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HMGP RECONSTRUCTION GRANT PILOT OVERVIEW

The Hazard Mitigation Grant Program (HMGP) Reconstruction Grant Pilot will provide a mitigation alternative for areas affected by Hurricanes Katrina, Rita and Wilma in the following States: Louisiana, Texas, Mississippi, Alabama and Florida.

FUNDING	KEY POINTS
<p>Funding Source: Eligible activities under this Pilot can be funded using HMGP funds made available in the following States for the declared disasters specified: Louisiana (DR-1603 and DR-1607), Texas (DR-1606), Mississippi (DR-1604), Alabama (DR-1605) and Florida (DR-1602 and DR-1609). For these disasters, the HMGP may provide a State with not more than 7.5 percent of the total estimated Federal grant assistance (excluding any associated administrative costs) provided under Sections 403, 406, 407, 410, 411, 416 and 701 of the Stafford Act.</p>	<p>Funding Limits: Funding is restricted to a maximum of \$150,000 Federal share per structure. However, certain eligible costs such as administrative allowances and permitting fees are not included in this maximum Federal share.</p> <p>Cost-Share: HMGP funds are provided on a 75 percent Federal cost-share basis. The State and/or eligible Applicants are responsible for the remaining 25 percent non-Federal cost share.</p>
ELIGIBILITY REQUIREMENTS	KEY POINTS
<p>Applicant Eligibility: State and local governments, private non-profit organizations or institutions and Native American tribes are eligible to apply to the State for HMGP funding.</p> <p>Only Applicants in the following States for the indicated declared disasters will be considered eligible for consideration under this Pilot: Louisiana (DR-1603 and DR-1607), Texas (DR-1606), Mississippi (DR-1604), Alabama (DR-1605) and Florida (DR-1602 and DR-1609).</p> <p>Eligible Activities: Under this Pilot, eligible Applicants may receive HMGP funds to demolish an existing structure and construct an improved, elevated structure on the same site. This may include pre-existing structures that were substantially damaged or destroyed as a result of the declared event. Grantees may establish priorities more stringent than the parameters outlined in this guidance.</p> <p>Property Ownership Requirements: The Pilot is only available to Property Owners who owned the property at the time of the event for which funding is authorized. This extends to successors and assigns who gains title to the property as a result of death or incapacity of that Property Owner.</p> <p>Floodway Exclusion: Mitigation reconstruction projects will not be eligible if located in floodways as identified on the effective Flood Insurance Rate Maps (FIRMs).</p>	<p>Mitigation Plan Requirement: Applicants must have a FEMA-approved local mitigation plan in accordance with 44 Code of Federal Regulations (C.F.R.) Parts 201.6 and 206.434(b) to be eligible to receive project grant funding under the HMGP. If an Applicant does not have a FEMA-approved local mitigation plan, the Applicant may be eligible to receive an HMGP project grant in “extraordinary circumstances” as outlined in 44 C.F.R. 201.6(a)(3).</p> <p>NFIP Participation: To be eligible under this HMGP Reconstruction Grant Pilot, Applicants that have been identified through the National Flood Insurance Program (NFIP) as having a Special Flood Hazard Area (SFHA) and a Flood Hazard Boundary Map (FHBM) or a Flood Insurance Rate Map (FIRM) has been issued for their specific jurisdiction, MUST be participating in the NFIP. Applicants that are not mapped or have not been issued a map are eligible for the HMGP Reconstruction Grant Pilot.</p> <p>Advisory Base Flood Elevations (ABFEs): As outlined in the February 5, 2006 memo “Issuance and Use of Advisory Base Flood Elevations (ABFEs) in the Implementation of FEMA Assistance,” Applicants requesting FEMA program funds in areas where ABFEs have been issued will be required to use the ABFEs for FEMA programs, including mitigation reconstruction.</p>

APPLICATION PROCESS

Application Process: Eligible Applicants that are interested in applying for the Pilot must contact their State Emergency Management Agency to obtain information regarding the HMGP Reconstruction Grant Pilot process. The HMGP Application Development module of the National Emergency Management Information System (NEMIS) will be available to support State HMGP Reconstruction Grant Pilot project application submissions.

Application Period: FEMA encourages Pilot Applicants to work with their State regarding application deadlines for the HMGP and for other program deadlines. A list of FEMA partner State agencies and offices can be found on the FEMA website at <http://www.fema.gov/about/contact/statedr.shtm>.

KEY POINTS

Technical Assistance: If requested, FEMA will provide technical assistance to Grantees by answering general questions about the HMGP Reconstruction Grant Pilot as well as providing general technical assistance related to developing project applications. FEMA also will provide technical assistance regarding the application process and the NEMIS system. Applicants should contact the State Hazard Mitigation Officer with questions.

HMGP Expanded Mitigation Strategies Planning Grant Pilot: This resource may be available to Applicants and may assist in determining whether or not the Pilot is a viable option. Interested Applicants should contact their State Hazard Mitigation Officer for more information.

IMPLEMENTATION REQUIREMENTS

Compliance with Federal Grant Requirements: Implementation of HMGP Reconstruction Grant Pilot projects must adhere to all standard HMGP requirements as outlined in 44 C.F.R. Parts 13, 60, 206 and related program guidance and policies.

Completion of Reconstruction: Projects completed as part of the HMGP Reconstruction Grant Pilot will result in the construction of a code-compliant and hazard-resistant structure on an elevated foundation system. A Certificate of Occupancy must be issued by a qualified building official to certify that the construction was properly completed. Property Owners are required to adopt deed restrictions which require that flood insurance coverage be maintained on the property.

KEY POINTS

Compliance with Reconstruction Requirements: Subgrantees must adhere to all requirements regarding building code, design and proper inspections as set forth in this guidance. Specifically, projects funded in whole or in part under this Pilot shall be designed and constructed, at a minimum, to the requirements of the 2003 edition of the International Building Code, or The International Residential Code for One- and Two-Family Dwellings published by the International Code Council. Use of the 2006 editions of the International Codes is strongly encouraged.

HMGP funds may be available to support increased oversight and inspection requirements associated with Pilot activities.

SECTION 1. PILOT GUIDANCE

1.1. PURPOSE

Hurricanes Katrina, Rita and Wilma struck Louisiana, Texas, Mississippi, Alabama and Florida producing severe flooding and wind damage that resulted in catastrophic physical and economic impacts on these States. The nature of these damages has led to requests from several States for FEMA to consider providing Hazard Mitigation Grant Program (HMGP) funds for the purpose of mitigation reconstruction grants, where an existing structure and/or foundation is demolished and an improved elevated structure is built on the same site. This includes but is not limited to pre-existing structures that were substantially damaged or destroyed as a result of the declared event. As a result, FEMA has determined it will support HMGP Reconstruction Grant Pilot activities for Hurricanes Katrina, Rita and Wilma in the following States: Louisiana (DR-1603 and DR-1607), Texas (DR-1606), Mississippi (DR-1604), Alabama (DR-1605) and Florida (DR-1602 and DR-1609). The purpose of this guidance is to provide the general Federal requirements for the HMGP Reconstruction Grant Pilot.

The rebuilding challenge ahead presents an unprecedented opportunity for FEMA to work with States and communities to incorporate mitigation directly into the reconstruction process and thereby create more disaster-resistant communities for the future. In light of the exceptional scope of structures with severe damage from these hurricanes for which traditional mitigation measures are not feasible, this Pilot program is intended to provide another option for the local and State governments that are responsible for making decisions and identifying appropriate mitigation measures for their communities.

1.2. AUTHORIZATION AND APPROPRIATION

As a result of Hurricanes Katrina, Rita and Wilma, the President declared major disasters for the States of Louisiana, Texas, Mississippi, Alabama and Florida pursuant to the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 United States Code (U.S.C.) §§5121-5206 (the Stafford Act). Section 404 of the Stafford Act authorizes HMGP, which provides funds to State, tribal and local governments and certain private non-profit organizations to implement long-term hazard mitigation measures. The purpose of the HMGP is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster.

For these disasters, the HMGP may provide a State with not more than 7.5 percent of the total estimated Federal grant assistance (excluding any associated administrative costs) provided under Sections 403, 406, 407, 410, 411, 416 and 701 of the Stafford Act. These Federal grants may be used to fund up to 75 percent of an approved mitigation measure. States or Applicants agree to provide non-Federal funds to pay for the remaining 25 percent of eligible project costs.

1.3. GRANT PILOT ELIGIBILITY

1.3.1. ELIGIBLE APPLICANTS

State and local governments, private non-profit organizations or institutions and Native American tribes are eligible to apply to the State for HMGP funding. Individuals or businesses may not apply directly to the State or FEMA, but eligible local governments or private non-profit organizations may apply on their behalf. Appendix A includes definitions for key terms, including Applicant.

To be eligible for the HMGP Reconstruction Grant Pilot, an Applicant must:

- Be located in a declared disaster area eligible for hazard mitigation assistance as a result of Hurricanes Katrina, Rita or Wilma in the States of Louisiana, Texas, Mississippi, Alabama or Florida.
- Have a FEMA-approved local mitigation plan that meets or exceeds the planning requirements at 44 Code of Federal Regulations (C.F.R.) Part 201.6, or if granted an exception to the plan requirement in an extraordinary circumstance, have a completed local mitigation plan within 12 months of the award of the project grant.
- Comply with HMGP requirements regarding participation in the National Flood Insurance Program (NFIP). HMGP funds for construction or land acquisition cannot be awarded in certain communities which do not participate in the NFIP. Federal grants cannot be given for construction purposes if the site is located in a designated Special Flood Hazard Area which has been identified by the Director for at least 1 year and the community is not participating in the NFIP. This includes communities suspended from participation. If a community with mapped Special Flood Hazard Areas qualifies for and enters the program after the disaster declaration, the State may consider their grant application. Non-participating communities may submit projects to the HMGP only if the projects are located in unmapped areas or areas outside of the Special Flood Hazard Area or area for which FEMA has established Advisory Base Flood Elevations.

1.3.1.1. FLOODWAY EXCLUSION REQUIREMENTS

Mitigation reconstruction projects will not be eligible for consideration for properties located in floodways as identified on the effective Flood Insurance Rate Maps (FIRMs).

1.3.1.2. PROPERTY OWNERSHIP REQUIREMENTS

The HMGP Reconstruction Grant Pilot is only available for Property Owners who owned the property at the time of the event for which funding is authorized. This extends to successors and assigns who gain title to the property as a result of death or incapacity of the Property Owner who owned the property at the time of the relevant disaster event. Property Owners who purchased the property following the relevant disaster declaration are not eligible to receive Pilot funding.

Ownership must be demonstrated in the project application as part of the Voluntary Participation Statement (See Section 1.3.2.2.). A verification of ownership will occur prior to project close-out. If it is found at that time that the ownership requirement is not met, FEMA has the authority under 44 C.F.R. Part 13 to recoup grant funds provided to the Grantee. The Grantee is responsible for recouping funds from the Subgrantee.

1.3.2. STANDARD HMGP REQUIREMENTS AND RESTRICTIONS

The HMGP Reconstruction Grant Pilot, as a part of the HMGP, must adhere to standard requirements and restrictions of the HMGP, including the following:

- National Flood Insurance Program (NFIP)
- Non-discrimination
- Conflict of interest
- HMGP program funds as cost share
- Performance period
- Application process
- Application submission timeframe
- Management and administrative costs
- Appeals
- Duplication of programs
- Duplication of benefits
- Cost-effectiveness
- Geocoding mitigation projects
- National Emergency Management Information System (NEMIS)
- Updating the repetitive loss database for mitigated properties
- Environmental/Historic Preservation laws, implementing regulations and executive orders

Grantees and Applicants will be required to comply with the Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments as found in 44 C.F.R. Part 13. These include standards for the following:

- Financial management systems
- Payment
- Allowable costs
- Period of availability of funds
- Matching or cost sharing
- Program income
- Audit
- Changes to grant
- Real property, equipment, supplies, copyrights and procurement
- Monitoring and reporting program performance
- Retention and access requirements for records
- Enforcement and closeout

For information related to general HMGP and grants management requirements, Applicants should refer to the HMGP Desk Reference or contact the Grantee for assistance. The Grantee may contact the FEMA Regional Grants Management Specialist for assistance.

1.3.2.1. PLANNING REQUIREMENTS

Applicants must have a FEMA-approved local mitigation plan in accordance with 44 C.F.R. Parts 201.6 and 206.434(b) to be eligible to receive project grant funding under the HMGP. All activities submitted for consideration, including HMGP Reconstruction Grant Pilot activities, must be consistent with the Grantee's State/tribal standard or enhanced hazard mitigation plan and the Applicant's tribal/local/university hazard mitigation plan for the local jurisdiction in which the activity is located.

If an Applicant does not have a FEMA-approved local mitigation plan, the Applicant may be eligible to receive an HMGP Reconstruction Grant Pilot project grant in “extraordinary circumstances” as outlined in 44 C.F.R. 201.6(a)(3). An “extraordinary circumstance” may only be granted by a Regional Director under the conditions described in the October 28, 2005, memo titled “Guidance for FEMA Regional Directors Regarding ‘Extraordinary Circumstances’.”

If an Applicant (Subgrantee) has received the regulatory exception to the local mitigation plan requirement in accordance with the “extraordinary circumstances” exception at 44 C.F.R. 201.6(a)(3) and the Applicant is receiving an HMGP Reconstruction Grant Pilot subgrant, the Applicant shall agree to complete and submit a local mitigation plan within 12 months of receiving the subgrant award. If a local mitigation plan is not completed and submitted to FEMA for approval within the specified time period, any funding provided for HMGP Reconstruction Grant Pilot project subgrants associated with the same or subsequent disaster funding shall be terminated immediately and all unused funds shall be returned to the Grantee.

The HMGP Expanded Mitigation Strategies Planning Grant Pilot is a resource available to Applicants to assist in meeting this requirement. Interested Applicants should contact the State Hazard Mitigation Officer for more information regarding the HMGP Expanded Mitigation Strategies Planning Grant Pilot.

1.3.2.2. VOLUNTARY PARTICIPATION

Participation in the Pilot by Property Owners is voluntary. Applicants for mitigation reconstruction projects must include in their application a signed Voluntary Participation Statement from the owner of each property identified in the project application. This document should include an assurance that the Property Owner acknowledges the flood insurance purchase requirements that shall be agreed to as a condition of receipt of HMGP Reconstruction Grant Pilot funding.

Applicants shall certify in their applications for HMGP Reconstruction Grant Pilot funding that they as well as the Property Owner(s) understand and agree to the restrictions for future use and insurance requirements for the property affected by the mitigation reconstruction project.

