapt to changing environmental conditions.

National Objective: The National Objective for this project will be LMI and/or Urgent Need. Moreover, [FR-5696-N-11](#) allows the State to "categorize the [RBD] project into multiple activities in order to distinguish and classify expenditures as benefitting [LMI] populations, as a means of meeting the overall benefit requirement." As described above, the State is currently evaluating the resultant impacts of the RBD Hudson River Project's Preferred Alternative, and therefore, is not positioned to designate what components may potentially be classified as meeting the LMI national objective. As a result, the State avails itself of the option to characterize activities within this Project as either meeting the LMI national objective or the Urgent Need national objective (or characterizing an entire Project as LMI, if appropriate under HUD regulations), at least so long as funding provided for RBD Projects continues to be counted toward the State's overall LMI benefit requirement.²

² As revised in Amendment #20.

4.9.2.3 Managing State Agency and Partner Entities

Complementing the organizational structure described in Section 4.7.2, Amendment #20 provided further detail on the management of the Hudson River project.

While NJDEP will be the primary agency involved in designing and implementing the Project, it will not be the only relevant State agency. Roles of other agencies in this process include:

- **NJ TRANSIT.** NJ TRANSIT received significant funding from the Federal Transit Administration (FTA) to fill Long Slip Canal, which will block some of the storm surge coming from the Hudson River near the south end of the RBD Project area. While this Project was coordinated with the RBD team, it is funded with FTA funds and is a wholly separate Project from RBD Hudson River. Ongoing coordination will be required to ensure that the projects yield an integrated coastal protection system.
- **Department of Treasury/Office of State Comptroller.** NJDEP will continue to work closely with these two agencies in order to procure services and materials needed to realize the Project. The State procurement process is a necessary condition of ensuring cost reasonableness and complying with federal and State law, but compliance also may add significant time to the Project.

Coordination and communication with potential partners are also critical in the implementation of this Project. Two examples of early coordination of the Hudson River RBD Project team (Project team) with partners for the Project are the following:

- Sandy Regional Infrastructure Resilience Coordination (SRIRC) Federal Review and Permitting (FRP) Team members committee met with the Project team on August 18, 2015 at HUD's offices in Manhattan to provide the FRP with an overview of the Project's timeline, discuss the Project's draft Purpose and Need, and discuss the upcoming publication of the draft Scoping Document. The Project team provided an overview of initial conceptual Resist and DSD features to provide examples to the regulatory agencies of the various alignments and types of structures that the Project team was considering, in an early effort to identify issues that may be associated with particular strategies. The SRIRC FRP Team members are federal officials with responsibility for federal review and permitting of complex Sandy infrastructure projects. The mission of this interagency team is to facilitate expeditious and efficient reviews of the most complex Projects funded by the Disaster Relief Appropriations Act of 2013 through early engagement and identification of issues, studies, and overall development needs of the projects.
- Coastal Hudson County Technical Coordination Team (TCT) met with the Project team on June 18, 2015 for an initial Project kickoff meeting, which included background on the Project, an overview of the proposed Project schedule, and review of Project milestones. The groups met again on October 8, 2015 to review the Project schedule, draft Scoping Document, and discuss the preliminary concept screening criteria and on September 27, 2016 for a review of the Project schedule, introduction of the Preferred Alternative, and overview of the Project benefits and environmental impacts that had been identified. The TCT is comprised of federal, state, and local officials with subject matter expertise in resilience, planning,

environmental review, and permitting in the Study Area. It was formed by the federally convened SRIRC Group and includes members from NJDEP, HUD, U.S. Army Corps of Engineers (USACE), U.S. Environmental Protection Agency (EPA), U.S. Fish and Wildlife Service (USFWS), National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service (NMFS), FEMA, FTA, Federal Highway Administration (FHWA), NHTSA, PANYNJ, NJ TRANSIT, and representatives from the local municipalities.

The Project also requires ongoing agency outreach including coordination for permits and approvals. The following is a list of ongoing agency coordination needs:

- Section 106 Consultation - Consultation with the NJ Historic Preservation Office (HPO) and identified consulting parties would be undertaken to develop the Project Programmatic Agreement (PA) that would provide a consultation framework to minimize and/or mitigate adverse effects that are expected to result from the Project. The executed PA will be incorporated into the FEIS. The potential effects on those historic properties would be assessed by NJDEP in consultation with the HPO and in accordance with the Section 106 process.
- FEMA and USACE consultation and review has been ongoing and will continue throughout the design and required permitting processes.

As was proposed in Amendment #12, municipal governments and stakeholders in the Project area are also playing a critical role in realizing the Project and are being engaged as follows:

- An Executive Steering Committee (ESC) for the Project meets on a monthly basis to share information and provide input throughout all phases of the Project, from feasibility through construction. The Commissioner of NJDEP, HUD representatives and the Mayors of Weehawken, Jersey City and Hoboken are members of the ESC. Among other things, this Committee advises on the direction of the Project, policy issues that arise in connection with the Project, as well as issues raised to the Committee by the NJDEP Project Management Team (PMT). The ESC works in unison with NJDCA as issues arise.
- The PMT works on the day-to-day issues that arise in connection with the Project. Any issues that cannot be addressed at this level are synthesized and raised to the Executive Steering Committee for discussion. A number of smaller teams and workgroups support the PMT on issues specific to the Project. These working groups evaluate and make recommendations on such issues as Uniform Relocation Act (URA), permitting, operation and maintenance and public outreach. Examples of these working groups are:
 - ESC Working Group (ESCWG): The ESCWG is comprised of key members of each of the municipalities, the engineering/design team, NJDEP, HUD, and Construction Management Firm (CMF). Periodically during critical phases of the Project, such as concept development, urban design, and important document review (Scoping, DEIS, Design Scope of Work), the ESCWG will meet to check on Project status and work through Project issues. The group will also meet to review draft presentations and run-throughs prior to public meetings and hearings.
 - O&M Subcommittee: The O&M Subcommittee is comprised of members of each

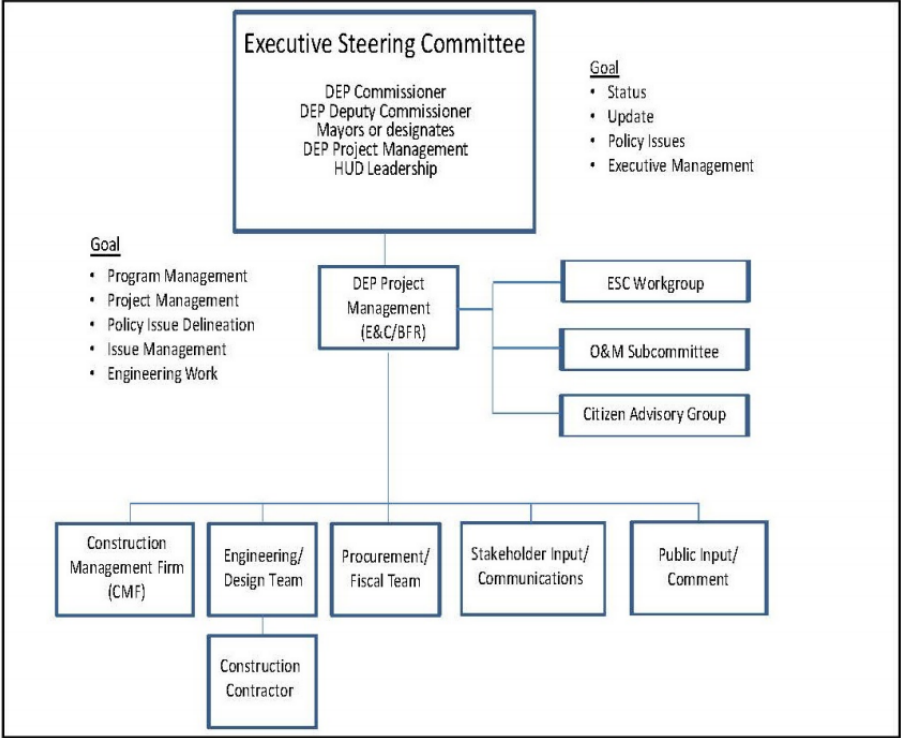
municipality, NJDEP, CMF, Design Contractor, HUD, NJ TRANSIT, North Hudson Sewerage Authority, and Hudson County, and other important stakeholders who may be impacted by the final Project. The goal of the Subcommittee is to continue the discussion of issues that arise from the Project and how to manage them as issues arise. In the end, this group will work together to develop an O&M plan that will detail the specific responsibilities of each individual party. This group will also make recommendations on how and when the Project is activated in an emergency and how existing services will need to react at that time. The O&M Subcommittee works in unison with NJDCA as issues arise.

- Citizen Advisory Group (CAG): The CAG is a group of key citizens and citizen groups representative of that community interested in the Project. CAG members are responsible for bringing issues and concerns to the table as well as sharing information from the PMT with their constituents, including members of vulnerable populations. CAG members will supplement the knowledge of local government officials or their delegates about the Project areas and provide input on ideas, problems, observations and solutions.

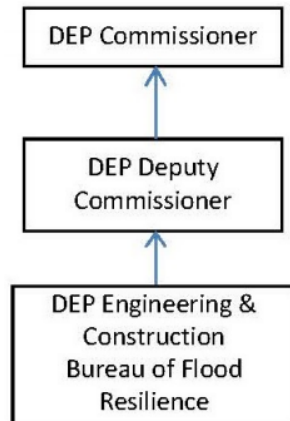
In short, throughout all phases of the Project, Executive Steering Committee members have both a voice and input into the process, though to be clear the Executive Steering Committee is advisory, and all final Project determinations rest with NJDEP as the agency responsible for implementation of the Project.

The chart below shows the Advisory Structure and the Decision-Making Structure for the Project.

RBD Hudson River Organizational Chart: Advisory Structure



RBD Hudson River Organizational Chart: Decision-Making Structure



Advice from the Executive Steering Committees is considered by E&C/BFR and reported up to the Commissioner who has final decision-making authority. The Commissioner also chairs the Executive Steering Committees and is directly informed of the Committee’s advice. E&C/BFR’s role in the Advisory Structure is primarily a staffing function to facilitate the synthesis and transmission of issues and considerations to the Executive Steering Committee for input. Separate from its role in facilitating the Executive Steering Committee’s advisory role, E&C/BFR also is involved in NJDEP’s RBD decision-making process, which includes evaluating the input provided through the advisory structure.

4.9.2.4 Performance Schedule Section 5

The table below indicates the high-level schedules for the Project. The schedule, along with the attachment of timelines developed by the consultant teams, establishes that this Project will require the timeline extension approved by HUD on February 13, 2017 in order to be completed.

Milestone	Time Period by Month/Year
Recommendation of Preferred Alternative	September 2016
DEIS Public Hearing	March 2017
Design Contract Award (Resist)	June 2017
FEIS	June 2017
Record of Decision	July 2017
Design Completion	January 2019 (North) & June 2019 (South)
Construction Contract Award	April 2019 (North) & September 2019 (South)
Design/Build (DSD Pilot)	November 2019 – September 2021
Construction Completion	September 2022

Feasibility and Planning is nearly complete. The next phase, Design and Predevelopment, refers to all design and engineering work required for the Project, culminates with complete construction specifications, and is anticipated to last from 2017 to 2019. Under the proposed schedule, the Project

will proceed in a timely manner and is currently on schedule for completion of construction by September 30, 2022.

Given that the Project has not yet entered the construction phase, these budget estimates and timeframes remain preliminary estimates, which are subject to change. These estimates will be refined to be more accurate following completion of the Final Environmental Impact Statement.

This overview of the four Project phases includes but is not limited to the following:

Planning and Feasibility (Planned Completion July 2017)

- **Scope of work:** overall Project/sub-component feasibility; identification of available and potential resources; Project timeline; begin environmental review process; Project scoping; critical issues/obstacles analysis; alternatives analysis; general cost-benefit analysis; bid packages for design phase; permit identification; EIS and Record of Decision (ROD); begin master planning process and community engagement/outreach; identification of necessary land acquisition and easements.
- **Key tasks:** conduct data collection and analysis; evaluate overall Project feasibility; assess and confirm feasibility of RBD team's conceptual design; create concept drawings; publish Notice of Intent; develop purpose and need for Project; develop scoping document; meet with stakeholders; identify necessary permits; prepare and publish DEIS; receive and respond to public comments; hold public hearing; draft and publish Final EIS (FEIS); draft and publish Record of Decision (ROD); identify environmental consequences, identify resources, identify and analyze critical issues/possible obstacles; identify necessary real estate/easements; develop more detailed timeline and budget estimates; analyze feasibility of sub-components as stand-alone Projects; create Master Plan.
- **Key deliverables:** development of concept drawings; DEIS; FEIS; Section 106 Project-specific Programmatic Agreement, ROD; list of necessary permits; feasibility report; general timeline and budget for Project phases; general cost-benefit analysis; plan for addressing critical issues; development and issuance of bid packages for design and engineering services.

Design and Predevelopment

- **Scope of work:** development of engineering and design documents; real estate/easement acquisition; development of construction bid package; completion of environmental review process; issuance/approval of all necessary permits.
- **Key tasks:** pursuit of identified financing/funding opportunities; draft engineering and design documents; develop construction bid packages; obtain necessary permits; obtain real estate/easements; identify and secure funding source and partners for operations and maintenance; identify long-term ownership entity/structure.
- **Key deliverables:** concept drawings; completed engineering and design documents; filing and approval of all necessary permits; complete necessary easements and land acquisition, development and issuance of construction bid packages; complete procurement of construction services contract; detailed construction timeline and cost estimate;

comprehensive cost-benefit analysis.

Site Development and Construction

- **Scope of Work:** begin and complete site development and construction.
- **Key Tasks:** prepare identified areas of site for construction phase on time and on budget, in accordance with plans and specifications. Build, on time and on budget, in accordance with plans and specifications.
- **Key Deliverables:** completed site development in areas required in order to begin construction; complete construction.

Post-Construction

- **Scope of work:** all ongoing operations, maintenance to ensure continued effectiveness of Project components.
- **Key tasks:** create maintenance agreements.
- **Key deliverables:** well-maintained Project components; funding in place to ensure continued effectiveness of the Project.

4.9.2.5 Citizen Participation Plan and Outreach

NJDEP has committed to a robust community and stakeholder outreach process throughout the course of what will be a multi-year effort to realize the Hudson River RBD Project. The primary goal of NJDCA's Citizen Participation Plan (CPP) is to provide all New Jersey citizens with an opportunity to participate in the planning, implementation, and assessment of the State's CDBG-DR Sandy recovery program(s). The CPP required that a Citizen Outreach Plan (COP) specific to the Project be developed to serve as a supplement to NJDCA's existing CPP. The Project: Resist, Delay, Store, Discharge COP provides a transparent and inclusive community outreach and public participation plan allowing all citizens and stakeholders in the Project's Study Area and adjoining areas to participate in the planning, design, and implementation of the Project. The COP provided the framework for public outreach for the entire Project, including the NEPA phase and future phases, as it moves through final design into construction.

The Project-specific COP establishes the framework for the interaction between the primary public and agency coordination groups that will meet throughout the Project. These include the CAG, the TCT, and the ESC. The CAG was established to be the primary link between the Project team and the overall community. The TCT was established by HUD's Sandy Recovery Task Force to support regional resilience across federal infrastructure investments in the region impacted by Superstorm Sandy and to facilitate planning, development, and implementation of infrastructure Projects funded through the Disaster Relief Appropriations Act of 2013. The ESC was established as a Project advisory committee. The coordination groups interacted with the Project team throughout the Project schedule to develop a Project that met the overarching resiliency needs, while considering community and regulatory requirements.

In developing the COP, the State complied with all HUD citizen participation plan requirements

described in Section VI of Federal Register Notice FR-5696-N-11 and with the public involvement requirements of the National Environmental Policy Act (NEPA), 40 CFR Sec. 1506.6 Public Involvement, as well as the State's Language Access Plan (LAP), which is available online [here](#).

The goal of the COP is to engage and collaborate with the public, including vulnerable and underserved populations, racial and ethnic minorities, persons with disabilities, and persons with limited English proficiency, as well as municipal officials, community organizations and the academic community, in the RBD planning, design and implementation processes. The purpose is to solicit relevant input and provide timely information throughout the environmental review. Community stakeholders have been continuously engaged throughout the feasibility/environmental review (planning), and will continue to be actively engaged in the design, and implementation phases of the Project.

Periodically during critical phases of the Project, such as concept development, urban design, etc., a subset of the ESC met in person or via online web conferencing to check on Project status and Project issues. This was known as the ESCWG and consisted of task and discipline leads with the planning team, as well as representatives from NJDEP, HUD, mayors' offices, and other members of the ESC.

Environmental Impact Statement Outreach

The extensive consultation and coordination that was undertaken as part of the Project began with the initiation of the National Environmental Policy Act (NEPA) process in June of 2015. The publication of the DEIS on February 24, 2017 represents a significant public outreach effort, with a 45-day public comment period and a public hearing held on March 16, 2017. To date, the Project has involved significant local, State, and federal coordination, as well as collaboration with the public, to build an understanding among stakeholders in the Study Area. This coordination has taken place to satisfy NEPA and agency regulatory requirements, as well as to make sure that the public remains well informed and engaged throughout the Project. Public involvement occurred throughout the Project and focused on major milestones, which were:

- Purpose and Need
- Scoping
- Concept development
- Concept screening
- Introduction of the Build Alternatives
- Urban design
- Coastal storm surge modeling
- Rainfall modeling and alternatives analysis
- Selection of the Preferred Alternative

Public feedback during key Project milestones was critical in developing a Project that provides flood risk reduction and community amenities, while respecting the existing urban environment. This section describes the plans that established the Project's public and agency outreach; the groups that were developed to help foster communication between the community, agencies, and the Project team (which includes the NJDEP and the Consultant team); and a summary of the meetings held for

the Project.

Outreach Accomplishments to Date

NJDEP and its partners held initial community meetings in each of the RBD Project regions, where the Projects were discussed. The first Project meeting was held on January 20, 2015, after the first ESC meeting Information on these meetings and documents presented to the public at each meeting is available on the RBD HUDSON website located [online](#).

The public has consistently been engaged throughout the process through the following events at various locations in the impacted area:

- Citizen Advisory Group Meetings on:
 - July 28, 2016 - Alternative Analysis Workshop;
 - July 12, 2016 - Coastal Storm Surge Flood Model Presentation;
 - June 16, 2016 – Community Workshop; o April 7, 2016 – Community Workshop;
 - December 3, 2015 – Concept Screening Workshop; o November 23, 2015 – Concept Review Workshop;
 - October 29, 2015 – Draft Concept Screening Workshop;
 - October 8, 2015 – Project Update and Concept Screening Presentation;
 - September 10, 2015 – Overview of RBD Scoping Process and Workstation Breakout; and
 - August 6, 2015 – RBD Overview, Background and Status.

- Community Meetings on:
 - June 16 , 2016 - Urban Design and Amenities preliminary findings;
 - April 28, 2016 - Community Workshop/Drop-in Session;
 - April 14, 2016 - Community Workshop/Drop-in Session;
 - April 12, 2016 - Community Workshop/Drop-in Session;
 - February 18, 2016 - Project Alternative Update; and
 - December 7, 2015 - Drop-in Session follow up to Public Meeting on December 10

- General Public Meetings on:
 - September 13, 2016 - Jersey City Community Update;
 - September 8, 2016 - Preferred Alternative Public Meeting;
 - December 10, 2015 - Concept Screening Public Meeting;
 - November 24, 2015 – Public Walking Tour Discussion;
 - November 23, 2015 – Public Walking Tour Discussion;
 - September 24, 2015 – Environmental Impact Statement Public Scoping Meeting;
 - June 23, 2015 – RBD Overview, Background and Process; and
 - December 10, 2015 – Concept Screening Public Meeting.

Community involvement has been an integral part of the entire Project process. In order to facilitate communication with the community, NJDEP made extensive use of the Project website to upload materials presented at meetings such as presentations, handouts, video recordings, and meeting summaries. NJDEP also utilized an electronic mailing list (listserv) to facilitate ongoing contact with the community, transfer information, and invite people to public meetings. The database contained the names and addresses of Study Area representatives, media organizations, and representatives from the business community, as well as other interested stakeholders who signed up to receive updates via the website. At meetings, members of the public were encouraged to add their email address to the listserv so that they could be notified of Project updates and schedules for upcoming meetings. In addition to participation at public meetings public participation was encouraged and facilitated by:

Project Website: The Project website (www.rbdhudsonriver.nj.gov) is an important tool used to communicate with the public by serving as a repository for documentation and information related to the Project. The website features resources such as presentations, videos, public notices, and documents for public review, which were made available for download within a few days following public meetings. The website also features a link allowing individuals to subscribe to the Project's listserv. The website will continue to function as a valuable resource for the community as the Project moves forward through the design and construction phases.

Fact Sheets and FAQs: The Project team has recognized that as the Project progresses, people that may not have been involved in earlier phases may become aware of the Project and want to get involved. To bring people up to speed, as well as answer questions that had been raised by members of the public at previous meetings or through email, Fact Sheets and FAQ documents were developed at Project milestones, such as during scoping and the introduction of the three Build Alternatives

Drop-In Sessions: NJDEP and its partners provided additional opportunities for input, comment, and participation at key Project milestones such as concept screening, urban design, or at the request of Executive Steering Committee members. These drop-in sessions were not formal public hearings, but rather forums for an exchange of information between the public and the Project team. Subject matter experts were available to field specific questions or provide additional explanations related to their technical expertise. Project team members provided status updates and presentations and the public was given an opportunity to ask questions and voice concerns.

Spanish Language Translation: All notifications published to inform the public of an upcoming public meeting were published in both English and Spanish. In addition, at public meetings (scoping, concept screening, and DEIS public hearing), a Spanish translator was available to help Spanish speaking individuals.

Stakeholders will continue to be engaged during the design and construction Project phases. As shown in the organizational chart in Section 2.1, a group reporting up to the PMT has been specifically focused on outreach. Moreover, for the environmental review component in particular, NJDEP has synchronized its outreach approach specifically to the public engagement requirements attendant to environmental impact studies. The full RBD HUDSON Outreach Plan with specific community goals,

contacts and specific community outreach actions is available [online](#).

The next phase of the Project will be final design. During final design, the Project team will work with the communities to finalize the urban design considerations and amenities to be incorporated into the Project's Resist component. This coordination will emphasize the usage of context sensitive designs that will be mindful of the existing urban fabric to help mitigate impacts of the structures on the community. During construction, the Project will also involve outreach and coordination with communities to help mitigate construction-related impacts.

4.9.2.6 Benefit Cost Analysis

Pursuant to [FR-5696-N-11](#) and its implementation guidance, the State is required to submit with its Substantial Action Plan Amendment a Benefit Cost Analysis (BCA), as well as a clear and concise narrative description of the BCA. The full narrative of the BCA is attached to Amendment #20 as Appendix C. The narrative description below describes the RBD Project and expected costs and benefits, according to the categories outlined in [HUD Notice CPD-16-06](#), issued on April 20, 2016. The BCA was also prepared in accordance with HUD BCA Guidance for APA for RBD Projects outlined in [HUD Notice CPD-16-06](#). The analysis used generally accepted economic and financial principles for BCA as articulated in [OMB Circular A-94](#).

The Project consists of the following elements:

(1) Preferred Alternative (Alternative 3) will provide flood risk reduction benefits to the community by placing the "Resist" barrier structures primarily inland and along a privately owned alleyway between Garden Street and Washington Street in northern Hoboken. The Preferred Alternative (also referred to as the "Alleyway" alternative) provides the most balanced approach to delivering significant coastal flood risk reduction benefits to the community within the available budget of \$230 million and with Project completion to be September 2022. This alternative provides coastal flood risk reduction to approximately 85 percent of the population residing within the Study Area 100-year floodplain. The Preferred Alternative creates the opportunity for beneficial activation of certain resist features including enhanced public park space while minimizing perceived negative impacts to the community.

(2) Preferred Alternative: Option 1 will include an alignment south of Observer Highway, within the rail yard (south of the proposed Hoboken Yard Redevelopment Area). Option 2 will feature an alignment along Observer Highway from Washington Street directly to Marin Boulevard. The alignment includes gates for access at various locations including at the Marin Boulevard, Grove Street and Newark Avenue underpasses beneath the rail lines, as well as protection where HBLR tracks pass below the NJ TRANSIT overpass in the southwest corner of the study area. Urban amenities in these areas include lighting, murals, seating, plantings, and wayfinding/signage.

The Project Resist Preferred Alternative is designed to:

- 1) Contribute to Community Resiliency
- 2) Reduce Risks to Public Health

- 3) Contribute to On-going Community Efforts to Reduce FEMA Flood Insurance Rates
- 4) Deliver Co-Benefits
 - a. Integrate civic, cultural and recreational values
- 5) Enhance Connectivity to the Waterfront
- 6) Activate Public Space
 - a. Public and recreational spaces
- 7) Consider Impacts from Climate Change

The BCA demonstrates that the Preferred Alternative Project will generate substantial net benefits (i.e., the benefits exceed the lifecycle costs of the Project over its useful life, by a factor of five (Benefit Cost Ratio = 5.61). The benefits to the host community and region would be substantial and justify the costs of implementation and operations. The Preferred Alternative assets will create large resiliency values, social values, environmental values and economic revitalization benefits to the Hudson River communities of the City of Hoboken, Jersey City and Weehawken, as well as other beneficiaries from the New York/New Jersey metropolitan region.

Table 4-7 shows the monetized costs and benefits of the Project for Resist Alternative 3. The largest group of benefits consists of resiliency values related to flood risk protection provided by the Project's assets. In summary, the lifecycle costs to build and operate the proposed Resist Preferred Alternative Project (amounting to \$213.4 million in constant 2017 present value dollars) would generate the following benefits:

- Total benefits of \$1.2 billion, of which:
 - Resiliency Values are: \$1.05 billion
 - Environmental Values are: \$65.3 million
 - Social Values are: \$47 million
 - Economic Revitalization Benefits are: \$33.9 million

The Project's cumulative present value of net benefits (benefits minus costs) is \$ 982.6 million, and the Benefit Cost Ratio (BCR) (Benefits divided by Costs) is 5.61. These net benefits demonstrate that the Project has substantial merit and would add value to the community and region. The Resist Alternative 3 Project would benefit other coastal areas that are susceptible to the three different annual chance coastal storm events: 10% (10-year), 2% (50-year), and 1% (100-year). These areas are located outside of the Project area but are within these vulnerable flood hazard zones.

Table 4-7 RBD Hudson Project – Resist Alternative 3: Benefit Cost Analysis	
Cumulative Present Values (2017-2067)	
Constant 2017 US Dollars	
	Cumulative Present Values [Discount Rate = 7%]
LIFECYCLE COSTS	
Project Investment Costs \a	\$194,934,026
Operations & Maintenance (O&M)	\$18,431,043
Total Costs	\$213,365,069
BENEFITS	
Resiliency Values	\$1,049,805,724
Avoided Flood Risk Damages:	
Structures	\$404,538,532
Contents	\$240,785,789
Displacement / Loss of Function	\$282,824,194
Avoided Mental Stress & Lost Productivity	\$95,535,861
Avoided Cost of Power Outages	\$10,523,966
Avoided Costs to Critical Infrastructure (HSRA)	\$1,232,070
Avoided Casualties (Mortality & Injuries)	\$14,365,313
Environmental Values (water quality improvements)	\$65,264,648
Social Values	\$46,991,423
Avoided Medical Costs from Sewer Backup Events	\$25,032,451
Recreation Value of Added Park Space	\$21,824,398
Stormwater Retention Value of Added Park Space	\$134,574
Economic Revitalization Benefits	
Property Value Impacts	\$33,924,000
Total Benefits	\$1,195,985,795
Benefits less Costs (Net Present Value)	\$982,620,726
Benefit Cost Ratio (BCR)	5.61
Notes:	
\a Note that because Project construction is anticipated to occur start in Feb. 2019 and last 44 months, the present value calculation of costs (as of 2017) will appear to be lower than the nominal project investment costs shown in the cost estimates and Feasibility Study due to the application of the 7% HUD recommended discount rate	

The Project’s future annual benefit and cost streams, projected over the 50-year planning horizon, were subjected to a sensitivity analysis. The sensitivity analysis tested how key variables and parameters, if changed, would alter the economic feasibility of the Project, measured by the BCR and the net present value. The sensitivity analysis examined potential construction cost overruns, construction schedule delays, and O&M increases as well as substantial reductions in the largest benefit categories. The results showed that the Project’s net present value of benefits is robust and can withstand these standard stress factors given the uncertainties that may arise, and remain economically viable over this period.

BCA Process Description

The BCA narrative was prepared by Louis Berger U.S, Inc. (Louis Berger), using inputs provided by the flood risk reduction BCA completed by Dewberry. The full BCA narrative is included in Amendment #20 as Appendix C. In addition, the BCA incorporates information and inputs from the various contributors to the Feasibility Study (FS) including costing experts (Dewberry, Hill

International Inc.), team members working on the EIS review, the Draft Environmental Impact Statement and the City of Hoboken, New Jersey Proposed Stormwater Management Plan, Health Impact Assessment (HIA) Final Report. Louis Berger provided value added expertise relevant to the BCA in terms of resilience, landscape design, coastal and environmental engineering, ecology, economic analysis, geographic information systems, Project evaluation, engineering economics and socio-economics. In addition, Louis Berger applied its own research findings, collective multidisciplinary expertise, experience, and professional judgment in completing the BCA on behalf of the State of New Jersey.

Description of Proposed, Funded Project

The Project's Preferred Alternative includes two options. Option 1 will include an alignment south of Observer Highway, within the rail yard (south of the proposed Hoboken Yard Redevelopment Area). Option 2, which is slightly more expensive, will feature an alignment along Observer Highway from Washington Street directly to Marin Boulevard. The Project's main elements include the flood gates and superstructure and substructure infrastructure necessary to achieve the resiliency goals and objectives. Among these elements are inlets and pipes for stormwater drainage to the NHSA system. In addition, the Project elements also consist of environmental remediation costs, utilities, urban design features (including landscaping), engineering, FS/EIS, inflation escalation and contingencies.

Construction for Resist infrastructure in the Preferred Alternative would begin in February 2019 and last 44 months. The construction would occur concurrently for the northern and southern resist features. Equipment required for this Project includes dump trucks, backhoes, pile drivers, concrete trucks, and other assorted delivery trucks. Some street closures will be required, particularly for gate construction. Pile driving will be required over nine work months. A total of 6,000 crew days will be required to complete this construction. (Draft EIS, 2017).

Project Schedule, Useful Life and Discount Rate:

Project construction is anticipated to start in February of 2019 and last 44 months. For the purposes of this BCA, the capital construction costs (Project Investment Costs) are phased in ratably over this time period. The BCA also assumes a 50-year Project evaluation time horizon. A discount rate of 7 percent, recommended by HUD and per OMB Guidelines, has been applied.

Full Project Cost

The total nominal construction cost of the Preferred Alternative - Option 1 is estimated to cost between \$224.4 million and \$249.9 million. The total construction cost for Preferred Alternative - Option 2 is estimated to cost between \$238.1 million and \$268.5 million. For the purposes of the BCA, the midpoint of each option was applied and averaged. This convention is acceptable practice for the BCA. For the purposes of the BCA the sensitivity analysis addresses the range of estimated capital investment costs, per each option, and the potential impacts to the BCR from potential cost overruns and uncertainties. Since the BCA depicts each future year over the fifty year Project evaluation period, the total construction cost was phased in over the multi-year construction period per information received from Hill International Inc. Hill provided shares of the total costs that would be implemented over the years 2019 through 2022 and these ranges were used to create the BCA's capital investment phase-in assumptions (Hill International, 2017). The cumulative present value of the cost, in current 2017 terms, falls within the budget of \$230 million. **Table 4-8** shows the summary nominal

(undiscounted) capital investments costs for the Preferred Alternative, Options 1 and 2. **Table 4-9** compares the Projected nominal future costs and the discounted annual costs applying the capital investment phase-in assumption shares.

Table 4-8: Summary of Cost Estimates for the Preferred Alternative (Alternative 3)			
Alternative No. 3 (Option 1)	Low Range Estimate	Midpoint of Range	High Range Estimate
Construction Costs	\$132,134,421	\$142,293,755	\$152,453,089
Design, Engineering & Program Management Costs	\$53,241,893	\$53,241,893	\$53,241,893
PROJECT COSTS (Inflation Included) Without Contingencies	\$185,376,314	\$195,535,648	\$205,694,982
Contingency	\$39,085,885	\$41,625,719	\$44,165,552
Total Estimated Project Costs	\$224,462,199	\$237,161,367	\$249,860,534
Alternative No. 3 (Option 2)	Low Range Estimate	Midpoint of Range	High Range Estimate
Construction Costs	\$140,758,854	\$152,915,810	\$165,072,766
Design, Engineering & Program Management Costs	\$55,492,396	\$55,492,396	\$55,492,396
PROJECT COSTS (Inflation Included) Without Contingencies	\$196,251,249	\$208,408,205	\$220,565,161
Contingency	\$41,804,619	\$44,843,858	\$47,883,097
Total Estimated Project Costs	\$238,055,868	\$253,252,063	\$268,448,258
Midpoint Nominal Capital Cost Applied in CBA \a		\$245,206,715	
Source; Dewberry, Hill International Inc.			
Notes: \a The nominal capital investment cost is phased in over the years 2019 – 2022. The cumulative present value of this cost, in 2017\$ is less than \$230 million.			

Table 4-9: Alternative 3: Nominal and Discounted Capital Investment Costs by Construction Year					
	Total/Cumulative Present Value	2019	2020	2021	2022
Capital Cost Phase-in Shares, %	100%	18.0%	34.5%	35.0%	12.5%
Nominal Capital Costs (Mils. \$)	\$245.2	\$44.1	\$84.6	\$85.8	\$30.7
Discount Factor (i = 7.0%)		0.8734	0.8163	0.7629	0.7130
Discounted Capital Costs (Mils. \$)	\$194.9	\$38.6	\$69.1	\$65.5	\$21.9
Source; Dewberry, Hill International Inc.					

Table ES-1, located in Amendment #20, Appendix C: Full BCA Narrative, shows the cumulative present value of the total construction and operational and maintenance costs. Because the 7% discount rate is applied to future years when these costs would be incurred (construction implementation years) the cumulative discounted costs will appear lower than the nominal costs of the alternatives provided in the capital cost estimates.

Description of Existing Problem

The Study Area, comprising the entire City of Hoboken and adjacent areas of Weehawken and Jersey City, is vulnerable to flooding from both coastal storm surge and inland rainfall events. The purpose of the Project is to reduce the flood risk within the Study Area. 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, while providing benefits that will enhance the urban condition, recognizing the unique challenges that exist within a highly developed urban area.

The Study Area is a densely populated urban area of Hudson County with very little impervious surface situated along the Hudson River directly west of Manhattan, New York. The Study Area is vulnerable to two interconnected types of flooding:

- coastal flooding from storm surge and high tide, and
- systemic inland (rainfall) flooding from medium (generally a 5-year, 24-hour) to high (generally over 10-year, 24 hour) rainfall events.

Coastal flooding happens with much less frequency than rainfall flooding events, but can devastate widespread areas of the Study Area and cause significant economic damage and safety concerns. Rainfall induced flooding occurs with substantially greater frequency than coastal flooding, but causes less severe economic damage and safety concerns. The flooding problems for both coastal flooding and rainfall-induced flooding can be attributed to several factors including naturally low topography and proximity to waterways; significant areas impervious ground coverage which causes surface runoff; existing combined storm sewer infrastructure that cannot handle the volume of water during significant rainfall events; and insufficient storm sewer discharge capability, particularly during high tide.

The Project would minimize the likely future impacts from coastal and rainfall flooding and would provide protection for public health and safety, and the economic vitality of the community of Hoboken and its beneficiary neighbors in Weehawken and Jersey City.

Risks if RBD Hudson is Not Implemented

The devastating impacts to the City of Hoboken, New Jersey and the adjacent river communities in Jersey City and Weehawken from Superstorm Sandy have been widely documented. The City of Hoboken's exposure to flood hazard risks is evident by the number of properties included in the FEMA NFIP. According to NFIP statistics (<https://www.fema.gov/policy-claim-statistics-flood-insurance>), as of August 31, 2016, the City of Hoboken had 9,446 NFIP policies in place (the highest in Hudson County), with premiums totaling \$7,213,754 (the highest in Hudson County and fifth highest in New Jersey). In addition, the overall liability to the NFIP from property owners in Hoboken was over \$2 billion (third highest in New Jersey) with an average claim amount of \$26,733 (FS, 2016).

List of Benefits and Costs of the RBD Hudson Project

Lifecycle Costs

The lifecycle costs of the intervention over the Project's lifetime are necessary for the BCA and to determine economic feasibility (i.e., whether the cumulative present value of the Project benefits exceed the cumulative present value of costs over this period). The Project's lifecycle costs consist of

both Project investment costs (upfront capital construction costs) and long-term annually recurring operations and maintenance costs.

Project investment costs were obtained from the Draft Privileged and Confidential cost estimates prepared and reviewed by Hill International and reflect the midpoint of the low and high ranges. Similarly, the annual operational and maintenance costs Projected within the BCA's Project Resource Statement reflect the midpoint of a low and high annual O&M cost. The annual midpoint applied was \$1.9 million per year, (calculated as the midpoint of the estimated annual O&M range, \$1.4 million - \$2.4 million).

Resiliency Values

I. Avoided Flood Risk Damages

Dewberry estimated the avoided flood risk damages to building structures, their contents, and the avoided costs of displacement and loss of function (LOF) for vulnerable properties and residents. Dewberry also estimated the avoided costs of mental stress and lost productivity that would be experienced by the impacted populations. The benefits were estimated as the difference between the future without Project situation (the No Action Alternative or NAA) and the residual expected damages that would occur "with" the Resist Preferred Alternative being implemented. The benefits for each of the three proposed "Resist" alternatives were estimated under three different annual chance coastal storm events: 10% (10-year), 2% (50-year), and 1% (100-year). The net benefits from the Resist Preferred Alternative option were applied in the BCA contained in this analysis. The benefits can be applied or offset to either option 1 or 2, in terms of cost. In the BCA, the midpoint of the Option 1 and 2 Cost was applied. The sensitivity analysis accounts for the higher cost option and goes above this amount to test the impact on the Benefit Cost Ratio in terms of higher cost tolerance. The expected annual damages (avoided flood risk costs) were the sum of the three annual chance storm events by severity type.

Dewberry followed a five-step process to estimate the net benefits of Resist Preferred Alternative. The first step was to estimate the flood depths that would be experienced under each annual chance storm / inundation event. The MIKE 21 coastal model was applied to property parcels under this step using GIS analysis. The second step was to gather and analyze parcel level data by type and size of the structures. Parcel data was obtained from the State of New Jersey's MOD IV database. The MOD IV database is maintained by the New Jersey Department of the Treasury and is used by county tax assessors to compile parcel-level data on individual properties that comprise the tax base.

The third step was to assemble and apply appropriate depth damages functions (DDFs) to the property/asset data base that was assembled. The depth-damage functions (DDFs) depict the relationships between the depth of flooding on a property and the amount of monetary damage that can be attributed to the flooding (measured as a percent of building replacement value).

The selected residential DDFs applied were based on the USACE generic DDFs for the residential building types located within the study area. This application of the DDFs step was applied to estimate the physical damages that would occur under each storm event return period both under the NAA and after the construction of the alternatives. Select DDFs were applied to estimate damages for (i) Structures, (ii) Building Contents and (iii) Displacement/loss of function. Since the Project area

has a number of mid- and high-rise residential structures, Dewberry made adjustments to the UASCE generic DDFs (which were originally developed for low-rise residential buildings with and without basements) to apply them to the mid- and high-rise buildings.

Displacement and LOF damages are the costs associated with not being able to use the structure. For residential structures, these damages are based on the number of days that the structure cannot be occupied, and for non-residential structures, it is based on the number of days that the structure cannot provide service. The nonresidential loss of service consists of two components, a one-time disruption cost and a recurring monthly cost for the duration of the displacement. Both costs are measured in dollars per square foot. Data on the recovery time, onetime, and monthly loss of service costs were obtained from the FEMA Benefit Cost Analysis ReEngineering (BCAR) guide to estimate the non-residential loss of service (FEMA BCAR, 2011).

The fourth step was to estimate the Project benefits associated with the avoided damages. The structure and contents damages were estimated by applying the DDFs to the Building Replacement Values (BRV) estimated for each parcel. BRVs were estimated by multiplying the size of the building structure (in square feet) by the construction costs (\$/square foot) based on data adapted from RS Means®. The construction costs differed based on the type of building and were adjusted to reflect the local market conditions within the study area. The DDFs for structure and contents estimate the damage as a percentage of the BRV. The percentage increases as the flooding depth increases.

The residential displacement damages were based on the number of days that the displaced residents were removed from their properties due to flood related damage, and the number of residents per unit. The General Services Administration (GSA) per diem rates for the study area, amounting to \$234/person/day were applied in the analysis. The number of days of displacement was determined by the DDFs applied. To estimate the number of residents in each type of unit, the data from the U.S. Census Bureau's American Community Survey Public Use Micro Data (PUMS) dataset specific for the study area was used.

Under the with and without Resist Project framework, for each storm frequency, the damages that would occur under the NAA (without Project) and the damages that would occur after the Resist Project is implemented were estimated. The difference between the "without Project" and the "with Project" event damages represents the amount of damages that would be avoided (the net benefit) if the Preferred Alternative Project was constructed. The avoided damages across all parcels in the study area were summed to arrive at the aggregate Project benefits (Dewberry, 2016).

II. Avoided Mental Stress & Lost Productivity Damages

Dewberry also estimated the public health related social benefits (avoided damages) associated with the mental stress and anxiety suffered by residents and the loss of productivity to wage earners caused by flood events. Dewberry used the FEMA method to measure these benefits and applied the currently allowed unit values for use in the benefit calculations: (i) \$2,443 per resident for avoided mental stress and anxiety (ii) \$8,736 per resident for avoided loss of productivity. The 2010 US Census and other local resources were used to estimate the residential and wage-earning populations within the study area that would be protected by each alternative. The FEMA unit values were then applied to the affected population to estimate the total social benefits for Preferred Alternative (Dewberry, 2016).

The annual expected avoided damages per each of the resiliency categories estimated by Dewberry were then represented within the annual Project Resource Statement used in this BCA, as the main category of Resiliency Value benefits. **Figures 4-17 through 4-19** are reproduced from the Dewberry BCA and show the relative magnitude of avoided damages per each storm event return period estimated. These figures are included in the main report attached in Amendment #20 in Appendix C.

III. Avoided Cost of Power Outages

It has been well documented that Superstorm Sandy exposed the vulnerabilities to extreme climatic events facing residents in the Project Area and the risks to critical infrastructure. During Sandy, the coastal storm surge waters flooded electric utility substations and transformers and a significant number of Jersey City and Hoboken residents were without electric power service for nearly two weeks (Draft EIS, 2016). In fact, one fatality in Jersey City was attributed to the lack of lighting due to the loss of power for several weeks (Star-Ledger, 12/2/12). The BCA estimates the avoided cost of power outages to the Project area for a significant climatic event of Sandy’s magnitude and counts this averted loss as a benefit because the risk of these damages would be greatly reduced with Project Alternative 3. **Table 4-10** shows the key data and parameters applied in the estimate.

