Mississippi River Valley Division,
Regional Planning and Environment Division South

South Central Coast Louisiana

Feasibility Study with Integrated Environmental Impact Statement

Hurricane Ike flooding in Delcambre, Louisiana.

Appendix K – Nonstructural Implementation Plan

November 2019

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Section 1
Definitions

Term	Definition
Preliminary Structure Eligibility Criteria	To be considered preliminarily eligible for participation in the Nonstructural Project, a structure must meet the following criteria: 1. Have a first floor elevation (FFE) at or below the 0-25-year storm surge floodplain, based on hydrologic conditions predicted to occur in 2025 (the beginning of the 50-year period of analysis) 2. Must be economically justified meaning that the cost of the flood-proofing measure for the structure must not cost more than the total monetary value of the flood damages anticipated to be avoided over the 50-year period of analysis.
0-25-Year Storm Surge Floodplain	The 0-25-Year Storm Surge Floodplain is defined as having up to a 4% chance of being exceeded in any given year.
Base Flood	Defined by the National Flood Insurance Project (NFIP) as the "flood having a 1% chance of being exceeded in any given year and is also called the 100-year flood".
Base Flood Elevation (BFE)	The computed elevation to which floodwater is anticipated to rise during the base flood. The BFE is shown on community's Flood Insurance Rate Map (FIRM).
Economically Justified	The cost to elevate the structure does not exceed the total monetary cost of the flood damages that are anticipated to be avoided over the 50-year period of analysis (years 2025-2075).
Eligible structures	Structures that are determined by the United States Army Corps of Engineers (USACE) to be eligible for flood proofing after the completion of the investigations and analyses as described herein.
Flood Proofing	As defined by the Federal Emergency Management Agency (FEMA) in 44 CFR, Chapter 1, Part 59, means any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

Historic Structure	As defined in 44 CFR Part 59, means any structure 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 either by (a) an approved state project as determined by the Secretary of the Interior or; (b) directly by the Secretary of the Interior in states without approved projects.
Hazardous, Toxic, or Radioactive Waste (HTRW)	HTRW means hazardous, toxic and radioactive waste as more specifically defined in Engineer Regulation (ER) 1165-2-132, "Hazardous, Toxic, and Radioactive Waste (HTRW) Guidance for Civil Works Projects".
Non-Federal Sponsor (NFS)	The NFS is the cost-sharing partner for the study, design, and construction phases of the project.
Nonstructural Flood-proofing Measures	Nonstructural Flood Proofing Measures are permanent or contingent measures applied to a structure and/or its contents that prevent or provide resistance to damage from flooding. Nonstructural Food 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.

Section 2
Introduction

This Nonstructural Implementation Plan describes the general process for the implementation of nonstructural flood proofing measures to reduce the risk of flood damages caused by hurricane and storm surge in St. Martin, St. Mary, and Iberia Parishes. Flood proofing means any combination of structural and nonstructural additions, changes, or adjustments to structures, which reduce or eliminate the risk of flood damage to real estate or improved real property, water and sanitation facilities, or structures with their contents. The primary goal of the Nonstructural Plan is to reduce flood risk for structures that have a FFE at or below the 0-25-year storm surge floodplain, based on hydrologic conditions predicted to occur in 2025 (the beginning of the 50-year period of analysis).

At the time of this Draft Report, a structure inventory has been compiled which identifies 3,463 preliminarily eligible structures in the Study Area that have a FFE at or below the 0-25-year storm surge floodplain and which are “economically justified”. This inventory of structures consists of 2,629 residential structures; 597 commercial structures, 71 public buildings; and 166 industrial complexes and warehouses. These structures will require additional structure-specific analysis during the preconstruction engineering and design (PED) phase to determine final eligibility and the most appropriate and cost-effective flood proofing measures to be employed. Property owners who have preliminarily eligible structures that wish to participate in the flood proofing measures must submit an application and provide a right-of-entry for their structure to undergo an environmental site assessment, appraisal, and other inspections and evaluations to determine the final eligibility of the structure for flood proofing.

The Nonstructural Plan consists of the following flood proofing measures:

1. Elevation of eligible residential structures to the 100-year BFE based on year 2075 hydrology. Elevations will not exceed 13 feet. Tenants of structures that will be elevated, who are temporarily displaced by the project implementation are 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.

