CHAPTER V

LOCAL HAZARD MITIGATION CAPABILITIES

Courtesy by FEMA

Tracking all local capacities related to mitigation can be difficult, especially in the context of disasters that have occurred on the Island between 2017 and 2020. Although these capacities have been integrated into daily operations, local governments cannot yet achieve this in relation to their impact on an overall mitigation programme, even though they have implemented mitigation practices of some kind. For this reason, 2021 PRSHNMP aims to highlight some of these capabilities and successes to provide a vision of how mitigation is and could be implemented at the local level.

To achieve an adequate articulation of the 2021 PRSHNMP with the mitigation strategies at the municipal level, this section (which is a new addition to the LHMPs allows the establishment of the minimum capacity of each municipality to give way to the determination of technical assistance and training needs. To this end, this Chapter includes a general description of local mitigation policies, programs, and resources (personnel, technological and financial tool). This section additionally includes the effectiveness of these local pre- and post- disaster mitigation policies, programs, and tools, such as building codes, zoning, or land use policies.

For the development of this Chapter, the local mitigation plans recently approved by FEMA were integrated. All these municipalities attended to the risks discussed in this Plan review and in a certain way it includes a wide perspective that should consider the Post-Maria Mitigation strategies. This chapter will be revised systematically as the local plans are approved, although no major changes in the already established trend are anticipated. As the changes are reflected, it will be integrated appropriately.

5.1 CAPABILITY CATEGORIES.

The capability assessment for the 2021 PRSHNMP update included new Mitigation Capabilities tracker which divides local capabilities into four categories as described by FEMA: Planning & Regulatory, Administrative & Technical, Financial, and Education & Outreach. All information related to the capability categories listed in **Table 5-1** is collected from the LHMPs and integrated into the risk assessment of the 2021 PRSHNMP. This provides a solid baseline to understand what local jurisdictions have in place to implement mitigation. Over time this will allow PREMB/COR3 to further track local capability improvements and identify where opportunities may exist to provide further support.

5.2. PLANNING AND REGULATORY CAPABILITY.

The primary purpose of the 2021 PRSNHMP is to reduce the Commonwealths vulnerability caused by the impact of natural hazards through the formulation of a coordinated mitigation strategy between the Commonwealth,Municipalities, Government Agencies, Non-Governmental Organizations, and communities. The 2021 PRSNHMP foresees the development of government policies on mitigation that meets the requirements established by FEMA. The mitigation strategies in the Plan must continuously evolve to develop and respond to multiple socio- economic changes, demographic and environmental issues experienced.

As part of the development of the regulatory and planning framework, it is of utmost importance to identify background and entry points for strategies established by the local governments to identify and mitigate risks. To this end, it is important that the municipality considers those planning tools such as general plans, capital improvement plans, emergency management preparedness and response plans that impact decisions that can support the decision-making process for hazard mitigation.

Regulations include building codes and zoning ordinances. It is important to note that these plans and regulations include specific information for risk mitigation. In addition, at this stage it can be identified that parts of the plan and regulations do not consider the management of hazards that may pose a risk to the community. Some of the mechanisms that municipalities must manage these tools are the following:

5.2.1. Municipal Emergency Management Offices (OMME).

Each of Puerto Rico's 78 municipalities has an operational and administrative component that directs the work of mitigation and emergency response. This is known as the Municipal Emergency Management Office (OMME, by its Spanish acronym), according to the Puerto Rico State Agency for Emergency Management and Disaster Administration Act, now the Puerto Rico Department of Public Safety Act. These Offices receive technical support from the State through the 10 PREMB's Zones.

As established by law, each OMME is headed by a Municipal Director, appointed by the Mayor, and is responsible for exercising the functions set out below:

- Develop and implement the Plan for Emergency Management and Disaster Administration. The Municipal Plan should be coordinated, to the extent possible, with the State Response Plan.
- Comply with the requirements established in the State Response Plan.
- Establish disaster controls through mitigation, preparation, response, and recovery to minimize or prevent loss of life and property.
- Respond initially to emergencies and disasters and coordinate with appropriate state and local agencies, actions, and resources necessary for the most rapid recovery.
- Allocate and employ the necessary funds, make contracts, obtain, and distribute equipment, materials and items that are necessary for the municipality's emergency management.
- Establish a primary control center and several secondary centers to direct the municipality's emergency management operations.
- Provide personal or property assistance and equipment to any other municipality that requests assistance and for any meritorious reason should receive it.

In addition to the functions that OMME perform by law, the following functions are also performed as part of their routine operations:

- Offering training in the following areas:
- Operational Plans, First Aid, Emergency Management, Hazards: Hurricanes, Floods, Tsunami, Earthquakes, Terrorism and Hazardous Materials, Communications, Shelter
- Exercises and Drills: Eviction, Rescue
- Community Emergency Response Teams (CERT)
- Distribution of information material to communities.
- Distribution of water to sectors that for some reason are not served.
- Support to other agencies, such as the Fire Department (Cuerpo de Bomberos) during firefighting and Medical Emergencies (Emergencias Médicas) in offering first aid.

Because they are directly related to emergency or disaster events in the municipalities, the OMMEs are fundamental in the process of reviewing the Municipal and State Mitigation Plans since they know the area's most vulnerable to risks in its territory. After recent events such as Hurricanes Irma and Maria, as well as the Southwestern area's earthquakes, the OMME have been key in gathering information that has been important for the revision of local mitigation plans.

As an example of mitigation efforts, OMME brigades work on the maintenance of drains, ditches, gutters, storm drains and other natural and constructed infrastructure, which helps to manage run-off waters to improve the flood situation in their assigned municipality. In addition, systematic work is being done on debris collection to prevent obstruction of floodwater flow.

OMME also works on emergency response, reporting and documentation of risk incidents or events, such as floods, fires, landslides, among others. It also works actively in providing education and outreach activities.

5.2.2. Territorial Ordainment Plans/Municipal Land Use Plans (POT).

The Autonomous Municipalities Act, Law No. 81 of August 1991, provides the provisions for municipalities to initiate a comprehensive territorial planning process through the adoption of Territorial Management Plans (POT, by its Spanish acronym). The POTs, as instruments of municipal territorial planning, will protect the soils, promote the balanced, profitable, and effective use of them and will propitiate the full development of each municipality. As provided in Act No. 81, as an indispensable instrument for the evaluation of the POTs submitted for consideration by the PRPB, the public agencies concerned shall keep updated and make available to the said agency a physical inventory including, inter alia, the location of the natural resources to be protected, the use of the land, the areas susceptible to natural hazards, the zones of agricultural, historical, archaeological or tourist value, as well as the available detail of the infrastructure.

The adoption of POTs requires a territorial analysis which, although primarily aimed at the process of planning and territorial management, is a fundamental tool for the mitigation of natural hazards. The classification and qualification instruments available to the Plans are fundamental in territorial planning and hazard mitigation.

According to the Puerto Rico Land Use Plan (PUT, by its Spanish acronym), classifying land is an action to establish categories of urban, developable, and rustic land, knowing that in the subsequent process of preparing or reviewing municipal plans or sectoral plans will establish the specific qualifications with the intensities and uses that will be allowed in each of the categories. The classification of urban or developable land does not presuppose that all land within these classifications can be built on or developed. Within the classification of urban land there are rivers, streams, beaches, natural areas, ecological, agricultural, flood risk or landslide, among others that should not contain structures. The Board informed the municipalities that, as part of the process of reconciliation with the Land Use Plan, they

must assign appropriate classification districts to the classification and objectives promulgated by the Land Use Plan.[59] For POTs to directly benefit hazard mitigation, it is crucial that all territorial components be analyzed and assessed to determine the conservation areas and the sectors most vulnerable to hazards.

For its part, the qualification or zoning is the instrument with which land uses are designated. Through qualification, the intensity of land use, size of construction and population density are regulated. Zoning also recognizes demographic changes and development patterns. Both planning instruments, classification, and qualification, are key to hazard mitigation as they allow for the regulation and targeting of development to less vulnerable areas. In addition to the aspects discussed above, some municipalities have Area Plans that aim to understand situations in a sector.

5.2.3. Local Hazard Mitigation Plans

Local and State mitigation efforts are closely coordinated and integrated for project and planning purposes. For that reason, municipalities in Puerto Rico prepare Local Hazard Mitigation Plans (LHMP) as a requirement of the federal Disaster Mitigation Act of 2000, known as the Robert T. Stafford Disaster Relief and Emergency Assistance Act. This law requires state and local governments to adopt natural hazard mitigation plans to be eligible for disaster mitigation funds from FEMA's HMGP. LHMPs are intended to identify hazards affecting the municipal territory and to identify measures to mitigate them to reduce the loss of life and property. The LHMPs are the main instrument of hazard mitigation that municipalities have, the relationship and integration of these to the State Natural Hazard Mitigation Plan, the Land Use Plans and the OMMEs strengthen and make more effective the capacity of mitigation at local and state level.

The requirements for developing a LHMP are detailed in the CFR under the heading of Emergency Management Assistance, in the section on Mitigation Planning (44 C.F.R. §201.6). The LHMP represents the jurisdiction's commitment to reduce risk from natural hazards and serves as a guide for implementers and decision makers in managing actions that will prevent or assist in reducing the effects of natural disasters. Similarly, local plans serve as a basis for the State to provide technical assistance and establish funding priorities. Those jurisdictions that do not develop mitigation plans may face a reduction in federal disaster assistance if the affected infrastructure has been damaged by similar disaster events more than once in the past ten (10) years.

[59]Puerto Rico Planning Board. Memorial del Plan de Uso de Terrenos. Guías de Ordenación del Territorio. November 19, 2015, 119.

Following the declaration of a major disaster caused by Hurricane Maria, the GPR, the legal entity designated to administer these funds through the GAR before FEMA and the SHMO, designated the PRPB as the agency responsible for coordinating, standardizing, updating, and reconfiguring the Local HMPs for the seventy-eight (78) municipalities, as described in 44 CFR Section 201. This Section considers the development of a document to identify all risks affecting the jurisdiction it represents; therefore, it constitutes a planning process and identifies mitigation measures to reduce these risks to future welfare. In addition, it is established that the Local HMPs will be the basis for the development of the 2021 PRSHNMP.

To this end, the Board was awarded with a grant of $5,396,144.0056[60] to carry out the procurement process necessary for the project to be awarded and completed, in accordance with the requirements of state and federal law. Since the direct activities for the update of the LHMP information need coordination with the municipalities, this is done with a designated representative from each municipality. Together, this project was determined so that the municipalities do not have to incur direct expenses for these procedures. The PRPB itself will coordinate all efforts.

Being a small territory works to Puerto Rico's advantage when municipalities often share common vulnerabilities and challenges and goals and initiatives about hazard mitigation. Currently, the PRPB is responsible for developing the majority of Local Hazard Mitigation Plans (LHMPs). The SHMO works closely with PRPB and the municipalities, providing technical support in local hazard mitigation planning. In coordination with an external contractor, Atkins Global, PRPB helps the municipalities identify potential vulnerabilities, to prioritize, and develop mitigation activities. To comply with the requirements of 44 CFR § 201.6 (d) Plan Review, in November 2019, the SHMO appointed al State Reviewer para executing the COR3 HMGP review process of local mitigation plans. The responsibilities of the State Reviewer were as follows:

- Initial review of the LHMP and coordination to submit a FEMA for review and Approval Pending Adoption determination.
- Participate in the kick-off meetings between PRPB/Contractor/Municipality
- Coordinate discussions between FEMA and the work team in charge of developing the plan.
- Channel communications and determinations sent by FEMA

[60]The PRPB was designated by GAR and SHMO as the responsible agency for coordinating, standardizing, updating, and reconfiguring the Municipal Risk Mitigation Plan for the seventy-eight (78) municipalities as described in 44 CFR Section 201. This Section provides for the development of a document identifying all risks affecting the jurisdiction it represents; therefore, constituting a planning process and determining mitigation measures to reduce these risks to future welfare. In addition, it is established that the Plans will be the basis for the development of the State Natural Hazard Mitigation Plan.

- Support the project manager in updating the local mitigation plans by providing data (estimated dates, process' status) to update the project's progress.
- Provide technical assistance to the PRPB to analyze local plans' effectiveness in terms of mitigation policies, programs, and capabilities abilities that municipalities have.
- Develop and update a work tool that reflects the plans' work schedule, meeting dates, and process of review, conditional approval, adoption, and final approval.

In addition to the functions of reviewing the local mitigation plan, the State Reviewer is responsible for the general coordination for the updating of the 2021 PRSNHMP in support of PREMA, as explained in **Chapter 2. In** turn, this function facilitates that the process, timeframe, and mitigation strategies outlined in the local mitigation plans are aligned and articulated to the 2021 PRSNHMP. The incorporation between LHMPs and 2021 makes it easier for municipalities to meet the requirement of having a mitigation plan to receive HMGP 404 funds for their proposed projects.

Appendix 5-1 reflects the tracking of the update of local mitigation plans, including revisions, submission dates to FEMA, determination, adoption, and final approval. The information derived from this reporting tool has been useful in evaluating mitigation projects under the 404 Fund. It has also been effective in incorporating updated information on the needs identified in developing the strategies contained in **Chapter 6** of this Plan.

Local Hazard Mitigation Plan Review Process.
Local risk mitigation plans must be updated every five (5) years to remain eligible for federal mitigation funds. To prepare the LHMP, the PRPB hired Atkins Caribe, LLP ("the team") as an outside consultant to provide professional mitigation planning services.

The team followed the natural hazard mitigation planning process recommended by FEMA in the Local Risk Mitigation Planning Guide, the recommendations provided by the PRPB and COR3 mitigation planning staff, as well as the expertise and advice of each municipality's Planning Committee. The Local Mitigation Plan Review Tool summarizes FEMA's current minimum standards for compliance with DMA 2000 and indicates the location where each requirement within this plan is met. These standards are based on FEMA's final rule published in the Federal Register, Part 201 of the CFR. The Planning Committee used FEMA's Local Mitigation Plan Review Guide as a reference in completing the Plan.

Throughout the document, reference is made to the key elements of the previously approved plan (existing actions, among others) and an analysis of the changes made was required. For example, due to the damage caused by Hurricanes Irma and Maria, all elements of risk assessment need to be updated to include the latest information.

The process used to prepare this plan included twelve (12) steps, detailed in **Appendix 5-2** of this Plan, completed in approximately eight (8) months beginning in April 2019, with the meeting convened by the PRPB to invite municipalities to participate in the project to update the LHMPs. It includes the initial meeting between COR3, PRPB/Atkins with the Municipal Planning Committee, the risk assessment, municipal capacity assessment, mitigation strategies, review and monitoring procedure of the Plan, final submission, adoption, approval, and implementation. Each of these steps helps municipalities actively work to implement their existing Plan.[61] During this period, the municipalities were provided with the scope, purposes and benefits of implementing the Plan's actions. Likewise, the municipalities received a collaborative agreement with the PRPB for their review and corresponding action, which establishes, among other things, that the Municipality should validate all the information before its inclusion in the Plan. See **Appendix 5-3**.

The planning process is carried out through meetings with the Municipal Planning Committee, composed mainly of municipal government staff and stakeholders. Similarly, the community is invited to actively participate in the entire planning process, so that the plan under development gathers the concerns, needs and suggestions of the communities in the municipality.
Once the Final Plan is completed, the review process begins as follows:

- The local government (municipality) with the support of PRPB and a consultant, develop the LHMP. Plan developers are encouraged to contact the COR3 Hazard Mitigation Planner (acting as the State Reviewer) during the plan development process for any technical assistance needs or to review components of the LHMP as it is being developed.
- Once a draft is completed, the LHMP and FEMA Review Tool are submitted to the Hazard Mitigation Planner/ State Reviewer for review, who is available to answer questions or meet with the plan developer to review comments.
- Once the plan developer has completed any necessary revisions, the plan is submitted back into State review. If all requirements are met, the LHMP is submitted by the State to FEMA.

[61]Appendix 5-3 presents the template of the PRPB Collaborative Agreement used with the municipalities to participate in the LHMP Update Project.

- LHMPs are typically returned from FEMA to the State within the required 45-day review period, either with required revisions noted in the review, or to notify the State that the plan is Approvable Pending Adoption (APA).
- If a plan is returned with required revisions, the Hazard Mitigation Planner/State Reviewer adds notes within the Review Tool with additional guidance on how to meet the FEMA requirements and returns the Review Tool to the plan developer. Again, the Hazard Mitigation Planner/State Reviewer is available to answer questions or meet with the plan developer to review comments.
- When a plan receives APA status from FEMA, no substantive changes should be made to a plan after issuance of this determination. The municipality may make only minor changes, such as formatting and layout, before local adoption and resubmission with the adoption documentation to FEMA for final approval.
- Following local adoption, the plan developer submits the final plan to the State. The State Review and the SHMO will verify that any necessary revisions have been made and then submit the plan to FEMA for formal approval.
- FEMA then formally approves the LHMP and sends the approval letter to the SHMO. The community then has five years from the date of FEMA approval to implement the LHMP before the plan expires and an updated plan is due for approval.

Following the format adopted in the LHMPs, the **Table 5-2** (next page) presents an example of tools and regulatory documentation that municipalities use to implement their mitigation strategies and determine the impact on risk and loss reduction. This table will be updated as the LHMPs are adopted with the purpose of developing descriptive statistics that allow the State to visualize the scenario that municipalities have in relation to planning and regulatory capacities to formulate their risk mitigation projects and to model strategies to meet the needs that arise from this analysis.

Table 5-2. Example of Assessment of Municipal Planning and Regulatory Capability.

Capability	Description	Responsible for Implementation
Local Hazard Mitigation Plan	The Mitigation Plan provides a risk assessment and outlines mitigation measures needed to reduce life and property losses in local government.	Local Government
PR Land Use Plan; Municipal Land Use Plan; Area Plan	The Municipal Territorial Plan offers a perspective of the use of the land in the municipality. By means of an orderly land use, the development of soils susceptible to natural hazards is limited and, therefore, the loss of life and property is reduced.	Local Government
Plan de manejo de planos inundables	As part of the MS4 Program, the local government encourages best practices for runoff water management. As part of this effort, municipalities generally have an educational program and a debris collection program, among others.	Local Government
Emergency Operation Plan	This Plan is used to identify the hazards the municipality faces and the tools they must assist the population. It provides guidance for adopting processes to reduce the loss of life and property after the occurrence of a natural event.	Local Government / OMME
Continuity of Operations Plan	This Plan is used to identify the hazards the municipality faces and the tools they must assist the population. It provides guidance for adopting processes to reduce the loss of life and property after the occurrence of a natural event.	Local Government / OMME
Evacuation Plan	It will provide an orderly and well-coordinated eviction to a safe place for the entire population of the Municipality of Aguada. In case they refuse to evacuate voluntarily; Act 68 of April 28, 1998, as amended, will apply. It is used to identify areas considered safe in the municipality, mainly for the danger of tsunami and other hazards such as hurricanes and tropical storms.	Local Government / OMME
Capital Improvement Plan	Within the Four-Year Investment Program (PICA), capital improvements are provided for the purpose of agencies presenting public investments that have an impact on the municipality. The projects contemplated in the PICA that are related to the mitigation of natural hazards in the Municipality of Salinas are included. In this way, a more comprehensive document is provided about future state projects that, in collaboration with municipal efforts, increase the scope of the mitigation projects included in this Plan.	PRPB

Capability	Description	Responsible for Implementation
Post-Disaster Renovation or Reconstruction Ordinance.	Municipal Ordinance to authorize the Mayor to declare a public nuisance those buildings that threaten ruin or affect public safety; to establish an adequate procedure to dispose of them; and for recovery purposes. establish an adequate procedure to dispose of them; and for recovery purposes.	Local Government
PR Building Code	Current building codes ensure that new developments comply with natural hazard resistance parameters. In this way, losses associated with a natural event are reduced. It is incorporated as an effort by the municipality to ensure that building codes are used in new developments, modifications, improvements, among others.	Local Government / Territorial Planning and Land Use Office / Permits Office
NFIP Program	Seventy-four municipalities in Puerto Rico participate as a community in the NFIP. In Puerto Rico there are four communities participating in the NFIP which are Bayamón, Ponce, Guaynabo, and the rest of the municipalities in Puerto Rico as one community.	PRPB

It is important to highlight that local land-use regulations and building codes are sound tools to consider when evaluating policies related to hazard mitigation. In Puerto Rico, land use regulations and building codes are usually applied at the state level. However, many municipalities have enacted regulations and codes through the authority provided by the Autonomous Municipalities Act, as well as the mechanisms of Municipal Ordinances.

Public Order Codes are a tool that local governments use to improve public safety. In many cases, the codes are intended for structural integrity and fire prevention, but they also provide benefits in relation to hazard mitigation.

Storm water, capital improvement and economic development plans present areas of opportunity for improving local capacity. Infrastructure improvement strategies are usually found in municipalities. Economic development plans, which guide the economic growth and development of a community or region, are generally carried out by state economic development agencies.

Municipalities report high participation in the National Flood Insurance Program (NFIP). For the NFIP, 74 of the 78 municipalities are participating, attached to PRPB in its role as NFIP State Coordinator. The remaining four (4) that are outside the program are: Bayamon. Carolina, Guaynabo, and Ponce classified as NFIP Separate Communities.

Integration of LHMP to 2021 PRSNHMP.

The incorporation of the Municipal Mitigation Plans into the State Plan is a complex effort that seeks to impart uniformity to a conglomerate of plans that contain multiple variations in their level of analysis and in the details of the approach used for their development. As an initial part of the 2021 PRSHNMP, 60% of the LHMPs were read, reviewed, and summarized. This effort is intended to analyze and take into consideration the policies, goals, objectives, and mitigation activities of the local plans. The review of the municipal plans focused on identifying, the following areas:

- Natural hazards that may affect municipalities.
- Estimate of potential losses associated with the identified risks.
- General mitigation goals or objectives established by the municipality.
- Mitigation activities or projects proposed by the municipality to address the identified natural hazards.

The identification of natural hazards that can affect municipalities and the estimate of potential losses associated with the identified risks allowed the establishment of the hazards that would have the greatest physical and economic impact. In general terms it was observed that municipalities are being proactive in developing mitigation actions and projects in the following five categories: 1) prevention, 2) property protection, 3) natural resource protection, 4) structural projects and 5) public information and education. This approach has allowed municipalities to comply with a greater percentage of the actions or projects they propose in local mitigation plans, since they do not depend exclusively on physical or structural projects.

5.3. ADMINISTRATIVE AND TECHNICAL CAPABILITY.

In addition to local planning and regulatory capabilities, having the staff to implement plans, enforce codes, and support programs as well as having the technology to promote these actions was captured in the capability assessment. Technical and administrative capacities are the skills and tools of community personnel, whether from public or private entities, useful to the planning and risk mitigation process. Most municipalities have engineers, planners, emergency management personnel and flood area management personnel. Sometimes geospatial information systems analysts and proposal writers are external staff hired for such services.

Mitigation actions must be implemented through available technical and administrative capacities; specifically,by personnel with the skills to enforce them. Municipalities also identify not only the administrative capacity of the government, but also the capacities of contractors and private entities. Table 5-3 lists the types of Administrative and Technical capabilities that were compiled from revised LHMPs. As each local jurisdiction is unique and may have additional administrative or technical capabilities that are not listed in the table below there is also an "other" capability to capture the full extent of local jurisdictions' capabilities in this category.

Table 5-3. Administrative and Technical Capabilities Sub-Categories.

Equipment/ Staff Resources	Opportunities for integration into LHMP	Comments
Planners (expertise in land use and emergency management)	Contributes to the better land use in the municipality to avoid the development of areas susceptible to high impact natural hazards.	If this professional resource is needed, the municipalities have the capacity to contract the professional services for a given project.
Engineers or professionals trained in construction practices related to buildings and infrastructure	Together, these professionals contribute to the development of the municipality and provide their knowledge to ensure that the buildings comply with current building codes.	If this professional resource is needed, the municipalities have the capacity to contract the professional services for a given project.
Planners or engineers with extensive understanding of natural hazards	N/A	If this professional resource is needed, the municipalities have the capacity to contract the professional services for a given project.
Emergency Manager (OMME)	The OMMEs have information about the occurrence of natural events in the municipality and vulnerable areas.	Director and staff of this office are trained to handle emergency disaster situations. The staff also serves as support for other state response agencies.
Independent Flood Plan Manager	N/A	If this professional resource is needed, the municipalities have the capacity to contract the professional services for a given project.
Surveyor	N/A	If this professional resource is needed, the municipalities have the capacity to contract the professional services for a given project.
Scientist familiar with natural hazards	N/A	If this professional resource is needed, the municipalities have the capacity to contract the professional services for a given project.
Staff with expertise or education in natural hazards and vulnerabilities affecting the community	• The OMMEs have information about the occurrence of natural events in the municipality and the areas that are vulnerable to them. This contributes to the design of mitigation strategies.	Director and staff of this office are trained to handle emergency disaster situations. The staff also serves as support for other state response agencies.
Resource Development Team or Proposal Writer	• Resource development or proposal writing staff are generally attached to the municipality's Federal Programs Office.	This office has staff with extensive experience in formulating proposals at both the state and federal levels.
Project Manager	• This responsibility generally falls on the Director of the Permit Office and the staff assigned to this office.	The staff of this office is aware of those projects that affect the municipality's mitigation efforts.
Other (please explain in comments)	• Public Safety Office	This municipal agency contributes to the logistical efforts after the occurrence of a natural event. Thus, it has knowledge of the mitigation measures needed to be implemented within the municipality.

The above table (preliminary analysis made to the municipalities with approved mitigation plans) reflects the inclusion of technical capacities such as Geographic Information Systems (GIS), scientists, and disaster management Subject Matter Experts. A constant staff-related issue is limited resources, a trend that has continued since the 2016 Plan update.

It is clear from the local jurisdictions assessed that local emergency managers have responsibilities related to preparedness, response, recovery, and mitigation, and given their responsibilities and their limitations in technical resources and personnel, they should prioritize efforts in the event of an emergency. In some cases, this means that emergency managers have not had time to develop a mitigation program for a specific need, but economic measures and challenges have forced local governments to reduce specialized personnel and resources in this area.

The LHMPs reviewed reflected the inclusion of a planner or engineer with knowledge of the land use processes and yet it is not the case for planners in knowledge of natural hazards. Planners often think of their communities as dealing holistically with the interrelationships between economic, social, and political factors and the effects on their community, however this exercise represents an opportunity to strengthen the knowledge of a local planner and specialist in understanding the relationship between land development and natural hazards.

On the other hand, construction officials (another addition to the assessment of municipal capacities) are vital to a community's ability to implement mitigation strategies. Although the municipalities assessed reported that they were governed by state and in some cases municipal building codes, they were not reported to have a full- time building officer on staff to enforce and update building codes. This discrepancy may be since municipalities resort to sub-contracting for code implementation and inspection or may have only one municipal officer performing various functions.

A Grant Manager on staff is a capacity that allows communities to track and apply for funding opportunities that help implement mitigation measures. Generally, in municipalities this function falls to the Federal Funds Director or Finance and/or Budget Director. In some cases, local jurisdictions are likely to hire an outside consultant to help manage potential and existing grants.

Opportunities abound to make or strengthen connections between emergency managers and their counterparts in public works, planning and construction departments, floodplain managers or with other stakeholders who contribute to risk reduction efforts. Opportunities may come from the development or updating of local hazard mitigation plans, and the updating and enforcement of building codes.

5.4. LOCAL MITIGATION FUNDING CAPABILITIES.

Both municipal, island and federal agency programs can provide resources to finance risk management. Each of the actions should be analyzed for its costs and to verify if there are funds available for its implementation. An aggregate assessment of financial capabilities will assist the municipality in selecting relevant mitigation actions to prioritize actions.

5.4.1. Allocation of Funds and Technical Assistance to Municipalities for the Development of Local

Mitigation Projects The purpose of this Section is to describe the procedure for providing technical assistance and allocating funds to municipalities for the development of local mitigation projects. At the time of the 2016 PRSHNMP review it is estimated that the process will remain the same during the period of the 2021 PRSHNMP implementation. The criteria used to approve proposals for the various mitigation projects outlined in the municipalities' local plans vary according to the requirements of the risk mitigation grant program providing the funding. However, in general terms, most FEMA Programs such as: HMGP, PDM and FMA require that proposals submitted by municipalities for funding qualification include or consider, the following aspects:

- Information on the number and amount of repetitive property damage and/or losses caused by flood events.
- Cost-effectiveness analysis of projects reflecting substantial reduction of future damages and losses.
- Demonstrate that the proposed projects are consistent with the State Mitigation Plan.
- Demonstrate compliance and consistency with parts 9 and 10 of Title 44 of the CFR: Management of Flood-prone Areas and Environmental Considerations, respectively.
- Not duplicate federal assistance with funds from another federal program; that is, if a project is being funded by another federal agency such as the U.S. Corps of Engineers, it will not be allocated FEMA funds.
- The community where the project is to be carried out meets the requirements for participation under the NFIP Program.

Once funds are granted and the process of developing programs and projects has begun, municipalities must submit monthly and quarterly progress reports to the GAR/COR3 Office and FEMA. These reports are evaluated by the GAR/COR3 Office and FEMA separately. These reports allow the GAR/COR3 Office and FEMA to know the status of the projects, identify and attend to technical assistance needs and guide the process of drafting plans, design, and implementation of mitigation projects.

An addition to the capacity assessment for the 2016 PRSHNMP update includes the financial capacities of local government to finance mitigation. The type of financial capabilities includes financial tools that most local governments already have access to. There are several financial instruments that can be used to subsidize mitigation actions that may already be in place in a local jurisdiction. There are opportunities for municipalities to assess existing financial capabilities and how they can be leveraged to support future mitigation activities.

To mitigation activities. To this end, the following list shows alternative financing mechanisms for mitigation purposes (including matching for federal mitigation funds):

- Capital Improvement Funds
- Community Development Block Grants (CDBG)
- Community Development Block Grants-Disaster Recovery (CDBG-DR)
- Utility Rate Subsidy
- Storm water Tariff Subsidy
- Development Impact Fee Subsidy
- General obligation, income and/or special tax bonus subsidy
- Subsidies for agreements or intergovernmental agreements.

5.4.2. Coordination of the Allocation of Sources of Financing for the Implementation of Mitigation

Plans and Projects.

The development of local mitigation projects involves identifying, processing, and allocating resources, mainly financial resources. The GAR/COR3 Office and its Mitigation staff have a primary responsibility in this process for which, in general terms, they carry out the following tasks:

- Identify state and federal programs that can be used to fund mitigation activities or projects.
- Inform municipalities about the availability of funds.
- Offer technical assistance in the preparation of requests for funds or proposals that may be necessary.
- Address priorities in the implementation of mitigation projects, according to the availability of funds.
- Follow up on the development of mitigation projects and activities in terms of the effective use of funds or the need for additional funds.

5.4.3. Methodology for Establishing Priorities in the Allocation of Funds and Technical Assistance to Municipalities.

In the FEMA-State Agreement[62], it is agreed that the State/Territory sets the priorities for distributing funds that are available to support mitigation projects. It is important to note that this process is for planning purposes and should not be used to deny allocation of funds or assistance to a particular municipality. Likewise, it should be adjusted to emergency situations that may occur. The priorities and processes established in the 2021.

PRSHNMP do not invalidate, nor do they replace the qualification criteria established by each federal funding program or other FEMA regulations with which the State must comply. See **Appendix 5-4**.

Once the availability of funds is known, the process of providing technical assistance and reporting on the availability of funds will be as follows:

- Written notification to the municipalities to inform them about the availability and characteristics of the technical and economic resources to implement mitigation activities and projects, and to summon the Mayors or their representatives to participate in an informative meeting. (See **Appendix 5-5**).
- Holding of informative meeting/presentation on available resources, where they will be discussed, among other aspects:
- Description of available funds
- Criteria for qualification
- Deadline for submission
- Process for submitting the proposal.
- Issues to consider for inclusion in the proposal.
- Tools available to review compliance with proposal writing.

Once proposals are received and evaluated, the criteria that will be considered to prioritize available funds are as follows:

- Compliance of the Municipalities with all the requirements established by the fund or program available.
- Compliance of the Municipalities with the dates established to evaluate and submit the proposals.
- Inclusion of the mitigation project to be carried out in the Local Mitigation Plan. Except in the case of an emergency or one not contemplated in the Plan because it occurred after the approval of the Local Mitigation Plan.

[62]Agreement between the Federal Emergency Management Agency and the Commonwealth of Puerto Rico for Emergency FEMA-4339-DR-PR; September 23, 2017.

- Results of the Benefit-Cost Analysis (BCA) and other analyses that demonstrate the degree to which the benefits are maximized with the project to be developed. This analysis helps to determine which of the proposed projects yield the greatest benefits relative to their costs, thus providing a primary criterion for prioritizing projects. The greater the economic, social, and environmental benefits, the higher the priority for approving proposals and allocating funds since the net benefits to society are maximized.
- Priorities established by the municipalities in their LHMPs and compliance with the National Priority List, established in the Federal Register according to the DMA 2000.
- Results of the vulnerability analysis carried out by the Municipalities as part of the LHMP.

