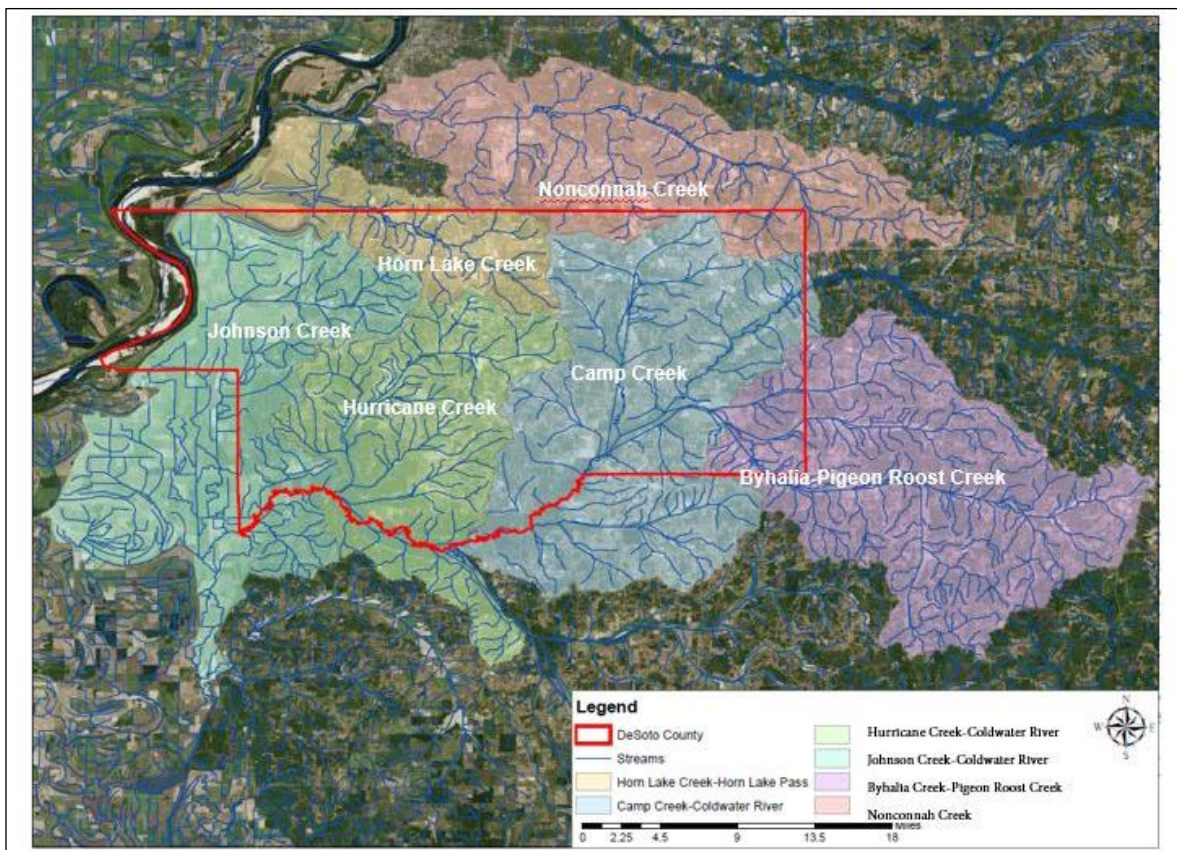




Memphis Metropolitan Stormwater – North DeSoto County Feasibility Study, DeSoto County, Mississippi