2. Dry flood proofing of eligible non-residential structures to make the structure watertight below the BFE to prevent flood waters from entering, which may include one or more of the following methods: using waterproof membranes or sealants to reduce seepage of floodwater through walls and wall penetrations; use of watertight shields for doors and windows; reinforcing walls to withstand floodwater pressure and impact forces generated by floating debris; anchoring the structure to resist flotation, collapse, and lateral movement; and/or installing drainage collection systems and sump pumps to prevent

sewer backup, control the interior water level, or reduce hydrostatic pressure on the slab and walls. Dry flood proofing will be completed on eligible structures at or below 3 feet depth in based on hydrologic conditions predicted to occur in 2025 (the beginning of the 50-year period of analysis).

3. *Historic structures will be considered for flood proofing and elevation to sites outside of the 2075 floodplain after consultation pursuant to Section 106 of the National Historic Preservation Act.

Although the NFIP provides some relief for historic structures from having to comply with floodplain management requirements, the NFIP and FEMA recognize that historic structures should participate in mitigation measures that can reduce the impacts of flood damages. *Under the NFIP regulations and the floodplain regulations of some of the communities in the Study Area, an historic structure is not eligible for elevation if the elevation or alteration through flood proofing methods will preclude the structure's continued designation as an "historic structure" or will be damaging to the historical character or value of the structure as determined by the Louisiana State Historic Preservation Office. Cultural resources, including archaeological resources and historic/architectural resources, could be directly and indirectly affected by the implementation of the Nonstructural Plan. Based on the history of the Study Area and the number of existing historic sites and artifacts found during previous investigations, a relatively low potential exists that previously unrecorded archaeological sites would be identified during site investigations. To ensure full consideration of potential impacts to cultural resources, a Programmatic Agreement has been developed between the USACE, New Orleans District and the Louisiana State Historic Preservation Office (SHPO) regarding the implementation of the Nonstructural Plan in the Study Area. The Programmatic Agreement is anticipated to be executed prior to a release of Final Report in July of 2021. The Programmatic Agreement sets forth the agreed-upon procedures the USACE would follow prior to implementation of a selected alternative in order to satisfy USACE's Section 106 responsibilities for all Project undertakings.

USACE and/or the NFS will engage in a public education campaign to inform property owners of the Nonstructural Project including but not limited to eligibility criteria, the application process, responsibilities of property owners to clear title and remediate contaminated properties, and other key information about the Project. USACE and/or the NFS shall prepare and distribute written materials such as project information pamphlets, letters of invitation to participate, and public meeting notices. In addition, USACE and/or the NFS will issue press releases, hold public meetings and workshops, make presentations to homeowner's associations and other civic groups and organizations, and utilize a variety of social media and other public relations methods to inform property owners and tenants of the Project. The project area shall be subdivided into distinct geographic areas or reaches for implementation and maps of these areas will be prepared and regularly updated to depict the current stage of structure elevation eligibility, structures to be acquired, historic structures and districts, property addresses, names of the property owners, property line boundaries, locations of HTRW, zoning districts, boundaries of regulatory floodways, flood zones, and other important information. It is anticipated that implementation of the Nonstructural Plan will occur over an

approximate 20-year period (assuming funding of ~$70 million/year). However, the scale of the Project is highly dependent upon the number of structures actually receiving nonstructural measures and the amount of funding allocated in any given year.

C. Process for the Nonstructural Project

1. Preliminary eligibility. Each residential structure that has a FFE at or below the 0-25-year storm surge BFE, based on hydrologic conditions predicted to occur in 2025 (the beginning of the 50-year period of analysis) will be considered for eligibility for elevation of the structure "in place". If after completion of the investigation of the property, USACE determines that the structure is eligible for elevation, the entire foundation of the structure 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 or above the 100-year BFE predicted to occur in 2075. All utilities and mechanical equipment, such as air conditioners and hot water heaters, will also be raised to or above this elevation. Property owners may choose to raise the structure, utilities, and/or mechanical equipment in excess of the predicted 2075 100-year BFE; however costs attributable to elevations in excess of the minimum requirements set forth herein are not eligible and must be borne solely by the property owner.

