

MIAMI-DADE COUNTY, FLORIDA

Miami-Dade Back Bay

COASTAL STORM RISK MANAGEMENT

Final Integrated Feasibility Report and Environmental Assessment

Nonstructural Implementation Plan

Appendix A-7

JULY 2024



**US Army Corps
of Engineers®**
Norfolk District



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1 DEFINITIONS

TERM

DEFINITION

Base Flood

Defined by the National Flood Insurance Project (NFIP) as the “flood having a one percent chance of being exceeded in any given year. Typically called the 100-year flood or base flood.

Base Flood Elevation (BFE)

The computed elevation to which floodwater is anticipated to rise during the base flood. The BFE is shown on the community’s Flood Insurance Rate Map (FIRM).

Economically Justified

The cost to implement the nonstructural measure for a certain building does not exceed the total monetary cost of the flood damages that are anticipated to be avoided over the fifty-year period of analysis (years 2040-2089).

Elevation (of buildings)

The entire building will be lifted and placed on a new foundation (i.e., columns, piers, posted or raised foundation walls) so that the lowest habitable finished floor is above the design water surface elevation. All utilities and mechanical equipment, such as air conditioners and hot water heaters, will also be raised to this elevation. This measure is applicable to residential buildings.

Eligible buildings

Buildings that are determined by the United States Army Corps of Engineers (USACE) to be eligible for elevation or floodproofing after the completion of the investigations and analyses as described herein.

Dry Floodproofing

Dry floodproofing consists of sealing all areas of a building up to a maximum of approximately three feet above ground level to reduce damage caused by coastal storm surge inundation by making walls, doors, windows and other openings resistant to penetration by water. Walls are coated with sealants, waterproofing compounds, or plastic sheeting. Back-flow from water and sewer lines is prevented by installing mechanisms such as drain plugs, standpipes, grinder pumps, and back-up valves. Openings, such as doors, windows, sewer lines, and vents, may also be closed temporarily with sandbags or removable closures, or permanently sealed. This is not an acceptable measure in coastal zones with wave action. This measure is applicable to nonresidential buildings.

Historic Buildings	As defined in 44 CFR Part 59, means any building that is (1) listed individually in the National Register of Historic Places (maintained by the Department of the Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register; (2) certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district; (3) individually listed on a state inventory of historic places with historic preservation projects which have been approved by the Secretary of the Interior; and (4) individually listed on a local inventory of historic places in communities with historic preservation projects that have been certified.
Hazardous, Toxic, or Radioactive Waste (HTRW)	HTRW means hazardous, toxic, and radioactive wastes, which includes any material listed as a “hazardous substance” (See 42 U.S.C. 9601(14) regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (hereinafter “CERCLA”) (42 U.S.C. 9601-9675) and any other regulated material in accordance with applicable laws and regulations.”
Nonfederal Sponsor (NFS)	The NFS is the cost-sharing partner for the study, design, and construction phases of the project. The NFS for this study is Miami-Dade County, Florida.
Nonstructural Floodproofing Measures	Nonstructural Flood Proofing Measures are permanent or contingent measures applied to a building and/or its contents that prevent or provide resistance to damage from flooding. Nonstructural Flood Proofing measures differ from Structural Flood Proofing measures (i.e., levees, floodwalls, etc.) in that they focus on reducing the consequences on flooding instead of focusing on reducing the probability of flooding.
Preliminary Building Eligibility Criteria	To be considered preliminarily eligible for participation in the Nonstructural Project, a building must be part of a Recommended Plan of a feasibility study.

2 NONSTRUCTURAL IMPLEMENTATION

2.1 Purpose

The Miami-Dade Back Bay Coastal Storm Risk Management Study (CSRM) incorporates nonstructural measures as part of the Recommended Plan (RP). Once the study is complete, detailed plans and specifications for implementing nonstructural measures will be developed as part of the Pre-construction Engineering and Design (PED) Phase of the project. The PED Phase occurs after Congress authorizes funds for construction of the RP. Nonstructural measures will be a key component to managing long-term coastal storm risks. The information in this plan may be used to implement nonstructural measures in support of

the Miami-Dade Back Bay CSRM RP. Further modifications to the implementation plan can be made during the PED Phase.