These restrictions shall be recorded in the form of deed restrictions (see Section 2.3.2., Flood Insurance and Enclosure Requirements). **Mitigation reconstruction project applications without these formal certifications will not be funded by the Pilot.**

1.3.2.3. MONITORING OF FLOOD INSURANCE CONDITIONS

Every 3 years, the Subgrantee must submit a report through the Grantee to FEMA certifying that it has inspected the subject property and that the property continues to be maintained consistent with the provisions of the Pilot grant (see Section 3.3., Monitoring of Pilot Requirements and Conditions).

1.3.2.4. SCOPE CHANGE REQUIREMENTS

For mitigation reconstruction projects, subgrantees can propose changes to their approved mitigation activity. However, any proposed change to the objective, purpose and outcome of the approved mitigation activity, regardless of budget implication must be submitted to the Grantee. These changes may be considered by the Grantee and FEMA but not approved automatically. Scope changes must be approved by both the Grantee and FEMA prior to implementation of proposed changes. Examples of Scope of Work changes may include, but are not limited to, changing the number of homes to be reconstructed, changing from a reconstruction to an open space acquisition for a given structure, a change in the local agency implementing the subgrant, a change in the approved budget, etc. Eligible properties may be substituted as alternatives in the application as long as the substitution does not change the overall nature of the project and the substitute properties were included as alternatives in the original application. In addition, the original application must include a Benefit-Cost Analysis (BCA) for each alternate property in order to be considered. However, the alternate properties must not be included in the cost estimate or the overall project BCA (see Section 2.6., Cost-Effectiveness). Applicants are encouraged to check with their States on specific scope change requirements for the HMGP.

1.3.2.5. COMPLIANCE WITH LOCAL STANDARDS AND PRE-EXISTING CONDITIONS

Applicable local ordinances, State laws, as well as Federal laws, regulations and Executive Orders must be followed, in addition to the standards and requirements outlined in this guidance. In addition, if a mitigation reconstruction project is in a designated Historic District or other designated district, special considerations may be needed to determine program eligibility and/or allowable construction methods in accordance with Section 2.7. of this guidance.

1.3.2.6. FUNDING LIMITS

Funding is restricted to a maximum of \$150,000 Federal share per structure for HMGP Reconstruction Grant Pilot projects. However, some eligible activities such as administrative allowances and permitting fees need not be included in the \$150,000 maximum Federal share as detailed in Table 2-1 located in Section 2.1. of this guidance.

1.3.2.7. COST SHARE REQUIREMENTS

FEMA will contribute up to 75 percent of the total amount approved under the grant award to implement approved activities. A non-Federal source must contribute the remaining 25 percent of the total eligible project costs. No matter the level or source of the cost-sharing, the entire project must meet all program requirements including eligibility criteria and compliance with all applicable Federal environmental and historic preservation laws. All cash and in-kind contributions or any combinations thereof may be accepted as part of the non-Federal cost share. In-kind contributions must comprise eligible project costs or activities. The following documentation is required for third-party cash and in-kind contributions:

- Record of donor
- Dates of donation
- Rates for staffing, equipment or usage, supplies, etc.
- Amounts of donation
- Deposit slips for cash contributions

In general, the non-Federal cost share may not include funds from other Federal agencies, except for Federal funds that have authorizing statutes that explicitly allow the funds to be used as a cost share for other Federal grants. Exceptions include the following:

- U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant (CDBG) monies may be used as cost share or activities fully funded through CDBG may contribute to the cost share as long as the projects are eligible under the HMGP program. (Note: The use of CDBG funds will trigger the need to comply with HUD environmental compliance requirements as well as FEMA's requirements.)
- The U.S. Small Business Administration loan funds and the U.S. Department of Agriculture's Farm Service Agency loan funds, which lose their Federal identity once the loan is approved, may be used as a cost share.
- Indian Health Services funds may be used as cost share for HMGP Reconstruction Grant Pilot funds as long as the mitigation activity "contributes to the purposes for which grants...are made" under the Indian Health Services statute.
- Bureau of Indian Affairs funds may be used as cost share.
- Appalachian Regional Commission funds may be used as cost share per Section 302(a)(3) of the Appalachian Regional Development Act of 1965.
- Funds derived from Title III of the Secure Rural Schools Act (Public Law (P.L.) 106-393) may be used as cost share so long as the use also is consistent with the purposes of that Act.
- The NFIP Increased Cost of Compliance claim payment may be used to meet the non-Federal cost share requirements to the extent that the period for making such a claim remains open.

In addition, Grantees and Applicants must comply with any applicable Memoranda of Agreement or other formal understandings related to cost share requirements that may exist, such as specific agreements related to grant match requirements. When funds such as CDBG are used to match HMGP grants, the requirements of both programs apply to the whole project. The State, as Grantee, is responsible for coordinating the various programs available within the State. FEMA encourages early consideration of these requirements and recommends early coordination between relevant program representatives.

1.3.2.8. UPDATING REPETITIVE LOSS DATABASE FOR MITIGATED PROPERTIES

In order to maintain accurate, up-to-date records of all repetitive loss properties mitigated as a result of HMGP Reconstruction Grant Pilot activities, FEMA requires the submission of Form AW-501, NFIP Repetitive Loss Update Worksheet (OMB #1660-0022). This form is completed by the Grantee or Subgrantee with appropriate documentation that shows any changes in the status of a property (e.g., elevation certificate). This form, along with the transmittal sheet or other document signed by an authorized community official, must be submitted for each repetitive loss property mitigated with HMGP Reconstruction Grant Pilot funds prior to closeout. Form AW-501 and instructions for completing and submitting the form are available from the FEMA Regional Office.

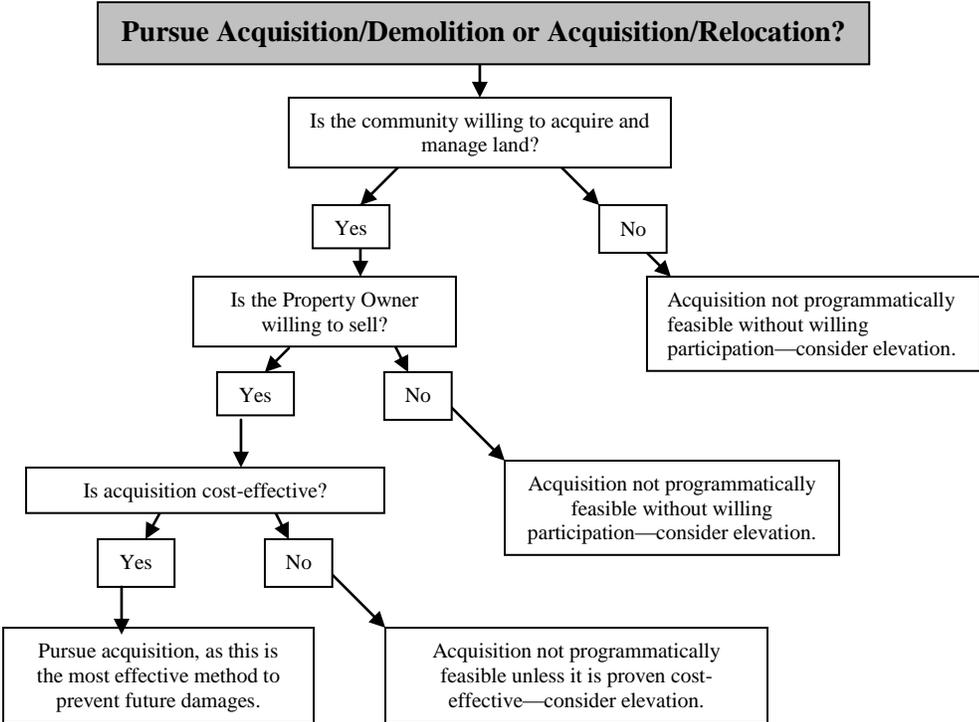
1.3.3. MITIGATION ACTIVITY SELECTION

For this Pilot, Applicants must demonstrate and document that mitigation through acquisition or traditional elevation were considered and determined to be programmatically infeasible. HMGP Reconstruction Grant Pilot applications that do not clearly demonstrate how acquisition and elevation measures were considered and ruled out will not be considered for funding under this Pilot program.

1.3.3.1. MITIGATION ACTIVITY SELECTION PROCESS

The following discussion includes a recommended sequence for considering the feasibility of each activity. Applicants are not required to consider acquisition and elevation in this order, but both methods must be evaluated and determined to be programmatically infeasible based on the criteria outlined before pursuing mitigation reconstruction as an option.

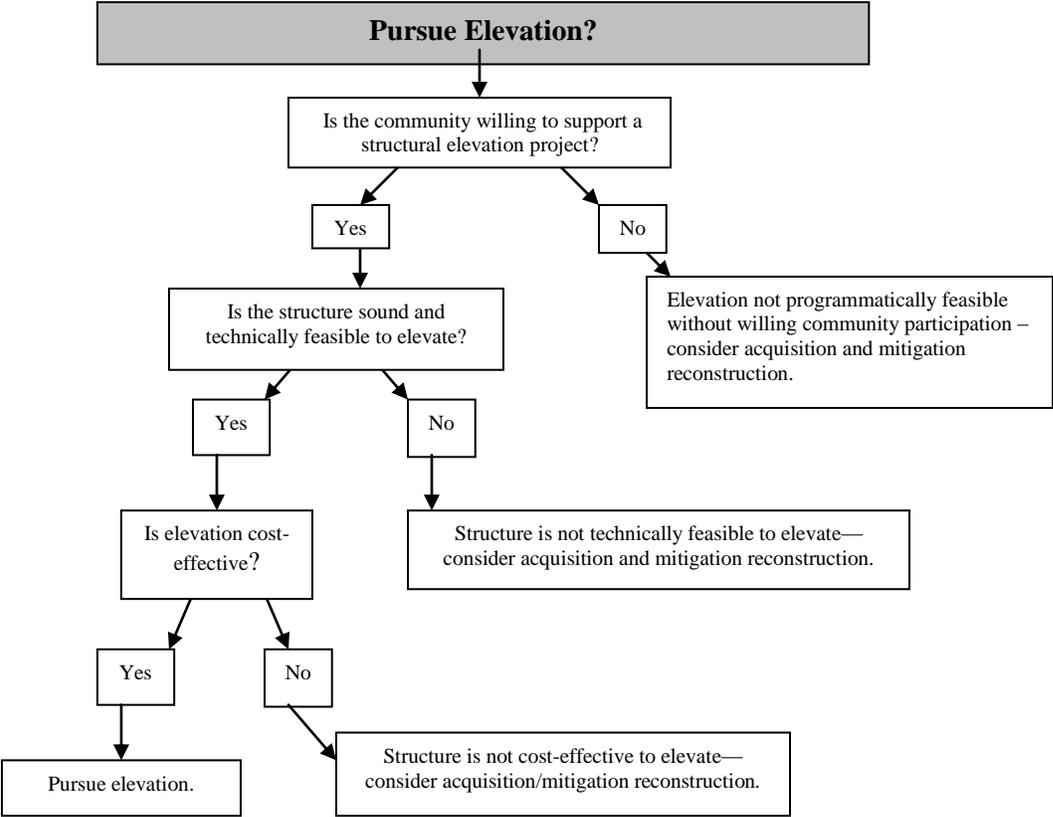
Acquisition prevents future damages by removing people and belongings from the property so that only open space remains in perpetuity. Acquisition may not be a viable alternative if an Applicant is not willing to acquire and manage land in accordance with deed restrictions or a Property Owner is not willing to sell the property. In addition, historic preservation issues may arise that render acquisition programmatically infeasible. The following flow chart outlines the general consideration of the acquisition activity:



If the Applicant and Property Owner are willing to participate in acquisition and the proposed acquisition is cost-effective, then acquisition should be pursued. If acquisition is not cost-effective or otherwise feasible, then acquisition is not a viable activity selection and traditional elevation should be considered as a mitigation alternative.

Although effective at addressing flood vulnerability, structural elevation projects may not address vulnerabilities to other hazards such as high winds. In some cases, elevating a structure may increase the wind pressures on a structure adequately designed to resist these forces. In cases where an elevated structure would not meet the wind resistance criteria of the 2003 International Codes, a community may choose not to support structural elevations because the potential for future wind damages will not be mitigated.

The following flow chart outlines the general consideration for pursuing elevation:



In addition, some communities may not support or permit structural elevations because these structures may not be brought into compliance with all local codes and ordinances. If a community chooses to not support structural elevation, either due to non-compliance with existing codes or because of unaddressed vulnerabilities, structural elevation may be considered programmatically infeasible.

Another key factor in the feasibility of elevation is related to the ability of the structure to withstand the elevation process as well as to the potential design requirements needed to reduce risks. If the structure’s integrity is questionable, then elevation is not viable and mitigation reconstruction may be considered as an alternative. A registered engineer or architect must certify that it is not technically feasible to elevate the structure.

Finally, if the proposed elevation is not cost-effective, then elevation is not viable and mitigation reconstruction may be considered.

In summary, the HMGP Reconstruction Grant Pilot activity is an available option only when acquisition and elevation are not programmatically feasible.

1.3.3.2. MITIGATION ACTIVITY SELECTION DOCUMENTATION

In the Pilot grant application, the Applicant shall describe the process used to evaluate acquisition and elevation mitigation measures, using the following list of general criteria, and shall also explain why those measures were deemed infeasible before the mitigation reconstruction measure was selected. Applicants may demonstrate that acquisition and elevation mitigation measures were considered through written documentation as follows:

Outreach: An outreach effort was conducted for prospective Property Owners about how the community's mitigation initiative was undertaken, including a description of acquisition and elevation mitigation options and solicitation of voluntary participation.

Acquisition: Justification for deciding not to undertake an acquisition project may include reasons such as the following:

- Desire by citizens to remain in an area where they have business connections
- Aversion to “checkerboarding” by the community
- Unwillingness to accept significant loss of revenue from property tax and sewer, water and electric “fees” in acquired areas
- Unwillingness to assume responsibility for maintenance
- Project costs are prohibitive and do not achieve a Benefit-Cost Ratio (BCR) of 1.0 or greater

Elevation: Justification for deciding not to undertake an elevation project may include reasons such as the following:

- Structure has been destroyed/demolished
- Health considerations, such as asbestos, mold, etc., require demolition
- Structure and foundation type cannot be elevated due to high likelihood of collapse and/or disintegration of structure during the process (this statement must be certified by a registered engineer or architect)
- Local community unable to support structural elevation for reasons such as the elevated structure would be non-compliant with minimum standards of the 2003 International Codes or other local codes and ordinances, as certified by local building official.
- Project costs are prohibitive and do not achieve a Benefit-Cost Ratio (BCR) of 1.0 or greater

1.4. STATE CONTACT INFORMATION

Eligible Applicants that are interested in applying for the Pilot must contact their State Emergency Management Agency to obtain information regarding the HMGP process. A list of FEMA partner State agencies and offices can be found on the FEMA website at <http://www.fema.gov/about/contact/statedr.shtm>.