2. Compliance with local codes. State and local building and zoning codes must be taken into consideration in the implementation process. Some zoning codes contain restrictions on "substantial improvements" to existing non-confirming structures which require that the entire structure be brought up to current building code requirements which may increase the costs beyond that of the elevation costs alone. In addition, zoning codes may have height restrictions for buildings in residential areas that might affect the ability of certain structures to be raised without obtaining a variance or other form of relief from the zoning code. All elevations shall be considered "development in the floodplain" and will require local permits prior to any onsite construction. Failure to obtain the required local permits may result in a violation of the local floodplain ordinance and/or the NFIP. The elevated structure must comply with the locally adopted floodplain ordinances. The local government with jurisdiction will be responsible for ensuring that the structure is compliant with the NFIP. Only the costs of elevation and foundation retrofitting are eligible costs. No Federal funds will be used to restore, replace, or repair the structure. No additions to the habitable spaces of the structure will be permitted in the performance of the elevation work. Detailed guidance on foundation construction can be found in FEMA 550, "Recommended Residential Construction for the Gulf Coast: Building on Strong and Safe Foundations".

3. Application and approval process. The following is a general description of the process that will apply to willing owners of preliminarily eligible residential structures:

- Eligible residential property owners, who wish to participate in the elevation aspect of the project, must complete and submit an application which will include a temporary right-of-entry to USACE and the NFS to enter upon the property to conduct investigations to determine final eligibility of the property for inclusion in the project. A property owner may withdraw the application at any time prior to the execution of a Flood Proofing Agreement by the property owner and USACE and/or the NFS. Incomplete applications or applications which contain false or misleading information or substantial errors will not be processed;

- As part of the application, the property owners must execute an authorization for entry which will grant USACE and the NFS authorization to enter in and upon the structure and land for purposes of investigating, inspecting, surveying, performing required environmental surveys, testing, and site assessments, evaluating the condition of the structure, determining elevation requirements, verifying the current elevation, performing an appraisal, and conducting other activities necessary for USACE to make a determination of structure 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.;

- Title research and appraisals will be completed by the NFS to confirm fee ownership and the existence of leases, third party interests and the existence of any liens, judgments or mortgages on the property. The title research will identify the names and addresses of all of the owners of an interest in the property, inclusive of owners of the fee interest, leasehold or third party interest and holders of any liens, mortgages or judgments against the property. The property must have clear title that is not subject to any outstanding right or interest that would present an impediment to the000 implementation of the project and compliance with the terms of the Floodproofing Agreement. To that end, as one of the conditions of being determined to be eligible to participate in the project, the property owner shall be responsible to clear the title of all ownership issues and to obtain any necessary release instruments or subordination agreements, in accordance with the conditions and requirements deemed necessary by the Government, from holders of leases, liens, judgments, encumbrances, or third party interests at the property owner's sole expense. The failure by the property owner to provide title documentation that the Government deems satisfactory to establish clear title shall result in a determination by the Government of ineligibility of the structure to participate in the non-structural project.;

• 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.;

The structure will be assessed to make sure that the following eligibility requirements are satisfied:

a. The structure is in a condition suitable for human habitation;

b. The property is not located on Federal property and leased land:

c. The structure can be elevated to meet the required BFE so that the habitable floors are raised to levels which will protect the residential structures from storm surge flooding to reduce future losses from the likelihood of the 100-Year Flood Event to the extent practicable. However, in no event will a structure be raised greater than 13 feet above the ground level;

d. Based on a signed written certification by the property owner, as confirmed by the assessment, the structure 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 disaster assistance for the elevation of the structure;

g. The structure complies with the building code and floodplain management codes under which the structure was originally permitted;

A determination that a structure is qualified for elevation will be made after all inspections, investigations, assessments, title research and all other work required to determine eligibility for elevations is complete and prior to the development of the elevation scope of work.;

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 Flood Proofing Agreement containing a "Residential Structure 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 Parish in which the property is located and shall be binding upon all of 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 structure located below the lowest habitable finished floor for human habitation and the alteration of the structure in any way to impede the movement of flood waters under the structure, as well as prohibiting the construction of any other structure in a manner that would impede the movement of floodwaters under the structure. The Flood Proofing 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 Parish 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 structure which are not eligible costs. The Agreement shall require that the property owner agrees to insure the elevated home to an amount at least equal to the maximum limit of coverage made available with respect to the particular property through the NFIP as long as the property owner holds title to the property.