2.2 Introduction

This nonstructural implementation plan describes the general process for the implementation of nonstructural measures, as described in the Miami-Dade Back Bay CSRM feasibility report. The primary goal of the nonstructural measures included in the RP is to manage the risk of damage to residential and nonresidential buildings caused by coastal storm inundation. For the RP, the 0.5% annual exceedance probability, or the 200-year storm, from the South Florida Storm Surge Study was used as the starting point for the design water surface elevation (DWSE). This also includes the addition of USACE high curve sea level change. The RP includes the following nonstructural measures:

1. Elevation of 2,057 residential buildings as required to prevent inundation of buildings whose estimated finished first floors were below the DWSE. The height each eligible building is elevated to will not exceed twelve feet which is typically the maximum allowable height from the ground to ensure structural stability.
2. Dry floodproofing of approximately 403 nonresidential buildings, with an additional 27 for critical infrastructure buildings, up to the maximum height of four feet above the adjacent ground elevation.

Property owners in the project area will be informed of the details of nonstructural measure implementation, including eligibility criteria, the eligibility process, and the related duties and obligations of USACE, Miami-Dade County, and the property owner. Based upon present information, the anticipated duties and obligations are generally outlined below. However, some of this information may be modified as the study progresses and/or as the Nonstructural Implementation Plan is finalized as part of PED. While each building has been evaluated as part of this study, the government reserves the right to determine which measure shall ultimately be implemented. Based on other nonstructural projects completed by USACE and Miami-Dade County, it is estimated that implementation of elevation or floodproofing will take approximately three to five months per building. It is anticipated at this time that all buildings recommended for elevation and floodproofing in the RP will be implemented over a thirteen-year period; however, the scale of the project is highly dependent upon the participation rate and the total implementation time is dependent on the amount of funding that is appropriated by Congress and contributed by the nonfederal sponsor (NFS) for implementation in any given year.

2.3 Elevation of Residential Buildings

For the purposes of nonstructural measure evaluation, the term residential buildings include one, two, and three-story homes and up to 4-unit multi-family buildings. Each building that has a FFE below the DWSE was considered eligible for elevation of the building “in place.” If, after completion of the investigation of the property during PED, USACE determines that the building is still eligible for elevation, the entire building will be lifted and placed on a new foundation (i.e., columns, piers, posted or raised foundation walls) so that the lowest habitable finished floor is at the DWSE. All utilities and mechanical equipment, such as air conditioners and hot water heaters, will also be raised to this elevation. Property owners may choose to elevate the building, utilities, and/or mechanical equipment more than the DWSE; however, costs attributable to elevations in excess of the minimum requirements set forth herein must

be borne solely by the property owner. Only the costs of elevation and foundation retrofitting are eligible costs. No Federal funds will be used to restore, replace, or repair the building. No additions to the habitable spaces of the building will be permitted in the performance of the elevation work.

2.3.1 Application and Approval Process for Elevation

Residential property owners of buildings eligible for elevation as part of the RP who wish to participate in the project must complete and submit an application. A property owner may withdraw the application at any time prior to the execution of a Participation Agreement by the property owner and USACE. The NFS and USACE will work together to verify eligibility for participation in the project. Applications will be submitted to USACE, but processing/verifying tasks may be split between USACE and the NFS depending on the NFS's capability. Incomplete applications or applications which contain false or misleading information or substantial errors will not be processed. The application and approval process includes the following steps:

- The application includes an authorization for temporary right-of-entry to USACE and the NFS to enter upon the property. This is required in order for USACE and the NFS to enter in and upon the building and land for purposes of investigating, inspecting, surveying, performing required environmental surveys, testing, and site assessments, evaluating the condition of the building, determining elevation requirements, verifying the current elevation, and conducting other activities necessary for USACE to make a determination of building eligibility;
- The property owner must submit satisfactory proof of ownership. Proof of ownership shall require a Certificate of Title and a Certificate of Mortgage that identifies the names of all of the owners of the property, as well as any holders of a lease interest, third party interest holders and any holders of a lien or encumbrance against the property. Additionally, the property owner shall provide written verification from the tax assessor that no taxes are due and payable on the property, as well as documentation from any holder of a mortgage, lien, or encumbrance, that the mortgage, lien, or encumbrance is in good standing or has been satisfied and released;
- An ASTM Phase I Environmental Site Assessment (ESA) and Asbestos investigation (and if warranted, additional HTRW investigations and a Phase II, ESA), inspections, surveys and boundary monumentations will be completed. An ESA Report shall be prepared and shall include an HTRW and asbestos certification. The Report shall state whether the property is "clean" and cleared to proceed with the elevation process; or shall identify miscellaneous debris (i.e. appliances, junk vehicles and parts, general debris, etc.) that must be cleaned up or removed from the property; or shall identify that there is the potential for HTRW on the property and state that a Phase II ESA is required for further evaluation. The property owner shall be notified in writing of the results of the Phase I ESA. If the Phase I ESA indicates the potential presence of HTRW on the property, the property owner shall be notified in writing that the property has been identified for potentially HTRW. The notice shall also request the property owner to execute a separate right-of-entry for the HTRW investigations and the performance of a Phase II ESA. In addition, the notice shall advise the property owner that if contamination is found, the property owner be responsible for all costs of clean-up under state and Federal laws (regardless of whether the property owner participates in the project), and that if the property owner refuses to provide the