Table 4-10: Parameters and Data Applied in Avoided Cost of Power Outage Estimate		
Parameter / Data / Information	Value	Note / Source
Days without power (Sandy, Jersey City, Hoboken, NJ)	14	page 32, EIS
Estimated Percent without Power (%)	75%	Jersey City recovers after Hurricane Sandy, The Jersey Journal, M. Conte, Oct. 30, 2012. http://www.nj.com/hudson/index.ssf/2012/10/jersey_city_recovers_after_hur.html
Projected Project Area Population (2023)	71,726	New York Metropolitan Transportation Council
75% of Projected Area Population	53,795	
Discount Rate	7%	HUD BCA Guidance
100 Year Event Annual Chance Factor	1%	= 1/ 100
FEMA - Economic Impacts of Loss of Electric Power Per Capita Per Day \a		
Category	Value (2017)	
Impact on Economic Activity	\$117.0	Calculated from 2010 value
Impact on Residential Customers	\$27.1	Calculated from 2010 value
Total Economic Impact	\$144.1	Calculated from 2010 value
GDP Implicit Price Deflator Escalator \b	1.1009	GDP Deflator _{2016: Q4} /GDP Deflator _{2010: Q4}
Projected cost of power outage (14 days):	\$108,488,352	
Projected annual cost of power outage (expected annual damage)	\$1,084,884	Adjusts total projected loss over 14 days by annual chance factor (1%)
Source/Notes: \a FEMA BCAR 2011 \b Gross Domestic Product: Implicit Price Deflator, Index 2009=100, Quarterly, Seasonally Adjusted, FRED		

To estimate the loss of electric power services that would be experienced by the Project Area’s estimated vulnerable population during a comparable Sandy type storm event, the FEMA methodology was applied (FEMA BCAR, 2011). The FEMA method applies the following steps: (1) Estimate the physical damages to the electric power system in dollars, (2) Estimate the functional

downtime (system days of lost service), (3) Obtain the number of people served by the electric power utility, and (4) Calculate the economic impacts of lost electric power service using the per capita economic impacts and the affected population.

Table 4-10 shows that the Project area vicinity lost power for 14 days and approximately 75% of the population were impacted over that time period. The Projected Project Area population (starting in the year 2023, the first year of Resist operations) was obtained from the New York Metropolitan Transportation Council (NYMTC). The bottom portion of **Table 4-10** shows the FEMA per capita per day economic impact estimate values. The original values (in 2010 US\$) have been updated to 2017 US dollars by applying the GDP Implicit Price Deflator index. Using the combined data, it is estimated that the impact to the Project Area of a 14-day power outage was \$108.5 million. Adjusting this total loss by the annual 1% chance factor results in a Projected expected annual damages amount that would be averted of approximately \$1.1 million, on average. The cumulative present value of the expected annual damages amounts totals \$10.5 million over the 50-year Project evaluation period.

IV. Avoided Costs to Critical Infrastructure (NHSA)

During Sandy, numerous types of critical infrastructure were impacted within the Project Area. The infrastructure included hospital services, police and fire services and emergency response assistance. The BCA did not quantify and monetize the benefits that the Resist Alternative 3 would have on the avoided costs of interruptions to all critical infrastructure services. However the benefits to these services is qualitatively acknowledged and would be assigned (++ = expected strong positive impact) under HUD's qualitative assignment system ([HUD Notice CPD-16-06](#)).

The BCA was able to quantify and monetize the service impacts to the North Hudson Sewerage Authority (NHSA, the "Authority"). The Authority serves an estimated population of approximately 185,000 (Fitch, 2016). The Study Area's population represents approximately 39% of the Authority's population. The daily average treatment flow is 21.95 mgd and the NHSA has a maximum treatment plant capacity of 30.8 mgd. The City of Hoboken's share of flows is approximately 29-30% of the average daily total amount (HSRA, 2016). Superstorm Sandy had a large impact on the Authority and its customers within the Study Area. The treatment plant was down for 24 hours, while full treatment was restored within 36 hours (HSRA, 2016). In October of 2012, the Authority incurred expenditures for emergency repairs as a result of Sandy. The total cost of the repairs is estimated to be approximately \$12.6 million (NHSA, 2016).

The above information was applied to estimate the benefits of the Project in terms of resilience protection it would offer to the wastewater treatment plant (WWTP) critical infrastructure and the service population within the Study Area. The historic event of Sandy is applied as a "one percent annual chance" event in terms of expected annual damages that would be mitigated by the Preferred Alternative Project. **Table 4-11** shows key data applied in the calculations of the mitigated damages to the Authority's critical infrastructure and customer service base. The avoided costs to critical infrastructure were estimated as the combined averted costs of emergency repairs that would be incurred for an event of Sandy's magnitude and the loss of sewage treatment service experienced by NHSA customers within the Study Area.

Parameter/Data	Value	Source
HSRA Estimated total cost of emergency repairs, Superstorm Sandy	\$12,600,000	NHTSA, 2016
Annual chance factor, 100 yr. event	1.0%	=1/100
Effective annual avoided costs	\$126,000	
Discount Rate:	7.0%	
Downtime Loss of Service to Customers (36 hours):	1.5 days	NHTSA, 2016
Total User Fees and Charges plus Connection Fees	\$55,944,969	NHTSA, 2016
Average daily charge per capita	\$0.83	
Study Area Population (Est. 2017)	71,976	NYMTC
Estimated averted cost of lost service (1.5 days downtime)	\$89,449	

The cumulative present value of the combined averted damages would total \$1,232,070 over the Projected 50-year period.

V. Reduction in Expected Casualties (Mortality and Injuries)

Since the BCA is forward looking, event based mortality estimates were developed assuming impacts would be comparable to those for a Superstorm Sandy type event and a 100-year storm return period extrapolated over the 50-year Project evaluation period (planning horizon). The historical record was examined and two individual deaths were reported within Jersey City, New Jersey. These deaths were attributable to forces and impacts from severe flooding and inundation that would be avoidable or mitigated with Project infrastructure in place. Therefore, the BCA includes likely avoided mortality benefits and associated avoided injuries within the Project area.

The Expected Annual Damages calculation applied for this BCA over the 50-year Project evaluation horizon is based on the 1% annual chance event. The adjustment factor calculation adjusts the total Value of Statistical Lives (VSL) monetary estimate for two expected deaths by a 1% factor (return period reciprocal: 1/100) each and every year over the Projection period. The VSL estimate is the HUD suggested value assigned to value the benefits from an avoided fatality. The 1% factor is also applied to the estimated Projected number of non-fatal injuries. **Table 4-12** shows key parameters and assumptions applied in the mortality and injury estimates.

Parameters	Value	Note
Discount Rate	0.07	
Expected Fatalities avoided:	2	Star-Ledger, 12/2012, reflects Jersey City, NJ
Storm event return period	100	
Annual 1% chance storm	0.01	
Fatality Rate (% of base population at risk)	2.78%	per 1,000 population
Injury Rate:	10.4%	CDC. MMWR / October 24, 2014 / No. 42
Percent of population impacted:	50.00%	

The population growth rates applied to the base population at risk in the Projections were sourced from New York Metropolitan Transportation Council’s (NYMTC) population Projections for the Project area (NYMTC, 2016). The injury rate was sourced from a Centers for Disease Control (CDC) report released post-Superstorm Sandy. This study, entitled “Nonfatal Injuries 1 Week after Hurricane Sandy — New York City Metropolitan Area, October 2012” examined reported injuries one week after Sandy, by area (CDC, 2014). The study found that of the at-risk population, 10.4% sustained an injury in the first week after Sandy. The Study Area, including Hoboken, was within this study’s sampled and respondent population. In fact, most of the populations that were impacted sustained more than one injury (CDC, 2014). **Figure 4-22** below shows a map of the sampled respondent points within the inundation zones that was used in the referenced study. A circle has been superimposed over the Hoboken vicinity.

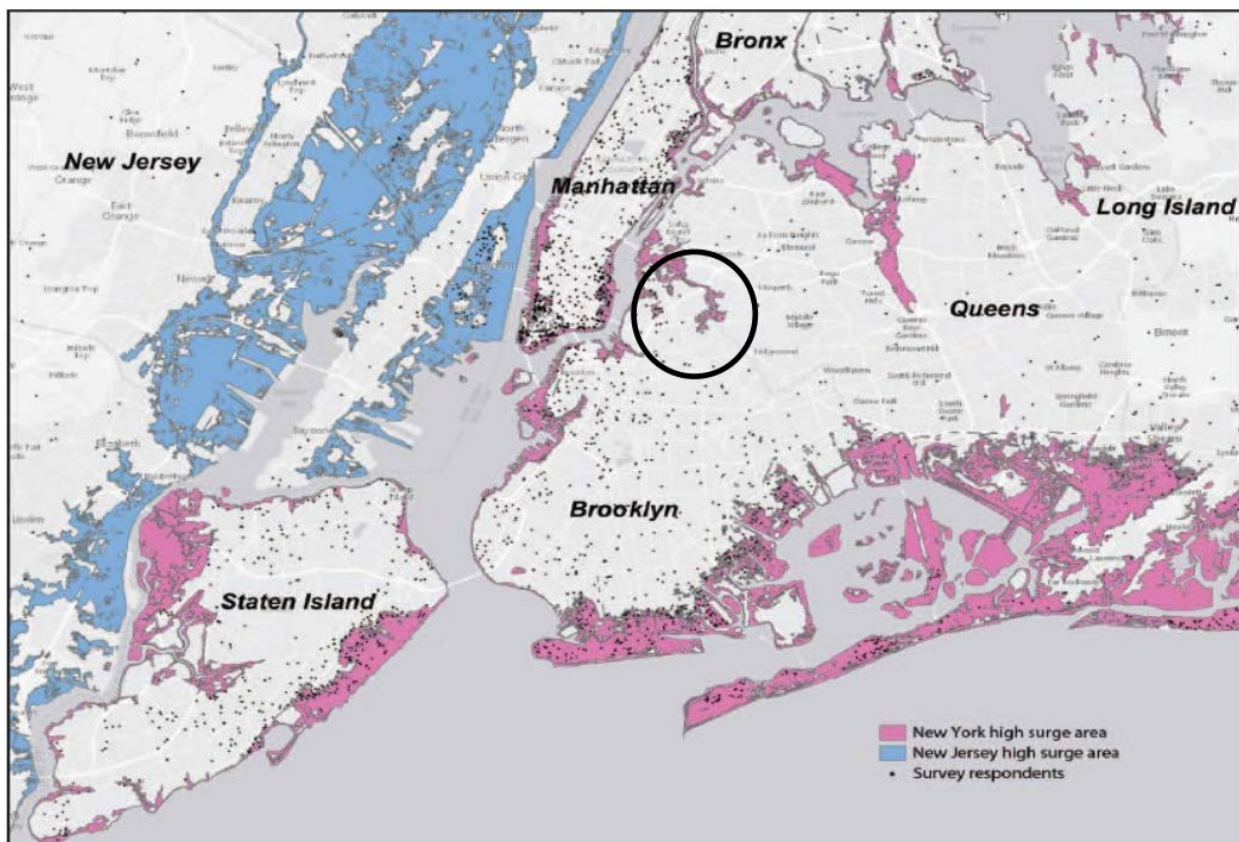


Figure 4-22: Map of Surveyed Respondents falling within CDC’s Study by Superstorm Sandy Inundation Zone. Hurricane Sandy Inundation Zones – New York City Metropolitan Area, October 2012. Map depicts 80% (n=1,970) of respondents in the inundation zone sample and 47% (n=991) of respondents in the same of persons not in an inundation zone.

Source: New York City Department of Health and Mental Hygiene, World Trade Center Health Registry

The injury rate was applied to the Projected population at risk over the Project evaluation period to calculate the expected number of non-fatal injuries. From the CDC Study, the severity of injuries reported were mostly arm cuts, leg cuts, hand cuts and back, leg and foot strains. These types of injuries were cross-referenced to the most likely Abbreviated Injury Scale (AIS) suggested for use under the HUD Guidance for Benefit Cost Analysis ([HUD Notice CDP 16-06](#)). **Table 4-13** reproduces the AIS table.

AIS	Injury Severity	Selected Injuries
1	Minor	Superficial abrasion or laceration of skin; digit sprain; first-degree burn; head trauma with headache or dizziness (no other neurological signs).
2	Moderate	Major abrasion or laceration of skin; cerebral concussion (unconscious less than 15 minutes); finger or toe crush/amputation; closed pelvic fracture with or without dislocation.
3	Serious	Major nerve laceration; multiple rib fracture (but without flail chest); abdominal organ contusion; hand, foot, or arm crush/amputation.
4	Severe	Spleen rupture; leg crush; chest-wall perforation; cerebral concussion with other neurological signs (unconscious less than 24 hours).
5	Critical	Spinal cord injury (with cord transection); extensive second-or third degree burns; cerebral concussion with severe neurological signs (unconscious more than 24 hours).
6	Unsurvivable	Injuries, which although not fatal within the first 30 days after an accident ultimately result in death.

Source: HUD CPD-16-06

The estimated injuries were therefore assigned as AIS 1 Minor given that they corresponded to AIS 1. To estimate the avoided monetary cost of Projected deaths and injuries, the HUD Guidance Source, *Table 2-2: Relative Disutility Factors by Injury Severity Level, (for Use with 3% or 7% Discount Rates)* ([HUD Notice CPD-16-06](#)) was applied. The cumulative number of deaths and injuries were valued by applying the updated 2017 Dollar values to these injury estimates by year. The updated 2017 dollar values were escalated based upon applying the CPI cost escalation factor (2017 CPI / 2015 CPI) of 1.030. **Table 4-14** shows the values below.

AIS Code	Description of Injury	Fraction of VSL	2015 Dollar Value	2017 Dollar Value
AIS 1	Minor	0.003	\$28,800	\$29,671
AIS 2	Moderate	0.047	\$451,200	\$464,852
AIS 3	Serious	0.105	\$1,008,000	\$1,038,500
AIS 4	Severe	0.266	\$2,553,600	\$2,630,867
AIS 5	Critical	0.593	\$5,692,800	\$5,865,052
AIS 6	Unsurvivable/Fatal	1	\$9,600,000	\$10,028,943

Sources:
See HUD CPD-16-06, page 9. Note that the original table found within the HUD Guidance was updated per the table called "Relative Disutility Factors by Injury Severity Level, (for use with 3% or 7% Discount Rates) sourced from the FAA document, <<econ-value-section-2-tx-values.pdf>>
https://www.faa.gov/regulations_policies/policy_guidance/benefit_cost/media/econ-value-section-2-tx-values.pdf
U.S. Department of Labor, Bureau of Labor Statistics, CPI

Combined annual values for both the Projected avoided costs of mortality and the avoided cost of injuries were calculated in the final step of the valuation procedure. The Projected annual values were then discounted to present values by applying the HUD BCA Guidance 7% discount rate (

[Notice CPD-16-06](#)). The cumulative present value of the combined averted casualty damages would total \$14,365,313 over the Projected 50-year period.

Social Value

I. Avoided Medical Treatment Costs from Sewer Backup Events

A main goal of the RBD Hudson River Project is to reduce the risks to public health. One of the Project's objectives is to reduce the adverse health consequences resulting from combined sewage backup into residential areas that exposes vulnerable populations to health risks posed from contact with contaminated flood waters and sewage residues containing harmful contaminants and constituents. Stormwater infiltration into the existing combined sewer collection systems has resulted in recurrent frequent exposures to residents. Under the BCA framework, Project infrastructure and elements that would prevent and reduce the frequency of such backup events from occurring results in ongoing annual benefits that are measured by avoided public health impacts and medical costs that are no longer incurred by residents.

Using data obtained from the City of Hoboken, *New Jersey Proposed Stormwater Management Plan Health Impact Assessment* (HIA-2016), the estimated exposures that would occur under the "without Project" situation were estimated for a portion of the Study Area's population. Sixty percent of the survey respondents from the City of Hoboken's Stormwater Management Plan Health Impact Assessment survey reported that sewer backup is a problem when it floods. The survey reported that one third of the respondents (28 percent) reported experiencing one or more of the following symptoms: headaches; vomiting; abdominal cramping, nausea, or diarrhea; muscle aches; eye irritation/infection; asthma or other respiratory condition; or skin rash. Twenty-three percent of respondents reporting seeking medical attention as a result of experiencing one or more of the symptoms. Approximately 3% reported an injury requiring medical attention due to regular persistent flooding. In addition, 2% reported seeking counseling and mental health services to cope with the adverse consequences of regular flooding.

To calculate a measure of the avoided cost associated with the reduction in human suffering caused by exposure to contaminated flood waters, the following procedures were applied. The Projected population for the City of Hoboken was obtained from the New York Metropolitan Transportation Council (NYMTC, 2016). An estimate of flood frequency per year, where sewer backup would be involved under the "without Project" situation was obtained from the EIS. The EIS documented that, "rainfall events of greater than two inches, combined with a high tide of four feet or greater, occurred 26 times in Hoboken from 2002 to 2012." (Draft EIS, 2016 p. 35). The rate of frequency of events that would involve backup was 2.6 times/year, on average. The percentage of the population requiring medical treatment from a contaminated flood incident (3%) was applied to the City's Projected population as a conservative estimate of the population at risk of exposure who would seek medical treatment, per event.

The medical costs of visiting a physician and for an emergency room visit for a minor health incident were sourced from the Healthcare Bluebook cost estimator for the area of Hoboken, New Jersey. The Healthcare Bluebook Fair Price is the reasonable estimated price that a consumer should pay for a service in a given geographic location. The Fair Price is calculated from a nationwide database of

medical payment data, sorted by your geographic area (zip code) (Healthcare Bluebook, 2016). **Table 4-15** shows the parameters that were applied in the avoided cost calculation.

	Calculation Element	Value	Note
\a	Frequency of flood events causing sewer backup	2.6	Estimated average per year
\b	Percentage of Hoboken Residents reporting from HIA Survey that injury from exposure event required medical attention	3%	Does not include percentage that sought mental health treatment or counseling
\c	Estimated Number of Hoboken Residents sustaining sewerage backup related illness injuries requiring medical attention (per backup event)	1,618	Per event per year
\c	Estimated total number of people injured per year, assuming average event frequency	4,208	2.6 x / yr.
\d	Estimated Healthcare costs from Healthcare Bluebook (for City of Hoboken, NJ, Zip Code, 07030, (02/08/17)		
	Office Visit, Established Patient (≈ 40 min.)	\$306	Per visit / current dollars, 02/08/17
	Emergency Room Visit, Minor Problem	\$780	Per visit / current dollars, 02/08/17
	Average:	\$543	Average of office and ER visits
	Estimated Annual Avoided Cost of Medical Treatment	\$2.3	US\$ Million per year
Sources \ Notes: \a EIS page 35 \b HIA 2016 \c NYMTC 2016 and HIA 2016. Per the EIS 2016, page 35, “rainfall events of greater than two inches, combined with a high tide of four feet or greater, occurred 26 times in Hoboken from 2002 to 2012 and is expected to increase in frequency over time based on projections of sea levels rising.”. So the frequency was calculated as $26/(2012-2002) = 2.6x/yr$. \d Healthcare Bluebook, accessed 2/8/2016			

The above conservative calculation does not include the cost of avoided counseling and mental health treatment services. In addition, the avoided cost of medical services does not include the associated cost of lost productivity that the region would incur from residents who miss work due to the exposure to health incidents.

The benefit cost analysis credits these benefits after the Hudson River Project infrastructure is implemented. These benefits would start to accrue in the year 2023, during the Project’s operational phase (post commissioning). The BCA Project evaluation is for a fifty-year period spanning from 2017 to 2067. The cumulative present value of the avoided medical treatments costs over this time horizon amounts to \$25,032,451, using a 7% discount rate.

II. Recreation Value of Added Park Space

Under the Preferred Alternative for Resist only, area residents would gain 2.55 acres of open space for parks. Contemplated improvements may include installation of recreation facilities including playgrounds, picnic areas, trails, signage, viewing decks and gathering spaces. These amenities would

be available to residents in a densely populated area, and consequently would benefit a large number of potential users.

Open land and additional park space is highly valued in densely populated urban communities. Economists have obtained willingness to pay (WTP) value estimates through surveys that reflect the amounts households are willing to pay for park space that provides for numerous social value benefits such as recreation area venues, public health benefits and community gathering/meeting areas offered by parks. Open spaces and their landscaping breaks up the monotony of the built city landscape with large amounts of impervious surface, and can function as an oasis to area residents.

Studies have also valued preservation and conservation values for residents who may never actually use the park amenities themselves, but may value the option to use them, or the park's value to subsequent generations of users. These are "non-use" values that have also been elicited through various stated preference surveys. Numerous studies have also quantified the property value premium impacts from homes that are located in close proximity to parks. Traditionally, recreational valuations have focused on applying a utility value per day (or a WTP value per person per visit) to a park for a type of recreational visit. These values are then applied to the estimated number of park visits per day to arrive a measure of annual value.

Since the Resist portion of the Preferred Alternative would add to currently designated park space areas, and offer park enhancements, the value of this additional space was quantified by taking an average value obtained from a national survey and applying this value to the estimated population within a one square mile area. According to the National Recreation and Park Association Americans currently pay an average of \$70 per person per year in local taxes to support park and recreation activities. In fact, two in five Americans are willing to pay even more than the 2015 U.S. average of \$70 per person in local taxes to support their local and regional park systems (NRPA 2016). The \$70 per person value, taken as a conservative lower bound estimate of WTP for incremental park/open space, was updated and applied to an estimate of potential users within the Study area vicinity to arrive at the annual value of recreation from Alternative 3. **Table 4-16** shows the data that was applied in the estimate.

Calculation Element	Value	Note
Population Density Hoboken, NJ	39,212	Population per sq. mile
Percent of Americans who say that their local parks are well worth average spending of \$70/person/yr.	80%	4 out of 5, NRPA, 2016
Percent applied to pop/sq. mile	31,370	
Updated 2016 Value per person	\$71.72	CPI adjustment to original 2015 value
Annual Value of Park Benefit to Users	\$2,249,811	(w/in 1 sq. mile)

The cumulative present value of the annual incremental recreational value to users over this time horizon amounts to \$21,824,398 using a 7% discount rate.

III. Stormwater Retention Value of Added Park Space

To acknowledge the stormwater retention value that the Preferred Alternative’s open land and incremental park space would provide, the estimated annual value of stormwater that would be retained on 2.55 acres of park space over the life of the Project. This value was based on the estimated gallons of water that would be retained and the avoided cost of treating this annual volume of water that would be incurred by NHSA’s, grey infrastructure treatment works. This water volume would be intercepted and would not burden the collection, conveyance and treatment/processing works for the Authority. **Table 4-17** shows the data and information that was applied in the estimate. The calculation of the annual gallons of stormwater runoff reduced by the Preferred Alternative number of park acres of 2.55 is based upon the following equation (CNT, 2010):

$$\text{runoff reduction (gal)} = [\text{Annual Precipitation, inches}] \times \left[2.55 \text{ ac} \times 43,650 \frac{\text{sf}}{\text{ac}} \right] \times [\% \text{ retained}] \times \left[144 \frac{\text{sq inches}}{\text{sf}} \right] \times \left[0.00433 \frac{\text{gal}}{\text{cubic inch}} \right]$$

Calculation Element	Value	Unit
Preferred Alternative Resist open space	2.55	Acres
Preferred Alternative Resist open space	111,078	sf
1 acre =	43,560	sf
Annual precipitation inches	49.94	https://rainfall.weatherdb.com/l/12058/Hoboken-New-Jersey
Percent of rainfall retained	0.8	%, CNT 2010
Sq. inches / sf	144	CNT 2010
gal / cubic inch	0.00433	CNT 2010
Total runoff reduction (gals)	2,767,050	Estimated gallons
Annual cost of providing treatment services (2016)	\$40,167,566.51	NHSA, 2016, page 94
Daily Average Treatment, mgd	21.95	Mgd, Fitch, 2016
Annual average treatment (gal)	8,011,750,000	
Est. treatment cost per gallon	\$0.0050	Annual Cost / Annual Treatment gallons
Annual cost averted	\$13,872.83	Total runoff reduction x Cost per gal

The cumulative present value of the annual reduction in stormwater runoff that is attributable to the addition of 2.55 acres of parks/open space designed to manage stormwater amounts to \$134,574 using a 7% discount rate.

Environmental Value

I. Improved Water Quality

The Preferred Alternative would reduce frequent occurrence of combined sewer overflows (CSOs) and improve water quality and ultimately the quality of water entering the Hudson River. As documented within the Draft EIS, the Lower Hudson River Estuary is an urban estuary that has been impacted by runoff from development and stormwater/combined sewer discharges into the waters.

These events have resulted in degraded water quality and sediment contamination (Draft EIS 2017, Page 4-13).

Stated preference survey studies have been performed to elicit the values individuals place on water quality associated with improvements made to urban drainage infrastructure that reduces the risks from combined sewer overflows (CSOs). The Seattle Public Utilities conducted a willingness to pay survey of customers in their rate base. Respondents were willing to pay an additional \$0.35 per month (or an additional \$4.2 2005 \$/year) to achieve a minimum sewer backup level of service (Seattle Public Utilities, 2014). A Swiss study investigated the willingness to pay to reduce the ecological and health risks associated with three events: (i) wastewater overflowing in rivers and lakes; (ii) wastewater flooding of streets; and (iii) of cellars. The study results showed that there was a very high WTP to reduce the frequency of CSOs in rivers and lakes compared to the elicited values for the willingness to pay to reduce the risks of wastewater flows in streets and cellars. The results showed that the highest elicited marginal willingness to pay, expressed as CHF 1,200 higher in annual local taxes was equivalent to 1% of the annual household income. The 2010 US\$ equivalent annual amount of increase in taxes that the survey respondents were willing to pay to reduce the frequency of CSOs in rivers and lakes was equivalent to US \$1,294 (Veronesi et al, 2014).

The Water Environment Federation commissioned a stated preference survey experiment as part of a Handbook developed for utilities. The Project also estimated willingness-to-pay to avoid a substantial reduction in service levels due to water-pipe failures. Estimated willingness to pay was \$10.70 [95% CI: \$9.34–\$12.547] per month (\$128/yr. using the Full CE survey instrument (WEF, 2011). Hensher et al. in an Australian study, attempted to establish how much customers are willing to pay for specific levels of utility service by applying a series of stated choice experiments and mixed logit models to establish the willingness to pay to avoid interruptions in water service and overflows of wastewater, differentiated by the frequency, timing and duration of these events. The results showed that the average WTP to reduce the number of overflows is \$77.85 when customers face two wastewater overflows per year (Hensher et. al., 2005). This amount converts to US \$56.8 at the end of 2005.

These above studies show that researchers have constructed analyses that address how households perceive interventions that can improve water quality and how the willingness to pay for water quality improvements is measured. **Table 4-18** compiles and contrasts the above noted studies and adds some other study results reflecting valuation of water quality in urban river and watershed systems and lakes. The willingness to pay values have all been updated to 2017 dollar values for comparison.

The bottom portion of **Table 4-18** shows the range, average and standard deviation of WTP values from the profiled studies. The average WTP value from the sample of studies was \$275.4 per household. This value is in line with a broad comparison of WTP values across many studies. In a comparison of annual WTP for use and non-use values of surface water quality improvements by geographic region (in 2011 dollars) Young and Loomis compiled the results from twelve studies that showed an average willingness to pay of \$258 per household. In 2017 US dollars, this amount would be \$278.5 (Young and Loomis, 2014).

Table 4-18: Summaries of Stated Preference Studies Measuring the Willingness to Pay for Water Quality Improvements						
Study \a	Water Quality Preference/Change Valued	Willingness to Pay (WTP) per Household	Study Value Date	CPI Escalator	Current Value (2017 US\$)	Country/Region of Study
Seattle Public Utilities	achieve minimum sewer backup level of service	\$4.20	2005	1.243	\$5.2	US/NW
Veronesi et al, 2014 (SUI)	reduce the frequency of CSOs in rivers and lakes	\$1,294.00	2010	1.114	\$1,441.1	Switzerland
WEF 2011	avoid a substantial reduction in service levels due to water-pipe failures	\$128.00	2011	1.080	\$138.2	US / SW
Hensher et. al., 2005 (AU)	avoid overflows of wastewater	\$56.80	2005	1.243	\$70.6	Australia
Carson and Mitchell (1993)	For rivers and lakes (a) Avoid reduction to below-boatable levels, (b) improve from boatable to fishable, and (c) improve from fishable to swimmable	\$168.00	2000	1.410	\$236.9	US/Nationwide
Croke et al. (1986)	For a River system, improve to allow for: (a) outings along the banks of a river, (b) boating and outings, and (c) fishing, boating, and outings	\$88.00	2000	1.410	\$124.1	US/Chicago
Gramlich (1977)	Improve from 1973 status quo to a level of "clean enough for swimming and wildlife" for: (a) rivers nationwide and (b) Charles River	\$167.00	2000	1.410	\$235.5	US/Boston, MA
Cronin (1982)	For Potomac River. Improvement on 5-level index describing 6 water quality attributes (suitability for swimming, suitability for boating, fish habitat, odor, appearance, ecology)	\$41.00	2000	1.410	\$57.8	US/DC
De Zoysa (1995) \b	For a major river basin in Ohio that drains into Lake Erie, reduce algae, turbidity and increase sport fisheries	\$157.00	2011	1.080	\$169.5	US/Ohio
Summary Distribution of WTP for Sample of Water Quality Studies						
Minimum					\$5.2	
Average					\$275.4	
Maximum					\$1,441.1	
Std. Dev.					\$444.00	
Source/Notes:\a Van Houtven et. al., 2007						
\b Young and Loomis, 2014.						

Comparing WTP values to an income distribution reflecting the Project Area for Preferred Alternative can provide more information on the relative percent of income, across ranges that the average WTP for water quality would account for. **Table 4-19** shows the average WTP value of \$275.4 as a percent of the midpoint of the median income range, for Hoboken, as a representative comparison for the majority of the Study Area. For fifty-nine percent of the Hoboken population, the average WTP for water quality would represent between 0.1% and 0.2% of the income midpoint for the class range.

Percent of Population	Income Range	Midpoint	WTP/Income Midpoint
21%	< \$50,000	\$25,000	1.1%
20%	\$50,000 - \$100,000	\$75,000	0.4%
35%	\$100,000 - \$200,000	\$150,000	0.2%
24%	> \$200,000	\$200,000	0.1%

Source: Censusreporter.org (2/22/2017)

From the City’s Health Impact Assessment, it was revealed that sixty percent of survey respondents listed sewer backups as a problem when it floods (HIA, 2016). Undoubtedly, a large share of households place a value on water quality improvements as the literature search revealed. The HIA survey percentage (60%) was applied to the Project Area’s households that would most likely be willing to pay the representative average amount for water quality improvements (\$275.4) that would result from the implementation of the infrastructure for the Preferred Alternative.

The annual valuation of water quality benefits was based on multiplying the average WTP for water quality by sixty percent of the Projected number of households within the Study area. The cumulative present value of these annual amounts over a 50- year period amounts to \$65,264,648.

Economic Revitalization

The economic livelihood and vitality of the Project Area community is adversely affected by the business disruptions, and social dislocations caused by flooding and the ongoing costs to repair and restore homes and businesses. The potential for future flooding in the Study Area is significant based on Hoboken’s topography. Therefore, the need for a Project that minimizes flooding is critical to the health, safety, and economic vitality of Hoboken and its affected neighbors in Jersey City and Weehawken (Draft EIS, 2017).

The Project’s features and functions would serve to revitalize the community by reducing the disruptions to economic activity and the quality of life of residents who have experienced recurrent flooding and sewer backups. In addition, the additional park land and greenway connectivity would provide more and improved recreational experiences for both permanent residents and tourist visitors. These complementary features will rejuvenate the community and enhance its value and quality of life for all residents.

I. Enhanced Property Values

There is an established body of research that shows that homes adjacent to parks benefit from this close proximity and this is realized as a market price premium. Residents are willing to pay more for a home near a park or open green space and the real estate market confirms this behavior (TPL,

2006). The hedonic price economic studies have assessed the variation in home values based on a basket of factors that determine a home's value. The distance to an adjacent park can be added as an explanatory variable, and the relative contribution of the park to the total home value can then be determined.

One study found that the positive relationship between park proximity and property value holds true in neighborhoods where the residents are mostly immigrants and poor. In a dense urban neighborhood, the value effect of nearby green space can be stronger than lot size itself. The study found that an 11 percent increase in the amount of green space within a radius of 200 to 500 feet from a house leads to an approximate increase of 1.5 percent in the expected sales price of the house (Pincetl et. al., 2003).

Figure 4-23 shows the results of a property value study completed in Dallas Texas.

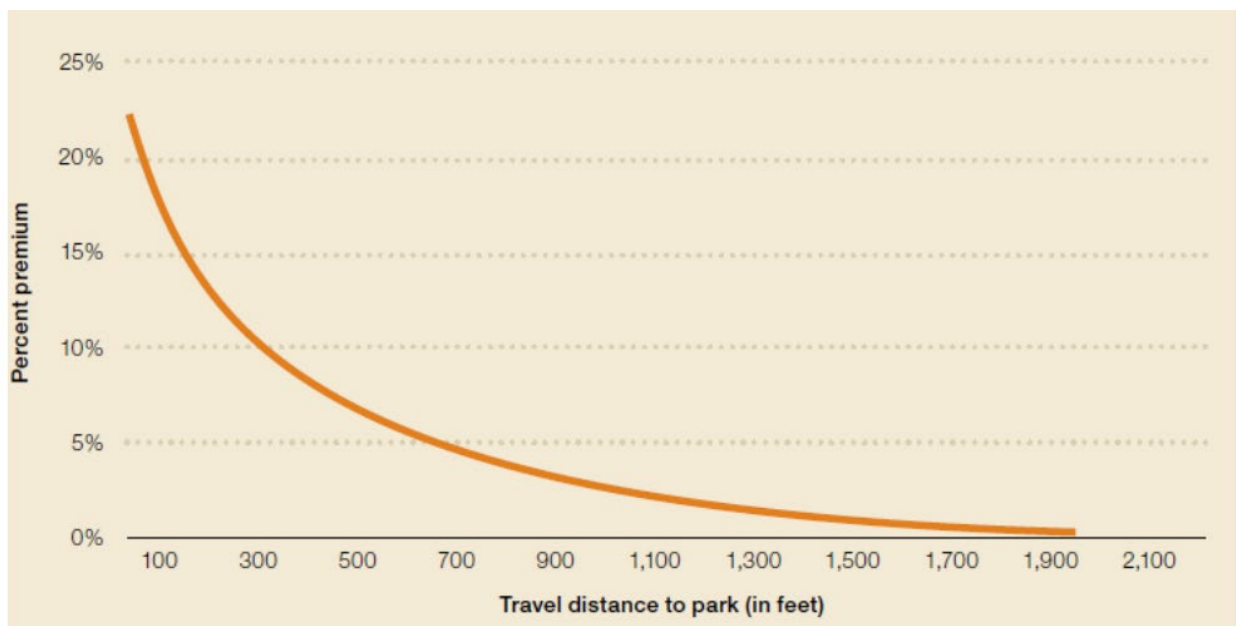


Figure 4-23. Impact of 14 Neighborhood Parks on Adjacent neighborhoods in Dallas-Fort Worth

Source: *Acting Living Research, 2010, Miller 2001*

Figure 4-23 shows how the market value premium tapers off with increased distance from the neighborhood park site. In addition, researchers have found that in urban areas, a small park located close to residential areas may have a larger impact on home prices compared to a large park located at a greater distance (Active Living Research, 2010).

Figure 4-24 shows a map segment capture of Project vicinity adjacent to, and surrounding Cove Park.

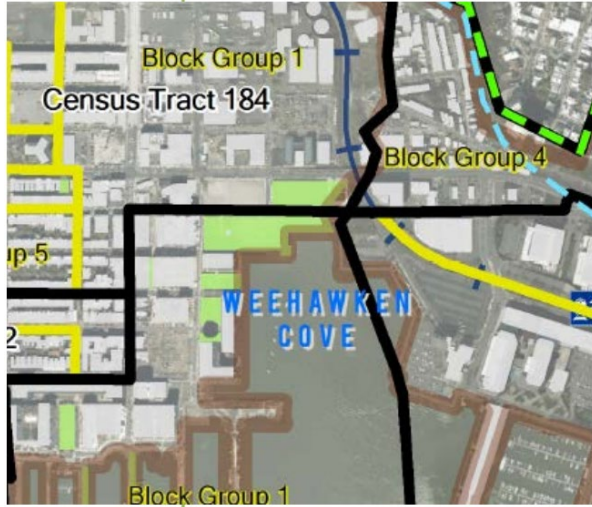


Figure 4-24: Census Tract 184 and Cove Park Vicinity

Source: EIS, 2016

The Preferred Alternative will enhance Weehawken Cove Park (Cove Park) and property owners can be expected to benefit from this expanded and enhanced amenity. **Table 4-20** compiles data on Census Tract 184. The analysis is based on Census Tract 184, which is adjacent to and surrounds Cove Park in the Project Area. The analysis shows how valuable park space and open green areas are to communities in densely populated areas like the Project Area’s Census Tract 184.

	Median Value Range	Low	Mid	High	Percent of Occupied Units	Housing Units	Property Base Value, Midpoint Est.	Market Premium from Park Proximity (1.5%)
1	< \$100,000	\$0	\$50,000	\$100,000	1.3%	32	\$1,583,400	\$23,751
2	\$ 100,000 - \$200,000	\$100,000	\$150,000	\$200,000	1.0%	24	\$3,654,000	\$54,810
4	\$ 200,000 - \$300,000	\$200,000	\$250,000	\$300,000	1.7%	41	\$10,353,000	\$155,295
5	\$ 300,000 - \$400,000	\$300,000	\$350,000	\$400,000	9.1%	222	\$77,586,600	\$1,163,799
6	\$ 400,000 - \$500,000	\$400,000	\$450,000	\$500,000	30.1%	733	\$329,956,200	\$4,949,343
7	\$ 500,000 - \$ 1,000,000	\$500,000	\$750,000	\$1,000,000	29.2%	711	\$533,484,000	\$8,002,260
8	\$1,000,000 - \$1,500,000	\$1,000,000	\$1,250,000	\$1,499,999	10.6%	258	\$322,769,871	\$4,841,548
9	\$1,500,000 - \$2,000,000	\$1,500,000	\$1,750,000	\$1,999,999	12.0%	292	\$511,559,854	\$7,673,398
10	\$2,000,000	\$2,000,000	\$2,000,000		5.0%	122	\$243,600,000	\$3,654,000
	Census Tract Sum				100.0%	2436	\$2,034,546,925	\$30,518,204

Source:
 U.S. Census Bureau (American Community Survey) ACS 2015 5-year, Table universe: Owner-Occupied Housing Units, Value of owner-occupied housing units (Table B25075)
<https://censusreporter.org/profiles/14000US34017018400-census-tract-184-hudson-nj/>

Table 4-20 shows the distribution of housing units by median value for Census Tract 184 and midpoint values calculated for ranges provided by the American Community Survey. Applying a 1.5% market value premium to the estimated property value base amounts to \$30.5 million. The 1.5% premium is based on moving out a travel distance of approximately 1,300 feet from the Cove Park vicinity, and represents a conservative estimate of the premium applied in percentage terms. Because of the range of values at varying distances, many benefit transfer studies apply an estimate of 5.0% (Harnik & Crompton, 2014).

The Draft EIS provided a time series of average sales prices for homes in the Project Area from 2012 to 2016. The data shows that Hoboken area home sales prices appreciated at a compound average annual rate of 7.6% from 2012 to 2016 (Draft EIS 2017, Page 4-174). This average sales price appreciation rate was applied to the property value base shown in **Table 4-18** to provide an estimate of the Projected property base value for 2023. It was assumed that by this year of Project operations, the park enhancements for Preferred Alternative would be completed. The present value of the Projected market value premium that would arise in the year 2023 for Census Tract 184 homes was based on the following formula.

$$\begin{aligned} \text{Present Value of Market Premium}_{CT\ 184,\ 2017} &= \\ &= \frac{\$2,034,546,925 \times (1.076)^7 \times (0.015)}{(1 + 0.07)^{2023-2017}} \end{aligned}$$

This computed value was applied in the benefit cost analysis as an estimate of the property value enhancements that would arise from park and open space enhancements attributable to Alternative 3. The cumulative present value of the market premium from park enhancement is equal to \$33,924,000.

II. Economic Impacts

The Project's construction phase, anticipated to last for several years, will have a substantial positive economic impact on the Project Area and region. Construction for Resist infrastructure in Preferred Alternative would begin in February 2019 and last 44 months. The construction would occur concurrently for the northern and southern resist features. Equipment required for this Project includes dump trucks, backhoes, pile drivers, concrete trucks, and other assorted delivery trucks. Some street closures will be required, particularly for gate construction. Pile driving will be required over nine work months. A total of 6,000 crew days will be required to complete this construction (Draft EIS, 2017).

The direct expenditures associated with spending on construction payrolls and contractors, suppliers and vendors will generate an indirect and induced positive impact both locally, and throughout the region. Multi-million dollar direct spending from construction packages by phase would stimulate the economy and employment in the region. The direct multi-year construction spending would have an indirect positive impact on suppliers and vendors linked to the Project's resource and materials/supply chain. These economic gains would be realized in additional jobs, economic output, labor income and tax receipts accruing to local jurisdictions, the State of New Jersey and the federal government. Wage income generated from direct and indirect spending would also

have an induced positive impact on the region as wages are spent, and re-spent on local and regional goods and services. The economic impact benefits from the Project would consist of jobs, labor income, industrial output and value added and associated tax receipts.

Post construction, the Project will also generate incremental tourist spending and revenue from visitors who come to the area from outside the region. These visitors will be attracted by an enhanced waterfront that complements the Project area's existing cultural and park assets as well as the unique resilience features of the Project that show innovative adaptation to climate change within a densely populated coastal/estuarine environment. As the Project's assets are tested over time under extreme climatic conditions, the uncertainty associated with living in a flood-prone area will be lessened. This impact can also be positive for the economy in terms of attracting future residents and investments. In addition, the operational phase will generate spending associated with the maintenance and up-keep of the flood protection infrastructure.

Description of Risks to Ongoing Benefits from Proposed Project

Description of Project Risks

Project risks generally relate to issues that could influence the Projected size and timing of lifecycle costs, and the scale and timing of anticipated benefits over the useful life of the Project.

The risks that have been identified relate to factors that could potentially influence future capital costs. It is possible that additional Projects being implemented concurrently within the Project area may have an impact on the available supply of labor and materials and resources needed to implement the Preferred Alternative. Heightened demand and limited supply for these resources may influence the commodity and labor prices and render certain construction costs relatively more expensive compared to the Projected base case assumption estimates. To account for this possibility, in terms of impacts to the economic feasibility of Alternative 3, the sensitivity analysis below factors in potential cost overruns during the Project's implementation phase.

In addition, it is also possible that some risks may result in delays in construction that could add time to and extend original schedules. For the BCA, this kind of risk would also result in deferred benefits. As benefits would start to accrue farther out in time, the BCR could be lower than originally anticipated.