After the Flood Proofing Agreement together with the easement and covenant and any required subordination agreements are recorded in the public records, the elevation of the structure 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.

Eligible Elevation Costs. 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. In no event shall the structure be elevated if it is formally determined that the structure is not physically sound and capable of being raised safely. Structure 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 title searches, surveys, appraisal fees, state and local applicable tax, and costs for the following tasks:

- raising the structure;
- raising the roof and extending the walls of a side structure attached to the main structure (i.e., garage);
- raising 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 structure may be removed;
- relocation assistance funds for displaced tenants are available to cover some expenses incurred during the actual raising of the structure for a period of no more than 90 days;
- 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.

Ineligible Elevation Costs. The costs associated with the following tasks are ineligible.

- any work not strictly necessary for the safe completion of the structure 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 raised structure to the existing system;
- cost for elevation of more than one foot above BFE:
- modifications to structures that are not attached to the structure;
- modifications to pools, spas, hot tubs, and related structures or accessories;
- modifications to decks and patios not connected to or immediately adjacento the structure except for modifications that are expressly required by building codes (i.e., stairways and landing modifications);
- environmental site remediation costs are not eligible;
- costs to bring a non-conforming structure into compliance with current building code, housing code and/or other applicable codes;
- 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.; and
- structures not considered the primary residence (i.e., detached garage, shed and/or barns);

5. Accessibility Accommodations.

If a property owner and/or the property owner's family member or other person or tenant who is an current occupant of the structure at the time of scheduling elevation of the sttructure, is physically disabled or has mobility impairments such as in the case of elderly homeowners, a physician actively licensed by the state of Louisiana 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 structure. 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 may be installed. Special access features shall be subject to state and local building and other applicable codes.

6. Relocation Assistance.

Tenants who reside in structures being elevated, and who are deemed to be "displaced" under the URA regulations, 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). Displacement longer than 90 days will be consistent with the URA. 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.

Relocation assistance for tenants is governed by the URA and may include but is not limited to, advisory services, differential housing payments, and reimbursement of costs of moving personal property, rental assistance to supplement the costs of leasing a comparable replacement dwelling.

D. Dry Flood Proofing of Eligible Non-Residential Structures

Dry flood proofing consists of sealing all areas below the hurricane and storm surge flood damage risk reduction level of a structure to make it watertight and ensure that floodwaters cannot get inside by making walls, doors, windows and other openings impermeable to water

penetration. Based on NFIP testing conducted at the Engineering Research and Development Center, dry flood proofing can generally only be performed on the walls and portions of a conventionally built structure from the ground level to up to three feet. Walls are coated with sealants, waterproofing compounds, or plastic sheeting is placed around the walls and covered, and back-flow from water and sewer lines prevention mechanisms such as drain plugs, standpipes, grinder pumps, and back-up valves are installed. Openings, such as doors, windows, sewer lines and vents, may also be closed temporarily, with sandbags or removable closures, or permanently. Dry flood proofing achieves hurricane and storm surge flood damage risk reduction but it is not recognized by the NFIP for any flood insurance premium rate reduction when applied to residential structures, and may not be used under the NFIP for new or substantially damaged buildings located in a Special Flood Hazard Area. A structural analysis of the wall strength is required to achieve higher level of risk reduction. Closure panels may be used at openings. This measure is viable for appropriate structures if design hurricane and storm surge flood depths are generally less than three feet, and hydrodynamic forces would also be a consideration. For structures with crawlspaces, the only effective way to dry flood proof is to make the first floor impermeable to the passage of floodwater. Dry flood proofing of non-residential structures must be performed in accordance with NFIP Technical Bulletin (TB) 3-93, Non-Residential Floodproofing—Requirements and Certification, and the requirements pertaining to dry flood-proofing of non-residential structures found in 44 C.F.R. §§ 60.3(b)(5) and (c)(4). Some common flood proofing 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 raise utilities;
- Sump pumps and sub-drains; and
- Water resistant material; metal windows, doors and jambs; waterproof adhesives; sealants and floor drains.