additional right-of-entry for the Phase II ESA, the property owner will be removed from the project. The property owner shall be notified in writing of the results of Phase II ESA. If the Phase II ESA identifies contamination, the property owner will be notified in writing of the remediation that is required to be performed, at the owners cost and expense, that the work must be performed by a licensed HTRW remediation professional and that documentation from a third party licensed HTRW remediation profession must be provided to the Government with sufficient evidence to support that the contamination has been successful and properly remediated is required before a final determination on eligibility can be made;

- The building will be assessed to make sure that the following eligibility requirements are satisfied:
 - a. The building is in a condition suitable for human habitation;
 - b. The property is not located on Federal property and leased land;
 - c. The building can be elevated to meet the required DWSE so that the habitable floors are elevated to levels which will manage the risk to the residential buildings from storm surge inundation to reduce future losses to the extent practicable. However, in no event will a building be elevated greater than 12 feet above the ground level;
 - d. Based on a signed written certification by the property owner, as confirmed by the assessment, the building does not have signs of actual or potential significant structural defects, distress, or failure (i.e., no evidence of corrosion of steel framing or concrete; no water or insect damage to wood framing; no framing that is in obvious need of repair or replacement, no settlement, cracking, buckling, or collapse of the foundation; no damage to load bearing or masonry walls; no damage to veneer or siding, no evidence of unrepaired roof leaks, etc.);
 - e. The property owner does not owe taxes or other debts to any state or local governmental entity or to the Federal government;
 - f. The property owner has not previously received any Federal assistance for the elevation of the building;
 - g. The building complies with the building code and floodplain management codes under which the building was originally permitted;
- A determination that a building is eligible for elevation as specified by the RP will be made after all inspections, investigations, assessments, title research, analysis, and all other work required to determine eligibility is complete and prior to the development of the elevation scope of work. Additional foundation analysis may be required to verify adequate foundation type.
- After the Government confirms that the property owner has adequately documented clear title to the property, such documentation to include but not be limited to the subordination or release of any interests held by leaseholders, third parties and holders of liens, mortgages, judgments and encumbrances, a Participation Agreement containing a “Residential Building Elevation Covenant Running With The Land” in favor of the NFS shall be executed by the property owner and USACE and/or NFS. The Agreement will authorize USACE, the NFS, or their contractors to enter the property for purposes of implementing the flood proofing action and for inspection and enforcement purposes and will include the agreement of the property owners to hold harmless the NFS and USACE for any damages arising from the flood proofing work, and a covenant running with the land shall be executed by all owners of the property. These agreements shall be recorded

by the NFS in the appropriate public records of the County and if applicable, municipality, in which the property is located and shall be binding upon all the owners, their heirs, assigns and successors in interest, as well as upon all tenants, third party interest holders and holders of any liens, mortgages, judgments, and encumbrances in the property. The covenant shall prohibit the conversion or occupancy of any part of the building located below the lowest habitable finished floor for human habitation and the alteration of the building in any way to impede the movement of flood waters under the building. The Participation Agreement, together with the easement(s) and covenant running with the land, as well as any required release or subordination agreements, shall be recorded by the NFS in the appropriate public records of the county in which the property is located. The Agreement will state the property owner is willing to expend any costs that may be necessary in connection with the elevation of the building which are not eligible costs.