PRSHNMP do not invalidate, nor do they replace the qualification criteria established by each federal funding program or other FEMA regulations with which the State must comply. See **Appendix 5-4**.

Once the availability of funds is known, the process of providing technical assistance and reporting on the availability of funds will be as follows:

- Written notification to the municipalities to inform them about the availability and characteristics of the technical and economic resources to implement mitigation activities and projects, and to summon the Mayors or their representatives to participate in an informative meeting. (See **Appendix 5-5**).
- Holding of informative meeting/presentation on available resources, where they will be discussed, among other aspects:
- Description of available funds
- Criteria for qualification
- Deadline for submission
- Process for submitting the proposal.
- Issues to consider for inclusion in the proposal.
- Tools available to review compliance with proposal writing.

Once proposals are received and evaluated, the criteria that will be considered to prioritize available funds are as follows:

- Compliance of the Municipalities with all the requirements established by the fund or program available.
- Compliance of the Municipalities with the dates established to evaluate and submit the proposals.

- Inclusion of the mitigation project to be carried out in the Local Mitigation Plan. Except in the case of an emergency or one not contemplated in the Plan because it occurred after the approval of the Local Mitigation Plan.
- Results of the Benefit-Cost Analysis (BCA) and other analyses that demonstrate the degree to which the benefits are maximized with the project to be developed. This analysis helps to determine which of the proposed projects yield the greatest benefits relative to their costs, thus providing a primary criterion for prioritizing projects. The greater the economic, social, and environmental benefits, the higher the priority for approving proposals and allocating funds since the net benefits to society are maximized.
- Priorities established by the municipalities in their LHMPs and compliance with the National Priority List, established in the Federal Register according to the DMA 2000.
- Results of the vulnerability analysis carried out by the Municipalities as part of the LHMP.
- Availability of a Geographic Information System (GIS) in the municipalities. The GIS is an analysis tool that integrates various levels of information on a geographical basis. The lack of accessibility of a municipality to a GIS puts it at a disadvantage with those that do have this system. The GIS allows to evaluate at any time the impact of natural hazards in its territory, this makes it an important tool to design and make good decisions about:
  - Land use planning
  - Design of special mitigation projects in areas of greater vulnerability.
  - Drafting and implementation of ordinances aimed at the mitigation of natural hazards.
  - Identification of conflicting land uses that threaten the mitigation of a certain hazard and help to establish strategies to avoid future conflicts.
  - Assess and determine the impact that a hazard event has had on the territory.
  - Availability of municipal funds to carry out mitigation activities or projects. Some municipalities have their own funds to carry out mitigation activities and projects that they identify as priorities. This criterion will be taken into consideration when allocating resources, especially in the requirements for matching funds.

5.5.Education and Outreach Capabilities.

The 2021 SHNMP assesses the ability to communicate the risk of natural hazards to the community. Building partnerships with local community groups is a successful strategy that, since the 2017 weather events have been strengthened and extended to more sectors of the population. With the support of PREMB, local jurisdictions manage education and outreach programs that include, distribution of safety and preparedness information, collaboration with schools on preparedness activities, Response Team (CERT), and conducting citizen information activities to inform residents of the hazards, preparedness actions and evacuation routes.

In addition, municipalities actively identify opportunities to educate and inform communities about hazard risk and preparedness measures by participating in programs such as Tsunami Ready. Many of the municipalities participate in the StormReady and TsunamiReady programmes, discussed in Chapter 4. Participation in these National Weather Service (NWS) programs is voluntary, which require the municipality to be up to date with the communication and safety skills needed to save lives and property before, during, and after a storm or tsunami event (NOAA, 2017).

As an example, the Tsunami Warning and Evacuation Plan, with the support of the Puerto Rico Seismic Web (Red Sísmica de Puerto Rico) and NWS establishes evacuation procedures in response to a tsunami warning. Coastal

municipalities, through their participation in the program, assist in disaster recovery operations; provide training to municipal personnel involved in the response (OMME, firefighters, municipal police, among others); provide educational activities for citizens, such as lectures and presentations; and install warning sirens. In addition, to officially become a StormReady community, the municipality must prepare a hazardous weather event plan, which includes conducting emergency exercises.

CHAPTER VI

MITIGATION STRATEGIES

Courtesy by FEMA

6.1.Mitigation Strategies Requirements.

The goals, objectives, and mitigation actions have different reaches; therefore, it is important to distinguish the definition of these terms in the planning process to mitigate hazards. The descriptions are as follows:

- Goals: General guidelines present the desired result to be achieved in the long term.
- Objectives: Describe the strategies that will be used to implement the established goals. The objectives are more specific than the goals; they define the way forward to achieve goals, and their results should be quantifiable.
- Actions: Actions provide a detailed description of the specific tasks that are necessary to achieve the objectives.

The federal requirement §201.6(c)(3)(i), stipulates that the mitigation strategy must include a description of the mitigation goals to reduce or avoid the long-term vulnerabilities of the identified hazards. The proposed goals will serve as a general guide for measuring the Plan's effectiveness in that direction. Long-term goals have the effect of improving the level of preparedness and the State and local government's ability to respond to a disaster. The goals and objectives are aligned and compatible with other planning documents' content and are recommended for inclusion in land use plan revisions. Finally, the proposed strategies will be aligned in achieving those goals.

The level of achievement of the goals and objectives described are directly aligned with the level of progress that both state and local governments make in implementing the mitigation activities included in this update and described below. An evaluation of the goals and objectives that were part of the 2016 PRSNHMP was also conducted to determine whether they were wholly, partially, or not completed. This served as the foundation for developing those that are part of the 2021 PRSNHMP.

In summary, the Plan must include:

- A mitigation strategy that provides a jurisdiction model to reduce the potential losses identified in the risk assessment, based on existing authorities, police, programs, and resources, along with their ability to expand and improve existing tools.
- A description of the mitigation goals to reduce or avoid long-term vulnerabilities in the identified hazards.
- A section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effect.

- A description of the jurisdiction's participation in the NFIP and that meets its requirements.
- An action plan describes how the identified action will be prioritized, implemented, and managed by the local jurisdiction. The prioritization should emphasize a cost-benefit review of the proposed projects and their cost of association. This information will be provided in full in the next Plan update because the state government was in administrative transition when these sections of the Plan were developed.

6.1.1. Review of Progress on Mitigation Actions for the 2016 Plan.

This Section reviews the proposed goals from 2016 PRSHNMP and updates them to meet the needs better. Every goal described was the product of the work of the Steering Committee on Mitigation. The goals were reviewed considering the latest developments from Hurricanes Irma and Maria, the risks involved, the resources available, the needs of the affected communities, and the outcome of implementing the strategies achieved in 2016 PRSNHMP. The combined effort of the Committee members and the participation of all stakeholders facilitated not only the review of the goals and objectives but also in the proposed strategies within this document.

The goals, objectives, and actions reflect the long-term vision proposed by the State to achieve effective hazard mitigation and, whenever possible, reduce the loss of life and property that may result because of hazards. The process of reviewing and updating the 2021 PRSNHMP included the discussion and evaluation of goals, objectives, and mitigation actions proposed in the 2016 PRSNHMP, with PREMB and COR3 mitigation staff. This evaluation aimed to determine the compliance of the goals, objectives, and mitigation actions and determine their continuity in the 2021 PRSNHMP.

Table 6-1: 2016 PRSNHMP Mitigation Goals and Objectives.

MITIGATION GOALS AND OBJECTIVES 2016 PRSNHMP	ESTIMATED LEVEL OF COMPLIANCE		
	Completed in full	Partially completed	Not completed
Goal 1: Develop a more disaster-resistant Puerto Rico by reducing vulnerability to future natural hazard events		X	
Objective 1.1 Strengthen the capacity of the State Government to mitigate natural and non-natural hazards.		X	
Action: Collect and distribute, to State Government agencies, updated information on the hazards that affect Puerto Rico, vulnerability to them, and alternatives to mitigate them to increase the knowledge of its personnel.	X		
Action: Promote and encourage State Government agencies to publish on their websites the official information they receive about the hazards affecting Puerto Rico, their vulnerability to them, and alternatives on how to mitigate them.		X	
Action: Guide GPR's agencies to incorporate hazard mitigation principles into their routine work operations.		X	
Action: Require each state agency participating in the Interagency Mitigation Committee to complete or update its risk analysis, hazard identification, and potential risk mitigation projects to reduce the vulnerability of agency structures.		X	
1.1.5 Action: Identify, evaluate, and estimate the vulnerability of critical state facilities to identified hazards, emphasizing flood, hurricane, landslide, and earthquake hazards, to identify mitigation alternatives (e.g., structural improvements or relocation) that reduce or eliminate the vulnerability of these facilities. It is necessary: • Promote the importance of maintaining updated vulnerability analyses of agency structures and facilities that are not regularly associated with hazard mitigation processes. Examples include the Department of Agriculture, whose industry is periodically impacted by floods, droughts, hurricanes, and the CTPR. Their facilities and attractions are mostly located in coastal or forested areas exposed to the impact of various hazards. Distribute the analysis results with agencies related to the planning and mitigation process and identify measures to mitigate the vulnerability of these sectors. • Promote the importance of maintaining updated vulnerability analyses of Puerto Rico's critical infrastructure, which are managed by the following agencies: PRASA, PREPA, DTOP, Telecommunications Bureau. Distribute the analysis results with agencies related to the planning process and mitigation and identify measures to mitigate the vulnerability of critical infrastructure.		X	

MITIGATION GOALS AND OBJECTIVES 2016 PRSNHMP	ESTIMATED LEVEL OF COMPLIANCE		
	Completed in full	Partially completed	Not completed
1.1.6 Action: Identify specific state critical facility restoration or relocation projects that can be undertaken before a disaster, with funding sources such as US Federal Highway Administration and FEMA paired with local funding, or that can be activated after a disaster with FEMA HMGP funding.		X	
1.1.7 Action: Increase the number of qualified personnel, such as architects, engineers, and planners, within the state government to evaluate and manage programs and projects that impact the hazard mitigation process.		X	
Objective 1.2 Strengthen local government capacity to mitigate natural and non-natural hazards.		X	
1.2.8 Action: Provide local governments with continuous access to updated information on the hazards affecting Puerto Rico, mitigation measures, and analysis tools available, through the Internet and/or database, to increase the knowledge of their personnel and provide tools they can use to analyze the vulnerability of their territory.	X		
1.2.9 Action: Provide technical assistance to local governments during proposal preparation processes to obtain available funds to develop, review, and implement natural and non-natural hazard mitigation plans and projects.	X		
1.2.10 Action: Provide training to local governments on the preparation, adoption, and implementation of Local Mitigation Plans and the development of mitigation activities and projects.	X		

MITIGATION GOALS AND OBJECTIVES 2016 PRSNHMP	ESTIMATED LEVEL OF COMPLIANCE		
	Completed in full	Partially completed	Not completed
1.2.11 Action: Guiding local governments to integrate hazard mitigation measures established in their local mitigation plans in o Provide information on hazard mitigation measures to professional organizations related to the construction process - planners, architects, surveyors, and engineers, among others - to increase their knowledge in the area, encouraging them to include mitigation measures from the initial stages of the development of public and private plans and projects, and emphasizing the importance of using current building codes applicable in Puerto Rico, among other aspects. Other plans they make to guide development in their territory, such as land use plans.	X		
Objective 1.3 Strengthen the capacity of Non-Governmental Organizations and citizens in general to mitigate natural and non-natural hazards.		X	
1.3.12 Action: Increase efforts and mechanisms to inform non-governmental organizations and citizens about natural and non-natural hazards, mitigation alternatives, and guides for responses to risks through websites of state agencies and local governments, social networks, workshops or educational campaigns, and the development of alliances with the media - press, radio, and television - to distribute the information, among others that can be identified.		X	
1.3.13 Action: Prepare and distribute simple model building plans for single-family homes that incorporate protection measures against high winds, landslides, and earthquakes, and promote the importance of including these home construction measures.		X	

MITIGATION GOALS AND OBJECTIVES 2016 PRSNHMP	ESTIMATED LEVEL OF COMPLIANCE		
	Completed in full	Partially completed	Not completed
1.3.14 Action: Provide information on hazard mitigation measures to professional organizations related to the construction process - planners, architects, surveyors, and engineers, among others - to increase their knowledge in the area, encouraging them to include mitigation measures from the initial stages of the development of public and private plans and projects, and emphasizing the importance of using current building codes applicable in Puerto Rico, among other aspects.		X	
Objective 1.4 Encourage local governments to incorporate the hazard mitigation concepts developed in their local mitigation plans into their existing and new land-use plans.	X		
Goal 2: Strengthen the capacity of GAR and PREMA to manage available hazard mitigation programs effectively.		X	
Objective 2.1 Ensure the development and implementation of mitigation plans, projects, and programs.	X		
2.1.15 Action: Continue with the function of ensuring compliance with the funds allocated for the development and implementation of mitigation measures and projects.	X		
2.1.16 Action: Identify and evaluate the availability of federal, State, and private funds to plan and develop hazard mitigation projects throughout Puerto Rico.	X		
2.1.17 Action: Maintain a communication process with agencies, municipalities, and organizations to know the implementation status of mitigation plans and projects and integrate them into future revisions of the PRSNHMP.		X	

MITIGATION GOALS AND OBJECTIVES 2016 PRSNHMP	ESTIMATED LEVEL OF COMPLIANCE		
	Completed in full	Partially completed	Not completed
2.1.18 Action: Coordinate and carry out training activities through the GAR and PREMB to effectively use the computer program with FEMA-BCA (Benefit-Cost Analysis) mitigation projects. These training activities may be offered to municipalities and state agencies personnel whose responsibility is to prepare federal proposals to specialize in the BCA process.	X		
Goal 3: Strengthen the relationship between Agencies, Municipalities, and Organizations to mitigate natural and non-natural hazards		X	
Objective 3.1 Develop and maintain collaborative links between the different sectors that affect the process of hazard mitigation.		X	
3.1.19 Action: Establish a system for collecting historical data on events that occurred, which is necessary when preparing the BCA for mitigation projects included in municipal plans. Share information relevant to vulnerability and hazard analysis in Puerto Rico that is worked on by different sectors directly or indirectly related to the hazard mitigation process to disseminate information and systematically promote the need and benefits of hazard mitigation.		X	
3.1.20 Action: Promote the Guidelines for the Mitigation of Hazards and Adaptation to Climate Change provided by the Puerto Rico Land Use Plan (PUT), complying with the provision of the PUT that indicates that any planning instrument submitted after its effective date must include measures to mitigate and adapt to climate change.		X	
3.1.21 Action: Coordinate educational institutions' efforts to incorporate natural and technological hazard mitigation issues into architecture, engineering, and planning curricula, among others.		X	

MITIGATION GOALS AND OBJECTIVES 2016 PRSNHMP	ESTIMATED LEVEL OF COMPLIANCE		
	Completed in full	Partially completed	Not completed
3.1.22 Action: Establish agreements with educational institutions to obtain information on their research related to the analysis for natural and non-natural hazards, mitigation strategies, and analysis tools.		X	
3.1.23 Action: Maintain communication and coordination with the Coastal Zone Management Program Office, DNER Water Resources and Climate Change Program, NWS, PRASA, and other relevant agencies to increase safety and guidance to coastal communities to integrate actions that are identified and can be developed to mitigate the effects of climate change. Also, work with communities experiencing the effects of drought or any other risk caused by projected climate change.		X	
Objective 3.2 Use the land use instruments, rulings, laws, applicable analysis tools, and preparation exercises available in different agencies, municipalities, or organizations to mitigate the identified dangers		X	
3.2.24 Action: Work with local government and state agencies related to the planning, evaluation, and approval process of projects so that they integrate hazard analysis as a requirement in the assessment of projects or developments, both public and private, to prevent them from affecting the vulnerability of the territory to specific hazards. Also, use the land use planning instruments stipulated in the PUT and POT as hazard mitigation mechanisms.		X	
3.2.25 Action: Promote the use and transfer of available analysis tools or technologies, such as GIS and HAZUS, to identify the vulnerability of specific areas or sectors, estimate the physical, social and economic impacts that may cause hazards, and define mitigation actions.	X		

MITIGATION GOALS AND OBJECTIVES 2016 PRSNHMP	ESTIMATED LEVEL OF COMPLIANCE		
	Completed in full	Partially completed	Not completed
3.2.26 Action: Strengthen sensor and early warning risk systems at the state and local level as a measure to prepare for and mitigate the potential impact of a hazard event and reduce or eliminate loss of life.	X		
3.2.27 Action: Promote the participation of the coordinators of the State Inter-Agency Mitigation Committee in available processes, such as public hearings and being an active member of committees and working groups, to analyze, comment, and ensure the consideration of integration of mitigation actions in projects, plans or other initiatives that are proposed and may affect vulnerability to hazards.		X	
3.2.28 Action: Promote the acquisition of flood insurance in all communities exposed to flooding throughout the Island, from the NFIP coordinated by the PRPB's Flood Valley Administration and promote practices to mitigate flooding in these communities to reduce losses costs associated with this hazard.		X	
3.2.29 Action: Promote the participation of agencies, municipalities, organizations, and citizens in planning processes, simulations, and preparedness exercises for the possible impact of earthquakes, floods, and tsunamis, among others, to identify deficiencies that, when corrected before the possible hazard incident, become mitigation strategies, practice the recommended steps to be followed during the incident and check the preparedness of citizens and agencies related to the mitigation and management of hazards and emergencies.	X		
3.2.30 Action: Promote the participation of communities, professional, academic, and religious groups, among others, in the Community Emergency Response Team (CERT) Program to gain basic knowledge about how to respond to an emergency, identify structural and nonstructural hazards, and prepare mitigation and action plans.	X		

The analysis regarding the completion of the goals, objectives, and proposed actions of the 2016 PRSHMP determined that of the three (3) established Goals, 100% were partially completed; of the seven (7) Objectives,

29% were fully completed, 57% were partially completed, and 14% were not completed; and of the 30 proposed Actions, 27% were fully completed, 63% were partially completed, and 10% were not completed. It can be noted that, in most cases, the goals, objectives, and actions that were fully completed are all related to the distribution of information to the agencies and public regarding hazards and offering guidance and
technical assistance to municipalities in the development of Local Mitigation Plans and compliance with program management and funds available for the development of mitigation plans or projects.

Furthermore, the goals, objectives, and actions that were partly completed are related to the development or use of available mechanisms to assess the vulnerability of structures exposed to hazards, coordination among agencies, professional organizations, and interest groups to analyze and develop the projects, promotion of more restrictive requirements in vulnerable areas of risk, and integration of hazard analysis and mitigation actions during the interagency assessment of the proposed public and private projects. Regarding the goals, objectives, and activities that were not completed, it was observed that they are related to more specific strategies, such as preparation of construction model plans that incorporate hazard protection measures, the development of mitigation requirements to be included in auction documentation, and the development of tools to determine the effectiveness of the completed mitigation projects. Once the analysis of compliance of goals, objectives, and mitigation actions of the 2016 PRSNHMP was conducted, the need to strengthen the relationship between agencies, professional organizations, and other interest groups was identified, since most goals, objectives, and actions that impacted or had lack of resources aside the PREMB were those identified as partially completed or not completed.

The projects included in the previous Plan were re-evaluated. Most of them were not carried out due to the municipality's lack of funds and the difficulty of accessing them from the state and federal government. As a result of Hurricanes Irma and Maria, these projects were altered in their entirety. Now it is necessary to carry out new projects included in this revision.

6.1.2. Mitigation Strategies Development Tools.

After Hurricane Maria passed through Puerto Rico, the priorities in terms of projects have changed; areas that were thought not to be at risk are now at risk. Places that perhaps had never been flooded now are because the morphology of water bodies has changed. For example, many bridges were significantly affected or destroyed because of the floods, and there were also landslides in many areas.

The method used to develop actions and projects has been established through recurrence information, analysis, and evaluation. To have better information and a more concrete basis regarding each of these projects' specific

situation, a rigorous study of them is necessary. These projects are the most significant within the 404 HMGP evaluation process. Besides, it relied heavily on the initiatives, projections, and direction of the Steering Committee established for this purpose.

Inter-agency coordination (local, state, and federal government) was coordinated for maximum effectiveness as part of our actions. The strategies presented in the local mitigation plans, the projects proposed by the state agencies under the HMGP 404 program, and strategies defined by the Dam Safety Officer, specifically for the case of the dams, were considered. Also, specific recommendations provided by the work team of the Graduate School of Planning of the University of Puerto Rico (GSP-UPR) were incorporated, and the mitigation strategies developed by the Environmental Protection Agency aimed at the risks addressed in this Plan.

Social, Technical, Administrative, Political, Legal, Economic, and Environmental Procedure (STAPLEE).

Mitigation strategies were evaluated by the Committee using the tool known as STAPLEE. This tool, described in FEMA Guide 386-3, "Developing the Mitigation Plan," provides seven (7) selection criteria for evaluating the projects included in the Section above. This technique employs the consideration of the following seven project evaluation criteria:

- Social: the proposed action must be socially acceptable; study the adverse effects on some segments of the population
- Technical: the proposed action must be technically feasible; offer long-term solutions; study the secondary impacts of the action.
- Administrative: the community must have the capacity to implement the action; have the necessary personnel, funds, operational and maintenance requirements to implement it.

- Political: mitigation actions must be politically acceptable; have defined agencies responsible for implementing the action; have public support.
- Legal: Check if the mitigation action is consistent with state, federal, or municipal laws to implement the proposed measure.
- Economic: Establish the costs of the mitigation action; its benefits; identify the need for external funding to implement the action; economic considerations should include the current monetary base, projected growth, and opportunity costs.
- Environmental: Study and anticipate environmental impacts on land, water, endangered species, and sensitive areas consistent with federal environmental laws; there should be a public desire for environmentally sustainable and healthy communities.

In addition to the STAPLEE review criteria, integrating hazard mitigation into the planning process was identified as a fundamental aspect for the formulation of goals, objectives, and mitigation actions. It is not a process isolated from others that regulate aspects of public policy and development in Puerto Rico.

Benefit-Cost Analysis (BCA).

The evaluation of mitigation strategies is complex and involves a detailed analysis of objectives and quantifiable variables that may be more subjective and difficult to measure. There are two common approaches used to determine the costs and benefits associated with natural hazard mitigation measures, namely (1) benefit/cost analysis; and (2) cost-effectiveness analysis. The difference between these two methods is how the relative costs and benefits of a mitigation project are measured. In a benefit/cost analysis, an assessment is made in dollars. A net ratio is calculated to determine whether a project should be undertaken, i.e., whether the net benefits exceed the net costs and whether it is appropriate to subsidize the mitigation project.

Although a formal cost-benefit analysis has not been conducted for each mitigation action as part of the review and update of this Plan, since it is not part of a requirement for development and the information is not currently available, the identified actions considered the technical and economic feasibility that the state government has. For this purpose, a numerical ranking formula was used to evaluate each proposed mitigation action's cost-effectiveness.

These quantitative data are preliminary and will be formally presented through the procedures corresponding to their financial allocation. For example, any project submitted for funding consideration under state and federal programs, such as the HMGP or the MMP, must include its cost-effectiveness, as required to be eligible.

National Mitigation Investment Strategy (NMIS).

Another approach that incorporates 2021 PRSNHMP into its methodology is the National Mitigation Investment Strategy (NMIS), a single national strategy for advancing mitigation investment to reduce risks posed by natural hazards and increasing the nation's resilience to natural hazards.

The NMIS complements other federal government initiatives for mitigation investment and calls for the federal and nonfederal partners to work together, including critical hazard mitigation strategies in solid waste, sustainable materials management, water, and healthy and green buildings. These recommendations were aligned with five specific risks being considered in this revision: flooding, landslides, strong winds, liquefaction, NMIS goals focus on showing how mitigation investments reduce risk; to coordinate mitigation investments to minimize risk and make mitigation investment standard practice. This approach commits to safeguarding the whole community from natural hazards. With ambitious but achievable goals, NMIS aims to more effectively and efficiently leverage and coordinate mitigation investments.

6.1.3. Identification and Categorization of Mitigation Techniques

The identification and analysis of mitigation techniques describes the mitigation actions that refer to the identified hazards, risks, and vulnerabilities. Each of the proposed mitigation measures for each of the identified risks.

It includes the following information:

- Categorization of the mitigation measure.
- Natural hazard associated with the mitigation measure.
- Priority assigned based on technical and objective component.
- General information on the background of the measure.
- Sources of funding, if applicable.
- Government agency in charge of a specific mitigation strategy.

On the other hand, some mitigation measures such as educational campaigns are not measured as a structural mitigation project involving construction work. In this sense, these educational actions' economic viability is based on the adoption of qualitative methods such as STAPLEE. Therefore, the Steering Committee for Planning evaluated the efficiency and validity of costs during the development and prioritization of the mitigation actions presented in this Section.

In keeping with the "Local Mitigation Planning Manual" (2013), which provides a range of categories and mitigation actions for local plans, the PRSNHMP incorporated the same types to contextualize them to the state government situation, which are composed of the following:

- Prevention - Includes actions to prevent a risk problem from getting worse. These activities are related to planning and seek to ensure that future development does not increase risk losses. Prevention activities with potential application to the state government include planning and zoning, open space conservation, land development regulations, stormwater management (cleaning up larger ditches/retention basins), protection of waterfront barriers, capital improvement planning (preventing infrastructure from being extended into risk areas), and compliance with building codes.
- Property Protection - These actions directly protect people and property at risk and modify the buildings at risk or their surroundings, rather than prevent the event from occurring. Property protection actions are often used for historical and cultural sites because they do not affect the building's appearance. Typically, these are less costly actions because they are often implemented, or costs are shared with the owners. Property protection includes acquisitions, relocations, rebuilding, and flood approval structures. Critical facilities can be protected using any of these categories.
- Public education and awareness - These include actions to inform and educate citizens, elected officials, and owners of structures and land about hazards and steps needed to prevent potential harm. Mitigation activities considered in this category include participation in national programs, such as StormReady, TsunamiReady, among others. It provides risk maps and other information through various means such as websites with maps and data; disseminating information about the risk to which real estate is subject; warning residents and property owners in specific risk-prone areas; and asking business owners to provide risk mitigation information to employees.

- Protection of natural resources - Actions aimed at reducing the intensity of the effects of risks and improving the quality of the environment and wildlife habitats. These are often implemented in coordination with entities or organizations that work with parks, recreation, or conservation. Also include erosion and sedimentation control, wetland protection, reforestation, and beach restoration.
- Structural projects - directly protect people and property at risk. They involve the construction of artificial structures to control hazards. Some examples of structural projects are levees, breakwaters, barriers, liners, high flow diversions, canals, buttresses, debris accumulation basins, retaining walls, channel modifications, sewer systems, and roadway elevations.
- Risk Analysis- Includes actions to strengthen risk assessment such as additional assessments, surveys, censuses, and inventories, among others.
- Institutional Capacity Building - Municipal, State, and federal actions to coordinate mitigation options and responses. Includes coordination actions between the municipality and other government agencies and entities, presenting proposals, fundraising, and database development.

6.2 Formulation of 2021 PRSNHMP Goals, Objectives, and Mitigation Actions.

Considering the variety of factors affecting hazard management and mitigation discussed, this Section will present the goals, objectives, and mitigation actions of the 2021 PRSHMP discussed with PREMB staff assigned to the PRSNHMP review. The goals, objectives, and mitigation actions proposed in the 2016 PRSNHMP were used as the basis for continuing efforts and addressing those that were partially completed or not completed for multiple reasons, as presented in Section 6.1.1.

As has been identified in the period covered by this Plan, Puerto Rico is experiencing drastic situations that particular attention to scientific reports on phenomena related to climate change that are having an increasing impact on the Caribbean area.

For this update, the proposed mitigation strategies were based on:

- Partially completed and uncompleted strategies from the 2016 Plan.
- Municipalities' actions to mitigate the impacts of the hazards identified in their territory, as shown in each Local Hazard Mitigation Plans.
- Recommendations made by the UPR-EGP working group according to the risk analyses.
- Recommendations obtained from various meetings and informal discussions with experts.
- Recommendations received from other stakeholders, considering the input of the non-governmental organizations that have been part of this update.
- Recommendations issued by the Dam Safety Officer.

Given the state government's responsibility for planning and implementing mitigation strategies related to global warming, the 2021 PRSHNMP also adopted measures recommended by the Environmental Protection Agency (EPA) to respond to the findings and recommendations identified in the risk analysis its fully discussed in **Appendix 6-1**.

Table 6-2: Goals, Objectives, and Mitigation Actions of 2021 PRSNHMP.

Goal 1 Develop a more disaster-resistant Puerto Rico, reducing vulnerability to future incidents of natural and non-natural hazards.
Objective 1.1: Increase the State's capacity to implement and maintain mitigation programs by identifying and developing policies, programs, and regulations to support practical risk mitigation efforts.
Action 1.1.1 - Promote and encourage State Government agencies to publish on their websites the official information they receive about the hazards that affect Puerto Rico, their vulnerability, and alternatives on how to mitigate them.
Action 1.1.2 - Guide state governments to incorporate hazard mitigation principles into their routine work operations.
Action 1.1.3 - Require each state agency participating in the Interagency Mitigation Committee to complete or update its risk analysis, hazard identification, and potential risk mitigation projects to reduce agency structures' vulnerability.
Action 1.1.4 - Identify specific state critical facility restoration or relocation projects that can be undertaken before a disaster, with funding sources such as US Federal Highway Administration and FEMA paired with local funding or activated after a disaster with FEMA HMGP funding.
Action 1.1.5 - Increase the number of qualified personnel, such as architects, engineers, and planners, within the state government to evaluate and manage programs and projects that impact the hazard mitigation process.
Objective 1.2: Strengthen the relationship between state and local government and organizations to mitigate natural and non-natural hazards.
Action 1.2.1 - Establish a system for collecting historical data on events that occurred, which is necessary when preparing the BCA for mitigation projects included in local plans. Share information relevant to vulnerability and hazard analysis in Puerto Rico that is worked on by different sectors directly or indirectly related to the hazard mitigation process to disseminate information and systematically promote the need and benefits of hazard mitigation.
Action 1.2.2 - Maintain communication and coordination with the Coastal Zone Management Program Office, DNER Water Resources and Climate Change Program, NWS, PRASA, and other relevant agencies to increase safety and guidance to coastal communities to integrate actions identified can be developed to mitigate the effects of climate change. Also, work with communities experiencing the impacts of risks caused by projected climate change.

Goal 2 To achieve the rapid re-establishment of the State in case of disasters.
Objective 2.1: Strengthen the capacity of GAR and PREMA to manage available hazard mitigation programs effectively.
Action 2.1.1 - Maintain a communication process with agencies, municipalities, and organizations to know the implementation status of mitigation plans and projects and integrate them into future revisions of the PRSNHMP.
Action 2.1.2 - Promote the participation of the coordinators of the State Inter-Agency Mitigation Committee in available processes, such as public hearings and being an active member of committees and working groups, to analyze, comment, and ensure the consideration of integration of mitigation actions in projects, plans or other initiatives that are proposed and may affect vulnerability to hazards.
Objective 2.2:Increase State emergency preparedness, response, and recovery by improving the State's ability to support emergency response and recovery operations.
Action 2.2.1 - Promote the importance of maintaining updated vulnerability analyses of agency structures and facilities that are not regularly associated with hazard mitigation processes.
Objective 2.3. Reduce the degree of vulnerability of critical and essential buildings and vital and critical state infrastructure.
Action 2.3.1 - Identify, evaluate, and estimate the vulnerability of critical state facilities to identified hazards, emphasizing flood, hurricane, landslide, and earthquake hazards, to identify mitigation alternatives (e.g., structural improvements or relocation) that reduce or eliminate the vulnerability of these facilities.
Action 2.3.2 - Promote the importance of maintaining updated vulnerability analyses of Puerto Rico's critical infrastructure, which are managed by the following agencies: PRASA, PREPA, DTOP, Telecommunications Bureau.
Action 2.3.3 - Distribute the analysis results with agencies related to the planning process and mitigation and identify measures to mitigate critical infrastructure vulnerability.
Action 2.3.4 - Develop an Early Warning System to establish an alarm and notification system for the population of the area to be affected in a dam break or failure.
Action 2.3.5 - Monitor with survey equipment for reduction of operational levels when any potential risk of dam failure is identified.
Action 2.3.6 - Establish a 24-hour surveillance plan at the dam facilities or for as long as necessary if a specific risk is identified (e.g., caused by earthquakes).
Objective 2.4. Strengthen critical infrastructure.
Action 2.4.1 - Make improvements to obsolete, broken, or non-functioning infrastructure to reduce the amount of water lost annually due to broken pipes and damaged infrastructure.