Sensitivity Analysis

A sensitivity analysis was completed that assessed the impacts of the Project's 5-30 cumulative present value of net benefits and BCRs based on potential increases in lifecycle costs, reductions in anticipated benefits for the categories providing the most value, and construction delays. **Table 4-21** shows the results of the sensitivity analysis.

Table 4-21: Benefit Cost Analysis Sensitivity Analysis (Resist Alternative 3)

Test	Baseline Project / Net Present Value / BCR	Project Net Present Value with Change	BCR with Test Change	Switching Value \c
[1]	[2]	[3]	[4]	[5]
Increase in Capital Costs (30%)	\$982,620,726 / 5.61	\$924,140,519	4.40	504.1%
Increase in Annual O&M (50%) \a	\$982,620,726 / 5.61	\$973,405,205	5.37	5331%
Construction Delays \b				
+ 1 Year	\$982,620,726 / 5.61	\$905,227,442	5.34	
+ 2 Years	\$982,620,726 / 5.61	\$833,644,351	5.10	
Decrease in Resiliency Benefits (Percent of Baseline Estimates):				6.40%
75% of Baseline	\$982,620,726 / 5.61	\$720,169,295	4.38	
50% of Baseline	\$982,620,726 / 5.61	\$457,717,864	3.15	
25% of Baseline	\$982,620,726 / 5.61	\$195,266,433	1.92	
Notes:				
\a A fifty percent increase in annual O&M costs from the baseline midpoint value of \$1.9 M/yr. works out to be \$2.85 M/yr.				
\b the construction delay scenarios also defer the start of benefits				
\c the switching value is the percentage change in the variable of interest that renders the cumulative net present value of the Project (benefits – costs) equal to zero (BCR = 1.0), holding all of the other variables constant.				

Column [1] shows the type of stress test that the net present value amount (benefits less costs, or net benefits) and the BCR were subjected to a 30% increase in capital costs would the lower the BCR from 5.61 to 4.40, and lower the cumulative net present value of the Project (net benefits) by \$58.5 million. The switching value shows the increase in capital construction costs that would render the net present value of the Project equal to zero. A 50% increase in annual O&M costs would result in the baseline BCR declining to 5.37 from 5.61. The annual value of the 50% increase in O&M is equal to \$2.85 million per year, compared to the midpoint of the O&M range of \$1.9 million per year applied in the baseline analysis.

Resiliency values (the cumulative sum of all flood risk reduction benefits) represent the largest category of values (88%). The sensitivity analysis starts by reducing the combined value of resiliency benefits to a percentage of the baseline total value for this category. The Project's total net present value would still be positive even if resiliency benefits fell by 75%, to a level representing 25% of the baseline total amount.

The sensitivity analysis also includes the results of extending the construction schedule by one and two years, respectively. This analysis was applied by extending the capital phase-in schedule as shown below in **Figure 4-25**. The original capital phase in schedule (the baseline) was provided by Hill International Inc.

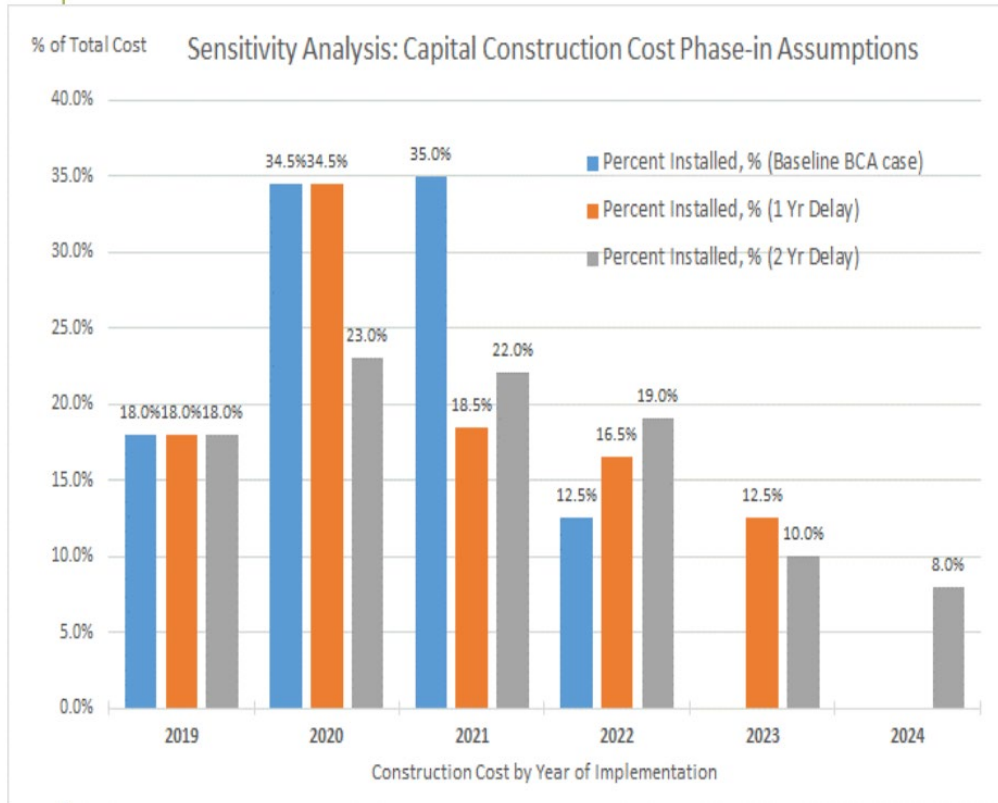


Figure 4-25: Sensitivity Analysis: Capital Construction Cost Phase-in Assumptions

Table 4-21 shows that the Preferred Alternative favorable benefit cost ratio would still be over 5.0, even with factoring in delays and extensions of the construction period. The Preferred Alternative’s economic feasibility was also assessed for changes in the discount rate. **Table 4-22** show the Project’s cumulative present value of net benefits and BCRs at various discount rates.

Discount Rate	NPV	BCR
3.0%	\$2,323,812,752	9.87
4.0%	\$1,838,975,516	8.45
5.0%	\$1,475,017,514	7.30
6.0%	\$1,197,475,402	6.37
7.0%	\$982,620,726	5.61
8.0%	\$813,905,457	4.98
9.0%	\$679,638,743	4.46
10.0%	\$571,453,097	4.02
11.0%	\$483,281,396	3.65
12.0%	\$410,667,479	3.33
13.0%	\$350,296,657	3.06
14.0%	\$299,672,597	2.82
15.0%	\$256,892,538	2.61
16.0%	\$220,489,257	2.43

Figure 4-26 plots the results of the sensitivity analysis of the Project's cumulative net present value of benefits at varying discount rates.

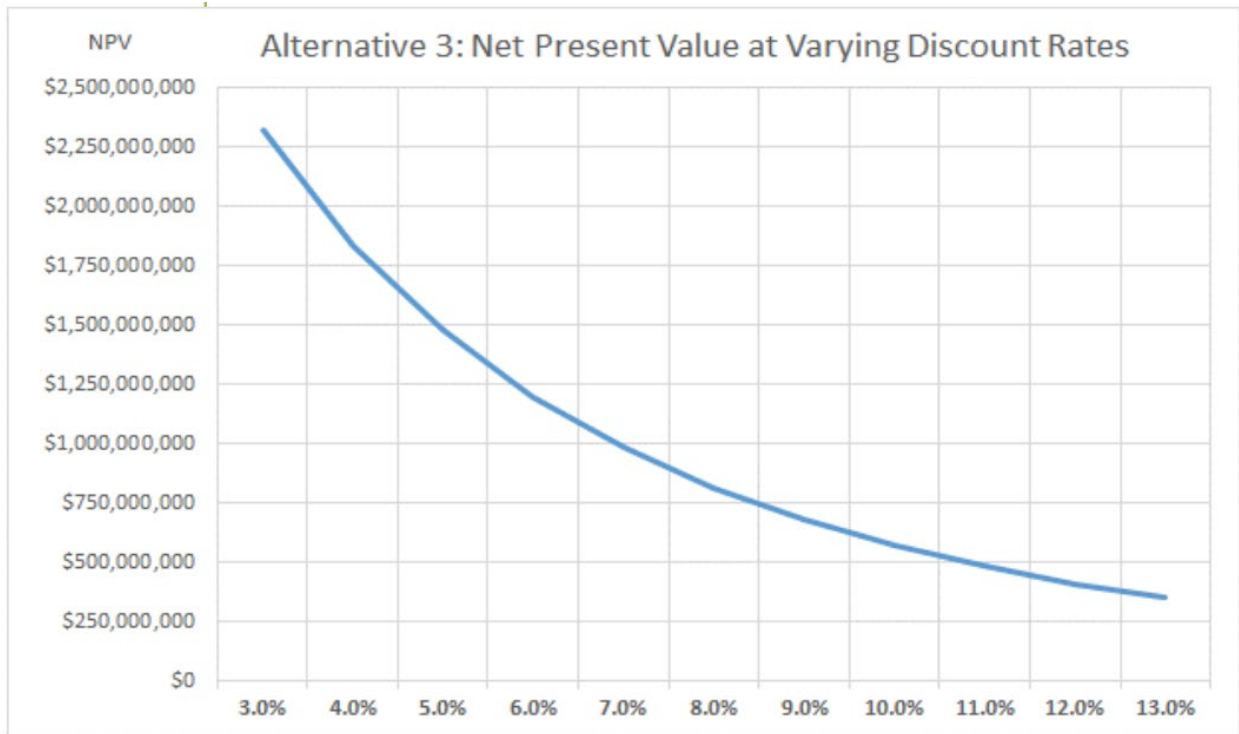


Figure 4-26: Alternative 3: Net Present Value at Varying Discount Rates

Assessment of Project Challenges

Implementing a large Project in a densely populated area can present challenges during the various Project stages: design, construction and operations. During the construction phase, there are challenges likely to be encountered with area traffic management and parking within a location characterized by narrow streets. In addition, there are logistical challenges associated with finding adequate space for laydown and staging areas, to store equipment and materials in tight spaces.

There are many other Projects that may be implemented concurrently with the RBD Hudson River Project Resist Preferred Alternative within the Project Area. This heightened level of construction and development activity may present increased demands on scarce resources such as skilled labor and craft workers, select materials and equipment and contractors available for work on specific Project elements and contract packages. These kinds of market demands can be reflected in higher costs for both labor and materials, and potentially result in scheduling delays.

Given the large number of public agencies, and other stakeholders (both public and private) involved in the Project, there may be some challenges encountered related to coordination, communication and scheduling/sequencing of events, and timing. These coordination issues are likely to arise during the design, construction/implementation and operational stages of the Project.

4.9.3 New Meadowlands Project

The “New Meadowlands” project proposes an integrated vision of protecting, connecting and growing the Meadowlands. Integrating transportation, ecology and development, the project aims to transform the Meadowlands to address a wide spectrum of risks while providing civic amenities and creating opportunities for new redevelopment.

The project as proposed consists of two principle pieces of new infrastructure: the “Meadowpark” and the “Meadowband.” The Meadowpark is a large natural reserve made accessible to the public that will also offer flood risk reduction. It would connect and expand marshland restoration efforts. Around and across the Meadowpark, the team proposes an intricate system of berms and marshes. These will protect against ocean surges and collect rainfall, reducing sewer overflows in adjacent towns. The Meadowband, a raised berm that could potentially include transportation across the top, lies at the edge of the Meadowpark. It offers flood protection, connections between towns and wetlands, and will provide opportunities for towns to grow.

The RBD team’s final submission to HUD for the New Meadowlands project is available online [here](#). It includes an extensive narrative description of the project, conceptual project renderings, a flood risk assessment and a benefit-cost analysis, among other things. Due to funding limitations, CDBG-DR funds are to be used to implement the first phase of the proposal in Pilot Area #1, which includes Little Ferry, Moonachie, Carlstadt, South Hackensack and Teterboro.

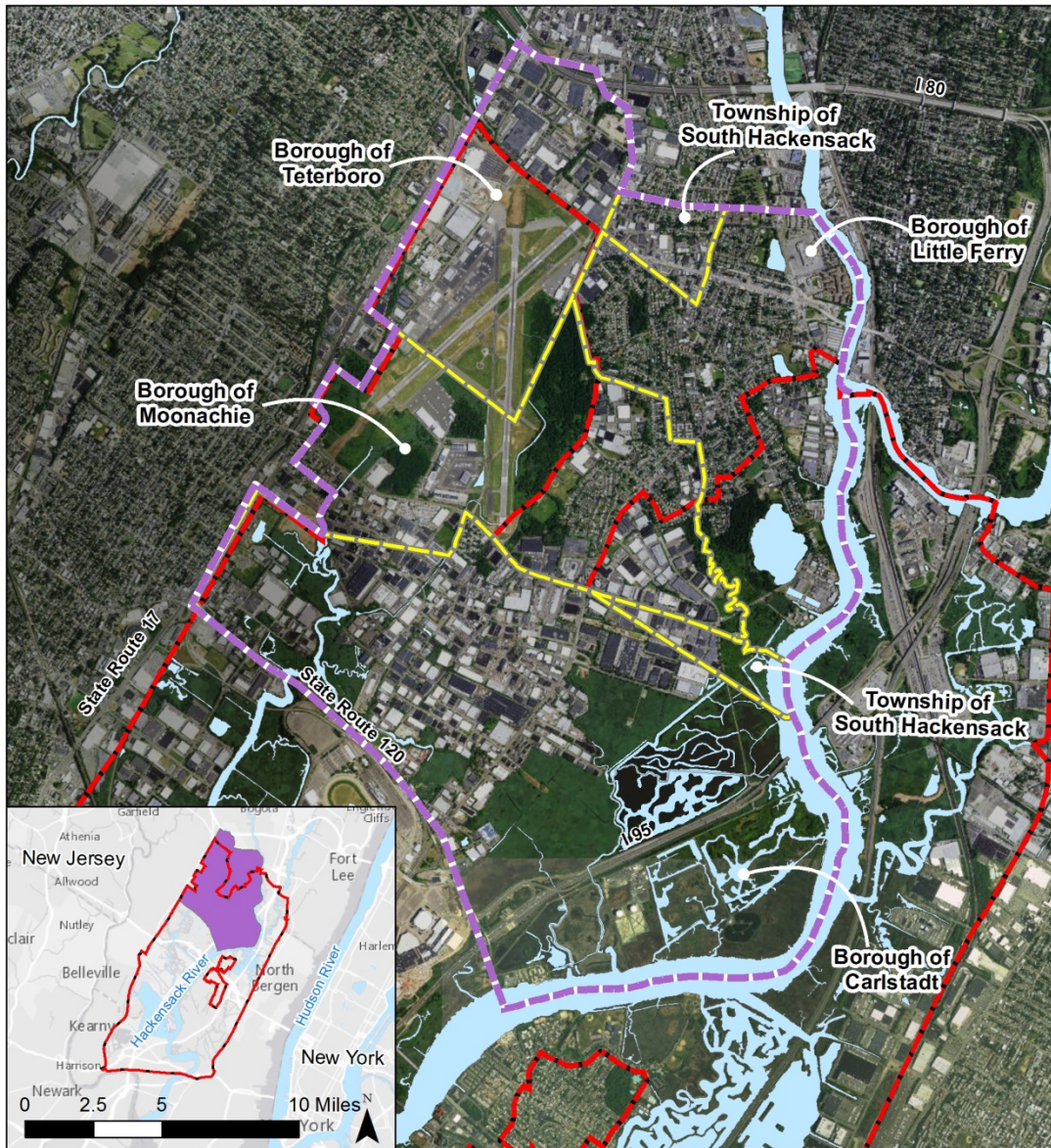
The results from the planning, feasibility and design phases, among other things, will yield a work product that addresses what, if any, additional funding sources are available for the project, the components of the project available funding is sufficient to address, the efficacy and sustainability of the final project design, incorporating such analyses as the NOAA Sea Level Rise tool, and also how that final project will meet the resilience performance standards requirements in Section VI(2)(e) of Federal Register Notice [FR-5696-N-06](#). Similarly, once planning and feasibility studies are complete, DEP and its partners will be in a position to determine, in connection with the design phase, how the project will be monitored in order to evaluate efficacy and sustainability. The State pledged to update Amendment #12 following completion of the draft Environmental Impact Statement to reflect how these requirements will be satisfied. The following sections are reflective of updates made in Amendments #22 and 25.

4.9.3.1 Purpose and Need

The purpose and need statement for the RBD Meadowlands Project: “Protect, Connect, Grow” (referred to herein as “the Project” or “the RBD Meadowlands Project”) was formulated through a comprehensive process. This process began with the development of the original, award-winning proposal submitted to HUD for funding, continued through the scoping process, and is continuing through the concept and alternative development process for the Draft Environmental Impact Statement (DEIS). Key stakeholders, including local elected officials, agencies with regulatory authority, community leaders, and the general public, have been, are, and will continue to be involved at each stage of this process.

The RBD Meadowlands Project Area (Project Area) is depicted in **Figure 4-27**. The Project Area includes the Boroughs of Little Ferry, Moonachie, Carlstadt, and Teterboro, and the Township of

South Hackensack, all in Bergen County, New Jersey. The Project Area includes approximately 5,405 acres and has the following approximate boundaries: the Hackensack River to the east; Paterson Plank Road to the south; State Route 17 to the west; and Interstate 80 and the northern boundary of the Borough of Little Ferry to the north. The Project Area is vulnerable to flooding from both coastal storm surge and rainfall flooding events.



LEGEND

- Meadowlands District
- Municipal Boundary
- Project Area
- Water

0 2,500 5,000 10,000
 Feet

Sources: Spatial Data courtesy of NJDEP (2007, 2010, 2016); NYS EISO (2008); Esri (2016) Disclaimer: No warranty is made by AECOM as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data. This map is a "living document", in that it is intended to change as new data become available and is incorporated into the GIS database.

Figure 4-27: RBD Meadowlands Project Area

Purpose

The Project includes the construction and operation of flood risk reduction measures in the Project Area. These measures will be designed to address the impacts of coastal and systemic inland flooding on the quality of the physical, natural, cultural, and socioeconomic environment of the Project Area due to both storm hazards and sea level rise. Therefore, the purpose of the Project is to reduce flood risk and increase the resiliency of the communities and ecosystems within the Project Area, thereby protecting critical infrastructure, residences, businesses, and ecological resources from the more frequent and intense flood events anticipated in the future.

As described in Amendment #25, the Project could also deliver co-benefits through the protection of ecological resources and enhancement of water quality, which in turn could benefit regional biodiversity and ecosystem resiliency. In addition, the Project could integrate the flood hazard risk reduction strategy with civic, cultural, and recreational values to incorporate active and passive recreational uses, multi-use facilities, public spaces, and other design elements that integrate the Project into the fabric of the community to the extent practicable with the available funding.

Need

The Meadowlands are situated in a valley with ridges on its sides that run parallel in a southwest to northeast direction. In some locations, these ridges are over 100 feet above sea level. Comprised of mostly flat terrain, elevations within the Meadowlands do not exceed 10 feet above sea level (North American Vertical Datum of 1988 [NAVD 88]), with most areas less than 6 to 7 feet above sea level (NAVD 88). Flow of water within the Project Area is greatly affected not only by local topography, but also by patterns of urbanization and development. In addition, historic construction of dikes and tide gates in an attempt to control and reduce flooding events has further affected the integrity and spatial configuration of the Project Area and altered its biodiversity. Additionally, existing surface water conveyances within the Project Area are undersized, clogged with sediments, and/or under-utilized. These conditions further compound the drainage challenges within the Project Area.

The majority of the Project Area, including 49 critical facilities and other infrastructure, is within the Federal Emergency Management Agency (FEMA)- designated 100-year floodplain (**Figure 4-28**). The Project Area's exposure to flood hazard risks is evident by the number of properties included in the FEMA National Flood Insurance Program (NFIP). Mortgage lenders for properties within the Special Flood Hazard Area (i.e., Zone AE) require property owners to obtain flood insurance from the NFIP. In addition, property owners receiving awards following presidentially declared disasters (such as Superstorm Sandy) are also often required to obtain NFIP insurance.

The interrelationship between coastal flooding and rainfall events contributes to the recurring flooding conditions throughout the Project Area. Each component represents challenges and needs to be addressed within the context of an overall flood reduction strategy for the Project Area. As such, the Project is needed to address: (1) systemic inland flooding from high-intensity rainfall/runoff events and (2) coastal flooding from storm surges and abnormally high tides.

In addition to reducing flooding in the Project Area, the Project is needed to deliver a comprehensive flood reduction strategy that will protect life, public health, and property in the Project Area. The Project seeks to include concepts and alternatives that are consistent with the local municipalities'

overall effort to reduce FEMA Flood Insurance Rates.

The Project is further needed to increase community resiliency, including protecting accessibility to, and on-going operations of, critical health care services, emergency services, and transportation and utility infrastructure.

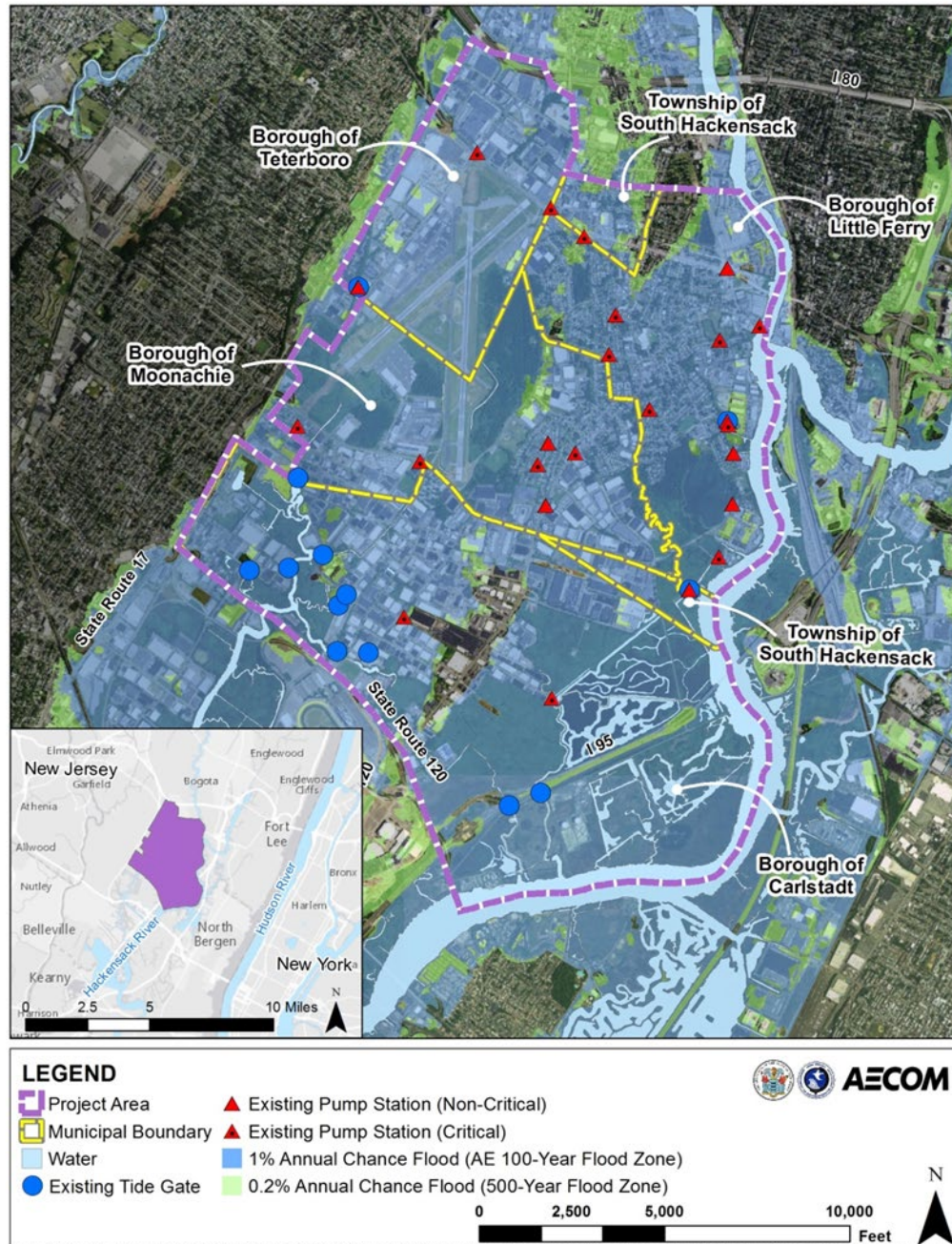


Figure 4-28: Project Area within the 100-Year and 500-Year Floodplains

Key Goals and Objectives

The Project is an urban water management strategy designed to reduce the risk of floods from coastal storm surges and/or systemic inland flooding from large rainfall events within the Project Area, thereby protecting public health, public safety, and property. The ability to meet this purpose will be measured in terms of the following Project goals and objectives:

Goal: Contribute to Community Resiliency. The Proposed Project would integrate a flood hazard risk reduction strategy with existing and proposed land uses and assets. The Proposed Project would reduce flood risks within the Project Area, leading to improved resiliency and the protection of accessibility and on-going operations of services (including protecting critical infrastructure such as hospitals, fire stations, and police department buildings; and roadways and transit resources). This would allow these key assets to support emergency preparedness and community resiliency during and after flood events.

Goal: Reduce Risks to Public Health. In addition to providing protection to critical healthcare infrastructure (such as local hospitals and emergency services), the flood risk reduction strategy would reduce the adverse health impacts associated with these types of flood events, such as the spread of infectious diseases, compromised personal hygiene, and contaminated water sources.

Goal: Contribute to On-going Community Efforts to Reduce FEMA Flood Insurance Rates. The NFIP's Community Rating System allows municipalities to reduce their flood insurance rates through implementation of comprehensive floodplain management. The Project would include concepts and alternatives that are consistent with the local municipalities' overall effort to reduce FEMA Flood Insurance Rates.

Goal: Deliver Co-Benefits. Where possible, the Project would integrate the flood hazard risk reduction strategy with civic, cultural, ecological, and recreational values. The Project would strive to incorporate active and passive recreational uses, multi-use facilities, and other design elements that integrate the Project into the fabric of the community. In this way, the Project would be independent of, but would complement, local strategies for future growth, to the extent possible.

Goal: Enhance and Improve Use of Public Space. The Project would strive to reduce risks to private and public property from flood impacts while also incorporating design elements that improve public and recreational spaces, thereby enhancing quality of life for the community.

Goal: Consider Impacts from Sea Level Rise. The Project would consider the projected impacts from sea level rise and its impacts on the frequency and degree of flooding.

Goal: Protect Ecological Resources. The Project would strive to protect and enhance ecological resources by protecting wetlands and other habitats that contribute to regional biodiversity and ecosystem resiliency.

Goal: Improve Water Quality. The Project may incorporate green infrastructure solutions into the design and construction of proposed flood risk reduction measures to manage stormwater runoff, reduce stormwater pollution, and improve water quality.

4.9.3.2 Project Description

Original RBD Meadowlands Concept

As originally proposed during the HUD RBD competition, the Meadowlands concept envisioned creating a system of natural areas, berms, and additional wetlands to reduce flooding risks. The original concept also articulated an integrated vision for protecting, connecting, and growing the Meadowlands District, as a critical asset, to both the rest of New Jersey and the metropolitan area of New York. By integrating transportation, ecology, and development, the awarded concept sought to transform the Meadowlands basin to address a wide spectrum of risks, while providing potential civic amenities and creating opportunities for new redevelopment.

The original RBD Meadowlands concept was divided into three pilot areas. As described in Section 4.7, HUD awarded \$150 million in CDBG-DR funds to the State of New Jersey for the Project, specifically for the “Phase 1 Pilot Area.” The Phase 1 Pilot Area is now referred to as the RBD Meadowlands Project Area, as shown above in **Figure 4-28**. While additional pilot areas or phases were identified for the overall Meadowlands Program Area during the RBD competition, there is no plan to fund the Phase 2 and Phase 3 Pilot Areas at this time due to the need to remain within the Project’s \$150 million budget.

The original RBD Meadowlands concept took a multi-faceted approach intended to address flooding from both major storm surges and high tides, as well as from heavy rainfall events, with several potential ancillary benefits. The concept’s comprehensive approach to resilience consisted of three integrated components for each Pilot Area: “Protect, Connect, and Grow.” **Protect** would provide flood protection; **Connect** would increase modal connectivity among the towns and surrounding areas; and **Grow** would continue flood improvement goals through rezoning opportunities. The original concept as envisioned would cost approximately \$850 million.

Moving from the Original, Broad Concept to a More Focused Concept

Based on the \$150 million in CDBG-DR funding provided by HUD, NJDEP has determined that the Project, in application, will focus primarily on reducing flood risk within the Project Area (i.e., the “Protect” component of the “Protect, Connect, Grow” concept). Potential ancillary “Connect” and “Grow” components of the original concept, while not funded specifically at this point, could be logical and reasonable future outcomes following implementation of the critical “Protect” function, if additional funding becomes available.

Early in the planning process, and as codified in the Public Scoping Document for the Environmental Impact Statement (EIS) released in August 2016, NJDEP identified three broad RBD Meadowlands Project Alternatives that included the following:

- **Alternative 1 (Structural Flood Reduction):** This alternative analyzed various structural, infrastructure-based solutions that would be constructed to provide protection from both inland and tidal/storm surge flooding. This alternative, to the extent practical, evaluated a FEMA certifiable level of flood protection to a portion of the Project Area. This alternative would consist of a range of structures, including levees, berms, barriers, drainage structures, pump stations, floodgates, and/or other hard and soft infrastructure to achieve the required level of flood protection.

- **Alternative 2 (Stormwater Drainage Improvements):** This alternative analyzed a series of stormwater drainage projects aimed at reducing the occurrence of higher frequency, small-to medium-scale flooding events that impact the communities located in the Project Area. Together, these smaller drainage projects would have provided an improved stormwater management system that may have included both local drainage improvements and wetlands restoration to protect communities located in the Project Area. These improvements may have included: drainage ditches, pipes, and pump stations at strategic locations; increased roadway elevations; new green infrastructure (e.g., wetland drainage basins, bioswales, rain gardens), water storage areas, and water control structures; cleaning and de-snagging of existing waterways; and increasing and enhancing public open space.
- **Alternative 3 (Hybrid of Alternative 1 and Alternative 2):** This alternative analyzed a strategic, synergistic blend of new infrastructure and local drainage improvements to reduce flood risk in the Project Area. Components of Alternatives 1 and 2 would be combined to provide an integrated, hybrid solution that employs a combination of appropriate levees, berms, drainage structures, pump stations, and/or floodgates, coupled with local drainage improvement projects, to achieve the maximum amount of flood protection within the boundaries of the Project Area.

On January 11, 2018, during a Community Meeting at the Robert L. Craig School in Moonachie, New Jersey, the State recommended Alternative 3 as the “Preferred Alternative” for the RBD Meadowlands Project. A Preferred Alternative is the alternative of this project that is implementable and addresses both coastal surge and systemic inland flooding within the funding and schedule constraints while avoiding, minimizing or mitigating impacts to the natural and human environment. Alternative 3 was recommended as the Preferred Alternative because it provides a more holistic solution than the other Alternatives by addressing both coastal surge and systemic inland flooding.

A DEIS is being prepared to evaluate the environmental impacts, including indirect and cumulative environmental impacts, associated with all Alternatives considered (i.e., Alternatives 1, 2, and 3) as well as a No Action Alternative. The Preferred Alternative (i.e., Alternative 3) is described briefly in this document and will be described in detail within the DEIS and Feasibility Report. Illustrations of Alternative 1 and Alternative 2 were described at a Community Meeting on January 11, 2018. The meeting materials and video can be viewed on the RBD Meadowlands website: www.rbd-meadowlands.nj.gov.

Overall, Alternative 3 incorporates integral flood protection components of Alternatives 1 and 2. The drainage improvements selected for construction as part of Alternative 3 will provide resilience by helping communities in the Project Area to recover faster from nuisance flooding. This Alternative reflects the public input received including the suggestion that the Project have an increased focus on drainage improvements in the Project Area.

Because the full scope of Alternative 3 would exceed the Project’s available funding and schedule (i.e., implemented by September 2022), it has been separated into a Build Plan and a Future Plan. Section 2.2.3.1 describes the Build Plan components that will be constructed by September 2022 within the Project’s \$150 million budget. The remaining components of the Alternative are referred to as the Future Plan. The Future Plan components could be constructed over time as other funding sources

become available and as construction feasibility permits. Implementation of the Build Plan would remain within both the budget and the HUD schedule associated with the RBD funding.

Build Plan

The Build Plan is an integrated plan that primarily addresses the systemic inland flooding that results from heavy or frequent precipitation in the Project Area. The Build Plan includes both grey and green stormwater management infrastructure features. The grey stormwater management infrastructure features would be designed to reduce flooding damages by capturing and more rapidly evacuating stormwater in the Project Area. The green stormwater management infrastructure features would be designed to capture stormwater runoff from streets and sidewalks to reduce local flooding, treat water quality, and enhance the streetscapes with permanent vegetation or new porous paving. The Build Plan also incorporates community co-benefits through the enhancement and improvement of public spaces in the Project Area. Grey and green infrastructure elements that could be implemented in the Build Plan are listed in **Table 4-23** below. Appendix B in Amendment #25 provides a detailed description, purpose, and function of each of type of grey or green infrastructure feature of the RBD Meadowlands Project. The Build Plan also incorporates community co-benefits through the enhancement and improvement of public spaces in the Project Area.

Table 4-23: Grey and Green Infrastructure Features Considered

Grey Infrastructure Features	Green Infrastructure Features
Pump Stations	Parks/Open Space
Backflow Preventers	Permeable Pavement
Channel Improvements	Rain Gardens
Berms around Ditches/Ponds	Bioswales
Force Main	Wetland Improvements
Settling Basins/Forebays	Storage Trenches/Tree Trenches
Off-Channel Storage	
Local Drainage Improvements	

Build Plan for Grey Stormwater Management Infrastructure

Generally, the grey stormwater infrastructure improvements will include two new pump stations, a force main, channel modifications, culvert and bridge improvements, operations and maintenance access ways and other associated structures and easements. Specific grey infrastructure elements included in the Build Plan consist of the following:

- East Riser Components:** A new pump station would be installed upstream of the existing East Riser Ditch tide gate and Starke Road. Based on the Feasibility level design, it is anticipated that the station could include a screened intake bay, Archimedean screw pumps (or other pumps as to be determined in design), a discharge channel, a modified forebay inlet to the existing tide gate, and an energy dissipation structure on the downstream side of the tide gate. Flow discharged from the pump station would be conveyed through the existing tide gate at East Riser Ditch via culverts under Starke Road. An impervious access road and parking area would be provided for facility access and egress from the building, parking, and

maintenance and operation.

A forebay inlet to the existing tide gate would be installed upstream of Starke Road to receive discharge from the pump station and convey it to the existing culverts under Starke Road and out the existing tide gate. The forebay would tie into the existing culvert headwall on the upstream side of the Starke Road culverts. Four flap gates would be installed inside the forebay on the upstream side to allow low flow stream passage through the forebay when the pump is not operational.

The East Riser Ditch channel would be dredged from the Stark Road culverts at the south, to the southern location outfall of culverts under Moonachie Avenue to increase flow conveyance capacity. Approximately 22,000 cubic yards (CY) of material would be removed from the ditch and disposed of off-site at a facility licensed to receive the dredged material. Channel boundaries and adjacent areas falling within the riparian zone would be revegetated with native plant species consistent with that habitat type in the Project Area. The Project Area associated with this improvement is estimated to be 9.5 acres. An O&M access way would be provided on one side of the channel throughout the improved reach. Access would be tied into local residential roads where feasible, but in some cases, it would tie into parking areas on private property. Easements would be acquired to establish a permanent drainage corridor and O&M access where needed. Gates and adjacent hurricane fencing would be installed at access points to the O&M corridors to limit access to authorized personnel.

To improve water conveyance in East Riser Ditch, three existing culvert and bridge crossing structures would be removed and replaced with appropriately sized replacement culverts or bridges. The removed structures would be disposed at a facility licensed to receive that material.

- **Losen Slote Components:** A new stormwater pump station and associated force main are proposed in the Losen Slote drainage basin. A pump station would be located in the vicinity of 15 Liberty Street in Little Ferry, immediately east of the Liberty Bell Village. This pump station would have one 50 cubic feet per second (cfs) or similar sized pump, and would discharge stormwater through a force main in the vicinity of the Lorena Street, Liberty Street, Eckel Road, and Birch Street rights-of-way. This force main would be approximately 3,300 feet long, and would consist of a ductile iron pipe with manholes installed along the pipe for maintenance. It would discharge into Losen Slote at the western terminus of Birch Street. Additionally, a remnant concrete headwall, once part of a tide gate in the Losen Slote channel in the vicinity of Joseph Street, would be removed to improve natural channel flow.

The Losen Slote pump station would additionally have a backup pump and a backup generator installed in case of pump malfunction or electricity outages. An energy dissipation structure would also be constructed at the discharge point for the force main to prevent erosion of the Losen Slote channel.

Build Plan Green Stormwater Management Infrastructure and Open Space

The green infrastructure features could include bioswales, rain gardens, storage trenches/tree trenches, permeable pavement, wetland improvements, and parks/open spaces and other associated

structures and easements. The locations associated with green infrastructure features in the Build Plan are as follows:

- **DePeyster Creek Area right-of-way** would be located primarily within the sidewalk of Monroe Street and Dietrich Street between Eckel Road and Industrial Avenue. Subsurface stone trenches would expand the storage footprint to manage runoff from roughly 0.5 acres of impervious roadway.
- **Carol Place Area right-of-way** would be located primarily within the sidewalk of Moonachie Avenue and Empire Boulevard between Caesar Place and State Street. The vegetated portion of these bioswales would be located within the lawn space between sidewalk and curb. Subsurface stone trenches would expand the storage footprint to manage runoff from approximately 1.4 acres of impervious roadway.
- **West Riser Ditch Area right-of-way** would incorporate rain garden median plantings to capture and treat adjacent roadway runoff from roughly 0.5 acres of impervious roadway.
- **Park Street Area right-of-way** would incorporate storage trenches along Moonachie Road, storage trenches along Liberty Street, and bioswales with internal check dams along Redneck Avenue to manage runoff from approximately 1.4 acres of impervious roadway.
- **Main Street Area** would incorporate several bioswales and storage trenches on side streets intersecting Main Street with rain gardens within medians at the intersection of Bergen Turnpike and Sylvan Avenue (US Route 46). In total, the Main Street area is expected to manage runoff from roughly 2.8 acres of impervious roadway.

The Build Plan also includes additional flood management measures integrated with new open space and improvements to existing open space, which also provide additional water quality benefits. The improvements include the following:

- **Riverside Park Area Stormwater Management Improvements** includes open space acquisition of 2.59 acres. This riverfront park would transform an existing boat dock area and impervious parking lot into approximately 600 linear feet (LF) of pervious area including bioswales providing flood management and water quality improvement by allowing for stormwater infiltration and filtration. This area would also provide public recreational access to the riverfront open space and include a restored riparian wetland that would provide new intertidal wetland habitat. River access would be maintained through improved boat docks and boat launch to create recreational opportunities.
- **Caesar Place Park Stormwater Management Improvements** include open space acquisition of approximately 4.03 acres that would provide stormwater storage through creation of approximately 1.50 acres of wooded wetland and 1.39 acres of emergent wetland. This would improve and expand the existing wetland located on site. Passive recreation could include elevated boardwalks that would maintain public access. Rain gardens would help infiltrate runoff and filter stormwater from Caesar Place Road. Open lawn and nature play areas may be included in an existing upland area to provide active recreation and play while minimizing environmental impacts.
- **Avanti Park Stormwater Drainage Improvements** include open space acquisition of 0.97

acres on an existing open lot along Moonachie Road that would improve drainage through creation of a 0.29-acre wetland and collect and infiltrate stormwater from the site and the adjacent lot. The park would feature expanded wetlands, open space, passive and active recreation and native habitat. An elevated walkway could traverse this wetland, maintain public access, and connect back an area of permeable pavement at grade along Moonachie Road. Active recreation opportunities include a permeable play surface and play structure. Remaining elements could include woodland to screen adjacent warehouses and native plantings.

- **Willow Lake Park Stormwater Management Improvements** include improvements of an existing 7.02-acre public park. Proposed improvements would include rain gardens to store and filter stormwater from Pickens Street, thereby reducing flood damage risk and improving water quality. Native planting and low meadows with scattered trees would increase infiltration and provide habitat for pollinators and birds. The permeable area would be expanded, thereby increasing flood management through improved drainage. Proposed improvements include pedestrian circulation, recreation, and ecological benefits. Existing pedestrian trails would be expanded to connect the northern and southern portions of the park, active recreation, expanded playground with impervious pavement, and ecological benefits. Existing and new improvements would combine to create approximately 1.6 acres of plazas and circulation walkways that frame the park and provide access to people from Main Street, Pickens Street, and Washington Avenue, with a centralized plaza near Willow Lake.
- **Little Ferry Municipal Stormwater Drainage Improvements** for both Little Ferry Library and the Little Ferry Municipal Building including approximately 0.27 acres of native plantings and rain gardens, as well as the addition of native plants and replacement of existing asphalt parking with permeable paving. The improvements would increase stormwater infiltration to reduce runoff and thereby potential for flooding and improve stormwater quality of runoff into the adjacent open channel of upper Losen Slote.
- **Little Ferry Public Schools Stormwater Drainage Improvements** include campus improvements at Washington Elementary and Little Ferry Public Schools could include rain gardens along Liberty Avenue, approximately 0.83 acres of impervious pavement converted to permeable pavement at Washington Elementary, and approximately 0.96 acres of existing turf converted to native vegetation (with trees). This would increase stormwater infiltration and thereby flood risk, while also improving biodiversity. Approximately 0.39 acres of an existing sports field could be improved, with the existing active programming areas remaining.
- **Robert Craig Elementary School Stormwater Drainage Improvements** on campus could include improvements of approximately 1.74 acres including 0.30 acres of permeable play surface at an existing impermeable play surface, a rain garden at an existing open lawn, and approximately 1.36 acres of new sports field at an existing baseball diamond and open lawn to improve stormwater filtration and conveyance on site.
- **St. Joseph Park Stormwater Drainage Improvements** of an existing public park. Bioswales

are proposed to improve stormwater filtration. An existing parking lot would receive treatment to improve its permeability and ability to infiltrate and filter stormwater. Landscape improvements would be made to 0.87 acres of the park through the planting of native vegetation. Active recreational opportunities that could also be incorporated into the park landscape include amenities such as basketball, sports courts, lawn, soccer, tennis, and a gazebo.

In summary, the Build Plan would reduce the depths and spatial extent of inland flooding in the East Riser Ditch and Losen Slote watersheds. Stormwater conveyance in East Riser Ditch would primarily be improved between the East Riser Ditch tide gate and US Route 46, while Losen Slote would experience reduced flooding between Bertollow Avenue and Niehaus Avenue. Under the Build Plan, the total acreage of new or improved parks and open space created would be approximately 7.6 acres.