- After the Participation Agreement together with the easement and covenant and any required subordination agreements are recorded in the public records, the elevation of the building will be commenced, completed, inspected, and after final approval by the District Engineer, a notice of construction completion will be issued to the NFS, and the individual elevation project will be closed out as complete.

2.3.2 Eligible and Ineligible Elevation Costs

Building elevation work that are eligible costs shall include actual costs (itemized costs for each task), including but not limited to: design costs, costs of obtaining all required permits (i.e. zoning or land use approvals; environmental permits or required certifications; historic preservation approvals; and building permits), and costs of surveys, state and local applicable tax, and costs for the following tasks:

- Elevating the building per the RP;
- Elevating the roof and extending the walls of a side building attached to the main building (i.e., garage);
- Elevating mechanical equipment (i.e., air conditioner, furnace, water heater, electrical panel, fuel storage, valves, or meters);
- Connecting, disconnecting, and extending utility connections for electrical power, fuel, incoming potable water, wastewater discharge;
- Meeting access requirements of applicable building codes (i.e., stairs with landings, guardrails);
- Creating large vent openings in the foundation and walls to meet requirements for flood water entry and exit;
- Only trees which restrict the demolition and reconstruction work on any building may be removed;
- Relocation assistance funds for displaced persons, as defined in Federal law, are available to cover some expenses incurred during the actual elevating of the building. The NFS is required to follow the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act) regulations (P.L. 91-646) when conducting all real estate acquisitions. Further information is in section 2.3.4 Relocation Assistance for Residents of Elevated Buildings;
- Debris removal (all demolition debris (hazardous and non-hazardous) shall be removed and taken to an approved landfill);
- Site grading and site restoration including restoring landscaping to its preconstruction condition;
- Temporary site protection measures such as temporary construction fencing.

If additional work is required as a condition of building permit issuance, and if such work is not listed as eligible above, the property owner will be required to provide funds equal to the amount of the cost to complete the required work. The property owner can seek assistance of funds from the City or County, if applicable. In no event shall the building be elevated if it is formally determined that the building is not physically sound and capable of being elevated safely. The costs associated with the following tasks are ineligible:

- Any work not strictly necessary for the safe completion of the building elevation;
- Any repair of existing deficiencies, including structural and system deficiencies;
- Modifications or improvements to a septic system except for extension of lines from the elevated building to the existing system;
- Cost for elevation of more than what is necessary per the RP;
- Modifications to buildings that are not attached to the eligible building and/or buildings not considered the primary residence (i.e., detached garage, shed and/or barns);
- Modifications to pools, spas, hot tubs, and related buildings or accessories;
- Modifications to decks and patios not connected to or immediately adjacent to the building except for modifications that are expressly required by building codes (i.e., stairways and landing modifications);
- The proper remediation, removal and disposal of environmental contaminants including but not limited to (HTRW), lead, asbestos, and asbestos-containing materials in damaged or friable form;
- Costs to bring a non-conforming building into compliance with current building code, housing code and/or other applicable codes; and
- Unless a satisfactory written medical opinion is provided by a duly licensed physician that special access is required for a handicapped or mobility challenged property owner or the property owner's family member or other person currently residing in the home, or by a tenant currently occupying the home, costs associated with special access improvements such as elevators, lifts, ramps, etc.

2.3.3 Accessibility Accommodations for Elevated Buildings

If a property owner and/or the property owner's family member or other person or tenant who is a current occupant of the building at the time of scheduling elevation of the building is physically disabled or has mobility impairments, such as in the case of elderly homeowners, a physician actively licensed by the state of Florida and in good standing must provide a written medical opinion and confirmation that special handicapped access is required before any means of special access may be included as a project funded feature in the elevation of the building. Multiple special access points are eligible for funding where necessary to meet state or local building code compliance. Where ramps are used to provide access, the ramps shall be designed to meet Federal standards for slope and width. Where ramps are not technically feasible, a mechanical chairlift could be installed. Special access features shall be subject to state and local building and other applicable codes.