Goal 3 Integrate risk mitigation and sustainable development into the foundation of land use planning initiatives.
Objective 3.1. Use the land use instruments, rulings, laws, appropriate analysis tools, and preparation exercises available in different agencies, municipalities, or organizations to mitigate the identified dangers.
Action 3.1.1 - Work with local government and state agencies related to the planning, evaluation, and approval process of projects to integrate hazard analysis as a requirement in the assessment of projects or developments, both public and private, to prevent them from affecting the vulnerability of the territory to specific hazards. Also, use the land use planning instruments stipulated in the PUT and POT as hazard mitigation mechanisms.
Action 3.1.2 - Promote the acquisition of flood insurance in all communities exposed to flooding throughout the Island, from the NFIP coordinated by the PRPB's Flood Valley Administration and promote practices to mitigate flooding in these communities to reduce losses associated with this hazard.
Action 3.1.3 - Promote the Guidelines for the Mitigation of Hazards and Adaptation to Climate Change provided by the Puerto Rico Land Use Plan (PUT), complying with the PUT provision that indicates that any planning instrument submitted after its effective date must include measures to mitigate and adapt to climate change.

Goal 4 Preserve, enhance, and restore aspects of the natural environment that are beneficial for risk mitigation.
Objective 4.1. Incorporate mitigation measures to increase the useful life of landfills.
Action 4.1.1 - Proper disposal of comingled disaster debris in sanitary landfills.
Action 4.1.2 - Source reduction of vegetative and soil debris.
Action 4.1.3 - Reuse and recycling of built environment, vegetative, and other organic material.
Action 4.1.4 - Establish a disaster debris management plan for local governments.
Objective 4.2. Incentivize green infrastructure retrofits on existing developments and new construction.
Action 4.2.1 - Address illegal dumping through science to reduce impacts from flooding and landslides in Puerto Rico.
Objective 4.3. Encourage the use of renewable energy in new infrastructure developments.
Action 4.3.1 - Establish assistance programs to support the implementation of renewable energy/ alternative energy microgrids.
Action 4.3.2 - Workforce projections for the deployment of healthy buildings, energy renewables, energy efficiency, demolition, and debris handling and processing activities.

Goal 5 Create organized and disaster-resistant communities.
Objective 5.1. Develop effective educational programs that focus on increasing the public's knowledge of the hazards and their associated risks.
Action 5.1.1 - Capacity building for Municipalities and Community Emergency Response Team (CERT) preparedness to design and implement drills for community evacuation plans after possible release of oil and chemicals after disasters.
Objective 5.2. Increase the general population's knowledge and understanding of the natural hazards/risks that threaten Puerto Rico and the appropriate risk mitigation elements to counteract their effects.
Action 5.2.1 - Coordinate educational institutions' efforts to incorporate natural and technological hazard mitigation issues into architecture, engineering, and planning curricula.
Action 5.2.2 - Prepare and distribute simple model building plans for single-family homes that incorporate protection measures against high winds, landslides, and earthquakes, and promote the importance of including these home construction measures.
Objective 5.3. Enhance the capacity building at the community level to ensure the efficient management of the water resources.
Action 5.3.1 - Orient and encourage the community to obtain property insurance, flood insurance (property and contents), and insurance against other possible disasters.
Action 5.3.2 - Establish a local circuit rider program to build technical, managerial, and financial capacity at self-serve community water systems to support the long-term resilience of drinking water service in rural communities.
Action 5.3.3 - Create effective water management districts, inter-jurisdictional commissions, compacts, or other approaches to build the resilience of septic systems in communities.

Goal 6 Reduce uncertainty and distrust in data analysis processes for the development of mitigation plans.
Objective 6.1. Centralization of the data generated to address information gaps in searching, using, and analyzing data and tools for risk management.
Action 6.1.1 - Create databases that specialize in each natural and/or anthropogenic risk to speed up the analysis processes and ensure their quality.
Action 6.1.2 - Update the water resources status database to ensure that all available information is correct.
Action 6.1.3 - Create metadata of the data used in the risk analysis to validate its legitimacy and recognize its nature.
Action 6.1.4 - Create new sources of information that consider the effects of the severe seismic activity in late 2019 and early 2020 in the southwestern area of Puerto Rico.
Action 6.1.5 - Establish a GIS database/mapping layer to inventory formal facility locations (environmental regulated facilities).
Objective 6.2. Creation and establishment of public policy mechanisms to promote public funds' administrative transparency and management.
Action 6.2.1 - Require that all organizations and contractors in charge of generating information under the geographic information system must contain metadata (and raw data) with specific fields.
Action 6.2.2 - Identify funds and establish the necessary mechanisms to guarantee continuity in research and determine changes in the sequences of natural events' impacts.

As can be seen, most of the proposed mitigation goals and objectives are nonstructural measures that seek to maximize the use of available resources and tools and do not entail the costs associated with structural mitigation measures.

6.2.1. Evaluation and Prioritization of Mitigation Actions.

To prioritize the mitigation actions proposed in the 2021 PRSNHMP, "action categories" were created, taking into consideration the feasibility of implementation and the needs identified because of the evaluation of the 2016 PRSNHMP actions. The action categories established in order of importance are:

- Education transfer of information and strengthening of the relationship between Agencies, Municipalities, Organizations and Citizenship.
- Use of instruments, tools and exercises for hazard analysis and mitigation.
- Updating or preparation of risk and vulnerability analyses and identification of mitigation actions.
- Administration and development of mitigation activities plans and projects.

It is important to note that state agencies will have the right to program their priorities taking into consideration the multiple responsibilities they exercise and the limited financial and human resources available, among other

aspects. The priorities established for the development and implementation of mitigation activities according to the established action categories are shown below. In addition, the agencies/organizations responsible for and supporting the actions, sources of funds and the timeframe in which the actions should be developed and implemented are defined. To ensure that the 2021 PRSNHMP Mitigation Strategy is effectively implemented, PREMB and COR3 will undertake the following activities:

- Define roles and responsibilities for participating Agencies, Municipalities and Organizations.
- Confirm the commitment of the Agencies, Municipalities and Organizations to implement the mitigation actions through communications or memoranda of agreement.
- Prepare a list of materials, information, technical and budgetary resources available and/or necessary for the implementation of the actions.
- Coordinate meetings or workshops to initiate work on the development and implementation of mitigation actions.
- Review and refine the proposed timeline for implementation of mitigation actions to include more specific dates.

The range of available mitigation actions was analyzed together with the identified risks to select the mitigation actions to achieve the goals and objectives. As presented in this Section, all mitigation actions can be applied at the state level. However, factors such as the limited availability of human resources in the state government and the limited fiscal capacity are considered in selecting measures to be included in the Plan.

The Planning Steering Committee compiled a complete list of actions that included those that were not completed in the 2016 PRSHNMP and others that have been identified during the planning process. A qualitative assessment was conducted using a simple list method, consisting of three steps:

- Step 1: Create the list of identified actions.
- Step 2: Identify all expected benefits (e.g., positive effects) and costs (e.g., perceived obstacles) of the actions,
- Step 3: Assign a priority - High, Medium, and Low, accompanied by an explanation of the meaning of each category.

The Planning Steering Committee believes that all risk mitigation measures are essential and necessary. However, three criteria were established for prioritization based on the project's positive benefits (e.g., reducing flooding on a busy road), the State's technical and administrative capabilities of the State, and the availability of funding sources for project implementation. Based on these three criteria, priorities were assigned as high, medium, and low, as shown in **Table 6-3.**

- High priority: Includes actions that must be initiated immediately because there are a population and business sectors experiencing events at least once a year or because susceptibility to future events ishigh. High priority projects also include those whose occurrence obstructs access to residences or businesses and affects the population's lifestyles.
- Medium priority: - Mitigation actions necessary and essential but do not require immediate intervention to protect life or property. In many cases, such as education and outreach activities, the state government has the administrative capacity to do so in terms of experience, knowledge, and human resources. Still, it requires some form of a grant to implement them. For example, these actions include education and outreach activities, among others that could address various risks.
- Low priority: Includes projects that are important to help mitigate natural hazards. Their implementation would strengthen and complement existing efforts, but the protection of life and property does not depend on them during the revised Mitigation Plan. Examples of these projects are generating additional information, such as maps, census, among others.

Regarding the availability of funding sources, the opportunity for federal funds from the Hazard Mitigation Grant Program (HMGP) and the Community Development Block Grant-Disaster Recovery (CDBG-DR) and Community Development Block Grant-Mitigation (CDBG-MIT) funds that have been allocated to Puerto Rico with the Presidential Declaration of disaster after Hurricane Maria (DR-4339) is recognized.

GOALS	OBJECTIVES	ACTIONS	RESPONSIBLE AND SUPPORT STATE AGENCIES	FUNDING SOURCES	DEVELOPMENT AND IMPLEMENTATION PERIO
Goal 1 - Develop a more disaster-resistant Puerto Rico, reducing vulnerability to future incidents of natural and non-natural hazards.	Objective 1.1. Increase the State's capacity to implement and maintain mitigation programs by identifying and developing policies, programs, and regulations to support practical risk mitigation efforts.	Action 1.1.1. (*) Promote and encourage State Government agencies to publish on their websites the official information they receive about the hazards that affect Puerto Rico, their vulnerability, and alternatives on how to mitigate them.	• COR3 • PREMB • All-State Government Agencies	According to the available HMGP Funds Non-Disaster Funds EMPG Funds State Funds	Continuous
		Action 1.1.2. (*) Guide state governments to incorporate hazard mitigation principles into their routine work operations.	• COR3 • PREMB	According to the available HMGP Funds – (Planning) Non-Disaster Funds EMPG Funds State Funds	Continuous
		Action 1.1.3. (*) Require each state agency participating in the Interagency Mitigation Committee to complete or update its risk analysis, hazard identification, and potential risk mitigation projects to reduce agency structures' vulnerability.	• COR3 • PREMB • Agencies belonging to the Interagency Mitigation Committee	According to the available HMGP Funds – (Planning) Non-Disaster Funds EMPG Funds State Funds	Continuous
		Action 1.1.4. (*) Identify specific state critical facility restoration or relocation projects that can be undertaken before a disaster, with funding sources such as US Federal Highway Administration and FEMA paired with local funding or activated after a disaster with FEMA HMGP funding.	• COR3 • PREMB • FEMA	According to the available HMGP Disaster Funds (4339 001 Code Enforcement) Non-Disaster Funds EMPG Funds State Funds PRPB-GIS WEB	Continuous

GOALS	OBJECTIVES	ACTIONS	RESPONSIBLE AND SUPPORT STATE AGENCIES	FUNDING SOURCES	DEVELOPMENT AND IMPLEMENTATION PERIO
		Action 1.1.5. (*) Increase the number of qualified personnel, such as architects, engineers, and planners, within the state government to evaluate and manage programs and projects that impact the hazard mitigation process.	• State Agencies related to project evaluation and approval. Among them: PRPB, OGPe, and DNER.	According to the available HMGP Disaster Funds Disaster Funds – 4339 001 Code Enforcement Project Code Adoption Project State Funds	Continuous
	Objective 1.2. Strengthen the relationship between state and local government and organizations to mitigate natural and non-natural hazards	Action 1.2.6.(*) Establish a system for collecting historical data on events that occurred, which is necessary when preparing the BCA for mitigation projects included in local plans. Share information relevant to vulnerability and hazard analysis in Puerto Rico that is worked on by different sectors directly or indirectly related to the hazard mitigation process to disseminate information and systematically promote the need and benefits of hazard mitigation.	• COR3 • PREMB • PRPB • FEMA • PRDoH (Vivienda)	According to the available HMGP Disaster Funds Disaster Funds – 4339 001 Code Enforcement Project Code Adoption Project State Funds PRPB-GIS WEB CDBG-MIT	Continuous
		Action 1.2.7. (*) Maintain communication and coordination with the Coastal Zone Management Program Office, DNER Water Resources and Climate Change Program, NWS, PRASA, and other relevant agencies to increase safety and guidance to coastal communities to integrate actions identified can be developed to mitigate the effects of climate change. Also, work with communities experiencing the impacts of risks caused by projected climate change.			Continuous

GOALS	OBJECTIVES	ACTIONS	RESPONSIBLE AND SUPPORT STATE AGENCIES	FUNDING SOURCES	DEVELOPMENT AND IMPLEMENTATION PERIO
	Objective 1.3. (*) Strengthen the capacity of Non-Governmental Organizations and citizens in general to mitigate natural and non-natural hazards.	Action 1.3.8. (*) Increase efforts and mechanisms to inform non-governmental organizations and citizens about natural and non-natural hazards, mitigation alternatives, and guides for responses to risks through websites of state agencies and local governments, social networks, workshops or educational campaigns, and the development of alliances with the media - press, radio, and television - to distribute the information, among others that can be identified.	• COR3 • PREMB • PRPB • DNER • PRDoH (Vivienda) • Other State Agencies and Organizations that collect information and perform analysis.	According to the available HMGP Disaster Funds(Planning, 4339-007 Post Maria Beach Assessment) Non-Disaster Funds EMPG Funds NFIP Funds NOA Funds Fish & Wildlife Funds State Funds STATE Agencies Web	Continuous
		Action 1.3.9. (*) Provide information on hazard mitigation measures to professional organizations related to the construction process - planners, architects, surveyors, and engineers, among others - to increase their knowledge in the area, encouraging them to include mitigation measures from the initial stages of the development of public and private plans and projects, and emphasizing the importance of using current building codes applicable in Puerto Rico, among other aspects.	• COR3 • PREMB • PRPB • DNER • PRDoH (Vivienda) • Other State Agencies and Organizations that collect information and perform analysis.	According to the available HMGP Disaster Funds Disaster Funds – (4339 001 Code Enforcement Project 4339 002 Code Adoption Project 4339 005 SMW Regulations) Non-Disaster Funds EMPG Funds USACE Funds NFIP Funds NOA Funds Fish & Wildlife Funds State Funds STATE Agencies Web CDBG-MIT	Continuous
Goal 2 - To achieve the rapid re-establishment of the State in case of disasters	Objective 2.1. - Strengthen the capacity of GAR and PREMA to manage available hazard mitigation programs effectively.	Action 2.1.10. (*) Maintain a communication process with agencies, municipalities, and organizations to know the implementation status of mitigation plans and projects and integrate them into future revisions of the PRSNHMP.	• COR3 • PREMB	According to the available HMGP Funds (Planning Funds and 4339 001) EMPG Funds State Funds State Agencies Web PRPB - GIS WEB	Continuous

GOALS	OBJECTIVES	ACTIONS	RESPONSIBLE AND SUPPORT STATE AGENCIES	FUNDING SOURCES	DEVELOPMENT AND IMPLEMENTATION PERIO
		Action 2.2.11. (*) Promote the participation of the coordinators of the State Inter-Agency Mitigation Committee in available processes, such as public hearings and being an active member of committees and working groups, to analyze, comment, and ensure the consideration of integration of mitigation actions in projects, plans or other initiatives that are proposed and may affect vulnerability to hazards.	• PREMB	According to the available EMPG Funds State Funds	Continuous
	Objective 2.2.- Increase State emergency preparedness, response, and recovery by improving the State's ability to support emergency response and recovery operations.	Action 2.2.12 Promote the importance of maintaining updated vulnerability analyses of agency structures and facilities that are not regularly associated with hazard mitigation processes.	• PRPB • DNER • PREMB • UPR • PRDoH (Vivienda) • Entity or Consultant that work it.	According to the available HMGP Funds(4339 0001) NOA Funds / Fish & Wildlife EMPG Funds UPR Project (4339 007) State Funds CDBG-MIT Funds - Planning	Continuous
	Objective 2.3. - Reduce the degree of vulnerability of critical and essential buildings and vital and critical state infrastructure.	Action 2.3.13 (*) Identify, evaluate, and estimate the vulnerability of critical state facilities to identified hazards, emphasizing flood, hurricane, landslide, and earthquake hazards, to identify mitigation alternatives (e.g., structural improvements or relocation) that reduce or eliminate the vulnerability of these facilities.	• COR3 • PREMB • PRDoH (Vivienda) • State Agencies	According to the available HMGP Funds(4339 0001) EMPG Funds State Funds CDBG-MIT Funds - Planning	Continuous

GOALS	OBJECTIVES	ACTIONS	RESPONSIBLE AND SUPPORT STATE AGENCIES	FUNDING SOURCES	DEVELOPMENT AND IMPLEMENTATION PERIO
		Action 2.3.14 Promote the importance of maintaining updated vulnerability analyses of Puerto Rico's critical infrastructure, which are managed by the following agencies: PRASA, PREPA, DTOP, Telecommunications Bureau.	• COR3 • PREMB • PRDoH (Vivienda) • State Agencies	According to the available HMGP Funds EMPG Funds State Funds CDBG-MIT Funds - Planning	Continuous
		Action 2.3.15 Distribute the analysis results with agencies related to the planning process and mitigation and identify measures to mitigate critical infrastructure vulnerability.	• COR3 • PRDoH (Vivienda)	According to the available HMGP Funds CDBG-MIT Funds - Planning State Funds	Continuous
		Action 2.3.16 Develop an Early Warning System to establish an alarm and notification system for the population of the area to be affected in a dam break or failure.	• PREPA/Dam Safety Officer • PREMB	According to the available HMGP Funds(4339-012 Early Warning System) CDBG-MIT Funds EMPG Funds State Funds	
		Action 2.3.17 Monitor with survey equipment for reduction of operational levels when any potential risk of dam failure is identified.	• PREPA/Dam Safety Officer • PREMB	According to the available HMGP Funds(4339-012) CDBG-MIT Funds EMPG Funds State Funds	
		Action 2.3.18 Establish a 24-hour surveillance plan at the dam facilities or for as long as necessary if a specific risk is identified (e.g., caused by earthquakes).	• PREPA/Dam Safety Officer • PREMB	According to the available HMGP Funds(4339-012 Early Warning System) CDBG-MIT Funds EMPG Funds State Funds	

GOALS	OBJECTIVES	ACTIONS	RESPONSIBLE AND SUPPORT STATE AGENCIES	FUNDING SOURCES	DEVELOPMENT AND IMPLEMENTATION PERIO
	Objective 2.4. - Strengthen critical infrastructure.	Action 2.4.19 Make improvements to obsolete, broken, or non-functioning infrastructure to reduce the amount of water lost annually due to broken pipes and damaged infrastructure.	• PREPA • PREMB • PRDoH (Vivienda) • LOCAL GOVERMENT	According to the available HMGP Funds(4339-012 Early Warning System) CDBG-MIT Funds EMPG Funds State Funds	
Goal 3 - Integrate risk mitigation and sustainable development into the foundation of land use planning initiatives.	Objective 3.1. - Use the land use instruments, rulings, laws, appropriate analysis tools, and preparation exercises available in different agencies, municipalities, or organizations to mitigate the identified dangers.	Action 3.1.20 (*) Work with local government and state agencies related to the planning, evaluation, and approval process of projects to integrate hazard analysis as a requirement in the assessment of projects or developments, both public and private, to prevent them from affecting the vulnerability of the territory to specific hazards. Also, use the land use planning instruments stipulated in the PUT and POT as hazard mitigation mechanisms.	COR3 PREMB PRPB OGPe PRDoH (Vivienda) Local Government (Municipalities)	According to the available HMGP Funds (Planning Funds and 4339 001 and 4339 002) CDBG-MIT Planning EMPG Funds State Funds State Agencies Web PRPB - GIS WEB Municipality Funds	Continuous
		Action 3.1.21. (*) Promote the acquisition of flood insurance in all communities exposed to flooding throughout the Island, from the NFIP coordinated by the PRPB's Flood Valley Administration and promote practices to mitigate flooding in these communities to reduce losses associated with this hazard.	• PREMB • PRPB • PRDoH (Vivienda) • Local Government (Municipalities)	According to the available EMPG Funds NFIP Funds USACE Funds HMGP Funds CDBG-MIT Funds State Funds Municipalities Funds	Continuous

GOALS	OBJECTIVES	ACTIONS	RESPONSIBLE AND SUPPORT STATE AGENCIES	FUNDING SOURCES	DEVELOPMENT AND IMPLEMENTATION PERIO
		Action 3.1.22. (*) Promote the Guidelines for the Mitigation of Hazards and Adaptation to Climate Change provided by the Puerto Rico Land Use Plan (PUT), complying with the PUT provision that indicates that any planning instrument submitted after its effective date must include measures to mitigate and adapt to climate change.	• PREMB • PRPB • PRDoH (Vivienda)	According to the available EMPG Funds NFIP Funds USACE Funds HMGP Funds CDBG-MIT Funds State Funds Municipalities Funds	Continuou
Goal 4 - Preserve, enhance, and restore aspects of the natural environment that are beneficial for risk mitigation.	Objective 4.1 Incorporate mitigation measures to increase the useful life of landfills.	Action 4.1.23 Proper disposal of comingled disaster debris in sanitary landfills.	• DNER • EPA • PRPB • PRDoH (Vivienda) • Local Government (Municipalities) with landfills.	According to the available EPA Funds CDBG-DR Funds CDBG-MIT State Funds Municipalities Funds	
		Action 4.1.24 Source reduction of vegetative and soil debris.	• FEMA • DNER • AGRICULTURE • PRDoH	According to the available EPA Funds FEMA-PPDR (Vegetative) Rural Development Grants State Funds CDBG-MIT Municipalities Funds	
		Action 4.1.25 Reuse and recycling of built environment, vegetative, and other organic material.	• DNER • PRDoH (Vivienda) • EPA • Local Government (Municipalities)	According to the available EPA Funds CDBG-MIT Rural Development Grants State Funds Municipalities Funds	

GOALS	OBJECTIVES	ACTIONS	RESPONSIBLE AND SUPPORT STATE AGENCIES	FUNDING SOURCES	DEVELOPMENT AND IMPLEMENTATION PERIO
		Action 4.1.26 Establish a disaster debris management plan for local governments.	• DNER • PRDoH (Vivienda) • EPA • Local Government (Municipalities) • PREMB	According to the available EPA Funds CDBG-MIT Funds State Funds Municipalities Funds	
	Objective 4.2 Incentivize green infrastructure retrofits on existing developments and new construction.	Action 4.2.27. Address illegal dumping through science to reduce impacts from flooding and landslides in Puerto Rico.	• DNER • EPA • State and Local Government (Municipalities)	According to the available EPA Funds USACE Funds NFIP Funds CDBG Funds State Funds Municipalities Funds	
	Objective 4.3 Encourage the use of renewable energy in new infrastructure developments.	Action 4.3.28. Establish assistance programs to support the implementation of renewable energy/alternative energy microgrids.	• PREPA • EPA • PRDoH (Vivienda) • State and Local Government (Municipalities)	According to the available HMGP Funds CDBG-MIT Funds EPA Funds State Funds Municipalities Funds	
		Action 4.3.29. Workforce projections for the deployment of healthy buildings, energy renewables, energy efficiency, demolition, and debris handling and processing activities.	• PREPA • EPA • PR Labor Department • DDEC • State and Local Government (Municipalities)	According to the available HMGP Funds PPDR Funds CDBG-MIT Funds State Funds Municipalities Funds	

GOALS	OBJECTIVES	ACTIONS	RESPONSIBLE AND SUPPORT STATE AGENCIES	FUNDING SOURCES	DEVELOPMENT AND IMPLEMENTATION PERIO
Goal 5- Create organized and disaster-resistant communities.	Objective 5.1. Develop effective educational programs that focus on increasing the public's knowledge of the hazards and their associated risks.	Action 5.1.30. Capacity building for Municipalities and Community Emergency Response Team (CERT) preparedness to design and implement drills for community evacuation plans after possible release of oil and chemicals after disasters.	• PREMB • OMME • DNER	According to the available EMPG Funds State Funds	Continuous
	Objective 5.2 Increase the general population's knowledge and understanding of the natural hazards/risks that threaten Puerto Rico and the appropriate risk mitigation elements to counteract their effects.	Action 5.2.31. (*) Coordinate educational institutions' efforts to incorporate natural and technological hazard mitigation issues into architecture, engineering, and planning curricula.	• PREMB • COR3 • Academia	According to the available EMPG Funds HMGP Funds (Initiative & Planning) Educational Funds CDBG-MIT Funds	2-3 years after approval of the PRSNHMP.
		Action 5.2.32. (*) Prepare and distribute simple model building plans for single-family homes that incorporate protection measures against high winds, landslides, and earthquakes, and promote the importance of including these home construction measures.	• PREMB • COR3 • PRPB	According to the available EMPG Funds Earthquake Funds HMGp Funds (Initiative & Planning) CDBG Funds State Funds Municipalities Funds	1-2 years after approval of the PRSNHMP.

GOALS	OBJECTIVES	ACTIONS	RESPONSIBLE AND SUPPORT STATE AGENCIES	FUNDING SOURCES	DEVELOPMENT AND IMPLEMENTATION PERIO
	Objective 5.3 Enhance the capacity building at the community level to ensure the efficient management of the water resources.	Action 5.3.33. Orient and encourage the community to obtain property insurance, flood insurance (property and contents), and insurance against other possible disasters.	• PREMB • PRDoH (Vivienda) • Local Government • Non Profit Agencies	According to the available NFIP Funds EMPG Funds HMGP Funds(planning) CDBG-MIT State Funds	
		Action 5.3.34. Establish a local circuit rider program to build technical, managerial, and financial capacity at self-serve community water systems to support the long-term resilience of drinking water service in rural communities.	• DNER • EPA • PRDoH (Vivienda)	According to the available EPA competitive funds CDBG funds CDBG-MIT	1-2 years after approval of the PRSNHMP.
		Action 5.3.35. Create effective water management districts, inter-jurisdictional commissions, compacts, or other approaches to build the resilience of septic systems in communities.	• DNER • EPA • PRDoH (Vivienda)	According to the available EPA Competitive Funds CDBG Funds CDBG-MIT State Funds	1-2 years after approval of the PRSNHMP.
Goal 6 – Reduce uncertainty and distrust in data analysis processes for the development of mitigation plans.	Objective 6.1 - Centralization of the data generated to address information gaps in searching, using, and analyzing data and tools for risk management.	Action 6.1.36. Create databases that specialize in each natural and/or anthropogenic risk to speed up the analysis processes and ensure their quality.	• PREMB • COR3 • PRDoH (Vivienda) • Entity or Consultant that work it.	EMPG Funds CDBG-MIT Funds State Funds	

GOALS	OBJECTIVES	ACTIONS	RESPONSIBLE AND SUPPORT STATE AGENCIES	FUNDING SOURCES	DEVELOPMENT AND IMPLEMENTATION PERIO
		Action 6.1.37. Update the water resources status database to ensure that all available information is correct.	• PREPA • EPA • PRDoH (Vivienda)	According to the available EMPG Funds CDBG-MIT State Funds	
		Action 6.1.38. Create metadata of the data used in the risk analysis to validate its legitimacy and recognize its nature.	• DNER • AGRICULTURE • PRPB • PRDoH (Vivienda)	According to the available EMPG Funds CDBG-MIT State Funds	
		Action 6.1.39. Create new sources of information that consider the effects of the severe seismic activity in late 2019 and early 2020 in the southwestern area of Puerto Rico.	• PREMB • COR3 • PRDoH (Vivienda) • PR Seismic Network	According to the available EMPG Funds Earthquake Funds HMGP Funds CDBG-MIT Funds State Funds	
		Action 6.1.40. Establish a GIS database/mapping layer to inventory formal facility locations (Environmental Regulated Facilities.	• PREMB • PRPB • PR Seismic Network • PRDoH (Vivienda)	According to the available EMPG Funds HMGP Funds(4339-001) CDBG_MIT Funds State Funds	
	Objective 6.2 - Creation and establishment of public policy mechanisms to promote public funds' administrative transparency and management.	Action 6.2.41. Require that all organizations and contractors in charge of generating information under the geographic information system must contain metadata (and raw data) with specific fields.	• PREMB • PRPB • PRDoH (Vivienda) • Private Contractor	According to the available EMPG Funds HMGP Funds(4339-001) CDBG-MIT Funds	
		Action 6.2.42. Identify funds and establish the necessary mechanisms to guarantee continuity in research and determine changes in the sequences of natural events' impacts.	• PREMA • COR3 • PRDoH (Vivienda)	According to the available EMPG Funds CDBG-MIT Funds HMGP Funds(Planning) State Funds	

(*) These actions were partially or not completed in the 2016 PRSNHMP. The Steering Committee determined to incorporate these into this Update.

The 2021 PRSNHMP incorporate the CDBG-MIT Action Plan to align between this two Island-wide efforts to increase mitigation in Puerto Rico and their corresponding guiding documents. Although this narrative present a holisitic scenario, does not represent a commitment to funding from PRDOH/CDBG-MIT.

The PRDOH received approval of the Community Development Block Grant – Mitigation (CDBG-MIT) Action Plan last April 2021. As part of the development of the Action Plan, PRDOH conducted a Risk Assessment[63] and Mitigation Needs Assessment, in close coordination with State, Federal, Non-governmental, Municipal, Citizens and other important stakeholders. The CDBG-MIT Action Plan includes nine (9) programs to allow communities in Puerto Rico to meet the identified needs and mitigate future risks.

The Goals, Objectives and Actions itemized in **Table 6-3** of the State Natural Hazard Mitigation Plan (PRSNHMP) were reviewed and analyzed regarding alignment between the listed actions and the approved programs of the CDBG-MIT Action Plan. Because the Action Plan was approved in April 2021 and the funds will be expended for a term of 12 years, this presents a unique opportunity for state agencies in charge of mitigation implementation to coordinate efforts, share resources, have continued communication and develop strategies on how to best implement the mitigation programs and activities set forth in each agency's respective plans.

The Risk and Asset Data Collection Program[64] (RAD Collection) is a Planning Program designed to generate layers of risk, hazard and resource information intended to supplement the cadastral and land use information generated under the Community Development Block Grant Disaster Recovery (CDBG-DR) planning program launched to develop and enhance the spatial data infrastructure of Puerto Rico, titled GeoFrame Program. In addition, the RAD Collection program will increase the ability of citizens, industry, mayors, governors and other leaders to make data-driven decisions based on a comprehensive and up-to-date knowledge of risks, hazards and resources in Puerto Rico in order to better understand the evolving potential of disaster risk. This program seeks to fund extensive data aggregation and production, expansion of the GeoFrame Program Database, development and maintenance of critical data tools, and meaningful stakeholder outreach and engagement. Given this context, the RAD Collection Program has significant alignment with the following general goal and objectives, as well as various specific actions outlined in the PRSNHMP **Table 6-3:**

- Goal 6
- Objective 6.1

[63] See Puerto Rico Mitigation Action Plan CDBG-MIT (April 2021), pages 74-102 or for more detailed information on the Risk Analysis, refer to the Appendix A: Puerto Rico's Hazard Risk Assessment located at: https://cdbg-dr.pr.gov/en/download/cdbg-mit-action-plan-effective-on-april-19th-2021/

[64] See Puerto Rico Mitigation Action Plan CDBG-MIT (April 2021), pages 293-299.

- Objective 6.2
- Action 1.2.6.(*)
- Action 2.2.12
- Action 2.3.14
- Action 2.3.15
- Action 6.1.36
- Action 6.1.37
- Action 6.1.38
- Action 6.1.39
- Action 6.1.40
- Action 6.2.41
- Action 6.2.42

As this program's distribution method is direct administration, the RAD Collection Program will be administered directly by PRDOH. Data Sharing Agreements, Subrecipient Agreements, Interagency Agreements, or Memorandums of Understanding may be utilized to execute defined portions of this program. In those cases, program partners will be selected directly by PRDOH and must be one of the following: Units of general local government, municipalities (including departments and divisions), Government of Puerto Rico Agencies, Authorities, Trusts and Boards, Community-Based Development Organizations and private non-profits, and Non-governmental organization (501(c)(3)) or Not for Profit Entities.

Although this is not a commitment to funding, this program presents the opportunity to potentially provide support in the implementation of the aforementioned PRSNHMP Actions described in **Table 6-3.**

There is significant alignment between various actions outlined in the PRSNHMP with the Mitigation and Adaptation Policy Support (MAPS) Program. Risk mitigation can, and should, consider non-structural measures such as policies, regulations, and education as effective tools to achieve true resilience. The MAPS Program was designed as a result of the need for an objective and sweeping review of Puerto Rico's state and local policy and process, building code, land use plans, and zoning in relation to the updated Risk Assessment completed by PRDOH and in consideration of modernized mitigation solutions, green infrastructure, and benefits gained through the utilization and protection of cultural and natural resources. The program will enhance local jurisdictional and community ability to prepare and plan for, avoid, absorb, recover from, and more successfully adapt to potential risk from hazardous events.

[65] See Puerto Rico Mitigation Action Plan CDBG-MIT (April 2021), Pages 300-306.