Future Plan

The Future Plan includes the Alternative 1 line of protection (LOP) around the Project Area that would guard against flooding during coastal storm surges and spring high tides, as well as from overflow of associated inland ditches and channels. This LOP would provide protection to an elevation of 7 feet above mean sea level (amsl) (NAVD 88), and would consist of both compacted earthen structures (e.g., berms and levees) and engineered structures (e.g., floodwalls). A LOP at this height would be sufficient to provide protection against approximately the present-day 50-year storm (i.e., there would be an approximately 2 percent chance each year that the LOP would be breached), and against approximately the 10-year storm (i.e., 10 percent annual chance) in 50 years, based on intermediate sea level rise projections. The LOP would consist of a Northern, Central, and Southern Segment, as well as a storm surge barrier along Berry's Creek. The four main geographic components of the LOP are shown graphically in Appendix A in Amendment #25. A proposed surge barrier would be installed on Berry's Creek just south of where Berry's Creek passes beneath Paterson Plank Road. The proposed surge barrier would be constructed to an elevation of 10 feet amsl (NAVD 88). Levees would connect the surge barrier to existing high ground on both banks of Berry's Creek. A proposed pump station would also be constructed with the surge barrier on the western bank. This pump would have an estimated capacity of 1,000 cfs. The LOP described above is part of the Future Plan and could be implemented with other funding sources.

To address the systemic inland flooding associated with the Project Area, the Future Plan carries over additional drainage improvements evaluated in Alternative 2 and, would not be implemented with the HUD RBD CDBG-DR funding. These Future Plan drainage improvements, if constructed at a later date using other funding sources, may include:

- **Upper East Riser Channel Improvements** extending along the upstream portions of East Riser Ditch (i.e., from Moonachie Avenue to Wesley Street) would receive improvements, including dredging of the entire channel (approximately 3 miles) and six culvert replacements. These improvements would occur within the Boroughs of Moonachie, Teterboro, and Little Ferry and the Township of South Hackensack. An O&M access road/easement would be constructed to facilitate O&M along the upstream portions of the East Riser Ditch.
- **New Losen Slote Pump Station** and force main would be constructed near Garden Street to

deliver water to the Losen Slote channel. A pump station would be located in an existing truck bay at an industrial complex, along West Park Street northwest of the intersection with Albert Street. This pump station would discharge stormwater through a 2,200-foot long, ductile iron pipe force main. An energy dissipation structure would also be constructed at the discharge point in order to prevent erosion of the Losen Slote channel. The force main would discharge into Losen Slote at the eastern terminus of East Park Street. A backup pump and a backup generator installed in case of pump malfunction or electricity outages.

Implementation of the Future Plan would further reduce inland flooding in the Losen Slote watershed along the Park Street Reach between the Main Reach and Union Avenue. Additionally, the Future Plan would protect against coastal storm surges and spring high tides. By implementing a hybrid solution of both coastal and inland flooding reduction, Alternative 3 provides the greatest overall flood reduction among the three Build Alternatives considered, while adhering to the feasibility constraints (i.e., budget and schedule) of the Proposed Project.

The preliminary estimated timeline and budget for the Project are shown in **Table 4-24**.

**Table 4-24 RBD Meadowlands
Estimated Timeline and Budget (in \$ millions)**

	2015	2016	2017	2018	2019	2020	2021	2022	Total
Planning / Feasibility	\$0.2*	\$2*	\$10.8*	\$11					\$24
Design / Predevelopment				\$7	\$7	\$3			\$17
Site Development / Construction				\$3	\$12	\$37	\$34	\$23	\$109
Total	\$.2*	\$2*	\$10.8*	\$21	\$19	\$40	\$34	\$23	\$150

*Based on actual expenditures

Allocation for Activity:

- Total: \$149,711,765

RBD MEADOWLANDS ALLOCATION WALK		
ACTION PLAN AMENDMENT	DATE OF APPROVAL	CDBG-DR FUNDING
<i>Action Plan Amendment #12</i>	April 20, 2015	\$150,000,000
<i>Action Plan Amendment #21</i>	June 29, 2017	(\$1,900,000)*
<i>Action Plan Amendment #33</i>	October 8, 2019	\$1,611,765
TOTAL		\$149,711,765

*Amendment for the Consolidation of Administration Funds into the General Category

**Reallocation of Activity Delivery Costs from Administration to Program Delivery

Eligibility for CDBG-DR: Federal Register Notice FR-5696-N-11(VII)(b) (Rebuild by Design). Final project design, as well as integration of results of ongoing environmental studies being conducted by the NJDEP, is expected to begin in Fall 2018. Construction is expected to begin in February 2019 and will take about 3.25 years to complete.³

Project Coordination and Compliance

As the design of the Project’s Build Plan continues, the NJDEP will identify partnerships and any leveraged or reasonably anticipated funds that could be used for components of the RBD Project, as required in Section VI of Federal Register Notice [FR-5696-N-11](#). The Build Plan can be fully constructed with the available CDBG-DR funds. However, the State may seek to leverage funds through programs such as NJ Green Acres, NJ Blue Acres or NJ Environmental Infrastructure Trust (EIT) loans and/or grants.

Additionally, in the permitting and design phases of the Project, the Project may trigger local zoning and land use regulations that fall within municipal purview. The NJDCA has certified that the preliminary design will consider the appropriate code, industrial design standards, and construction standards, and that a registered Professional Engineer (PE) will certify the final design meets all relevant codes. To date, the known State and Federal permits that will need to be obtained for the RBD Project are as follows.

Law &/or Regulation	Type of Permit	Issuing agency
Federal Clean Water Act	Individual Section 404 Permit	USACE-NYD
Federal Clean Water Act	Individual Section 401 Water Quality Certification	NJDEP DLUR
Federal Rivers and Harbors Act	Section 10 Permit	USACE-NYD
Federal Coastal Zone Management Act	Federal Consistency (issued through WFD permit)	NJDEP DLUR
NJ Waterfront Development (WFD) Law/ NJ Coastal Zone Management Rules	Individual Upland and In-Water Waterfront Development Permits	NJDEP DLUR
NJ Flood Hazard Area Control Act/ NJ FHCA Rules	Individual Flood Hazard Permit	NJDEP DLUR
NJ Freshwater Wetlands Protection Act/ NJ FWWPA Rules	Individual Freshwater Wetland Permit	NJDEP DLUR
NJ Tidelands Law	Tidelands License (for short term/construction) Tidelands Lease (for long term/life of project)	NJDEP DLUR – Bureau of Tidelands
NJ Soil Erosion and Sediment Control Act /NJ SESC Standards	Soil Erosion / Sediment Control Plan Certification	Bergen County Soil Conservation District

³ As detailed in Amendment #25.

NJ Water Pollution Control Act	NJ Pollutant Discharge Elimination System (NJPDES) Stormwater – Construction Activities General Permit (5G3)	NJDEP Division of Water Quality
Law &/or Regulation	Type of Permit	Issuing agency
NJ Water Pollution Control Act	Treatment Works Approval (for pump station, if combined sewer/stormwater)	NJDEP Division of Water Quality
NJ Solid Waste Regulations (N.J.A.C 7:26)	Approval for disruption of closed landfill site	NJDEP Division of Solid and Hazardous Waste
Meadowlands District Zoning Regulations (N.J.A.C. 19:4-1.1 et. seq.)	Zoning Certificate Site Plan Approval Construction Permit(s) Stormwater Permit	NJ Sports and Exposition Authority
Air Quality Permit (NJAC 7:27-8.2(c)1)	Preconstruction permit and operational certificate for any fuel-burning equipment (i.e., emergency generators at pump stations).	NJDEP Division of Air Quality

The Project is also addressing the long-term efficacy and fiscal sustainability outlined in Section VI(2)(g)(4) of the November 2013 Federal Register Notice ([FR-5696-N-06](#)). An O&M plan for the Project will be prepared describing the procedures and responsibilities for routine maintenance, communication and timing of activation in the event of an impending storm condition. In early 2019, NJDEP will form an O&M subcommittee with local and State partners that will develop an O&M Plan for the Project. The participants in the O&M planning and development currently includes, but is not limited to, entities such as the NJDEP, Bergen County, Bergen County Utilities Authority, Port Authority of New York and New Jersey, NJ Sports and Exposition Authority, the Boroughs of Little Ferry, Moonachie, Carlstadt, and Teterboro, and the Township of South Hackensack. The O&M Plan will be a critical component of the overall Project and will contain five very distinct functions: Operations, Maintenance, Engineering, Training, and Administration.

The State certifies, after construction is complete, that the State and the municipalities receiving flood protection benefits will provide an O&M plan that identifies the entities performing routine, on-going maintenance. Before construction begins, the State will ensure that O&M costs are funded and that entities are in place to own, operate and maintain the Build Plan components. The State intends to fulfill fully its obligations under this Certification. Nothing herein shall constitute, nor be deemed to constitute, an obligation of future appropriations by the legislature of the State of New Jersey, where creating such an obligation would be inconsistent with [New Jersey Constitution](#) Article 8, Section 2, Paragraphs 2 and 3, [N.J.S.A. 59:13-1 et seq.](#), and [N.J.S.A. 59:1-1 et seq.](#) of the State of New Jersey.

The NJDEP has also taken steps to meet the resilience performance standards requirements identified in Section VI(2)(e) of the November 2013 Federal Register Notice ([FR-5696-N-06](#)). Through the NJDEP Flood Hazard Area Control Act (FHACA) ([N.J.S.A. 58:16A-50 et seq.](#)) and implementing Rules ([N.J.A.C. 7:13](#)), the State has taken steps to reduce the damage and risks to public safety and health and the environment caused by flooding while assuring the creation of a more

resilient coastal community. These steps included incorporating the amendments issued in 2007, 2013 and 2017 to the FHACA Rules into the Project design.

FHACA Amendments issued in 2007 include:

- Regulation of all commercial, residential, industrial, and public development within the flood hazard area design flood, which is the 100- year (1 percent) flood plus a 25 percent factor-of-safety to account for potential future increases in flood discharges in fluvial areas;
- Restrictions on the loss of any flood storage volume within the flood hazard area of fluvial surface waters, which ensures continued protection from anticipated flood events of increasing intensity;
- Establishment of protected riparian zones around all regulated surface waters, which limit the removal of vegetation, thereby increasing water quality protection, reducing erosion, and preserving flood storage along these waters, all of which ensures continued protection from anticipated flood events of increasing intensity; and
- The requirement that the lowest floor of buildings and the travel surface of roadways and parking areas be situated at least one foot above the flood hazard area design flood elevation to account for the possibility of impacts from future flood events that may be greater than the predicted levels.

Emergency FHACA amendments were issued in 2013 to facilitate rebuilding after Superstorm Sandy in a more resilient manner by:

- Ensuring that the best available flood elevation data is used to determine the flood hazard area design flood elevation for a given site, including FEMA's advisory flood maps and subsequently released preliminary maps for New Jersey's coast, which include revised A and V-Zone limits, as well as FEMA mapping issued as final (effective) that is developed in partnership with the NJDEP and depict the NJDEP's flood hazard area design flood elevation and floodway limit;
- Allowing flood proofing measures to be used instead of elevating buildings in certain, limited situations where elevating is not feasible or cost- effective; and
- Ensuring consistency between the NJDEP's standards for elevating buildings in flood hazard areas with the building standards of the Uniform Construction Code promulgated by the Department of Community Affairs at [N.J.A.C. 5:23](#).

Further, the 2013 amendments to the NJDEP Coastal Zone Management Rules ([N.J.A.C. 7:7](#)) allow for soft buffers through the establishment of living shorelines. Tidal wetlands are a major component of the coastal ecosystem. They provide multiple ecosystem services, as well as a first defense against storm surge. Living shorelines are a means to assist in restoring special areas, such as wetlands that have been lost, and can be designed to adapt to changing environmental conditions.

The 2017 FHACA amendments and new rules fall into the following six categories: improvements to riparian zone protections; improving consistency of the FHACA Rules with the Uniform Construction Code (UCC) and National Flood Insurance Program; improving consistency between the FHACA Rules and CZM Rules; facilitation of environmentally beneficial activities; clarification that permits-by rule,

general permits-by-certification, and general permits may not be used for activities qualifying as “major development;” and changes regarding the fees associated with the review of stormwater calculations.

The flood mapping used by the State prior to this rulemaking was outdated and generally underestimated the actual 100-year flood elevation by approximately 1 to 4 feet and, in some circumstances, by as much as 8 feet. This was illustrated during Superstorm Sandy, when many people who had constructed a building with its lowest floor at the 100-year flood elevation shown on FEMA’s effective Flood Insurance Rate Maps discovered that the portions of their building that lay below the advisory base flood elevation were subjected to severe flood damage. Had the NJDEP not taken steps to allow for the use of the best available flood mapping data, and to incorporate future FEMA mapping, residents would have been able to reconstruct their substantially damaged structures using the prior and inaccurate flood elevations, creating a potentially significant detriment to public health, safety and welfare during the next flooding event.

The FHACA Rules are not the State’s sole means of protecting residents and their properties from flooding and severe weather events. Many efforts are ongoing throughout the State and in the various other NJDEP Departments to assist in the recovery from Superstorm Sandy and Hurricane Irene. For example, the NJDEP’s Blue Acres Program was established to acquire flood-damaged or flood-prone properties from willing sellers for conservation and recreation purposes, thus removing families from harm’s way while creating natural buffers against future severe weather events and returning flood carrying capacity to vital areas.

With respect to tidal areas, since 2011, the New Jersey Coastal Management Program (NJCMP) has developed two assessment tools to ensure that coastal communities have consistent and comprehensive guidance to assess their vulnerability to coastal hazards and capacity for resilience: the Coastal Community Vulnerability Assessment and Mapping Protocol and the Getting to Resilience questionnaire. Through the NJCMP, the NJDEP has developed the Resilient Coastal Communities Initiative to further develop these tools into a community-based planning program. The NJCMP has also initiated a Sustainable and Resilient Communities Grant Program to fund a comprehensive planning approach at the municipal level.

National Objective: The State has evaluated the benefits of the Project and has accordingly identified the service area to be provided by the Project. The service area meets the “primarily residential” standard as set forth by HUD and the LMI population within the service area exceeds the upper quartile exception of 39.57% for Bergen County. Therefore, the State has determined that the Project meets the LMI national objective.

4.9.3.3 Managing State Agency and Partner Entities

Complementing the organizational structure described in Section 4.7.2, Amendment #20 provided further detail on the management of the Hudson River project.

While NJDEP will be the primary agency involved in designing and implementing the Project, it will not be the only relevant State agency. Roles of other agencies in this process include:

- **Department of Treasury/Office of State Comptroller.** NJDEP will continue to work closely with these two agencies in order to procure services and materials needed to realize the

Project. The State procurement process is a necessary condition of ensuring cost reasonableness and the compliance with Federal and State law, which could add significant time to the Project.

- **NJ Sports and Exposition Authority.** NJSEA plays an important role as a stakeholder in the Project Area and is participating in the Project's Executive Steering Committee (ESC) and CAG. Ongoing coordination will be required given NJSEA's authority over development in the Meadowlands District.

Coordination and communication with potential partners is critical in the implementation of this Project. The RBD Meadowlands project team (project team) conducted early coordination, as described below, with the following partners: the Sandy Regional Infrastructure Resilience Coordination (SRIRC) Federal Review and Permitting (FRP) Team, Meadowlands Technical Coordination Team (TCT), Meadowlands Interagency Mitigation Advisory Committee (MIMAC), and other municipal governments and stakeholders.

- **SRIRC FRP Team:** The project team met with the SRIRC FRP Team on May 17, 2016 and December 14, 2017, to provide the FRP with an overview of the Project's concept development process including the approach to public and stakeholder outreach and to announce the selection of the RBD Build Project. The SRIRC FRP Team members are Federal officials with responsibility for Federal review and permitting of complex Sandy infrastructure projects. The mission of this interagency team is to facilitate expeditious and efficient reviews of the most complex projects funded by the Disaster Relief Appropriations Act of 2013 through early engagement and identification of issues, studies, and overall development needs of the projects.
- **Meadowlands TCT:** The project team met with the Meadowlands TCT on September 4, 2014 for an initial Project kickoff meeting, which included background on the Project, an overview of the Project schedule, and review of Project milestones. On February 24, 2015, the RBD Meadowlands project team met for a TCT to provide a brief Project update and begin coordination with US Environmental Protection Agency (EPA) on the Berry's Creek Study Area/Superfund Site. Since this meeting, the EPA and NJDEP project teams have met regularly to provide Project updates and coordinate efforts. The project team will continue to update the Meadowlands TCT on the Project.

The TCT is comprised of Federal, State, and local officials with subject matter expertise in resilience, planning, environmental review, and permitting in the Study Area. It was formed by the federally convened SRIRC Group and includes members from NJDEP, HUD, U.S. Army Corps of Engineers (USACE), EPA, U.S. Fish and Wildlife Service (USFWS), National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service (NMFS), FEMA, Federal Transit Administration (FTA), Federal Highway Administration (FHWA), Port Authority of New York and New Jersey (PANYNJ), and representatives from the local municipalities.

- **MIMAC:** The RBD Meadowlands project team met with the MIMAC on June 15 and December 7, 2016, and more recently on February 21, 2018, to provide MIMAC with Project updates and to solicit early Project feedback from the involved agencies. MIMAC is a group of agencies

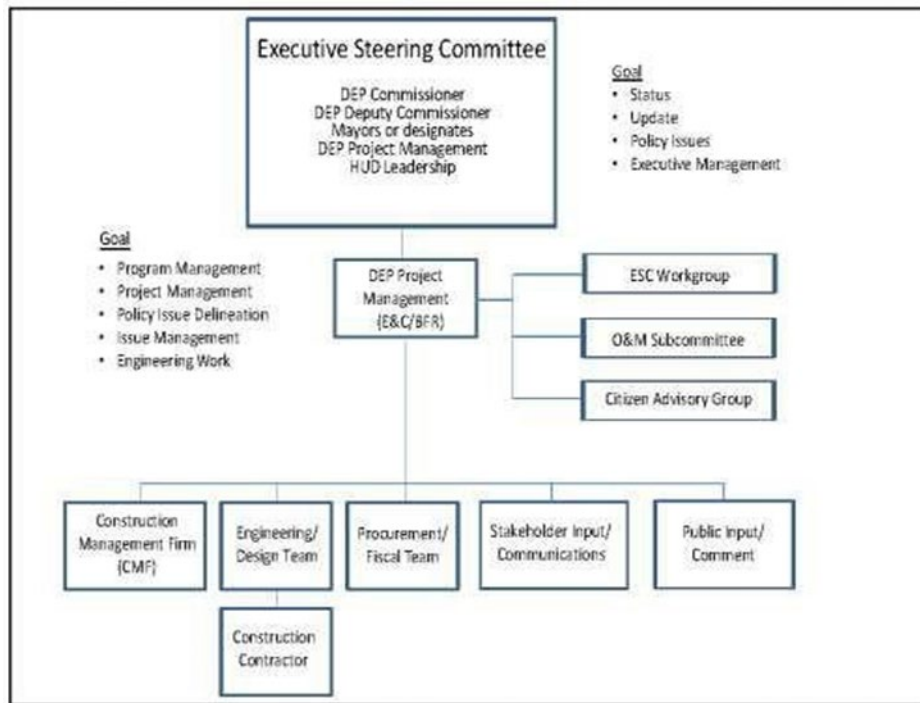
that includes USACE, USEPA, NJSEA, USFWS, NMFS, and NJDEP (Land Use). MIMAC is charged with reviewing wetland mitigation proposals in the Meadowlands District. The Project team will continue coordination efforts with MIMAC.

The Project also requires ongoing agency outreach and coordination for permits and approvals. The following is a list of ongoing coordination needs:

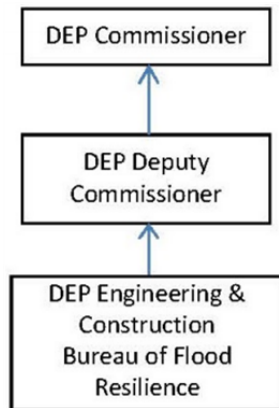
- Section 106 Consultation - Consultation with the NJ Historic Preservation Office (HPO) Advisory Council of Historic Preservation (ACHP), Native American tribes and identified consulting parties would be undertaken, as needed, for potential effects on those historic properties identified by NJDEP in consultation with the HPO and in accordance with the Section 106 process.
- FEMA and USACE consultation and review has been ongoing and will continue throughout the design and required permitting processes.
- NJ Transit for further coordination of impact on existing rail line during design and construction.
- Port Authority of NY & NJ for compliance with Federal Aviation Administration (FAA) regulations will continue through design and construction.
- NJDEP Division of Land Use Regulation and Division of Fish Wildlife for wetlands and State T&E species.
- NJDEP Green Acres Program if existing parkland is impacted during construction and coordination for new open space listing on recreation and open space inventories.
- NJDEP Bureau of Dam Safety for coordination related to impoundments (tidegate, levee, floodwall segments).

As was proposed in Amendments #12, 22, and 25 municipal governments and stakeholders in the project area are also playing a critical role in realizing the Project. Section 4.7.3.5 describes the roles of these stakeholders related to the Citizen Outreach Plan (COP). The chart below shows the Advisory Structure and the Decision-Making Structure for the Project.

RBD Meadowlands Project Organizational Chart: Advisory Structure



RBD Meadowlands Project Organizational Chart: Decision-Making Structure



Advice from the Executive Steering Committees is considered by E&C/BFR and reported up to the Commissioner who has final decision-making authority. The Commissioner also chairs the Executive Steering Committees and is directly informed of the Committee's advice. E&C/BFR's role in the Advisory Structure is primarily a staffing function to facilitate the synthesis and transmission of issues and considerations to the Executive Steering Committee for input. Separate from its role in facilitating the Executive Steering Committee's advisory role, E&C/BFR also is involved in NJDEP's RBD decision-making process, which includes evaluating the input provided through the advisory structure.

4.9.3.4 Performance Schedule

Table 4-25 summarizes the schedule for the RBD Meadowlands Project. Under the proposed schedule, the Project will proceed in a timely manner and is currently on schedule for completion of construction by September 30, 2022.

Table 4-25: RBD Meadowlands Project Schedule

Milestone	Time Period by Month/Year
Recommendation of Preferred Alternative	January 2018
Draft Environmental Impact Statement (DEIS) Public Hearing	June 2018
Final Environmental Impact Statement (FEIS)	October 2018
Record of Decision (ROD)	December 2018
Design Completion (all contracts)	June 2020
Construction Contract Awards (Multiple contracts anticipated)	December 2018 through completion
Construction Completion	September 2022

The Project includes four main phases: (1) planning and feasibility, (2) design and predevelopment, (3) site development and construction, and (4) post construction. The project team has completed the DEIS and conducted the Feasibility Study. Once the EIS process is completed and the ROD is signed, the Project would proceed directly into the design phase with the existing contractor. The Project predevelopment phase began in 2015 when the first RFP was awarded and will be complete in 2019 when construction is estimated to begin. Predevelopment refers to all design and engineering work required for the Project and culminates with complete construction specifications.

Under the proposed schedule, the Project will proceed in a timely manner and is currently on schedule for completion of construction by September 30, 2022. Given that the Project has not yet entered the construction phase, these budget estimates and timeframes remain preliminary estimates, which are subject to change. These estimates will be refined following completion of the Final Environmental Impact Statement.

This overview of the four project phases includes but is not limited to the following:

Planning and Feasibility

- **Scope of work:** overall project/sub-component feasibility, identification of available and potential resources, project timeline, initiation of the environmental review process, project scoping, critical issues/obstacles analysis, alternatives analysis, general cost-benefit analysis, bid packages for design phase, permit identification, EIS and ROD, initiation of the master planning process and community engagement/outreach, and identification of necessary land acquisition and easements.

- **Key tasks:** conduct data collection and analysis, evaluate overall project feasibility, assess and confirm feasibility of RBD team's conceptual design, create concept drawings, publish Notice of Intent, develop purpose and need for project, develop scoping document, meet with stakeholders, identify necessary permits, prepare and publish the DEIS, receive and respond to public comments, hold a public hearing, prepare and publish the FEIS, prepare and post the ROD, identify the environmental consequences, identify and analyze critical issues/possible obstacles, identify necessary real estate/easements, develop more detailed timeline and budget estimates, and analyze feasibility of sub-components as stand-alone projects.
- **Key deliverables:** development of concept drawings, DEIS, FEIS, ROD, a list of necessary permits, feasibility study, general timeline and budget for various project phases, general BCA, plan for addressing critical issues, and bid packages for design and engineering services (including issuance of them).

Design and Predevelopment

- **Scope of work:** development of engineering and design documents, real estate/easement acquisition, development of construction bid package, completion of environmental review process, and issuance/approval of all necessary permits
- **Key tasks:** pursue the identified financing/funding opportunities, draft engineering and design documents, develop construction bid packages, obtain necessary permits, obtain real estate/easements, identify and secure funding source and partners for operations and maintenance, and identify long-term ownership entity/structure
- **Key deliverables:** concept drawings, complete engineering plans and design documents, approval of all necessary permits, completion of necessary easements and land acquisition, issuance of construction bid packages, completion of procurement of construction services contract, detailed construction timeline and cost estimate, and comprehensive BCA report.

Site Development and Construction

- **Scope of Work:** begin and complete site development and construction activities.
- **Key Tasks:** prepare identified areas of the Project Area for the construction phase on time, on budget, and in accordance with plans and specifications; and construct the Project on time, on budget, and in accordance with the construction plans and specifications.
- **Key Deliverables:** complete site development in areas required in order to begin construction, and complete construction of the Project components.

Post-Construction

- **Scope of work:** all ongoing operations and maintenance to ensure continued effectiveness of project components.
- **Key tasks:** create maintenance agreements.
- **Key deliverables:** well-maintained project components and funding in place to ensure continued effectiveness of the Project.

4.9.3.5 Citizen Participation Plan and Outreach

NJDEP has committed to a robust community and stakeholder outreach process throughout the course of this multi-year effort to realize the Meadowlands RBD Project. The primary goal of NJDCA's Citizen Participation Plan (CPP) is to provide all New Jersey citizens with an opportunity to participate in the planning, implementation, and assessment of the State's CDBG-DR Sandy recovery program(s). The CPP required that a Citizen Outreach Plan (COP) specific to the Project be developed to serve as a supplement to NJDCA's existing CPP.

NJDEP developed the RBD Meadowlands COP in accordance with Section VI of Federal Register Notice [FR-5696-N-11](#), the National Environmental Policy Act (NEPA) ([43 U.S.C. 1638](#)), the Council of Environmental Quality's (CEQ) NEPA regulations ([40 CFR 1506.6](#)), and NJDCA's Language Access Plan (LAP; available at <http://www.renewjerseystronger.org/>). Community stakeholders will be engaged during all Project phases (see Section 4.7.3.4).

The COP guides the engagement of stakeholders in the Meadowlands region and solicits their input on the Project through a multi-faceted public participation process that includes: the establishment of an ESC, Outreach Subcommittee, CAG, Public Meetings, dedicated websites, an email listserv, a citizen complaint procedure, and press releases. The outreach strategies and techniques specific to the RBD Meadowlands Project are further described below. A copy of the RBD Meadowlands COP is available on the Project website at www.rbd-meadowlands.nj.gov.

Executive Steering Committee

The RBD Meadowlands Project has an ESC. The role of the ESC is to collaborate, exchange information and offer a forum for ESC members to provide input to the NJDEP throughout all phases of the RBD Meadowlands Project. The ESC discusses the direction of the Project, the Project schedule, Project related policy issues, and any concerns raised by the public to the mayors and NJDEP. The ESC is chaired by the NJDEP Commissioner and/or his delegates; it includes representatives from HUD, the NJDEP RBD Meadowlands project team, the Meadowlands Commission, and most importantly the mayors and/or their designees from the municipalities affected by the Project. Other entities may be incorporated into the ESC as needed.

The ESC is an advisory board. All final Project decisions will rest with the Commissioner of NJDEP. Additionally, the ESC consults with and reports to the NJDCA, as the HUD CDBG-DR Grantee, as issues arise.

Citizen Advisory Group

The RBD Meadowlands Project has a regional CAG. CAG members represent a variety of communities within the Project Area, and are composed of representatives appointed by both the municipalities participating on the ESC and the NJDEP RBD Meadowlands project team. The project team works to incorporate CAG members that represent regional interests.

The purpose of the CAG is to provide a forum for the exchange of information between the project team, key citizens, and citizen groups representative of the community. CAG members supplement the knowledge of local government officials; they will provide input throughout the development and implementation of the Project.

The role of NJDEP is to provide Project updates, explain processes and procedures on the various Project phases, solicit input from stakeholders and the public, and answer questions during major milestone CAG meetings. CAG members are responsible for bringing issues and concerns to the attention of the project team as well as sharing information presented to the CAG through their networks to their constituents, including members from vulnerable populations. The CAG members communicate the information obtained from their constituents to the project team, who in turn communicate this information to the larger ESC. Specifically, CAG members are expected to:

- Share information about the Project goals and objectives with their constituents;
- Share the processes and procedures that will be followed in implementing the Project;
- Determine what community priorities or concerns exist about the Project as it develops; and
- Bring the priorities, issues, and concerns of the larger community to the attention of the project team.

Environmental Impact Statement Outreach

The EIS public participation process is conducted in accordance with the requirements of NEPA. In addition to engaging with the public, NEPA requires thorough and complete documentation of participation by all involved government agencies and other interested parties in the process. Throughout the NEPA process, the public participation effort focuses on gathering input and dispersing information about the following key areas addressed in the EIS:

- Purpose of and need for the Project;
- Potential range of reasonable alternative actions, including the No Action Alternative;
- Methodologies that may be used to assess impacts on various resources. This typically includes reviewing baseline information and conducting surveys, modeling, or other analyses to estimate the impacts on resources (including, but not limited to, biological resources, socioeconomics, cultural resources, hazardous materials/waste, traffic conditions, air quality, and noise) as result of the Project; and
- Potential impacts associated with implementing the considered alternatives and potential avoidance, minimization, reduction, compensation, and mitigation measures.

To date, the Project has involved significant local, State, and Federal coordination, as well as collaboration with the public, to build an understanding among stakeholders in the Project Area. This coordination has taken place in accordance with [NEPA, 40 CFR 1506.6](#), and other agency regulatory requirements to ensure the public remains well informed and engaged throughout the Project.

Outreach Accomplishments to Date

The public has consistently been engaged in the development of the RBD Meadowlands Project. To date, NJDEP and its partners have held several community meetings for the Project. Information on these meetings and the materials presented to the public at each meeting are available on the Project website at www.rbdmeadowlands.nj.gov.

A list of these events is provided below:

- **January 11, 2018** - Community Meeting for Preferred Alternative
- **October 17, 2017** – CAG Meeting #11 (Alternatives 1, 2 and 3)
- **June 27, 2017** – CAG Meeting #10 (Alternative 3: Hybrid Alternative)
- **May 24, 2017** – CAG Meeting #9 (NEPA Process and Ecological Resources Update)
- **March 29, 2017** – CAG Meeting #8 (Alternative 1: Coastal Storm Surge Protection and Alternative 3: The Hybrid Option)
- **January 31, 2017** – CAG Meeting #7 (Alternative 2: Stormwater Drainage Improvements)
- **December 6, 2016** – CAG Meeting #6 (Alternative 1: Structural Flood Reduction Concept Development)
- **October 24, 2016** – CAG Meeting #5 (Ecology and Drainage Basin Opportunity Areas)
- **September 20, 2016** – CAG Meeting #4 (Concept Component Development Workshop)
- **August 11, 2016** – CAG Meeting #3 (Public Scoping Results and Alternative Screening Criteria and Metrics Meeting)
- **July 6, 2016** – Public Scoping Meeting for the RBD Meadowlands Project
- **May 17, 2016** – CAG Meeting #2B (Scoping and Data Gathering)
- **April 26, 2016** – CAG Meeting #2A (Community Workshop)
- **March 23, 2016** – CAG Meeting #1 (Purpose and Need, NEPA Process Overview)

Community involvement has been an integral part of the entire Project process. In order to facilitate communication with the community, NJDEP is making extensive use of the Project website (www.rbd-meadowlands.nj.gov). The Project website is an important tool used to communicate with the public by serving as a repository for documentation and information related to the Project. The website features resources such as presentations, videos, public notices, monthly newsletters and documents for public review, which are made available for download within a few days following public meetings. The website will continue to function as a valuable resource for the community as the Project moves forward through the design and construction phases.

NJDEP is also utilizing an electronic mailing list to facilitate ongoing contact with the community, transfer information, and invite people to public meetings. The database contains the names and addresses of the Project Area representatives, media organizations, representatives from the business community, and other interested stakeholders who signed up to receive updates via the website. At meetings, members of the public have been encouraged to add their email address to the listserv so that they can be notified of Project updates and schedules for upcoming meetings. In addition, the Project website also features a link allowing individuals to subscribe to the Project's electronic mailing list.

4.9.3.6 RBD Meadowlands Benefit Cost

Pursuant to [FR-5696-N-11](#) and its implementation guidance, the State is required to submit with its Substantial APA a benefit cost analysis or BCA, as well as a clear and concise narrative description of the BCA for the HUD-funded Project. Per [CPD-16-06](#), HUD requires that CDBG-DR grantees examine RBD projects through the lens of a BCA because it is a valuable tool to help inform decision-making regarding public infrastructure investments. The full narrative of the BCA is attached to Amendment #25 as Appendix C. The narrative description below describes the RBD Project and expected costs and benefits, according to the categories outlined in [HUD Notice CPD-16-06](#), issued on April 20, 2016. The BCA was also prepared in accordance with HUDBCA Guidance for APA for RBD Projects outlined in HUD [CPD-16-06](#). The analysis used generally accepted economic and financial principles for BCA as articulated in [OMB Circular A-94](#).

The purpose of the Project is to reduce flood risk and increase the resiliency of the communities and ecosystems in the Project Area, thereby protecting infrastructure, facilities, residences, businesses, and ecological resources from the more frequent and intense flood events anticipated to occur in the future. Therefore, the Proposed Project will be designed to meet the following objectives:

- 1) Contribute to Community Resiliency
- 2) Reduce Risks to Public Health
- 3) Deliver Co-Benefits
- 4) Enhance and Improve Use of Public Space
- 5) Consider Impacts from Climate Change
- 6) Protect Ecological Resources
- 7) Improve Water Quality

Alternative 3 was selected as the Recommended Plan because it addresses both coastal surge and systemic inland flooding. Due to project funding and timeline to construct, Alternative 3 was separated into two components: a Build Plan, which includes all features to be constructed as part of the Proposed Project, and a Future Plan, which includes the remaining features of Alternative 3 that could be constructed over time as funding and construction feasibility permit.

Implementation of the Build Plan would remain, and would be implementable within both the budget and schedule associated with the RBD funding. The Build Plan is an integrated plan that primarily addresses systemic inland flooding that results from heavy or frequent precipitation in the Project Area. The Build Plan includes both grey and green stormwater management infrastructure features described under Section 4.7.3.5.

The Benefit Cost Analysis demonstrates that the Build Plan (Proposed Project) is economically feasible at a discount rate of 7%. The Proposed Project will generate net benefits (benefits exceed costs over its useful life).

Table 4-26 shows the cumulative present value of the monetized benefits and costs for the Proposed Project.

Table 4-26: Executive Summary

Meadowlands Proposed Project: Benefit Cost Analysis Summary Cumulative Present Values (2018-2072)-Constant 2018 Dollars		
	Cumulative Present Values (Discount Rate = 7%)	Cumulative Present Values (Discount Rate = 3%)
A-LIFECYCLE COSTS		
Project Investment Costs \a	\$79,500,000	\$91,267,000
Operations & Maintenance	\$11,520,000	\$25,244,000
Total Costs	\$91,020,000	\$116,511,000
B- BENEFITS		
B1) Resiliency Values	\$84,771,000	\$203,541,000
Flood Damage Reduction Benefits		
East Riser Ditch	\$72,752,000	\$176,460,000
West Riser Ditch	\$7,834,000	\$16,501,000
Losen Slote	\$4,185,000	\$10,580,000
B2) Environmental Values	\$180,000	\$424,000
Air Quality	\$139,000	\$333,000
Pollination	\$37,000	\$82,000
Nutrient Pollution	\$4,000	\$9,000
B3) Social Values	\$8,990,000	\$20,134,000
Recreation	\$7,179,000	\$16,059,000
Avoided Stormwater Treatment Costs	\$1,559,000	\$3,511,000
Aesthetic Value	\$206,000	\$460,000
Water retention/flood hazard risk reduction	\$46,000	\$104,000
B4) Economic Revitalization Benefits	\$11,077,000	\$15,895,000
Property value premium	\$10,677,000	\$13,419,000
Energy conservation	\$151,000	\$449,000
Residual value of land	\$249,000	\$2,027,000
Total Benefits = B1+B2+B3+B4	\$105,018,000	\$239,994,000
Benefits less Costs (Net Present Value, = B-A)	\$13,998,000	\$123,483,000
Benefit Cost Ratio (BCR, = B/A)	1.15	2.06
<p>Note: \a Because design, predevelopment, site development, and construction are scheduled to occur over the period spanning from 2018 to 2022, and capital construction expenditures are phased in over these years, the cumulative present value calculation of costs (as of 2018) will appear to be lower than the nominal project investment costs shown in the total project cost (See Table 6 below) due to the application of the 7% discount rate. The nominal value of total project capital costs is \$101,680,000 (Table 6 below), while the discounted cost is \$79,500,000 (shown above in the Project Investment Costs row for the discount rate of 7%).</p> <p>Source: AECOM, RBDM Feasibility Cost Estimates - Alt 1-2-3 Build Comparison; 2018</p>		

The largest group of benefits consists of resilience values related to flood risk protection. In summary, the lifecycle costs required to build and operate the Project (amounting to \$91 million, in cumulative present value, 2018 dollars) will generate the following benefits:

Total Benefits of \$106.7 million, of which:

- Resiliency Values are: \$84.8 million
- Environmental Values are: \$0.2 million
- Social Values are: \$9.0 million
- Economic Revitalization: \$11.0 million

The Project's cumulative present value of net benefits (benefits minus costs) is \$14.0 million, and the benefit cost ratio is (BCR: Benefits divided by Costs) is 1.15. These net benefits demonstrate that the Project has significant value to the community and Meadowlands region.

BCA Process Description

Louis Berger was tasked to provide the BCA narrative write-up and Quality Assurance/Quality Control (QA/QC). The analysis incorporates BCA Quality Control/Quality Assurance independent third-party peer review provided by Louis Berger. The cost and benefit data was developed by AECOM and also incorporated QA/QC answers to comments from Louis Berger. Louis Berger did not separately estimate any lifecycle costs or benefit streams. Louis Berger did, however, provide BCA formatting and project evaluation advice, and a project resource statement tool for use by the entire team. The project resource statement tool was essential for independently checking the BCA results: the measures of project merit (i.e., the net present value and the benefit cost ratio). The project resource statement tool also enables other reviewers to independently recreate the results of the BCA in a transparent manner. In addition, applying the tool, Louis Berger also provided a sensitivity analysis of the benefit cost analysis results at varying discount rates. The project resource statement tool developed by Louis Berger addresses the HUD requirement that "The BCA must all include all pertinent data and quantifiable calculations for benefits and costs in single spreadsheet tab (or table). Benefits and costs must be estimated for each year after the project's start date and for the analysis period" ([HUD Notice CPD-16-06](#), p. 4). After this report is provided, NJDEP will have custody of the project resource statement (and all work files listed in the References section below) for use in the future, should project elements change after the submission of this report.

As noted above, the BCA was prepared by following the Guidance for Benefit-Cost Analysis included within the [HUD Notice CPD-16-06](#), and also adheres to the principles articulated within the document entitled [OMB Circular A-94](#) – Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs. The analyses presented herein are based on 2017 price levels and the application of a base 7% annual discount rate pursuant to [OMB Circular A-94](#).

Many of the major Proposed Project features, such as pump stations, and drainage pipes/channels have the potential to be effective for a period well beyond 50 years. To account for the additional benefits expected to persist beyond the 50-year project planning horizon, only the residual value of property right of way (ROW) is included within the BCA as a present value amount. For analytical purposes, costs and benefits have been evaluated over a 50-year period. The present value of future replacement costs for features with less than a 50-year life is evaluated as part of the operations and maintenance (O&M) costs (AECOM, 2017).

The Proposed Project incorporates a wide range of technologies to provide increased resiliency, environmental, social and economic revitalization values. Given the Project Area's high vulnerability

to flooding, the majority of Proposed Project benefits are associated with increased resiliency. A number of flood risk evaluation models were considered for use in the resiliency analysis and were assessed for their potential application in this BCA exercise. The BCA Appendix in Amendment #25 discusses the pros and cons of these tools (AECOM, 2017).

The flood risk modelling approach selected for the Proposed Project's resiliency analysis and benefits monetization was the Hydrologic Engineering Center - Flood Damage Analysis (HEC-FDA) model developed by the Hydrologic Engineering Center of the United States Army Corps of Engineers (USACE). Given the Project Area's high vulnerability to flooding, the majority of benefits are associated with increased resiliency. The HEC-FDA model was developed to perform integrated hydrologic engineering and economic analysis of flood risk. The economic module of the HEC-FDA analysis includes information regarding the location, value, and vulnerability of every building falling within the modeled study area (Project Area) floodplain. The economic consequence of flooding has been calculated using guidance developed by both the USACE and the Federal Emergency Management Agency (FEMA). Appropriate FEMA and USACE guidance and references are cited as appropriate throughout this document (AECOM, 2017).

Economic revitalization, social values and environmental value benefits generated under the Proposed Project were quantified and where possible monetized. Where these benefits were not monetized, they were assigned qualitative point factors (e.g.++) per HUD's qualitative rating criteria guidance provided in [HUD Notice CPD-16-06](#) (See BCA Appendix in Amendment #25). The benefits analysis was conducted using the Phase 2 Instructions for Community Development Block Grant National Disaster Resilience (CDBG-NDR) Applicants ([Appendix H](#)) as a guide for preferred methods and monetized values. The parameters of the benefits analysis follow the protocols set by [OMB Circular A-94](#) as well as the recommended benefit quantification methods by the U.S. Department of Transportation, USACE, and FEMA except in cases where more Project-specific values or prices were available. By adhering to a strict standard of what could be included in the benefits analysis, actual total benefits may be greater than depicted within the monetized benefits analysis (AECOM, 2017).

A custom model was developed by AECOM to estimate the future benefits for each alternative and for the Proposed Project (Build Plan). Benefits were estimated over a 50-year period beginning in 2023 and spanning until 2072. The base year is 2018 and all values (costs and benefits) were discounted to the base year. While it was assumed that 2023 would be the first year that the project would be complete and benefits would begin accruing at the beginning of the year, some benefits are included that would start in late 2022. These annual benefits were therefore prorated and included within that year. All benefits are expressed in constant 2018 dollars (AECOM, 2017).

Description of Proposed, Funded Project

The Build Plan is an integrated plan that primarily addresses the systemic inland flooding that results from heavy or frequent precipitation in the Project Area. The Build Plan includes both grey and green stormwater management infrastructure features. The grey stormwater management infrastructure features will be designed to reduce flooding damages by capturing and more rapidly evacuating stormwater in the Project Area. The grey infrastructure improvements would include two new pump stations, one force main, channel modifications, culvert and bridge improvements, operations and maintenance access ways and other associated structures and easements.