2.3.4 Relocation Assistance for Residents of Elevated Buildings

Tenants who reside in buildings being elevated and who are deemed to be “displaced” may be eligible for certain benefits in accordance with Uniform Relocation Assistance and Real Property Acquisition Policies for Federal and Federally Assisted Projects of 1970, Public Law 91-646, 84 Stat. 1894 (42 U.S.C. 4601), as amended by the Surface Transportation and Uniform Relocation Assistance Act of 1987, Title IV of Public Law 100-17, 101 Stat. 246-256; 49 Code of Federal Regulations 24; and HUD Handbook 1378 (collectively referred to as the URA). The NFS will receive credit toward their 35 percent of the implementation cost share for providing temporary relocation assistance as part of the Lands, Easements, Rights of Way, Relocations, and Disposal Area (LERRD) for the project. Appropriate advisory services, including reasonable advance written notice of the following:

- Date and approximate duration of the temporary relocation;
- Address of the suitable decent, safe, and sanitary dwelling to be made available for the temporary period;
- Terms and conditions under which the tenant may lease and occupy a suitable decent, safe and sanitary dwelling in the building/complex upon completion of the project;
- Provisions of reimbursement, in accordance with the requirements of the URA, for all reasonable out of pocket expenses incurred in connection with the temporary relocation;
- In addition to relocation advisory services, residential displaced tenants may be eligible for other relocation assistance including relocation payments for moving expenses and replacement housing payments for the increased costs of renting a comparable replacement dwelling;
- All temporary housing costs must be approved in advance in writing by the USACE.

2.4 Floodproofing of Nonresidential Buildings and Critical Infrastructure

For the purposes of nonstructural measure evaluation, nonresidential buildings include commercial buildings, critical infrastructure, and any other building that is not a single-family home or duplex. Non-residential buildings are eligible for floodproofing and included in the RP if they were estimated to have significant damage that could be reduced with the implementation of floodproofing. Dry floodproofing consists of sealing all areas of a building up to a maximum of approximately four feet above ground level to reduce damage caused by coastal storm surge inundation by making walls, doors, windows and other openings resistant to penetration by water. Walls are coated with sealants, waterproofing compounds, or plastic sheeting. Back-flow from water and sewer lines is prevented by installing mechanisms such as drain plugs, standpipes, grinder pumps, and back-up valves. Openings, such as doors, windows, sewer lines, and vents, may also be closed temporarily with sandbags or removable closures, or permanently sealed. Some common floodproofing measures include:

- Backflow valves;
- Closures on doors, windows, stairwells, and vents—they may be temporary or permanent;
- Rearranging or protecting damageable property—e.g. relocate or elevate utilities;
- Sump pumps and sub-drains; and
- Water resistant material; metal windows, doors and jambs; waterproof adhesives; sealants and floor drains.

2.4.1 Application and Approval Process for Floodproofing

Nonresidential property owners of buildings eligible for floodproofing as part of the RP who wish to participate in the project must complete and submit an application. A property owner may withdraw the application at any time prior to the execution of a Participation Agreement by the property owner and USACE. The NFS and USACE will work together to verify eligibility for participation in the project. Applications will be submitted to USACE, but processing/verifying tasks may be split between USACE and the NFS depending on the NFS's capability. Incomplete applications or applications which contain false or misleading information or substantial errors will not be processed. The application and approval process includes the following steps:

- The application includes an authorization for temporary right-of-entry to USACE and the NFS to enter upon the property. This is required in order for USACE and the NFS to enter in and upon the building and land for purposes of investigating, inspecting, surveying, performing required environmental surveys, testing, and site assessments, evaluating the condition of the building, determining elevation requirements, verifying the current elevation, and conducting other activities necessary for USACE to make a determination of building eligibility;
- The property owner must submit satisfactory proof of ownership. Proof of ownership shall require a Certificate of Title and a Certificate of Mortgage that identifies the names of all of the owners of the property, as well as any holders of a lease interest, third party interest holders and any holders of a lien or encumbrance against the property. Additionally, the property owner shall provide written verification from the tax assessor that no taxes are due and payable on the property, as well as documentation from any holder of a mortgage, lien, or encumbrance, that the mortgage, lien, or encumbrance is in good standing or has been satisfied and released;
- An ASTM Phase I Environmental Site Assessment (ESA) and Asbestos investigation (and if warranted, additional HTRW investigations and a Phase II, ESA), inspections, surveys and boundary monumentations will be completed. An ESA Report shall be prepared and shall include an HTRW and asbestos certification. The Report shall state whether the property is "clean" and cleared to proceed with the elevation process; or shall identify miscellaneous debris (i.e. appliances, junk vehicles and parts, general debris, etc.) that must be cleaned up or removed from the property; or shall identify that there is the potential for HTRW on the property and state that a Phase II ESA is required for further evaluation. The property owner shall be notified in writing of the results of the Phase I ESA. If the Phase I ESA indicates the potential presence of HTRW on the property, the property owner shall be notified in writing that the property has been identified for potentially HTRW. The notice shall also request the property owner to execute a separate right-of-entry for the HTRW investigations and the performance of a Phase II ESA. In addition, the notice shall advise the property owner that if contamination is found, the property owner be responsible for all costs of clean-up under state and Federal laws (regardless of whether the property owner participates in the project), and that if the property owner refuses to provide the additional right-of-entry for the Phase II ESA, the property owner will be removed from the project. The property owner shall be notified in writing of the results of the Phase II ESA. If the Phase II ESA identifies contamination, the property owner will be notified in writing of the remediation that is required to be performed, at the owners cost and expense, that the work must be performed by a licensed HTRW remediation professional and that documentation from a third party licensed HTRW remediation profession must be provided to the Government with sufficient