SECTION 2. MITIGATION RECONSTRUCTION APPLICATION GUIDANCE

2.1. ELIGIBLE MITIGATION RECONSTRUCTION ACTIVITIES AND COSTS

HMGP Reconstruction Grant Pilot activities may involve the demolition of an existing structure followed by on-site replacement with a hazard resistant (flood, wind and fire) code-compliant structure. This may involve the reconstruction of pre-existing residential, commercial and public structures that have been either destroyed or determined substantially damaged by the local floodplain administrator.

HMGP Reconstruction Grant Pilot activities must adhere to all Federal, State and local requirements. The activities eligible as part of a grant award under the HMGP Reconstruction Grant Pilot are separated into three major categories:

- 1) Project Scoping
- 2) Pre-Construction Activities
- 3) Construction Activities

Table 2-1 lists the specific activities within each of these categories that are eligible to the extent reasonable and necessary to perform the project purpose:

Table 2 - 1 Eligible Mitigation Reconstruction Activities

Activity	Subject to Pilot Federal Share Funding Limit of \$150,000?
1) Project Scoping	
Property Verification (e.g., size of pre-existing structure)	✘
Preliminary Elevation Determination	✘
Environmental Site Assessment Phase 1	✘
Engineering Feasibility Study (e.g., can existing structure be elevated; is mitigation reconstruction feasible)	✘
Benefit-Cost Analysis	✘
Title Search (e.g., ownership verification)	✘
2) Pre-Construction Activities	
Site Survey (i.e., boundaries and elevation)	✘
Testing for: Soils/Geotechnical, Asbestos, Lead-Based Paint	✘
Archeological Assessment Phase 1	✘
Local, State and Federal Permitting (e.g., environmental, historic, etc.)	✔
Architectural/Engineering Design/Plans/Specifications	✔
Plan Review	✘

✔ = Included in the \$150,000 Federal Share Funding Limit

✘ = Not included in the \$150,000 Federal Share Funding Limit

Table 2 - 1 Eligible Mitigation Reconstruction Activities (continued)

Activity	Subject to Pilot Federal Share Funding Limit of \$150,000?
3) Construction Activities	
Permitted Disposal of routine asbestos and household hazardous wastes incidental to demolition	✘
Environmental/Historic Preservation Mitigation	✘
Demolition/Removal (see also Section 2.1.1)	✓
Erosion Control/Grading/Drainage	✓
Utility Connections	✓
Landscaping for Site Stabilization (i.e., seeding)	✓
Walkways and Driveways	✓
Elevated Foundation Construction	✓
Inspection of Foundation System	✘
Structural Shell	
Framing	✓
Exterior Doors	✓
Windows (includes protection)	✓
Access/Egress	✓
Exterior Cladding	✓
Roofing	✓
Interior Partitioning	
Drywall	✓
Trim	✓
Painting	✓
Interior Doors	✓
Insulation	✓
Utility Equipment	
Heating, Ventilation and Air Conditioning (HVAC)	✓
Water/Wastewater Plumbing	✓
Electrical Panel and Wiring	✓
Hot Water Heater	✓
Fixtures	
Sinks/Toilets/showers	✓
Lighting	✓
Cabinets and Countertops	✓
Flooring	✓
Building Inspections	✘
Certificate of Occupancy	✘
Final Elevation Certificate	✘
Owner Displacement Costs	✘
Tenant Displacement Costs	✘
Prepare and Record Flood Insurance Requirement (after construction finalized)	✘

✓ = Included in the \$150,000 Federal Share Funding Limit
✘ = Not included in the \$150,000 Federal Share Funding Limit

More specific details on construction activities are provided in Section 2.4., Scope of Work.

All reasonable and necessary costs, including anticipated project costs, direct costs associated with project scoping, reconstruction and closeout activities listed in Sections 2.1. and 2.1.1. are eligible for reimbursement under this HMGP Reconstruction Grant Pilot. All costs associated with project scoping activities incurred prior to obligation must be identified in the project application in order to be considered for reimbursement. Likewise, all costs shall be based on the construction of fundamental, code-compliant structures as related to the codes and standards outlined in this guidance. A detailed project cost estimate shall be prepared by, or under the supervision of, the design professional in responsible charge of project design. Details pertaining specifically to the cost estimate, such as submittal format, cost ranges, preparation requirements and source documentation are included in Section 2.5., Cost Estimate.

The HMGP Expanded Mitigation Strategies Planning Grant Pilot may be available to Applicants to assist with project scoping activities, including the HMGP Reconstruction Grant Pilot. However, applicants **may not receive funding from both Pilots for the same specific project scoping activities**. Interested Applicants should contact their State Hazard Mitigation Officer for more information regarding the HMGP Expanded Mitigation Strategies Planning Grant Pilot and project scoping options.

2.1.1. ELIGIBLE DEMOLITION/REMOVAL ACTIVITIES

Mitigation reconstruction projects will include either total or partial demolition of the site. All demolition debris (hazardous and non-hazardous) shall be removed and taken to an approved landfill. The following should be considered during demolition:

- All asbestos must be abated and disposed of properly.
- All residential improvements not included in the mitigation reconstruction project, including but not limited to structures, garages and above-grade concrete slabs may be removed.
- Any abandoned septic tanks that are not removed shall be emptied, have the floors and walls cracked or crumbled to prevent the tank from holding water and be filled with sand or other clean fill.
- All foundation and basement walls not included within the mitigation reconstruction project footprint shall be removed to at least 1 foot below the finish grade of the site or as necessary to construct the new foundations.
- All basements not included within the mitigation reconstruction project footprint shall be filled with compacted clean fill. Prior to filling, basement floors should be provided with a minimum 1 foot diameter hole in the floor to allow for drainage.
- Only trees which restrict the demolition and reconstruction work on any structure may be removed.
- Any abandoned utilities shall be terminated at least 2 feet below the finish grade of the site.
- Any abandoned wells shall be capped and/or associated components may be removed.

- All disturbed areas must be graded and leveled. The top 12 inches of soil should be capable of encouraging vegetation in areas not included in the reconstructed footprint.

Additional specific detail for mitigation reconstruction activities is included in Section 2.4., Scope of Work.

2.2. INELIGIBLE RECONSTRUCTION ACTIVITIES AND COSTS

Certain reconstruction activities and their associated costs are not eligible under the HMGP Reconstruction Grant Pilot. Ineligible activities and costs include but are not limited to the following:

- Properties located in floodways as identified on the effective FIRMs
- Properties that are the subject of pending litigation
- Unapproved scope changes
- Application preparation
- Legal procedures related to litigation for an approved application
- Landscaping for ornamentation (trees, shrubs, etc.)
- Decks and garages not included as part of the foundation system
- All construction activities not specifically noted in Section 2.1. of this guidance and not specifically approved by FEMA in advance.
- Project Scoping activities specifically funded through the HMGP Expanded Mitigation Strategies Planning Grant Pilot or any other source.
- Site remediation of hazardous contaminants
- Maintenance costs (see Section 2.3.9)

2.3. MITIGATION RECONSTRUCTION REQUIREMENTS

2.3.1. FEASIBILITY/EFFECTIVENESS REQUIREMENT

Mitigation reconstruction projects funded by the HMGP Reconstruction Grant Pilot must be both feasible and effective at mitigating the hazards for which the project was designed. To determine both feasibility and effectiveness, FEMA will use the information provided in the project application, including the Scope of Work and Cost Estimate sections, as well as any supporting documentation to perform an Engineering Feasibility evaluation of the proposed project. If applicable, proposed schematic or detailed architectural/ engineering drawings shall be included to allow FEMA to assess the effectiveness and feasibility of the proposed project.

The height to which a foundation can be constructed is a key factor in determining feasibility. FEMA has developed guidance for the design of appropriate foundations based on the requirements of the International Codes and other applicable coastal construction standards. This guidance is included in FEMA 550, *Recommended Residential Construction for the Gulf Coast: Building on Strong and Safe Foundations* (publication pending), which also includes sample foundation design calculations and drawings. This guidance document describes in detail the considerations for determining the feasibility of constructing to the required height.

Through this document FEMA has recommended that the sample designs be used for a maximum height of 8 feet for a closed foundation and up to 15 feet for an open foundation. For residential structures with required foundation heights greater than these limits, or for non-residential structures, a design professional should be consulted to determine feasibility.

2.3.2. FLOOD INSURANCE AND ENCLOSURE REQUIREMENTS

The following requirements apply to any HMGP Reconstruction Grant Pilot project:

- When the project is completed, all structures built using HMGP Reconstruction Grant Pilot funds must be covered by flood insurance to an amount at least equal to the project cost or to the maximum limit of coverage made available with respect to the particular property, whichever is less; and
- The Applicant (or Property Owner) will legally record with the county or appropriate jurisdiction's land records a notice that includes the name of the current Property Owner (including book/page reference to record of current title), a legal description of the property and the following notice of flood insurance requirements:

"This property has received Federal hazard mitigation assistance. Federal law requires that insurance coverage on this property must be maintained during the life of the property 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 also is 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 City/County Ordinance. In addition to the criteria above, enclosed areas below the Base Flood Elevation in identified V Zones, or areas identified within the limit of 1.5 foot breaking waves, must not exceed 299 square feet and must be constructed with non-supporting breakaway walls."

The status of flood insurance for properties included in project applications must be ensured by the Grantee and FEMA prior to project close out. Applicants receiving assistance for projects through the HMGP Reconstruction Grant Pilot will ensure that these requirements are met by requesting the participating Property Owner(s) to sign an Acknowledgement of Conditions related to flood insurance requirements providing these signed conditions to FEMA prior to project closeout. This information must address information identified in the *Model Acknowledgement of Conditions Related to Flood Insurance Requirements for Hazard Mitigation Grant Program Pilot Reconstruction Activities* as provided in Appendix C. Properties that do not meet these requirements will not be eligible to receive assistance under the HMGP Reconstruction Grant Pilot.

2.3.3. MONITORING OF FLOOD INSURANCE CONDITIONS

Every 3 years, the Subgrantee must submit to the Grantee, who will then submit to FEMA Regional Director, a report certifying that the Subgrantee has inspected the subject property and that the property continues to be maintained consistent with the provisions of the grant. If the subject property is not being maintained according to the terms of the grant, the Grantee and Subgrantee, its representatives and assigns are responsible for taking measures to bring the property back into compliance.

2.3.4. FLOOD ELEVATION DATA

After Hurricanes Katrina and Rita struck the Gulf Coast, FEMA conducted a new flood frequency analysis and determined that the current Base Flood Elevations (BFEs) for many of the impacted communities do not adequately reflect the level of flood risk. In order to help these communities reduce their vulnerability to damages from future flooding, FEMA has issued, or will issue, Advisory Base Flood Elevations (ABFEs) that more closely reflect post-storm conditions. Any activity undertaken as part of the HMGP Reconstruction Grant Pilot must utilize ABFEs where available as the basis for design of reconstructed structures, as well as adhere to any State or local floodplain ordinances. In areas where ABFEs have not been established, existing and effective flood boundaries and elevations should be utilized during project development and reconstruction.

ABFEs developed following Hurricane Katrina and Rita are currently available for several areas eligible for Pilot activities. Applicants should check the status of this information during project scoping.

ABFE information is available for the following coastal counties in Mississippi from the FEMA website at

http://www.fema.gov/hazard/flood/recoverydata/katrina/katrina_ms_index.shtm;

- Hancock County
- Harrison County
- Jackson County

ABFEs are available for the following parishes in Louisiana from the FEMA website at

http://www.fema.gov/hazard/flood/recoverydata/katrina/katrina_la_index.shtm :

- Jefferson Parish
- Orleans Parish
- Plaquemines Parish
- St. Bernard Parish
- St. Charles Parish (north of the Mississippi River)
- St. John the Baptist Parish (north of the Mississippi River)
- St. Tammany Parish
- Tangipahoa Parish

ABFEs developed following Hurricane Rita also are available for the following parishes in Louisiana at http://www.fema.gov/hazard/flood/recoverydata/rita/rita_la_maps.shtm:

- Calcasieu Parish
- Cameron Parish
- Iberia Parish
- Lafourche Parish
- St. Charles Parish
- St. Mary Parish
- St. John the Baptist Parish
- Terrebonne Parish
- Vermilion Parish

It is possible that new FIRMs with different BFEs will be published while a community is implementing approved mitigation reconstruction projects. For areas where ABFEs have been established, FEMA will release guidance on the utilization of revised flood hazard data prior to the release of preliminary FIRMs.

2.3.5. MITIGATION RECONSTRUCTION PROJECT SCOPING

In order to facilitate project development including determination of technical feasibility and cost effectiveness and to ensure all potential costs have been estimated, a conceptual design of proposed activities must be established during the application development. Although the construction of each structure will be designed by a licensed professional as part of the implementation of the project, basic design parameters for each structure must be established during project scoping. Some of the design parameters that must be established during project scoping include foundation type, required foundation height, flood hazard conditions, appropriate wind design, project cost and site conditions. To aid potential Applicants through the project scoping process, FEMA has developed a detailed flow chart which includes the general required decisions for project design. This flow chart along with detailed instructions for its use can be found in Appendix B.2. In addition, detailed information regarding cost estimates can be found in Section 2.5. The remainder of this section includes a general outline of the primary design parameters that must be considered during project scoping.

Foundation Type: A key consideration for scoping mitigation reconstruction projects will be the type of foundation required. The type of foundation for a specific mitigation reconstruction project will be based on the location of the property within a defined flood zone (FIRM or ABFE) and the required height of the proposed structure above adjacent grade. During project scoping, the applicable flood zone or flood hazard area for each structure must be identified as well as the associated foundation design requirements. For example, NFIP requirements stipulate that structures located within V Zones be constructed with open foundation systems, while additional options are available for reconstruction in A Zones.

The type of foundation selected will impact the type and cost of construction and must be identified prior to application submittal. The flow chart included in Appendix B.2. will aid Applicants in determining the appropriate foundation type. In addition, detailed guidance on foundation designs and design parameters can be found in FEMA 550, *Recommended Residential Construction for the Gulf Coast: Building on Strong and Safe Foundations* (publication pending).