The Build Plan includes approximately 41 green infrastructure retrofit systems (approximately 37,000 SF) within the public right-of-way that are designed to reduce damages from flooding by capturing stormwater runoff from streets and sidewalks, treat water quality, and enhance the streetscapes with permanent vegetation or new porous paving. Additionally, approximately 18 green infrastructure systems (approximately 26,000 SF) are also included in the open space and park concepts. The green infrastructure features could include bioswales, rain gardens, storage trenches/tree trenches, permeable pavement, wetland improvements, and parks/open spaces and other associated structures and easements. The green stormwater management infrastructure features, will be designed to capture stormwater runoff from streets and sidewalks to reduce local flooding, treat water quality, and enhance the streetscapes with permanent vegetation or new porous paving. Specific features and practices include bioswales, rain gardens, storage trenches, permeable pavement, new improved parks/open spaces, and wetland improvements, designed to capture stormwater runoff from streets and sidewalks to reduce local flooding, treat water quality, and enhance the streetscapes with permanent vegetation or new porous paving. Green infrastructure features can be found in streets and parks. The Build Plan also incorporates community co-benefits through the enhancement and improvement of public spaces in the Project Area (AECOM, 2017). Under the Build Plan, the total acreage of new parks created would be approximately 7.6 acres. A full description of the Build Plan is under Section 4.7.3.1.

Construction for the Build Plan would begin in February 2019 and last 3.25 years. The Project is planned to be completed by September 2022. The estimated useful life of the Project is 50 years, or approximately 2022 through 2072.

Full Project Cost

Table 4-27 shows the elements of the capital construction costs for the Proposed Project (Build Plan) as well as the full program costs including NJDEP program administration and the Feasibility Study/EIS. More detailed capital cost tables are included within the BCA Appendix in Amendment #25. The summary below includes adjustments for inflation and contingencies embedded within the totals shown.

It should be noted that the total costs shown in **Table 4-27** are treated as expenditures that will be phased in, in annual increments over the construction period spanning from 2018 to 2022. Therefore, within the BCA, these future year amounts are discounted to present value by applying the project discount rate of 7%. Consequently, the cumulative present value costs shown in the BCA summary tables will appear lower than the nominal (undiscounted) costs shown in **Table 4-27**.

Table 4-27: Build Plan Total Project Capital Costs

Project Features	ESTIMATED TOTAL WITH CONTINGENCY & ESCALATION (2017\$)
Construction	
Grey Infrastructure Features	\$65,153,000
Green and Open Space Features	\$14,385,000
Allowances	\$5,749,000
General Requirements	\$5,637,000
Construction Costs	\$90,924,000
Additional Capital	
Real Estate	\$10,300,000
Engineering and Design	\$9,270,000
Construction Administration	\$4,006,000
Additional Capital Costs	\$23,576,000
Total Project Capital Costs (Construction + Additional Capital)	\$114,500,000
Feasibility Study/EIS	\$20,500,000
NJDEP Program Delivery	\$13,100,000
NJDEP Administration	\$1,900,000
Total Program Costs:	\$150,000,000
Notes:	
<ol style="list-style-type: none"> 1- Estimate includes 25% contingency on Construction Costs. 2- Estimate includes escalation to a construction mid-point of 2021, at 3.5% per year compounded. 3- Estimate assumes all excess soils generated by construction will be classified as non-hazardous ID27 solid waste. These excess soils are assumed to be transported/Disposed from the site at a cost of \$85 per ton. The weight of excavated material was conservatively estimated to be 2 tons per cubic yard, resulting in a disposal cost of \$170 per cubic yard. 4- Estimate EXCLUDES costs for HTRW mitigation. Assumes that any "hot spots" of HTRW will either be avoided or any additional HTRW costs incurred would be covered by the contingency and also likely reductions in the volume of the ID-27 T&Destimate. 5- Allowances provide for utility relocations/protection and wetland mitigation costs. 6- Estimate assumes force mains, storm water piping & box culverts will require deep foundation support. 7- GENERAL REQUIREMENTS - 6.5% of construction cost that covers contractor PM and Supervision (3%), Mob/Demob (1%), Traffic Maintenance (2 %), and Erosion-sedimentation controls (0.5%) 	
Source: AECOM;RBDM Feasibility Cost Estimates - Alt 1-2-3 Build Comparison;2018	

In addition, HUD Benefit Cost Guidance specifies that the price level be held constant (at 2018 constant prices) throughout the project evaluation period, 2018-2072. ([HUD Notice CPD-16-06](#), p.8). Because of this convention, the capital cost price escalation contingency to the year 2021 was removed within the BCA. Explanatory tables showing the adjustments made to all costs, and the reconciliation to nominal budgeted amounts are provided below in **Tables 4-28** and **4-29**. **Table 4-28** below removes the 2021 price escalation adjustment to express all costs in 2018 constant dollars, per HUD BCA Guidelines. **Table 4-29** shows the results of the process of discounting the future nominal Total Project Cost expenditures by construction phase year (in 2018 to 2022) to the present value basis of 2018, to account for the time value of money.

Table 4-28: Build Plan Total Project Capital Costs Modelled in Benefit Cost Analysis

Project Features	Estimated Cost Before Physical Contingency	Physical Contingency	Total with Contingency
Construction			
Grey Infrastructure Features	\$45,422,000	\$11,355,000	\$56,777,000
Green and Open Space Features	\$10,029,000	\$2,507,000	\$12,536,000
Allowances	\$5,010,000	\$0	\$5,010,000
General Requirements	\$3,930,000	\$982,000	\$4,912,000
Total Construction Costs	\$64,391,000	\$14,844,000	\$79,235,000
Real Estate	\$10,300,000	\$0	\$10,300,000
Engineering and Design	\$7,727,000	\$927,000	\$8,654,000
Construction Administration	\$2,791,000	\$700,000	\$3,491,000
TOTAL PROJECT COSTS	\$85,209,000	\$16,471,000	\$101,680,000
Total Price Contingency (removed from BCA)			\$12,820,000
Feasibility Study/EIS			\$20,500,000
NJDEP Program Delivery			\$13,100,000
NJDEP Administration			\$1,900,000
Total Program Costs			\$150,000,000
Source: AECOM;RBDM Feasibility Cost Estimates - Alt 1-2-3 Build Comparison;2018			

Table 4-29: Build Plan: Nominal and Discounted Total Project Costs by Construction Year

	Total / Cumulative Present Value- 2018: (Sum of 2018-2022)	2018	2019	2020	2021	2022
Capital Cost Phase-in Shares, %	100.0%	2%	6%	36%	33%	22%
Total Project Costs: Nominal Capital Costs (\$)	\$101,680,000	\$2,466,403	\$6,429,055	\$36,195,120	\$33,783,678	\$22,805,745
Discount Factor (I = 7.0%)		0.9346	0.8734	0.8163	0.7629	0.7130
Discounted Capital Costs \a	\$79,500,377	\$2,305,100	\$5,615,136	\$29,546,076	\$25,773,568	\$16,260,496
Source: AECOM, 2018 and BCA calculations applying 7% discount rate \a rounded total value is \$79,500,000						

Description of Existing Problem

As demonstrated by Superstorm Sandy, the Project Area is subject to periodic, devastating flooding during large storm surges. In addition, repetitive flooding occurs throughout the Project Area due to both intense rainfall events and from smaller storm surges that block the existing tide gates. In general, there are three distinct sources of flooding in the Project Area:

- Storm surge overwhelming the existing Line of Protection;
- Rainfall trapped behind the existing gates and levees at high tide; and
- Limits in the capacity of the existing drainage structures, resulting in flooding during rainfall-only events.

The BCA Appendix in Amendment #25 describes how flooding is currently affecting the Project Area. The Project Area is not specifically or particularly susceptible to wind, fire, or earthquake damage; as such, the Build Plan focuses on reducing flood risk. Climate change and associated sea level change would exacerbate the flooding risks associated with the Project Area, as discussed in detail within the BCA Appendix (AECOM, 2017) in Amendment #25.

Risks If RBD Meadowlands is Not Implemented

This section identifies the key risks and uncertainties that may affect the Proposed Project, either in a positive or adverse way. In addition, the Proposed Project's ability to adapt to, or to accommodate any of these risks is discussed, as applicable.

The Proposed Project is designed to provide resilience and community benefits to the residents and businesses in the Project Area. The risks, as described in this section, are events or issues that would influence the Proposed Project's projected benefits during the project lifecycle such that those benefits would not be realized or recognizable, or would not be realized to the level anticipated. These risks could arise either from within the Proposed Project' marshalling of resources, or from various external reasons or unpredictable events. Below is a description of potential risks that may occur and how they may impact the Proposed Project's realization of benefits (AECOM, 2017).

- **Rapid Sea Level Change** - A rapid sea level change that increases at rates substantially higher than the estimates used for this BCA analysis could impact the Project Area to an extent that the benefits from the Proposed Project are not realized to the level anticipated. Overall, this would result in a reduction in resiliency benefits. If sea level change were to increase at historic rates for the Project Area (which is lower than the predictions used in this analysis), predicted damages would be lower than analyzed and the Proposed Project would likely still be effective.
- **Relocation or Closure of Industrial/Commercial Establishments** - If a significant number of business or warehouses in the Project Area were to leave the Project Area or close-down for various reasons (e.g., increased maintenance or insurance costs, changes in management, down-sizing, etc.), the benefits associated with reduced flood risk would not be realized to the extent projected in the BCA. While the Proposed Project would still reduce flood risk for the small number of businesses that may still be operating within the Project Area, the flood risk reduction benefits assume the retention of establishments and their maintenance, or a growing business environment over time. These assumptions are required for all associated

benefits of the Proposed Project to be fully realized over the evaluation time horizon (AECOM, 2017).

- **Decline in Population** - If there were a significant decrease in the population within the Project Area for unforeseen or unanticipated reasons (e.g., natural disaster, large emigration from the Project Area, significant decrease in birth rates, etc.), the expected benefits of the Proposed Project would not be fully realized. With a significant decrease in population, the Project Area could also experience a decrease in business employment and maintenance, the use and maintenance of open spaces and public areas, and the number of residents that need protection from future flood events. Some of the aspects of the Proposed Project that may not be realized with a significant decrease in the population are: emergency response and preparedness, demand for open space and recreational, and decrease in public health risks.

List of Benefits and Costs of RBD Meadowlands Project

This section summarizes the lifecycle costs and benefit / values that are included within the benefit cost analysis. For a more detailed description of these costs and benefits refer to the BCA Appendix in Amendment #25.

Lifecycle Costs

The lifecycle costs of the Proposed Project consist of the both the full project investment capital construction costs and the long-term annually recurring operational and maintenance costs (O&M). Within the BCA the annually recurring O&M costs are modelled as being incurred when the construction period is complete (estimated at year: 2022) and operations commence (estimated at year: 2023). **Table 4-30** below shows the summary of the main O&M groupings for the Proposed Project. The Project Capital Construction Costs and shown above in **Table 4-29**.

Table 4-30: Proposed Project – Annual Operational and Maintenance Costs (O&M)

O&M Cost Category:	East Riser Ditch \a	Losen Slote \b	Total
Grey Features	\$446,300	\$87,400	\$533,700
Green Features -Open Space (not including equipment and replacement of park features)			\$520,700
Green Features – Street side Green Infrastructure			\$21,300
Total Annual O&M Costs:			\$1,075,700
Total Annual O&M Costs rounded: ≈			\$1,100,000
Notes: a\ 500 cfs pump station, discharge channel, modified forebay inlet to existing tide gate, culvert upgrades, ditch dredging) b\ 50 cfs pump stations, forcemains Source: AECOM, <<20171116 RBDM Build Plan- O&M Cost Estimate.xlsx>>			

Table 4-30 shows the annual O&M costs broken out by the Proposed Project’s grey and green features. Slightly over one half of the annual O&M will be required to sustain the 500 cfs pump station, discharge channel, modified forebay inlet to the existing tide gate, culvert upgrades and ditch dredging for the East Riser Ditch, and the Losen Slote project elements. The remaining half of annual O&M will be required to sustain the green infrastructure stormwater management features relating to open spaces but not including equipment and replacement of park features.

Resiliency Value

The benefits calculated for the Proposed Project are based on a comparison of future conditions with and without implementation of the Proposed Project. The benefit analysis assumed that certain conditions would exist in the future. These conditions are fully described in the BCA Appendix in Amendment #25 and summarized in this document. Changes in the future condition assumptions from those anticipated in the BCA calculations could result in higher or lower benefits than currently estimated.

The main resiliency benefits consist of avoided flood damages. The Proposed Project will provide direct resiliency benefits by reducing flood damages to structures and their contents. These structures consist of residences, apartments, commercial, industrial, municipal and utility buildings. In addition, resiliency benefits consist of avoided flood damages to motor vehicles, avoided debris/disposal costs, avoided mortality and injuries to the population, avoided public emergency costs, and avoided critical facility disruptions. Flood damage reduction benefits were calculated using the HEC-FDA model. About 69% of the annual resiliency benefits were derived from damage reductions to structures (i.e., residential, commercial, municipal, and utilities), and the remaining 31% are associated with reductions in death/injury/mental/health, emergency response, motor vehicles, debris disposal, and critical facility disruption (Appendix C; Amendment #25). **Table 4-31** shows a breakout of expected annual values, anticipated in 2023, and in 2073, by flood damage reduction benefit category (AECOM, 2018).

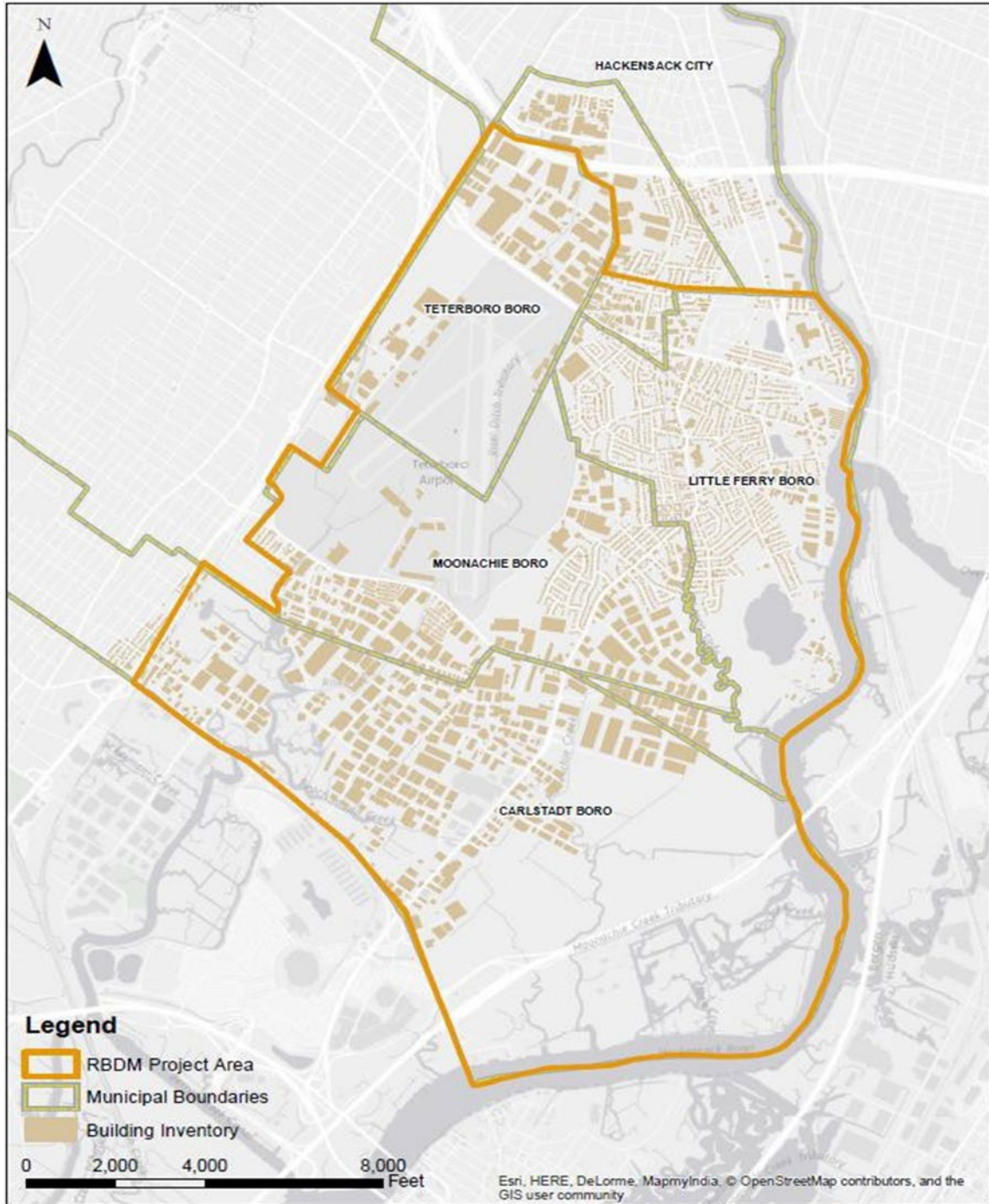
Table 4-31: Resiliency Values: Expected Annual Benefits under the Proposed Project – Build Alternative 3

(1.2 Feet Sea Level Rise at the Battery, 0.8 Feet Assumed for Project Area)

Flood Damage Reduction Benefit Category	Expected Annual Damage Reduction Value 2023	Expected Annual Damage Reduction Value 2073
Structures:		
Residential	\$54,520	\$131,670
Apartment	\$2,540	\$4,820
Commercial	\$1,946,670	\$3,600,400
Industrial	\$2,157,610	\$4,600,060
Municipal	\$92,750	\$149,000
Utility	\$100	\$20
Other:		
Motor Vehicles	\$98,320	\$177,060
Debris Disposal	\$5,550	\$8,300
Death/Injury	\$1,807,210	\$4,168,190
Public Emergency	\$40	\$30
Critical Facility Disruption	\$30	\$90
Project Total:	\$6,165,340	\$12,839,640
Source: AECOM, 2018		

Figure 4-29 shows a map of the area and the assets at risk from which flood reduction damages were calculated based on the projected sea level rise scenario for the Project Area.

Figure 4-29: Map of Project Area and Assets at Risk



Source: AECOM <<RBDM_Feasibility_FDA_Vulnerable Areas Map.pdf>>

Social Value

The BCR reflects the cumulative present value of the combined annual value of monetized social benefits, consisting of the following categories: Recreation, Avoided Stormwater Treatment Cost, Aesthetic Value, and Water retention related/flood hazard risk reduction benefits. These categories are further explained below:

- Recreation** - The recreational values associated with the Project Area are based on the value that visitors place on the open space and new park amenities. The annual value of recreation benefits is based on the estimated number of annual visits for populations residing within one-quarter mile from the new parks. From a former study, it was observed that 43% of park users lived within $\frac{1}{4}$ mile of the park, 21% lived between $\frac{1}{4}$ and $\frac{1}{2}$ of the park, and 23% lived between $\frac{1}{2}$ and 1 mile of the park surveyed (Cohen, 2007). Since some of the new parks are located near each other, only the estimated number of users within $\frac{1}{4}$ mile of the park was used for the analysis as a conservative estimate (AECOM, 2017).

The estimated number of users for the new parks was based on a study conducted by Active Living Research (2011). It was assumed that 10% of the population living within $\frac{1}{4}$ mile of a proposed park would be daily users, 40% would use the park once a week, 20% would use the park once a month, 10% would use the park less than once a month, 10% would use the park once, and 10% would never use the park (AECOM, 2017).

The recreation benefits were monetized using the USACE recreational day use value for fiscal year 2017 of \$5.94 based on the expected characteristics of the new parks (2016). The seasonal usage of the new parks is assumed to span the period from mid-April to mid-October (26 weeks) and because of inclement weather, it is conservatively assumed that daily users would only use the park 122 days per year. Using these assumptions, it is calculated that for every person living within $\frac{1}{4}$ mile of a new park, there would be 24 days of park use per year for an estimated annual use-value of about \$144 (AECOM, 2017).

The projected number of annual visits (concentrated within Little Ferry, Moonachie and the Outer Boroughs) was multiplied by the USACE 2017 unit day value for recreation to arrive at the annual monetized value of recreation associated with the incremental recreational use within the Project Area arising under the Build Alternative. Table 10 shows the distribution of the annual recreational benefits across the Project Area (AECOM, 2017).

Table 4-31: Annual Recreational Benefits from New Parks– Proposed Project

Area	Number of Annual Visits	Annual Value
Carlstadt	-	\$0
South Hackensack	-	\$0
Little Ferry	71,823	\$426,631
Teterboro	-	\$0
Moonachie	43,162	\$256,380
Other Boroughs	5,655	\$33,591
Total	120,640	\$716,602
Source: AECOM, << Meadowlands GIModel_13Nov17.xlsx>>		

- **Avoided Stormwater Treatment Costs** - To estimate the value of rainfall intercepted on-site and potential cost reductions in stormwater- management control, a value that includes the avoided cost of collection, conveyance, and treatment was applied. The average price of stormwater runoff reduction (\$0.089 per gal)(USDA, 2014)was applied to the estimated gallons of stormwater that would be intercepted by the Build Alternative’s Green Infrastructure stormwater management project elements (i.e., rain gardens, urban vegetation, bioretention/bioswales, new green space, permeable paving, as well as tree plantings).

Green infrastructure measures can vary in the level of effectiveness. This variability is accounted for in the model using minimum and maximum values for the number of gallons of stormwater that can be reduced. The average value of the low and high estimates was used to estimate the number of gallons of stormwater runoff that would be captured by the green infrastructure stormwater management measures and tree plantings. The factors used to calculate the minimum and maximum volume of stormwater that would be reduced by each green infrastructure measure (in gallons) were obtained from the Center of Neighborhood Technology (2010) and the formula was adapted to the local Meadowlands climatic conditions by applying the average annual rainfall in Teterboro (U.S. Climate Data, 2017). The stormwater benefits associated with the newly planted trees were calculated using the i-Tree Tool. The value of reduced stormwater was monetized as the product of the gallons of stormwater runoff that wouldbe reduced annually and the avoided treatment cost (associated with traditional stormwater management control) (AECOM, 2017).

- **Aesthetic Value** - Green infrastructure interventions can help to not only prevent debris from being carried away with runoff throughout the streets in higher-volume storms but can also include plantings that create pockets of color and texture throughout the landscape. In addition to new green infrastructure features, the Build Alternative will also improve existing elements of the area’s storm drainage networks. Existing ditches that undergo day-lighting are cleaned and re-landscaped to function more efficiently in conveying stormwater can also become a unique and attractive feature in the local landscape.

Redesigned parks, an activated waterfront, and other landscape-based interventions create a more visually appealing system of open spaces throughout the Project Area. Green infrastructure implementations within streetscapes establish more attractive conditions along transportation corridors. A literature derived or benefits transfer aesthetic value per acre was applied in the BCA. The aesthetic value from green open space applied is \$1,787 per acre of new green open space per year as established by FEMA and updated to 2017 dollars (FEMA, 2012) (AECOM, 2017).

The per-acre value reflects a cultural/aesthetic related benefit, not captured elsewhere in the benefit cost analysis. The annual monetized aesthetic benefit was calculated based on multiplying this per acre value times the number of acres for project features that would provide this aesthetic value within the Project Area.

- **Water retention related/flood hazard risk reduction benefits** - The value of water retention was calculated by converting the total square feet of all green infrastructure

features combined, converting this square foot value to acres, and then applying a FEMA sustainability value per acre (updated to 2017 US\$) that is a national average value that captures the benefits for this feature (See BCA Appendix; Amendment #25). Green open space is a provisioning area for stormwater retention and floodwater storage and conveyance and contributes to replenishing groundwater (underground aquifers). To measure the benefit of water retention and flood hazard risk reduction from new green open spaces, the national FEMA value of \$322 per acre (updated to 2017 dollars) was applied to new green open spaces that were previously impervious (FEMA, 2012) (AECOM, 2017).

Environmental Value

The environmental values that were monetized within the BCA consist of air quality improvements, the value of pollination ecosystem services and nutrient pollution removal provided by the Project features. It is important to note that the Project features will provide many ecosystem service enhancements and benefits to the Meadowlands area. These benefits are described qualitatively within the BCA Appendix, Amendment #25 (AECOM, 2017). Because ecosystem services are so important to the project area, the benefits of wetland creation and enhancement are summarized below in qualitative terms. The APA narrative below focuses on those environmental values that were monetized and included within the benefit cost ratio (AECOM, 2017).

- **Air Quality Benefits** - The monetary values for the reduced emissions used in the benefits analysis are based on USDOT guidance (2016b) and adjusted into 2017 dollar terms. The GHG emission values are based on the Social Cost of Carbon (SCC) developed by the Federal Interagency Working Group on Social Cost of Carbon and suggested by TIGER guidance (USDOT, 2016b). SCC values were inflated to 2017 dollars. The GHG emissions value was calculated by multiplying the quantity in metric tons of carbon dioxide by the appropriate SCC value in that same year. Carbon sequestration of green infrastructure was monetized using the climate regulation annual values from FEMA of \$15 per acre of new green open space (2012) (AECOM, 2017) (AECOM, 2017).
- **Pollination Services Benefits** - Creation of additional green space, including rain gardens and urban vegetation, provides opportunities for native bees, butterflies, flies, and beetles to move pollen among flowers so that plants can form seeds and fruit. The pollination value applied was \$319 per acre of new green open space per year as established by FEMA and updated to 2017 dollars (FEMA, 2012). The value of pollination services was calculated by multiplying this value per acre by the total acres associated with the select green infrastructure project features that would provide additional environment for the pollination supporting ecosystem services to be established (AECOM, 2017).
- **Reduced Nutrient Pollution / Nutrient Removal Benefits** - Common approaches for implementing permanent sustainable stormwater management features that have been included in the green infrastructure aspects of the Proposed Project emphasize nature-based methods and distributed source controls, such as permeable pavement, bioswales, rain gardens, green roofs, rain barrels, and cisterns. Managing stormwater to complement drainage improvements for more frequent rainfall events would improve the quantity and quality of runoff throughout the drainage areas of the Hackensack River and reduce nutrient

pollution from excess nitrogen and phosphorus. Bioretention facilities are expected to reduce nutrient pollution from excess nitrogen and phosphorus. The factors used to determine the number of pounds of nitrogen and phosphorus reduced was obtained from the Watershed Protection Techniques Journal (Schueler, 1997). The monetized value per pound of the reduced nitrogen of \$3.83 (Shaik, et. al. 2002 and Birch, 2011) and phosphorus of \$40.20 (Ancev, et. al. 2006) come from multiple research journals (AECOM, 2017). The annual monetized value of the reduction in nitrogen and phosphorus was based on multiplying the per pound values by the total pounds that would be removed given the relevant acreage hosting the green infrastructure project features with vegetation supporting this nutrient removal and uptake.

- **Wetland Enhancement and Creation** - Wetlands provide tangible and intangible ecosystem services including provisioning, regulating, cultural, and supporting services that generate economic value from their direct, indirect, and potential use. Provisioning services include the production of fish; storage and retention of water; creation of fiber, peat, fodder, and fuelwood; genetic materials for resistance to plant pathogens; and biochemical (extraction of medicines and other materials). Regulating services include climate regulation, water regulation, water purification and waste treatment, erosion regulation, flood control and storm protection, and habitat for pollinators. Cultural services include recreational activities, such as bird watching; educational opportunities; spiritual and religious values related to aspects of wetland ecosystems; and aesthetic value. Supporting services include soil formation and sediment retention and nutrient cycling. Biodiversity of plants and animals is supported by wetlands and help to maintain wetland processes (AECOM, 2017).

The Proposed Project would re-create and improve natural areas (and wetlands), which would be integrated throughout the Project Area. Recreated natural areas would generate ecosystem benefits including better water quality, reduced contaminated sediment, new habitat, and better fisheries production. Constructing, enhancing, and restoring wetlands can create new habitat and reduce fragmentation. Additionally, new wetland and riparian areas can contribute to nutrient cycling, biological control, erosion control, and support biodiversity (AECOM, 2017).

Economic Revitalization

The economic revitalization benefits that were monetized within the benefit cost analysis consist of a one-time enhancement in the value of adjacent properties, energy conservation benefits, and the present value of the residual value of land right-of-way hosting the Proposed Project (AECOM, 2017).

- **Enhanced Property Values** - Many studies have consistently shown that parks and open space have a positive impact on nearby residential property values (Crompton, 2005 and McConnell and Walls, 2005). The value of commercial properties near parks may also appreciate. The property value attributable to proximity to a park is separate from the direct recreational use value, meaning the property value appreciates even if the resident never visits the park. The magnitude of the increase in the property value is linked to the distance and the quality of the park and open space. While studies have shown increased property values up to 2,000 feet from a large park, most of the value is found within 500 feet of a park

(Bolitzer and Netusil, 2000; Crompton, 2001; National Association of Realtors, 2009; Crompton, 2004; Crompton and Nicholls, 2005) (AECOM, 2017).

A 2009 report from the National Association of Realtors found the premium for homes near parks can extend three blocks and start at 20% for those homes directly adjacent to these amenities (declining as distance from the park increases). An empirical review of 30 studies validated a 20% appreciation for properties abutting or fronting a passive park area and a 10% appreciation for properties 2 or 3 blocks away (Crompton, 2001). A 20 percent property value increase was applied to residential properties within 100 feet of new parks and a 10 percent property value increase was applied to residential properties between 100 and 500 feet of new parks (AECOM, 2017).

In various studies, improved landscaping and new tree plantings have also been associated with overall increases in house values varying on average from 7 to 30% (Des Rosiers et. al., 2002; Donovan and Butry, 2010; EPA, 2016a; Kusnierz et. al., 2010; Wachter and Gillen, 2006). For purposes of this analysis, it is assumed that properties within 100 feet of new trees would appreciate in value by 7% (AECOM, 2017).

In 2015, median home value was higher in Bergen County (\$441,400) in comparison to the five municipalities in the Project Area, which ranged from \$269,500 in South Hackensack to \$389,800 in Carlstadt (ACS, 2016). Improving the livability and aesthetics of the living environment and access to new recreational facilities can increase property values. The 2015 median values of housing units for each borough in the Project Area are displayed in Table 4-1 in the BCA Appendix C, Amendment #25. The median housing value for each borough from the U.S. Census was used to help mitigate sensitivity to extremely high selling prices and the type of properties sold each year (e.g., condominiums versus single family homes) (AECOM,2017).

The full property value premium was calculated based on determining the number of residences that fell within a certain distance to the amenity and that would experience either a 20, 10, or 5% increase in value. As described above, the value base was the median home value. The onetime enhancement in property value was treated as a one-time stock benefit that would arise in 2023. This value was then discounted to present value in the benefit cost analysis (AECOM, 2017).

- **Energy Conservation** - The strategic planting of trees can provide shading and wind breaks, thereby saving and conserving on energy usage and fuel consumption. Natural gas and electricity savings were calculated based on applying the i-Tree Tool, a peer-reviewed software from the USDA Forest Service (itreetools.org). In addition to the kilowatt-hours of electricity savings, therms of natural gas savings, and monetized energy conservation benefit, the i-Tree Tool provides the number of gallons of reduced stormwater runoff, estimated stormwater savings benefit, and air emission reductions (in pounds), and the associated value (AECOM, 2017).

It was assumed that all trees planted would be Red Maples (a common tree in the study area) and would be 3 diameters when planted. The maturation period and the tree diameter growth was extrapolated to the end of the period of analysis. The average annual diameter

growth was obtained from the USDA Forest Service Growth Model for the Northeastern United States (1991). When more specific values for the study area were available, these were used in place of the estimates from i-Tree. The i-Tree Tool was used to calculate the average annual electricity benefit of \$6.36 per tree and average annual natural gas benefit of \$26.04 per tree. The number of new trees planted was then applied per each area to the projected annual value per tree (for combined energy savings) per each project sub-area. The number of trees to be planted by area was sourced from the Build Plan (AECOM, 2017).

- **Residual Value of Land** - The value of the land (right of way, ROW) is included as a nominal residual value (in the year 2072) and then discounted to present value in the benefit cost analysis (AECOM, 2017).

Description of Risks to Ongoing Benefits from Overall Project

The Proposed Project is designed to provide resilience and community benefits to the residents, businesses, and stakeholders within the Project Area. The risks, as described above in “List of Benefits and Costs,” are events or issues that could influence the Proposed Project’s projected benefits during the lifecycle of the Build Plan such that those benefits would not be realized or recognizable, or would not be realized to the level anticipated. These risks could arise from circumstances outside of the Proposed Project’s footprint, boundary or resources, or for various other reasons, or unforeseen and unanticipated events (AECOM, 2017).

In addition, challenges described within “Assessment of Project Challenges” below could have potential impacts on the Proposed Project’s costs (capital costs during construction and long-term annually recurring O&M costs) as well as lead to delays in project implementation.

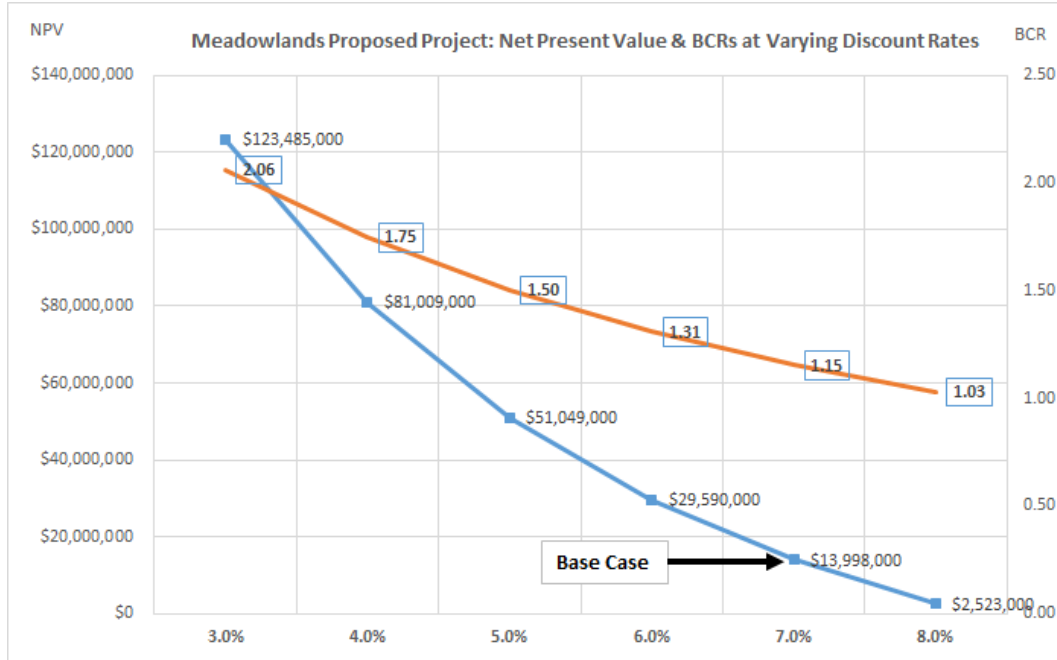
A sensitivity analysis was conducted to gauge how responsive the Proposed Project’s net present value and benefit cost ratio are to departures from the base discount rate of 7.0%. **Table 4-32** and **Figure 4-30** below shows that a slight lowering of the base discount rate, from 7% to 6% increases the net present value and BCR significantly.

Table 4-32: Proposed Project Cumulative Net Present Value of Benefits & Benefit Cost Ratios at Varying Discount Rates

Discount Rate	Net Present Value: NPV	Benefit Cost Ratio: BCR
3.0%	\$123,485,000	2.06
4.0%	\$81,009,000	1.75
5.0%	\$51,049,000	1.50
6.0%	\$29,590,000	1.31
7.0%	\$13,998,000	1.15
8.0%	\$2,523,000	1.03

Source: Louis Berger

Figure 4-30: Proposed Project: NPVs and BCRs at Varying Discount Rates



Lowering the base discount rate from 7% down to 3% shows that the net benefits and BCR are sensitive to the application of an alternative discount rate. As the Proposed Project is not meant to discourage private investment or consumption, but is intended to create a resilient environment and community that is conducive to attracting future investment, it is unlikely that private investment will be displaced by the Project. The Project is an “enabling” infrastructure investment, a term used to describe infrastructure that facilitates economic growth and productivity. Therefore, the lower discount rate of 3% is provided to show that the BCR is higher with this lower hurdle rate. At a discount rate of 3%, the cumulative present value of net benefits from the Build Alternative is \$123.5 million and the BCR is 2.06.

Assessment of Project Challenges

A number of challenges can be encountered when implementing a project that covers a large, populated area and over a long period of time. Below is a discussion of some of the anticipated challenges that may arise during the Proposed Project (AECOM, 2017).

- Real estate acquisition, including both monetary costs and time delays;
- Future O&M investments;
- Construction phasing challenges associated with urban areas;
- Community Coordination and potential opposition including lawsuits or legal challenges;
- Permitting or Regulatory Delays;
- Availability of the necessary mitigation credits for wetlands and riparian zones;
- Issues related to both known and unknown contaminated areas within the Project Area; and,
- Future development encroaching on green infrastructure.

These issues may occur in various stages of a Project implementation: ongoing feasibility, design, construction, or O&M. The challenges can be centered on costs, logistics, or coordination.

SECTION 5: PERFORMANCE SCHEDULE

To satisfy HUD guidance in Federal Register Notice FR-5696-N-11, New Jersey issues a non-substantial amendment following every substantial amendment to provide a detailed performance metrics regarding the allocation of third round CDBG-DR funds. The performance metrics are based on expected quarterly expenditures and outcomes. Consistent with the Notice, this amendment will be prepared within 90 days of the date that New Jersey's proposed uses of third round CDBG-DR funds are approved by HUD.

To the extent that estimated and quantifiable performance outcome factors must be provided as part of each substantial amendment, Amendment #34 sets out current estimated outcomes, reflected in Appendix C. These estimates are preliminary and are subject to change. Assessing potential factors that may affect these projections will be important in finalizing and meeting proposed performance metrics.

SECTION 6: OUTREACH AND CITIZEN PARTICIPATION

Citizen participation is an essential component of the State’s planning effort. The State strongly encourages public participation to identify community needs. Citizens and other stakeholders are given an opportunity for reasonable and timely access to information and comment period relating to the Action Plan, any ensuing substantial amendments, and the use of CDBG-DR Funds under the Disaster Recovery Program.

The State is committed to providing access to the Action Plan programs for all its citizens. These efforts include special consideration for those with limited English proficiency (LEP) and persons with disabilities. The State performed the four-factor analysis prescribed in the Federal Register FR-4878-N-02 (January 22, 2007). As a result of the analysis, the Action Plan and any ensuing substantial amendments will be published in both English and Spanish. Key participant documents such as application forms will also be available in both English and Spanish. No language other than Spanish exceeds 5% of the population statewide. As indicated in the table below, the nine most impacted counties do not individually reach a threshold of 5% for languages other than Spanish. Based on the analysis of the highly impacted counties, there are noted lower percentages of other LEP populations.

County	Total Population	Total LEP Population	Language 1 (Name)	Language 1 (LEP Population)	Language 1 (% of Total Population)	Language 2 (Name)	Language 2 (LEP Population)	Language 2 (% of Total Population)
New Jersey	8,253,100	1,036,300	Spanish	594,700	7%	Chinese	50,600	1%
Atlantic	257,100	28,500	Spanish	15,800	6%	Chinese	2,000	1%
Bergen	850,300	120,900	Spanish	41,300	5%	Korean	26,200	3%
Cape May	92,700	3,400	Spanish	2,300	2%	N/A	N/A	N/A
Essex	727,600	106,000	Spanish	59,600	8%	Portuguese	15,300	2%
Hudson	585,600	150,000	Spanish	105,400	18%	Arabic	5,000	1%
Middlesex	753,900	122,200	Spanish	53,800	7%	Chinese	11,700	2%
Monmouth	593,700	41,600	Spanish	21,300	4%	Portuguese	4,000	1%
Ocean	534,400	23,700	Spanish	13,400	3%	Italian	1,400	<1%
Union	496,500	103,500	Spanish	70,400	14%	Portuguese	9,100	2%

Note: LEP number estimates by language are displayed only if 500 persons or more. The term “LEP” refers to any person age five and older who reported speaking English “less than very well,” as classified by the U.S. Census Bureau.

To ensure meaningful access to vital documents for participant information, the State will respond to identified language needs in making translation available as requested and reasonable in other languages, based on the analysis within noted communities and counties. In addition, the household assistance centers being established in the impacted counties, in over nine local locations, will include Spanish-speaking counselors and translation services for other languages, upon request (see Section 4 for more information on these centers). Based on analyzed needs and requests, DCA will conduct

additional informational meetings in LEP communities in Spanish and other languages, as reasonable, in order to assist these households to apply for assistance.

Individuals with disabilities may request auxiliary aids and service necessary for participation by contacting (TTY/TDD) 609-984-7300 or 1-800-286-6613 (within NJ, NY, PA, DE, and MD). Program application procedures will also follow prescribed guidelines to ensure access for individuals with disabilities. As requested, application and other key materials will be translated into Braille and other formats for persons with visual impairment. Each of the household assistance centers will be accessible to persons with physical impairments and locations for all community meetings will be reviewed for maximum accessibility. The State provides for remote (web or phone based) counseling for potential applicants who cannot reach the housing assistance centers due to their disability. The centers will also be equipped with personnel who can be deployed for home visits, particularly for elderly and disabled.

The DCA website provides a direct link to Sandy-related recovery resources and will be updated with CDBG-DR information. DCA has established the email address of DisasterRecoveryandMitigation@dca.nj.gov to enable ongoing citizen input.

6.1 Citizen Participation

The State stays in constant communication with its residents, local leaders, and other stakeholders since prior to Superstorm Sandy's landfall and continuing through today. This continuous outreach has helped identify the needs and priorities of the many communities affected throughout the State, and informs the programs set forth in this Action Plan. State personnel have been providing ongoing support to the hardest hit communities following the storm. State officials also have held frequent calls and meetings with impacted communities to discuss, among other things, the storm's effects on New Jersey's housing stock, infrastructure, and business community. Efforts include outreach and information meetings up and down the state, Town Hall meetings, television and radio addresses, mobile cabinet meetings with senior State officials, meetings with mayors and local governments.

The State has conducted significant outreach to Public Housing Authorities (PHAs) to gauge the issues faced by certain PHAs as a result of the storm. Shortly following the storm, DCA held a meeting with thirteen PHA Executive Directors from the nine counties most impacted by Superstorm Sandy. These included Executive Directors from PHAs in Atlantic City, Cape May, Carteret, Elizabeth, Irvington, Jersey City, Linden, Millville, Neptune, Ocean City, Orange, Perth Amboy and Pleasantville. All Executive Directors were invited to attend, and many of those who chose not to attend indicated that their facilities did not sustain damage. In addition, DCA was able to assist PHAs with referrals to FEMA.