evidence to support that the contamination has been successful and properly remediated is required before a final determination on eligibility can be made;

- A determination that a building is qualified for dry floodproofing will be made after all inspections, investigations, assessments, title research, and all other work required to determine eligibility for dry flood proofing is complete and prior to the development of the scope of work;
- A Participation Agreement containing a “Covenant Running with the Land” in favor of the NFS shall be executed by the property owner and USACE and/or NFS. The Agreement will authorize USACE, the NFS, or their contractors to enter the property for purposes of implementing the floodproofing action and for inspection and enforcement purposes, an agreement to hold harmless the NFS and USACE for any damages arising from the flood-proofing work, and a covenant running with the land shall be executed by all owners of the property. The Participation Agreement, together with the easement(s) and covenant running with the land, as well as any required subordination agreements, shall be recorded by the NFS in the public records of the County, and municipality if applicable, in which the property is located. Each building that is dry floodproofed must have an approved sanitary disposal system and follow local and state health and building codes;
- After the Participation Agreement together with the easement and covenant and any required subordination agreements are recorded in the public records, the dry floodproofing work will be commenced, completed, inspected, and after final approval by the District Engineer, a notice of construction completion will be issued by to the NFS and the individual dry floodproofing project will be closed out as complete.

2.5 Implementation Method

The traditional method of nonstructural project implementation is generally described in publications of the USACE National Nonstructural Committee (previously known as the National Flood Proofing Committee) and Flood Risk Management Planning Center of Expertise. Under the traditional method, the USACE District utilizes Federal procurement to obtain design and construction contractors for the various nonstructural measures. The Government will procure contracts that will allow a contractor to perform work on multiple buildings through a series of one or more task orders and who will be responsible for all work associated with the implementation of the recommended nonstructural measures from the approval of the elevation and/or floodproofing plans for each building to the final inspection of completed buildings.

The property owner enters into a Participation Agreement with USACE, which contains a restrictive covenant running with the land in favor of the NFS and/or USACE. The form of the Agreement (and easement and covenant) will be prepared after the completion of the feasibility study during PED and will be submitted to USACE’s South Atlantic Division and Headquarters USACE for review and approval. The Agreement will identify among other things, a “not-to-exceed” dollar amount, the USACE contractor performing the work, restrictions on the future development and alteration of the building after the work is completed, and requirements for compliance with local flood management regulations and/or the National Flood Insurance Program (NFIP). The Agreement will require the property owners and their heirs, successors, and assigns, to covenant, warrant, and agree to forever release, discharge, indemnify, defend, and hold and save harmless USACE and the NFS (and their contractors) from and against any liability or any claim of any kind or nature whatsoever which might arise out of the work performed on the building in connection with the project, and any damages or injuries resulting either directly or indirectly from any

work and/or any flooding of the land or of the building. In addition, the Agreement will authorize right of entry to the property and the building by the NFS and USACE for the completion of the nonstructural work and for continued oversight by the NFS once the project has been completed.