Appendix D. Nonstructural Implementation Plan

February 2023

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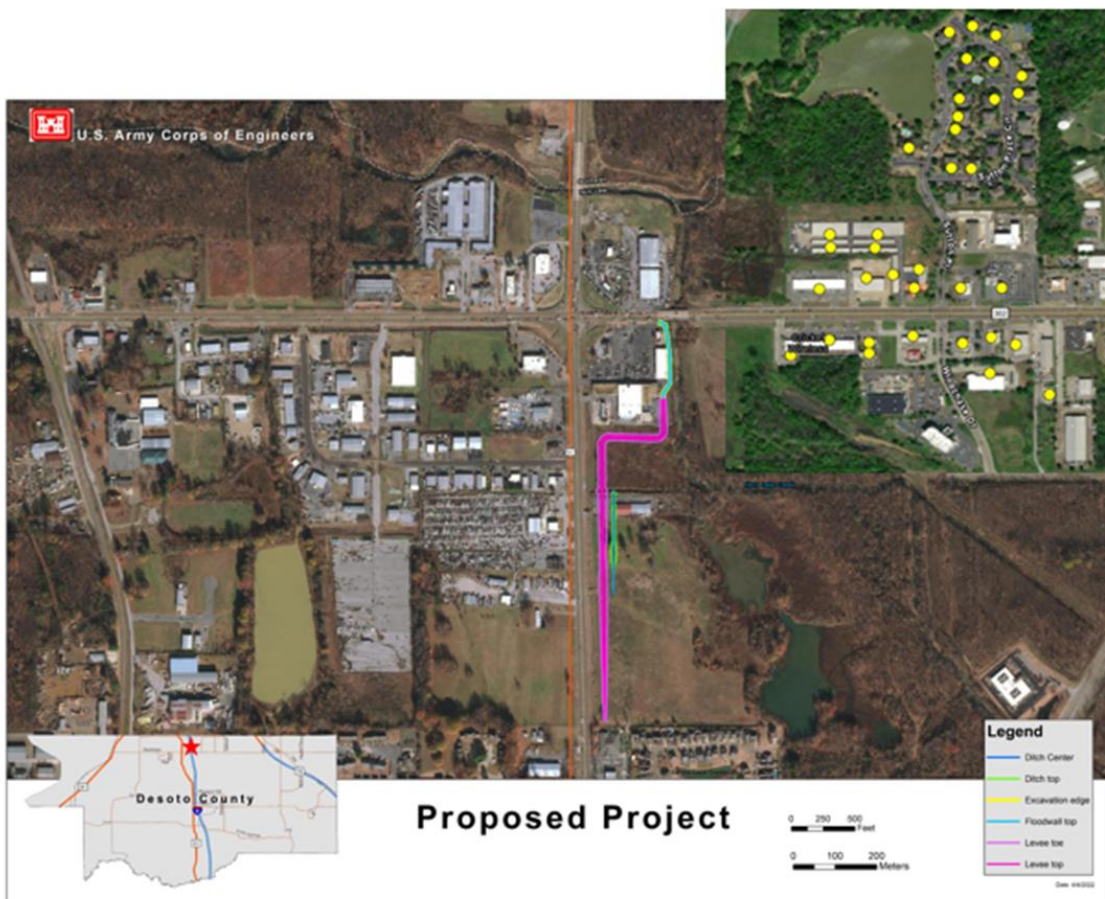
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Section 1 Introduction

This nonstructural implementation plan describes the general process for the implementation of nonstructural measures, as described in the integrated Memphis Metro North DeSoto County Feasibility Study, DeSoto County, Mississippi report, designed to reduce the risk of damages caused by flood risk in the study area. The primary goal of the nonstructural feature of the Recommended Plan (RP) is to reduce the risk of damage from flooding for structures located on the east side of Bullfrog Corner; those structures that are not protected by the recommended levee and floodwall identified in section 4.6 of the main report.

At the time of the final report, 14 multifamily properties (apartment buildings) located in an environmental justice community were grouped with 21 commercial and industrial properties, for a total of 35 structures included for dry floodproofing. All are located on the right descending bank of Horn Lake Creek near Goodman Rd. All experience flooding in the existing and with-project conditions but do not benefit from the proposed levee and floodwall on the opposite (left) bank of Horn Lake Creek.



The commercial structures identified are all slab-on-grade with no basement. Field investigations

noted that 18 structures have a hard exterior (brick or concrete masonry unit blocks), 2 are steel frame with stucco, and the remaining structure is a fuel pump island. Commercial structures see flood depths ranging 0.2-1.6' above the estimated finished flood elevation (FFE) at the 0.002 AEP (500-year) event. Most commercial structures had electrical items within three feet of the FFE; three structures have HVAC equipment on the ground that would likely need to be raised.

Residential structures are all slab-on-grade with no basement. Field investigations noted that all structures are wood framed with lap siding. Residential structures see flood depths ranging 0.3-1.6' above the estimated FFE at the 0.002 AEP event. All residential structures had electrical and HVAC equipment within three feet of the FFE that would likely need to be raised.

These structures will require additional structure-specific analysis during the preconstruction engineering and design phase (PED) to determine final eligibility and the most appropriate and cost-effective floodproofing measures to be employed.