The Program will develop a policy toolbox that includes best practices, model ordinances, funding models, and other regulatory documents that can be adapted to local circumstances. Said Program is aligned with the following PRSNHMP's Objective and Actions:

- Objective 1.1
- Action 3.1.20.(*)
- Action 3.1.22.(*

Although not completely aligned, the MAPS Program can indirectly support the implementation of the following Action:

- Action 3.1.31.(*)
- Action 5.3.33

In order to promote regional cooperation and coordination, which was identified in the CDBG-MIT Action Plan Mitigation Needs Assessment[66] as an effective means towards building the capacity needed to facilitate the implementation of mitigative activities, PRDOH developed the Planning and Capacity Building (PCB) Program. This planning program aims to create, strengthen, and formalize regional consortia and to support the completion of mitigation plans. Through the PCB Program, PRDOH will work directly with applicant entities to provide increased development capacity on a multi-jurisdictional basis. The program will offer technical assistance by partnering with federal agencies, national associations, and other organizations to provide educational and capacity building support services. Regarding the PRSNHMP, the PCB Program has the potential to support the following actions:

- Action 1.3.9.(*)
- Action 2.2.12
- Action 2.3.14
- Action 4.1.23
- Action 4.1.26
- Action 4.1.24
- Action 4.1.25
- Action 4.1.26
- Action 5.3.35

The CDBG-MIT Infrastructure Mitigation Program (IMP) addresses mitigation needs by identifying risks and developing solutions that create resilient infrastructure in Puerto Rico. It seeks to mitigate identified risk to critical lifeline infrastructure assets (e.g., energy, transportation, communication, water and

[66] See Puerto Rico Mitigation Action Plan CDBG-MIT (April 2021), pages 144-197.

wastewater); and sets aside $1 billion for HMGP Matching funds and another $1B to improve health-care facilities. The Infrastructure Program has the potential to support the following actions outlined in the PRSNHMP:

- Action 2.4.19
- Objective 1.1
- Action 3.1.20.(*)
- Action 3.1.22.(*)

Although not completely aligned, the MAPS Program can indirectly support the implementation of the following Action:

- Action 3.1.31.(*)
- Action 5.3.33

In order to promote regional cooperation and coordination, which was identified in the CDBG-MIT Action Plan Mitigation Needs Assessment as an effective means towards building the capacity needed to facilitate the implementation of mitigative activities, PRDOH developed the Planning and Capacity Building (PCB) Program. This planning program aims to create, strengthen, and formalize regional consortia and to support the completion of mitigation plans. Through the PCB Program, PRDOH will work directly with applicant entities to provide increased development capacity on a multi-jurisdictional basis. The program will offer technical assistance by partnering with federal agencies, national associations, and other organizations to provide educational and capacity building support services. Regarding the PRSNHMP, the PCB Program has the potential to support the following actions:

- Action 1.3.9.(*)
- Action 2.2.12
- Action 2.3.14
- Action 4.1.23
- Action 4.1.26
- Action 4.1.24
- Action 4.1.25
- Action 4.1.26
- Action 5.3.35

The CDBG-MIT Infrastructure Mitigation Program (IMP) addresses mitigation needs by identifying risks and developing solutions that create resilient infrastructure in Puerto Rico. It seeks to mitigate identified risk to critical lifeline infrastructure assets (e.g., energy, transportation, communication, water and wastewater); and sets aside $1 billion for HMGP Matching funds and another $1B to improve health care facilities. The Infrastructure Program has the potential to support the following actions outlined in the PRSNHMP:

- Action 2.4.19

While it could potentially fund the alternatives that result from the following action:

- Action 2.3.13(*)

As established in the CDBG-MIT Risk Assessment, Energy and Water and Wastewater lifeline sectors are central to the stability of Puerto Rican communities. PRDOH developed the Community Energy and Water Resilience Installations (CEWRI) Program, which contains three subprograms. The first subprogram, Home Energy and Water Resilience Improvements seeks to support the financing of resilient design and improvements that incorporate modern technology for life-sustaining purposes during off-grid events by covering up to $30,000 in equipment and installation costs for homes. The second is the Community Installations subprogram, which will cover a maximum of $2 million for community energy production and storage facilities, water harvesting systems, and sanitary sewer system solutions. The third subprogram is the Incentive Program, which is available to residents and small to mid-sized businesses. This subprogram will cover the costs of installing renewable energy systems, including storage, which will provide electricity to the property in times of grid failure, up to $20,000 per household and $1.5 million for small and medium-sized businesses. The CEWRI Program aligns closely with the Objective 4.3 that seeks to encourage the use of renewable energy in new infrastructure developments, as well as the following actions:

- Action 4.3.28
- Action 5.3.34
- Action 5.3.35

Additional alignment was found with other efforts undertaken as part of the CDBG-MIT Action Plan development process and the actions within the PRSNHMP. Once the Risk Analysis was completed, PRDOH worked closely with its partners to ensure the risk and hazard data generated, as well as the critical lifeline information utilized, were publicly available through easy-to-use online dashboards. Additional to the online public posting, the Risk and Hazard Dashboard and the Critical Lifeline Asset – Regional and Municipal Summaries Dashboard[67] were explained in detail during the CDBG-MIT Public Hearings which were broadcast on public television, social media, and radio simultaneously. These recordings now live within the website and social media platforms such as YouTube. There is potential to improve on the Dashboard tools in the future, especially with input from valuable mitigation stakeholders. The activities conducted are in line with the following action:

[67] See Dashboards here: https://cdbg-dr.pr.gov/PRhazardandrisksIFRM

- Action 1.3.8. (*): which seeks to increase efforts and mechanisms to inform non-governmental organizations and citizens about natural and non-natural hazards, mitigation alternatives, and guides for responses to risks through websites of state agencies and local governments, social networks, workshops or educational campaigns, and the development of alliances with the media - press, radio, and television - to distribute the information, among others that can be identified.

In terms of a flooding hazard associated to a dam failure and stated in Chapter 4, the GPR established legislation to create the Puerto Rico Dam Safety State Program under Law 133 with establishes some actions and goals for mitigates to reduced long term vulnerabilities. Carry out detailed and complete periodic inspections every three (3) years, setting an order of priorities to determine the safety conditions of the dams and reservoirs and to make assessments about the hydraulic and hydrologic capacity, the structural stability, and the sufficiency of the components and structures to minimize the risks for life and property and to make recommendations to the owners of the dams and reservoirs about the measures that should be taken to remedy any dangerous situation. Other goal is review and approve the plans and specifications to build, extend, modify, or remove any dam or reservoir if plans and specifications should be accompanied by studies, investigations, analysis, and designs facts that would allow the Unit to determine its safety. Other important aspect is carrying periodical inspections during the construction, extensions, abandonment, or removal of a dam to ensure compliance with the plans and specifications it had approved. Issue notifications, when necessary, to require the owner or person in charge of the dams or reservoir to correct defects or unsafe conditions, to carry out the necessary work of conservation, to review the operational processes or to take any other necessary action.

It is important to approve and issue the corresponding certification of approval and permission after completing the construction, extension, or modification of a dam or reservoir, if it has complied with the plans and specifications for its safety. Also organize, Verify and Approve the Emergency Action Plans for the Dams in the program. Prepare and maintain a Risk Based Inventory on the State Dams. Require and propose interim risk reduction measures in order to reduce the operation of dams that do not meet the societal risk standards. Risk as defined in FEMA document 1025 Federal Guidelines for Federal Dam Safety Risk Management and Engage in Hydrological and Hydraulic Studies to verify the Spillway Capacity of dams. (Example Island Wide PMP). Organize and provide Dam Safety Training to owners. Organize and propose Dam Break exercises to owners.

If the annualized failure probability and annualized life loss increase, there is justification and urgency to act either interim or on the long term. In the Puerto Rico FN plot chart, the dam with the highest annualized failure probability and annualized life loss is Patillas Dam. Knowing this PREPA did the following risk reduction measures:

- Reduce the reservoir operational level on Patillas Dam from 222 ft to 210 ft msl.
- Begin the process of preparing plans and specifications for the seismic retrofit of the Patillas Dam.
- Submitted a Project Request for $558,000,000 under FEMA 404 program for the funds to implement the seismic retrofit project of Patillas Dam, we are waiting for a positive response.

As seen in **Figure 6-1**, dam which is under the FN plot is Guajataca. This dam is for irrigation and provides water for potable purposes for 300,000 persons. This dam was directly affected by Hurricane Maria, the hydraulic load on the spillway delivered by the hurricane precipitations caused the structure to collapse. The damage was stabilized in an interim.

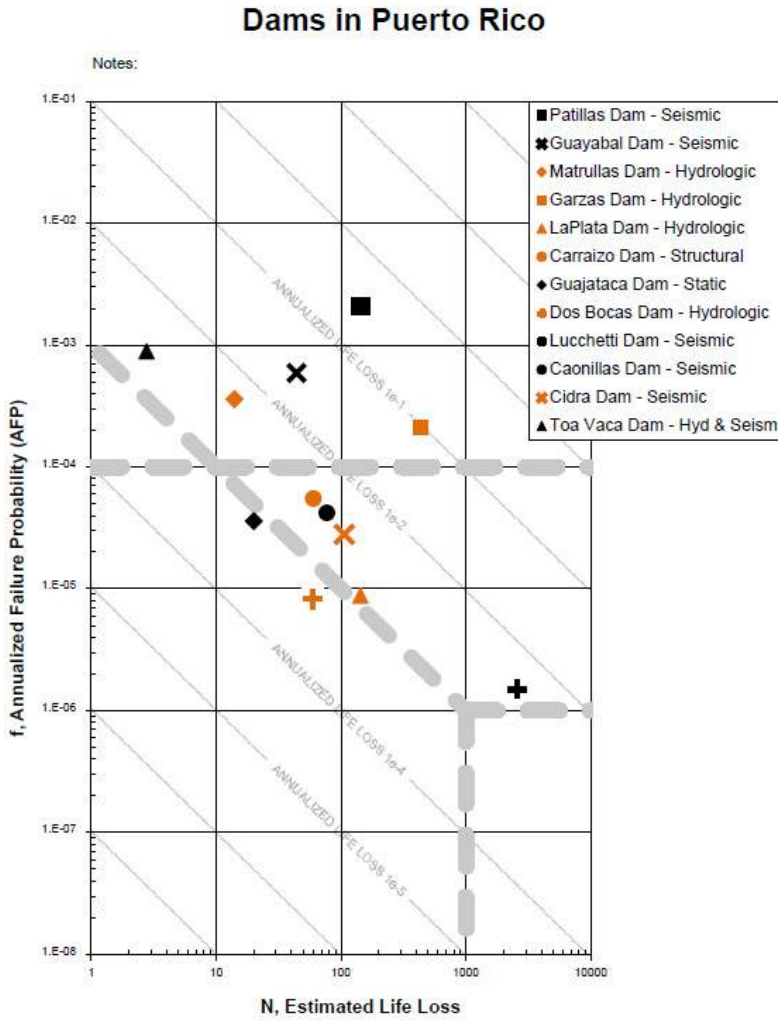

Figure 6-1:Puerto Rico Dams fN Chart.

6.3. Changes in Development

To reflect changes in future development, the 2021 PRSNHMP recognize the Four-Year Investment Program (PICA) document, which is prepared in compliance with the provisions of the Organic Act of the Puerto Rico Planning Board, Act Number 75 of June 24, 1975, as amended. The PICA integrates the investments to be made

by the Government of Puerto Rico through its various agencies and responds to the need to efficiently allocate and distribute funds by directing them to the highest priority areas. It constitutes a short- and medium-term planning instrument aligned with the goals of the Government of Puerto Rico and contributes to a sound and effective public administration.[68]

The state uses as a basis for demonstrating or analyzing changes in development with the Plan (PICA). Four-year Investment Plan as it is defined. It suggests that the Government of Puerto Rico has envisioned a capital improvement investment (CAPEX) of between $4.5 billion and $8 billion annually to achieve an economic growth scenario. It has been estimated that a capital improvement investment of between $12 billion and $20 billion dollars at the end of the ten-year Fiscal Plan will have promoted a growth of between 1.2% and 2% in the Gross Domestic Product.[69]

PICA proposes in its section on potential projects a fiscal planning and structuring exercise, it is imperative that Puerto Rico focus its efforts on two main issues:

- That investment in infrastructure can solve some of the most pressing needs while stimulating in the short term the growth of the Gross Domestic Product and in the long term will sustain economic development.
- That it will be feasible to increase the positive impact of infrastructure spending through:
- Eliminating or delaying non-priority projects in order to concentrate public resources on the highest impact projects.
- Improve efficiency in infrastructure maintenance by incorporating providers dedicated to preventive maintenance, greater efficiency in achieving CAPEX (stands for capital expenditure) through centralized and expedited permitting solutions.
- Increase the use of available federal funds and catalyze the use of private funds in enhanced PPPs ("P3s stands for Public, Private, Partnerships").[70]

Additionally, the CDBG-MIT establish that Puerto Rico's current economic situation is a culmination of decisions and actions that have taken place over decades. Previous federal interventions to help Puerto Rico were designed to provide rapid and sweeping solutions for pressing problems, but these solutions ultimately contributed to economic vulnerability and dependency, not resiliency or sustainability.

[68] http://jp.pr.gov/Econom%C3%ADa/Programa-de-Inversiones-a-Cuatro-A%C3%B1os-PICA
[69] Potential Projects for a Four-Year Investment Program (FIP) 2018-2019 to 2021-2022, Pag.10
[70] Potential Projects for a Four-Year Investment Program (FIP) 2018-2019 to 2021-2022, Pag.10

In this direction, CDBG-MIT presents an econocmic conditions scenario based in demographics, gender and age factors, median household Income, Poverty Levels and Employment and Economic Conditions, in which the Current Future and Economic Opportunity criteria is closing relate to the development of resiliency atmosphere capable to faced sotrm and natural disasters from the hazards analyzed in this Plan.[71]

6.4. Projects Related to the Mitigation Process.

As seen in the previous Section and considering the events and consequences of Hurricane Maria's passage on Puerto Rico, the projects were given a new priority: High, Medium, and Low. Besides, several projects were included to address situations that arose after the natural event.

Puerto Rico has benefited from internal and external resources that have facilitated the development and implementation of mitigation initiatives. Institutions related to the educational and urban development sectors, among others, have collaborated with the federal and State governments to promote and facilitate tools that contribute to making Puerto Rico a more hazard-resistant place. State and federal agencies or entities, such as PREMB, DNER, PRPB, UPR, Puerto Rico Seismic Network, FEMA, USACE, USGS, NOAA, National Resources Conservation Service, among others, have contributed with multiple technical and financial resources. During the 2016 PRSNHMP or in-process and support the State and local mitigation capacity; and the goals, objectives, and actions established to mitigate the identified hazards.

In this direction, in March 2019, the SHMO issued Amendment No. 1 to the HMGP announcing the NOFA to eligible applicants: State and local government entities; as well as private non-profit organizations. The implementation period started with the application period through Letters of Intent (LOIs) using an online platform. This period ended in August 2019.

Prioritization of funds was conducted per 44 CFR, §206.433(b), where the GPR established priorities for the selection of mitigation projects to receive HMGP funds. This process fell to the SHMO, where, per 44 CFR, §206.435(b), they established that the Municipalities Sector was ranked fifth, preceded by Water/Wastewarter, Power, Communications/IT, and Health and Social Services. The initial allocation for municipalities was $299,229,500.00 in total. However, these priorities are reviewed periodically depending on the work in progress and funds available at the time.

[71] CDBG-MIT Action Plan, pp. 198-204

The application process involved six (6) steps: First, COR3 notified potential sub applicants through the NOFA; second, the sub applicant submitted the O-LOI through the http://bpm.cor3.pr platform; third, COR3's technical mitigation team reviewed and selected proposals based on the established priorities; fourth, COR3 notified sub applicants of the selection of proposals; fifth, COR3 submitted applications to FEMA; and sixth, FEMA reviews and issues final determination (or requests additional information, referred to as Request for Information) on the applications.

At present, sixty-five municipalities (65) submitted LOIs (512 projects) for a total of $335,077,892.63. These projects are currently in steps 4 through 6. Appendix 6-2 shows the description of the projects submitted for the 404 funds and under evaluation by FEMA HMGP. It is pertinent to clarify that the information contained herein responds to project proposals submitted and at the time of this update they are under review by FEMA, therefore they are not considered as approved prior to the final determination by said federal entity.

Although no information has been obtained on the benefits related to the development of these initiatives, the following can be pointed out as important mitigation benefits:

- Increased knowledge of government sectors, academics, and citizens in general about hazards and mitigation options.
- Strengthening of state and local capacity to evaluate development processes that may affect the vulnerability of the territory.
- Universities and organizations continue to conduct studies and document scientific findings on hazards, environment, and mitigation, which are used to define public policy, inform the public, identify necessary projects and request funds for more detailed projects or analyses, among others.
- State and local governments continue to prepare or update land management and hazard mitigation and response plans to address social, physical, and economic changes that occur over time.

CHAPTER VII

REVIEWING, MONITORING AND IMPLEMENTATION

Courtesy by FEMA

7.1 PRSNHMP Monitoring Methodology and Schedule.

The 2021 PRSNHMP's periodic implementation progress includes stages of updating and maintenance. For the PRSNHMP to be more effective in reducing the risks imposed by natural hazards, it must be tempered by the changes in population, economy, and land use, among others that affect the country. It is necessary to maintain an update on the potential impacts of natural hazards to adjust the strategies and priorities established in the Plan and how it is projected into the future, in the short and medium term. Next, the process to be followed to maintain the Plan and follow up on the proposed mitigation activities is discussed.

The monitoring schedule for 2021 PRSNHMP has, for the most part, maintained the procedures outlined in 2016 PRSNHMP. Some changes have been incorporated in the organization and frequency of the monitoring tasks of the mitigation activities. It takes into consideration the experience in the implementation of the activities and mitigation strategies presented in the 2016 PRSNHMP, the recommendations of the "State Mitigation Plan Review Guide" of FEMA effective March 6, 2016, and the increase from three (3) to five (5) years in the period of validity of PRSNHMP.

Activities related to monitoring, evaluating, and updating the Plan will continue to be carried out by PREMB's Mitigation Division, coordinating with COR3 and the Mitigation Committee members. GAR will also follow up on the validity and manage the financing of the local mitigation plans. COR3 created a central archive on its Transparency Portal, where current copies of local mitigation plans are maintained in electronic format (https://www.recovery.pr/es/document-library). This allows for adequate monitoring of local officials' plans and centralizes the custody of the State's official documents.

PREMB's Mitigation Division is the central axis that coordinates mitigation efforts and has the organizational mechanisms to maintain effective communication with government agencies (State and federal) and municipalities. As part of its tasks, the Mitigation Division will provide periodic follow-up to the implementation of the PRSNHMP. As described in Chapter 1, the Interagency Committee for Natural and Technological Hazard Mitigation holds regular meetings to address mitigation and emergency management issues.

This Committee has legal authority since it was officially created by the Governor's Executive Order and has the participation of multiple government agencies and private entities, which have direct or indirect responsibility in managing emergencies and implementing projects and mitigation activities.

As a follow-up a mechanism in the implementation phases of the PRSNHMP proposes that this be a fixed topic in the periodic meetings held by the members of the Mitigation Committee.

To achieve effective monitoring of the PRSNHMP an organization has been defined to coordinate PREMB's Mitigation Division and incorporate the frequent input of the Interagency Committee for Natural and Technological Hazard Mitigation and the Emergency Management Committee mainly if an emergency or disaster event occurs during the Plan period. Also, PREMB's Mitigation Division will maintain close coordination and communication with COR3 and FEMA. The coordinated effort of the components described above will serve as a Planning, Evaluation, and Monitoring Committee for the PRSNHMP.

As required by law, once the PRSNHMP update is completed, it is submitted for evaluation and approval by FEMA. Upon obtaining FEMA approval, the State Government formally adopted the Plan, and the implementation process begins. It is established that, within three (3) months of the completion of the approval and adoption process, PREMB's Mitigation Division will formally structure the tasks of the Planning, Evaluation, and Monitoring Committee. It is recommended that the Mitigation Division assign a fixed resource or appointment whose primary responsibility is to coordinate the implementation of the activities of the PRSNHMP.

With support from COR3, the Mitigation Division will be responsible for providing the Governor with an Annual Progress Report on the implementation of the PRSNHMP. This report will be submitted by April 30 of each year, as required by the Governor's Executive Order adopting the PRSNHMP revision. The report will discuss the progress of the PRSNHMP, emphasizing the status of compliance with the Mitigation Strategy (goals, objectives, and mitigation activities). Besides, amendments and resources needed for compliance with the Mitigation Strategy, among other aspects, will be discussed. **Appendix 7-1**, State Natural Hazard Mitigation Plan Progress Report (Monitoring Sheet Number 1), presents a standard format that includes the annual report's essential elements.

The proposed monitoring system to provide an ongoing review of the progress of the PRSNHMP's mitigation strategies will consist of the following major components:

- Effectiveness of the planning process.
- Effectiveness of the mitigation measures.
- Effectiveness of the implementation of Local Mitigation Plans.

- Significant changes in land-use patterns and changes in the Island's socioeconomic conditions, such as emigration patterns and redistribution of communities' location.
- Evaluation of the impact of a new natural disaster, if any.
- Keep the public informed and encourage their participation.

7.1.1. Evaluation of the Effectiveness of the Planning Process.

The evaluation of planning process provides an opportunity to verify how the activities have been integrated into the administrative functions of PREMB and the agencies in charge of implementing them. This review will result in the identification of procedural areas that need to be modified. The areas to be considered in evaluating the effectiveness of the planning process are described below.

Evaluation of the Planning Committee Components.

The Planning, Evaluation, and Monitoring Committee will assess the need to incorporate new members to your team, whose experience and expertise will help effectively monitor the Plan's implementation. These new members can be citizens, and members of professional organizations or academic institutions, among others identified, as necessary. Besides, the Committee will evaluate and take into consideration the processes it will use (memoranda of understanding, interagency agreements, progress reports, distribution of minutes, others) to integrate and inform agencies, organizations, private sector, and the public in general about the processes, activities, and projects established to mitigate and reduce life and property losses.

The Committee will also evaluate alternatives on the financial, technical, and human resources needed to implement the mitigation projects. **Appendix 7-2**, Evaluation Report: Planning, Evaluation, and Monitoring Committee (Monitoring Sheet Number 2), presents guiding questions to evaluate the composition and tasks of the Committee.

Planning Process Evaluation.

At this stage of the evaluation, the Planning, Evaluation, and Monitoring Committee will reflect on the planning process undertaken to develop the PRSNHMP review. The following questions will serve as a guide for this evaluation:

What part of the planning process would be different based on the reality and present knowledge?
Are the roles of the Planning, Evaluation, and Monitoring Committee components clear and well-defined?

- Are the processes to collect new data and information to help evaluate and monitor mitigation activities and projects and update the 2021 PRSNHMP?
- Have the data and information collected and relevant to the municipalities, agencies, or organizations that are developing and implementing the projects been distributed?
- Are there more efficient methods of compiling the data and information and keeping the database up to date?
- Is the process of collecting data for the review and update of the PRSNHMP consistent with the timeline and goals set?

Coordination with Other Agencies.

This evaluation component requires the Planning, Evaluation, and Monitoring Committee to assess the coordination elements used to monitor agencies' participation in mitigation activities, based on how responsive the agencies to meetings, progress reports, and information requests, among others. The following questions will serve as a guide for this evaluation:

- How effective is the coordination with agencies? Are they given sufficient notice for meetings? Is agency participation active?
- Is sufficient time provided for them to submit their progress reports?
- Do minutes, memoranda of understanding, or agreements made between agencies need to be reviewed due to changes in funding, priorities, personnel, or economic/political events, among others?

Monitoring Progress of Mitigation Measures

The ongoing monitoring process of the PRSNHMP must take into consideration multiple elements to ensure effectiveness and compliance. Therefore, in addition to monitoring the planning processes related to the PRSNHMP, it is crucial to measure the success of the hazard mitigation actions proposed in the mitigation strategies. For this purpose, the agencies, and entities responsible for implementing the mitigation measures will be required to submit a Progress Report to the Planning, Evaluation, and Monitoring Committee. The Committee will receive these reports to establish the actions to be taken. The evaluation of these reports will be used to produce the PRSNHMP Annual Progress Report and will be part of the information discussed at the annual meeting.

The Planning, Evaluation, and Monitoring Committee will decide which agencies or entities will submit the Progress Report, according to its relevance to the 2021 PRSNHMP and the frequency with which it is submitted. The delivery of these reports is indispensable for the Committee to carry out its continuous evaluation and subsequent updating of the Plan. The information should contain at least the following elements:

- The mitigation objectives and the activities carried out to comply with them.
- Identify the lead agency and support agencies responsible for the implementation of the mitigation activities or projects.
- The time that the project or activity will take to develop and implement; broken down into stages.
- Description of the public and private resources needed to implement the project (funds, human resources, and technical assistance, others) and their status regarding whether they are available or need to be adjusted to obtain them.
- List of permits and approvals needed to implement the activity or project.
- Details of the progress of the activity or project to be undertaken.

In addition to the agencies, municipalities that receive state and federal funds to implement their mitigation activities and projects will submit to PREMB a Progress Report that includes the same information requested from the agencies.

Evaluating the Effectiveness of Mitigation Measures.

Criteria such as project scheduling and planning, availability, and use of the project budget, and agency collaboration in project development will be considered in evaluating the effectiveness of mitigation measures. To facilitate this task, a corresponding evaluation guidance format is provided in Appendix 7-3, Project Outcome Evaluation (Monitoring Sheet Number 3). This evaluation should have the following elements:

- Evaluate Results Achieved of PRSNHMP Goals and Objectives: This part of the evaluation seeks to identify whether the mitigation measures/projects' results have been as expected and whether they meet the goals and objectives of the PRSNHMP. The effects may be unintended for two (2) reasons; the first is that the project or activity's benefits have exceeded expectations. The second is that the project or activity did not meet the protection and mitigation expectations. Some unexpected results can be measured by environmental, social, and economic impact. Regarding the municipal mitigation projects that will be evaluated, they will not increase the vulnerability to nearby territories' natural hazards.
- Evaluate the Cost-Effectiveness of Projects: This part of the evaluation is intended to measure whether the project reduced potential losses. FEMA defines cost-effectiveness as those projects whose long-term benefits exceed the costs of carrying out the project. Determining the cost-effectiveness of the most successful activities or projects would require a natural disaster to occur. In the absence of a natural disaster event, the losses avoided due to the mitigation measures implemented can be estimated in the structural mitigation projects.

- Some examples of structural projects are protection improvements or structural strengthening ("retrofit") and acquisition, demolition, and relocation of vulnerable structures. FEMA has a database available of repetitive losses for flood hazard; with this database, we estimate the losses avoided due to the implementation of flood control projects. This data's periodic monitoring allows us to have an objective count of the losses attributed to flood events.
- Soft projects refer to educational, regulatory, and do not involve any construction or demolition. They are not being classified as light implies that they are less effective in mitigating natural disasters. For these projects, it is more challenging to evaluate their cost-effectiveness. An example of these projects is the prohibition or restriction of development in areas classified as "Very High" or "High" vulnerability to a specific natural hazard.
- If the cost-effectiveness of a mitigation project was determined through a cost-benefit analysis, the Planning, Evaluation, and Monitoring Committee should review the study to determine whether the costs and benefits were as estimated or whether the section on unanticipated costs and services has changed. The purpose of reviewing the cost-benefit analysis is to recalculate what losses have been reduced if the natural disaster did occur. If possible, some processes developed for risk assessment can be repeated to determine whether the project reduced potential losses. The HAZUS system used to create the initial loss estimates can be rerun using the recent disaster results (applies to mitigation projects implemented before the disaster occurred). Other methods, such as surveys, are required to evaluate soft projects' effectiveness that does not have a cost-benefit analysis, such as educational campaigns.
- Documenting Activities and Projects Whose Implementation Has Been Slow or Failed to Be Implemented: Once the implemented and unimplemented actions and their results have been identified, the Planning, Evaluation, and Monitoring Committee will document the reasons why the project was or was not implemented. It is essential to discuss why some mitigation activities and projects are behind schedule, were not completed, or never started. Some projects will need to be modified or removed from the priority list if they have faced problems that cannot be remedied. For example, projects that rely on voluntary relocation, whether residential or commercial.
- If the mitigation activity or project was not successful, it is essential to identify the actions developed to modify or replace them. If a project was partially implemented, the reasons why it was not completed should be investigated and documented (e.g., exceeded the budget). The fiscal situation of the government may be one of the relevant reasons.

Understanding the factors that contribute to a project's success, activity, program, or policy is particularly important for replication. The following aspects should be considered when conducting the evaluation:

- The availability of human, technical, and financial resources, among others.
- The political or public support or rejection of mitigation action.
- The priority of the project within the other responsibilities and work program of the designated agency or entity.
- The time available and needed to implement the actions.

The **Appendix 7-3** Project Outcome Evaluation (Monitoring Sheet Number 3), can be used to complete this task.

Evaluation of the Implementation of Local Mitigation Plans.

The development and implementation of Local Mitigation Plans are a fundamental part of the monitoring and evaluation process of implementing the PRSNHMP. Unlike PRSNHMP 2016, this activity will be centralized in the COR3 Office in coordination with PREMB's Mitigation Division. Both offices' evaluation activities should focus on the Plans' analysis and findings; this information will be part of the PRSNHMP's Chapter: Local Mitigation and Coordination Capacity in its next review. This section of the PRSNHMP will provide an integrated analysis of all approved municipal mitigation plans for the plan review's date.

- The analysis area categorizes the following fundamental issues:
- Goals and objectives established in the Local Hazard Mitigation Plans.
- Each municipality identifies hazards.
- Each municipality identifies potential hazard losses.
- Mitigation projects and activities proposed by each municipality.

The priority of the municipalities to meet the identified needs.

With the support of COR3, PREMB will have the responsibility to follow up on the implementation of mitigation activities of the municipalities to which resources are assigned, taking into consideration the following elements:

- Relationship of the municipal mitigation activities or projects with the goals, objectives, and mitigation strategies of the 2021 PRSNHMP.

- Status of the activities or projects that are under development.
- Provision of adequate technical assistance and training,
- Review of the priorities assigned to the municipalities according to changes in resources or disaster events.
- Itinerary for reviewing and updating municipal plans (5-year periods are fulfilled on different dates).
- Changes in local administration due to political changes or budgetary situations.

7.1.2. Evaluation of the Impact of a New Natural Disaster.

After a natural disaster, public pressure is unleashed on the municipal and State government to rebuild as soon as possible. Generally, communities want reconstruction to be quick, and like those that existed before the disaster occurred. However, the municipal and State government and organizations need to consider the best reconstruction process, as the community or infrastructure must be rebuilt to be resistant to other natural disasters. If a natural disaster occurs, the schedule of mitigation activities and projects will likely be affected. In the case of a new disaster, the Planning, Evaluation, and Monitoring Committee's tasks will be recommended below.

Reassessing the Priority List of Hazard Mitigation and Mitigation Projects.

Upon a natural disaster, the Planning, Evaluation, and Monitoring Committee will meet and evaluate the Priority List of Natural Hazard Mitigation, part of Chapter 3. The Committee will have a high priority to identify potential mitigation projects in a post-disaster scenario. This task of re-evaluating the list will depend on the severity of the recent disaster. It is essential to verify whether this severely hitting natural hazard was a high or low priority.

Reassessing Vulnerability Analysis.

Chapter 3 presents an analysis and estimate of the damage caused by natural hazards' intensity. The Planning, Evaluation, and Monitoring Committee will evaluate whether the Plan's information was consistent with the passage of the recent natural hazard event. It may be necessary to collect additional data related to the event and incorporate it into the vulnerability analysis. Appendix 7-4 Monitoring and Evaluation of Natural Hazards (Monitoring Sheet Number 4), shows the essential areas that should be considered in reviewing the natural hazard inventory.

Assessing the Effectiveness of Implemented Projects.

The passage of a disaster is the best opportunity to evaluate the performance of the implemented mitigation projects. The Planning, Evaluation, and Monitoring Committee should collect data related to the natural disaster to incorporate it into the update of the PRSNHMP eventually. It is recommended that tables be prepared to collect information on estimates of losses avoided by the hazard compared to a previous similar event, families served after the disaster compared to the last disaster, and damage to agriculture and infrastructure, among other variables. This information will compare the costs incurred to address a disaster before implementing mitigation projects and the expenses incurred to manage the disaster after implementing mitigation projects and activities. The following is an example of the tables that can be developed to collect post-disaster information.

Table 7-1: Example of Natural Disaster-Related Losses.

Variables	2018	2022	% of Change
Number of families evicted and accommodated in shelters.			
Number of families that received assistance from the PR Family Department.			
Number of families assisted by the Red Cross.			
Money awarded by FEMA for housing assistance.			
Other variables.			

The evaluation will include the cost-benefit analysis of the implemented activities. This analysis will be possible to quantitatively demonstrate the effectiveness of the mitigation activities and determine which actions are more effective. This process will be carried out after the damage information of a disaster has been collected and quantified by PREMB, FEMA, municipalities, or other agencies related to or affected by the disaster. The evaluation will be a joint effort that may involve the PRPB and academic institutions or organizations as technical and data analysis advisors.