Foundation Height: The required height to which a foundation must be constructed is a key factor in determining feasibility and cost. FEMA has developed guidance for the design of appropriate foundations based on the requirements of the International Codes and other applicable coastal construction standards. This guidance is included in FEMA 550, *Recommended Residential Construction for the Gulf Coast: Building on Strong and Safe Foundations* (publication pending), which also includes sample foundation design calculations and drawings. Through this document FEMA has recommended the sample designs and associated height limitations for various foundation types. For residential structures with required foundation heights greater than these limits, or for non-residential structures, a design professional should be consulted to determine feasibility.

Wind Design Considerations: All mitigation reconstruction activities funded through the HMGP Reconstruction Grant Pilot must be completed in accordance with the International Codes. This includes the appropriate wind design as dictated by the required wind design speed for the project location. An additional consideration is the requirement for the installation of shutters or other protective measures in wind-borne debris regions, which are defined by those areas with a design wind speed of 120 miles per hour (mph) or greater. During project scoping, projects located within this area should be identified and the associated cost of shutters or protective measures included in project costs.

Project Cost: The requirements and preferences for reconstruction developed through the parameters described above will significantly impact the cost of proposed activities. Proposed costs must be developed for consideration of mitigation options and completion of the Benefit-Cost Analysis. Detailed guidance on costing procedures can be found in Section 2.5. A procedure for preparing cost estimates for proposed activities is included in the process flow chart in Appendix B.2.

In addition to these specific parameters, other considerations may need to be addressed during project scoping. Examples of these include zoning requirements and other local ordinances, soil conditions, site access requirements, and environmental and historic structure considerations. During project scoping, consideration should be given to all parameters that have the potential to significantly impact project implementation including work schedule, project cost, and project effectiveness.

2.3.6. CERTIFICATE OF OCCUPANCY

Projects funded in whole or in part under the HMGP Reconstruction Grant Pilot shall not be occupied or the occupancy category changed without prior issuance of a Certificate of Occupancy by the governing local jurisdiction. In jurisdictions having adopted the International Codes, the Certificate of Occupancy shall be issued only after the building official inspects the structure and finds no violations of the provisions of applicable codes or other laws enforced by the building department, as well as the provisions and requirements of this guidance.

In the absence of an adopted building code in a participating jurisdiction or the absence of a designated building official, the required inspections shall be conducted by or under the direct supervision of a design professional licensed in the State of the project. In communities that have not currently adopted the International Codes, the State Building Commission shall determine the education, training and experience requirements for inspectors responsible for conducting inspections required as part of the HMGP Reconstruction Grant Pilot.

Inspections required prior to the issuance of a Certificate of Occupancy include, but are not limited to the following:

- **Demolition Inspection:** Inspections shall be made after all utility connections have been disconnected and secured in such manner that no unsafe or unsanitary conditions exist on the site during or after demolition operations.
- **Foundation Inspection:** Inspections shall be made during foundation construction to verify that the foundations have been installed to the depth and capacity specified in the construction documents.
- **Floodplain Inspection:** Inspections in areas identified in the NFIP as prone to flooding, upon placement of the lowest floor and prior to subsequent vertical construction, documentation of the elevation of the lowest floor shall be provided by a design professional licensed in the State of the project. In addition, set backs and distances from water course and floodways should be checked prior to construction.
- **Framing Inspection:** Inspections shall be made after the roof including all framing and bracing are in place and after the plumbing, mechanical and electrical rough-ins are complete. The framing inspections shall be made to verify that framing members are of the type, size and grade indicated on the construction documents and the connections and fasteners have been installed in accordance with the applicable codes and construction documents.
- **Sheathing Inspection:** Shall be conducted after all roof and wall sheathing and fasteners are complete and at a minimum shall include and inspection of the roof sheathing, wall sheathing, sheathing fasteners, and roof/wall dry-in.
- **Final Inspection:** A final inspection should be completed to document compliance with all requirements of the International Codes, local floodplain ordinances and any other State or local regulations.

A comprehensive list of all required inspections, permits and certifications is included in the International Codes. Additional information on flood-related inspections can be found in the International Code Council document, *Reducing Flood Losses Through the International Codes*. A sample inspection checklist is included in Appendix B.7.

2.3.7. APPROXIMATION OF ORIGINAL SQUARE FOOTAGE

HMGP Reconstruction Grant Pilot activities must result only in an approximation of the original square footage of the structure. The square footage of all resulting structures shall be no more than 10 percent greater than that of the original structure. The final square footage will be verified at the time of subgrant closeout for compliance with this requirement. The original square footage shall be considered that portion of the structure, which was situated on a foundation system. As such, breezeways, decks, garages, etc. will not be considered part of the original square footage unless they were situated on the original foundation system. Original square footage must be documented in the HMGP Reconstruction Grant Pilot application through copies of tax records or other verifiable means. In addition enclosed areas below the Base Flood Elevation in identified V Zones, or areas identified within the limit of 1.5 foot breaking waves, must not exceed 299 square feet and must be constructed with non-supporting breakaway walls.

2.3.8. SPECIFIC CONSTRUCTION STANDARDS

2.3.8.1. CODES AND STANDARDS

Projects funded in whole or in part under the HMGP Reconstruction Grant Pilot program shall be designed and constructed to the minimum standard as established by the requirements of the 2003 International Codes. Structures, including all parts and appurtenances, included in the HMGP Reconstruction Grant Pilot program shall be designed and constructed to safely support all loads, including dead loads, live loads, roof loads, floor loads, wind loads, flood loads, snow loads and seismic loads and combination of loads expected to be imposed on the structure as defined in the Code and related documents referenced in the Codes. The construction of structures shall result in a system that provides a complete load path capable of transferring all loads from the point of origin through load-resisting elements to the soils supporting the foundations. One- and two-family dwellings shall be designed and constructed, as a minimum, to meet the requirements of the *2003 International Residential Code One- and Two-Family Dwellings* published by the International Code Council. However, FEMA encourages communities to use the newly implemented 2006 International Codes with its referenced standards. These include Appendix G: Flood Resistant Construction, as well as ASCE 24-05 “Flood Resistant Design and Construction Standard” for all occupancies including residential, commercial and other. The 2003 International Codes shall be the minimum applicable requirement until and unless a subsequent edition of that Code is adopted by the governing jurisdiction.

Multi-family dwellings, commercial and public facilities shall be designed and constructed, as a minimum, to meet the requirements of the International Building Code published by the International Code Council. The 2003 International Building Code shall be the minimum applicable requirement until and unless a subsequent edition of that Code is adopted by the governing jurisdiction.

For purposes of this HMGP Reconstruction Grant Pilot, the absence of an adopted building code in a participating jurisdiction or a jurisdiction's use of a building code not meeting the requirements of the International Codes shall not relieve the Applicant from meeting the minimum design and construction requirements previously stipulated.

Installation of manufactured homes must follow regulations and guidance provided by the U. S. Department of Housing and Urban Development and the State Administering Agency. In addition, for installations in flood hazard areas, the flood provisions in the National Fire Protection Association document *Model Manufactured Home Installation Standard*, 2005 Edition (NFPA 225) shall be the minimum requirement. This document details the standards for preparation of sites, foundations on which manufactured homes are installed, and the procedures for onsite installation of homes.

For properties located adjacent to V Zones, the FIRM or ABFEs should be reviewed to determine if the property is located in an area identified with the potential for 1.5 foot breaking waves. Where available, the "Limit of 1.5 Foot Breaking Waves" may be delineated on the newly created ABFE maps (the Katrina and Rita Flood Recovery Maps) at the websites previously provided or on a subsequent FIRM. For the HMGP Reconstruction Grant Pilot, structures located in the area between the Limit of 1.5 Foot Breaking Waves and the related water body (ocean, bay, etc.) must be reconstructed in accordance with V Zone requirements. Where ABFEs are available that do not delineate a Limit of 1.5 Foot Breaking Wave, potential waves heights in the 1-percent annual chance flood should be approximated by methods as described in Appendix B.

Project construction documents, including design drawings and specifications, shall be signed and sealed by a design professional licensed in the State in which the project is to be constructed and certified for compliance with the codes, standards, and minimum construction requirements specified in this guidance. Construction documents must be produced prior to the start of construction but are not required for submittal as part of an application. The construction documents shall include a statement that the design meets or exceeds the applicable 2003 International Code. Construction documents based on standard details developed by a manufacturer or material supplier, including framing members, framing connections and roofing, siding or appurtenance fasteners shall be signed and sealed by a design professional licensed in the State in which the project is constructed.

2.3.8.2. PLAN REVIEW AND INSPECTIONS

Construction drawings and specifications shall be reviewed by the local jurisdiction prior to the start of construction. After the local jurisdiction has an established building department as defined by Section 103 of the International Building Code, the required review of the construction drawings and specifications shall be conducted by the local jurisdiction's building official.

If the local jurisdiction has not established a building department, the reviews must be conducted by an independent design professional retained by the jurisdiction to conduct such reviews. The reviewing design professional shall be licensed in the State of the HMGP Reconstruction Grant Pilot project. A sample Plan Review Checklist is included in Appendix B and recommended to be followed. Payment of the reviewing design professional is an allowable cost of the Pilot program.

As stated in Section 2.3.6., construction inspections must be conducted to verify that the project is constructed in full accordance with the approved design and the applicable International Codes. Construction inspections shall be conducted by the office of the building official or under the direct supervision of a design professional licensed in the State of the project as applicable.

2.3.8.3. BUILDER CERTIFICATION

At a minimum, all work under the HMGP Reconstruction Grant Pilot program must be performed by contractors licensed or registered in the State they are working and who maintain appropriate insurance coverage. In addition, contractors must adhere to more stringent local requirements where applicable.

2.3.8.4. ADDITIONAL DESIGN AND CONSTRUCTION GUIDANCE

In addition to the code requirements established by the International Code Council, the following documents are available to provide additional guidance and assistance (i.e., not requirements) for mitigation reconstruction activities:

- American Society of Civil Engineers (ASCE)/Structural Engineering Institute (SEI) 24-05, *Flood Resistant Design and Construction*
- ASCE/SEI 7-05, *Minimum Design Loads for Buildings and Other Buildings*
- International Building Code (IBC) 2006, including Appendix G: Flood Resistant Construction, (Note: IBC appendices are not mandatory unless specifically adopted by the local jurisdiction.)
- International Code Council, *Reducing Flood Losses Through the International Codes*, 2nd Edition, 2005
- FEMA 55, 3rd Edition, *Coastal Construction Manual*
- FEMA 489, *Mitigation Assessment Team Report: Hurricane Ivan in Alabama and Florida*
- FEMA 499, *Home Builder's Guide to Coastal Construction*, Technical Fact Sheet Series
- FEMA 543, *Design Guidance for Critical and Essential Facilities* (publication pending)
- FEMA 549, *Mitigation Assessment Team Report: Hurricane Katrina in the Gulf Coast* (publication pending)
- FEMA 550, *Recommended Residential Construction for the Gulf Coast: Building on Strong and Safe Foundations* (publication pending)

2.3.9. PROPERTY MAINTENANCE

FEMA is not responsible for property maintenance and will not pay for any future maintenance activities for projects approved under the HMGP Reconstruction Grant Pilot. Property Owners must comply with local requirements for property maintenance and upkeep consistent with the guidelines established as part of the HMGP Reconstruction Grant Pilot.

2.4. SCOPE OF WORK

Per Section 2.1., Eligible Mitigation Reconstruction Activities and Costs, the HMGP Reconstruction Grant Pilot activities are divided into three major categories: Project Scoping, Pre-Construction Activities and Construction Activities. However, more specific details about the Construction Activities portion of the process are needed to assure an effective and feasible project. This process is described in detail in the sections that follow.

Documentation provided will be used by FEMA to evaluate the Scope of Work in order to determine the eligibility and feasibility of the reconstruction project. Therefore, where applicable, attachments must be provided of details, supplementary data and pertinent information from qualified/credible sources (e.g., professional engineer, architect and local government records). See Section 2.8. of this guidance for a checklist of all pertinent information pertaining to a well-documented application. Any deviation from methods, standard building procedures, or techniques must be thoroughly explained and documented.

2.4.1. GENERAL

The Scope of Work for reconstruction projects is expected to include six general activities associated with construction. Each of the following activities is outlined in subsequent subsections:

- Pre-construction
- Site preparation
- Foundation construction
- Structural shell construction
- Interior finishes
- Construction completion

2.4.1.1. PRE-CONSTRUCTION

Pre-construction activities for each structure include project design, analysis and permitting required to meet the requirements for funding under this HMGP Reconstruction Grant Pilot.

Project design will be performed by, or under the direct supervision of a design professional (i.e., a registered architect or engineer licensed in the State of the project). The design includes all calculations, analysis and research necessary to determine the forces expected to act on the project structure, including all attachments and appurtenances, and the selection of structural framing members sufficient to provide a load path for all load bearing members to transfer design loads to the foundations and the details of connections required to transfer load from one member to another in accordance with the design concept.

For guidance with foundation design, refer to FEMA 550, *Recommended Residential Construction for the Gulf Coast: Building on Strong and Safe Foundations* (publication pending), which demonstrates design and construction techniques for building foundations in coastal high hazard areas. The design process also includes any testing required to establish site-specific design parameters, such as soil borings conducted as part of a geotechnical exploration to determine foundation requirements.

Prior to construction, each HMGP Reconstruction Grant Pilot project must obtain all applicable permits and pay all required permitting fees. Applicable permits are expected to include, but not be limited to the following:

- Zoning or land use approvals
- Environmental permits or required certifications
- Historic preservation approvals
- Building permits

2.4.1.2. SITE PREPARATION

Site preparation activities include demolition of substantially damaged structures, removal and disposal of project debris (as specified in Section 2.1.1. of this guidance), required site environmental restoration, utility relocation and site grading required as part of the project. Environmental site remediation costs are not eligible; the properties must be certified as “clean” by the appropriate State office before project funds may be expended on the site.

2.4.1.3. FOUNDATION CONSTRUCTION

Foundation construction activities include installation, monitoring and testing if required of foundations supporting the structure. Based on the impacted areas and the expectation that HMGP Reconstruction Grant Pilot project structures will be required to be elevated, many projects will be supported on an open, pile-driven foundation system. Detailed guidance on foundation construction can be found in FEMA 550, *Recommended Residential Construction for the Gulf Coast: Building on Strong and Safe Foundations* (publication pending).

Installation of the open foundation system shall be monitored to assure that foundation elements are installed to the depth and achieve the load capacity specified in the construction documents. Foundation construction monitoring can be conducted by the building official or their designee, the licensed design professional responsible for the project design, or an independent agency.