The Agreement and the restrictive covenant shall prohibit future alteration or new construction for human habitation or occupancy on the property at an elevation or floodproofing lower than the design height and shall contain the following restrictions: (a) upon completion of the elevation or floodproofing work, no part of the building located below the level of the lowest habitable finished floor will thereafter be converted to living area for human habitation or occupancy, or otherwise altered in any manner which would impede the movement of waters beneath the building; (b) the area below the lowest habitable finished floor shall be used solely for the parking of vehicles, limited storage, or access to the building and will never be used for human habitation or occupancy; (c) that mechanical, electrical, or plumbing devices shall not be installed below the FFE. These restrictions and the following statement must be specifically included in every deed and instrument that conveys or purports to convey title to or any interest in the land or buildings thereon, or which imposes a lien, encumbrance, or mortgage on such lands or buildings, which is executed after the execution of the covenant:

“This property has received Federal elevation assistance. Federal law requires that flood insurance coverage on this property must be maintained during the life of the project regardless of transfer of ownership of such property. Pursuant to 42 U.S.C. §5154a, failure to maintain flood insurance on this property may prohibit the owner from receiving Federal disaster assistance with respect to this property in the event of a flood disaster. The property owner is also required to maintain this property in accordance with the floodplain management criteria of Title 44 of the Code of Federal Regulations Part 60.3 and the floodplain management regulations adopted by the community within which this property is located.”

The executed Agreement will be recorded, by the NFS in the appropriate public records of the County, and municipality if applicable, where the property is located. A Certificate of Occupancy must be issued by a qualified building official to certify that the construction was properly completed. Upon completion of the elevation or floodproofing, a professional land surveyor will verify that the building has been elevated to the required elevation. Upon completion of the elevation or floodproofing of each building, a Notice of Construction Completion (NCC) is issued by USACE to the NFS. The NFS is responsible for ensuring and maintaining compliance with any enforceable restrictions for the building and property. The property owner is required to operate and maintain the integrity of their specific nonstructural measures.

2.6 Operations, Maintenance, Repair, Rehabilitation, and Replacement (OMRR&R)

Once the nonstructural measures have been implemented and NCC sent, the owner of the property will be responsible for all costs and risk of maintaining, repairing, rehabilitating, and replacing the floodproofing measures that were implemented for the subject property. For all building types, OMRR&R costs to the NFS will be confined to costs associated with regular, periodic surveys and site visits of buildings where nonstructural measures have been applied to determine that the requirements of the OMRR&R Manual are being met. It will also include yearly testing or inspection of floodproofing methods put in place. OMRR&R costs are 100 percent non-Federal and are not cost shared. OMRR&R costs will depend on the number of buildings that are ultimately completed considering the measures are voluntary and full participation is not expected.

An OMRR&R Manual shall be provided to Miami-Dade County as early as possible in the period of implementation because USACE will issue a NCC for each floodproofed building once the floodproofing is complete. At the time of the issuance of an NCC, Miami-Dade County's obligations to confirm that building owners are in compliance with the OMRR&R Manual commence. Miami-Dade County shall conduct periodic inspections at the intervals specified in the OMRR&R Manual to ensure that the owners, their heirs, and assigns, follow the terms and conditions of the executed agreements and shall provide written certifications to USACE that the buildings and lands have been inspected and that no violations have been found. Regarding the elevated residential buildings, the inspections will determine among other things, that no part of the building located below the level of the lowest habitable finished floor has been converted to living area for human habitation, or otherwise altered in any manner which would impede the movement of waters beneath the building; that the area below the design water surface elevation is being used solely for the parking of vehicles, limited storage, or access to the building and not for human habitation; that mechanical, electrical or plumbing devices have not been installed below the design water surface elevation; that the property is in compliance with all applicable floodplain ordinances and regulations. USACE shall have the right, but not the obligation, to perform its own inspections of the properties where nonstructural measures were implemented pursuant to the Miami-Dade Back Bay CSRM project. Miami-Dade County is responsible for the enforcement of the provisions of the agreement executed by the owners of property benefiting from the nonstructural measures and for enforcement of the requirements of the OMRR&R Manual, including but not limited to, compliance with the requirements of Section 402 of the Water Resources Development Act of 1986, as amended.

2.7 Various Methods for Prioritizing the Nonstructural Work

The buildings that have been identified by the study as eligible for nonstructural measures and are included in the RP are distributed throughout the municipalities in Miami-Dade County. To effectively implement nonstructural measures included in the Plan, a phasing strategy plan will be developed during the PED Phase to facilitate the prioritization and/or scheduling the nonstructural work across the study area. Any building scheduling or prioritization will be subject to the availability of Federal funds. Some of the methods for scheduling or prioritizing nonstructural work that will be considered as part of the prioritization process are as follows; however, additional methods of scheduling or prioritizing such work may also be considered.