7.1.3. Keeping the Public Informed and Involved.

The Planning, Evaluation and Monitoring Committee must keep the public informed of the projects' progress and achievement, especially interested community sectors, such as professional associations and municipalities impacted by the projects and mitigation activities. This task contributes to increasing the inclusion and commitment of citizens with the implementation of the 2021 PRSNHMP. The necessary media will be used, such as municipal, regional, national newspapers, radio, and television news.

PREMB will also publish on its website a copy of the PRSNHMP, current mitigation activities or projects, information about changes that have been incorporated into the PRSNHMP or projects, and announcements about processes and opportunities for citizens to make comments or clarify questions.

7.2. 2021 PRSNHMP Review and Update Methodology and Schedule.

Planning is an ongoing process. The 2021 PRSNHMP must be treated as a "living" document that must grow, change, and adapt to the changes that Puerto Rico faces, such as the socioeconomic particularities of the historical moment in which it lives. Therefore, the DMA requires that the State Mitigation Plan be updated every five (5) years. That is if a disaster event does not occur before that period. The reports and assessments described above will be used as input for updating the PRSNHMP. **Appendix 7-5**, State Mitigation Plan Review Guide (Monitoring Sheet #5) and Document Log.

7.2.1. Reviewing Factors Affecting the Planning Context of the 2021 PRSNHMP.

The planning context can be affected by the state's capacity to implement mitigation projects and broader vulnerability analysis. This implies that the sections corresponding to Hazard Assessment and State Mitigation Capacity of the 2021 PRSNHMP must be reviewed and evaluated to adjust them to the new reality. This element is of particular importance for the current revision of the 2021 PRSNHMP due to the country's fiscal situation and the changes in socio-demographic characteristics. Below are some aspects that will help determine what changes the Plan requires to be updated.

Review Natural Hazard Assessment.

The review of the natural hazard assessment will be done to update estimates of potential losses, new scientific data available for areas vulnerable to hazards, the effects of risks on municipalities and critical facilities, changes in population and urban growth patterns, and the reduction of vulnerability due to implemented mitigation projects. Also, findings from natural hazard assessments conducted by municipalities that have updated their Local Hazard Mitigation Plans during the life of the 2021 PRSNHMP should be integrated.

Future updates of the hazard assessment sections of the PRSNHMP should incorporate hazard analyses that were not previously contemplated or that were analyzed and inventoried during the life of 2021 PRSNHMP. Another essential element is to combine the effects of the climate change phenomenon being experienced around the planet and may have on the Island.

For the Risk Assessment, it is recommended that the following variables of change be evaluated, among others:

- Changes in Development Patterns: The Planning, Evaluation, and Monitoring Committee will determine if changes in population and urban growth patterns have occurred. These types of changes can influence the effects of natural hazards and create risks additional to those set out in the PRSNHMP.
- Changes Generated by the Effects of Climate Change: To evaluate the effects of this global phenomenon in terms of the incidence of natural hazards, especially on the most vulnerable municipalities such as those in the island's coastal zone.
- Areas Affected by Recent Disasters: Recent disaster events can provide new information about how a community can be affected. The Committee should compare the effects of a new disas ter event to information available about previous events.
- New Studies or Available Technologies: Consider new studies conducted on aspects that may affect risk vulnerability analysis. Examples of some studies are demographic, hydrological, geological, and transit, among others, and reviews on new techniques, technologies, and mitigation methods.
- Re-estimate Losses: With the new information available, losses can be recalculated, or the cost-benefit analysis of projects or mitigation activities can be revised.

Reviewing the State Capacity Assessment.

It is necessary to review and evaluate changes in the information included in Chapter 4 to determine changes in laws, agencies, and the availability of human, financial, and technical resources that may affect the 2021 PRSNHMP. Some aspects to consider should be the following:

- Changes in State and/or Federal Laws, Policies, Plans, and Funds: Regulations related to land use and the environment may have been strengthened or relaxed. This will present the country with new limitations or opportunities for mitigation. The same is true for the availability of local or federal funds.
- State Fiscal Situation: Financing capacity of the agencies concerned with mitigation and emergency management activities or projects, considering the limitations imposed by the State to address the economic recession.
- State Socioeconomic Changes: Significant social transformations can influence mitigation priorities and project implementation. Examples of socioeconomic changes are economic recessions, increased cost of living, political differences, demographic changes, or issues involving environmental justice elements, among others. Besides, changes in migration patterns and their effects on land use and other socioeconomic factors.

- Other Changes: Changes that are identified and may positively or negatively affect natural hazard mitigation initiatives.

7.2.2. Analyze Findings and Determine Need to Revise Planning Process and/or Mitigation Strategy.

The Planning, Evaluation, and Monitoring Committee will use the knowledge gained to identify areas of the 2021 PRSNHMP or the planning process that need to be modified. Special attention will be given to significant resource availability changes, vulnerability to identified hazards, and proposed goals and priorities in the 2021 PRSNHMP.

It is important to consider updating the goals, objectives, and actions that have been proposed in the Plan. The Planning, Evaluation, and Monitoring Committee should integrate what has been learned into the evaluation process about government administration and community interests concerning the objectives of the 2021 PRSNHMP. These elements should be considered when re-evaluating the Plan's strategies. Using the monitoring systems described in the previous sections, the Committee will discuss future actions that will need to be taken, reconsidered, or removed from the 2021 PRSNHMP. The following is suggested to guide the discussion:

- Check whether the goals and objectives are applicable or whether they are outdated per changes that have occurred in society.
- Verify if the priorities of the Plan correspond to the preferences of the State and the communities.
- Verify if there are mitigation projects that need to be re-prioritized for implementation.
- Verify if the mitigation projects can be developed with the available resources.

7.2.3. Incorporating the Findings into the PRSNHMP.

Once the processes described in this chapter are completed, the Planning, Evaluation, and Monitoring Committee will have the necessary tools to update the PRSNHMP. The updated Plan should include the most recent findings on the Municipal Mitigation Plans, inventory of natural hazards and vulnerability to them, and the results of the activities and projects established in the Plan for the previous period.

It is necessary to update the description of the planning process of the PRSNHMP to add the actions carried out in the process of evaluation and updating of the Plan. Also, the mitigation strategies should be updated, considering the activities or projects carried out, in process or not, and to incorporate new

projects for which a need has been determined. The revision of the strategies should also consider the availability of funds to finance the activities or schemes, the necessary technical and human resources, and the development time, among other implementation strategy elements.

The interested government and community sectors must review the updated Plan to be valid. This process is completed through meetings, presentations, and opportunities to comment on the Plan. This is followed by the formal adoption process of the PRSNHMP as required by state and federal law.

7.3. Evaluation of the Methodology and Programming Effectiveness of the PRSNHMP

As described in **Chapter 1**, the evaluation process for 2016 PRSNHMP was established to be completed on several levels. First, a comprehensive review of the document was conducted. This comprehensive review aimed to conduct a full reading and analysis of the 2016 PRSNHMP to establish a consensus of the level and magnitude of changes needed to update it. Once this assessment was completed, activities were identified to update the different chapters of the 2021 PRSNHMP. The evaluation identified which sections of the Plan would require more effort and could be retained with less significant changes.

A second approach was to pass judgment on the goals, objectives, and mitigation activities proposed in 2016 PRSNHMP. Together, these proposals constitute one of the most fundamental parts of this planning document. The assessment results provide valuable information regarding the development and implementation of the goals, objectives, and mitigation activities and help determine the actions to be taken to facilitate more effective performance during the life of 2016 PRSNHMP.

As a third evaluation approach, the input provided by all direct and indirect participants in the development of the Plan during the consultation and discussion period was used. That is, not only those provided by the various working committees, but also the result of data and information supplied by the various state and federal government agencies and the contributions, comments, and information obtained as part of the public discussion process by professionals, interest groups, and private citizens. Recommendations and changes that emerged from this evaluative approach were incorporated into the document review process.

7.4. Certification of Compliance and Status.

The development and review of the State Natural Hazard Mitigation Plan of Puerto Rico have been completed following the requirements established by the federal law "Disaster Mitigation Act of 2000 (P.L. 106-390)" and the specifications defined in the "Multi-Hazard Planning Guidance Under the Disaster Mitigation Act of 2000 (Blue Book)" and the State Mitigation Plan Review Guide.

As part of implementing the Plan, the State recognizes and certifies strict compliance with applicable Federal regulations and statutes for receiving funding grants as described in 44 CFR 13.11(c). Besides, and in compliance with the requirements of 44 CFR 13.11(d), the Commonwealth certifies that the PRSNHMP will be amended in the event of the establishment of new federal regulations or statutes, changes in applicable state laws, as well as relevant changes in the organization, public policy, or operation of the PREMB, in charge of implementing the 2021 PRSNHMP. Any amendments made during the term of the PRSNHMP will be added as an annex and subsequently incorporated into the corresponding sections when the next formal review of the Plan is completed.

CHAPTER VIII

ADOPTION OF THE PLAN

Courtesy by FEMA

8.1. Plan Adoption Requirements.

Federal regulation 44 C.F.R. § 201.6(c)(5) provides requirements related to adoption documentation for local mitigation plans. The Plan must include the following:

- Documentation showing that it has been formally adopted by the body governing jurisdiction and requesting approval of the Plan. The State has one (1) year to adopt the Plan, upon receipt of an Approval Pending Adoption (APA) determination.
- Similarly, for plans involving multiple jurisdictions, each jurisdiction requiring approval of the Plan must document that it has been formally adopted.

The monitoring schedule for 2021 PRSNHMP has, for the most part, maintained the procedures outlined in 2016 PRSNHMP. Some changes have been incorporated in the organization and frequency of the monitoring tasks of the mitigation activities. It takes into consideration the experience in the implementation of the activities and mitigation strategies presented in the 2021 PRSNHMP, the recommendations of the FEMA State Mitigation Plan Review Guide, and the increase from three (3) to five (5) years in the period of validity of PRSNHMP.

All these sections will be elaborated, and relevant documentation will be incorporated once the Plan is adopted.

8.2. Plan Adoption.

This Plan was adopted by the Governor of Puerto Rico on the day, July, 29 2021. A copy of Executive Order No. OE-2021-059, "To Adopt the 2021 State Hazard Natural Hazard Mitigation Plan is included at the beginning of the Plan.

8.3. Plan Approval.

This Plan was approved by FEMA, the office of the GAR and the State Hazard Mitigation Officer, on July, 30, 2021. A copy of the Approval Letter, "Approval of the State Hazard Mitigation Plan," is included at the beginning of the Plan.

FEMA approval of the Plan shall be for a period of five (5) years, or until July, 29, 2026.

APPENDIX 2-1

STATE MITIGATION PLAN REVIEW TOOL

B.4 Standard State Mitigation Plan Regulation Checklist

REGULATION CHECKLIST – STANDARD PLAN *M=Met; NM=Not Met	Location in Plan	M / NM*
STANDARD (S) STATE MITIGATION PLAN		
Planning Process		
S1. Does the plan describe the planning process used to develop the plan? [44 CFR §§201.4(b) and (c)(1)]		
S2. Does the plan describe how the state coordinated with other agencies and stakeholders? [44 CFR §§201.4(b) and (c)(1)]		
Required Revisions:		
Hazard Identification and Risk Assessment		
S3. Does the risk assessment include an overview of the type and location of all-natural hazards that can affect the state? [44 CFR §201.4(c)(2)(i)]		
S4. Does the risk assessment provide an overview of the probabilities of future hazard events? [44 CFR §201.4(c)(2)(i)]		
S5. Does the risk assessment address the vulnerability of state assets located in hazard areas and estimate the potential dollar losses to these assets? [44 CFR §201.4(c)(2)(ii) and 201.4(c)(2)(iii)]		
S6. Does the risk assessment include an overview and analysis of the vulnerability of jurisdictions to the identified hazards and the potential losses to vulnerable structures? [44 CFR §§201.4(c)(2)(ii) and 201.4(c)(2)(iii)]		
S7. Was the risk assessment revised to reflect changes in development? [44 CFR §201.4(d)]		
Required Revisions:		
Mitigation Strategy and Priorities--		
S8. Does the mitigation strategy include goals to reduce / avoid long-term vulnerabilities from the identified hazards? [44 CFR §201.4(c)(3)(i)] –		
S9. Does the plan prioritize mitigation actions to reduce vulnerabilities identified in the risk assessment? [44 CFR §§201.4(c)(3)(iii) and (iv)]		
S10. Does the plan identify current and potential sources of funding to implement mitigation actions and activities? [44 CFR §201.4(c)(3)(iv)]		
S11. Was the plan updated to reflect changes in development, progress in statewide mitigation efforts, and changes in priorities? [44 CFR §201.4(d)]		

B.3 Plan Review Tool Summary

State: Commonwealth of Puerto Rico	**Title and Date of Plan:** Puerto Rico State Hazard and Natural Mitigation Plan (Introduction and Chapter 1)	**Date of Submission:** 04/03/2020
State Point of Contact (Name / Title):	**Address:**	
Agency:		
Phone Number:	**E-Mail:**	

Date Received in FEMA Region:	
FEMA Reviewer (Planning – Name / Title):	**Date:**
FEMA Reviewer (HMA – Name / Title):	**Date:**
FEMA Reviewer (Name / Title):	**Date:**
FEMA Reviewer (Name / Title):	**Date:**
FEMA Approver (Name / Title):	**Date:**
Plan Status (Not Approved, Approvable Pending Adoption, Approved):	**Date:**

SUMMARY	**YES**	**NO**
STANDARD STATE MITIGATION PLAN		
Does the plan meet the standard state mitigation plan requirements?		
REPETITIVE LOSS STRATEGY		
Does the plan include a Repetitive Loss Strategy? [see S6 / RL1; S8 / RL2; S9 / RL3; S10 / RL4; S13 / RL5; and S15 / RL6]		
ENHANCED STATE MITIGATION PLAN		
Does the plan meet the enhanced state mitigation plan requirements?		

RL3. Did Element S9 (mitigation actions) address RL and SRL properties? [44 CFR §§201.4(c)(3)(iii) and 201.4(c)(3)(v)]		
RL4. Did Element S10 (funding sources) address RL and SRL properties? [44 CFR §§201.4(c)(3)(iv) and 201.4(c)(3)(v)]		
RL5. Did Element S13 (local and tribal, as applicable, capabilities) address RL and SRL properties? [44 CFR §§201.4(c)(3)(ii) and 201.4(c)(3)(v)]		
RL6. Did Element S15 (prioritizing funding) address RL and SRL properties? [44 CFR §§201.4(c)(4)(iii) and 201.4(c)(3)(v)]		
Required Revisions:		

State Mitigation Capabilities		
S12. Does the plan discuss the evaluation of the state's hazard management policies, programs, capabilities, and funding sources to mitigate the hazards identified in the risk assessment? [44 CFR §201.4(c)(3)(ii)]		
Required Revisions:		
Local Coordination and Mitigation Capabilities		
S13. Does the plan generally describe and analyze the effectiveness of local and tribal, as applicable, mitigation policies, programs, and capabilities? [44 CFR §201.4(c)(3)(ii)]		
S14. Does the plan describe the process to support the development of approvable local and tribal, as applicable, mitigation plans? [44 CFR §§201.3(c)(5) and 201.4(c)(4)(i)]		
S15. Does the plan describe the criteria for prioritizing funding? [44 CFR §201.4(c)(4)(iii)]		
S16. Does the plan describe the process and timeframe to review, coordinate and link local and tribal, as applicable, mitigation plans with the state mitigation plan? [44 CFR §§201.3(c)(6), 201.4(c)(2)(ii), 201.4(c)(3)(iii), and 201.4(c)(4)(ii)]		
Required Revisions:		
Plan Review, Evaluation, and Implementation		
S17. Is there a description of the method and schedule for keeping the plan current? [44 CFR §§201.4(c)(5)(i) and 201.4(d)]		
S18. Does the plan describe the systems for monitoring implementation and reviewing progress? [44 CFR §§201.4(c)(5)(ii) and 201.4(c)(5)(iii)]		
Required Revisions:		
Adoption and Assurances		
S19. Did the state provide documentation that the plan has been formally adopted? [44 CFR §201.4(c)(6)]		
S20. Did the state provide assurances? [44 CFR §201.4(c)(7)]		
Required Revisions:		
Repetitive Loss (RL) Strategy		
RL1. Did Element S6 (risk assessment) address RL and SRL properties? [44 CFR §§201.4(c)(2)(ii), 201.4(c)(2)(iii), and 201.4(c)(3)(v)]		
RL2. Did Element S8 (mitigation goals) address RL and SRL properties? [44 CFR §§201.4(c)(3)(i) and 201.4(c)(3)(v)]		

B.2 Standard State Mitigation Plan Regulation Checklist

REGULATION CHECKLIST – STANDARD PLAN *M=Met; NM=Not Met	Location in Plan	M / NM*
STANDARD (S) STATE MITIGATION PLAN		
Planning Process		
S1. Does the plan describe the planning process used to develop the plan? [44 CFR §§201.4(b) and (c)(1)]		
S2. Does the plan describe how the state coordinated with other agencies and stakeholders? [44 CFR §§201.4(b) and (c)(1)]		
Required Revisions:		
Hazard Identification and Risk Assessment		
S3. Does the risk assessment include an overview of the type and location of all-natural hazards that can affect the state? [44 CFR §201.4(c)(2)(i)]		
S4. Does the risk assessment provide an overview of the probabilities of future hazard events? [44 CFR §201.4(c)(2)(i)]		
S5. Does the risk assessment address the vulnerability of state assets located in hazard areas and estimate the potential dollar losses to these assets? [44 CFR §201.4(c)(2)(ii) and 201.4(c)(2)(iii)]		
S6. Does the risk assessment include an overview and analysis of the vulnerability of jurisdictions to the identified hazards and the potential losses to vulnerable structures? [44 CFR §§201.4(c)(2)(ii) and 201.4(c)(2)(iii)]		
S7. Was the risk assessment revised to reflect changes in development? [44 CFR §201.4(d)]		
Required Revisions:		
Mitigation Strategy and Priorities--		
S8. Does the mitigation strategy include goals to reduce / avoid long-term vulnerabilities from the identified hazards? [44 CFR §201.4(c)(3)(i)] –		
S9. Does the plan prioritize mitigation actions to reduce vulnerabilities identified in the risk assessment? [44 CFR §§201.4(c)(3)(iii) and (iv)]		
S10. Does the plan identify current and potential sources of funding to implement mitigation actions and activities? [44 CFR §201.4(c)(3)(iv)]		
S11. Was the plan updated to reflect changes in development, progress in statewide mitigation efforts, and changes in priorities? [44 CFR §201.4(d)]		

B.1 Plan Review Tool Summary

State:	Title and Date of Plan:	Date of Submission:
State Point of Contact (Name / Title):	**Address:**	
Agency:		
Phone Number:	**E-Mail:**	

Date Received in FEMA Region:	
FEMA Reviewer (Planning – Name / Title):	**Date:**
FEMA Reviewer (HMA – Name / Title):	**Date:**
FEMA Reviewer (Name / Title):	**Date:**
FEMA Reviewer (Name / Title):	**Date:**
FEMA Approver (Name / Title):	**Date:**
Plan Status (Not Approved, Approvable Pending Adoption, Approved):	**Date:**

SUMMARY	YES	NO
STANDARD STATE MITIGATION PLAN		
Does the plan meet the standard state mitigation plan requirements?		
REPETITIVE LOSS STRATEGY		
Does the plan include a Repetitive Loss Strategy? [see S6 / RL1; S8 / RL2; S9 / RL3; S10 / RL4; S13 / RL5; and S15 / RL6]		
ENHANCED STATE MITIGATION PLAN		
Does the plan meet the enhanced state mitigation plan requirements?		

State Mitigation Capabilities		
S12. Does the plan discuss the evaluation of the state's hazard management policies, programs, capabilities, and funding sources to mitigate the hazards identified in the risk assessment? [44 CFR §201.4(c)(3)(ii)]		
Required Revisions:		
Local Coordination and Mitigation Capabilities		
S13. Does the plan generally describe and analyze the effectiveness of local and tribal, as applicable, mitigation policies, programs, and capabilities? [44 CFR §201.4(c)(3)(ii)]		
S14. Does the plan describe the process to support the development of approvable local and tribal, as applicable, mitigation plans? [44 CFR §§201.3(c)(5) and 201.4(c)(4)(i)]		
S15. Does the plan describe the criteria for prioritizing funding? [44 CFR §201.4(c)(4)(iii)]		
S16. Does the plan describe the process and timeframe to review, coordinate and link local and tribal, as applicable, mitigation plans with the state mitigation plan? [44 CFR §§201.3(c)(6), 201.4(c)(2)(ii), 201.4(c)(3)(iii), and 201.4(c)(4)(ii)]		
Required Revisions:		
Plan Review, Evaluation, and Implementation		
S17. Is there a description of the method and schedule for keeping the plan current? [44 CFR §§201.4(c)(5)(i) and 201.4(d)]		
S18. Does the plan describe the systems for monitoring implementation and reviewing progress? [44 CFR §§201.4(c)(5)(ii) and 201.4(c)(5)(iii)]		
Required Revisions:		
Adoption and Assurances		
S19. Did the state provide documentation that the plan has been formally adopted? [44 CFR §201.4(c)(6)]		
S20. Did the state provide assurances? [44 CFR §201.4(c)(7)]		
Required Revisions:		
Repetitive Loss (RL) Strategy		
RL1. Did Element S6 (risk assessment) address RL and SRL properties? [44 CFR §§201.4(c)(2)(ii),		

201.4(c)(2)(iii), and 201.4(c)(3)(v)]		
RL2. Did Element S8 (mitigation goals) address RL and SRL properties? [44 CFR §§201.4(c)(3)(i) and 201.4(c)(3)(v)]		
RL3. Did Element S9 (mitigation actions) address RL and SRL properties? [44 CFR §§201.4(c)(3)(iii) and 201.4(c)(3)(v)]		
RL4. Did Element S10 (funding sources) address RL and SRL properties? [44 CFR §§201.4(c)(3)(iv) and 201.4(c)(3)(v)]		
RL5. Did Element S13 (local and tribal, as applicable, capabilities) address RL and SRL properties? [44 CFR §§201.4(c)(3)(ii) and 201.4(c)(3)(v)]		
RL6. Did Element S15 (prioritizing funding) address RL and SRL properties? [44 CFR §§201.4(c)(4)(iii) and 201.4(c)(3)(v)]		
Required Revisions:		

APPENDIX 2-2

2021 PRSNHMP PLANNING SCHEDULE

Plan de Trabajo para la actualización del Plan Estatal de Mitigación de Riesgos Naturales de Puerto Rico, 2021.

	TASK	DUTIES	EXPECTED	RESPONSIBILITY	COMMENTS
1	Planning Support	• Kick Off Meeting (08.19.2019) • Integrate a Professional Planner in COR3 Hazard Mitigation Team.	Nov/2019	SHMO	Combined support of S. Aponte from COR3 Strategy Group
2	Developing Work plan	• Define COR3 HMGP Support to PREMB. • Local Coordinator functions. • Additional Resources identification.	Feb. 2020	COR3/PREMB	Discussed with FEMA R2. Completed;
3	Collaborative Agreements	• Support from UPR-EGP; voluntary students. • Development of graduate course to offer between Aug-Dec 2020.	Sept. 2020	COR3-UPR-PREMB	Support from UPR-EGP Voluntary students for drafting Chapters 1, 2, 4 and 5; **MOU under final revision of UPR.**
4	Committee Meeting	• Planning Steering Committee (08.14.2020/09.11.2020/09.30.2020/11.16.2020) • Interagency Committee Call (09.25)	Mar-Dec 2020	PREMB	**Ongoing; with the support of COR3**
5	Data Collection for Hazard and Impacts	• Compilation of data on hazards and resources at risk.	August 2020	COR3	**Completed.**
6	Capability Assessment	• Assess capability of existing systems to execute mitigation activities.	October 2020	COR3-UPR	**Completed.** Ch. 4 & 5 drafted between Apr-Jun 2020; Pending to submit to FEMA for courtesy review in 12.18.2020
7	Stakeholder Engagement	• Presentation to Academia, Professional Organizations, NGO's and community representatives.	October 2020	PREMB	**Completed.** Meeting was held on 10.22.2020
8	Municipal Engagement	Present the Plan Process to *Asociación* and *Federación de Alcaldes* Representatives	Sept 2020	PREMB	Mayors' Federation and Association were invited to participate in the Interagency Committee meeting on 09.25
9	Vulnerability Assessment & Data Collection	• Complete database of resources at risk to priority hazards. • Perform detailed vulnerability assessments for priority hazards	October 2020	UPR-EGP	**Completed.** Pending delivery on Dec. 23, 2020

10	Hazard/Vulnerability Prioritization	• Identify data gaps. • Prioritize hazards. • Identify who to fill gaps. • Demonstrate vulnerability assessment methodology.	November 2020	UPR-EGP COR3	**Completed**. Pending delivery on Dec. 23, 2020
11	Mitigation Opportunity Analysis and Plan Formulation	• Mitigation strategies, plans, policies and programmes.	Dec. 2020/Jan. 2021	PREMB-COR3	In progress, pending comple
12	Public Consultation	• Series of consultations (community meetings, academia, interest groups, NGO's)	TBD	COR3/PREMB	See Task #7ted on 01.15.2021
13	Review of Final Version	• Review plan introduction, goals and objectives, hazard identification, hazard prioritization, preliminary capability assessment analysis, preliminary identification of mitigation opportunities and Appendices. • Implementation and Monitoring	February 2021	COR3/PREMB	Pending Expected on 01.31.2021
14	Final Plan submission to FEMA		Feb 20, 2021		
15	FEMA 45 days review		Apr 6, 2021 *(Expected)*		
16	State Government edits, resubmission, and review to FEMA		May 6, 2021 *(Expected)*	COR3/PREMB	
17	Spanish Translation		Jan-Jun 2021 *(Expected)*	PREMB	
18	Plan Approved Pending Adoption	• Letter from FEMA	Jul 23, 2021 *(Expected)*	FEMA-HM	
19	Adoption Letter	• Signed by Puerto Rico Governor	Aug 6, 2021 *(Expected)*	PREMB	
20	Final Plan Approval	• Letter form FEMA	Aug 20, 2021 *(Expected)*	FEMA-HM/PREMB	

Revised: 12.18.2020

APPENDIX 2-3

2021 PRSNHMP KICK-OFF MEETING MEETING NOTES

08/20/19 - State Hazard Mitigation Plan

Tuesday, August 20, 2019

8:52 AM

Discussion on the intention of the State Hazard Mitigation Plan.
Clarification that if the State Plan expires, all money does not obligate and all payments that haven't beendone will cease. In case there is a lapsed and there is a declaration, the state will not have access to the Public Assistance.

The funding for the plan, PREMA will be submitting the LOI for the plan review. The COR3 office will start creating the project formulation. Level of funding over 1M will be going to OMB. The will look into the weeds of the proposal.
When developing the SOW, the detail information needs to be clear, realistic on the amount and amount of time.
There is an option for the planning.
USVI did a quick update inhouse using HMGP funding, and then requested 5 years to
Students from universities can be used to review the state plan.

Planning Process

They are doing a sector review process. They are going to look at the hazards and mitigation strategies that support their group. Steering committee will oversee that all the sectors talk to each other's. Representation of the groups through the Long Term Recovery Group. Public engagement is not a requirement, but it's a recommendation to have it.
Steering Committee, made of directors
Technical Committee are the scientist and planners, the ones that are gathering the information.
Risk Assessment
Story map format. Kind of a HAZUS approach.
High Hazard Potential Dam Its not required, its optional. If PR would like grants, they will need to address DAM risk in order to request funding through FEMA.
FEMA National Mitigation Framework. The Stakeholders need to be provided the opportunity to participate. If they don't participate at lest they need to be.
Local Mitigation Plans and Planning's need to be contemplated in the plans.
Mitigation Goals and Strategies
Climate Change = Future Risk (needs to be part of the plan)
For each hazard you need to have at least 3 legitimate mitigation strategies addressing the hazard.
For the Drought Hazard, technical expertise needs to be included. Invite the Drought Technical Committee

Partnership between VI and PR to identify similarities

Next Meetings

PREMA and SHMO office to identify the scope of the revision of the plans. PREMA and SHMO agree to do a short review to the current plan and apply for a bigger review of the plan under the HMGP.

Discussion on funding for the small review of the plan.

PREMA / SHMO are considering the building capacity of instead of contracting bringing employee and workforce to augment the commonwealth

GOBIERNO DE PUERTO RICO
DEPARTAMENTO DE SEGURIDAD PÚBLICA
Negociado para el Manejo de Emergencias
y Administración de Desastres

Carlos A. Acevedo Caballero
Comisionado

HOJA DE ASISTENCIA

Reunión: State Hazard Mitigation Plan Kick-Off Meeting

NMEAD - Conference

20 de agosto de 2019

NOMBRE	AGENCIA	POSICIÓN	CORREO ELECTRONICO	FIRMA
Ulanitza Sanabria	NMEAD	Area Mitigacion	usanabria@prema.pr.gov	
Katherine Gonzalez	FEMA	Supv PA. Comm Resilience	katherine.gonzalez@fema.dhs.gov	
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Jose M. Cardona Perez	DTOP	Coordinador Interagencial	jcardona@dtop.pr.gov	Jose M Cardona Perez
Nelson Rivera Calderon	CORE	Project Application Lead	nrivera@cors.pr.gov	
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Fernando Causo Diaz	PREMA	Direct - Recuperación	fcauso@prema.pr.gov	
Carlos Acevedo	PREMA	Comisionado	cacevedo@prema.pr.gov	

APPENDIX 2-4

INTERAGENCY MITIGATION COMMITTEE MEETING CALL-IN FOR STATE AND FEDERAL AGENCIES

GOBIERNO DE PUERTO RICO
Departamento de Seguridad Pública
Negociado de Manejo de Emergencias y
Administración de Desastres

PEDRO J. JANER ROMÁN
SECRETARIO

NINO CORREA FILOMENO
COMISIONADO

15 de septiembre de 2020

Sr. Jose Joe Ramán Abreu
Presidente
Asociación de Alcaldes
San Juan, Puerto Rico

Estimado señor(a) Presidente:

Reciban un saludo cordial. El Negociado para el Manejo de Emergencias y Administración de Desastres, del Departamento de Seguridad Pública (NMEAD), en coordinación con la oficina de COR3, ha iniciado el proceso de actualización del Plan Estatal de Mitigación de Peligros Naturales de Puerto Rico. Este Plan está basado en el Plan de Mitigación de la Agencia Federal para el Manejo de Emergencias (FEMA), el cual fuera aprobado y adoptado por el Gobierno de Puerto Rico en el año 2011. De otra parte, el Plan de Mitigación debe ser revisado cada cinco (5) años conforme a la ley federal "Disaster Mitigation Act" del año 2000.

El objetivo fundamental del Plan Estatal de Mitigación es establecer estrategias efectivas para reducir las pérdidas potenciales que pudieran producir los peligros naturales. La participación de todas las agencias del gobierno estatal y federal no es solo una estrategia necesaria en la preparación del Plan, sino un requisito establecido por la Ley, por lo que el Plan Estatal de Mitigación, vigente, es el resultado de un esfuerzo conjunto por parte de todas las agencias gubernamentales, así como de otros sectores públicos y privados de nuestra sociedad.

Nos dirigimos a usted con el propósito iniciar el proceso con la activación del Comité del Plan de Mitigación, conforme requerido. A estos efectos, estaremos llevando a cabo la primera reunión del Comité del Plan de Mitigación, por lo que solicitamos que se le notifique al coordinador de Mitigación o coordinador interagencial, designado por usted, para el próximo 25 de septiembre de 2020 a las 9:00am. Esta reunión se llevará a cabo en el Centro de Operaciones de Emergencias (COE) del Negociado en la Carretera # 1, San Juan.

A esta reunión el coordinador debe traer las estrategias y proyectos de mitigación, con costos estimados por parte de su agencia. Esta información es vital para completar con éxito este Plan. Además, debe completar las tablas que incluimos adjunto cuya información es necesaria para completar tres áreas específicas del Plan.

- Descripción de proyectos de mitigación llevados a cabo por la agencia en los pasados tres años y aquellos que estén programados para realizarse en los próximos cinco años – Tabla 1.

- Inventario de instalaciones críticas e infraestructura que tiene a cargo la agencia a través de toda la Isla (propiedad y alquiler) – Tabla 2.

- Participación, activa, en el establecimiento de prioridades para la implantación de estrategias, proyectos y actividades de mitigación que se propondrían en el Plan de Mitigación actualizado.

Las tablas 1 y 2, detalla los datos requeridos para obtener la información necesaria para elaborar las distintas secciones del Plan. En la medida que sea posible, la información debe ser provista en formato digital. Es necesario contar con las tablas completadas para la reunión convocada por lo que estamos disponibles para cualquier aclaración que sea necesaria.