Furthermore, in mid-March 2013, DCA distributed an assessment questionnaire to forty-seven PHAs located in the nine most impacted counties. The questionnaire was sent to remaining PHAs on April 4, 2013. The questionnaire was intended to allow PHAs to quantify and describe the damage sustained to public housing units and common property. In an effort to define PHAs' unmet needs, the questionnaire also solicited data related to costs to repair damage, anticipated insurance proceeds, FEMA eligible expenses, project reserves and any other sources of funds. The responses received were overwhelmingly positive. PHA representatives commended the State on the speed

with which it produced a thorough and thoughtful plan that addressed the range of needs arising from the storm. Additional information has been provided through direct outreach calls with PHAs. This information supported the State's initial allocation related to PHAs and has been used to inform future distributions of CDBG-DR funds and to connect PHAs to resources that may address specific needs.

HMFA has done extensive outreach to evaluate the needs of PHAs during the course of recovery, including distributing surveys to PHAs after the storm to assess recovery needs. HMFA separately contacted the directors of all PHAs to explain the State's PHA recovery program and to provide contact information to direct any questions regarding the pursuit of recovery funding. HMFA again reached out directly to Sandy-affected PHAs and subsidized housing in connection with assessing unmet needs for distributing second round CDBG-DR funds. In June 2014, HMFA sought another update on remaining unmet needs as a result of Sandy. And as part of the direct outreach relating to third round CDBG-DR funding, in November 2014 DCA and HMFA met with PHAs to continue the discussion of Sandy needs.

Regarding the impact of Superstorm Sandy on New Jersey's business sector, the State has undertaken various efforts to identify the needs of New Jersey businesses. For example, shortly following the storm, the New Jersey Economic Development Authority (NJEDA) and the Business Action Center (BAC) engaged in meetings and outreach on a county-by-county basis to better understand the economic impacts of the storm. NJEDA also met with industry groups individually, including the New Jersey Marine Trades Association, New Jersey Manufacturers, and State-funded Destination Marketing organizations, to understand how specific industries were impacted and the long-term recovery needs of those industries. Since early November 2012, NJEDA and the BAC participated in twelve stakeholder meetings as part of the Economic Recovery Support Function. Stakeholders at these meetings included members of local Chambers of Commerce, elected and non-elected officials, businesses, community leaders, travel/tourism officials, and planners. Additionally, the BAC's call center collected information from businesses on their recovery needs, which was shared with state and federal departments and agencies during weekly meetings. These are just some examples. Other State departments and authorities undertook various outreach efforts to identify the impact of the storm on the business sector, which impact is described above in Section 2.

The State likewise has undertaken numerous efforts to identify and address health and social service-related needs. These efforts primarily have involved the New Jersey Department of Health, the New Jersey Department of Human Services, and the New Jersey Department of Children and Families. As one example, the Commissioner of the Department of Human Services and senior leadership embarked on a seven-county "listening tour" in January 2013 aimed at better understanding the needs of health and social service consumers, impacts of the storm on systems for delivering those services, program gaps, current needs and future planning. Entities responsible for providing certain services were present at each meeting, as were other stakeholders. Overall, the New Jersey departments have remained in consistent contact through meetings, telephone calls, and other communications aimed at identifying health and social services needs resulting from the storm. Those contacts informed the types of programs to be funded using CDBG-DR funds.

New Jersey has taken measures to ensure that individuals with disabilities have access to programs and can provide comments on this Substantial Amendment. Moreover, program materials and

outreach efforts follow prescribed guidelines to ensure access for individuals with disabilities. The State's Housing Recovery Centers are accessible to persons with physical impairments. Individuals may request auxiliary aids and service necessary for participation by contacting 1-855- SANDYHM (1-855-726-3946). They may also request materials in Braille and other formats for persons with visual impairments. The centers also provide remote (web- or phone-based) counseling for potential applicants who cannot reach the housing recovery centers due to their disability. The centers are equipped with personnel who can be deployed for home visits, particularly for elderly and disabled.

The State's outreach has included various communities that, based on Census tract data, have a significant proportion of minority residents and non-English speaking residents. As noted above, DCA updated its LEP analysis in January 2014 using more recent data available from the U.S. Census's American Communities Survey (ACS). At this time, it is believed that the Spanish-speaking population continues to be the only group that represents greater than 5 percent of the population in the nine affected counties. This was the same population indicated in the State's original LEP analysis and noted in the original Action Plan. In addition, and to ensure that all citizens have access to the State's recovery programs, DCA will continue efforts to identify those communities with concentrations of LEP households.

DCA continues to evaluate its language access plan (LAP) that involves the following components which provide a range of outreach services in Spanish. Translation into other languages is available upon request using the email address DisasterRecoveryandMitigation@dca.nj.gov. The LAP plan includes, but is not limited to:

- Translation of materials: the Action Plan, this and other substantial amendments, essential program materials, vital program documents and press releases are translated into Spanish and can be translated into other languages upon request. DCA utilizes a native-speaking Spanish translator to routinely translate documents and to review the accuracy of translated materials related to essential program materials and press releases.
- DCA utilizes a state contracted entity to provide translation of program materials and vital program documents into an additional ten languages upon request;
- Procurement of translators for public meetings;
- Provision of specific LEP assistance through the housing recovery centers by utilizing both the "I-Speak" cards as well as accessing the language line for verbal translation services;
- Training staff on LEP as well as what is required under the LAP;
- Provision of multi-lingual phone lines as appropriate; and
- Monitoring and updating LAP as appropriate given updated U.S. Census and programmatic information on LEP populations.

DCA will continue to update the language access plan as necessary to address the LEP population.

In addition, press releases through the Governor's Office include distribution of fact sheets and press releases to Spanish language media outlets (e.g., Telemundo, Univision, News12 Spanish, etc.), three Asian language media outlets, one statewide African American magazine, and eight Jewish media outlets, which cover several affected counties. These are just some examples of ongoing outreach efforts.

The feedback received from this outreach informed the State's program design by highlighting many housing, business, infrastructure and other needs arising as a result of Superstorm Sandy. The feedback also identified mitigation opportunities and local budget challenges and difficulties providing important public services.

The State's outreach also has included numerous meetings with stakeholders having important perspective on recovery related issues. For example, DCA met with the Fair Share Housing Center and the Housing and Community Development Network of New Jersey to listen to recommendations as the State develops housing recovery priorities. DCA leadership also has received direct input from several other associations, including the New Jersey Builder's Association, the New Jersey Society of Architects, New Jersey Apartment Association, and the New Jersey Realtor's Association. GORR spoke with the Association of Counties, League of Municipalities and the Conference of Mayors. In addition to these stakeholder outreach sessions GORR briefed mayors and key State legislative staff, focusing on the State's unmet housing needs. These are just some examples, as the State's efforts to incorporate stakeholder input into the recovery effort, which remain ongoing, have been substantial.

Additionally, DCA's LGS has actively engaged local governments, universities, associations of architects and planners, and private sector groups to discuss planning needs. For example, input was received from such groups as the Barnegat Bay Partnership, the College of New Jersey, Urban Land Institute, and Together North Jersey. This coordination will continue and will inform planning initiatives going forward.

The State's outreach efforts are ongoing, and the State will continue to contact impacted communities throughout the State to further the State's goal of achieving an efficient, effective and expedient recovery from Superstorm Sandy.

The Consolidated Action Plan is available in Spanish on the DRM website.

6.1.1 Citizen Participation Plan

For each substantial amendment, the State has complied with all citizen participation plan requirements, including those new requirements in Federal Register Notice FR-5696-N-06. These steps have included:

- The State issues the Substantial Amendment and makes it available to the public for a comment period of no less than thirty days prior to its submission to HUD. DCA posts the Substantial Amendment prominently on its official website to afford citizens, affected local governments, and other interested parties a reasonable opportunity to examine the Substantial Amendment's contents.
- The State has conducts outreach to community groups, including those that serve minority populations, persons with limited English proficiency, and persons with disabilities.
- The State convenes public hearing(s) regarding the Substantial Amendment to the Action Plan. Citizens and other stakeholders will be provided reasonable and timely access to information about the public hearings and to the hearings themselves.

Certain elements of the citizen participation requirements remain unchanged since the issuance of the State's Action Plan. In preparing Substantial Amendments, the State complies with these elements of the citizen participation requirements as well, which include the following:

- The State notifies the public that the Substantial Amendment is available for review and comment through electronic mailings, press releases, statements by public officials, media advertisements, public service announcements, and/or contacts with community-based organizations.
- The State makes these documents available in a form accessible to persons with disabilities and persons of limited English proficiency (LEP). As a part of the updates to the Citizen Participation Plan, the State updated its LEP analysis using the most recent Census data.
- The State reaches out to local nonprofit and civic organizations to disseminate information about and make available a copy of this Substantial Amendment.
- The State considers all oral and written comments it has received on this Substantial Amendment.
- The State continues to make the Action Plan, all amendments, and all performance reports available to the public on its website and upon request.

The State shall provide citizens, local officials, and other stakeholders with reasonable and timely access to information and records relating to the Action Plan, this Substantial Amendment and the State's use of CDBG-DR funds.

6.2 Citizen Complaints

The State, sub-grantees and recipients, if any, will establish procedures for responding to citizens' complaints regarding activities carried out utilizing these CDBG-DR funds. Citizens will be provided with an appropriate address, phone number, and times during which they may submit such complaints. The State and sub-grantees will provide a written response to every citizen complaint within 15 working days of the complaint.

New Jersey Department of Community Affairs

GRANTEE CERTIFICATIONS

- a. The grantee certifies that it will affirmatively further fair housing, which means that it will conduct an analysis to identify impediments to fair housing choice within its jurisdiction and take appropriate actions to overcome the effects of any impediments identified through that analysis, and maintain records reflecting the analysis and actions in this regard (see 24 CFR 570.487(b)(2) and 570.601(a)(2)). In addition, the grantee certifies that agreements with subrecipients will meet all civil rights related requirements pursuant to 24 CFR 570.503(b)(5).
- b. The grantee certifies that it has in effect and is following a residential anti-displacement and relocation assistance plan in connection with any activity assisted with funding under the CDBG program.
- c. The grantee certifies its compliance with restrictions on lobbying required by 24 CFR part 87, together with disclosure forms, if required by part 87.
- d. The grantee certifies that the Action Plan for Disaster Recovery is authorized under State and local law (as applicable) and that the grantee, and any contractor, subrecipient, or designated public agency carrying out an activity with CDBG-DR funds, possess(es) the legal authority to carry out the program for which it is seeking funding, in accordance with applicable HUD regulations and this Notice.
- e. The grantee certifies that activities to be administered with funds under this Notice are consistent with its Action Plan.
- f. The grantee certifies that it will comply with the acquisition and relocation requirements of the URA, as amended, and implementing regulations at 49 CFR

part 24, except where waivers or alternative requirements are provided for in this Notice.

- g. The grantee certifies that it will comply with section 3 of the Housing and Urban Development Act of 1968 (12 U.S.C. 1701u), and implementing regulations at 24 CFR part 135.
- h. The grantee certifies that it is following a detailed citizen participation plan that satisfies the requirements of 24 CFR 91.105 or 91.115, as applicable (except as provided for in notices providing waivers and alternative requirements for this grant). Also, each UGLG receiving assistance from a State grantee must follow a detailed citizen participation plan that satisfies the requirements of 24 CFR 570.486 (except as provided for in notices providing waivers and alternative requirements for this grant).
- i. Each State receiving a direct award under this Notice certifies that it has consulted with affected UGLGs in counties designated in covered major disaster declarations in the non- entitlement, entitlement, and tribal areas of the State in determining the uses of funds, including method of distribution of funding, or activities carried out directly by the State.
- j. The grantee certifies that it is complying with each of the following criteria:
 - (1) Funds will be used solely for necessary expenses related to disaster relief, long-term recovery, restoration of infrastructure and housing, and economic revitalization in the most impacted and distressed areas for which the President declared a major disaster in the aftermath of Hurricane Sandy, pursuant to the Stafford Act.

- (2) With respect to activities expected to be assisted with CDBG-DR funds, the Action Plan has been developed so as to give the maximum feasible priority to activities that will benefit low- and moderate-income families.
- (3) The aggregate use of CDBG-DR funds shall principally benefit low- and moderate-income families in a manner that ensures that at least 50 percent of the grant amount is expended for activities that benefit such persons.
- (4) The grantee will not attempt to recover any capital costs of public improvements assisted with CDBG-DR grant funds, by assessing any amount against properties owned and occupied by persons of low- and moderate-income, including any fee charged or assessment made as a condition of obtaining access to such public improvements, unless: (a) disaster recovery grant funds are used to pay the proportion of such fee or assessment that relates to the capital costs of such public improvements that are financed from revenue sources other than under this title; or (b) for purposes of assessing any amount against properties owned and occupied by persons of moderate income, the grantee certifies to the Secretary that it lacks sufficient CDBG funds (in any form) to comply with the requirements of clause (a).
- k. The grantee certifies that it (and any subrecipient or recipient)) will conduct and carry out the grant in conformity with title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d) and the Fair Housing Act (42 U.S.C. 3601–3619) and implementing regulations.
- l. The grantee certifies that it has adopted and is enforcing the following policies. In addition, States receiving a direct award must certify that they will require

UGLGs that receive grant funds to certify that they have adopted and are enforcing:

- (1) A policy prohibiting the use of excessive force by law enforcement agencies within its jurisdiction against any individuals engaged in nonviolent civil rights demonstrations; and
 - (2) A policy of enforcing applicable State and local laws against physically barring entrance to or exit from a facility or location that is the subject of such nonviolent civil rights demonstrations within its jurisdiction.
- m. Each State or UGLG receiving a direct award under this Notice certifies that it (and any subrecipient or recipient) has the capacity to carry out disaster recovery activities in a timely manner; or the State or UGLG will develop a plan to increase capacity where such capacity is lacking.
- n. The grantee will not use grant funds for any activity in an area delineated as a special flood hazard area or equivalent in FEMA’s most recent and current data source unless it also ensures that the action is designed or modified to minimize harm to or within the floodplain in accordance with Executive Order 11988 and 24 CFR part 55. The relevant data source for this provision is the latest issued FEMA data or guidance, which includes advisory data (such as Advisory Base Flood Elevations) or preliminary and final Flood Insurance Rate Maps.
- o. The grantee certifies that its activities concerning lead-based paint will comply with the requirements of 24 CFR part 35, subparts A, B, J, K, and R.
- p. The grantee certifies that it will comply with applicable laws.
- q. The grantee certifies that it has reviewed the requirements of this Notice and

requirements of Public Law 113-2 applicable to funds allocated by this Notice, and that it has in place proficient financial controls and procurement processes and has established adequate procedures to prevent any duplication of benefits as defined by section 312 of the Stafford Act, to ensure timely expenditure of funds, to maintain comprehensive websites regarding all disaster recovery activities assisted with these funds, and to detect and prevent waste, fraud and abuse of funds.



Signature of Authorized Official

3-27-13

Date

Richard E. Constable III, Commissioner
Department of Community Affairs

Application for Federal Assistance SF-424 Version 02

*1. Type of Submission <input type="checkbox"/> Preapplication <input checked="" type="checkbox"/> Application <input type="checkbox"/> Changed/Corrected Application	*2. Type of Application <input checked="" type="checkbox"/> New <input type="checkbox"/> Continuation <input type="checkbox"/> Revision	*If Revision, select appropriate letter(s): * Other (Specify)
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*3. Date Received:	4. Application Identifier:
--------------------	----------------------------

5a. Federal Entity Identifier:	*5b. Federal Award Identifier:
--------------------------------	--------------------------------

State Use Only:

6. Date Received by State:	7. State Application Identifier:
----------------------------	----------------------------------

8. APPLICANT INFORMATION:

* a. Legal Name: STATE OF NEW JERSEY

* b. Employer/Taxpayer Identification Number (EIN/TIN): 21-6000928	*c. Organizational DUNS: 806417143
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d. Address:

*Street1: 101 S BROAD ST
 Street 2: P.O. BOX 800
 *City: TRENTON
 County: MERCER
 *State: NEW JERSEY
 Province:
 Country: USA *Zip/ Postal Code: 08625-0800

e. Organizational Unit:

Department Name: DEPARTMENT OF COMMUNITY AFFAIRS	Division Name:
---	----------------

f. Name and contact information of person to be contacted on matters involving this application:

Prefix: Mr. First Name: Richard
 Middle Name: E.
 *Last Name: Constable
 Suffix: III

Title: Commissioner, N.J. Department of Community Affairs

Organizational Affiliation:

*Telephone Number: 609-292-6420 Fax Number: 609-984-6696

*Email: Richard.Constable@dca.state.nj.us

Application for Federal Assistance SF-424

Version 02

9. Type of Applicant 1: Select Applicant Type: **A. State Government**

Type of Applicant 2: Select Applicant Type:

- Select One -

Type of Applicant 3: Select Applicant Type:

- Select One -

*Other (specify):

*10. Name of Federal Agency:

U.S. DEPARTMENT OF HOUSING & URBAN DEVELOPMENT

11. Catalog of Federal Domestic Assistance Number:

14.228

CFDA Title:

COMMUNITY DEVELOPMENT BLOCK GRANTS/ STATE'S PROGRAM

*12. Funding Opportunity Number:

*Title:

Community Development Block Grant (CDBG) Disaster Recovery Funds in Response to Hurricane Sandy

13. Competition Identification Number:

NA

Title:

NA

14. Areas Affected by Project (Cities, Counties, States, etc.):

NEW JERSEY - STATEWIDE

*15. Descriptive Title of Applicant's Project:

New Jersey Community Development Block Grant-Disaster Recovery Program, to assist the nine most impacted counties that were affected by Superstorm Sandy. At least 80% of the disaster recovery funds will be dedicated to the nine most affected counties: Atlantic, Bergen, Essex, Hudson, Middlesex, Monmouth, Union, Ocean, and Cape May. The Action Plan provides more in depth details of the program.

Attach supporting documents as specified in agency instructions.

Application for Federal Assistance SF-424 Version 02

16. Congressional Districts Of: **Congressional Districts 1- 12**

*a. Applicant **State of New Jersey** *b. Program/Project: **CDBG-DR Hurricane Sandy**

Attach an additional list of Program/Project Congressional Districts if needed.
NA

17. Proposed Project: **New Jersey Community Development Block Grant-Disaster Recovery Program**

*a. Start Date: **10/29/2012** *b. End Date: **4/20/2015**

18. Estimated Funding (\$):

*a. Federal	\$372,680,808.00	
*b. Applicant	\$1,693,356,271.00	
*c. State	\$180,000,000.00	These figures are estimates
*d. Local	\$2,735,566.00	
*e. Other		
*f. Program Income	\$2,000,000.00	
*g. TOTAL	\$2,250,772,645.00	

***19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

a. This application was made available to the State under the Executive Order 12372 Process for review on

b. Program is subject to E.O. 12372 but has not been selected by the State for review.

c. Program is not covered by E.O. 12372

*20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes", provide explanation.)

Yes No

21. *By signing this application, I certify (1) to the statements contained in the list of certifications** and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)

**I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: **Mr.** *First Name: **Richard**

Middle Name: **E**

*Last Name: **Constable**

Suffix: **III**

*Title: **Commissioner, N.J. Department of Community Affairs**

*Telephone Number: **609-292-6420** Fax Number: **609-984-6696**

*Email: **Richard.Constable@dca.state.nj.us**

*Signature of Authorized Representative: **Richard Constable** Date Signed: **3-27-13**

Application for Federal Assistance SF-424

Version 02

***Applicant Federal Debt Delinquency Explanation**

The following field should contain an explanation if the Applicant organization is delinquent on any Federal Debt. Maximum number of characters that can be entered is 4,000. Try and avoid extra spaces and carriage returns to maximize the availability of space.

APPENDIX A: METHOD OF DISTRIBUTION (Initial Action Plan)

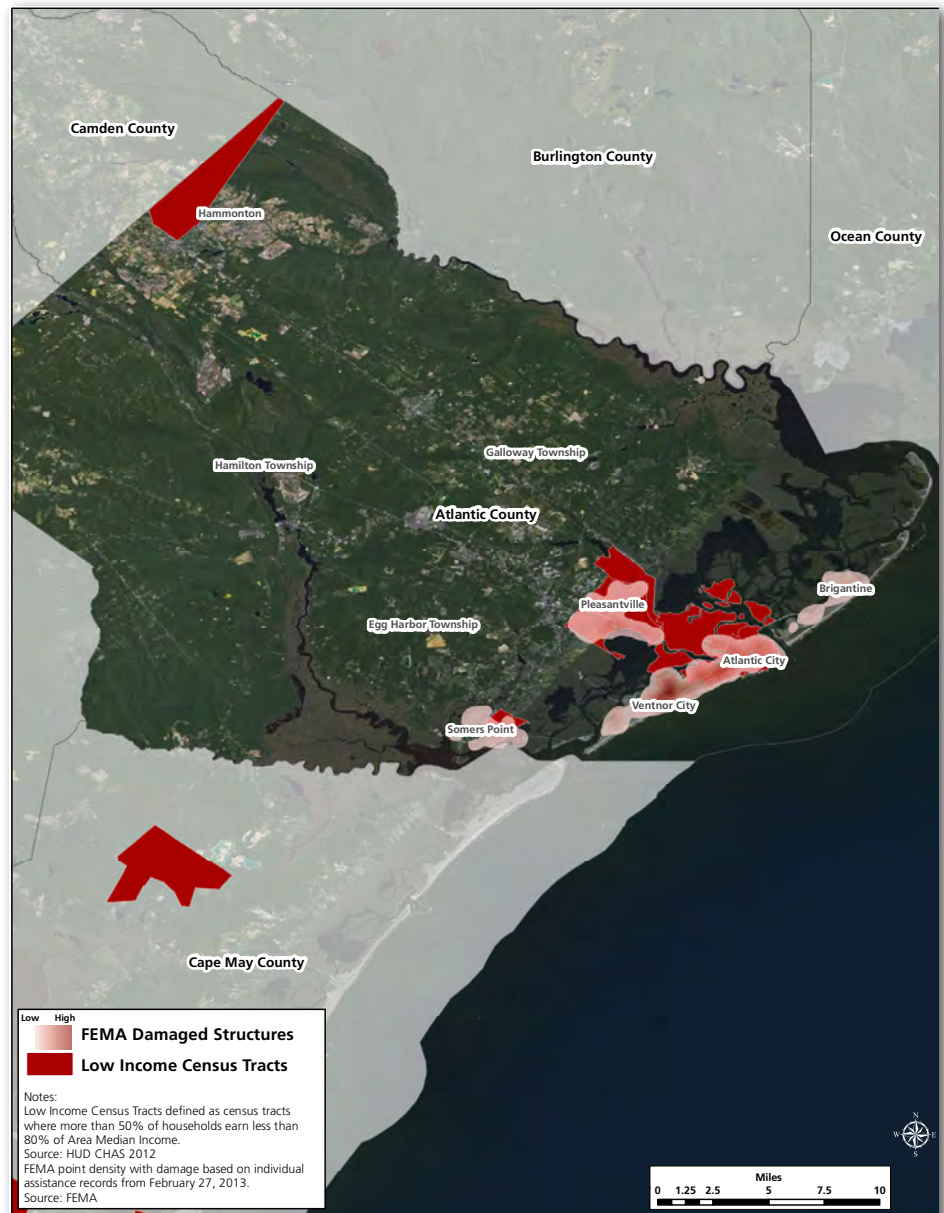
Table A-1 Method of Distribution							
Category (Action Plan Section No.)	Allocation Level		Program (Action Plan Section No.)	Allocation Level	Estimated LMI Benefit	Maximum Housing Award	Estimated Unit Benefit
	Total Amount	Estimated LMI Amount					
Homeowner Assistance Programs (4.1)	\$780,000,000	\$528,000,000	Reconstruction, Rehabilitation, Elevation and Mitigation Program (4.1.1)	\$600,000,000	70%	\$150,000	6,000
			Housing Resettlement Program (4.1.2)	\$180,000,000	60%	\$10,000	18,000
Total	\$780,000,000	\$528,000,000		\$780,000,000			
Rental Housing and Renter Programs (4.2)	\$379,520,000	\$366,544,000	Fund for Restoration of Large Multi-Family Housing (4.2.1)	\$179,520,000	95%	\$120,000	1,700
			Small Rental Properties (4.2.2)	\$70,000,000	100%	\$50,000	1,750
			Pre-development Fund (4.2.3.1)	\$10,000,000	90%	\$500,000	1,000
			Blight Reduction Pilot Program (4.2.3.2)	\$30,000,000	90%	\$250,000	120
			Incentives for Landlords (4.2.4.1)	\$40,000,000	100%	\$50,000	1,000
			Sandy Home Buyer Assistance Program*(4.2.5)	\$25,000,000	100%	\$50,000	500
			Sandy Special Needs Housing Fund** (4.2.6)	\$25,000,000	100%	\$100,000	250
Total	\$379,520,000	\$366,544,000		\$379,520,000			
Economic Revitalization (4.3)	\$460,000,000	\$69,000,000	Grants/Forgivable Loans to Small Businesses (4.3.1)	\$260,000,000	15%		
			Direct Loans for Small Businesses (4.3.2)	\$100,000,000			
			Neighborhood and Community Revitalization (4.3.3)	\$75,000,000			
			Tourism Marketing (4.3.4)	\$25,000,000			
Total	\$460,000,000	\$69,000,000		\$460,000,000			
Support for Governmental Entities (4.4)	\$116,000,000	\$29,000,000	FEMA Match Program (4.4.1)	\$50,000,000	25%		
			Continuation and Enhancement of Essential Public Services (4.4.2)	\$60,000,000	25%		
			Code Enforcement (4.4.3)	\$6,000,000	25%		
Total	\$116,000,000	\$29,000,000		\$116,000,000			
Supportive Services Programs (4.5)	\$10,000,000	\$10,000,000	Supportive Services Program (4.5.1)	\$10,000,000	100%		
Total	\$10,000,000	\$10,000,000		\$10,000,000			
Planning, Oversight and Monitoring (4.6)	\$84,000,000	N/A	Administrative/Planning	\$84,000,000	N/A		
Total		\$1,002,544,000 (Estimated)	Total	\$1,829,520,000	57.4%		

Table A-2 Percentage of Funds to Impacted and Distressed Counties

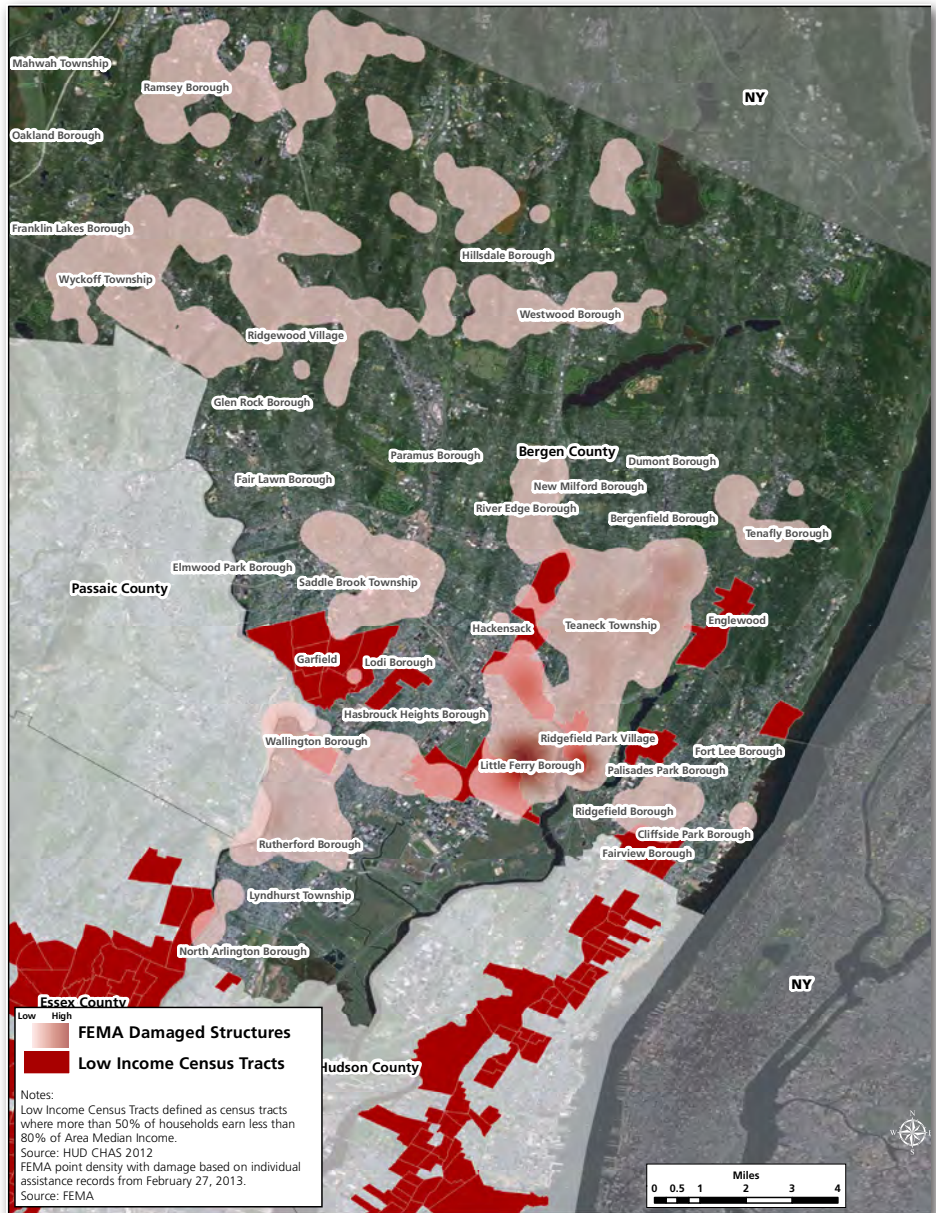
Category	Program	Allocation	Portion of Allocation Benefiting Most Impacted and Distressed Counties	Percentage to Benefit Most Impacted and Distressed Counties
Homeowner Assistance Programs (4.1)	Reconstruction, Rehabilitation, Elevation and Mitigation Program (4.1.1)	\$600,000,000	\$600,000,000	100%
	Housing Resettlement Program (4.1.2)	\$180,000,000	\$180,000,000	100%
Rental Housing and Renter Programs (4.2)	Fund for Large Multi-Family (4.2.1)	\$179,520,000	\$125,664,000	70%
	Small Rental Properties (4.2.2)	\$70,000,000	\$49,000,000	70%
	Pre-development Fund (4.2.3.1)	\$10,000,000	\$8,000,000	80%
	Blight Reduction Pilot Program (4.2.3.2)	\$30,000,000	\$24,000,000	80%
	Incentives for Landlords (4.2.4.1)	\$40,000,000	\$30,000,000	75%
	Sandy Home Buyer Assistance Program (4.2.5)	\$25,000,000	\$24,500,000	98%
	Sandy Special Needs Housing Fund (4.2.6)	\$25,000,000	\$18,750,000	75%
Economic Revitalization (4.3)	Grants/Forgivable Loans to Small Businesses (4.3.1)	\$260,000,000	\$195,000,000	75%
	Direct Loans for Small Businesses (4.3.2)	\$100,000,000	\$75,000,000	75%
	Neighborhood and Community Revitalization Program (4.3.3)	\$75,000,000	\$56,250,000	75%
	Tourism Marketing (4.3.4)	\$25,000,000	\$18,750,000	75%
Support for Governmental Entities (4.4)	FEMA Match Program (4.4.1)	\$50,000,000	\$40,000,000	80%
	Continuation and Enhancement of Essential Public Services (4.4.2)	\$60,000,000	\$57,000,000	95%
	Code Enforcement (4.4.3)	\$6,000,000	\$5,400,000	90%
Supportive Services (4.5)	Supportive Services Programs (4.5.1)	\$10,000,000	\$9,000,000	90%
Planning, Oversight and Monitoring (4.6)	Planning, Oversight and Monitoring	\$84,000,000	N/A	N/A
Total	Total	\$1,829,520,000	\$1,516,314,000	86.9%

APPENDIX B: MAP SERIES ILLUSTRATING LOW AND MODERATE INCOME CENSUS TRACTS (OVERLAID WITH STORM DAMAGE BY COUNTY)

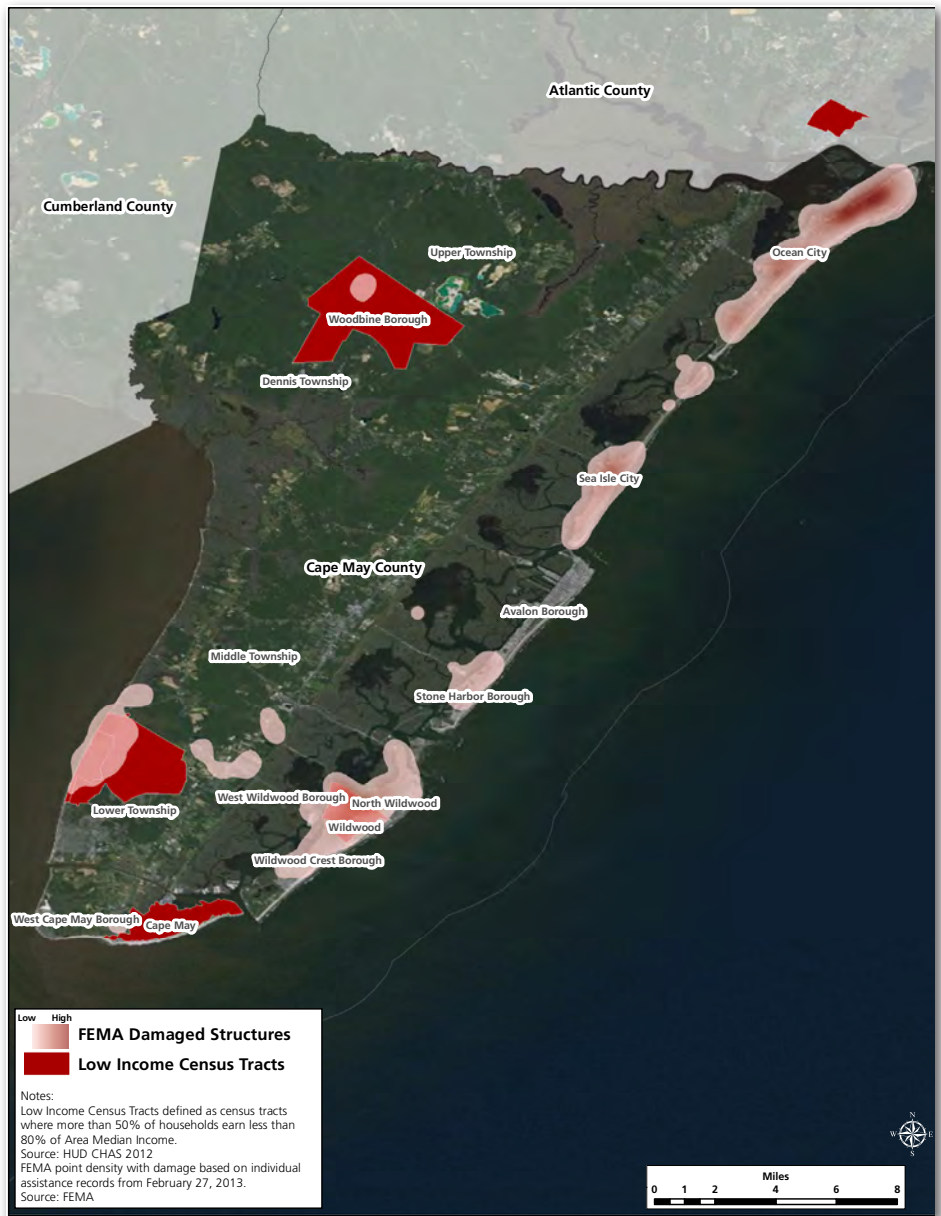
Map Series - Low and Moderate Income Census Tracts and Storm Damage by County - Atlantic County



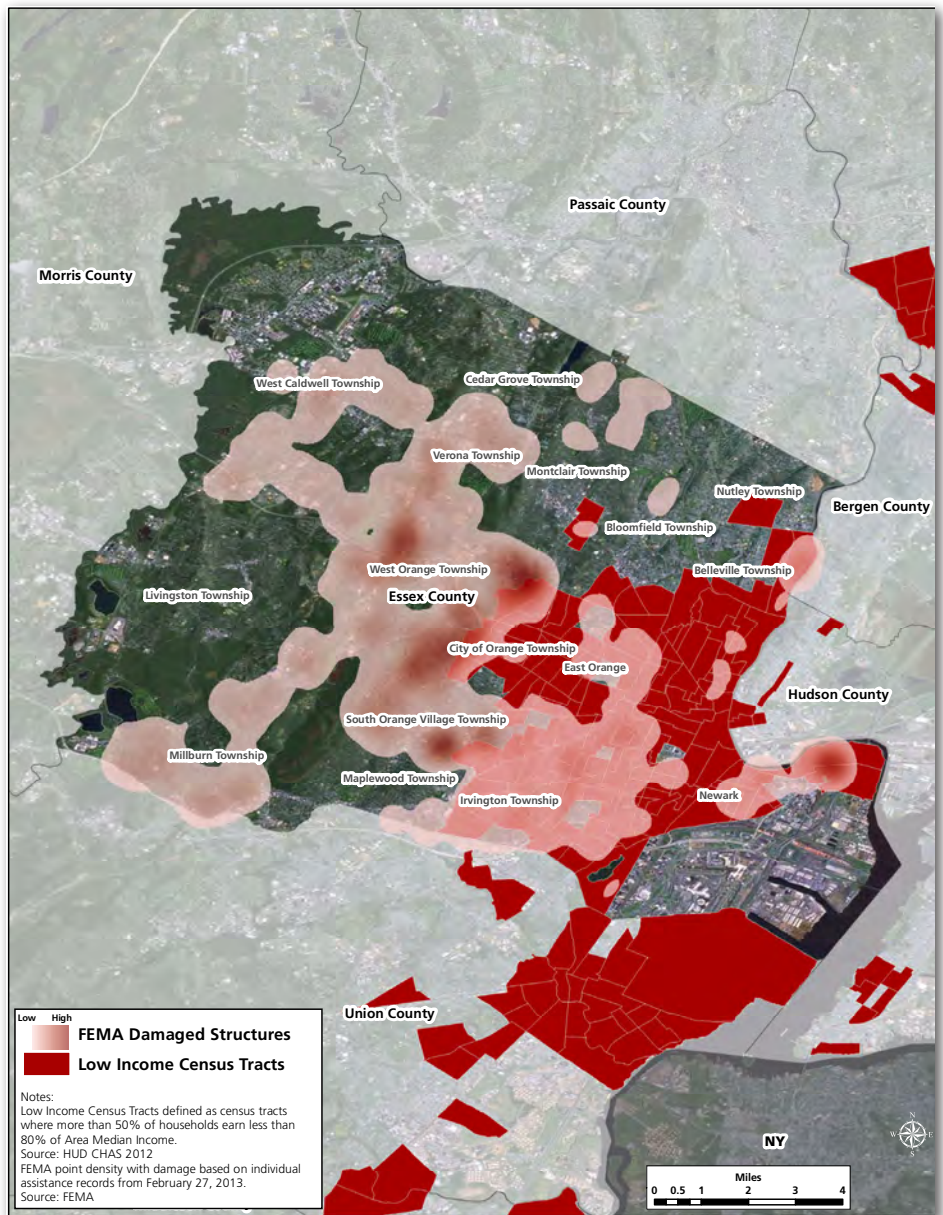
Map Series - Low and Moderate Income Census Tracts and Storm Damage by County - Bergen County



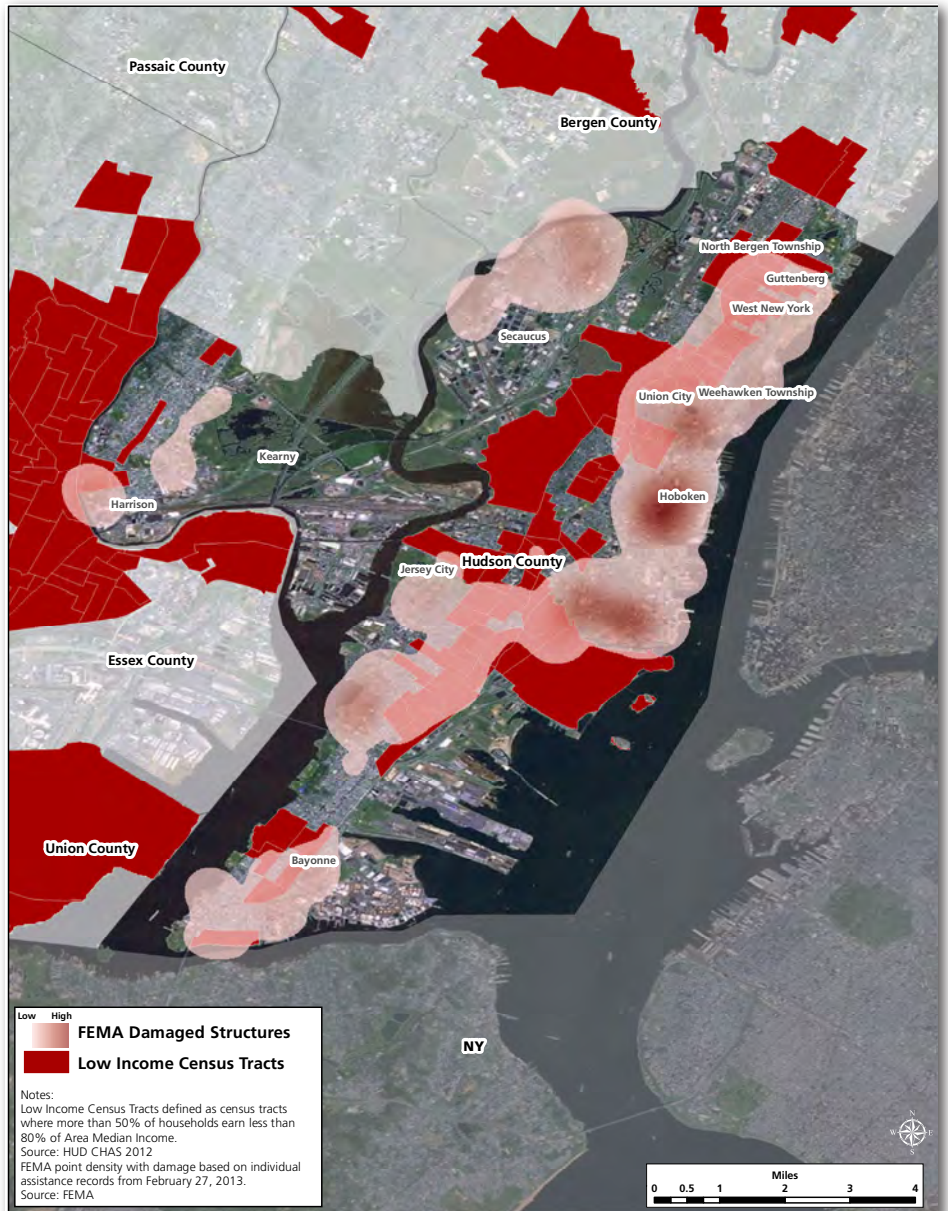
Map Series - Low and Moderate Income Census Tracts and Storm Damage by County - Cape May County