2.4.1.4. STRUCTURAL SHELL CONSTRUCTION

Structural shell construction activities include all framing, load carrying elements, attachments and building envelope components above the foundation. As rough-in installation of electrical, communications, plumbing and mechanical systems may require drilling through or making notches in load carrying elements, such rough-in work also is part of the structural shell construction activities. Structural shell construction activities must include an inspection of the completed shell prior to interior work covering the framing.

A critical element of structural shell construction is an engineering inspection conducted after framing, service rough-in and building envelope construction are completed but prior to installation of interior wall or coverings. The engineering inspection shall verify that the size, location and materials used in the construction are in conformance with the construction drawings and the applicable International Code.

Results of an engineering inspection by, or under the direct supervision of, the responsible design professional or an independent agency shall be presented in a written report signed and sealed by the licensed design professional in responsible charge of the monitoring. The engineering inspections must be conducted by the building official or their designee, the licensed design professional responsible for the project design also may inspect the structure for quality control reasons.

2.4.1.5. INTERIOR FINISHES

Interior finish activities include installation of interior walls, flooring, wiring/lighting fixtures, insulation, plumbing and mechanical fixtures, kitchen/bath counters, cabinets, sinks, toilets, tub/shower and HVAC. Inspections of these interior finish activities shall be conducted in accordance with the requirements of the applicable International Code Council building code.

2.4.1.6. CONSTRUCTION COMPLETION

Construction completion activities consist of conducting final inspections, preparation of a final elevation certificate (including digital photographs), issuance of a Certificate of Occupancy for the structure, and assembling the documentation necessary to verify the projects conformance to the HMGP Reconstruction Grant Pilot requirements.

2.4.2. SCOPE OF WORK CHANGES

Requests for changes to the Scope of Work after award are permissible as long as they do not change the nature of the activity, the feasibility and effectiveness of the project or the Benefit Cost Ratio (see Sections, 1.3.2.4., Scope Change Requirements and 2.6., Cost-Effectiveness). Scope of Work changes can include the type of foundation (e.g., from closed to open), the type of structure to be constructed (e.g., from masonry to wood frame), or the addition or removal of the number of pre-identified structures to be reconstructed in the HMGP Reconstruction Grant Pilot program. Requests must be supported by adequate justification from the Applicant in order to be processed. The justification is a written explanation of the reason or reasons for the change, an outline of remaining funds available to support the change, and a description of the work necessary to complete the activity. There is no guarantee that Scope of Work changes will be approved and all approvals will be at FEMA's discretion.

2.5. COST ESTIMATE

Each HMGP Reconstruction Grant Pilot project requires a cost estimate as part of the technical and cost effectiveness evaluation process. The cost estimate shall include all reasonably anticipated project costs, including direct costs associated with project scoping, construction and closeout activities.

All reconstruction activities listed in Table 2-1 are eligible for reimbursement under this HMGP Reconstruction Grant Pilot. The activities in the table are separated into the following:

- Costs included as part of the \$150,000 Federal share funding limit
- Costs not included as part of the \$150,000 Federal share funding limit

Costs included as part of the \$150,000 Federal share funding limit will be estimated and obligated on a per square foot basis; reimbursement will be in a manner consistent with standard HMGP Grantee procedures. Based on the foundation type and required elevation height, a square foot cost for each potential combination of structure characteristics will be developed. All structures of the same type within an application will have costs allocated at the same square foot rate. Applicants will identify the type and number of structures of each possible combination to be included in the proposed project.

The breakdown of structure types will be based on the following structure characteristics:

- Foundation Type:
 - Open foundation
 - Closed foundation
- Foundation Height:
 - 0 to 5 feet
 - Over 5 to 10 feet
 - Over 10 to 15 feet
 - Over 15 feet

To facilitate the application development process FEMA will provide square foot cost estimates for each combination of the above structure characteristics by geographic region to the Grantee. The square foot costs will be developed with the understanding that the costs of eligible construction activities can vary based on the quality and type of construction materials and finishing work. Reconstruction costs will be based on materials, service equipment and construction practices of “standard grade,” with basic exterior ornamentation and interior refinements consistent with an average quality of construction as defined by Marshall & Swift, R.S. Means, or similar guidance; and based on a construction consistent with Section 2.3.8. Any costs incurred above and beyond the square foot costs as allocated by FEMA will not be the responsibility of FEMA and will not be included in the determination of the Federal share or local match for Pilot activities. As with all HMGP activities, only actual costs incurred for eligible activities will be reimbursed by the Grantee.

Applicants may contact their Grantee to obtain the FEMA-provided square foot cost estimates and may use these values without submitting additional documentation. However, an Applicant may provide a specific cost estimate for each combination of structure characteristics on a square foot basis. FEMA will review cost estimates submitted to ensure they are reasonable and valid for the type of construction and the geographic area. Cost information will be maintained and updated by FEMA to keep the reference cost range information as current as possible. Additional dollars per square foot (\$/SF) information provided by Applicants will be used by FEMA to manage the changing dynamic of construction cost variances through the Gulf Coast and through the life cycle of this HMGP Reconstruction Grant Pilot.

For Applicants not using the square foot costs provided by FEMA, a standard format has been developed for the submission of cost estimates by project type (see Appendix B.4). Documentation of the source of all cost estimates must be provided. Costs always should be provided in a \$/SF format. The costs shall be based on the construction of fundamental, code-compliant structures with essential appurtenances as described. This will allow for a comparative review of projects of varying types within a region and to ensure reasonable construction costs have been submitted.

Costs not included in the \$150,000 Federal share funding limit also must be included in the project application. Documentation and the source for these costs, including costs incurred prior to application submittal, must be provided as part of the project application.

2.5.1. COST ESTIMATE DOCUMENTATION

The cost estimate shall describe all anticipated and potential costs associated with the proposed reconstruction project. Sufficient detail should be provided regarding various cost items. The cost estimate should clearly identify costs associated with each major work activity, including construction and non-construction activities and include a detailed breakdown of costs within each activity. Cost estimates may be developed using commercial estimating references, well-documented local area historic costs, or competitive bids for the proposed project. The cost estimate also may be prepared by following the format provided in Appendix B.4.

2.5.2. COST ESTIMATE CHANGES

Requests for changes to the cost estimate after award, including cost overruns, are permissible as long as the project is still cost effective (see Section 2.6. of this guidance) and costs are associated with approved activities. Requests must be supported by adequate justification and documentation from the Grantee/Applicant in order to be processed. The justification is a written explanation of the reason or reasons for the change and an outline of remaining funds available to support the change. There is no guarantee that cost estimate changes will be approved and all approvals will be at FEMA's discretion.

2.6. COST-EFFECTIVENESS

The HMGP program must only fund cost-effective mitigation activities. To ensure this objective is met, a FEMA-approved Benefit-Cost Analysis (BCA) will be conducted for all Pilot activities. BCA is a well-established method for quantitatively comparing the benefits and costs of mitigation projects. The end result is a Benefit-Cost Ratio (BCR), which is derived from a project's total net present value of benefits divided by the total project cost. The total project cost must include all documented project costs. Examples of possible damages avoided or reduced include the following:

- Damages to structures and contents
- Displacement costs for temporary quarters
- Economic impacts of loss of function of structures
- Loss of public services
- Loss of net business income
- Response and recovery costs
- Deaths and injuries

If requested, FEMA will work closely with State and local officials to gather data and assist in the preparation of BCAs. Due to the complexity of Pilot activities, it is highly recommended that potential Applicants consider BCA early in the project scoping and development process to help screen and identify both cost-effective and non cost-effective projects. Applicants should recognize that not all potential Pilot projects will be cost effective due to locations within areas of low flood risk. Considering and evaluating the potential costs and benefits when scoping project activities will help to ensure the submission of cost-effective projects.

For project applications that address multiple structures, the BCR may be calculated by totaling the anticipated or net present value of benefits for each structure to obtain the project's total net present value of benefits and then dividing the total project benefits by the total project cost. This represents the composite project BCR. Grantees and Applicants are encouraged to ensure that the BCA includes all benefits associated with the proposed mitigation project. Projects with a composite project BCR less than 1.0 will not be eligible for funding.

The conduct of FEMA BCA is governed by the Office of Management and Budget (OMB) Circular A-94, Guidelines and Discount Rates for Benefit Cost Analysis of Federal Programs. OMB excludes indirect benefits or "multiplier" effects, for example, long-term changes in regional economic activity, such as future employment and tourism, which are not directly linked to the project. For further details of categories of benefits that may or may not be counted, see FEMA's "What is a Benefit? - Guidance on Benefit-Cost Analysis of Hazard Mitigation Projects" located on the Mitigation BCA Toolkit CD-ROM available from FEMA. This document provides standardized benefit categories, approaches and data inputs for many common mitigation projects.

2.6.1. METHODOLOGY

Cost-effectiveness of Pilot activities must be demonstrated through use of a standard FEMA BCA module. Applicants should select the appropriate BCA Flood module (Full-Data, Limited-Data, Coastal A, or Coastal V) based on the type of flood hazard for the structure location and the data available. If requested, FEMA will work in close coordination with State and local officials to develop data and assist in the preparation of BCAs. Project costs in the BCA will be based on all eligible costs, as described in Section 2.1. of this guidance. Applicants must ensure the projects costs reflect the full costs associated with reconstruction above the ABFE or the appropriate design elevation.

Due to the magnitude of the recovery effort and the unique nature of this Pilot, FEMA will work closely with States and Applicants to identify efficiencies in conducting a BCA for Pilot Activities. FEMA will provide additional guidance on the completion of BCA for Pilot activities as it becomes available.

Alternative BCA methodologies will be considered only if the FEMA Regional Office and FEMA Headquarters approve the approach prior to submittal of the grant application. However, the FEMA alternative methodology developed to conduct a BCA for certain properties insured under the NFIP and included in the Pilot NFIP repetitive loss properties list, may be used to demonstrate cost-effectiveness of Pilot activities.

2.6.2. DATA REQUIREMENTS

The data required to conduct a BCA for Pilot activities will vary slightly depending on the module and methodology utilized. Typical data required to conduct a standard BCA for Pilot activities will include:

- Structure square footage
- Structure type
- Site topographic data including first floor elevations
- Structure use
- Unit replacement costs (in dollars per square foot)
- Contents value*
- Displacement costs*
- Value of public/non-profit services**
- Loss of rent or business income**
- Site flood insurance study (FIS) or ABFE data

* if different than FEMA standard value

** if applicable

Project applications should include surveys, copies of elevation certificates, copies of appropriate sections of FIS, the FIRM, or ABFEs, copies of relevant supporting information and data from engineering reports and other documentation to support figures used in developing the BCAs.

2.7. ENVIRONMENTAL/HISTORIC PRESERVATION COMPLIANCE

All projects awarded funding under this Pilot program, including those funded with matching funds and regardless of the source of matching funds, must undergo the FEMA environmental and historic preservation (EHP) review process. This process includes, but is not limited to, the National Environmental Policy Act (NEPA), National Historic Preservation Act (NHPA) and Executive Orders on Wetlands (11990) and Floodplains (11988). The level of EHP review is based on the potential for a project to have a significant effect on natural or cultural resources regulated by the mentioned laws. Reconstruction outside the original footprint or which may involve significant ground disturbances may have the potential to cause adverse effects to natural, historic and cultural resources, requiring a higher level of review.

Applicants are strongly encouraged to contact the FEMA Environmental Liaison Officer located in the Joint Field Office/ Transitional Recovery Office (JFO/TRO) active in their respective state to access information regarding procedures, guidance, policies, or documentation that may assist in the formulation of the reconstruction projects or in their review. When funding from another Federal agency such as CDBG funds from HUD are used to match the FEMA grant, the EHP compliance requirements of that agency must be also complied with.

2.7.1. ENVIRONMENTAL/HISTORIC PRESERVATION INFORMATION

FEMA strongly encourages the Applicant to perform the following:

- Work with Federal and State resource agencies to begin collecting information about potential EHP resources in the vicinity of the proposed project.
- Provide documentation and correspondence from resource agencies.
- Evaluate any identified EHP impacts that could affect the overall project feasibility or any project alternatives or changes to the design, scope or location of the project that may be required to minimize potential adverse impacts.
- Determine if potential environmental mitigation or compliance measures, historic preservation treatment measures or changes to the project to minimize adverse effects to environmental resources or historic properties may affect the overall project costs.
- Provide as much supporting documentation as available at the time of the application submission, including clearly labeled maps, diagrams, photographs or letters/documentation from resource agencies.

Some information may be required that is particular to the declared disasters associated with this Pilot. Examples include consistency with local green space planning; source of flooding, such as a particular levee break; or original structure removal techniques and final disposal.

2.7.2. CONDITIONS FOR THE AWARD OF FUNDS

FEMA will complete the EHP review with the assistance of the State and the Applicant. There may be situations where FEMA has developed specific procedures, guidance, policies, or documentation that may assist in the formulation or in the EHP review of reconstruction projects. Applicants are encouraged to contact the FEMA Environmental Liaison Officer located in the JFO/TRO active in their respective state to access this information.

It may be possible for the Applicant to avoid or minimize adverse effects. If the Applicant is able to do so, the description of work should explain the avoidance or minimization measures. Such descriptions may expedite the EHP review process. Measures to mitigate environmental impacts or adverse effects to historic resources may be required as conditions to the grant award.

The Applicant should ensure to the best of their ability that costs associated with conditions related to the grant award are realistically reflected in the cost estimate (see Section 2.5. of this guidance). Example costs that may apply could include architectural treatments for historic structures; sampling costs for lead-based paint, asbestos or contaminated soils; or surveys for natural or cultural resources (e.g., wetland delineation or archaeology). Remediation of contaminated soils is not an eligible cost. The Applicant is encouraged to provide an explanation of how the cost estimate was developed to include costs associated with anticipated EHP mitigation measures. All such costs identified through the review and consultation process may be cost shared if included as part of the project application cost estimate.