Para cualquier pregunta o información adicional puede comunicarse con el Sr. Mauricio Rivera, Director del Área de Mitigación al (787) 724-0124, ext. 20042 o mediante correo electrónico mrivera1@prema.pr.gov o con el Sr. Luis Guillermo Torres, Sub-Director de Mitigación. (787) 724-0124, ext. 40052 o mediante correo electrónico ltorres@prema.pr.gov.

Agradecemos anticipadamente su diligente colaboración en el logro de este importante documento para la mitigación de peligros naturales de Puerto Rico.

Cordialmente,

Nino Correa Filomeno
Comisionado

Anejos

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Departamento de Seguridad Pública
Negociado de Manejo de Emergencias y
Administración de Desastres

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SECRETARIO

NINO CORREA FILOMENO
COMISIONADO

15 de septiembre de 2020

Ing. Doriel Pagán Crespo
Directora Ejecutiva
Autoridad de Acueducto y Alcantarillado
San Juan, Puerto Rico

Estimado señor(a) Directora Ejecutiva:

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PEDRO J. JANER ROMÁN
SECRETARIO

NINO CORREA FILOMENO
COMISIONADO

15 de septiembre de 2020

Sra. Melitza López
Directora Ejecutiva
Autoridad de Edificios Públicos
San Juan, Puerto Rico

Estimado señor(a) Directora Ejecutiva:

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PEDRO J. JANER ROMÁN
SECRETARIO

NINO CORREA FILOMENO
COMISIONADO

15 de septiembre de 2020

Ing. José F. Ortiz Vazquez
Director Ejecutivo
Autoridad de Energía Eléctrica
San Juan, Puerto Rico

Estimado señor(a) Director Ejecutivo:

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NINO CORREA FILOMENO
COMISIONADO

15 de septiembre de 2020

Ing. Joel A. Pizá Bátiz
Director Ejecutivo
Autoridad de los Puertos de Puerto Rico
San Juan, Puerto Rico

Estimado señor(a) Director Ejecutivo:

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PEDRO J. JANER ROMÁN
SECRETARIO

NINO CORREA FILOMENO
COMISIONADO

15 de septiembre de 2020

Dr. Eligio Hernandez Pérez
Secretario
Departamento de Educación
San Juan, Puerto Rico

Estimado señor(a) Secretario:

Reciban un saludo cordial. El Negociado para el Manejo de Emergencias y Administración de Desastres, del Departamento de Seguridad Pública (NMEAD), en coordinación con la oficina de COR3, ha iniciado el proceso de actualización del Plan Estatal de Mitigación de Peligros Naturales de Puerto Rico. Este Plan está basado en el Plan de Mitigación de la Agencia Federal para el Manejo de Emergencias (FEMA), el cual fuera aprobado y adoptado por el Gobierno de Puerto Rico en el año 2011. De otra parte, el Plan de Mitigación debe ser revisado cada cinco (5) años conforme a la ley federal "Disaster Mitigation Act" del año 2000.

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Las tablas 1 y 2, detalla los datos requeridos para obtener la información necesaria para elaborar las distintas secciones del Plan. En la medida que sea posible, la información debe ser provista en formato digital. Es necesario contar con las tablas completadas para la reunión convocada por lo que estamos disponibles para cualquier aclaración que sea necesaria.

Para cualquier pregunta o información adicional puede comunicarse con el Sr. Mauricio Rivera, Director del Área de Mitigación al (787) 724-0124, ext. 20042 o mediante correo electrónico mrivera1@prema.pr.gov o con el Sr. Luis Guillermo Torres, Sub-Director de Mitigación. (787) 724-0124, ext. 40052 o mediante correo electrónico ltorres@prema.pr.gov.

Agradecemos anticipadamente su diligente colaboración en el logro de este importante documento para la mitigación de peligros naturales de Puerto Rico.

Cordialmente,

Nino Correa Filomeno
Comisionado

Anejos

GOBIERNO DE PUERTO RICO
Departamento de Seguridad Pública
Negociado de Manejo de Emergencias y
Administración de Desastres

PEDRO J. JANER ROMÁN
SECRETARIO

NINO CORREA FILOMENO
COMISIONADO

15 de septiembre de 2020

Sr. Eddie García Fuentes
Secretario
Departamento de la Familia
San Juan, Puerto Rico

Estimado señor(a) Secretario:

Reciban un saludo cordial. El Negociado para el Manejo de Emergencias y Administración de Desastres, del Departamento de Seguridad Pública (NMEAD), en coordinación con la oficina de COR3, ha iniciado el proceso de actualización del Plan Estatal de Mitigación de Peligros Naturales de Puerto Rico. Este Plan está basado en el Plan de Mitigación de la Agencia Federal para el Manejo de Emergencias (FEMA), el cual fuera aprobado y adoptado por el Gobierno de Puerto Rico en el año 2011. De otra parte, el Plan de Mitigación debe ser revisado cada cinco (5) años conforme a la ley federal "Disaster Mitigation Act" del año 2000.

El objetivo fundamental del Plan Estatal de Mitigación es establecer estrategias efectivas para reducir las pérdidas potenciales que pudieran producir los peligros naturales. La participación de todas las agencias del gobierno estatal y federal no es solo una estrategia necesaria en la preparación del Plan, sino un requisito establecido por la Ley, por lo que el Plan Estatal de Mitigación, vigente, es el resultado de un esfuerzo conjunto por parte de todas las agencias gubernamentales, así como de otros sectores públicos y privados de nuestra sociedad.

Nos dirigimos a usted con el propósito iniciar el proceso con la activación del Comité del Plan de Mitigación, conforme requerido. A estos efectos, estaremos llevando a cabo la primera reunión del Comité del Plan de Mitigación, por lo que solicitamos que se le notifique al coordinador de Mitigación o coordinador interagencial, designado por usted, para el próximo 25 de septiembre de 2020 a las 9:00am. Esta reunión se llevará a cabo en el Centro de Operaciones de Emergencias (COE) del Negociado en la Carretera # 1, San Juan.

A esta reunión el coordinador debe traer las estrategias y proyectos de mitigación, con costos estimados por parte de su agencia. Esta información es vital para completar con éxito este Plan. Además, debe completar las tablas que incluimos adjunto cuya información es necesaria para completar tres áreas específicas del Plan.

- Descripción de proyectos de mitigación llevados a cabo por la agencia en los pasados tres años y aquellos que estén programados para realizarse en los próximos cinco años – Tabla 1.

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Departamento de Seguridad Pública
Negociado de Manejo de Emergencias y
Administración de Desastres

PEDRO J. JANER ROMÁN
SECRETARIO

NINO CORREA FILOMENO
COMISIONADO

15 de septiembre de 2020

Sr. Rafael A. Machargo Maldonado
Secretario
Departamento de Recursos Naturales y Ambientales
San Juan, Puerto Rico

Estimado señor(a) Secretario:

Reciban un saludo cordial. El Negociado para el Manejo de Emergencias y Administración de Desastres, del Departamento de Seguridad Pública (NMEAD), en coordinación con la oficina de COR3, ha iniciado el proceso de actualización del Plan Estatal de Mitigación de Peligros Naturales de Puerto Rico. Este Plan está basado en el Plan de Mitigación de la Agencia Federal para el Manejo de Emergencias (FEMA), el cual fuera aprobado y adoptado por el Gobierno de Puerto Rico en el año 2011. De otra parte, el Plan de Mitigación debe ser revisado cada cinco (5) años conforme a la ley federal "Disaster Mitigation Act" del año 2000.

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Negociado de Manejo de Emergencias y
Administración de Desastres

PEDRO J. JANER ROMÁN
SECRETARIO

NINO CORREA FILOMENO
COMISIONADO

15 de septiembre de 2020

Dr. Lorenzo Gonzalez
Secretario
Departamento de Salud
San Juan, Puerto Rico

Estimado señor(a) Secretario:

Reciban un saludo cordial. El Negociado para el Manejo de Emergencias y Administración de Desastres, del Departamento de Seguridad Pública (NMEAD), en coordinación con la oficina de COR3, ha iniciado el proceso de actualización del Plan Estatal de Mitigación de Peligros Naturales de Puerto Rico. Este Plan está basado en el Plan de Mitigación de la Agencia Federal para el Manejo de Emergencias (FEMA), el cual fuera aprobado y adoptado por el Gobierno de Puerto Rico en el año 2011. De otra parte, el Plan de Mitigación debe ser revisado cada cinco (5) años conforme a la ley federal "Disaster Mitigation Act" del año 2000.

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Departamento de Seguridad Pública
Negociado de Manejo de Emergencias y
Administración de Desastres

PEDRO J. JANER ROMÁN
SECRETARIO

NINO CORREA FILOMENO
COMISIONADO

15 de septiembre de 2020

Ing. Carlos M. Contreras Aponte
Secretario
Departamento de Transportación y Obras Publicas
San Juan, Puerto Rico

Estimado señor(a) Secretario:

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Departamento de Seguridad Pública
Negociado de Manejo de Emergencias y
Administración de Desastres

PEDRO J. JANER ROMÁN
SECRETARIO

NINO CORREA FILOMENO
COMISIONADO

15 de septiembre de 2020

Sr. Carlos Molina Rodriguez
Presidente
Federación de Alcaldes
San Juan, Puerto Rico

Estimado señor(a) Presidente:

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Administración de Desastres

PEDRO J. JANER ROMÁN
SECRETARIO

NINO CORREA FILOMENO
COMISIONADO

15 de septiembre de 2020

Sr. Armando Otero Pagan
Presidente
Junta de Calidad Ambiental
San Juan, Puerto Rico

Estimado señor(a) Presidente:

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Departamento de Seguridad Pública
Negociado de Manejo de Emergencias y
Administración de Desastres

PEDRO J. JANER ROMÁN
SECRETARIO

NINO CORREA FILOMENO
COMISIONADO

15 de septiembre de 2020

Sra. María del Carmen Gordillo Pérez
Presidenta
Junta de Planificación de Puerto Rico
San Juan, Puerto Rico

Estimado señor(a) Presidenta:

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- Descripción de proyectos de mitigación llevados a cabo por la agencia en los pasados tres años y aquellos que estén programados para realizarse en los próximos cinco años – Tabla 1.

- Inventario de instalaciones críticas e infraestructura que tiene a cargo la agencia a través de toda la Isla (propiedad y alquiler) – Tabla 2.

- Participación, activa, en el establecimiento de prioridades para la implantación de estrategias, proyectos y actividades de mitigación que se propondrían en el Plan de Mitigación actualizado.

Las tablas 1 y 2, detalla los datos requeridos para obtener la información necesaria para elaborar las distintas secciones del Plan. En la medida que sea posible, la información debe ser provista en formato digital. Es necesario contar con las tablas completadas para la reunión convocada por lo que estamos disponibles para cualquier aclaración que sea necesaria.

Para cualquier pregunta o información adicional puede comunicarse con el Sr. Mauricio Rivera, Director del Área de Mitigación al (787) 724-0124, ext. 20042 o mediante correo electrónico mrivera1@prema.pr.gov o con el Sr. Luis Guillermo Torres, Sub-Director de Mitigación. (787) 724-0124, ext. 40052 o mediante correo electrónico ltorres@prema.pr.gov.

Agradecemos anticipadamente su diligente colaboración en el logro de este importante documento para la mitigación de peligros naturales de Puerto Rico.

Cordialmente,

Nino Correa Filomeno
Comisionado

Anejos

GOBIERNO DE PUERTO RICO
Departamento de Seguridad Pública
Negociado de Manejo de Emergencias y
Administración de Desastres

PEDRO J. JANER ROMÁN
SECRETARIO

NINO CORREA FILOMENO
COMISIONADO

15 de septiembre de 2020

Sra. Sandra E. Torres López
Comisionada
Negociado de Telecomunicaciones de Puerto Rico
San Juan, Puerto Rico

Estimado señor(a) Comisionada:

Reciban un saludo cordial. El Negociado para el Manejo de Emergencias y Administración de Desastres, del Departamento de Seguridad Pública (NMEAD), en coordinación con la oficina de COR3, ha iniciado el proceso de actualización del Plan Estatal de Mitigación de Peligros Naturales de Puerto Rico. Este Plan está basado en el Plan de Mitigación de la Agencia Federal para el Manejo de Emergencias (FEMA), el cual fuera aprobado y adoptado por el Gobierno de Puerto Rico en el año 2011. De otra parte, el Plan de Mitigación debe ser revisado cada cinco (5) años conforme a la ley federal "Disaster Mitigation Act" del año 2000.

El objetivo fundamental del Plan Estatal de Mitigación es establecer estrategias efectivas para reducir las pérdidas potenciales que pudieran producir los peligros naturales. La participación de todas las agencias del gobierno estatal y federal no es solo una estrategia necesaria en la preparación del Plan, sino un requisito establecido por la Ley, por lo que el Plan Estatal de Mitigación, vigente, es el resultado de un esfuerzo conjunto por parte de todas las agencias gubernamentales, así como de otros sectores públicos y privados de nuestra sociedad.

Nos dirigimos a usted con el propósito iniciar el proceso con la activación del Comité del Plan de Mitigación, conforme requerido. A estos efectos, estaremos llevando a cabo la primera reunión del Comité del Plan de Mitigación, por lo que solicitamos que se le notifique al coordinador de Mitigación o coordinador interagencial, designado por usted, para el próximo 25 de septiembre de 2020 a las 9:00am. Esta reunión se llevará a cabo en el Centro de Operaciones de Emergencias (COE) del Negociado en la Carretera # 1, San Juan.

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Cordialmente,

Nino Correa Filomeno
Comisionado

Anejos

GOBIERNO DE PUERTO RICO
Departamento de Seguridad Pública
Negociado de Manejo de Emergencias y
Administración de Desastres

PEDRO J. JANER ROMÁN
SECRETARIO

NINO CORREA FILOMENO
COMISIONADO

15 de septiembre de 2020

Sr. Alberto Cruz Albarrán
Comisionado
Negociado del Cuerpo de Bomberos de Puerto Rico
San Juan, Puerto Rico

Estimado señor(a) Comisionado:

Reciban un saludo cordial. El Negociado para el Manejo de Emergencias y Administración de Desastres, del Departamento de Seguridad Pública (NMEAD), en coordinación con la oficina de COR3, ha iniciado el proceso de actualización del Plan Estatal de Mitigación de Peligros Naturales de Puerto Rico. Este Plan está basado en el Plan de Mitigación de la Agencia Federal para el Manejo de Emergencias (FEMA), el cual fuera aprobado y adoptado por el Gobierno de Puerto Rico en el año 2011. De otra parte, el Plan de Mitigación debe ser revisado cada cinco (5) años conforme a la ley federal "Disaster Mitigation Act" del año 2000.

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Anejos

GOBIERNO DE PUERTO RICO
Departamento de Seguridad Pública
Negociado de Manejo de Emergencias y
Administración de Desastres

PEDRO J. JANER ROMÁN
SECRETARIO

NINO CORREA FILOMENO
COMISIONADO

15 de septiembre de 2020

Sr. Rafael Cestero Lopategui
Comisionado Interino
Oficina del Comisionado de Seguros de Puerto Rico
San Juan, Puerto Rico

Estimado señor(a) Director Ejecutivo:

Reciban un saludo cordial. El Negociado para el Manejo de Emergencias y Administración de Desastres, del Departamento de Seguridad Pública (NMEAD), en coordinación con la oficina de COR3, ha iniciado el proceso de actualización del Plan Estatal de Mitigación de Peligros Naturales de Puerto Rico. Este Plan está basado en el Plan de Mitigación de la Agencia Federal para el Manejo de Emergencias (FEMA), el cual fuera aprobado y adoptado por el Gobierno de Puerto Rico en el año 2011. De otra parte, el Plan de Mitigación debe ser revisado cada cinco (5) años conforme a la ley federal "Disaster Mitigation Act" del año 2000.

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Cordialmente,

Nino Correa Filomeno
Comisionado

Anejos

GOBIERNO DE PUERTO RICO
Departamento de Seguridad Pública
Negociado de Manejo de Emergencias y
Administración de Desastres

PEDRO J. JANER ROMÁN
SECRETARIO

NINO CORREA FILOMENO
COMISIONADO

15 de septiembre de 2020

Víctor Huérfano Moreno
Director Interino
Red Sísmica de Puerto Rico
Mayagüez, Puerto Rico

Estimado Señor(a) Director Interino:

Reciban un saludo cordial. El Negociado para el Manejo de Emergencias y Administración de Desastres, del Departamento de Seguridad Pública (NMEAD), en coordinación con la oficina de COR3, ha iniciado el proceso de actualización del Plan Estatal de Mitigación de Peligros Naturales de Puerto Rico. Este Plan está basado en el Plan de Mitigación de la Agencia Federal para el Manejo de Emergencias (FEMA), el cual fuera aprobado y adoptado por el Gobierno de Puerto Rico en el año 2011. De otra parte, el Plan de Mitigación debe ser revisado cada cinco (5) años conforme a la ley federal "Disaster Mitigation Act" del año 2000.

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Cordialmente,

Nino Correa Filomeno
Comisionado

Anejos

PLAN ESTATAL DE MITIGACIÓN DE PELIGROS NATURALES DE PUERTO RICO
APéNDICE 5: Cartas enviadas a Agencias Estatales y Federales

Tabla 1
INVENTARIO DE PROYECTOS DE MITIGACIÓN, PROGRAMAS Y ACTIVIDADES COMPLETADAS
(Últimos tres (3) años y próximos cinco (5) años)
Plan Estatal de Mitigación de Peligros Naturales de Puerto Rico – Revisión 2021

NOMBRE DE LA AGENCIA: _____

Nombre del funcionario que provee la información: _____ Teléfono de contacto: _____

NOMBRE DEL PROYECTO O ACTIVIDAD DE MITIGACIÓN	TIPO DE PROYECTO (Control inundaciones, educación, relocalización de estructuras, "retrofitting", etc.	UBICACIÓN (Coordenadas y dirección física)	FECHA DE TERMINACIÓN O ESTIMADA PARA COMPLETAR EL PROYECTO	COSTO APROXIMADO DEL PROYECTO, PROGRAMA O ACTIVIDAD DE MITIGACIÓN	TOTAL DE POBLACIÓN QUE SE BENEFICIARA DEL PROYECTO, PROGRAMA O ACTIVIDAD DE MITIGACIÓN	ESTATUS Y/O COMENTARIOS

(Utilizar hojas adicionales, de ser necesario)

PLAN ESTATAL DE MITIGACIÓN DE PELIGROS NATURALES DE PUERTO RICO
APÉNDICE 5: Cartas enviadas a Agencias Estatales y Federales

Tabla 2
INVENTARIO DE INVENTARIO DE VULNERABILIDAD DE LAS INSTALACIONES CRÍTICAS BAJO JURISDICCIÓN DE LAS AGENCIAS ESTATALES Y FEDERALES
Plan Estatal de Mitigación de Peligros Naturales de Puerto Rico – Revisión 2021

NOMBRE DE LA AGENCIA: _____

Nombre del funcionario que provee la información: _____ Teléfono de contacto: _____

NOMBRE DE LA INFRAESTRUCTURA CRÍTICA O ELEMENTO DE INFRAESTRUCTURA	TIPO DE INSTALACIÓN	UBICACIÓN (Coordenadas y dirección física)	VULNERABILIDAD IDENTIFICADA (Peligro/riesgo a la cual la infraestructura pueda estar expuesta)	COSTO APROXIMADO DE LA REPOSICIÓN DE LA INSTALACIÓN (Puede ser el costo de la construcción)	COSTO APROXIMADO DE LA REPOSICIÓN DEL CONTENIDO DE LA INSTALACIÓN (Materiales, equipos, etc.)	COMENTARIOS

(Utilizar hojas adicionales, de ser necesario)

APPENDIX 2–5

INTERAGENCY COMMITTEE FOR THE MITIGATION OF NATURAL AND TECHNOLOGICAL HAZARDS (STATE AGENCIES)

2021 PUERTO RICO STATE NATURAL HAZARD MITIGATION PLAN

Comité Interagencial de Mitigación de Peligros Naturales y Tecnológicos[1]

1.Asociación de Alcaldes/ Federación de Alcaldes
2.Autoridad de Acueductos y Alcantarillados
3.Autoridad de Edificios Públicos
4.Autoridad de Energía Eléctrica
5.Autoridad de Puertos
6.Cruz Roja Americana
7.Cuerpo de Bomberos de Puerto Rico
8.Departamento de Educación
9.Departamento de la Familia
10.Departamento de la Vivienda
11.Departamento de Recursos Naturales y Ambientales
12.Departamento de Salud
13.Departamento de Transportación y Obras Públicas
14.Junta de Planificación
15.Negociado de Telecomunicaciones de Puerto Rico (Junta Reglamentadora de Telecomunicaciones)
16.Negociado de Transporte y otros Servicios Públicos
17.Negociado para el Manejo de Emergencias y Administración de Desastres
18.Oficina Central de Recuperación y Reconstrucción de Puerto Rico
19.Oficina del Comisionado de Seguros

[1] Creado mediante Ley Núm. 211, del 2 de agosto de 1999, según enmendada. El listado de las agencias que componen el Comité se desglosa en el a OE-2001-26, pág. 14.

APPENDIX 2-6

INTERAGENCY COMMITTEE FOR THE MITIGATION OF NATURAL AND TECHNOLOGICAL HAZARDS MEETING ATTENDANCE LIST.

GOBIERNO DE PUERTO RICO
Departamento de Seguridad Pública
Negociado de Manejo de Emergencias y
Administración de Desastres

PEDRO J. JANER ROMÁN
SECRETARIO

NINO CORREA FILOMENO
COMISIONADO

AGENDA

Proyecto:	Reunión Comité Estatal Emergencias / Comité Interagencial - Plan Estatal de Mitigación de Peligros Naturales (PEMPM)
Fecha:	25 de septiembre de 2020
Hora:	9:00 a.m.
Lugar:	NMEAD; PR-1 Km. 24.5 Bo. Quebrada Arenas, San Juan.
Tópicos:	1) **Reflexión** 2) **Bienvenida** Sr. Mauricio Rivera, Director Mitigación NMEAD 3) **Mensaje Comisionado; Nino Correa Filomeno** 4) **Mensaje Sub-Comisionada; Evelyn Moya Gines** 5) **Proceso de Actualización Plan Estatal de Mitigación** – (Plan. Sara Aponte Meléndez, Coordinadora PEMPN 2021, COR3) a) Trabajos realizados por COR3 b) Plan de Trabajo c) Itinerario d) Equipos de trabajo y colaboraciones externas e) Comité Interagencial 6) **Próximos pasos** (Plan. Sara Aponte Meléndez, Coordinadora PEMPN 2021, COR3) a) Reuniones de trabajo. b) Fechas importantes. c) Recomendaciones - Comité Interagencial 7) **Comentarios finales.** (Sr. Mauricio Rivera, Director Mitigación NMEAD)

GOBIERNO DE PUERTO RICO
Departamento de Seguridad Pública
Negociado de Manejo de Emergencias y
Administración de Desastres

PEDRO J. JANER ROMÁN
SECRETARIO

NINO CORREA FILOMENO
COMISIONADO

REUNION COORDINADORES DE MITIGACION

Coordinadores de Mitigación

September 25, 2020

POSICION	NOMBRE	CELULAR	TEL. OFICINA	CORREO ELECTRONICO	FIRMA
AUTORIDAD DE ACUEDUCTOS Y ALCANTARILLADOS					
Mitigación	Antonio Pardo	787-406-5203	787-620-2277 ext. 2910	antonio.pardo@acueductospr.com	
AUTORIDAD DE ENERGIA ELECTRICA					
	Edgar Trabal	787-406-5203	787-620-2277 ext. 2910	edgar.TrabaL@prepa.com ~~antonio.pardo@acueductospr.com~~	
	C. José Aponte	787-406-5203	787-620-2277 ext. 2910	joseaponte@prepa.com ~~antonio.pardo@acueductospr.com~~	
	Maite Soto	787-226-2218		maite.soto@prepa.com	
AUTORIDAD DE PUERTOS					
Mitigación	José Ríos	787-473-6470		JRIOS@PRPA.PR.GOV	
	E Frank Torres	787-636-5411		ETORRES@PRPA.PR.GOV	

POSICION	NOMBRE	CELULAR	TEL. OFICINA	CORREO ELECTRONICO	FIRMA
JUNTA REGLAMENTADORA DE TELECOMUNICACIONES					
Coordinador	Anthony Yrimia	787-530-3378	787-756-0804 x 3245	ayrimia@jrtpr.pr.gov	
JUNTA REGLAMENTADORA DE PLANIFICACION					
Coordinador					
CUERPO DE BOMBEROS DE PUERTO RICO					
Coordinador	Efrain Marcial Virella	787-557-1784	787-864-2330	emarcialv@bomberos.pr.gov	
OFICINA DE COMISIONADO DE SEGUROS					
Coordinador	Leticia Picón Jaime Adorno	787-201-6356 787-525-3944	787-304-8686 787-304-8686	leticia.picon@ocs.pr.gov jadorno@ocs.pr.gov	

COR3 ⟶ Silvia Aponte 787-930-3111 saponte@cor3.pr.gov

AAEAD Luis Guillermo Torres 939-640-6161 Ltorres@prepa.pr.gov

NTSP ⟶ Comdr. Jorge – (787)-550-1680 – cjorge@csp.pr.gov – Rep. Presidencia

PREPA ⟶ Mark Luis Jorge

POSICION	NOMBRE	CELULAR	TEL. OFICINA	CORREO ELECTRONICO	FIRMA
AUTORIDAD DE EDIFICIOS PUBLICOS					
Mitigación	Gerardo L. Crespo	787 487-0819	787 722-0101	gerardo.crespo@aep.pr.gov	
ASOCIACION DE ALCALDES					
Mitigación					
DEPARTAMENTO DE EDUCACION					
Coordinador	César O. González	787-536-9876	787-773-6240	gonzalezcco@de.pr.gov	
DEPARTAMENTO DE LA FAMILIA					
Coordinador	EDWIN CINTRON				
	ANGEL FIGUEROA				
DEPARTAMENTO DE SALUD					
Coordinador	Mariluz Meléndez	787-435-9562/ 692-6199	787-773-0600	mariluz.melendez@salud.gov.pr	
DEPARTAMENTO TRANSPORTGACION Y OBRAS PUBLICAS					
Coordinador	Emilio Garay	787 380-7078		egaray@dtop.pr.gov	
DEPARTAMENTO DE RECURSOS NATURALES Y AMBIENTALES					
Coordinador					
DTOP/ACT	Lissette Lugo	787. 359.5598		Llugo@dtop.pr.gov	
DTOP/ACT	Axel Bird	787-636-0732		AXbird@dtop.pr.gov	

APPENDIX 2-7

2021 PRSNHMP MITIGATION TECHNICAL COMMITTEE

PLAN ESTATAL DE MITIGACIÓN DE PELIGROS NATURALES DE PUERTO RICO

Comité Técnico de Mitigación de Peligros Naturales y Tecnológicos

1.American Society of Civil Engineers (ASCE) Puerto Rico Section President
2.Asociación de Agricultores de Puerto Rico
3.Asociación de Hospitales de Puerto Rico
4.Asociación de Navieros de Puerto Rico
5.Centro de Preparación de Salud Pública, UPR – Recinto de Ciencias Médicas
6.Centro Unido de Detallistas de Puerto Rico
7.Colegio de Agrónomos de Puerto Rico
8.Colegio de Arquitectos y Arquitectos Paisajistas
9.Colegio de Ingenieros y Agrimensores
10.Comité Científico de Sequía de Puerto Rico
11.Consejo Asesor de Cambio Climático (DRNA)
12.Cruz Roja Americana, Capitulo de Puerto Rico
13.Foundation for Puerto Rico
14.Patrulla Aérea Civil
15.Programa de Conservación y Manejo de Arrecifes de Coral de Puerto Rico
16.Programa de Investigación sobre Infraestructura Resiliente, UPR-Recinto de Mayagüez
17.Programa del Estuario de la Bahía de San Juan
18.Programa Sea Grant
19.Salvation Army
20.Sociedad Puertorriqueña de Planificación
21.US NWS Caribbean Tsunami Warning Program

APPENDIX 2-8

2021 PRSNHMP MITIGATION TECHNICAL COMMITTEE MEETING ATTENDANCE LIST

GOBIERNO DE PUERTO RICO
Departamento de Seguridad Pública
Negociado de Manejo de Emergencias y
Administración de Desastres

PEDRO J. JANER ROMÁN
SECRETARIO

NINO CORREA FILOMENO
COMISIONADO

REGISTRO REUNIÓN VIRTUAL DEL AREA DE MITIGACIÓN **22 DE OCTUBRE DE 2020**

Full Name	User Action	Timestamp
1. Marco Rodríguez Vazquez	Joined	10/22/2020, 9:18:56 AM
2. Mirta Abad	Joined	10/22/2020, 9:23:55 AM
3. Luis G. Torres Negron	Joined	10/22/2020, 9:35:12 AM
4. Aponte Meléndez, Sara T. (AAPP)	Joined	10/22/2020, 9:35:45 AM
5. Mauricio Rivera	Joined	10/22/2020, 9:38:28 AM
6. Lillian Ramirez Durand	Joined	10/22/2020, 9:50:31 AM
7. Ing. Hector Colon De La Cruz, ASCE PR President (Guest)	Joined	10/22/2020, 9:50:46 AM
8. ODALYS MARTINEZ SANCHEZ	Joined	10/22/2020, 9:52:43 AM
9. Rivera Calderon, Nelson (AAPP)	Joined	10/22/2020, 9:53:08 AM
10. Cosme Maldonado, Aner (AAPP)	Joined	10/22/2020, 9:54:33 AM
11. Velazquez Morales, Valerie	Joined	10/22/2020, 9:55:39 AM
12. Darisabel Traverzo	Joined	10/22/2020, 9:56:03 AM
13. Liza M. Hernandez Rivera	Joined	10/22/2020, 9:56:22 AM
14. Aida Martinez Medina	Joined	10/22/2020, 9:56:38 AM
15. Ruperto Chaparro	Joined	10/22/2020, 9:56:43 AM

GOBIERNO DE PUERTO RICO
Departamento de Seguridad Pública
Negociado de Manejo de Emergencias y
Administración de Desastres

PEDRO J. JANER ROMÁN
SECRETARIO

NINO CORREA FILOMENO
COMISIONADO

REGISTRO REUNIÓN VIRTUAL DEL AREA DE MITIGACIÓN **22 DE OCTUBRE DE 2020**

Full Name	User Action	Timestamp
16. Christa von Hillebrandt-Andrade (Guest)	Joined	10/22/2020, 9:57:07 AM
17. Pablo Mendez	Joined	10/22/2020, 9:57:21 AM
18. GABRIELA ALEJANDRA DEL MONTE-MEDINA	Joined	10/22/2020, 9:57:50 AM
19. Ernesto L. Diaz Velazquez	Joined	10/22/2020, 9:58:00 AM
20. Jorge Gustavo Gustavo Gutierrez	Joined	10/22/2020, 9:58:02 AM
21. Lebrón Durán, Ivelysse (AAPP)	Joined	10/22/2020, 9:58:19 AM
22. Evelyn Moya Gines	Joined	10/22/2020, 9:58:50 AM
23. Jacob Wegrzyn	Joined	10/22/2020, 10:00:07 AM
24. Félix Aponte Ortiz	Joined	10/22/2020, 10:01:02 AM
25. Eduardo Pagan	Joined	10/22/2020, 10:01:33 AM
26. Lymari Vazquez Rosario	Joined	10/22/2020, 10:01:42 AM
27. Liza, Hector, Couso (Guest)	Joined	10/22/2020, 10:03:09 AM
28. Javier Rivera	Joined	10/22/2020, 10:03:36 AM
29. Nino Correa Filomeno	Joined	10/22/2020, 10:03:41 AM
30. Rivera, Luis (Tony)	Joined	10/22/2020, 10:03:50 AM
31. ernesto.morales (Guest)	Joined	10/22/2020, 10:05:32 AM
32. Rev. David Guadalupe EJ	Joined	10/22/2020, 10:44:01 AM

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APPENDIX 3-1

GUIDE FOR THE VULNERABILITY ASSESSMENT OF PUBLIC STRUCTURES AND FACILITIES

NOTA ACLARATORIA

Las personas asignada al manejo de emergencias deben tener cuidado de recordar que las puntuaciones obtenidas en estas hojas de cotejo no deben ser comparadas con una puntuación base. Estas puntuaciones se usan como ayuda al comparar un número de diversas estructuras o edificios que se estén considerando para uso como refugio. No existe una puntuación específica que determine o identifique a un "refugio aceptable". Estudios estructurales previos han intentado producir o validar una puntuación base que se puede utilizar como estándar y que indique que un refugio es admisible. Sin embargo, estos estudios no han sido exitosos. Las hojas de cotejo deben ser utilizadas para la evaluación de estructuras y edificios con el propósito de identificar vulnerabilidades que pueden tener efecto en la capacidad del edificio de sobrevivir un evento natural de alto riesgo. Los resultados de estas evaluaciones deben ser utilizadas hasta que se pueda realizar un análisis de ingeniería de la estructura o edificio, para así confirmar y cuantificar el grado de deficiencia identificada en las hojas de cotejo no-técnicas.