The RP consists of the following nonstructural measures:

Dry flood proofing of eligible structures up to three feet above the adjacent grade/ ground elevation.

1. Property owners located in the project area will be informed of the details of implementation of the nonstructural measure, including eligibility criteria, the eligibility process, and the related duties and obligations of USACE, DeSoto 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 Nonstructural Implementation Plan is finalized as part of PED. While each structure will be evaluated for the most cost-effective nonstructural measure, the Government reserves the right to determine which measure shall be implemented at each structure location. It is anticipated that implementation of the Nonstructural Recommended Plan will occur over an approximate 5-year period. However, the scale of the project is highly dependent upon the participation rate and the amount of funding allocated in any given year.

Floodproofing is a voluntary measure. Therefore, structure owners may elect not to participate. USACE and the NFS would, then, defer any further action on that structure until such time as the structure owner elects to participate or until the period of construction ends. USACE reserves, at its sole discretion, the right to determine whether or not a structure may participate in the plan after a structure owner has declined participation, and if allowed to participate, the timing and scheduling of such participation in the project.

Maps of the project area will be prepared and regularly updated to depict the current stage of structure eligibility, structures to be acquired, property addresses, names of the property owners, property line boundaries, locations of hazardous, toxic, and radioactive waste (HTRW), zoning districts, boundaries of regulatory floodways, flood zones, and other important information.

Section 2

Process For The Dry Floodproofing Of Structures

Dry floodproofing consists of sealing all areas below the 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. Generally, dry floodproofing can be performed on the walls and portions of a conventionally built structure from the ground level to up to 3 feet above ground level. 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 floodproofing 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 44 C.F.R. § 60.3 (c)(4).

2.1 PRELIMINARY ELIGIBILITY

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

- a. The structure is in a condition suitable for human habitation or occupation;
- b. The property is not located on Federal property and leased land;
- c. 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 (e.g., no evidence of corrosion of steel framing or concrete; no active 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 in immediate need of repair or replacement; no damage to load bearing or masonry walls in immediate need of repair or replacement; no damage to veneer or siding, no evidence of unrepaired roof leaks, etc.);
- d. The property owner does not owe taxes or other debts to any state or local governmental entity or to the Federal government;
- e. The property owner has not previously received any disaster assistance for the elevation, dry, or wet floodproofing of the structure;

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

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

In the case of non-residential dry floodproofing, unless otherwise limited by state, federal, or local laws or ordinances or structural limitations, the floodproofing option that provides the greatest level of protection at the 0.004 AEP flood stage shall be the option available to the owner of the structure.

44 CFR 60.3(d) restricts new development from obstructing the flow of water and increasing flood heights. State and local building and zoning codes must also 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

Property owners will then be asked to grant a temporary right-of-entry to USACE and the NFS to enter upon the property to conduct such property and structural investigations deemed necessary to determine final eligibility for participation in the Project. These investigations may include, structural inspections, surveys, limited environmental testing and site assessments, verifying current elevation and determining wet floodproofing requirements, and conducting such other activities deemed necessary by USACE and the NFS to make a final determination of eligibility. A property owner may elect not to participate at any time prior to execution of an agreement for the performance of the nonstructural measure upon the property. Refusal to grant temporary right-of-entry will constitute the election not to participate.

If after the completion of the investigation of the property USACE determines that the structure is eligible for dry floodproofing, applicable methods for three feet of dry floodproofing above ground level will be determined.

Dry floodproofing achieves 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.

2.2 DRY FLOODPROOFING COSTS

These features and the costs associated with them are considered eligible to be covered in the case of dry floodproofing:

Dry floodproofing of the structure

Installation of backflow valves;

- Closures on doors, windows, stairwells and vents-- temporary or permanent;
- Rearranging or protecting damageable property--e.g., relocate or raise utilities;
- Sump pumps and sub-drains;
- Water resistant material; water resistant window coverings, doors and jambs; waterproof adhesives; sealants and compounds, and floor drains;
- Plastic sheeting around the walls;

Costs considered eligible to be covered in the case of dry floodproofing continued:

- Meeting access requirements of applicable building codes (e.g., stairs with landings, guardrails) or the Americans with Disabilities Act;
- In instances where special access improvement (e.g., elevators, lifts, ramps, etc.) may be required (e.g., in the case of physically handicapped or elderly homeowners or occupants) special handicapped access can be considered an eligible improvement when a medical professional/DMV documentation is provided. Multiple access points may also be eligible where necessary to meet state or local building code compliance;
- Connecting, disconnecting, and extending utility connections for electrical power, fuel, incoming potable water, wastewater discharge;
- Removal of any trees which restrict the dry floodproofing of a structure;
- Site grading and site restoration including grading landscaping to it preconstruction condition; and
- Temporary site protection measures during site work.