Application and approval process. The following is a general description of the process that will apply to willing owners of structures that are preliminarily eligible for dry flood proofing:

- Non-residential structures that have a FFE at or below the 0-25-year storm surge floodplain, based on hydrologic conditions predicted to occur in 2025 (the beginning of the 50-year period of analysis) are eligible for dry flood-proofing measures. Eligible property owners, who wish to participate in the dry flood-proofing aspect of the Project, must complete and submit an application which will include a temporary right-of-entry to USACE and the NFS to enter upon the property to conduct investigations to determine final eligibility of the property for inclusion in the Project. A property owner may withdraw the application at any time prior to the execution of a Flood Proofing Agreement by the property owner and USACE and/or the NFS. Incomplete applications or applications which

contain false or misleading information or substantial errors will not be processed;

- As part of the application, the property owners must execute an authorization for entry which will grant USACE and the NFS authorization to enter in and upon the structure and land for purposes of investigating, inspecting, surveying, performing limited environmental testing and site assessments, evaluating the condition of the structure, determining dry flood proofing , verifying the current elevation, performing an appraisal, and conducting other activities necessary for USACE to make a determination of structure 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 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;

- Title research and appraisals will be completed by the NFS to confirm fee ownership and identify all lienholders. The property must have clear title. The property owner will be responsible to clear the title of all ownership issues and obtain any necessary subordination agreements from holders of liens, encumbrances, or third party interests at the property owner's sole expense; the failure to provide clear title shall result in a determination of ineligibility;

- An ASTM Phase I 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 dry flood proofing 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 by a licensed professional and that documentation that the contamination has been successfully and properly remediated is required before a final determination on eligibility can be made.

- Research and appraisals will be completed by the NFS. The property must have clear title. The property owner will be responsible to clear the title of all ownership issues and obtain any necessary subordination agreements from holders of liens, encumbrances, or third party interests at the property owner's sole expense; the failure to provide clear title shall result in a determination of ineligibility;

- A determination that a structure is qualified for dry flood proofing 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 Flood Proofing 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 flood proofing 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 Flood Proofing 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 Parish in which the property is located. Each structure that is dry flood proofed must have an approved sanitary disposal system and be in compliance with local and state health and building codes;

- After the Flood Proofing Agreement together with the easement and covenant and any required subordination agreements are recorded in the public records, the dry flood proofing 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 flood-proofing project will be closed out as complete.

E. Hurricane Storm Surge Damage Risk Reduction Actions to be taken by the NFS in St. Martin, St. Mary, and Iberia Parishes

Hurricane and storm surge flood damage risk reduction 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 by municipal and Parish governments in St. Martin, St. Mary, and Iberia Parishes with local floodplain management plans and regulations, adoption of more stringent local floodplain regulations, adoption of more restrictive parish 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 NED Plan;
- The NFS will participate in and comply with applicable Federal floodplain management and flood insurance projects.
- 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 NED Plan, or functional elements of the NED 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 NED 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 NED Plan.

Additionally, the NFS will be obligated to prevent obstructions or encroachments on the properties that have been flood proofed (including prescribing and enforcing regulations to prevent such obstructions or encroachments) or the addition of facilities which might reduce the level of protection the NED Plan affords, hinder operation and maintenance of the NED Plan, or interfere with the NED Plan's proper function. Presently, St. Martin Parish, St. Mary Parish, and Iberia Parish, including the cities and towns of Arnaudville, Morgan City, New Iberia, St. Martinville, Henderson, Jeanerette, Franklin, Breaux Bridge, Broussard, Baldwin, Berwick, Loreauville, Parks Village, Patterson, and Chitimacha Tribe, are all communities participating in the NFIP (See FEMA Community Status Book, Louisiana October 2019 https://www.fema.gov/cis/LA.html).

F. Implementation Methods

Traditional method. The "traditional method" of implementation is generally described in publications of the USACE National Flood Proofing Committee and Flood Risk Management Planning Center of Expertise. Under the traditional method, the USACE District utilizes a Federal procurement to obtain design and construction contractors for the various floodproofing and elevation measures. The Government will procure contracts that will allow a contractor to perform flood proofing work on multiple structures through a series of one or more task orders and who will be responsible for all work associated with the elevation from approval of the elevation plans for each structure to final inspection.