CÓMO UTILIZAR Y EVALUAR LA LISTA DE CONTROL DE RIESGOS NATURALES

Se utilizarán cuatro Hojas de Cotejo para evaluar cada estructura o edificio: Peligros de Inundación, Peligros de Vientos Fuertes, Peligros Sísmicos
Estructurales y Peligros Sísmicos No-Estructurales. El procedimiento para usar
las hojas de cotejo desarrolladas se presenta más adelante. Si la persona que realiza el cotejo, entiende que la evaluación no requiere una puntuación del
riesgo de peligros naturales, las puntuaciones no tienen que ser marcadas. Sin
embargo, se recomienda que el evaluador conteste todas las preguntas de la hoja
de cotejo para evitar pasar por alto algunas deficiencias potenciales en el lugar.
El procedimiento para usar cada Hoja de Cotejo es la siguiente:

- Al edificio se le asigna una puntuación base por cada peligro natural
- dependiendo de la construcción del edificio.
- Luego, el edifico es evaluado para cada peligro natural contestando las
- preguntas de las hojas de cotejo. Se le añaden puntos a la puntuación base cuando las contestaciones a las preguntas de la hoja de cotejo destacan una deficiencia o un peligro potencial.

TIPOS DE EDIFICIOS

A continuación se presenta una guía para seleccionar el tipo de edificio/tipo de construcción a evaluarse. Las designaciones principales para los tipos de edificios, son: madera, acero, concreto, prefabricados, mampostería reforzada y mampostería sin refuerzos.

Madera: Estos edificios son típicamente vivienda de una o más familias y de uno o más pisos. Las estructuras de madera también pueden ser edificios comerciales o industriales con un área bastante amplia y con pocas paredes interiores. Típicamente, los sistemas de paredes y techos se construyen con marcos de madera.

Acero: Estos edificios, como mínimo, tendrán un marco de columnas y vigas de acero. Estas edificaciones pueden ser prefabricadas o pre-construidas con marcos transversales para mayor rigidez.

Concreto: Estos edificios tienen paredes o marcos de columnas y vigas de concreto. Las paredes se observan con una superficie lisa de cemento. Unidades de mampostería de concreto (bloques) son usualmente observadas como paredes entre las columnas y las vigas.

Prefabricado: Estos edificios típicamente tienen partes de concreto prefabricado usado como pared, posicionado verticalmente del piso hasta el techo. Estos edificios, por lo usual, también tienen vigas de madera o metal en el techo para así poder distribuir las fuerzas laterales ocasionadas por las paredes de concreto prefabricado. Estos edificios también pueden tener un marco de concreto prefabricado.

Mampostería Reforzada: Estos edificios tienen perímetro con paredes en bloques de ladrillo o paredes de bloques de cemento. El refuerzo en estas paredes no es evidente simplemente con mirarlas. El sistema de techo típicamente es construido de viguetas de madera o de acero. Estos edificios también pueden tener el techo y/o el piso construido de concreto prefabricado.

Mampostería Sin Refuerzos: Estos edificios tienen perímetro con paredes en bloques de ladrillo o bloques de cemento sin refuerzos. El sistema de techo típicamente será construido de viguetas de madera o de acero. Pueden tener techos y pisos de concreto prefabricado. La mayoría de las paredes de mampostería que se fabricaron antes de los años 70 no tienen refuerzo.

GLOSARIO

A continuación un glosario de términos que se provee para asegurar una claridad y continuidad en los términos y definiciones utilizadas en las hojas de cotejo.

Inundación Base: El tipo de inundación que tiene solo 1% de probabilidad que se iguale o sobrepase en un año. También se conoce como la inundación de los cien años ya que ocurre con poca frecuencia.

Elevación Base de Inundación (EBI): La elevación mínima requerida para el primer piso de cualquier estructura para que cualifique para el seguro de inundación federal. La altura de la base de inundación es medida en relación al "National Geodetic Vertical Datum" de 1929.

HOJA DE COTEJO PARA RIESGO DE INUNDACIÓN

ESTRUCTURAS O EDIFICIO	**PUNTUACIÓN**
USO	
1.0 ¿Cómo se define el uso de estructura o edificio, clasificación? ☐ Multifamiliar ☐ Gubernamental Emergencia ☐ Unifamiliar ☐ Gubernamental General ☐ Agricultura ☐ Institucional ☐ Hospital ☐ Escuela ☐ Comercial ☐ Industrial	
ASPECTOS ESTRUCTURALES	
1.1 ¿Cómo se define el tipo de estructura o edificio? ☐ Mampostería sin refuerzos (7.0) ☐ Acero (8.0) ☐ Mampostería reforzada (5.0) ☐ Madera (10.0) ☐ Concreto (5.0) ☐ Indefinida (10.0)	
1.2 ¿Cuál es la elevación del piso más bajo del edificio? _____ ¿La elevación es más alta que el NIB? ☐ Si (0.0) ☐ No (2.0) ☐ Desconocido (2.0) ☐ N/A (0.0)	
1.3 ¿Cuál es la elevación del segundo piso del edificio? _____ ¿La elevación es más alta que el NIB? ☐ Si (0.0) ☐ No (2.0) ☐ Desconocido (2.0) ☐ N/A (0.0)	
1.4 Si el nivel de piso más bajo está por debajo del NIB, ¿hay aberturas en las paredes para permitir que el agua pase a través de ellas y así evadir que aumente la presión de agua en el piso? ☐ Si (0.0) ☐ No (1.0) ☐ N/A (0.0)	
1.5 ¿Se utiliza el área debajo del NIB para vivienda o para oficinas? (Si esta área se utiliza para estacionamiento o como garaje conteste “No”.) ☐ Si (1.0) ☐ No (0.0) ☐ N/A (0.0)	
ASPECTOS RELACIONADOS AL RIESGO DE INUNDACIÓN	
1.6 ¿Existe un historial de inundaciones en el área donde está ubicado el edificio? ☐ Si (0.0) ☐ No (2.0) ☐ Desconocido (2.0) ☐ N/A (0.0)	
1.7 ¿Existe un historial de inundaciones por causa de drenajes tapados en este edificio? ☐ Si (0.0) ☐ No (2.0) ☐ Desconocido (2.0) ☐ N/A (0.0)	

HOJA DE COTEJO PARA RIESGO DE VIENTOS FUERTES

ESTRUCTURAS O EDIFICIO	PUNTUACIÓN
ASPECTOS ESTRUCTURALES	
2.1 ¿Cómo se define el tipo de estructura o edificio? ☐ Mampostería sin refuerzos (16.0) ☐ Acero (14.0) ☐ Mampostería reforzada (10.0) ☐ Madera (20.0) ☐ Concreto (10.0) ☐ Indefinida (20.0)	
2.2 ¿De qué está construido el techo? ☐ Madera (1.0) ☐ Acero (0.5) ☐ Concreto (0.0) ☐ desconocido (1.0)	
2.3 ¿La altura del techo está a menos de 30 pies del piso? ☐ Si (0.0) ☐ No (1.0)	
2.4 ¿Hay algún área en el techo que se extienda más de 40 pies de un apoyo a otro apoyo? ☐ Si (1.0) ☐ No (0.0)	
2.5 ¿La inclinación del techo es de 30 grados o más? ☐ Si (0.0) ☐ No (1.0)	
2.6 ¿El alero del techo sobresale por más de 2 pies de ancho? ☐ Si (0.5) ☐ No (0.0)	
2.7 ¿El edificio está localizado en una cuesta empinada o cerca de una cuesta empinada? ☐ Si (1.0) ☐ No (0.0)	
ASPECTOS RELACIONADOS AL RIESGO DE VIENTOS FUERTES	
2.8 ¿Cuál es la velocidad del viento en el área donde se localiza el edificio de acuerdo con el mapa de velocidades de viento? ☐ < 90 mph (0.0) ☐ 90 – 100 mph (0.5) ☐ 101 – 110 mph (1.0) ☐ 111 – 120 mph (1.5) ☐ 121 – 130 mph (2.0) ☐ 131 + mph (2.5)	
2.9 ¿Cuáles son los riesgos de escombros en la eventualidad de una crisis? Marcar todas las que apliquen. ☐ Torres o antenas a menos de 300 pies de distancia (0.2) ☐ Unidades de a/c, pequeñas estructuras de madera o “trailers” a menos de 100 pies de distancia (0.2) ☐ Tanques de gas o gasolina no anclados a menos de 300 pies de distancia (0.5) ☐ Edificios con techo de grava a menos de 300 pies de distancia (0.2) ☐ Estructuras que pueden generar escombros a menos de 300 pies de distancia (chatarra, etc.) (0.2) ☐ ¿Queda el edificio a menos de una milla de distancia del mar o un lago grande? (0.2)	

HOJA DE COTEJO PARA RIESGO DE VIENTOS FUERTES

ESTRUCTURAS O EDIFICIO	**PUNTUACIÓN**
☐ ¿Queda el edificio en un área libre o a ¼ de milla de un área libre? (0.2) ☐ ¿Queda el edificio en una región montañosa? (-0.5) ☐ ¿La carretera que conduce al edificio está rodeada de árboles? (0.2)	
2.10 ¿Hay equipo pesado en la azotea del edificio? (A/C, abanicos, antenas, discos de satélite, etc.) ☐ Si (0.5) ☐ No (0.0)	
ASPECTOS RELACIONADOS CON VIDRIADOS Y REVESTIMIENTO DE ACERO INOXIDABLE	
2.11 ¿Cuál es el porcentaje de ventanas y puertas en el exterior del edificio"? ☐ 0% - 5% (1.0) ☐ 6% – 20% (2.0) ☐ 21% – 35% (3.5) ☐ 36% – 50% (5.0) ☐ 51% – 80% (6.5)	
2.12 ¿El edificio tiene tragaluces? ☐ Si (1.0) ☐ No (0.0)	
2.13 ¿De qué material está hecha la azotea? Si la azotea está hecha de más de un material, escoger la de mayor penalidad. ☐ Tejas de madera resistentes a tormentas (0.0) ☐ Tejas de madera o tejamani hacheado (0.5) ☐ Tejas de asfalto o metal (1.0) ☐ Ladrillo de barro (1.0) ☐ Gravilla ensamblada con gravilla de más de 1"(0.5) ☐ Gravilla ensamblada con gravilla de menos de 1"(1.0) ☐ Membrana de capa sencilla con o sin lastre (0.5) ☐ Azotea tradicional de metal (0.5) ☐ Otro material (0.3)	
PROTECCIÓN DE CUBIERTA	
2.14 ¿Cuál es el material en el exterior del edificio? ☐ Todo de mampostería (0.0) ☐ 50% de mampostería (0.3) ☐ Planchas de metal o vinil (0.5) ☐ Yeso liviano (1.0) ☐ Desconocido (0.5) ☐ Combinaciones de materiales (0.5)	
2.15 ¿Están protegidas las ventanas? ☐ Si (0.0) ☐ No (1.0)	
2.16 ¿Están protegidas las puertas? ☐ Si (0.0) ☐ No (1.0)	

HOJA DE COTEJO PARA RIESGO DE VIENTOS FUERTES

ESTRUCTURAS O EDIFICIO	**PUNTUACIÓN**
2.17 ¿Están protegidas las ventanas y las puertas? ☐ Si (0.0) ☐ No (1.0)	
ASPECTOS RELACIONADOS CON LAS INSTALACIONES	
2.18 ¿Las instalaciones de servicio están debajo de la tierra o localizadas en un lugar donde vientos fuertes no las averíen? ☐ Si (0.0) ☐ No (0.3)	
2.19 ¿Las facilidades de emergencia se encuentran en una estructura o edificio con protección de vientos? ☐ Si (0.0) ☐ No (2.0) ☐ No existen facilidades de emergencia (1.0)	
TOTAL ***Riesgo de Vientos Fuertes***	

HOJA DE COTEJO PARA RIESGOS SÍSMICOS ESTRUCTURALES

ESTRUCTURAS O EDIFICIO	**PUNTUACIÓN**
ASPECTOS ESTRUCTURALES	
3.1 ¿Cómo se define el tipo de estructura o edificio? ☐ Mampostería sin refuerzos [MSR] (14.0) ☐ Mampostería reforzada [MR] (10.0) ☐ Concreto prefabricado [PRE] (10.0) ☐ Concreto [CONC] (15.0) ☐ Acero [ACR] (16.0) ☐ Madera [MAD] (20.0) ☐ Indefinida [IND] (20.0)	
3.2 Añadir puntos por penalidades observadas en la inspección. Escoja una columna basada en el tipo de edificio determinado en la pregunta 3.1. Debajo de cada columna circule la penalidad y los puntos. Sume los puntos al final de la evaluación.	

Características del edifico	MSR	MR	PRE	CONC	ACR	MAD	IND	
• Multipiso	1.0	0.5	0.5	1.0	1.0	N/A	1.0	
• Malas condiciones	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
• Irregular (vertical)	0.5	0.5	1.0	1.0	0.5	0.5	1.0	
• Piso débil	2.0	1.0	2.0	2.0	2.0	1.0	2.0	
• Plan irregular	2.0	2.0	2.0	1.5	1.5	2.0	2.0	
• Impacto lateral	N/A	N/A	0.5	0.5	0.5	N/A	0.5	
• Revestimiento pesado	N/A	N/A	1.0	1.0	N/A	N/A	1.0	
• Post código	2.0	N/A	2.0	2.0	2.0	2.0	2.0	

TOTAL ***Riesgos Sísmicos Estructurales***	

HOJA DE COTEJO PARA RIESGOS SÍSMICOS NO ESTRUCTURALES

ESTRUCTURAS O EDIFICIO	PUNTUACIÓN
ASPECTOS CON LOS COMPONENTES EN EL EXTERIOR DEL EDIFICIO	
4.1 ¿Existe evidencia de danos o deficiencias en los paneles de las paredes o las terminaciones del edificio? ¿Existen grietas en las paredes de concreto? ¿Le faltan tornillos, tuercas o sujetadores al exterior del edificio? ¿Hay morteros sueltos en las paredes de mampostería? ☐ Si (1.0) ☐ No (0.0)	
4.2 ¿Tiene el edificio anuncios pesados u objetos como vallas publicitarias adjunto a las paredes, ya sea en el interior o exterior del edificio? ☐ Si (1.0) ☐ No (0.0)	
ASPECTOS CON LOS COMPONENTES EN EL INTERIOR DEL EDIFICIO	
4.3 ¿Existen paredes divisorias que están adjuntas solo al nivel del piso y no al nivel del techo? En edificios de un piso, ¿se extienden las paredes desde el piso hasta los soportes del techo? En edificios de más de un piso, ¿se extienden las paredes desde el piso del primer nivel hasta los soportes del piso superior? ¿es el techo el único soporte de las paredes? ☐ Si (0.5) ☐ No (0.0) ☐ Desconocido (0.5)	
4.4 ¿Tienen las escaleras objetos que no sean necesitados en una emergencia (letreros que apunten a la salida o luces de emergencia) que puedan caer y bloquear las escaleras? ☐ Si (0.5) ☐ No (0.0) ☐ No aplica (0.0)	
4.5 ¿Existen algunas de las siguientes condiciones? ☐ Gabinetes, tablilleros o archivos altos y pesados que o estén anclados al piso ☐ Armarios en fila que no estén anclados al piso o adjuntos el uno del otro ☐ Televisores, monitores u otros equipos que estén elevados sin anclaje en techo, piso o paredes ☐ Si (0.5) ☐ No (0.0) ☐ No aplica (0.0)	
ASPECTOS RELACIONADOS CON LUCES Y LÁMPARAS	
4.6 ¿Se utiliza cartón enyesado o “gypsum boards”en el techo? ☐ Si (0.2) ☐ No (0.0)	
4.7 ¿Están las luces de emergencia u otros equipos para emergencias anclados a paredes, paredes divisorias u otras áreas que pueda ser determinada no segura? ☐ Si (0.2) ☐ No (0.0) ☐ Desconocido (0.2)	
ASPECTOS RELACIONADOS CON LAS INSTALACIONES	
4.8 ¿El equipo mecánico del edificio ha sido anclado a la fundación para sí resistir movimiento lateral? ¿Está este equipo atornillado o anclado a otro equipo que pueda darle soporte? ☐ Si (0.2) ☐ No (0.0)	

HOJA DE COTEJO PARA RIESGOS SÍSMICOS NO ESTRUCTURALES

ESTRUCTURAS O EDIFICIO	PUNTUACIÓN
4.9 ¿Está cualquier equipo crítico para la seguridad adecuadamente instalado y protegido para que continúe trabajando después de un terremoto? ☐ Si (0.0) ☐ No (0.5) ☐ No aplica (0.0)	
4.10 ¿Existe un mecanismo de cierre para detener el flujo de gas, aceite u otro químico dañino en el evento de una falla causada por un terremoto? ☐ Si (0.0) ☐ No (0.5)	
4.11 Las siguientes declaraciones se refieren al almacenaje de materiales de alto riesgo. Si alguna de las condiciones existe se le aplica una penalidad. Marcar todas las condiciones que existan. ☐ Combustible y otros compuestos químicos presentes (1.0) ☐ Almacenaje de cloro para piscinas (0.3) ☐ Cilindros de gas fluido no asegurados en contra del movimiento (0.3) ☐ Químicos de laboratorios almacenados en recipientes de cristal que no están asegurados para prevenir que caigan de tablilleros (0.3) ☐ Tuberías que contiene sustancias peligrosas no tienen un mecanismo de cierre, conexiones flexibles u otros aparatos que ayuden a prevenir derrames (0.3)	
TOTAL ***Riesgos Sísmicos No Estructurales***	

APPENDIX 3-2

ESTIMATED POTENTIAL LOSSES FROM THE IDENTIFIED HAZARDS IN 62 EVALUATED LOCAL HAZARD MITIGATION PLANS.

Appendix 3-2: Estimated potential losses from the identified hazards in the 62 evaluated LHMPs. (Rev. Feb. 2021)

MUNICIPALITY	IDENTIFIED RISKS						TOTAL
	Flooding	Landslides	Extreme Winds	Earthquakes	Faults/Fissure	Drought	
Adjuntas	$ 1,310,000	$ 744,548,449	$ 27,133,742	$ 769,000	$ 19,800,000	(**)	$ 793,561,191.00
Aguada	$ 4,319,000	(***)	(***)	(***)	$ 2,319,000	$ 14,000,000	$ 20,638,000.00
Aguadilla	$ 785,986	$ 135,351,813	$ 2,631,739	(***)	$ 22,119,000	(**)	$ 160,888,538.00
Aguas Buenas	$ 944,000	(***)	(***)	(***)	$ 931,000	(**)	$ 1,875,000.00
Aibonito	$ 1,752,000	(***)	(***)	$ 829,000	(***)	(**)	$ 2,581,000.00
Añasco	$ 6,445,000	(***)	(***)	(***)	$ 1,568,000	(**)	$ 8,013,000.00
Arecibo	$ 7,659,000	(***)	(***)	(***)	$ 1,539,000	(**)	$ 9,198,000.00
Arroyo	$ 2,572,000	(***)	(***)	(***)	$ 642,000	(**)	$ 3,214,000.00
Barceloneta	$ 8,110,000	(***)	(***)	$ 1,092,000		(**)	$ 9,202,000.00
Barranquitas	$ 965,000	$ 22,488,520	$ 5,456,235	(***)	$ 13,463,700	$ 12,000,000	$ 54,373,455.00
Bayamón	$ 8,537,914,539	$ 9,661,148,335	$ 1,439,348,164	(***)	$ 4,518,894,280	(**)	$ 24,157,305,318.00
Cabo Rojo	$ 60,256,808	(*)	$ 134,639,566	(***)	(*)	(*)	$ 194,896,374.00
Caguas	$ 21,912,000	(***)	(***)	(***)	(***)	(**)	$ 21,912,000.00
Camuy	$ 40,000,000	$ 40,000,000	(***)	(***)	(***)	(**)	$ 80,000,000.00
Canóvanas	$ 1,548,045	$ 39,676	$ 1,698,236	(***)	$ 768,562	(**)	$ 4,054,519.00
Carolina	$ 128,950,000	(***)	(***)	(***)	$ 7,400,000	(**)	$ 136,350,000.00
Cataño	$ 156,139,804	(***)	$ 185,543,241	(***)	$ 576,749,091	(**)	$ 918,432,136.00
Cayey	$ 1,787,152	(***)	$ 2,126,456	(***)	$ 1,078,374	(**)	$ 4,991,982.00
Ciales	$ 430,182	$ 169,849	$ 33,576,579	(***)	$ 541,308	$ 4,717,979	$ 39,435,897.00
Cidra	$ 1,483,000	(*)	(***)	(***)	$ 1,362,000	(**)	$ 2,845,000.00
Comerio	$ 4,791,000	(***)	(***)	(***)	$ 650,000	(**)	$ 5,441,000.00
Dorado	$ 6,073,000	(***)	(***)	(***)	$ 1,924,000	(**)	$ 7,997,000.00
Fajardo	$ 2,549,000	(***)	(***)	(***)	$ 1,718,000	(**)	$ 4,267,000.00
Guanica	$ 1,045,000,000	(***)	(***)	(***)		(**)	$ 1,045,000,000.00
Guayama	$ 4,179,000	(***)	(***)	(***)	$ 1,483,000	(**)	$ 5,662,000.00
Guayanilla	$ 3,899,000	(***)	(***)	(***)	$ 907,000	(**)	$ 4,806,000.00
Hatillo	$ 356,000	(***)	(***)	(***)	$ 1,846,000	(**)	$ 2,202,000.00
Hormigueros	$ 10,577,000	(***)	(***)	(***)	$ 66,374,795	(**)	$ 76,951,795.00
Humacao	$ 12,453,000	(***)	(***)	(***)	$ 2,289,000	(**)	$ 14,742,000.00
Isabela	$ 189,000	(***)	(***)	(***)	$ 2,605,000	(**)	$ 2,794,000.00
Jayuya	$ 73,453,400	(***)	(***)	(***)	$ 968,000	(**)	$ 74,421,400.00
Juana Diaz	$ 23,498,000	$ 9,646,350	$ 52,932,900	(***)	$ 142,351,350	(**)	$ 228,428,600.00
Juncos	$ 15,209,000	(***)	(***)	(***)	(***)	(**)	$ 15,209,000.00
Lajas	$ 610,000	(***)	(***)	(***)	$ 1,425,000	(**)	$ 2,035,000.00
Lares		$ 607,000	(***)	(***)	$ 2,616,000	(**)	$ 3,223,000.00
Las Marias	$ 257,000	(***)	$ 166,455,969	(***)	$ 421,000	(**)	$ 167,133,969.00
Las Piedras	$ 63,359,100	$ 26,831,050	$ 94,051,310	(***)	$ 247,989,950	(**)	$ 432,231,410.00

Loiza	$ 105,873,400	$ 1,488,101	25,326, 912	(***)	$ 89,730,816	(**)	$ 197,092,317.00
Luquillo	$ 847,382,257	$ 26,606,275	$ 72,889,264	(***)	(***)	(**)	$ 946,877,796.00
Manati	$ 2,771,913	(***)	$ 475,637,358	(***)	(***)	(**)	$ 478,409,271.00
Maricao	$ 261,000	(***)	(***)	(***)	$ 282,000	(**)	$ 543,000.00
Maunabo	$ 1,208,000	(***)	(***)	(***)	$ 431,000	(**)	$ 1,639,000.00
Mayaguez	$ 20,416,000	(***)	(***)	(***)	$ 5,017,000	(**)	$ 25,433,000.00
Morovis	$ 1,074,000	(***)	(***)	(***)	$ 1,129,000	(**)	$ 2,203,000.00
Naranjito	$ 990,000	(***)	(***)	(***)	$ 970,000	(**)	$ 1,960,000.00
Orocovis	$ 1,034,000	(***)	(***)	(***)	$ 793,000	(**)	$ 1,827,000.00
Ponce	$ 38,271,000	(***)	(***)	(***)	$ 6,518,000	(**)	$ 44,789,000.00
Rio Grande	$ 6,629,000	(***)	(***)	(***)	$ 2,303,000	(**)	$ 8,932,000.00
Salinas	$ 14,572,000	(***)	(***)	$ 1,071,000	(***)	(**)	$ 15,643,000.00
San German	$ 3,406,000	(***)	(***)	$ 1,818,000	(***)	(**)	$ 5,224,000.00
San Juan	$ 56,873,000	(***)	(***)	$ 19,354,000	(***)	(**)	$ 76,227,000.00
Santa Isabel	$ 2,802,000	(***)	(***)	$ 754,000	(***)	(**)	$ 3,556,000.00
Toa Alta	$ 6,122,000	(***)	(***)	$ 2,752,000	(***)	(**)	$ 8,874,000.00
Trujillo Alto	$ 4,969,000	(***)	(***)	(***)	$ 2,888,000	(**)	$ 7,857,000.00
Utuado	$ 5,617,000	(***)	(***)	(***)	$ 1,339,000	(**)	$ 6,956,000.00
Vega Alta	$ 1,947,000	(***)	(***)	$ 1,539,000	(***)	(**)	$ 3,486,000.00
Vega Baja	$ 8,802,000	(***)	(***)	(***)	$ 2,586,000	(**)	$ 11,388,000.00
Vieques	$ 64,000	(***)	(***)	(***)	$ 467,000	(**)	$ 531,000.00
Yabucoa	$ 2,733,000	(***)	(***)	$ 1,242,000	$ 16,000	(**)	$ 3,991,000.00
Yauco	$ 4,331,000	(***)	(***)	(***)	$ 1,994,000	(**)	$ 6,325,000.00
Total	$ 11,391,227,586	$ 10,668,925,418	$ 2,694,120,759	$ 31,220,000	$ 5,761,845,226	$ 30,717,979	**$ 30,578,056,968**

(*) There is currently insufficient data available to estimate dollar losses due to this risk. It is recommended that this information be included in the next update.

(**) Since drought is a hazard that does not directly affect structures, no estimate of structural dollar losses is generated. It is recommended that this information be included in the next update.

(***) At the time of preparing the Plan there was insufficient data available to estimate the dollar losses for this risk. It is recommended that this information be included in the next update.

$	299,540,000.00		
$	11,209,017.00	$	118,347,567.00
		$	17,004,246.00
$	310,749,017.00		

$	118,781,930.00	$	47,456,947.00
$	37,357,874.00	$	529,292,144.00
	156,139,804		576,749,091

APPENDIX 4-1

FEDERAL RESOURCES TOOLS FOR PLANNING AND MITIGATION

FEMA	Municipalities Profiles of 22 High Priority Municipalities		
FEMA	Southwest Region Profile and Municipal Briefing		
USDA	Housing Assessment Tool (Public website)		https://eligibility.sc.egov.usda.gov/eligibility/welcomeAction.do?pageAction=assessmentType
USDA	Real Estate Owned Properties (REO) for Sale (Public Website) -	In this website clients and Housing Agencies will be able to see the inventory of REO Single Family Housing Properties for sale;	https://properties.sc.egov.usda.gov/resales/public/home
USDA	List of rental multifamily housing projects financed by the Agency, including the address, contact person and telephone numbers;		
USDA	List of vacant rental units available on those rental housing projects.		
USDA	Factsheets, brochures and other Housing Programs information is available at all time, including orientation meetings from RD staff thru teleconferences or virtually.		
DOI/USFWS	Puerto Rico National Wetlands Inventory (NWI) update and coastal zone wetland change analysis.	The NWI geospatial digital update will provide an accurate and contemporary accounting of wetlands across Puerto Rico based on current conditions.	
DOI/USFWS	Puerto Rico wetlands and deep-water habitat mapping.	The wetland coastal change analysis will produce geospatial data and statistical information regarding the changes within the coastal zone that occurred in the aftermath of Hurricane Maria.	
DOI/USFWS	Cultural Ecosystem Mapping.	Digital platform where cultural resources can be searched across Puerto Rico.	
DOI/USGS	Map Depicting Susceptibility to Landslides Triggered by Intense Rainfall, Puerto Rico.	Study includes use of empirical data on landslides post Maria.	https://usgs.maps.arcgis.com/apps/webappviewer/index.html?id=10506ecc7f15491daee17647f19248ee
DOI/NOAA	Post-Maria High Resolution Imagery.	Oblique and nadir imagery were acquired following Hurricane Maria in September 2017. The aerial photography missions were conducted by the NOAA Remote Sensing Division.	https://storms.ngs.noaa.gov/storms/maria/index.html#7/18.056/-64.824
DOI/NOAA	Sea Level Rise Viewer Web Mapping Tool.	Use this web mapping tool to visualize community-level impacts from coastal flooding or sea level rise up to 10 feet above average high tides.	https://coast.noaa.gov/slr/
DOI/NOAA	Screening tool for flood areas.	This online visualization tool supports communities that are assessing their coastal hazard risks and vulnerabilities.	
DNER/NOAA	Update mapping of Puerto Rico benthic systems.	Benthic habitat mapping provides coastal communities with valuable information about subsurface communities in coastal areas.	
DOC/ NOAA /OCM	Coastal Flood Exposure Mapper	Tool: Creates a collection of user-defined maps that show the people, places, and natural resources exposed to coastal flooding	https://coast.noaa.gov/digitalcoast/tools/flood-exposure.html
DOC/NOAA	Green Infrastructure Effectiveness Database	Database: Online database of literature sources containing information on the effectiveness of green infrastructure to reduce the impacts of coastal hazards	https://coast.noaa.gov/digitalcoast/training/gi-database.html
DOC/NOAA	Coral Reef Information System	Database: Collection of research, reports, management plans, and data on Puerto Rico coral reefs and watersheds	https://www.coris.noaa.gov/portals/puertorico.html
DOC/NOAA	Assessment of Hurricane Impacts to Coral Reefs	Project: Quantified impacts of hurricanes on Puerto Rico coral reefs using diver-based surveys (2017-2018)	https://coastalscience.noaa.gov/project/assessment-of-hurricane-impacts-to-coral-reefs-in-florida-and-puerto-rico/
DOC/NOAA	Environmental Response Management Application (ERMA)	Tool: Integrates static and real-time data, including Environmental Sensitivity Index maps, ship locations, weather, and ocean currents	https://coast.noaa.gov/digitalcoast/tools/erma.html
DOC/NOAA	Essential Fish Habitat Mapper	Tool: Displays habitat maps and species lists for specific locations	https://www.habitat.noaa.gov/protection/efh/efhmapper/index.html
DOC/NOAA	Historical Hurricane Tracks	Tool: To view, analyze, and share historical hurricane tracking information.	https://coast.noaa.gov/hurricanes/
DOC/NOAA	Impervious Surface Analysis	Tool: To calculate the percentage of impervious surface area within user-selected geographic areas such as watersheds, municipalities, and subdivisions.	https://coast.noaa.gov/digitalcoast/tools/isat.html
DOC/NOAA	Marine Cadastre Track Builder	Tool: To generate maps of vessel traffic for transportation analysis and coastal and ocean planning.	https://coast.noaa.gov/digitalcoast/tools/track-builder.html
DOC/NOAA	MarineCadastre National Viewer	Tool: To analyze and explore geospatial data for ocean planning	https://marinecadastre.gov/nationalviewer/
DOC/NOAA	Marine Protected Areas	Database: Marine Protected Areas	http://noaa.maps.arcgis.com/apps/webappviewer/index.html?id=02c92215493e4736b88f689e5f328fa8