2.8. RECONSTRUCTION GRANT PILOT APPLICATION CHECKLIST

FEMA will review all project applications to ensure the following:

- Eligibility of the Applicants/Property Owners (see Section 1.3., Grant Pilot Eligibility)
 - Voluntary Participation Statement, including certification of the following:
 - Property ownership at time of disaster meets Pilot requirements
 - Property Owner is a willing participant
 - Property Owner is willing to accept flood insurance purchase requirements
- Eligibility of proposed activities and costs (see Section 2.1., Eligible Mitigation Reconstruction Activities and Costs)
 - Tax records (or other certifiable documentation) documenting original square footage
- Completeness of Scope of Work (see Section 2.4., Scope of Work)
- Completeness of the Cost Estimate and consistency with the Scope of Work (see Section 2.5., Cost Estimate)
- Eligibility and availability of non-Federal cost share (see Section 1.3.2.7., Cost Share Requirements)
- State/tribal and local planning requirements are met (see Section 1.3.2.1., Planning Requirements)

- Consistency of mitigation reconstruction projects with the Applicant's State/tribal mitigation plan and local/tribal mitigation plan
- Feasibility and effectiveness of mitigation reconstruction projects, including complete supporting documentation (see Section 2.3.1., Feasibility/Effectiveness Requirement)
- BCR of 1.0 or greater for the proposed mitigation project
- Technical accuracy, complete supporting documentation and source credibility of the BCA (see Section 2.6., Cost-Effectiveness)
- Complete responses to the EHP questions and supporting documentation and inclusion of appropriate environmental mitigation measure and historic property treatment measures in the Cost Estimate (see Section 2.7., Environmental/Historic Preservation Compliance)
- Other standard assurances routine for HMGP funding requests

Project applications that do not satisfy the eligibility and completeness requirements will be removed from consideration.

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SECTION 3. RECONSTRUCTION GRANT PILOT IMPLEMENTATION

3.1. QUARTERLY PROGRESS REPORTS

The Grantee will submit a quarterly progress report to FEMA within 30 days from the end of each Federal quarter following the initial grant award. The information submitted on these reports should include the following items:

- Describe the significant activities and developments that have occurred to show performance and percent complete during the quarter for each step included in the Scope of Work, including a comparison of actual accomplishments to the objectives established in the application.
- Indicate whether completion of work is anticipated within the performance period. If not, describe any problems, delays or adverse conditions that will impair the ability to meet the stated objectives in the application.
- Indicate whether cost underrun/cost overrun, change of scope request or request for extension of performance period are anticipated.

3.2. CLOSEOUTS

FEMA is required by 44 C.F.R. 13.50 to close out the HMGP awards when all applicable administrative and required work has been completed. Each individual project thus needs to be closed out. The Grantee should notify the FEMA region when a project is ready to be closed. Otherwise, upon apparent completion, FEMA may suggest project closure to the Grantee.

Closure of a mitigation reconstruction project generally includes the following:

- 1) Agreement to close the project
- 2) Reconciliation/adjustment of project costs
- 3) Submission of the following documents:
 - i. Certificate of Occupancy
 - ii. Final Elevation Certificate
 - iii. Signed acknowledgement of flood insurance requirements recorded with the deed for each structure
 - iv. Certification from a building official or licensed design professional verifying that the structure was designed and constructed to the minimum standard of the 2003 International Codes.
- 4) Verification that final square footage is within 10 percent of original structure square footage at time of closeout
- 5) Verification of proof of insurance for each structure
- 6) Submission of the final project report
- 7) Site visit and photograph record for each structure
- 8) Update to repetitive loss database for mitigated properties
- 9) Update to property site information in the NEMIS database for each structure
- 10) Project closeout in program and financial systems

The Subgrantee, the Grantee and FEMA must coordinate to make sure that funds advanced through the program are consistent with funds expended by the Grantee and Subgrantee. The Subgrantee, Grantee and FEMA must ensure that funds were spent in a manner consistent with the objective, purpose and outcome of the approved mitigation activity.

If the amount expended does not match the grant amount, the Grantee and FEMA will take steps to reconcile and adjust final project expenditures and Grantee and Subgrantee administrative costs.

The Subgrantee shall submit to the Grantee a Certificate of Occupancy and Final Elevation Certificate for each structure in the project to certify that the structure is code compliant. A copy of a recorded deed for each property including reconstruction project deed requirements also shall be submitted to the Grantee. In addition a certification from a building official or licensed design professional verifying that the structure was designed and constructed to the minimum standard of the 2003 International Codes must be provided. These documents shall be submitted before closeout can be completed. If a Subgrantee fails to provide these documents, FEMA has the authority to recoup grant funds provided for the project.

The Grantee should submit a final project report that addresses any financial adjustments that FEMA and the Grantee identifies as needed. Grantees should include the following elements in the final project report:

- Final Financial and Progress report (if applicable)
- Standard Form 270, Final Request for Payment
- FEMA Form 20-18, Report of Government Property Final inspection reports (if applicable)
- Photographs, etc., to validate expenditures

The Grantee should conduct a site visit for all projects to ensure the approved Scope of Work was completed. The Subgrantee has 60 days to appeal if it does not agree with the Grantee and FEMA's findings.

FEMA and the Grantee will coordinate their financial systems to record the amount and date of the final payment. Financial files will be closed and excess funds will be de-obligated.

The Grantee may use the Project Closeout module on the NEMIS to review individual mitigation projects for work completion and financial balance. The module also is used to close a project. The task of reviewing project identifiers is performed on the Project Closeout screen. See the NEMIS Software User Manual for detailed guidance.

3.3. MONITORING OF PILOT REQUIREMENTS AND CONDITIONS

Every 3 years, the Subgrantee must submit to the Grantee, who will then submit to the appropriate FEMA Regional Director a report certifying that it has inspected the subject property and that the property continues to be maintained consistent with the provisions of the grant. If the subject property is not being maintained according to the terms of the grant, the Grantee and FEMA, its representatives and assignees are responsible for taking measures to bring the property back into compliance.

APPENDIX A. ACRONYMS AND DEFINITIONS

A.1. LIST OF ACRONYMS

ABFE	Advisory Base Flood Elevation
ADA	Americans with Disabilities Act
ASCE	American Society of Civil Engineers
BCA	Benefit-Cost Analysis
BCR	Benefit-Cost Ratio
BFE	Base Flood Elevation
CDBG	Community Development Block Grant (HUD)
C.F.R.	Code of Federal Regulations
DFE	Design Flood Elevation
DHS	U.S. Department of Homeland Security
EHP	Environmental/Historic Preservation
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FFE	First Floor Elevation
FHBM	Flood Hazard Boundary Map
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Study
GIS	Geographic Information System
HUD	U.S. Department of Housing and Urban Development
HVAC	Heating, Ventilation and Air Conditioning
IA	Individual Assistance Program (FEMA)
NEMIS	National Emergency Management Information System
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
OMB	Office of Management and Budget
PDM	Pre-Disaster Mitigation Program (FEMA)
P.L.	Public Law
SEI	Structural Engineering Institute
U.S.C.	United States Code

APPENDIX A. ACRONYMS AND DEFINITIONS (continued)

A.2. DEFINITIONS OF KEY TERMS

- Grantee:** The government to which a grant is awarded and which is accountable for the use of the funds provided. The Grantee is the entire legal entity even if only a particular component of the entity is designated in the grant award document. Generally, the State is the Grantee. However, an Indian tribal government may choose to be a Grantee, or it may act as a Subgrantee under the State. An Indian tribal government acting as a Grantee will assume the responsibilities of a “State” for the purposes of administering the grant.
- Applicant:** A State agency, local government, Indian tribal government or eligible private non-profit organization, submitting an application to the Grantee for assistance under the HMGP.
- Subgrantee:** The government or other legal entity to which a subgrant is awarded and which is accountable to the Grantee for the use of the funds provided. Subgrantees can be a State agency, local government, private non-profit organizations, or Indian tribal government as outlined in 44 C.F.R. Section 206.433. Indian tribal governments acting as a Subgrantee are accountable to the State Grantee.
- Property Owner:** The owner of record at the time the named disasters occurred of the property that will be mitigated by means of this Pilot program with responsibility to comply with deed restrictions and property maintenance requirements.

APPENDIX B. BUILDING SCIENCES

B.1. PROJECT SCOPING PROCESS

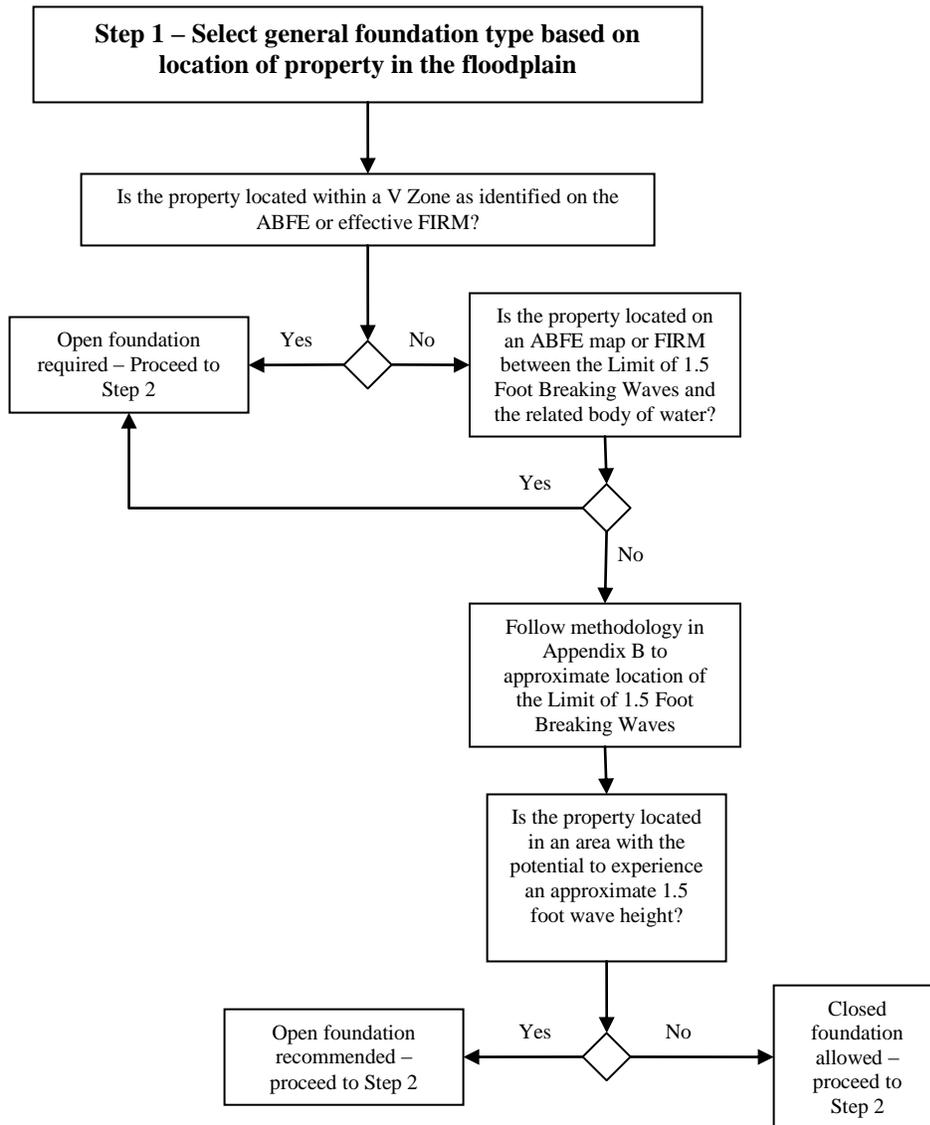
Two critical elements of project design must be established during project scoping: the required foundation type and foundation height for the structure. Although many variations exist between different types of foundations, for the purpose of project scoping, foundations will be grouped into two primary categories: open foundations and closed foundations.

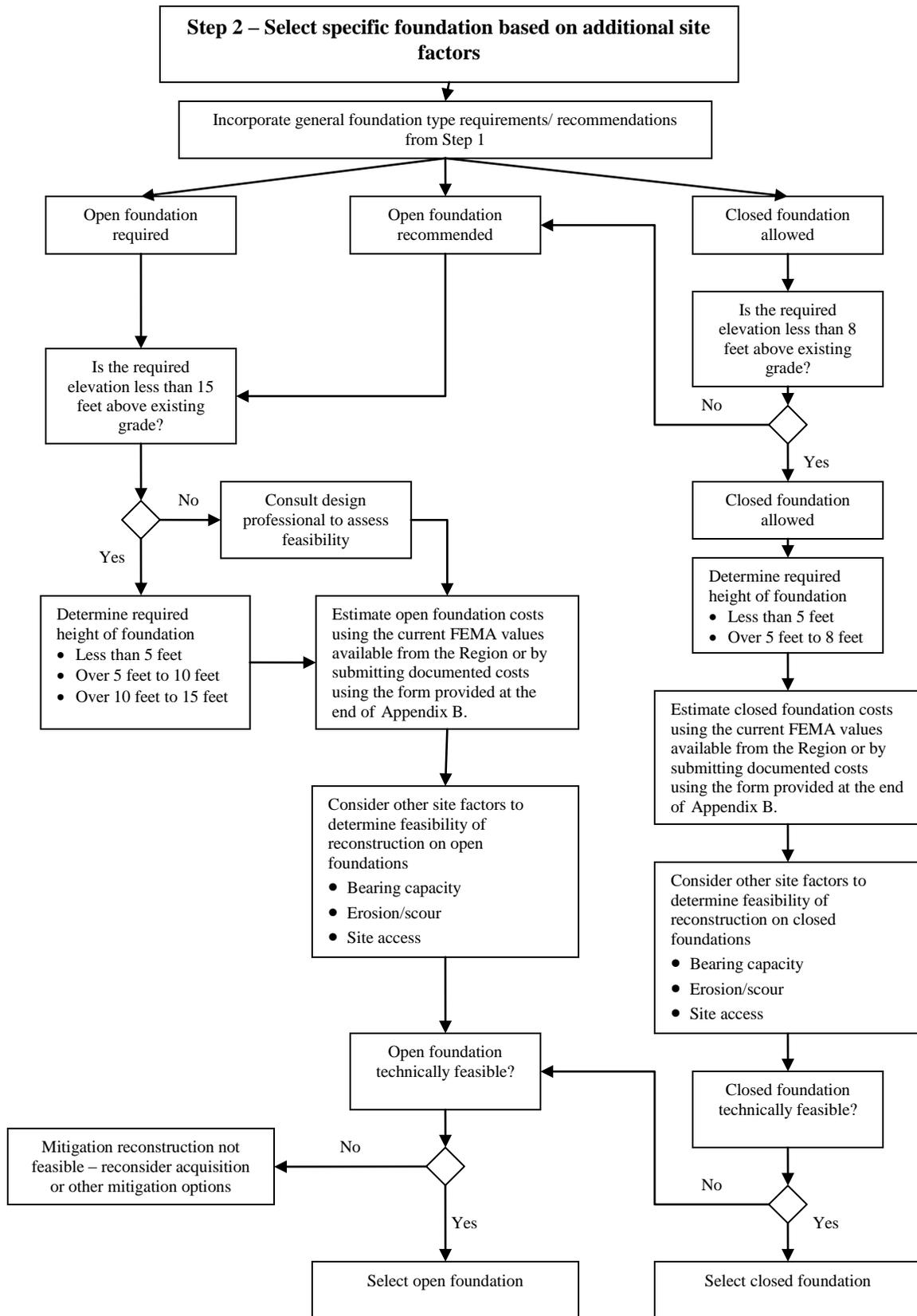
The required height of the foundation is a critical factor in determining the type and cost of the foundation required. The required height will be determined based on the elevation requirement above existing ground elevation as dictated by local floodplain management criteria, specific program criteria, and the provisions of all applicable codes.