The property owner enters into a Flood Proofing 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 during PED and will be submitted to CEMVD and HQUSACE for review and approval. The Agreement will identify among other things, a "not-to-exceed" dollar amount, the USACE contractor performing the flood proofing work, restrictions on the future development and alteration of the structure after the flood proofing work is completed, and requirements for compliance with local flood management regulations and/or the 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 structure in connection with the Project, and any damages or injuries resulting either directly or indirectly from any elevation work and/or any flooding of the land or of the structure. In addition, the Agreement will authorize right of entry to the property and the structure by the NFS and USACE for the elevation work.

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 predicted 2075, 100-year BFE and shall contain the following restrictions: (a) upon completion of the elevation or floodproofing work, no part of the structure 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 structure; (b) the area below the predicted 2075 100-year BFE shall be used solely for the parking of vehicles, limited storage, or access to the structure and will never be used for human habitation or occupancy; (c) that mechanical, electrical, or plumbing devices shall not be installed below the BFE. 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 structures thereon, or which imposes a lien, encumbrance, or mortgage on such lands or structures, which is executed subsequent to 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 flood plain 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 Non-Federal sponsor in the appropriate public records of the Parish 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. When the elevation or floodproofing work is completed, all structures must be covered by flood insurance in an amount at least equal to the costs of the flood proofing work or to the maximum limit of coverage made available with respect to the property, whichever is less. Upon completion of the elevation or floodproofing a professional land surveyor and verifying that the structure has been elevated to the required elevation. The final inspection checklist shall be signed by the local floodplain administrator/coordinator. Upon completion of the elevation or floodproofing of each structure, a Notice of Construction Completion is issued by USACE to the NFS. The NFS is responsible for ensuring and maintaining compliance with any enforceable restrictions for the structure and property. The property owner is required to operate and maintain the integrity of their specific nonstructural measures.

G. Various Methods for Prioritizing the Nonstructural Elevation Work

Any implementation of a decision on scheduling or prioritization will be subject to the availability of Federal funds. Some of the methods for scheduling or prioritizing nonstructural elevation work that will be considered are as follows; however, additional methods of scheduling or prioritizing such work may be considered:

Clustering

If numerous property owners in a contiguous neighborhood or subdivision agree to participate, that particular area could be targeted for priority in structure elevation 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.

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 flood damages. For example, if 1,000 property owners execute Flood Proofing Agreements, the owners who reside in the 0-5-year floodplain would be prioritized for construction. Once these properties

are elevated, the next highest-risk properties (6-10-year floodplain) would be targeted. This approach would rank risk exposure as the main factor in determining which eligible properties should be prioritized.

First-Come, First-Served

This approach would involve creating a list of eligible 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 flood proofing measures.

H. Operations and Maintenance

A draft Operations and Maintenance Manual (O&M Manual) shall be provided to the NFS as early as possible in the period of implementation because USACE will issue a Notice of Construction Completion (NCC) for each floodproofed structure and acquired lands once the flood proofing or acquisition is complete. At the time of the issuance of an NCC, the NFS's obligations for operation and maintenance for the subject structure or lands commences. Flood proofed structures and acquired tracts shall be considered a separable element and functional portion of the Project. USACE shall have no operation and maintenance responsibilities. Enforcement of restrictive Covenants including those contained in Floodproofing Agreements or deeds of conveyance and subordination/release agreements is the sole responsibility of the NFS. The NFS shall conduct periodic inspections at the intervals specified in the O&M Manual to ensure that all Covenants executed by property owners participating in the project are being followed and adhered to and shall provide written certifications to USACE that the structures and lands have been inspected and that no violations have been found. The inspections will determine among other things, that no part of the structure located below the level of the lowest habitable finished floor has been converted to living area for human habitation or occupnacy, or otherwise altered in any manner which would impede the movement of waters beneath the structure; that the area below the predicted 2075 100-year BFE is being used solely for the parking of vehicles, limited storage, or access to the structure and not for human habitation; that mechanical, electrical or plumbing devices have not been installed below the BFE; 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 flood proofed structures and lands acquired pursuant to the project.