2.7.1 Clustering

If numerous property owners in a contiguous neighborhood or subdivision agree to participate, that particular area could be targeted for priority in implementation. A focus on clustered properties can create a ranking hierarchy of which properties to address first. The size of a cluster would need to be defined but could consist of zip codes or neighborhoods. This approach would rank efficiency as the main factor in determining which eligible properties should be prioritized. This would help in the mobilization, demobilization, and staging of equipment.

2.7.2 Risk-Level

Willing property owners may not exist in clusters. In such cases, an alternative option is to focus on the willing property owners that exhibit the highest risk for coastal storm inundation damage. Under this

approach, priority would be given to willing property owners of buildings identified to have the most damage and then complete work on the buildings with less damage only after work on the high risk ones has been completed.

2.7.3 First Come, First Served

This approach would involve creating a list of willing property owners and ranking them by how quickly their contracts and eligibility documentation are processed. This approach would help ensure that resources would be used effectively by focusing on properties that have owner support for the implementation of nonstructural measures.

2.8 Actions to be taken by the NonFederal Sponsor in Support of the Project

Actions taken to comply with Section 402 of the Water Resources Development Act of 1986, as amended (33 U.S.C. 701b-12) will be the obligation of the NFS, which will work to ensure development, compliance, and enforcement consistent with local floodplain management plans and regulations, adoption of more stringent local floodplain regulations, adoption of more restrictive county and municipal building codes, land use and zoning regulations, and other developmental controls. The NFS obligations in this regard include:

- Not less than once each year the NFS will inform affected interests of the extent of protection afforded by the Plan;
- The NFS will participate in and comply with applicable Federal floodplain management and flood insurance regulations;
- The NFS will comply with Section 402 of the Water Resources Development Act of 1986, as amended (33 U.S.C. 701b-12), which requires a non-Federal interest to prepare a floodplain management plan within one year after the date of signing the Project Partnership Agreement (PPA), and to implement such plan not later than one year after completion of construction of the Plan, or functional elements of the Plan. The plan shall be designed to reduce the impacts of future hurricane and storm surge flood events in the project area, including but not limited to, addressing those measures to be undertaken by non-Federal interests to preserve the level of hurricane storm surge risk reduction provided by the Plan. The NFS will provide an information copy of the plan to USACE upon its preparation;
- The NFS will publicize floodplain information in the area concerned and will provide this information to zoning and other regulatory agencies for their use in adopting regulations, or taking other actions, to prevent unwise future development and to ensure compatibility with hurricane and storm surge flood risk reduction levels provided by the Plan.

Additionally, the NFS will be obligated to prevent obstructions or encroachments on the properties where nonstructural measures have been implemented (including prescribing and enforcing regulations to prevent such obstructions or encroachments) or the addition of facilities which might reduce the level of risk reduction the Plan affords, hinder operation and maintenance of the Plan, or interfere with the Plan's proper function. Presently, Miami-Dade County participates in the NFIP.

2.9 Collaboration with Other Agencies and Local Communities

Coordination and collaboration across Federal, State, and local agencies is necessary to achieve flood risk reduction in a comprehensive and systematic manner. This approach may require collaboration among multiple agencies.

Another Federal program being utilized to reduce risk in the planning area is FEMA's Hazard Mitigation Grant Program (HMGP). This program, however, has funding and eligibility limitations that constrain its effectiveness in reducing residual risk. The Miami-Dade Back Bay CSRM project could supplement existing HMGP programs in which requirements other than identified risk must be met for program eligibility. In other words, the USACE program would be intended to allow for a more systematic nonstructural implementation by providing funding for flood risk reduction while other Federal monies are committed to other areas of resiliency. It is further noted that the Federal government forbids two or more Federal agencies from providing compensation to cover the same loss. Coordination across Federal agencies would also be required to avoid duplication of funding.

To maximize community understanding, acceptance, and participation in the nonstructural measures included in the Miami-Dade Back Bay CSRM project, it is imperative that Miami-Dade County and local agencies are instrumental in, and potentially leading, the effort to communicate the benefits of such a project. Local community involvement is a requisite for success. Familiarity with local political and community leaders will likely improve residents' level of comfort, trust, and understanding of the project goals, objectives, and benefits.