Work for items 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 (e.g., 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. If additional work is required as a condition of building permit issuance, and if such work is not listed previously as eligible, the property owner will be required to provide funds equal to the amount of the cost to complete the required work.

The costs that exceed that which is necessary to safely dry floodproof a structure are deemed ineligible costs and any such costs remain the sole responsibility of the structure owner. The following items are ineligible.

- Any structural and system repair due to existing deficiencies;
- Modifications or improvements to a septic system except for extension of lines from the flood proofed structure to the existing system and back flow valves;
- Cost for dry floodproofing more than 3 feet above ground level;
- Modifications to structures that are not attached to the eligible structure;
- Modifications to tubs, pools, spas, hot tubs, and related structures or accessories;
- Modifications to decks and patios not connected to or immediately adjacent to the structure except for modifications that are expressly required by building codes (e.g. 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 associated with bringing a non-conforming structure into compliance with current building code, housing code, and/or other applicable codes.

Section 3

Application and approval process

The following is a general description of the process that will apply to willing owners of preliminarily eligible structures. If a structure owner who was identified as preliminary eligible does not want their structure raised, they may elect to not participate. If the home is sold, and the Project is still authorized, the new owner(s) may elect to participate.

1. Eligible property owners, who wish to participate in 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 Floodproofing Agreement by the property owner and USACE and/or the NFS. Incomplete applications or applications that contain false or misleading information or substantial errors will not be processed;
2. 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;
3. 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.;
4. Title research 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 the 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.;

5. 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 (e.g. 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 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 project eligibility. 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.;
6. A NFIP compliance and permit application will be completed on each structure. Design compliance with NFIP technical standards will be prepared and final compliance documented with local permitting requirements prior to execution of the Floodproofing Agreement. Coordination of NFIP compliance should be completed with each floodplain manager.

A determination that a structure is qualified for or dry floodproofing will be made after all inspections, investigations, assessments, title research and all other work required to determine eligibility for floodproofing is complete and prior to the development of the scope of work. The Floodproofing 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 and will include the agreement of the property owners to hold harmless the NFS and USACE for any damages arising from the floodproofing work, and a covenant running with the land shall be executed by all owners of the property.

Section 4

Flood Risk Reduction Actions to be taken by the NFS

Flood damage risk management 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 DeSoto County governments 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 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 1 year after the date of signing the Project Partnership Agreement (PPA), and to implement such plan not later than 1 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 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 flood risk management 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 flood risk management 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, DeSoto County, Horn Lake Creek, and Southaven, are all communities participating in the NFIP.

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 floodproofing 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 occupancy, or otherwise altered in any manner which would impede the movement of waters beneath the structure; that the area below the predicted 2075 0.004 AEP flood stage 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.

Section 5

Implementation method

The project will use the traditional method of implementation. The "traditional method" of implementation is generally described in publications of the USACE National Floodproofing 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 floodproofing work on multiple structures through a series of one or more task orders and who will be responsible for all work associated with flood risk mitigation approval of the engineering plans for each structure to final inspection.

The property owner enters into a Floodproofing Agreement with USACE that 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 and will include the agreement of the property owners to hold harmless the NFS and USACE for any damages arising from the floodproofing work, and a covenant running with the land shall be executed by all owners of the property.

Floodproofing of eligible structures will require that the NFS acquire an easement as a part of the agreement, which runs with the land, and prohibits the grantor(s), (heirs,) successors, assigns and all others from any uses of the land that would impair,

contravene, or interfere with the integrity of the structure once dry floodproofed as a result of the Project. The draft easement language will be submitted through CEMVD to CEHQ-RE as a request for approval of a Non-Standard Estate.

The executed agreement will be recorded, by the NFS in the appropriate public records of the county 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 floodproofing work is completed, all structures must be covered by flood insurance in an amount at least equal to the costs of the floodproofing work or to the maximum limit of coverage made available with respect to the property, whichever is less. Upon completion of the 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 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.