The purpose of the following flow chart is to assist potential Applicants through the project scoping process. By using this flow chart, the Applicant can identify the basic design parameters for individual structures that may be included in a potential application. The results of this flow chart will directly facilitate the development of a cost estimate and facilitate grouping potential structures into categories for which variations of cost are expected. Following this flow chart, detailed instructions are presented to provide additional guidance.

NOTE: The use of this flow chart does not replace the requirement for detailed engineering design of mitigation reconstruction projects. The flow chart is a guide through the project development process to confirm feasibility and aid in cost estimation. If the project is approved, a detailed project design would be required during implementation.

B.2. SCOPING PROCESS FLOW CHART





B.3. SCOPING PROCESS FLOW CHART INSTRUCTIONS

STEP 1 – Select general foundation type based on location of property in the floodplain

The first step is to obtain the latest up-to-date floodplain mapping for the community. The local floodplain administrator or building official may be able to provide this information. In the States of Mississippi and Louisiana, ABFEs may have been established following Hurricanes Katrina or Rita (see Section 2.3.4.).

Once the current floodplain mapping for the community has been identified, locate the specific property on the map and identify the appropriate flood zone. The potential scenarios are outlined below:

V Zones:

If the property is identified on the ABFE or FIRM as being located in a V Zone, then an open foundation will be required that can resist all flood forces as well as erosion and scour. *Proceed to Step 2.*

Limit of 1.5 Foot Breaking Waves:

- If the property is identified on the ABFE or FIRM as being located in an area between the Limit of 1.5 Foot Breaking Waves and the related water body, then an open foundation will be required that can resist all flood forces as well as erosion and scour. *Proceed to Step 2.*
- If there is no Limit of 1.5 foot Breaking Waves identified for the property on the FIRM or ABFE, use the following procedure to approximate the location of the Limit of 1.5 foot Breaking Waves for an A Zones that are located adjacent to V Zones on the ABFE or effective FIRM:
 1. Determine the Stillwater Elevation for the 100-year flood event for the property from the Flood Insurance Study (FIS) or determine the post-Katrina Still water Elevation from the Flood Recovery Guidance if appropriate. For post-Katrina Stillwater Elevations for open coast areas and back bay areas in Mississippi, refer to the Flood Recovery Guidance on the FEMA website (http://www.fema.gov/rebuild/mat/mat_katrina.shtm).
 2. Determine the lowest ground surface elevation for the property from a licensed surveyor or a topographic map with 1 foot contours.
 3. Measure the elevation difference between the Stillwater Elevation and the lowest ground service elevation.
 4. If the elevation difference is 2 feet or greater, then the property can be assumed to be in an area with the potential to experience 1.5 foot breaking waves. If the elevation difference is less than 2 feet, then the property can be assumed to be outside of the area with potential to experience 1.5 foot breaking waves.

- If the property is determined as being located in an area with the potential to experience 1.5 foot breaking waves using the above procedure, then an open foundation is recommended that can resist all flood forces as well as erosion and scour. *Proceed to Step 2.*

A Zones (Outside Limit of 1.5 Foot Breaking Waves):

- If the property is identified on the ABFE or effective FIRM as being located in an A Zone that is not adjacent to a V Zone, then a closed foundation is allowed. *Proceed to Step 2.*
- If the property is identified on the ABFE as being located outside of the Limit of 1.5 Foot Breaking Waves, then a closed foundation is allowed. *Proceed to Step 2.*
- If the property is determined as being located outside a an area with the potential to experience 1.5 foot breaking waves using the above procedure, then a closed foundation is allowed. *Proceed to Step 2.*

STEP 2 – Select specific foundation based on additional site factors

The next step is to determine the required foundation height and cost. The potential scenarios for open and closed foundations are outlined below:

Open Foundation Required or Recommended

- **Estimating height:** If an open foundation is required or recommended based on Step 1, determine the required elevation height of the foundation. This can be done by acquiring the ABFE from the Katrina flood recovery data on the FEMA website (http://www.fema.gov/rebuild/mat/mat_katrina.shtm) or the BFE from the FIRM if an ABFE has not been determined for site. Since the ABFEs and FIRM BFEs are measured relative to North American Vertical Datum (NAVD88) (or roughly sea level), the ground surface elevations are needed to determine how high above grade a structure should be elevated to meet the required flood elevation from the ABFE or FIRM. The ground elevations can be determined by a licensed surveyor or topographic maps. If neither of those options is readily available, the National Oceanic and Atmospheric Administration (NOAA) has provided FEMA with provisional, high-resolution topographic data collected in 2004 used in the development of the Katrina Recovery Maps. Once both the required flood elevation and ground elevations are obtained, the site's ground elevation (topographic elevation) is subtracted from the site's required flood elevation to calculate the approximate foundation elevation above grade.
 - If the required elevation height is less than or equal to 15 feet, select an open foundation that is designed to resist all flood forces and erosion and scour effects. Design professionals may refer to FEMA Publication 550, *Recommended Residential Construction for the Gulf Coast: Building on Strong and Safe Foundations* (publication pending) for additional details.
 - If the required elevation height is greater than 15 feet, a design professional must be consulted to determine if an open foundation is feasible given the building site conditions.

- **Estimating costs:** Open foundation costs need to be estimated on the required elevation height. FEMA has estimated open foundation costs on a regional basis for the following elevation ranges:
 1. Up to 5 feet
 2. Over 5 feet to 10 feet
 3. Over 10 feet to 15 feet
 4. Over 15 feet

These open foundation costs will be available from the FEMA Regional Offices as a separate document that will be updated on a periodic basis. For more information about project cost estimating, see Section 2.5.

- Regardless of the elevation height requirement, the following site factors should be considered to determine which properties are feasible to reconstruct on open foundations. The evaluation of the following factors may require consultation with an experienced design professional knowledgeable of local conditions:
 1. Bearing capacity – In areas known to have soils with low bearing capacity, options for open foundation construction may be limited.
 2. Erosion and scour – In areas historically subject to erosion and scour (i.e., sites along the coast or adjacent to waterways), options for open foundation construction may be limited.
 3. Site access - In areas with poor site access or limited clearances between adjacent buildings, open foundation construction may not be feasible.
- If open foundation design is technically feasible based on the site factors listed above, select an open foundation. *Proceed to Step 3.*
- If open foundation design is not technically feasible based on the site factors listed above, then mitigation reconstruction is not feasible. *Reconsider acquisition or other mitigation options.*

Closed Foundation Allowed

- **Estimating height:** If an closed foundation is required or recommended based on Step 1, determine the required elevation height of the foundation. This can be done by acquiring the ABFE from the Katrina flood recovery data on the FEMA website (http://www.fema.gov/rebuild/mat/mat_katrina.shtm) or the BFE from the FIRM if an ABFE has not been determined for site. Since the ABFEs and FIRM BFEs are measured relative to NAVD88 (or roughly sea level), the ground surface elevations are needed to determine how high above grade a structure should be elevated to meet the required flood elevation from the ABFE or FIRM. The ground elevations can be determined by a licensed surveyor or topographic maps. If neither of those options is readily available, the National Oceanic and Atmospheric Administration (NOAA) has provided FEMA with provisional, high-resolution topographic data collected in 2004 used in the development of the Katrina Recovery Maps. Once both the required flood elevation and ground elevations are obtained, the site's ground elevation (topographic elevation) is subtracted

from the site's required flood elevation to calculate the approximate foundation elevation above grade..

- If the required elevation height is less than or equal to 8 feet, select a closed foundation. Design professionals may refer to FEMA Publication 550, *Recommended Residential Construction for the Gulf Coast: Building on Strong and Safe Foundations* (publication pending) for additional details.
- If the required elevation height is greater than 8 feet, select an open foundation using the “Open Foundation Required or Recommended” procedures defined above.
- **Estimating costs:** Closed foundation costs need to be estimated on the required elevation height. FEMA has estimated open foundation costs on a regional basis for the following elevation ranges:
 1. Up to 5 feet
 2. Over 5 feet to 10 feet
 3. Over 10 feet to 15 feet
 4. Over 15 feet

These closed foundation costs will be available from the FEMA Regional Offices as a separate document that will be updated on a periodic basis. For more information about project cost estimating see Section 2.5.

- Regardless of the elevation height requirement, the following site factors should be considered to determine which properties are feasible to reconstruct on closed foundations: The evaluation of the following factors may require consultation with an experienced design professional knowledgeable of local conditions:
 1. Bearing capacity – In areas known to have soils with low bearing capacity, closed foundation construction may not be feasible.
 2. Erosion and scour – In areas historically subject to erosion and scour (i.e., sites along the coast or adjacent to waterways), options for closed foundation construction may not be feasible.
 3. Site access - In areas with poor site access or limited clearances between adjacent buildings, closed foundation construction may be limited.
- If closed foundation design is technically feasible based on the site factors listed above, select a closed foundation. *Proceed to Step 3.*
- If closed foundation design is not technically feasible based on the site factors listed above, select an open foundation using the “Open Foundation Required or Recommended” procedures defined above.

Select and group specific structure types based on foundation and other site factors

The next step is to select and group the specific structure type or types based on the foundation type selected in Step 2 (open or closed), foundation height, and other site factors. Grouping structures in this way will aid in the development of the cost estimate, as described in the next section. The potential structure types allowed for this mitigation reconstruction pilot include wood frame, masonry, modular, and manufactured. The other site factors that will need to be examined are listed in the bullets below:

- Foundation height
- Square footage
- Site access
- Design wind speed and other wind design factors
- Foundation bearing capacity
- Shape
- Distance from coast
- Cost

B.4. PROJECT COST ESTIMATING

As stated in Section 2.5., each HMGP Reconstruction Grant Pilot project requires a cost estimate as part of the technical and cost effectiveness evaluation process. To aid the Applicant, reconstruction project costs have been estimated by FEMA and will be updated and maintained throughout the recovery process. The estimated costs are based on the foundation type, required elevation height and geographic area. The FEMA costs will be provided on a dollars per square foot basis and include the following costs listed in Table 2-1 as included in the \$150,000 Federal share funding limit:

- Pre-construction
- Site preparation
- Foundation
- Structural shell
- Interior finishes
- Construction completion

As noted in Section 2.5, these costs are based on materials, service equipment and construction practices of “standard grade,” with basic exterior ornamentation and interior refinements consistent with an average quality of construction as defined by Marshall & Swift, R.S. Means, or similar guidance. Note that FEMA costs are provided to facilitate the development of the overall project costs by the Applicant as well as the Grantee’s evaluation of submitted cost estimates. All foundations of the same type and height range within an application will have costs allocated on the same square foot basis. Applicants will identify the type and number of structures of each possible combination to be included in the proposed project.

Applicants may contact their Grantee to obtain the FEMA-provided cost estimate and may use these values without submitting additional documentation. However, if the estimated overall project costs are higher than the current FEMA costs, then the Applicant has the option to submit their own documented costs using the “Mitigation Reconstruction Grant – Structure by Foundation Type Unit Cost Estimate” form provided on the following page. For Applicants that do not use the square foot costs provided by FEMA, documentation of all line items in the cost

estimate(s) must be provided. Documentation of these costs must be credible, detailed (i.e. not lump sum) and include the unit measure, unit cost and source of the estimate for each construction phase. If the cost estimate is prepared independently, the costs shall be based on the construction of fundamental, code-compliant structures with essential appurtenances as described above. The general project activities, as listed in the form below, should be provided in a dollars-per-square-foot (\$/SF) format. This will allow for a comparative review of projects of varying types within a region and ensure that reasonable construction costs have been submitted.

Cost information will be maintained and updated by FEMA to keep the reference cost range information as current as possible. Additional dollars per square foot (\$/SF) information provided by Applicants will be used by FEMA to manage the changing dynamic of construction cost variances through the Gulf Coast and through the life cycle of the HMGP Reconstruction Grant Pilot.

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**MITIGATION RECONSTRUCTION GRANT PILOT:
STRUCTURE BY FOUNDATION TYPE UNIT COST ESTIMATE**

Date: _____

Grantee (circle one): Texas Louisiana Mississippi Alabama Florida

Sub-Applicant: _____

Property Type (circle one):

- Residential Building
- Commercial Building
- Public Building

Property Location in Floodplain (circle one):

- V Zone
- Area of 1.5 Foot Breaking Wave
- A Zone
- Shaded X Zone
- Un-Shaded X Zone

Building Type (circle all that apply):

- Wood Frame
- Masonry
- Modular
- Manufactured

Basis for Floodplain Location (circle one):

- Effective FIRM
- Advisory Base Flood Elevation (ABFE)

Foundation Type (circle one):

- Open
- Closed

Foundation Elevation Above Grade (circle one):

- 0 to 5 feet
- Over 5 to 10 feet
- Over 10 to 15 feet
- Over 15 feet

Total Number of Buildings: _____

Average Square Footage/Building: _____

B.5. CERTIFICATE OF OCCUPANCY

Projects funded in whole or in part under this HMGP Reconstruction Grant Pilot shall not be occupied without prior issuance of a Certificate of Occupancy issued by the governing local jurisdiction. The Certificate of Occupancy shall be issued only after the building official inspects the structure and finds no violations of the provisions of applicable codes or other laws enforced by the building department. Below is a sample Certificate of Occupancy certificate.