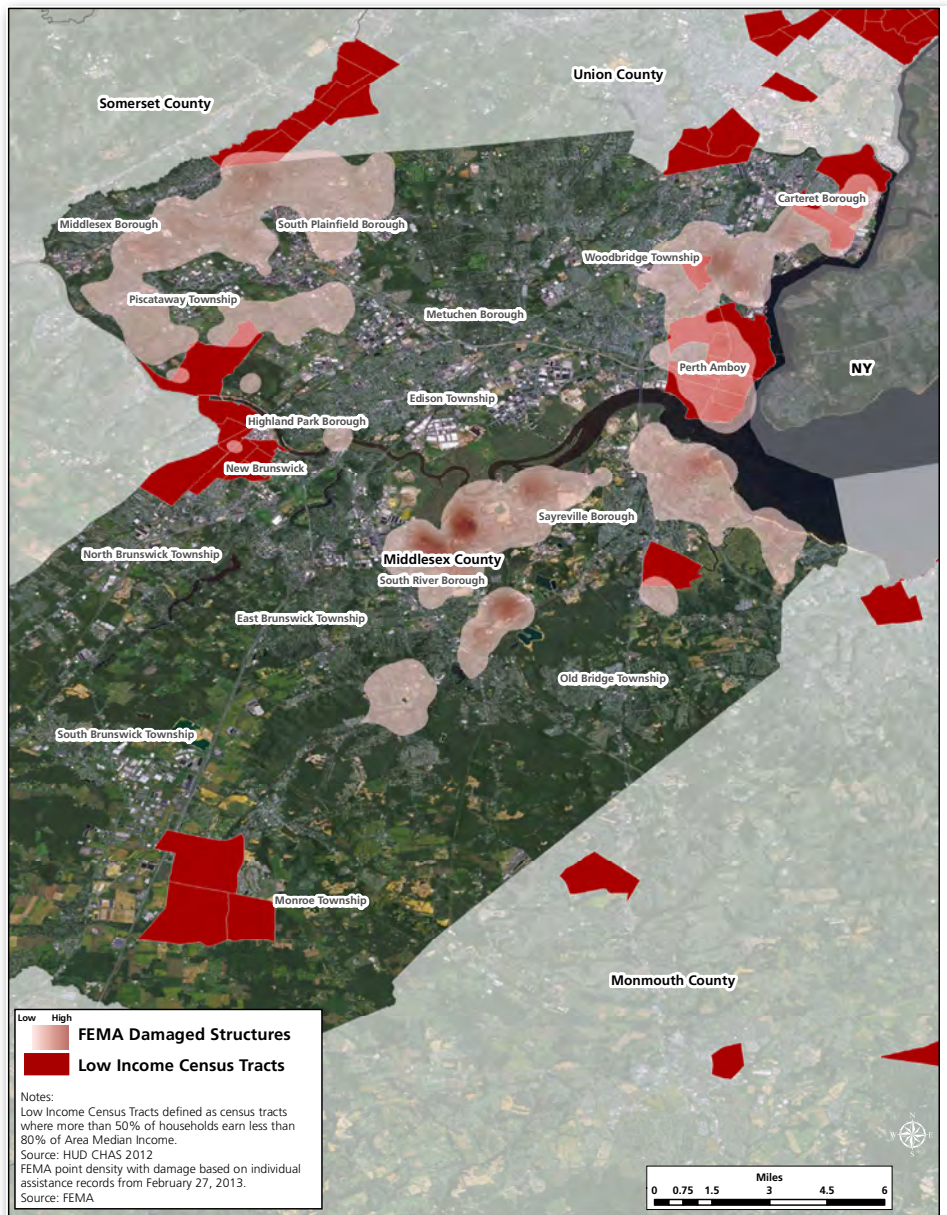
Map Series - Low and Moderate Income Census Tracts and Storm Damage by County - Essex County



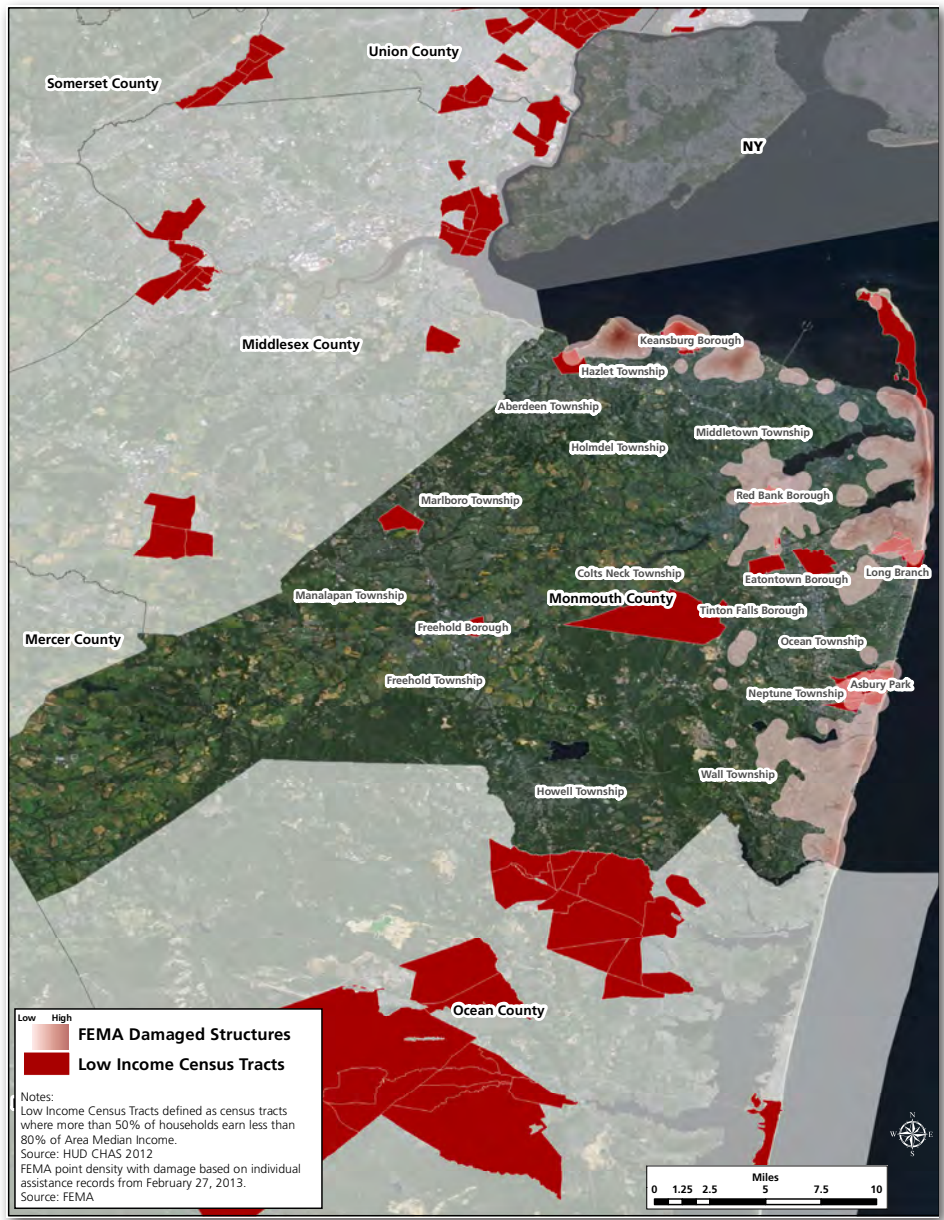
Map Series - Low and Moderate Income Census Tracts and Storm Damage by County - Hudson County



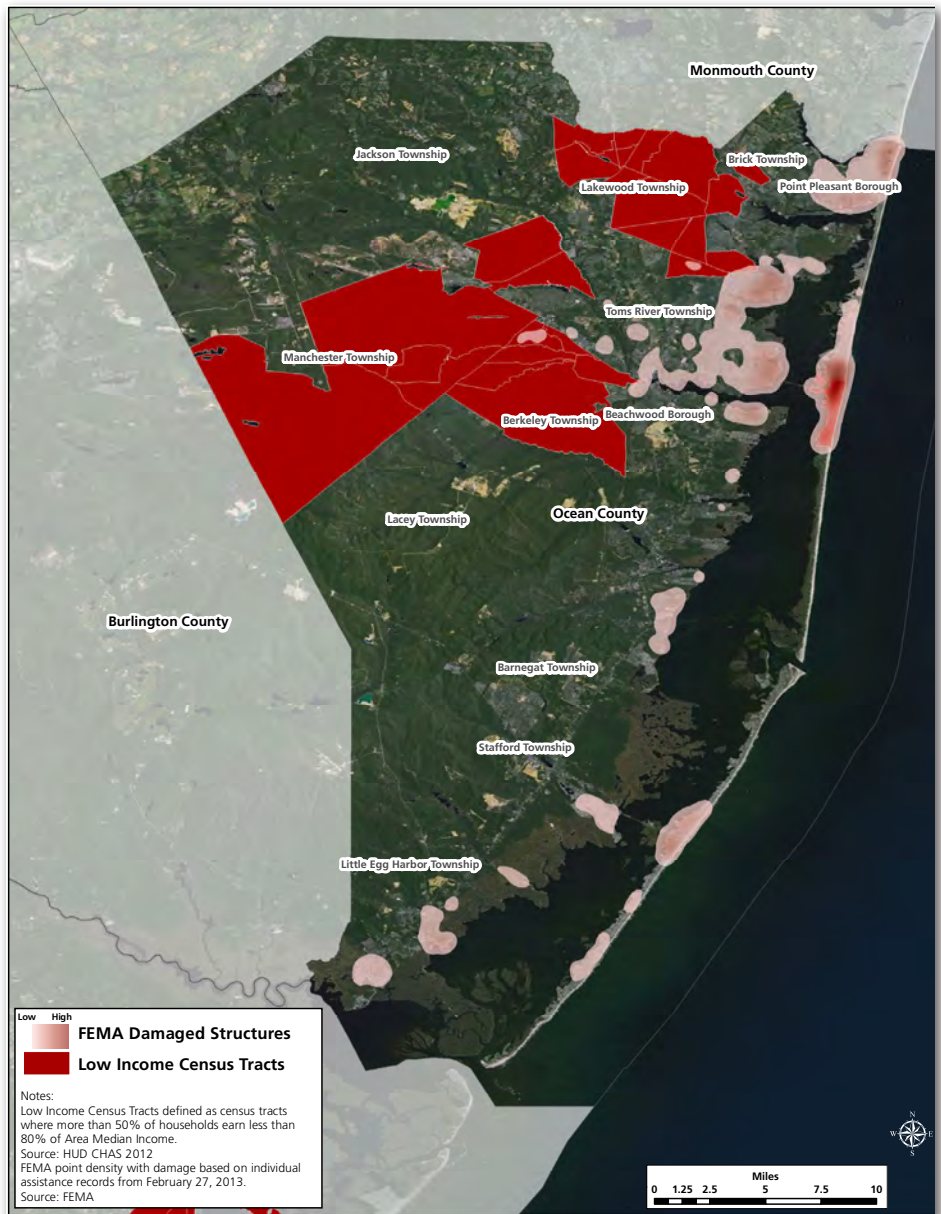
Map Series - Low and Moderate Income Census Tracts and Storm Damage by County - Middlesex County



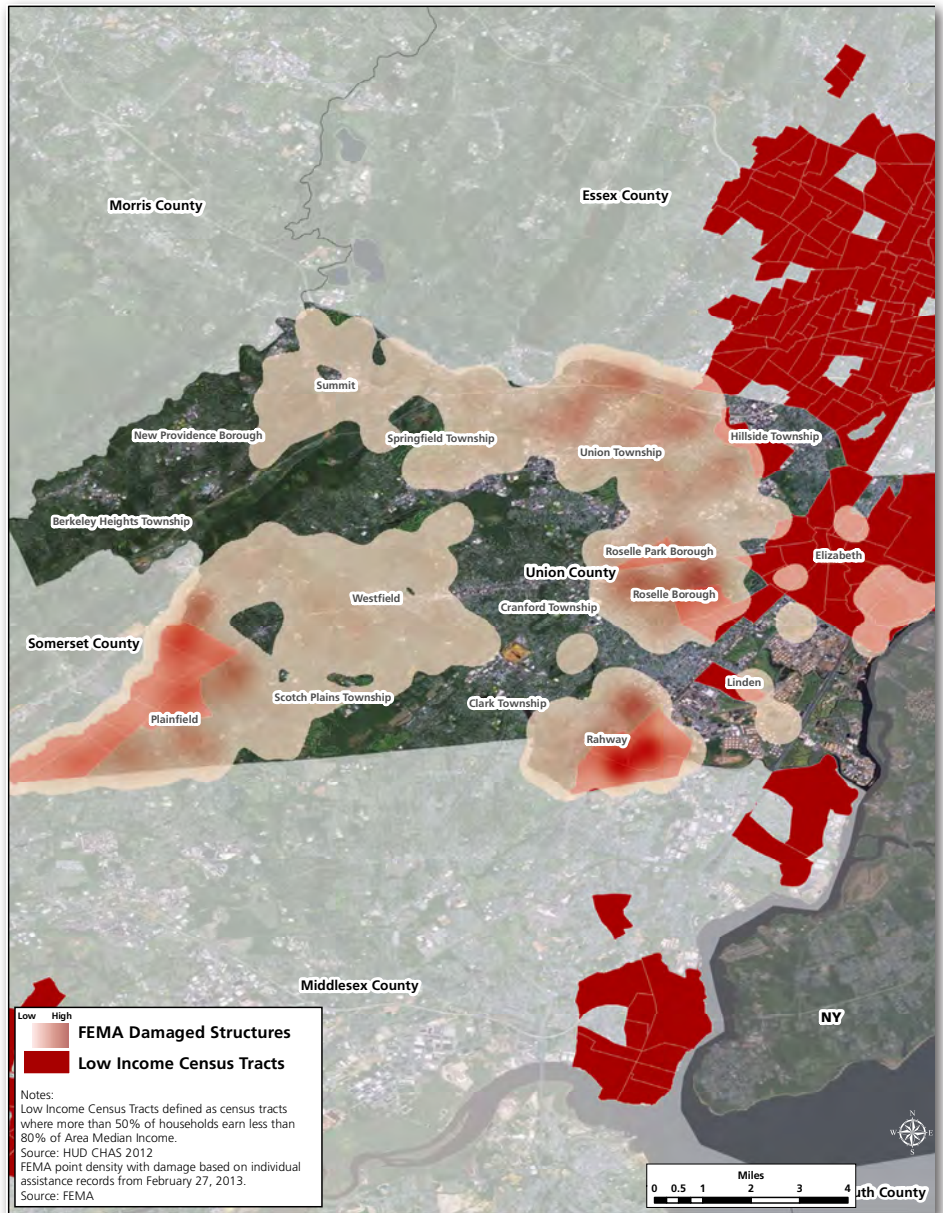
Map Series - Low and Moderate Income Census Tracts and Storm Damage by County - Monmouth County



Map Series - Low and Moderate Income Census Tracts and Storm Damage by County - Ocean County



Map Series - Low and Moderate Income Census Tracts and Storm Damage by County - Union County



APPENDIX B: DEMOGRAPHICS OF IMPACTED COUNTIES BY CENSUS TRACT

AREAS WITH 50% OR MORE HOUSEHOLDS WITH MAJOR OR SEVERE DAMAGE
 AREAS WITH 25% OR MORE HOUSEHOLDS WITH MAJOR OR SEVERE DAMAGE
 AREAS WITH 10% OR MORE HOUSEHOLDS WITH MAJOR OR SEVERE DAMAGE

Municipality	Census Tract	% of Households with Major or Severe Damage	Households	Housing units	Median HH Income	% Non-Spanish Speaking	% of Homes that are Seasonal or Vacant	% Households Over 65	% Black Households	% Asian & Pacific Islander Households	% Native American Households	% White (Non-Hispanic) Households	% Hispanic Households	% of Households with Overcrowding (more than 1.0 Person per room)	% Owner Occupied Households	% Renter Occupied Households	% Renters in Small Buildings (0-4 Units)	% Renters in Medium Buildings (5-19 Units)	% White (Non-Hispanic) Renters	% Asian & Pacific Islander Renters	% Hispanic Renters
9 AFFECTED COUNTIES																					
ATLANTIC COUNTY		2.9%	1,926,226	2,196,606	\$69,446	7%	9%	7%	14%	8%	0%	61%	16%	4%	62%	38%	46%	23%	40%	9%	27%
CENSUS TRACTS WITH DAMAGED HOMES		8.5%	10,257	127,514	\$55,222	8%	12%	7%	15%	6%	0%	67%	12%	2%	71%	29%	29%	29%	45%	5%	20%
BERGEN COUNTY																					
CENSUS TRACTS WITH DAMAGED HOMES		0.8%	34,802	366,843	\$83,443	5%	0%	7%	6%	12%	0%	67%	13%	3%	66%	34%	48%	9%	51%	16%	21%
CAPE MAY COUNTY																					
CENSUS TRACTS WITH DAMAGED HOMES		5.4%	45,185	98,926	\$55,315	6%	48%	10%	4%	0%	0%	91%	3%	7%	74%	26%	37%	7%	81%	1%	10%
ESSEX COUNTY																					

Municipality	Demographic	% of Households with Major Property Damage	Household	Housing Units	Median HI Income	% Non Seasonal Residents	% of Homes that are Seasonal Vacant	Households Over 65 Living Alone	% Rent Households	% Asian & Pacific Islander Households	% American Born Households	% White (Non-Hispanic) Households	% Hispanic Households	% of Households with Over 1.0 Person per Room	% Owner Occupied Households	% Renter Occupied Households	% Renters in Small Dwellings (2-5 Units)	% Black Residents	% White (Non-Hispanic) Residents	% Asian & Pacific Islander Residents	% Hispanic Residents
CENSUS TRACTS WITH DAMAGED HOMES																					
City of Newark	34013007502	6%	862	1,157	\$30,743	17%	0%	6%	22%	5%	0%	26%	50%	1.0%	18%	8.2%	6%	18%	6%	27%	4%
City of Newark	34013007501	3%	1,307	1,628	\$28,731	10%	4%	6%	15%	1%	0%	26%	46%	4%	12%	88%	5.2%	17%	2%	47%	1%
City of Newark	34013007400	2%	1,024	1,140	\$42,277	12%	0%	4%	0%	2%	0%	59%	31%	4%	88%	6%	0%	27%	1%	31%	2%
City of Newark	34013007401	1%	807	663	\$33,066	25%	0%	5%	69%	0%	0%	29%	24%	4%	28%	72%	31%	6%	0%	2%	0%
City of Newark	34013007300	1%	339	447	\$59,583	24%	0%	0%	6%	0%	0%	0%	4%	0%	64%	36%	2%	100%	0%	0%	0%
Township of Belleville	34013044300	3%	1,429	1,679	\$30,875	14%	1%	5%	17%	3%	0%	37%	38%	1.2%	44%	5.6%	24%	10%	30%	5%	48%
HUDSON COUNTY																					
CENSUS TRACTS WITH DAMAGED HOMES																					
City of Bayonne	34017010800	11%	1,230	1,381	\$58,958	11%	1%	8%	6%	5%	0%	7.2%	14%	8%	9.7%	4.7%	36%	2%	28%	11%	12%
City of Bayonne	34017011400	6%	1,222	1,433	\$67,844	14%	0%	0%	0%	0%	0%	77%	17%	0%	7.2%	51%	31%	0%	0%	2%	25%
City of Bayonne	34017011600	5%	1,788	1,917	\$46,295	7%	0%	10%	1%	0%	0%	6%	9%	1%	3.2%	68%	24%	28%	5.3%	1%	14%
City of Bayonne	34017011200	4%	2,440	2,672	\$70,300	8%	0%	1.2%	2%	0%	0%	8.2%	1.9%	3%	5.4%	4.6%	33%	1%	71%	5%	23%
City of Bayonne	34017010100	3%	2,112	2,407	\$54,558	6%	0%	1.9%	8%	4%	1%	58%	2.9%	6%	4%	57%	44%	14%	57%	7%	23%
City of Bayonne	34017010900	1%	2,813	3,082	\$45,914	6%	0%	0%	0%	0%	0%	6%	0%	0%	9%	91%	68%	3%	2%	59%	7%
City of Bayonne	34017012000	1%	1,302	1,352	\$54,045	4%	0%	0%	7%	1%	1%	70%	1.7%	0%	5.0%	50%	38%	5%	68%	1%	25%
City of Hoboken	34017018600	1.3%	1,157	1,283	\$82,218	10%	0%	0%	0%	0%	0%	8.3%	1.4%	0%	3.3%	44%	0%	0%	84%	0%	14%
City of Hoboken	34017018900	1.2%	1,769	1,922	\$100,373	8%	0%	7%	1%	1%	0%	85%	0%	1%	24%	7.6%	19%	1%	87%	1%	10%
City of Hoboken	34017019100	1.1%	1,402	2,062	\$87,813	7%	1%	1%	2%	0%	0%	67%	2%	2%	21%	78%	35%	4%	69%	1%	20%
City of Hoboken	34017019200	1.0%	1,756	1,898	\$135,525	17%	0%	1%	0%	1%	0%	47%	1%	0%	5.3%	47%	15%	0%	85%	2%	6%
City of Hoboken	34017018800	0.9%	1,997	1,801	\$88,791	11%	0%	5%	1%	0%	0%	8.2%	0%	0%	3.3%	67%	51%	0%	8.2%	7%	6%
City of Hoboken	34017019000	0.8%	2,321	2,437	\$87,484	6%	0%	1%	1.2%	0%	0%	57%	2%	0%	21%	78%	28%	15%	47%	0%	27%
City of Hoboken	34017019300	0.7%	1,318	1,702	\$95,029	7%	0%	10%	2%	0%	0%	70%	20%	1%	1.0%	74%	22%	3%	69%	0%	12%
City of Hoboken	34017019500	0.6%	2,175	2,429	\$109,063	1.2%	0%	2.7%	1%	0%	0%	68%	1%	0%	10%	65%	23%	1%	85%	3%	3%
City of Hoboken	34017018400	0.5%	2,447	2,535	\$111,917	3%	0%	1.9%	2%	0%	1%	71%	19%	0%	5%	4.9%	14%	1%	65%	4%	30%
City of Jersey City	34017008500	0.5%	803	1,083	\$63,859	27%	0%	0%	8%	3%	0%	41%	37%	0%	3.2%	68%	3%	12%	41%	0%	36%
City of Jersey City	34017008400	0.4%	1,222	1,638	\$89,920	0%	1%	0%	6%	0%	1.2%	0%	0%	0%	2.7%	50%	4%	51%	1%	2%	25%
City of Jersey City	34017008100	0.4%	2,117	2,513	\$140,441	11%	0%	0%	0%	0%	0%	0%	0%	0%	4.7%	37%	30%	4.2%	14%	1%	32%
City of Jersey City	34017008000	0.4%	1,744	1,981	\$66,786	11%	1%	1%	3%	20%	1%	1%	14%	3%	1.0%	30%	61%	30%	17%	1%	18%
City of Jersey City	34017004700	0.4%	845	1,050	\$51,161	1.6%	1%	0%	8%	0%	0%	17%	44%	3%	2.2%	78%	62%	3%	1.6%	0%	5.4%
City of Jersey City	34017005900	0.4%	2,855	2,828	\$82,417	1.9%	0%	6%	28%	7%	0%	30%	18%	4%	5.7%	43%	28%	4.2%	28%	1.6%	25%
City of Jersey City	34017009700	0.4%	1,111	1,579	\$22,052	30%	0%	5%	6%	0%	0%	4%	2%	0%	8.2%	8%	6%	2%	4%	2%	2%
City of Jersey City	34017009200	0.4%	1,863	2,817	\$94,146	1.2%	0%	1.2%	0%	0%	0%	2%	0%	0%	80%	1%	0%	2%	2%	11%	2%
City of Jersey City	34017008802	0.4%	914	881	\$174,722	4%	3%	4%	5%	6%	0%	68%	1.9%	0%	6.4%	96%	5%	0%	69%	1.6%	15%
City of Jersey City	34017009500	0.4%	970	1,132	\$95,938	14%	0%	0%	7%	1.2%	0%	51%	2.9%	4%	3.0%	70%	40%	7%	4.3%	1.7%	27%
City of Jersey City	34017009300	0.4%	368	469	\$136,071	23%	0%	0%	1%	8%	0%	46%	8%	5%	4.2%	58%	13%	0%	59%	1.4%	14%
City of Jersey City	34017009100	0.4%	4,533	5,213	\$135,308	11%	0%	2%	0%	0%	0%	2%	0%	0%	5%	24%	36%	3%	4%	2%	11%
City of Jersey City	34017009600	0.3%	507	518	\$86,773	2%	0%	0%	8%	8%	0%	15%	7%	0%	61%	3%	2%	18%	2%	2%	3%
City of Jersey City	34017002300	0.3%	1,053	1,178	\$80,491	1%	0%	0%	11%	0%	0%	63%	1.2%	2%	3%	39%	61%	5.2%	11%	61%	1.2%
City of Jersey City	34017007000	0.3%	1,819	2,148	\$63,865	1.3%	0%	0%	1.5%	1.1%	0%	36%	3.2%	5%	2.0%	80%	44%	17%	35%	1.4%	36%
City of Jersey City	34017004800	0.3%	803	920	\$45,048	1.2%	0%	0%	5%	45%	0%	0%	0%	0%	5.1%	48%	51%	55%	4%	0%	4.2%
City of Jersey City	34017002100	0.3%	1,037	1,494	\$62,174	0%	0%	0%	7%	0%	0%	7.2%	0%	0%	4.0%	67%	42%	0%	71%	3%	2%
City of Jersey City	34017002400	0.3%	1,220	1,441	\$88,047	15%	0%	5%	8%	0%	5%	57%	1%	0%	5.1%	68%	38%	0%	9%	0%	19%
City of Jersey City	34017002000	0.3%	1,787	2,360	\$92,166	1.6%	1%	1%	6%	3%	0%	6%	2%	0%	2.6%	74%	37%	6%	6%	0%	26%
City of Jersey City	34017004000	0.3%	1,190	1,543	\$70,289	1.2%	0%	4%	2%	2.2%	0%	2%	0%	4%	4.6%	54%	3%	2.2%	19%	1%	9%
City of Jersey City	34017003800	0.3%	871	1,238	\$114,814	0%	0%	0%	4%	0%	0%	6%	0%	0%	6%	95%	1%	0%	2%	0%	2%
City of Jersey City	34017008600	0.3%	853	1,037	\$38,768	18%	0%	14%	7.2%	0%	0%	17%	15%	0%	3.7%	63%	23%	7.6%	1.9%	0%	1.2%
City of Jersey City	34017008800	0.3%	1,114	1,408	\$38,362	21%	0%	11%	0%	0%	0%	0%	0%	0%	7%	68%	3%	8%	1%	1%	1%
City of Jersey City	34017004102	0.3%	1,136	1,279	\$44,525	11%	0%	4%	54%	0%	0%	10%	26%	4%	2.7%	7.3%	37%	63%	11%	7%	24%
City of Jersey City	34017007400	0.3%	2,148	2,849	\$147,074	18%	1%	0%	3%	28%	0%	45%	0%	4%	3.0%	70%	27%	5%	44%	4.2%	9%
City of Jersey City	34017007300	0.3%	871	1,227	\$47,188	0%	0%	0%	8%	0%	0%	0%	0%	0%	5%	92%	0%	0%	2%	0%	0%
City of Jersey City	34017007400	0.3%	1,959	2,429	\$136,800	18%	1%	1%	4%	18%	0%	61%	1%	2%	2.1%	79%	0%	4%	6%	2.8%	8%
City of Jersey City	34017005500	0.3%	884	819	\$47,155	1.6%	0%	0%	8%	0%	0%	8%	0%	1.2%	8%	4.2%	58%	45%	100%	0%	1%
City of Jersey City	34017002700	0.3%	1,498	1,928	\$85,079	23%	0%	0%	35%	1.2%	0%	22%	20%	5%	4.0%	60%	4.2%	4.6%	11%	19%	20%
Township of Harrison	34017019600	0.3%	779	888	\$111,000	1%	0%	0%	4%	0%	0%	5%	0%	0%	0%	58%	61%	1%	4.3%	1.4%	4.2%
Township of Harrison	34017019700	0.3%	779	888	\$111,772	1.5%	0%	4%	1%	0%	0%	11%	49%	1%	1.0%	66%	57%	1%	4.3%	1.4%	4.2%
Township of Kearny	34017012800	0.3%	1,427	1,528	\$59,358	9%	4%	1.2%	6%	3%	1%	55%	1.9%	0%	5.0%	50%	39%	10%	35%	7%	4.6%
Township of Kearny	34017012700	0.3%	1,812	2,003	\$48,433	7%	0%	1.2%	5%	1%	0%	58%	3%	4%	5.0%	36%	4%	50%	1%	3%	4.0%
Township of Secaucus	34017010300	0.3%	2,047	2,239	\$83,569	8%	1%	0%	3%	0%	0%	6%	0%	0%	67%	33%	18%	0%	60%	0%	15%
Township of Secaucus	34017010900	0.3%	2,098	2,251	\$97,149	6%	2%	0%	10%	0%	0%	6%	0%	0%	7.0%	30%	1.3%	0%	62%	0.6%	9%
Township of West Newark	34017018000	0.3%	1,391	1,514	\$148,862	8%	0%	1%	2%	0%	0%	60%	5%	0%	2.0%	80%	1%	2%	6%	3%	2%
Township of North Bergen	34017014100	0.2%	1,620	1,814	\$83,730	10%	0%	1.6%	6%	5%	1%	51%	2.9%	1%	5.5%	45%	8%	7%	55%	1.2%	26%
Township of Weehawken	34017018200	0.2%	1,835	2,040	\$94,382	10%	0%	1.9%	3%	11%	0%	68%	2%	2%	3%	61%	47%	15%	5.6%	3%	6%
Township of Weehawken	34017019400	0.2%	1,753	1,789	\$111,000	5%	0%	2%	6%	5%	0%	7%	0%	0%	18%	82%	32%	0%			

Municipality	Census Tract	% of Households with Major/Severe Damage	Households	Housing units	Median HH Income	% Non-Seasonal Vacancies	% of Homes that are Seasonally Vacant	% Households Owned by Living Alone	% Black Households	% Asian & Pac. Is. Households	% Native American Households	% White (Non-Hispanic) Households	% Hispanic Households	% of Households with Owner-occupied (more than 1.0 Person per room)	% Owner-Occupied Households	% Renter-Occupied Households	% Rents in 0-10 Units	% Black Rents	% White (Non-Hispanic) Rents	% Asian & Pac. Is. Rents	% Hispanic Rents
CENSUS TRACTS WITH DAMAGED HOMES																					
City of Elizabeth	3403030500	4%	1,464	1,869	\$44,136	12%	0%	4%	12%	0%	1%	19%	71%	29%	31%	69%	62%	14%	14%	0%	71%
City of Elizabeth	3403030600	7%	1,719	1,916	\$46,621	10%	0%	3%	3%	0%	3%	28%	69%	25%	24%	66%	53%	4%	2%	5%	67%
City of Elizabeth	3403030600	1%	1,144	1,285	\$36,907	12%	0%	6%	26%	0%	1%	21%	47%	27%	27%	73%	65%	30%	14%	0%	42%
City of Elizabeth	3403030802	1%	850	1,002	\$45,538	15%	0%	4%	13%	6%	0%	23%	64%	46%	26%	74%	42%	18%	10%	7%	68%
City of Elizabeth	3403030200	1%	733	1,042	\$34,719	30%	0%	7%	28%	0%	0%	6%	61%	27%	14%	86%	76%	28%	6%	0%	69%
City of Linden	3403030400	12%	958	1,042	\$57,727	8%	0%	15%	10%	2%	0%	69%	16%	16%	6%	37%	30%	16%	6%	8%	74%
City of Linden	3403030200	5%	775	819	\$56,364	4%	2%	1%	11%	0%	3%	48%	44%	56%	56%	44%	28%	14%	20%	0%	62%
City of Linden	3403030300	1%	3,842	2,023	\$50,460	6%	0%	8%	22%	2%	0%	61%	17%	12%	44%	56%	45%	2%	62%	4%	15%
City of Rahway	3403030600	7%	1,461	2,144	\$56,726	9%	0%	14%	57%	2%	1%	15%	18%	6%	44%	56%	8%	54%	2%	4%	16%
City of Rahway	3403030800	3%	1,269	1,293	\$46,563	2%	0%	12%	60%	1%	0%	20%	9%	5%	48%	52%	17%	78%	14%	2%	5%
City of Rahway	3403030900	1%	1,220	1,458	\$55,344	12%	0%	12%	20%	3%	0%	42%	21%	2%	47%	53%	20%	22%	38%	6%	26%

Note: Only includes Census Tracts with Major or Severe Damaged Units; Hispanic is reported separately from race in the U.S. Census and Hispanic Households may be of any racial background.
Source: US Census American Community Survey, 2006-2011 Averages and FEMA Individual Assistance Records as of March 12, 2015

New Jersey Department of Community Affairs

SUPERSTORM SANDY COMMUNITY DEVELOPMENT BLOCK GRANT - DISASTER RECOVERY

Public Law 113-2; January 29, 2013

FR-5696-N-01; March 5, 2013

FR-5696-N-06; November 18, 2013

FR-5696-N-11; October 16, 2014



ACTION PLAN AMENDMENT NUMBER 43

**NON-SUBSTANTIAL AMENDMENT
FOR FINANCIAL AND PERFORMANCE PROJECTIONS**

Inclusive of Implications of Program Funds Transfer – Action Plan Amendments # 40, 41 & 42

DATE SUBMITTED TO HUD: MARCH 21, 2022

DATE APPROVED BY HUD: MARCH 29, 2022

Philip D. Murphy
Governor

Lt. Governor Sheila Y. Oliver
Commissioner



Non-substantial Action Plan Amendment Number Forty-Three to Superstorm Sandy Disaster Relief Appropriation, Public Law 113-2, 2013

I. OVERVIEW

This Community Development Block Grant Disaster Recovery (CDBG-DR) Action Plan Amendment (APA) Number 43 to the State's approved Action Plan is in compliance with the Federal Register Notice [FR-5696-N-01] issued on March 5, 2013. The Notice requires that Action Plans must be amended "to reflect any subsequent changes, updates, or revision of projections" that might occur due to actuals different than projections, budget moves, or extension approvals. Further, the Notice states that "amending the Action Plan to accommodate these changes is not considered a substantial amendment." As a non-substantial amendment, this document will be posted on the Department of Community Affairs (DCA) website in accordance with HUD requirements.

II. EXPENDITURE PROJECTIONS

Notes on Methodology

As the designated Grantee of CDBG-DR funds, DCA tracks the projections and expenditures of all activities identified in the Action Plan, as well as the allowable administration and planning costs. The State uses periodic projections from each program manager or subrecipient agency of CDBG-DR funds to confirm each program's financial and performance projections by quarter.

Expenditures reflect projections going forward inclusive of the actuals-to-date, which have been submitted to HUD in SRD's last Quarterly Performance Report (QPR); quarter ending December 31, 2021. Projection of expenditures are through September 30, 2023. We recognize that it is likely this extension will be moved to September 2025 and, when HUD provides that official guidance, we will relook our forecast particularly the RBD projects.

Additional Assumptions for Projected Expenditure Charts

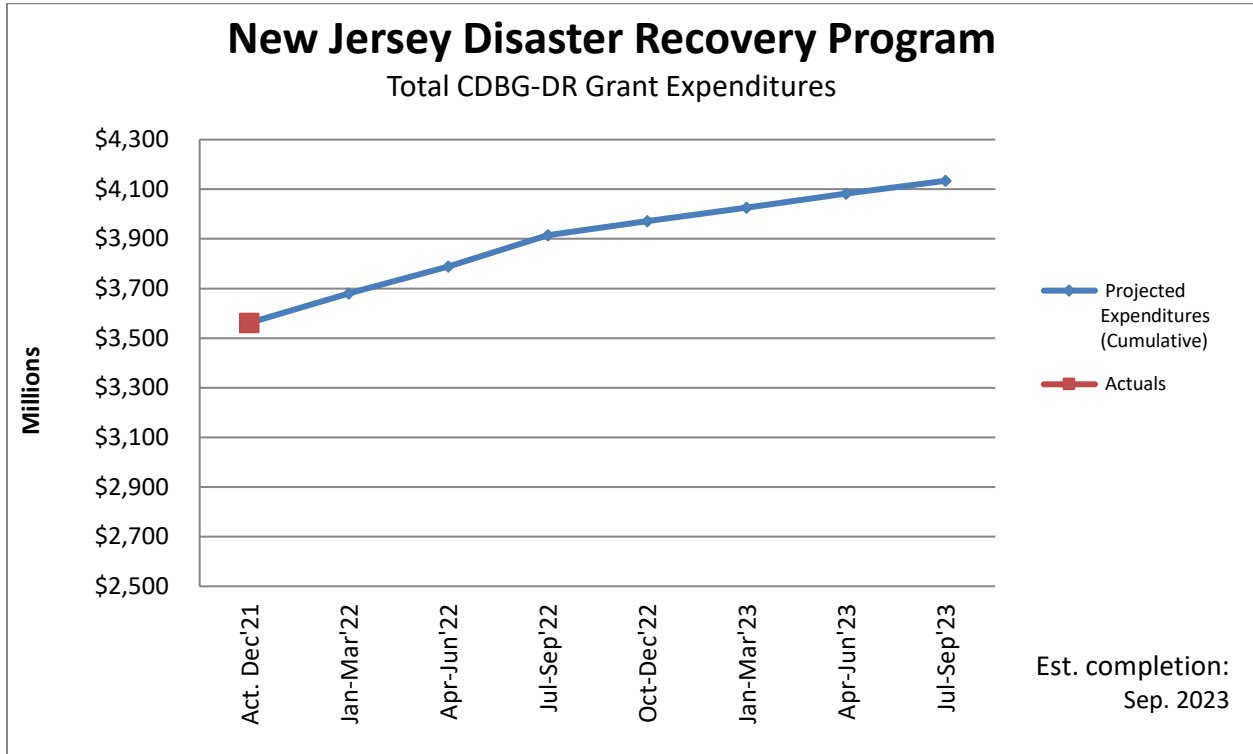
- Categories for expenditures in the charts are defined by HUD in the Explanatory Guidance related to completing the projections.
- The forecasts that are reflected in the charts are inclusive of direct project costs and activity delivery costs which include necessary environmental and historic clearances, title reviews, Uniform Relocation Assistance (URA), program management and program specific operational activities.
- The Administrative and Planning chart represents the projected expenditures for the overall administrative management and oversight of the total CDBG-DR funds. Administration costs have a cap set by HUD at 5% of the total grant funds.

As of December 31, 2021, the State has disbursed approximately \$3.56 billion to benefit homeowners, businesses, rental households, and communities continuing to recover and rebuild and mitigate against the impact of future storms. The State continues to prioritize assistance to low-and-moderate income households and to those areas identified as most severely impacted by Superstorm Sandy.

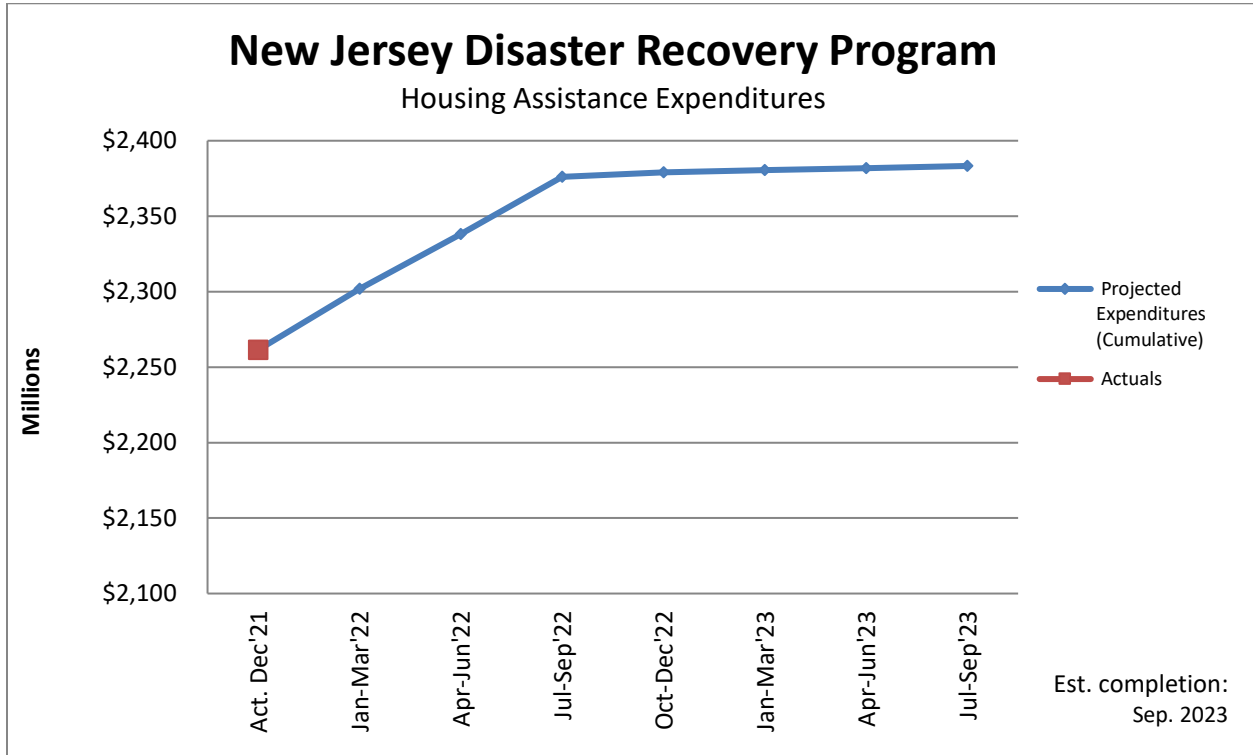
The **Total CDBG-DR Grant Expenditures** chart shows the timeline for the projected expenditure of our grant awarded to New Jersey in the aftermath of Superstorm Sandy. This forecast accounts for all HUD approved Rounds expenditure deadline extensions, as well as input from each program manager on the

likelihood of spending the program budget/allocation. The programs included in our allocation of funds are described in detail in the State’s approved Action Plan.