I. Prior Reports and Guidance used in Formulating the Nonstructural Plan

In preparing this Plan, the SCCL Project Delivery Team (PDT) reviewed numerous nonstructural flood proofing plans, reports, and publications from the USACE National Flood Proofing Committee, other USACE Districts, and other state and Federal entities that have administered and are administering nonstructural plans and projects, specifically including FEMA. Projects reviewed for lesson learned were completed under a separate Congressional authorities and than provided by the USACE non-structural mission and that, therefore, they

were subject to differing authorized purposes and conditions for implementation.The PDT also communicated extensively with the Vertical Team. The elevation and flood proofing projects that were reviewed by the PDT include but are not limited to: Southwest Coastal (New Orleans District), the Huntington District Nonstructural Flood Reduction Projects SOP and related documents; the Mill Creek Risk Management Study (Nashville District); the City of Tehama, CA Flood Damage Reduction Project (Sacramento District); the Wayne County (Tug Fork) Nonstructural Project, Wayne County, West Virginia; the Fargo-Moorehead Metropolitan Area Flood Risk Management Project, North Dakota and Minnesota (Omaha District); Pierre-Fort Pierre South Dakota Elevation Project (Omaha District); Tug Fork Basin Elevation Project (Huntington District) Upper Des Plaines River and Tributaries Feasibility Study (Chicago District); Mississippi Coastal Improvements Project (Mobile District); Dry Creek, TN Project (Nashville District); the King County, WA Elevation Project; the Snohomish, WA Elevation Project; State of New York Home Elevation Pilot Project; Louisiana Coastal Protection and Restoration Final Technical Report and Nonstructural Plan Component Appendix; Snoqualmie, WA Home Elevation Project; Bucks County, PA Home Elevation Project; FEMA Hazard Mitigation Grant Projects.

The PDT also utilized the following materials: CECW-PD Implementation Guidance for Section 219 of the Water Resources and Development Act of 1999, Nonstructural Flood Control Projects (22 Jan. 2001); Memorandum between FEMA and USACE regarding Joint Actions on Planning for Flood Risk Management Projects dated June 2012. Section 308 of the Water Resources Development Act of 1990; Executive Order 11988, “Floodplain Management” (24 May 1977) as amended (Jan. 2015); FEMA Revised Guidelines for Implementing Executive Order 11988, Floodplain Management; FEMA P-467-2, National Flood Insurance Project, Floodplain Management Bulletin, Historic Structures (May 2008); EP 1165-2-314 “Flood Proofing Regulations” (15 Dec. 1995); ER 1165-2-26 “Implementation of Executive Order 11988 on Flood Plain Management” (30 March 1984); ER 1105-2-100 Section III “Flood Damage Reduction” (22 April 2000); ER 1105-2-101 “Risk Analysis for Flood Damage Reduction Studies” (3 Jan 2006); EM 1110-2-1619 “Risk Based Analysis for Flood Damage Reduction Studies” (1 Aug 1996); USACE National Flood Proofing Committee, “Non-Structural Flood Damage Risk Reduction within the Corps of Engineers- What Districts are Doing” (October 2001); National Flood Proofing Committee, “Implementation of Nonstructural Projects” (August 2013); Non-Structural Flood Damage Risk Reduction within the Corps of Engineers, (Oct. 2003); Coastal Risk Reduction and Resilience: Using the Full Array of Measures, USACE, Civil Works Directorate, (Aug. 2013); National Economic Development Procedure Manual, IWR Report 09-R-2, June 2000 (Overview Manual by USACE); ER 405-1-16 “Relocation Assistance Project” (1 Jan. 2014); Section 73 of the Water Resource and Development Act of 1974; Section 219 of the of the Water Resource and Development Act of 1999; Section 308 of the Water Resource and Development Act of 1990; 33 U.S.C Section 2213 “Flood control and other purposes”; FEMA Community Status Book Report, Louisiana (2015); FEMA, “Procedures for Developing Scopes of Work for the Elevation of Flood Prone Structures” (Jan. 2005); FEMA P-347 “Above the Flood: Elevating Your Flood-Prone House”; City of Lake Charles, Louisiana Floodplain Management Regulations; Calcasieu Parish Police Jury, Code of Ordinances, Article IX, Flood Plain Management; 44 CFR Parts 59 and 60.