SAMPLE		
<u>CITY OF ANYWHERE</u> Code Enforcement Bureau 123 Main Street, Suite 123 Anywhere, USA 12345 (555) 555-5000		
CERTIFICATE OF OCCUPANCY		
CASE NUMBER:	DATE ISSUED:	MAX. OCCUPANCY:
SITE ADDRESS:	PARCEL NO:	
MAP#:	LOT#:	BLOCK #:
ZONING:		
PROPOSED USE: (Residential / Commercial / Public)		
OWNER:		
PROPOSED OCCUPANT:		
CONSTRUCTION TYPE:		
ALL PERMITS FILED?: <input type="checkbox"/> YES		
COMPLIABLE WITH ALL OCCPANCY CODES AND ORDINANCES?: <input type="checkbox"/> YES		
APPROVED?: <input type="checkbox"/> YES		
Signed: _____ Building Official		

B.6. PLAN REVIEW CHECKLIST

Application #: _____

Applicant: _____

Address of Structure: _____

Use of Structure (circle one): Residential Commercial Public

**Plan Review Checklist
HMGP RECONSTRUCTION GRANT PILOT FOR
HURRICANES KATRINA, RITA AND WILMA**

Reviewer's Initials and Date of Review	REVIEW STEPS	REVIEW COMMENTS
	<p>Page 1 of 3</p> <p><i>Use this checklist for review of construction drawings and specifications. Keep on file with construction plans. Note that this does not replace the need to do a plan review per the International Codes or local requirements. See Section 2.3.8.2 of Pilot Guidance for more details.</i></p>	
	<p>Is proposed reconstruction consistent with zoning?</p> <p><input type="checkbox"/> NO. Applicant to request zoning amendment.</p> <p><input type="checkbox"/> YES. Proceed with review.</p>	
<p>ABFE Map Reference and date:</p> <p>_____</p>	<p>Have Advisory Base Flood Elevation (ABFE) Maps been generated for the community the reconstruction project is located? (See Section 2.3.4 of Pilot Guidance for further explanation of ABFE's)</p> <p><input type="checkbox"/> NO. Proceed with review.</p> <p><input type="checkbox"/> YES. Determine if the proposed reconstruction is in the area of with the potential to experience 1.5 foot breaking wave (See Section 2.3.8.1 of Pilot Guidance); and determine that the lowest horizontal structural member is above the ABFE. If reconstruction is in floodway, stop review; reconstruction not eligible for Pilot Program.</p>	
<p>FIRM Panel # and date:</p> <p>_____</p>	<p>If no ABFEs are generated check FIRM, floodplain/floodway boundaries and map revisions (LOMRs) issued by FEMA. Is the location of the proposed structure in the floodplain and/or floodway?</p> <p><input type="checkbox"/> NO or ABFE's GENERATED. Proceed with review.</p> <p><input type="checkbox"/> YES, FLOODWAY. Stop! Not eligible for Pilot Program.</p> <p><input type="checkbox"/> YES, FLOODPLAIN. Make sure lowest horizontal structural member of the structure is above the BFE (plus freeboard if required).</p>	

Reviewer's Initials and Date of Review	REVIEW STEPS	REVIEW COMMENTS
	<p>Is square footage of reconstruction not more than 10% greater than the original square footage of the structure?</p> <p><input type="checkbox"/> YES. Proceed with review.</p> <p><input type="checkbox"/> NO. Stop! Reconstruction is not eligible for this Pilot Program per Section 2.3.7 of the guidance.</p>	
	<p>Site plan shows type of foundation, construction type (wood-frame, masonry, etc.), location, wetlands, floodplain/floodway boundaries, and ground elevations?</p> <p><input type="checkbox"/> YES. Proceed with review.</p> <p><input type="checkbox"/> NO. Return to applicant to revise/update.</p>	
	<p>Can the reconstructed structure be relocated on property to avoid the floodplain?</p> <p><input type="checkbox"/> YES. Explain flood hazards to applicant and make recommendations to minimize flood hazards, environmental impacts and damage potential.</p> <p><input type="checkbox"/> NO. Proceed with review.</p>	
	<p>Has the applicant obtained and provided copies of all necessary State and Federal permits (e.g. wetlands)?</p> <p><input type="checkbox"/> NO. Advise which agencies to contact.</p> <p><input type="checkbox"/> YES. Require copies for the file.</p>	
	<p>Is fill proposed?</p> <p><input type="checkbox"/> NO. Proceed with review.</p> <p><input type="checkbox"/> YES, in A Zone. Fill to be placed in accordance with all NFIP requirements,</p> <p><input type="checkbox"/> YES, in V Zone or areas with the potential to experience 1.5 foot breaking waves. Stop! Structural fill not allowed</p>	
	<p>How is the reconstructed structure to be elevated?</p> <p><input type="checkbox"/> On fill (not allowed in V Zone or areas with the potential to experience 1.5 foot breaking waves).</p> <p><input type="checkbox"/> On solid foundation walls (not allowed in V Zone or areas with the potential to experience 1.5 foot breaking waves).</p> <p><input type="checkbox"/> On piers or pilings. If in V Zone or areas with the potential to experience 1.5 foot breaking waves, must be designed for erosive forces.</p> <p><input type="checkbox"/> On columns. Unreinforced masonry not allowed.</p>	

Reviewer's Initials and Date of Review	REVIEW STEPS	REVIEW COMMENTS
	Check the following for Manufactured Housing units: <ul style="list-style-type: none"> <input type="checkbox"/> Are flood hazards avoided as much as possible? <input type="checkbox"/> Foundation is reinforced (dry-stack block <u>not</u> allowed). <input type="checkbox"/> Ground anchors and tie-downs shown on plans? <input type="checkbox"/> Elevated above the BFE? 	
	Enclosed areas below BFE (e.g. stairwells, sheds, garages, storage areas, crawl spaces)? <ul style="list-style-type: none"> <input type="checkbox"/> NO. Proceed with Review <input type="checkbox"/> YES. For this Pilot Program enclosed areas below the BFE cannot exceed 299 square feet in V Zones and areas with the potential to experience 1.5 foot breaking waves and must be constructed with non-supporting breakaway walls. 	
	Check the following utility support systems: <ul style="list-style-type: none"> <input type="checkbox"/> Electrical, mechanical, plumbing, heating/air conditioning components elevated and not attached to breakaway walls? <input type="checkbox"/> Septic designed to minimize inflow/discharge under flood conditions? <input type="checkbox"/> On-site water supply designed to minimize inflow/discharge under flood conditions? <input type="checkbox"/> Above-ground tanks are anchored/elevated? <input type="checkbox"/> Below-ground tanks are designed to resist flotation? 	
	<ul style="list-style-type: none"> <input type="checkbox"/> Make sure that all necessary documents are in the file. <input type="checkbox"/> If plan is satisfactory, issue permit. <input type="checkbox"/> Maintain checklist for construction inspections. 	
	Additional Review Notes/Comments:	

B.7. INSPECTION CHECKLIST

Application #: _____

Applicant: _____

Address of Structure: _____

Use of Structure (circle one): Residential Commercial Public

Inspection Checklist

HMGP RECONSTRUCTION GRANT PILOT FOR HURRICANES KATRINA, RITA AND WILMA

Reviewer's Initials and Date of Review	INSPECTION STEPS
	Page 1 of 3
	<p><i>Use this checklist for ALL inspection phases. Keep checklist on file with plans. Note that this does not replace the need to do a inspections per the International Codes.</i></p> <p><i>Construction shall not be done on any part of the structure beyond the point indicated in each successive inspection without first obtaining the approval of the building official or licensed professional retained by community.</i></p>
	<p>Before Site Inspection:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Obtain Pilot Program Plan Review Checklist. <input type="checkbox"/> REVIEW permit file and ask permit reviewer questions before going into field.
	<p>Demolition Inspection: If there is an existing full or partial structure:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Existing utilities disconnected and secured? <input type="checkbox"/> All hazardous materials disposed of properly?
	<p>Foundation Inspection: Is there a shallow or deep foundation?</p> <ul style="list-style-type: none"> <input type="checkbox"/> Shallow. Continue below to Shallow Foundations. <input type="checkbox"/> Deep. Continue on next page to Deep Foundations. <p>Shallow Foundations:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Inspection made after excavation for footing complete and any required reinforcing steel is in place? <input type="checkbox"/> For concrete foundations are forms in place? <input type="checkbox"/> All under-structure service equipment, conduit, piping accessories in place?

Reviewer's
Initials and Date
of Review

INSPECTION STEPS

Page 2 of 3

	<p>Deep Foundations:</p> <ul style="list-style-type: none"><input type="checkbox"/> Proper pile material (wood, steel) and shape (tapered, round square) used?<input type="checkbox"/> Piles driven to proper depth (per plans)?<input type="checkbox"/> All under-structure service equipment, conduit, piping accessories in place?
	<p>Floodplain Inspection: Measure stakeout distances from landmark. Is the reconstructed structure in the proper location?</p> <ul style="list-style-type: none"><input type="checkbox"/> NO. Take enforcement action to correct problem.<input type="checkbox"/> YES. Continue Floodplain Inspection. <p>Measure elevation of lowest horizontal structural member. Is the structure above the DFE?</p> <ul style="list-style-type: none"><input type="checkbox"/> NO. Take enforcement action to correct problem.<input type="checkbox"/> YES. Proceed with other inspections.
	<p>Enclosure Inspection (for V zone and areas with the potential to experience 1.5 foot breaking waves structures only): Are there any enclosures below the DFE?</p> <ul style="list-style-type: none"><input type="checkbox"/> NO. Proceed with other inspections.<input type="checkbox"/> YES. Continue Enclosure Inspection. <p>Are the enclosures less than 299 square feet?</p> <ul style="list-style-type: none"><input type="checkbox"/> NO. Take enforcement action to correct problem.<input type="checkbox"/> YES. Continue Enclosure Inspection. <p>Are the enclosures constructed as non-supporting break-away walls?</p> <ul style="list-style-type: none"><input type="checkbox"/> NO. Take enforcement action to correct problem.<input type="checkbox"/> YES. Proceed to other inspections.

	<p>Manufactured Home Installation Inspection: Is a manufactured home being installed?</p> <ul style="list-style-type: none"> <input type="checkbox"/> NO. Proceed to Framing Inspection. <input type="checkbox"/> YES. After all of the above inspections have been completed and the manufactured home installed has the structure been properly anchored?
	<p>Framing Inspection: Verify that all framing members are of type, size and grade indicated on the construction documents and the connections and fasteners have been installed in accordance with the applicable codes and construction documents. Inspections must be made after:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Framing and bracing are in place. <input type="checkbox"/> Roofing and/or roof sheathing is in place. <input type="checkbox"/> Plumbing, mechanical and electrical rough-ins are in place.
	<p>Building Service Equipment Inspection:</p> <ul style="list-style-type: none"> <input type="checkbox"/> All concealed building service equipment inspected prior to being concealed by any permanent portion of the construction? <input type="checkbox"/> Building service equipment (i.e. water, fuel, power, or sewer system) authorized for use by building official prior to connection to service?
	<p>Final Inspection: A final construction inspection should be completed after all site grading.</p> <ul style="list-style-type: none"> <input type="checkbox"/> All disturbed areas, not part of the reconstruction footprint, re-graded and capable of encouraging vegetation? <p>Work required by the building permit is completed to document compliance with:</p> <ul style="list-style-type: none"> <input type="checkbox"/> International Building Codes and International Residential Codes <input type="checkbox"/> Floodplain ordinances <input type="checkbox"/> State and local ordinances

APPENDIX C. MODEL ACKNOWLEDGEMENT OF CONDITIONS RELATED TO FLOOD INSURANCE REQUIREMENTS FOR HAZARD MITIGATION GRANT PROGRAM PILOT RECONSTRUCTION ACTIVITIES

Property Owner _____
Street Address _____
City _____, State _____ Zip Code _____
Deed dated _____, Recorded _____
Tax map _____, Block _____, Parcel _____
Base Flood Elevation at the site is _____ feet (NGVD)
Map Panel Number _____, Effective Date _____

As a recipient of Federally-funded hazard mitigation assistance for the purpose of Hazard Mitigation Grant Program Pilot Reconstruction Activities for Hurricanes Katrina, Rita and Wilma in the following States: Louisiana (DR-1603 and DR-1607), Texas (DR-1606), Mississippi (DR-1604), Alabama (DR-1605) and Florida (DR-1602 and DR-1609) under the Hazard Mitigation Grant Program, as authorized by 42 United States Code (U.S.C.) §5170c, the Property Owner accepts the following conditions:

1. That the Property Owner has insured all structures that will **not** be demolished or relocated out of the Special Flood Hazard Area (SFHA) for the above-mentioned property to an amount at least equal to the project cost or to the maximum limit of coverage made available with respect to the particular property, whichever is less, through the National Flood Insurance Program (NFIP), as authorized by 42 U.S.C. §4001 *et seq.*, as long as the Property Owner holds title to the property as required by 42 U.S.C. §4012a.

2. That the Property Owner will maintain all structures on the above-mentioned property in accordance with the flood plain management criteria set forth in Title 44 of the Code of Federal Regulations (C.F.R.) Part 60.3 and City/County/Parish Ordinance as long as the Property Owner holds title to the property. These criteria include, but are not limited to, the following measures:
Enclosed areas below the Base Flood Elevation will only be used for parking of vehicles, limited storage, or access to the structure;
 - i. All interior walls and floors below the Base Flood Elevation will be unfinished or constructed of flood resistant materials;
 - ii. No mechanical, electrical, or plumbing devices will be installed below the Base Flood Elevation; and
 - iii. All enclosed areas below Base Flood Elevation in identified A Zones must be equipped with vents permitting the automatic entry and exit of flood water.

In addition to the criteria above enclosed areas below the Base Flood Elevation in identified V Zones, areas subject to 1.5 foot breaking waves, and A Zones must not exceed 299 square feet and must be constructed with non-supporting breakaway walls. For a complete, detailed list of these criteria, see City/County/Parish Ordinance attached to this document.

- The above conditions are binding for the life of the property. To provide notice to subsequent purchasers of these conditions, the Property Owner agrees that the City/County/Parish will legally record with the county or appropriate jurisdiction's land records a notice that includes the name of the current Property Owner (including book/page reference to record of current title, if readily available), a legal description of the property, and the following notice of flood insurance requirements:

“This property has received Federal hazard mitigation assistance. Federal law requires that flood insurance coverage on this property must be maintained during the life of the property 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 City/County/Parish Ordinance. In addition to the criteria above enclosed areas below the Base Flood Elevation in identified V Zones, or areas within the limit of 1.5 foot breaking wave inundations must not exceed 299 square feet and must be constructed with non-supporting breakaway walls.”

- Failure to abide by the above conditions may prohibit the Property Owner and/or any subsequent purchasers from receiving Federal disaster assistance with respect to this property in the event of any future flood disasters. If the above conditions are not met, FEMA may recoup the amount of the grant award with respect to the subject property, and the Property Owner may be liable to repay such amounts.

This Agreement shall be binding upon the respective parties' heirs, successors, personal representatives, and assignees.

THE CITY/COUNTY/PARISH OF _____ a _____ municipal corporation.

By: _____

[Name, Title]

of the City/County/Parish of _____

&

[Name of Property Owner]

WITNESSED BY:

[Name of Witness]

[SEAL]

Notary Public