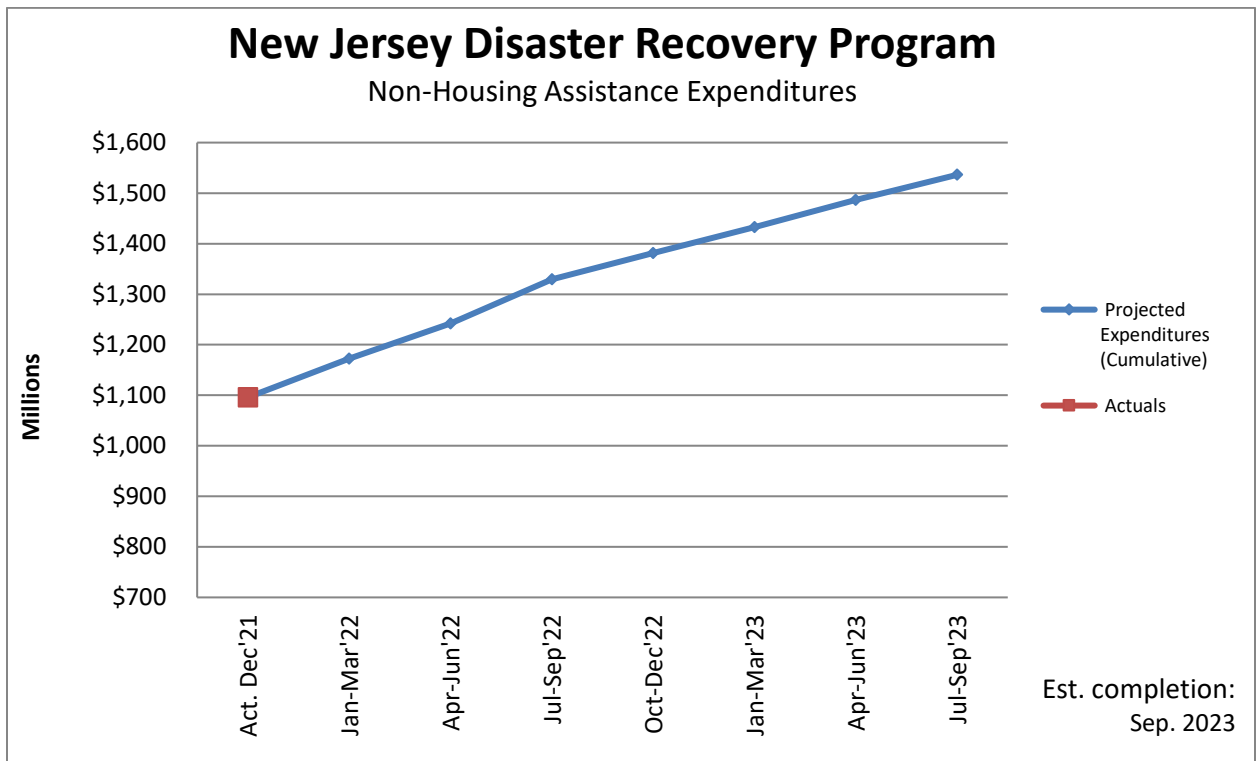
This forecast represents a net surplus of approximately \$61M inclusive of Program Income (PI) expended through Mar 14, 2022 plus 18 months of projected PI.



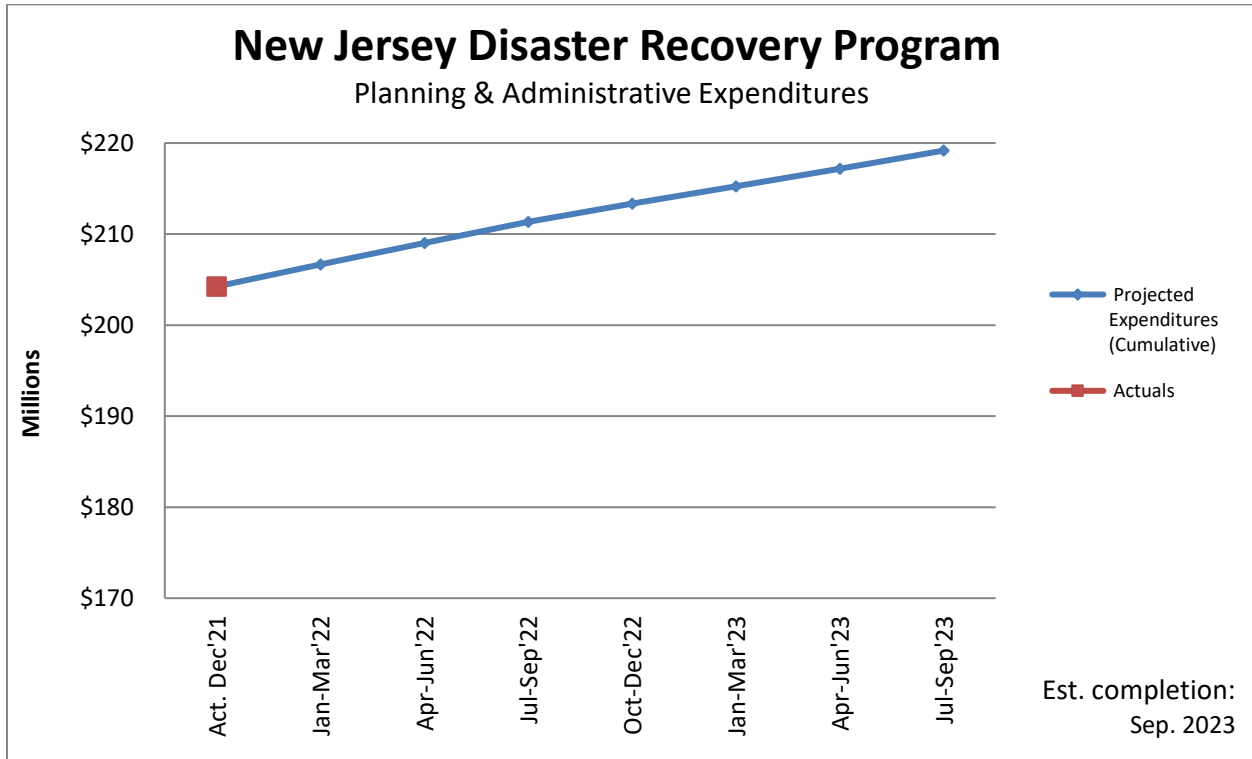
A. The **Housing Assistance Expenditures** chart shows the projection of funds in programs targeted to provide recovery assistance in the housing sector. Programs for housing assistance are comprised of the homeowner and rental assistance programs. The programs include Reconstruction, Rehabilitation, Elevation and Mitigation Program (RREM); LMI Homeowners Rebuilding Program; Blue Acres Buyout Program; Sandy Homebuyer Assistance Program; Landlord Rental Repair Program; Fund for Restoration of Large Multi-family Housing; Special Needs Housing Fund; Neighborhood Enhancement Program; Lead Hazard Risk Reduction Program; Flood Hazard Risk Reduction and Resiliency Acquisition Program; and the Predevelopment Loan Fund.



B. The **Non-Housing Assistance Expenditures** chart shows the projected expenditures in the recovery programs considered to be non-housing, including those under Economic Revitalization, Support for Government Entities, Infrastructure and non-housing Supportive Services initiatives such as the Housing Counseling/Case Management Program, Atlantic City Resilience Program, Match (non-federal cost share programs), and the Mosquito Control and Surveillance Programs. The rental assistance programs, such as Incentives for Landlords, Homelessness Housing assistance in the form of Tenant-Based Rental Assistance, Rental Assistance, and Housing Resettlement Incentive grants are included in the non-housing category, as determined by HUD, since the grants are not considered as direct housing construction activities. Due to the long-term nature of some of these programs, there is considerable planning and design work required before significant expenditures occur; therein the slope of the chart line is still relatively steep in calendar years 2022 and 2023.



- C. The **Planning and Administrative Expenditures** chart shows the projected expenditures for planning activities, as well as those expenditures related to administration, management oversight, reporting, and monitoring of all programs funded by the CDBG-DR funds. This includes activities conducted by DCA’s Division of Local Planning Services and Environmental and Historic Mitigation Planning activities.



III. PERFORMANCE MEASURE PROJECTIONS

In the section below, programs are grouped into categories based on the performance measure type and DRGR Activity Type. Please note that each chart contains projected accomplishments for more than one program. The DRGR Activity Type represented in each section below is noted at the bottom of each graph.

Notes on Methodology

Program managers and subrecipients report expected completion of measures when establishing their activities. Upon completion of the activity, they reconcile projections with the actuals.

While there are many measures, the charts represented in Section III reflect the key measure for each program. They reflect projections going forward inclusive of the actuals-to-date, as reported in the most recent QPR submitted to HUD; quarter ending December 31, 2021.

Assumptions

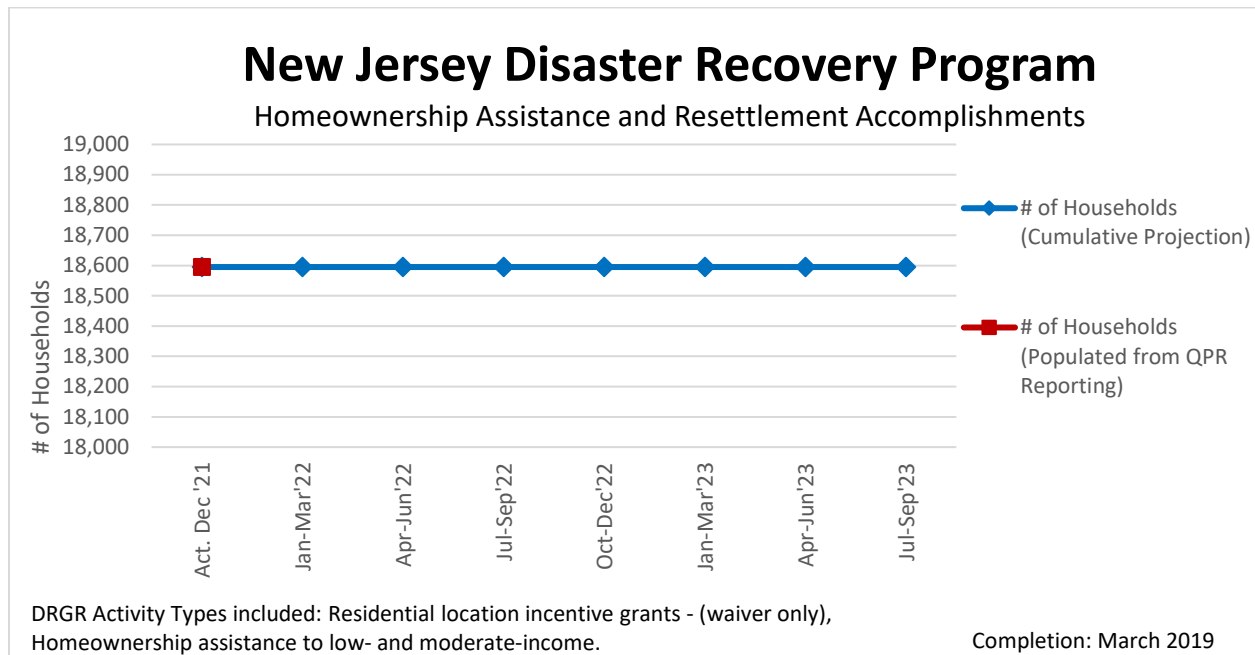
- Per HUD guidelines, projections for each program have been rolled up into categories based on the measure type and DRGR Activity Type. Programs with several DRGR Activity Types and

accomplishment types are represented in multiple charts below so that all key measure projections are included.

- Measures are linked to the financial projections; however, the timing of when measures are reported may not align with spending. The reporting of a measure is based on the type of work being done. For instance, programs under the “Residential Rehabilitation and Reconstruction” category count a measure when a housing unit has been completed, but the program could continue to recoup or disburse final payments. On the other hand, infrastructure programs like those in the “Public Infrastructure” category may show funds expended but the measure is reported upon completion of the entire project.

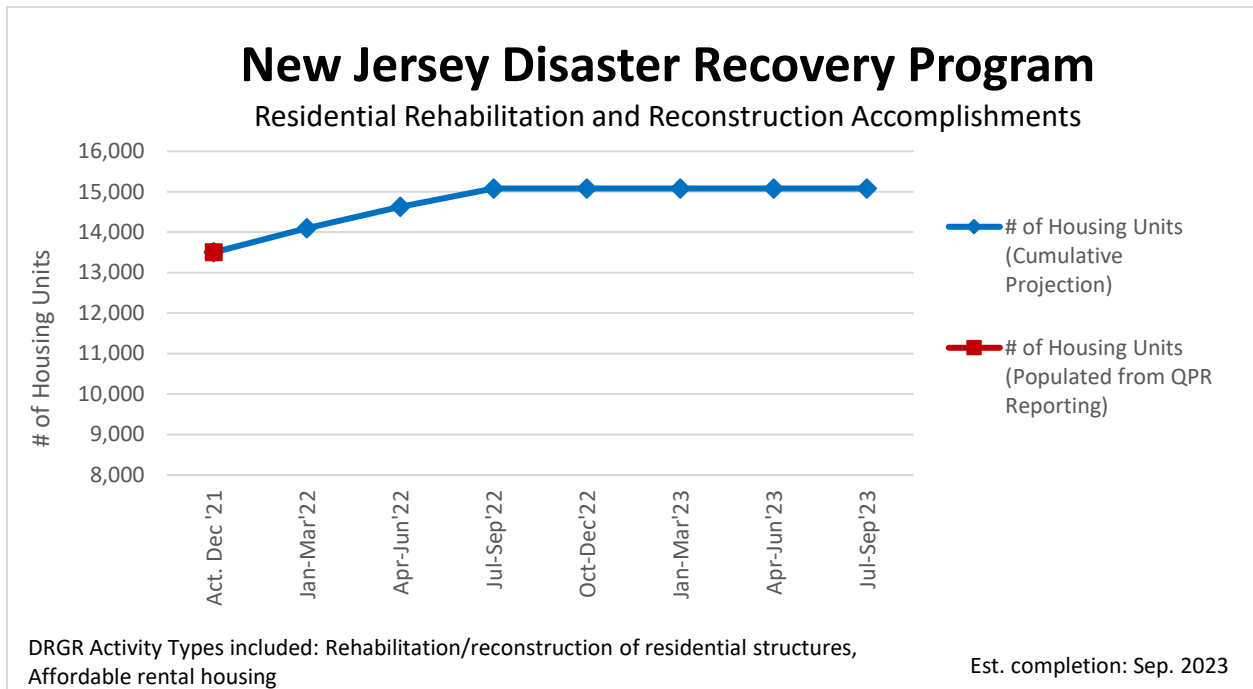
Thus, for some categories, projected measures end prior to the estimated completion date because program staff will continue to administer the programs after all measures are counted.

- A. The **Homeownership Assistance and Resettlement Accomplishments** chart shows projections for programs that will result in the assistance of homeownership or resettlement of affected households. This includes the Sandy Homebuyer Assistance Program and the Housing Resettlement Program.

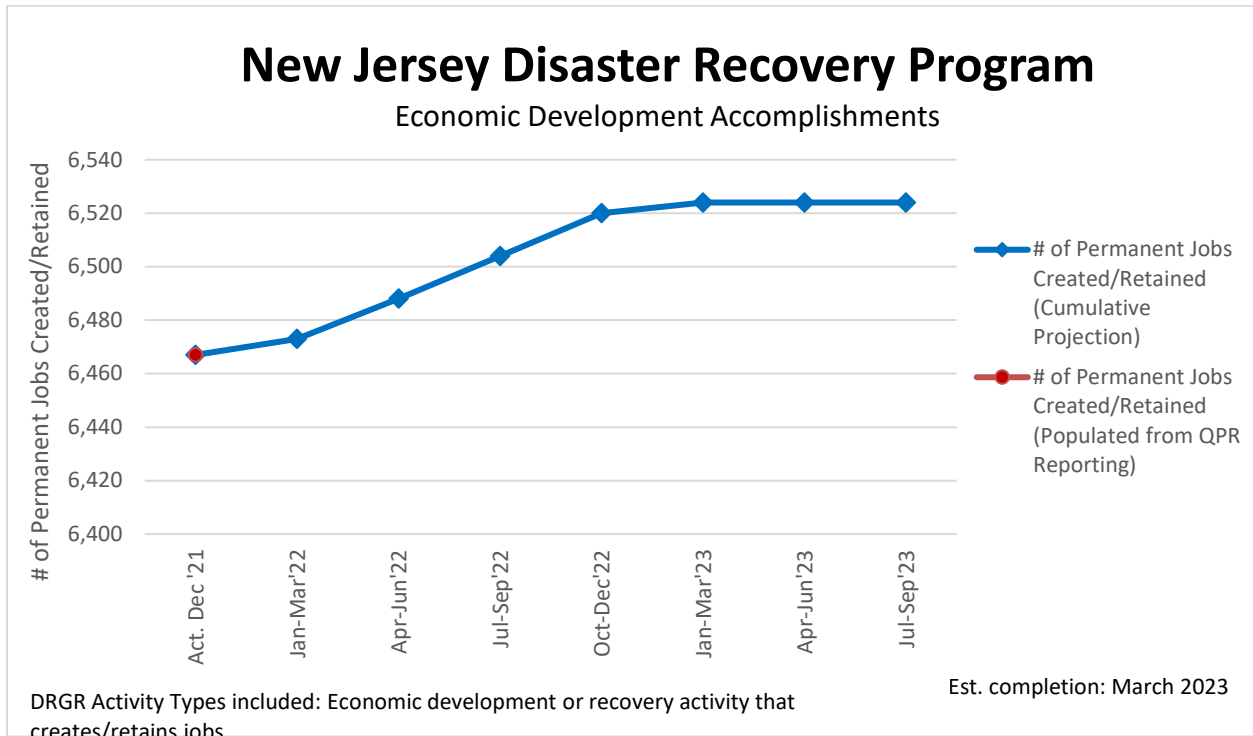


Both the Sandy Homebuyer Assistance Program and the Housing Resettlement Program are complete in terms of metrics due to a final accounting of eligible applicants.

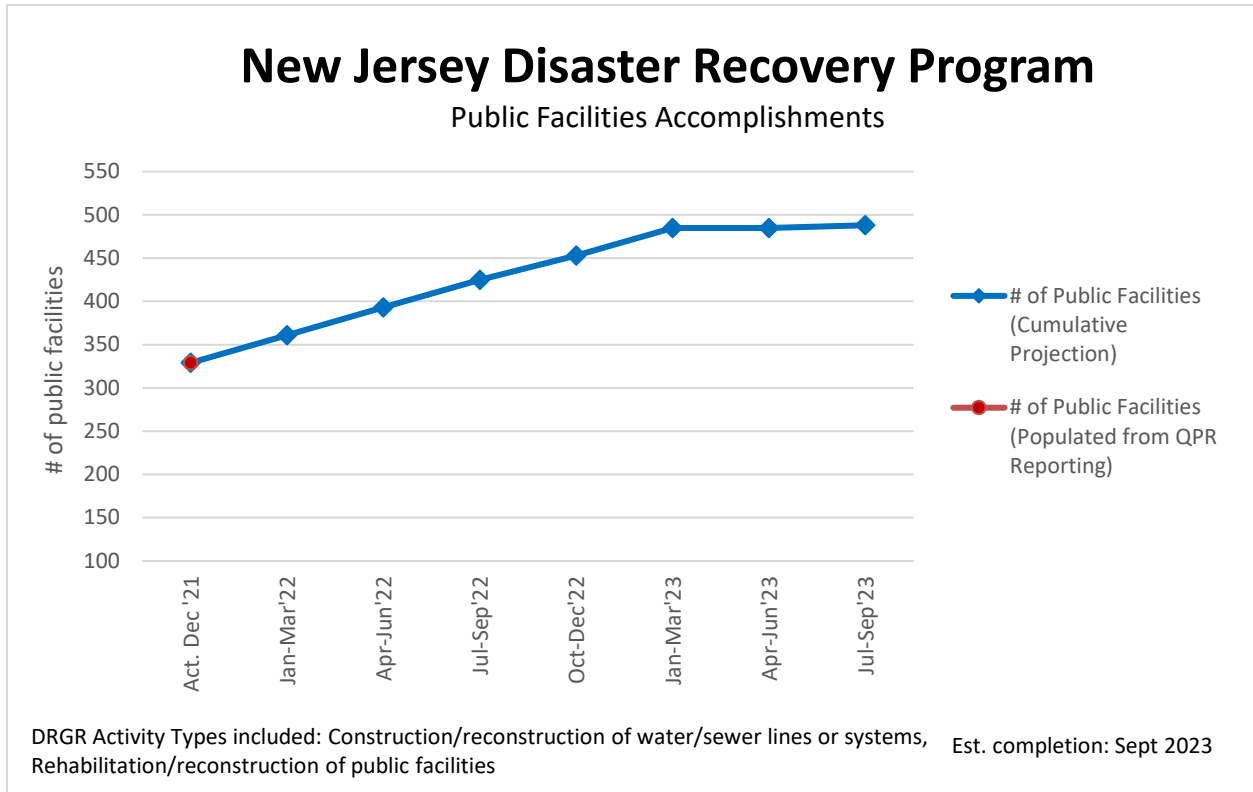
The **Residential Rehabilitation and Reconstruction Accomplishments** chart shows the projected number of units that will benefit from rehabilitation and reconstruction of existing rental and homeowner properties. This includes the Reconstruction, Rehabilitation, Elevation and Mitigation Program (RREM), the LMI Homeowners Rebuilding Program, the Landlord Rental Repair Program, the Fund for Restoration of Large Multi-family Housing, the Sandy Special Needs Housing Fund, the Neighborhood Enhancement Program, and the Lead Hazard Risk Reduction Program.



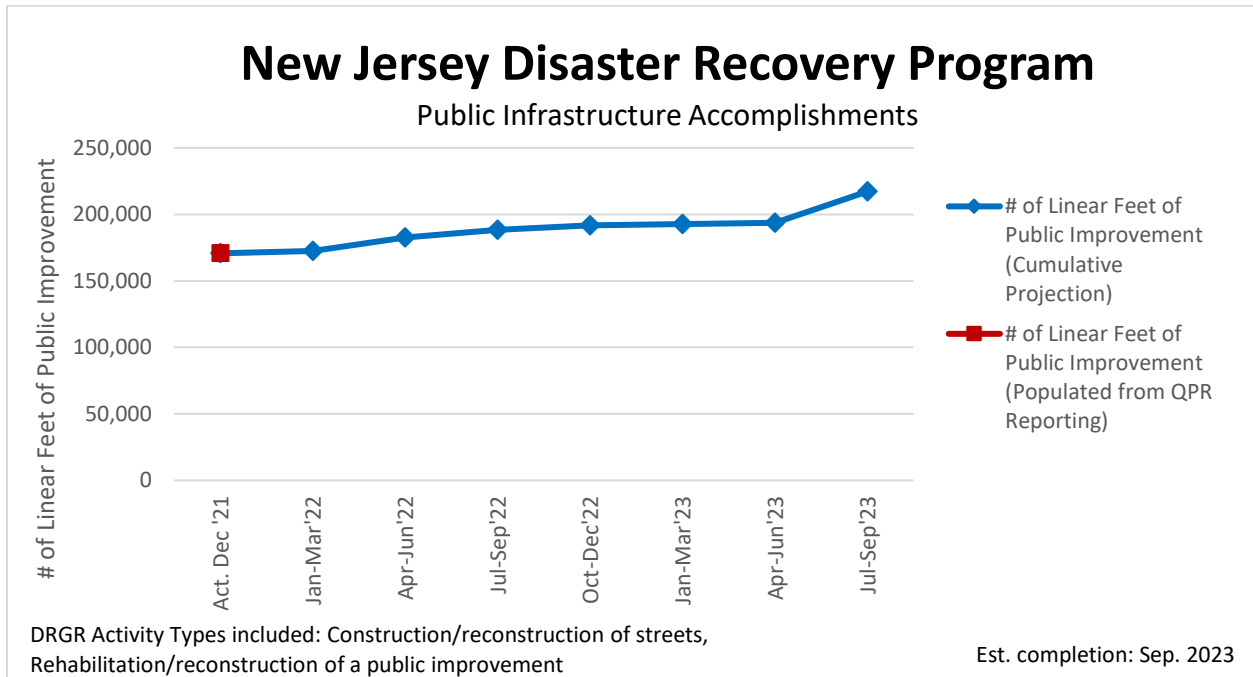
B. The **Economic Development Accomplishments** chart shows the projected outcomes of the economic development and revitalization programs, which is the total of jobs created and jobs retained as a result of the programs. This includes the Grants to Small Businesses and Direct Loans to Small Businesses Programs.



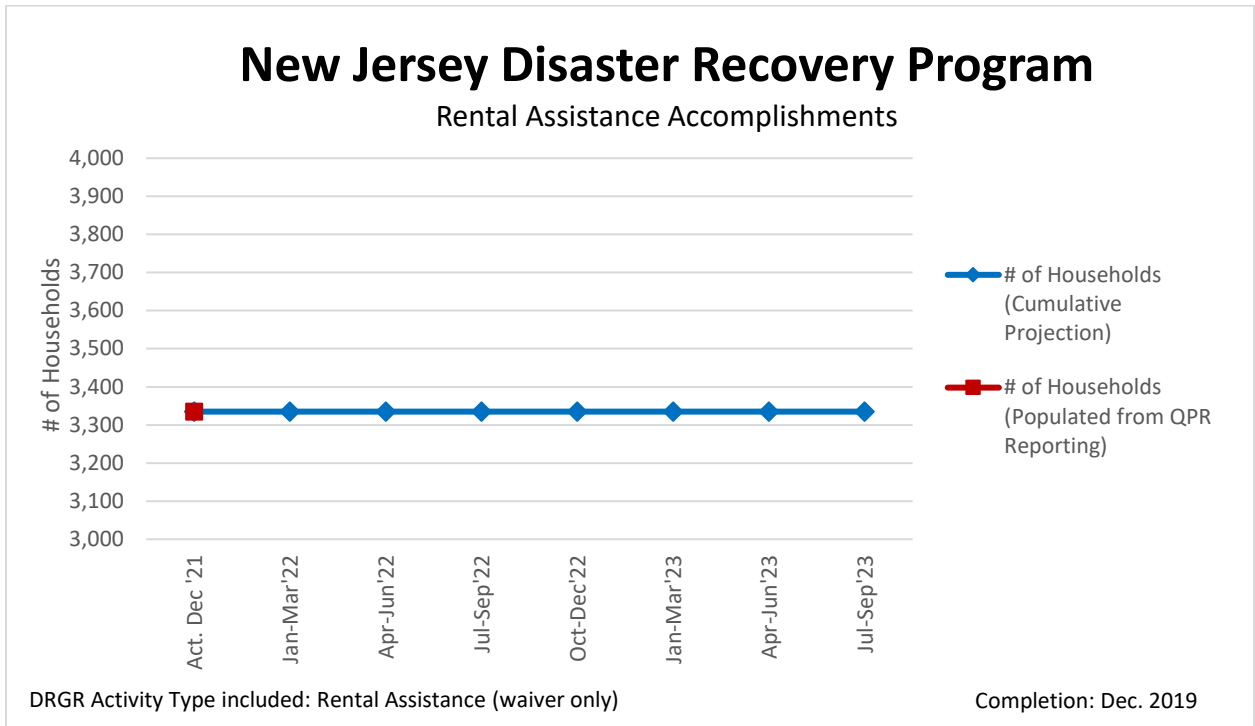
C. The **Public Facilities Accomplishments** chart represents projected outcomes for recovery and resiliency programs designed to assist with repair and improvements to public facilities through the use of non-federal cost share programs and infrastructure programs. This includes the Energy Resilience Bank, the Non-Federal Cost Shares Program, the Neighborhood and Community Revitalization Program, Atlantic City Resilience Program, the Drinking water Revolving Loan Fund, and the Clean water Revolving Loan Fund.



D. The **Public Infrastructure Accomplishments** chart represents projected outcomes for recovery programs designed for rehabilitation to critical public infrastructure. This includes the Federal Highway Administration non-federal cost share Program, Flood Hazard Risk Reduction and Resiliency Measures Infrastructure Program.

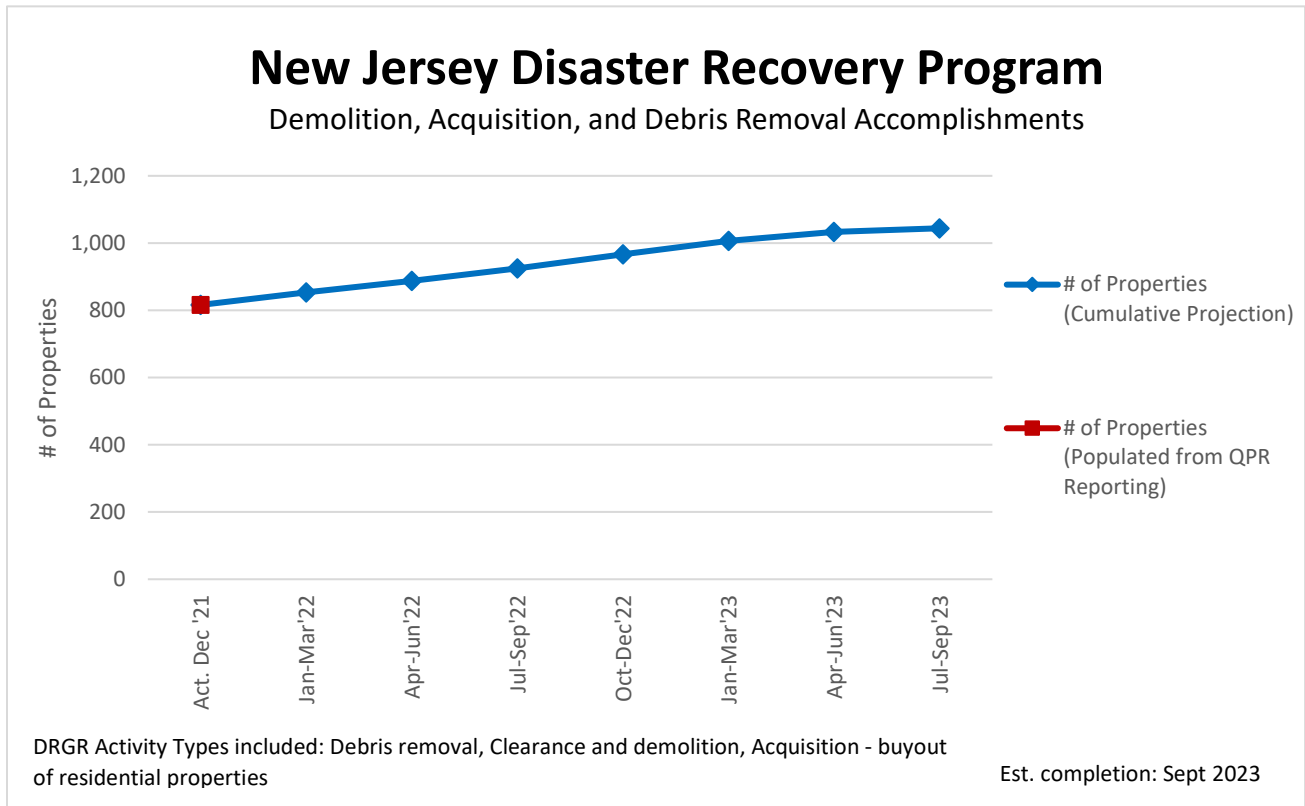


- E. The **Rental Assistance Accomplishments** chart shows the projected outcomes for programs designed to provide rental assistance and utility payments. This includes the Rental Assistance Program, the Tenant-based Rental Assistance Program, and the Incentives for Landlords Program.

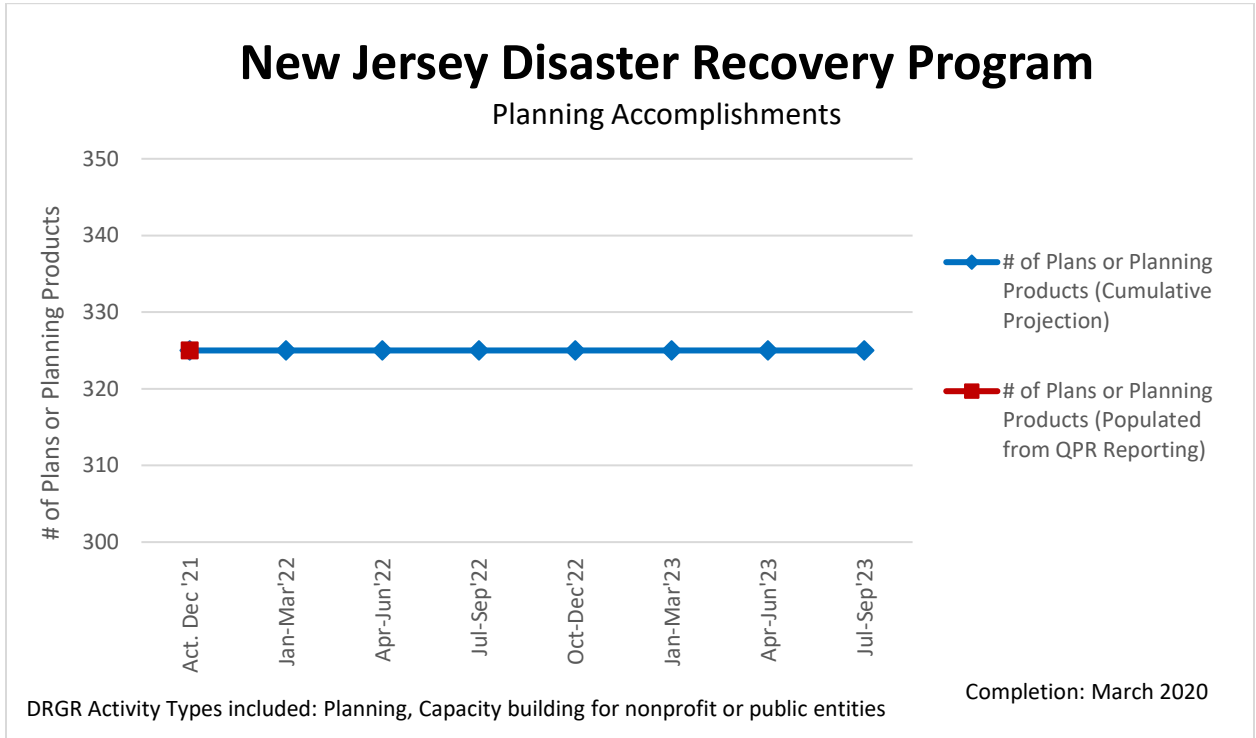


The measures for the Incentive for Landlords program and the Tenant Based Rental Assistance program are final as all dollars have been expended and there is no further activity. RAP measures may adjust slightly in the event eligible applicants require future rental assistance. The State will continue to expend funds on the Rental Assistance Program because the program provides rental assistance to households over a period of time.

The **Demolition, Acquisition, and Debris Removal Accomplishments** chart represents projected outcomes for programs that benefit properties by acquiring or clearing the land for future improvements. This includes the Unsafe Structure Demolition Program, the Blue Acres Buyout Program, the Non-Federal Cost Share Program, and the Flood Hazard Risk Reduction and Resiliency Acquisition Program.



F. The **Planning Accomplishments** chart represents projected outcomes for programs that support the funding of plans related to disaster recovery. This includes the DEP Mitigation Bank Program, the Predevelopment Loan Program for Affordable Rental Housing, and DCA’s Division of Local Planning Services Programs.



G. The projected accomplishments table below represent:

- Programs with accomplishment types that do not fit into any of the groupings listed above
- Programs that are in the process of being closed out and are projected to have no further metric or financial activity

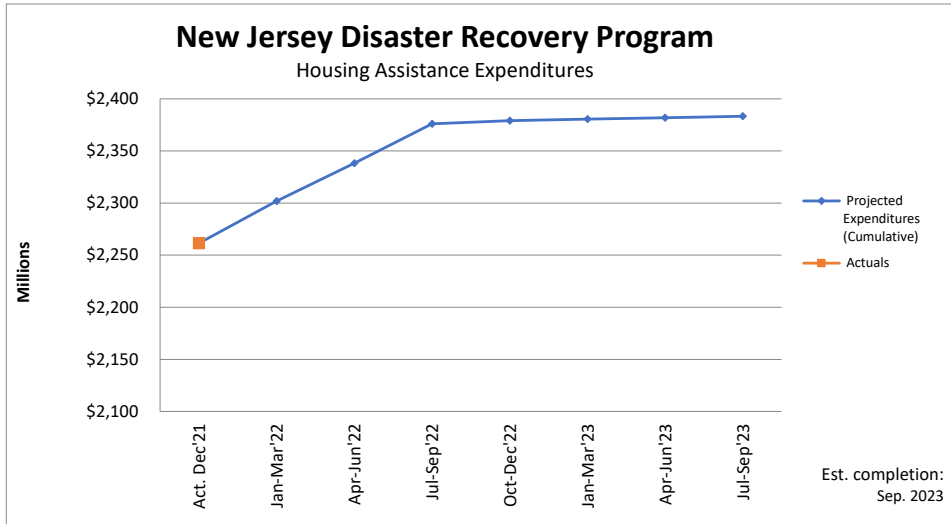
Program	Accomplishment	Actuals as of 12/31/ 2021	Total Projected
Code Enforcement Program (Completed: May 2017)	# of Building Inspections	91,277	91,277
Housing Counseling Services (Est. Completion: Jun. 2022)	# of Cases Closed	54,410	59,410
Tourism Marketing (Completed: May 2017)	# of Posted Advertisements for Tourism Initiatives	204,799,407	204,799,407
Public Services including: Essential Services Grants Program; DOH Mosquito Surveillance Program DEP Mosquito Control Program; and Zoning Code Enforcement Program for Municipalities	# Non-business Organizations, Including Units of Government	135	135
Lead Hazard Reduction	# of Housing Units	10	10

IV. ATTACHMENT A

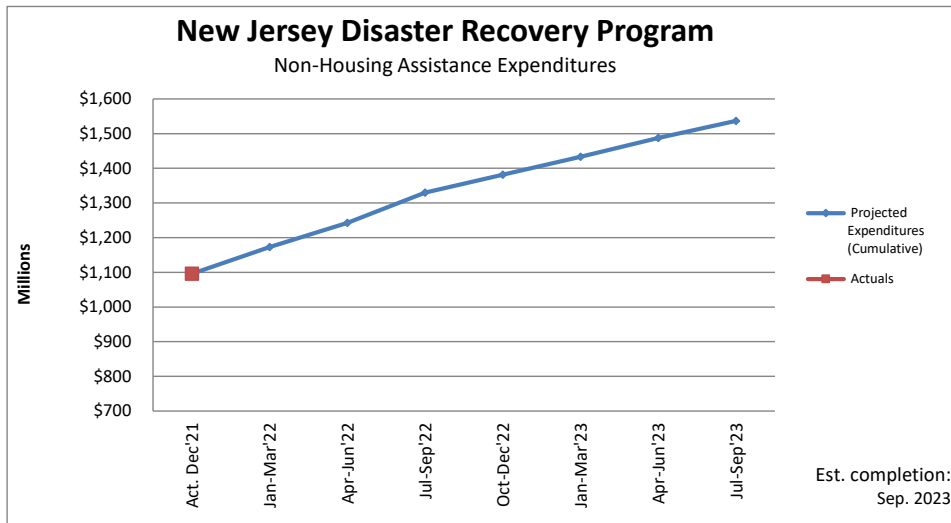
The HUD Template (excel file) of Quarterly Projections of financial expenditures and performance is included as Attachment A to this APA Number 43.

HUD APA Financial Graphs

Housing Assistance	Act. Dec'21	Jan-Mar'22	Apr-Jun'22	Jul-Sep'22	Oct-Dec'22	Jan-Mar'23	Apr-Jun'23	Jul-Sep'23
Projected Expenditures (Cumulative)	\$ 2,261,435,392	\$ 2,301,900,207	\$ 2,338,109,140	\$ 2,376,019,335	\$ 2,379,148,149	\$ 2,380,608,189	\$ 2,381,903,764	\$ 2,383,293,852
Projected Expenditures (Quarterly)	\$ 2,261,435,392	\$ 40,464,815	\$ 36,208,932	\$ 37,910,195	\$ 3,128,814	\$ 1,460,040	\$ 1,295,576	\$ 1,390,088
Actuals	\$ 2,261,435,392							

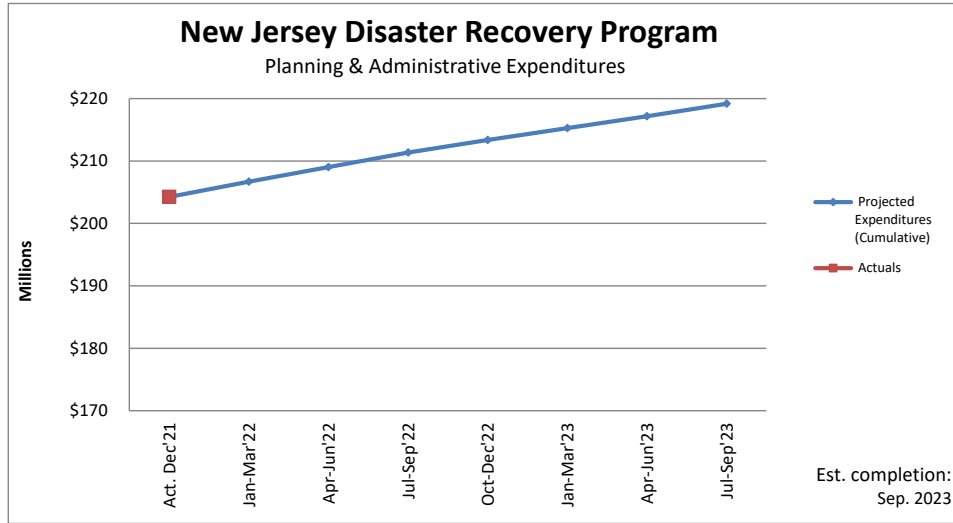


Non-Housing Assistance	Act. Dec'21	Jan-Mar'22	Apr-Jun'22	Jul-Sep'22	Oct-Dec'22	Jan-Mar'23	Apr-Jun'23	Jul-Sep'23
Projected Expenditures (Cumulative)	\$ 1,095,891,989	\$ 1,173,017,805	\$ 1,242,658,568	\$ 1,329,968,515	\$ 1,381,811,591	\$ 1,433,483,603	\$ 1,487,334,679	\$ 1,536,842,166
Projected Expenditures (Quarterly)	\$ 1,095,891,989	\$ 77,125,816	\$ 69,640,763	\$ 87,309,946	\$ 51,843,076	\$ 51,672,012	\$ 53,851,076	\$ 49,507,487
Actuals	\$ 1,095,891,989							



HUD APA Financial Graphs

Planning & Administration	Act. Dec'21	Jan-Mar'22	Apr-Jun'22	Jul-Sep'22	Oct-Dec'22	Jan-Mar'23	Apr-Jun'23	Jul-Sep'23
Projected Expenditures (Cumulative)	\$ 204,241,064	\$ 206,680,278	\$ 209,021,503	\$ 211,351,880	\$ 213,351,624	\$ 215,260,147	\$ 217,168,669	\$ 219,174,156
Projected Expenditures (Quarterly)	\$ 204,241,064	\$ 2,439,215	\$ 2,341,225	\$ 2,330,376	\$ 1,999,745	\$ 1,908,522	\$ 1,908,522	\$ 2,005,487
Actuals	\$ 204,241,064							



Total CDBG-DR	Act. Dec'21	Jan-Mar'22	Apr-Jun'22	Jul-Sep'22	Oct-Dec'22	Jan-Mar'23	Apr-Jun'23	Jul-Sep'23
Projected Expenditures (Cumulative)	\$ 3,561,568,444	\$ 3,681,598,291	\$ 3,789,789,211	\$ 3,917,339,729	\$ 3,974,311,364	\$ 4,029,351,938	\$ 4,086,407,112	\$ 4,139,310,174
Projected Expenditures (Quarterly)	\$ 3,561,568,444	\$ 120,029,847	\$ 108,190,920	\$ 127,550,518	\$ 56,971,635	\$ 55,040,574	\$ 57,055,174	\$ 52,903,062
Actuals	\$ 3,561,568,444							