Agency	Resource	Description	Web Page
FEMA	Max-Trax	Online database of Federal disaster recovery projects and courses of action for Federal partner coordination	https://trax.max.gov/
Argonne National Labs	Infrastructure Interdependencies Map	The goal of this project has been to support long-term recovery planning by FEMA and the government of Puerto Rico through an infrastructure interdependency assessment that could drive the targeting, prioritization, and packaging of recovery investments, and ultimately contribute to a resilient economy and supporting infrastructure in the commonwealth.	http://www.camarapr.org/Camara-en-Accion-18-19/17-nov-8/gob/PR-Infrastructure-Interdependency-Assessment-Report-Sept-2018.pdf
FEMA	FEMA PULSE - Platform for Understanding Lifeline Stabilization of the Economy	This tool provides an overview of the business landscape in Puerto Rico by municipality.	
FEMA	FEMA Geodata viewers (Comms, Power, Water, Natural & Cultural)	ArcGIS Online WebApplications with layers of critical infrastructure in several main sectors.	http://fema.maps.arcgis.com/home/group.html?id=5886363588db4f5fb6a7e8e8dcbc277c#overview
FEMA	Disaster Recovery Project WebApp	ArcGIS Online WebApplication portraying FEMA Public Assistance (PA) damages for permanent work (Categories C-G). Also displayed is recovery project infomration from other federal partners active in recovery.	http://fema.maps.arcgis.com/apps/webappviewer/index.html?id=a854ef42a65e49eea971ae0e8cd7a640
FEMA	Advisory Base Flood Elevation WebApp	Advisory Base Flood Elevations (ABFEs) are provided to communities as a tool to support them in recovery in ways that will make them resilient to future storms. The National Flood Hazard Layer is the current effective; GIS shapefiles of current effect data layers are available through https://msc.fema.gov/portal	https://gis.fema.gov/PuertoRicoABFEs/
FEMA	Community Condition Assessment: (completed, 2018) – Available upon request to FEMA CPCB	a. Aggregated information on local government capacity, hurricane impacts, and vulnerable populations in all municipalities into a simple, useable format. CPCB used the CCA to identify municipalities that would be targeted for additional Technical Assistance. b. CPCB shared the CCA with other agencies and areas of FEMA. The Incident Management Assistance Team (IMATs) from Region VIII and Region VI used the CCA index to prioritize their site visits to municipalities. FEMA Voluntary Agency Liaisons (VALs), the Hub of Philanthropic Engagement, and the Housing RSF also factored CCA data into their prioritization frameworks. RAND/HSOAC also used the CCA to inform the Data and Needs Assessment for the Commonwealth Economic and Disaster Recovery Plan	
FEMA	Municipal Mapping Exercise Spreadsheet and Geodatabase- (completed) – Available upon request to FEMA CPCB	a. Compilation of all the information gathered from CPCB municipal mapping exercise which includes data regarding vulnerable communities, hazards, possible tourism activities and economic development projects, and general concerns. The mapping exercise is a tool that CPCB adopted as part of the interaction and planning technical assistance with municipal staff. A digitized map was produced as a result of this exercise, a printed copy was prepared and shared with the municipalities. b. The overall products developed from the integration of the information described above, are a standardized spreadsheet in excel, a KML table that can be use on Google Map and a Geodatabase that can be manipulated using ArcGIS.	
FEMA	Community Input Tool- (completed) – Available upon request to FEMA CPCB	a. The CIT was a community outreach effort to gain a better understanding of communities' problems and concerns. A questionnaire was distributed to citizens looking for individual assistance at FEMA Community Recovery Centers (CRC)s to gather first-hand information from the survivors, based on three main questions: 1. How do you want your community to improve? 2. What health concerns exist? 3. What safety concerns exist in your community? b. Use information collected through the CRCs to identify both local-level and island-wide trends, which will help to focus efforts on critical areas. c. The information gathered provides a snapshot of the need expressed by the survivors. The products developed from this effort are: info-graphics, a profile of the survivors needs for each municipality, maps, and a narrative.	
FEMA	Municipal GIS and Mapping Capacity Assessment - (under revision)	a. This is a preliminary baseline assessment of the overall capacity of 34 municipalities for using and having access to geographical system and mapping analysis. The end result of this baseline assessment was to identify the needs and propose general recommendations.	
FEMA	Preliminary List of vulnerable communities		

DOC/NOAA	Ocean Law Search	Database: Online database of environmental and historic preservation statutes and other information on the protection of underwater cultural heritage on the outer continental shelf	https://coast.noaa.gov/oceanlawsearch/#/search
DOC/NOAA	Data Access Viewer	Database: Online access to elevation, imagery, and land cover data for the coastal U.S. and its territories.	https://coast.noaa.gov/dataviewer/#/
DOC/NOAA	Citizen Science Water Level Application	Tool: Web application to report and view water levels and study the impacts of high tide flooding.	https://coast.noaa.gov/digitalcoast/tools/wlr.html
DOC/NOAA	NOAA Tides and Currents Inundation Dashboard	Tool: Access real-time water levels, 48-hour forecasts of water levels for select regions, and historical flooding information at a majority of the 200+ coastal water level stations. Monitor water level conditions in the path of a hurricane, nor'easter, or other coastal storm in real time	https://tidesandcurrents.noaa.gov/inundationdb/#
DOC/NOAA	Ocean Reports	Tool: To provide summary statistics and infographics for six main topics: general information, energy and minerals, natural resources and conservation, oceanographic and biophysical, transportation and infrastructure, and economics and commerce.	https://marinecadastre.gov/oceanreports/@-10737743.881037742,4753280.983019757/4
DOC/NOAA	OpenNSPECT	Tool: To map surface water runoff volumes, pollutants, and total sediment loads	https://coast.noaa.gov/data/digitalcoast/zip/opennspect-setup.zip
DOC/NOAA	United States Interagency Elevation Inventory	Database: Elevation data for the United States and its territories is collaboratively maintained by six federal agencies.	https://coast.noaa.gov/inventory/
DOC/NOAA	VDatum	Tool: Converts elevation data between tidal, orthometric, and ellipsoidal vertical datums, allowing users to establish a common reference system for all elevation data sets.	https://coast.noaa.gov/digitalcoast/tools/vdatum.html
DOC/NOAA	Wave Exposure Model	Tool: To estimate wave energy and its effects on ecosystem functions, as well as on developed coastal and inland-water areas.	https://coastalscience.noaa.gov/research/coastal-change/wemo/wemo-download/
DOC/NOAA	National Coral Reef Monitoring Program	Database: The Gecportal application provides centralized access to distributed Coral Reef Conservation Program publications, geospatial data, tools, and applications.	https://www.coris.noaa.gov/data/welcome.html
DOC/NOAA	Sustainable Fisheries Division	Map: GIS data of managed commercial and recreational fisheries	https://www.fisheries.noaa.gov/tags/caribbean-fisheries-management-map
DOC/NOAA	Fishery Stock Status	Reports: Update status reports of fish stocks managed under federal fishery management plans quarterly based on stock assessments completed during that quarter.	https://www.fisheries.noaa.gov/national/population-assessments/fishery-stock-status-updates
DOC/NOAA	Hurricanes and Corals in the 2017 Atlantic Hurricane Season	Story map: Display of some of the damage assessment work that was performed Post-Hurricane Maria	https://noaa.maps.arcgis.com/apps/MapJournal/index.html?appid=4f7e03fe4c3748849426d15e12491d22
DOC/NOAA	National Coral Reef Monitoring Program	Database: National Coral Reef Monitoring Program: Assessment of coral reef benthic communities in the Caribbean	https://data.nodc.noaa.gov/cgi-bin/iso?id=gov.noaa.nodc:NCRMP-Benthic-USVI
DOC/NOAA	National Centers for Coastal Ocean Science (NCCOS) Biogeographic Surveys	Database: Biogeographic Surveys of Benthic and Fish Communities in the Caribbean	https://data.nodc.noaa.gov/cgi-bin/iso?id=gov.noaa.nodc:0206670
DOC/NOAA	Bathymetric Data Viewers	Database: depths and shapes of underwater terrain	https://maps.ngdc.noaa.gov/viewers/bathymetry/
DOC/NOAA	Hurricane Coral Reef Assessment and Triage in Puerto Rico	Story map: Hurricane Coral Reef Assessment and Triage in Puerto Rico	https://noaa.maps.arcgis.com/apps/MapSeries/index.html?appid=b0a4046c33d04a829bd41dfc3061502a
DOC/NOAA	Status of Puerto Rico's Coral Reefs in the Aftermath of Hurricanes Irma and Maria Assessment	Report: Status of Puerto Rico's Coral Reefs in the Aftermath of Hurricanes Irma and Maria Assessment	http://drna.pr.gov/wp-content/uploads/2018/06/Coral-Assessment-Report.pdf
CARICOOS	Puerto Rico long-term coral reef monitoring	Database: Global Biodiversity Information Facility (GBIF) global repositories. Includes raw biological and substrate data around Puerto Rico, with variable sampling frequencies between 1999 to 2019.	https://obis.org/dataset/52f99f08-fc90-4684-aea8-a015150968ea?utm_medium=email&utm_source=GovDelivery
DOE	Building Energy Optimization Tool.	Used to evaluate residential building designs and identify cost-optimal efficiency packages at various levels of whole-house energy savings along the path to zero net energy.	
DOE	Community Solar Scenario Tool	Provides a "first cut" analysis of different community or shared solar program options	
DOE	Jobs and Economic Development Impact Models	User-friendly tools that estimate economic impacts of constructing and operating power generation and biofuel plants at local and state levels.	
DOE	National Solar Radiation Database	A collection of meteorological and solar irradiance data sets for the U.S. and a growing list of international locations.	
DOE	PVWatts Calculator	A calculator that estimates the energy production and cost of energy of grid-connected photovoltaic energy systems throughout the world.	

DOE	REopt Lite	A decision-support tool used to optimize energy systems for buildings, campuses, communities, and microgrids.	
DOE	ResStock	Performs large-scale residential energy analysis by combining public and private data sources, statistical sampling, detailed sub-hourly building simulations, and high-performance computing to help users identify which home improvements save the most energy and money.	
DOE	System Advisor Model	A free computer program that calculates a renewable energy system's hourly energy output over a single year, and the cost of energy for a renewable energy project over the life of the project.	
DOE	Flexible Energy Scheduling Tool for Integrating Variable Generation	A multiple-timescale, interconnected simulation tool that includes security-constrained unit commitment, security-constrained economic dispatch, and automatic generation control sub-models.	
DOE	Engage tool	A custom capacity and dispatch modeling system that can quickly provide insights on cross-sectoral questions.	
DOE	Multi-Area Frequency Response Integration Tool	Simulates the power system dynamic response in full time spectrum with variable time steps from millisecond to days under both normal and event conditions.	
ECON	COA Alignment Tool	Alignment tool to provide COR3 with a view into how the 276 Courses of Action in the Disaster and Economic Recovery Plan align across recovery support functions and or groups (Sectors).	
HOU	Landslide inventory	This map of slope failure locations was created using the same imagery used to create a preliminary map of landslide concentration (Bessette-Kirton et al., 2017) and should be considered an advancement of that effort. This dataset is a point shapefile of landslide headscarps identified across Puerto Rico using georeferenced aerial and satellite imagery recorded following the hurricane.	https://www.sciencebase.gov/catalog/item/5d4c8b26e4b01d82ce8dfeb0
HOU	Landslide report	Map Depicting Susceptibility to Landslides Triggered by Intense Rainfall, Puerto Rico	https://pubs.er.usgs.gov/publication/ofr20201022
HOU	Susceptibility to landslide pdf map	ArcGIS tool to visually identify the susceptability of landslides	https://pubs.usgs.gov/of/2020/1022/ofr20201022_sheet.pdf
HOU	PR Induced Landslide Impact Dynamics on Environment and Society in Puerto Rico	SLIDES-PR is a multi-phase project that was launched by the Department of Geology at the University of Puerto Rico at Mayaguez one month after the passing of Hurricane Maria in 2017. The endeavor is ongoing and has benefitted the collaborative efforts with colleagues at the USGS Landslide Hazards Group, the USDA NRCS Group, the Univ. of Colorado Boulder Natural Hazards Centre, and the Puerto Rico Planning Board.	UPR Mayaguez Landslides Working Group SLIDES PR Report Slides Here
HOU	KEEP SAFE Community Guide	Keep Safe is produced as part of Enterprise Community Partners' Climate Strong Islands Initiative (CSII). The manual features strategies on resilient energy and water systems for homes; protection of roofing and structural systems; strategies to enable habitability of homes without power; strategies to embolden communities and how to implement strategies outlined through code compliance and funding. The guide is a decision-making tool to assist housing designers, operators, construction professionals, owners and regulators to determine resilience strategies to make homes safer from extreme weather.	https://urbanrisklab.org/work/#/puertorico/
HOU	Landslide Loss Reduction - A Guide for State and Local Government Planning	There is a need for a comprehensive program to reduce landslide losses in the United States that marshals the capability of all levels of government and the private sector. Without such a program, the heavy and widespread losses to the nation and to individuals from landslides will increase greatly. Successful and cost-effective landslide loss-reduction actions can and should be taken in the many jurisdictions facing landslide problems.	https://www.fema.gov/media-library-data/20130726-1440-20490-1637/fema_182.pdf
HOU	Resilient SEE PR	We are a global alliance of designers, engineers, academics, nonprofits, and citizens. We are working together, donating our time, expertise, and resources to achieve a common goal: a comprehensive and resilient planning and design strategy for Puerto Rico.	https://www.resilientsee-pr.com/
HOU	The Housing Pre-Planning Toolkit (Toa Baja pilot project)	The Housing Pre-Planning Toolkit is ongoing research aiming to create an interactive tool for localities that presents information related to housing resilience and recovery and that assists localities in identifying and organizing information related to their unique constraints and priorities for housing resilience and recovery. The information presented through the toolkit is intended to help localites to determine their strategic objectives and to strengthen their operational capacities before, during, and after a disaster.	https://urbanrisklab.org/

APPENDIX 4-2

NATIONAL FLOOD INSURANCE PROGRAM (NFIP) INFORMATIVE BROCHURE

Volumen 7

OFICINA DEL COMISIONADO DE SEGUROS DE PUERTO RICO

Universidad del Seguro Campus Hispano

SEGURO DE INUNDACIONES

Según la Agencia Federal de Manejo de Emergencias, conocida por FEMA, por sus siglas en inglés, las inundaciones son los desastres naturales más costosos y más comunes.

Las inundaciones pueden ocurrir en cualquier momento y en cualquier lugar de una manera sumamente rápida. Además, el daño NO está cubierto por una póliza de seguros estándar de dueños de residencia. A tales efectos, la Asociación Nacional de Comisionados de Seguros le ofrece algunos consejos importantes acerca de estos seguros para que usted pueda prepararse en caso de una inundación.

¿QUÉ ES UNA INUNDACIÓN?

Una inundación es un exceso de agua (o fango) en cierta área o parte de un terreno que está normalmente seco.

El Programa Nacional de Seguros de Inundaciones (NFIP – National Flood Insurance Program) define inundación como una condición general o temporal de inundación parcial o completa de dos acres o más, que sean normalmente secas o dos o mas propiedades (por lo menos una debe ser propiedad de la persona asegurada) que se desborden a causa de mareas altas o de lluvias torrenciales; deslices de fango; o colapso o hundimiento de tierra a lo largo de la orilla de un río o de un cuerpo de agua similar como resultado de una erosión causada por olas o corrientes de agua que exceden los niveles cíclicos anticipados.

¿QUÉ ES EL SEGURO DE INUNDACIONES?

- El seguro de inundaciones es una póliza especial respaldada por el Gobierno Federal y disponible para los dueños de residencia o dueños de negocios.

- Puede adquirir el seguro de inundaciones para su residencia o negocio independientemente si la propiedad esta dentro o fuera de un área de alto riesgo a inundación, siempre y cuando la propiedad esté localizada en una comunidad participante.

Puede adquirir el seguro de inundaciones que cubre hasta $250,000 de daños por inundación para su residencia.

Una póliza de inundación estándar le cubre daño estructural, incluyendo daños a su horno microonda, calentador de agua, aire acondicionado, alfombras, losetas y limpieza de escombros.■

El Seguro de Inundaciones

Consejos Adicionales de Seguridad

⇒ Para su seguridad personal, identifique qué refugio de huracán está disponible y prepare un plan de evacuación de emergencia.

⇒ Asegúrese que tiene agua embotellada, un botiquín de primeros auxilios, linternas, un radio de baterías, alimentos no perecederos, sabanas, ropas, medicamentos, espejuelos, artículos de higiene personal y una pequeña cantidad de dinero en efectivo.

⇒ Si necesita evacuar su residencia, apague y desconecte todos los enseres eléctricos para reducir la posibilidad de daños adicionales y de electrocutarse cuando los servicios de electricidad se restablezcan.

⇒ Tome pasos proactivos para proteger su propiedad de pérdidas. Asegúrese de instalar "tormenteras" o cubra las ventanas con paneles antes de que azote un huracán.

⇒ Asegúrese que no haya ningún trabajo de instalación o albañilería suelto en su residencia, ni árboles enfermos o secos que amenacen con caerse.

⇒ Prepare un inventario de su propiedad personal, por ejemplo, ropa joyería, muebles, computadoras y equipo audiovisual. El poseer fotos y video de su propiedad, además de recibos de compra y números de serie de los artículos en su inventario, facilitará el proceso de someter una reclamación.

⇒ Encomiende una copia de su inventario a amigos o familiares, conserve copia en su correo electrónico y guárdelo en un lugar seguro.

⇒ También, añada la información de su póliza de seguros a la información de su inventario- el nombre de la compañía aseguradora, el nombre de su agente de seguros, el número de póliza y la información contacto.

⇒ Guarde todos sus documentos importantes en un lugar seguro. Lléveselos en caso de emergencia, o consérvelos en una caja fuerte fuera del área.

¿Cómo puedo adquirir el seguro de inundaciones?

Puede adquirir el seguro de inundaciones para su residencia o negocio sin importar si la propiedad está dentro o fuera de un área de alto riesgo a inundación, directamente con un agente de seguros que gestione seguros de propiedad y contingencia o con su compañía aseguradora si su comunidad participa en el NFIP. Para saber si su comunidad participa, visite www.fema.gov/fema/csb.shtm.

Además, su agente de seguros o compañía aseguradora puede confirmar si el seguro de inundaciones está disponible para usted y cuánto costaría.

Planifique con anticipación Periodo de espera

Es importante que planifique con anticipación. Normalmente, una póliza de seguros de inundaciones no tendrá efecto hasta treinta (30) días después que se adquiera.

¿Cuánto cuesta el seguro de inundaciones?

Según FEMA, la prima promedio que pagan los dueños de residencia por una póliza de seguros de inundaciones es poco más de $500 al año.

Las primas para seguros de inundaciones pueden variar de acuerdo al riesgo por inundación al que está expuesta la propiedad, el límite o cantidad de cobertura que escoja, el tipo de cobertura (contenido, estructura, residencial o de negocios) y la cantidad del deducible.

Para edificios no residenciales, la cobertura de estructura está disponible hasta $500,000.

Puede adquirir cobertura por inundación para el contenido de su residencia hasta $100,000, pagando una prima adicional

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Suite 216, PMB 356,
Guaynabo, P.R. 00968-3029
787-304-8686
WWW.OCS.GOBIERNO.PR

COMBATE EL FRAUDE

PARA. LLAMA. CONFIRMA

APPENDIX 5-1

LOCAL MITIGATION PLANS
UPDATING PROGRESS REPORTING TOOL (UNDER REVISION)

GENERAL INFO					FIRST REVIEW					SECOND REVIEW				THIRD REVIEW				FOURTH REVIEW				ADOPTION			
Group	Municipality	Expiration Date	Approved (Y/N)	Date of Plan - First Draft	Submitted to COR3	Returned to PRPB	Resubmitted to COR3	Submitted to FEMA	FEMA Determination 1st Review	Returned to PRPB	Resubmitted to COR3	Resubmitted to FEMA	FEMA Determination 2nd Review	Returned to PRPB	Resubmitted to COR3	Resubmitted to FEMA	FEMA Determination 3rd Review	Returned to PRPB	Resubmitted to COR3	Resubmitted to FEMA	FEMA Determination 4th Review	Submitted to PRPB and Municipality	Local Government Adoption	Submitted to FEMA	FEMA Approval
1	Arecibo	03.14.2018	Y	01.16.2020					**03.20.2020 APA**														Ordenanza 31-511 2019-20		04.15.2020
1	Vega Alta	07.27.2017	Y	07.16.2019				02.22.2020	**03.19.2020 APA**													03.25.2020	Orden Ejecutiva 12 2019-20		05.01.2020
1	Jayuya	05.30.2018	Y					10.11.2019				01.13.2020	01.31.2020 - UNMET		02.06.2020		**02.20.2020 - APA**						Resolucion 70 Serie 2019-20; 05.08.2020		05.19.2020
1	Santa Isabel	08.03.2016	Y					07.17.2019			01.13.2020	01.23.2020	**02.13.2020 - APA**										Orden Ejecutiva 05 Serie 2020-2021; 08.20.2020	08.21.2020	08.26.2020
1	Dorado	07.22.2018	Y		Not available	None	None	07.16.2019	10.17.2019 UNMET	Not available	02.21.2020	03.11.2020	05.11.2020 - UNMET	05.12.2020	06.16.2020	06.17.2020	07.23.2020 UNMET	07.23.2020	08.26.2020	08.26.2020	**08.31.2020 APA**	08.31.2020	Orden Ejecutiva 02 Serie 2020-2021; 09.10.2020		
1	Utuado	08.21.2017	Y	07.09.2020					10.23.2019 UNMET		02.27.2020	03.05.2020	04.06.2020 - UNMET	04.27.2020	06.18.2020	06.26.2020	08.04.2020 UNMET	08.04.2020	08.27.2020	08.28.2020	**09.02.2020 APA**	09.03.2020			
1	Aguada	07.01.2018	Y	Oct-19				10.21.2019	Pendiente - UNMET			02.19.2020	04.06.2020- UNMET	04.07.2020	06.22.2020	06.23.2020	07.23.2020 UNMET	08.07.2020	08.14.2020	08.17.2020	**08.24.2020 APA**	08.26.2020	Resolución 7 Serie 2020-2021; 10.20.2020	11.9.2020	11/16/2020
1	Patillas	07.31.2018	Y	08.08.2019	Not available	Not available	Not available	Not available	Not available	Not available	02.28.2020		04.27.2020 UNMET	05.19.2020	06.11.2020	06.16.2020	**07.02.2020 APA**						Resolucion 7 Serie 2020-2021; 08.19.2020	08.21.2020	08.26.2020
1	Barranquitas	09.11.2017	Y	02.05.2020	N/A	N/A	N/A	03.04.2020	03.10.2020- UNMET				04.20.2020/05.18.2020		06.04.2020	06.16.2020	**06.29.2020 APA**					07.01.2020	Ordenanza 1 Serie 2020.2021; 08.06.2020		08.21.2020
1	Rincón	09.13.2017	Y	02.11.2020		N/A	N/A			02.26.2020	N/A	03.10.2020	04.20.2020 UNMET	04.24.2020	06.29.2020	07.02.2020	**07.23.2020 APA**					07.23.2020	Resolucion 8 Serie 2020-2021; 08.03.2020		
=	Humacao	06.27.2018						07.17.2019				10.23.2020	11.30.2020 UNMET	12.01.2020	12.03.2020	12.09.2020	12.15.2020					12.16.2020			
1	Mayagüez	05.12.2018						08.05.2019	10.23.2019 UNMET		10.21.2020	10.22.2020	**11/16/2020 APA**									12.29.2020	Resolución #53 Serie 2020-2021; 12.28.2020	01.07.2021	01.08.2021
2	Salinas	03.05.2019	Y	12.09.2019	12.27.2019		01.22.2020	01.23.2020	02.27.2020 UNMET	03.09.2020	03.10.2020	03.10.2020	**03.23.2020 APA**									03.24.2020	Ordenanza Num. 07 2019-20; 06.05.2020		06.25.2020
2	Comerío	08.17.2018	Y					02.10.2020	**02.18.2020-APA**														Ordinance Num. 26, Series 2019-20		06.30.2020
2	Aguas Buenas	08.14.2018	Y	12.23.2019	12.27.2020			01.23.2020	02.26.2020 UNMET		03.27.2020	04.23.2020	06.10.2020 UNMET	06.15.2020	08.03.2020	08.12.2020	**08.20.2020 APA**					08.20.2020	Resolución 5 Serie 2020-2021; 08.26.2020		09.17.2020
2	Vieques	02.13.2019	Y	01.13.2020	01.16.2020			02.14.2020	03.30.2020 UNMET	03.30.2020	06.09.2020	06.16.2020	**07.02.2020 APA**										Resolucion 5 Serie 2020-2021; 08.27.2020	09.03.2020	09.08.2020
2	Yabucoa	10.23.2018	Y	01.16.2020				03.06.2020	04.20.2020 UNMET	04.24.2020	06.24.2020	06.26.2020	**07.21.2020 APA**									07.21.2020	Resolucion 3 Serie 2020-2021; 07.23.2020		07.30.2020
2	Adjuntas	01.23.2019	Y	01.17.2020	01.23.2020	02.02.2020	02.21.2020	03.11.2020	05.08.2020 UNMET	05.11.2020	06.04.2020	06.11.2020	07.23.2020 UNMET	07.23.2020	08.17.2020	08.18.2020	**08.24.2020 APA**					08.26.2020	Orden Ejecutiva 03 Serie 2020-2021; 09.10.2020	09.15.2020	09.17.2020
2	Añasco	08.29.2018	Y	03.06.2020	03.17.2020			04.01.2020	05.18.2020 UNMET	05.19.2020	06.18.2020	06.22.2020	**07.28.2020 APA**										JEM-03 Serie 2020-2021; 07.22.2020		
2	Peñuelas	02.20.2018		03.31.2020	04.17.2020	04.17.2020	04.17.2020	04.23.2020	06.05.2020 UNMET	06.09.2020	08.05.2020	08.11.2020	08.27.2020 UNMET	08.28.2020	09.02.2020	09.03.2020	**09.11.2020 APA**						Orden Ejecutiva 11 Serie 2020-2021; 09.14.2020		09.22.2020
2	Isabela	08.07.2018		06.21.2020	07.03.2020	07.07.2020	07.07.2020	07.08.2020	08.12.2020 UNMET	08.13.2020	10.07.2020	10.08.2020	**11.17.2020 APA**									11.17.2020	Orden Ejecutiva #1; 12.18.2021	01.11.2021	01.12.2021
2	Carolina	07.15.2018		09.29.2020	10.09.2020			10.13.2020	11.25.2020 UNMET	11.30.2020	12.03.2020	12.08.2020													
2	Culebra	08.21.2018																							
2	Lajas	03.21.2019		08.18.2020	09.14.2020			09.17.2020	11.02.2020 UNMET		12.11.2020	12.18.2020	**12.23.2020 APA**												02.05.2021
3	Cabo Rojo	08.06.2019		07.14.2020	07.16.2020	07.21.2020	09.14.2020	09.16.2020	11.10.2020 UNMET		12.03.2020	12.07.2020	**12.15.2020 APA**									12.15.2020		01.29.2021	02.01.2021
3	Las Marías	04.30.2019		07.07.2020	07___2020	07.15.2020	07.16.2020	07.17.2020	09.24.2020 UNMET	08.24.2020	09.24.2020	09.28.2020	10.13.2020 UNMET	10.13.2020	10.15.2020	10.16.2020	**11.12.2020 APA**					11.12.2020 APA	Ordenanza 5 Serie 2020-2021; 12.16.2020	12.18.2020	12.21.2020
3	Lares	03.06.2019			12.01.2021			12.07.2020	01/14/2021 UNMET		01.27.2021	02.01.2021	**02.16.2021 APA**												
3	San Germán	03.16.2019		08.28.2020	09.04.2020			09.08.2020	10.20.2020 UNMET	10.20.2020	10.28.2020	10.30.2020	**11.19.2020 APA**										Orden Ejecutiva 15; Serie 2021. 11.23.2020	12.04.2020	12.07.2020
3	Cidra	04.02.2019			10.28.2020			10.28.2020			12.18.2020	1.14.2022	**2.09.2021 APA**									2.9.2021	Orden Ejecutiva 006; Serie 2021-2021. 2.10.2021	2.19.2021	2.22.21
3	Luquillo	07.23.2019			12.08.2020			12.15.2020																	
3	Alborito	08.07.2019																							
3	Arroyo	08.14.2019		05.26.2020					06.10.2020 UNMET				08.04.2020 UNMET	08.07.2020	08.20.2020	08.24.2020	**08.27.2020 APA**					08.28.2020	Resolución 7 Serie 2020-2021; 09.30.2020	10.05.2020	10.06.2020
3	Hatillo	08.18.2019			08.24.2020	08.24.2020	09.01.2020	09.03.2020	10.08.2020 UNMET	10.08.2020	10.21.2020	10.21.2020	**11.16.2020 APA**									11/16/2020	Resolucion 12 Serie 2021; 12.11.2020	12.15.2020	12.16.2020
3	Naranjito	08.19.2021			10.29.2020		10.30.2020	10.30.2020	12.09.2020 UNMET			01.11.2021	**02.11.2021 APA**												
3	Ponce	09.14.2019			12.18.2020			12.18.2020																	
3	Guayama	09.09.2019			12.03.2020			12.08.2020	01.21.2021 UNMET																
3	Florida	09.18.2020			11.10.2020	11.10.2020	11.10.2020	11.16.2020	12.30.2020 UNMET	12.30.2020	01.07.2021	01.11.2021	**02.11.2021 APA**												
3	Río Grande	09.10.2019			12.14.2020			12.22.2020	02.04.2021 UNMET	02.05.2021	02.12.2021	02.17.2021													
4	Maunabo	09.14.2019																							

4	Yauco	09.15.2019			12.08.2020			12.17.2020	01.29.2021 UNMET	02.01.2021	2.11.2021	02.12.2021													
4	Morovis	09.16.2019			12.29.20	01.04.2121	01.05.2121	01.11.2121	2.23.2021 UNMET																
4	Canóvanas	09.28.2019																							
4	Ciales	10.15.2019						12.23.2021	02.15.2021 UNMET			02.24.2021													
4	Fajardo	12.12.2019			11.10.2020			11.18.2020	12.29.2020 UNMET		1.08.2021	01.14.2021	02.16.2021 UNMET												
4	Quebradillas	12.16.2019			10.02.2020		10.05.2020	10.05.2020	11.05.2020 UNMET		12.10.2020	12.17.2020	**01.27.2021 APA**												
4	Orocovis	05.31.2020			12.04.2020			12.11.2020	01.21.2021 UNMET		02.09.2021	02.12.2021													
4	Toa Alta	06.08.2020			12.21.2020			12.23.2021	02.23.2021 UNMET			02.24.2021													
4	Naguabo	06.17.2020																							
4	San Juan	08.17.2020																							
4	Barceloneta	10.22.2020			11.16.2020			11.30.2020	12.29.2020 UNMET			01.15.2021	**02.11.2021 APA**												
4	Maricao	02.17.2026			12.09.2020			12.10.2020	01.21.2021 APA														2.18.2021	Orden Ejecutiva 05; 2.12.2020	2.17.2021	2.18.2021
5	Gurabo	07.21.2021																							
5	Guaynabo	08.23.2021																							
5	Loíza	07.21.2021																							
3	Ceiba	07.28.2021			11.05.2020			11.09.2020	**12.21.2020 APA**														21.21.2020 APA	Orden Ejecutiva 2020-2021-03; 12.28.2020	12.30.2020	12.30.2020
5	Caguas	08.03.2021			12.14.2020			12.18.2020	**02.01.2021 APA**															Orden Ejecutiva 2021-001; 02.04.2021	02.11.2021	02.11.2021
6	Coamo	04.16.2022																							
6	Vega Baja	05.11.2022			11.18.2020			12.02.2020	**01.14.2021 APA**																
6	Guayanilla	10.05.2022			10.04.2020			10.05.2020	**12.08.2020 APA**														12.21.2020	Orden Ejecutiva #60; 12.15.2020	01.07.2021	01.07.2021
6	Hormigueros	10.05.2022																							
6	Juncos	10.16.2022																							
6	Moca																								
7	Cataño	TBD																							
7	Corozal	TBD																							
7	Villalba	TBD																							
7	Camuy	TBD																							
8	Sabana Grande	Enero-2022									11.15.2021	11.18.2020	**12.18.2020 COMPLIANCE LETTER more than one year**	**12.18.2020 COMPLIANCE LETTER more than one year**	12.23.2021	**12.30.2021 Initial Review due ONE MORE YEAR**	2.12.2021 UNMET								
PDM	San Sebastián		Y	5.2018									09.23.2019 UNMET			02.06.2020	**02.29.2020 APA**				09.23.2019 UNMET	06.01.2020			06.28.2020
PDM	Camuy		Y	07.03.2019	06.27.2019			07.08.2019	08.06.2019 UNMET			06.28.2019								06.28.2019					x
PDM	Aguadilla		Y	Dec-19																					x
PDM	Corozal		Y					07.03.2019				07.03.2019								07.03.2019					x
PDM	Cayey		Y	18-Aug				07.03.2019	07.08.2019 UNMET				01.28.2020 UNMET			02.04.2020	**02.05.2020 APA**								
PDM	Toa Baja		Y						09.01.2018 UNMET	02.06.2020			**02.06.2020 APA**							07.10.2019					x
PDM	Guánica		Y	01.18.2018					04.20.2018 UNMET			08.08.2019	10.23.2019 UNMET	12.19.2019		01.21.2020	**01.24.2020 APA**								02.13.2020
PDM	Las Piedras		Y	09.01.2019	09.10.2019			09.10.2019				04.14.2020	**05.14.2020-APA**							04.14.2020	**05.14.2020-APA**		Executive Order No. 34 Series 2019-20; 06.09.2020		06.25.2020
PDM	Juana Díaz		Y	FEB 2020					08.27.2020 UNMET			05.04.2020	**06.09.2020 APA**							05.04.2020	**06.09.2020 APA**				06.26.2020
PDM	Manatí	TBD		08.01.2019				05.21.2019	08.07.2019 UNMET			09.18.2019	10.29.2019 UNMET			12.13.2019	**12.20.2019 APA**								02.11.2020
	Cataño																								
	Bayamón	TBD			05.14.2019			05.21.2019	08.07.2019 UNMET			10.17.2019	10.28.2019 - APA												x
	San Lorenzo	TBD																							x

APPENDIX 5-2

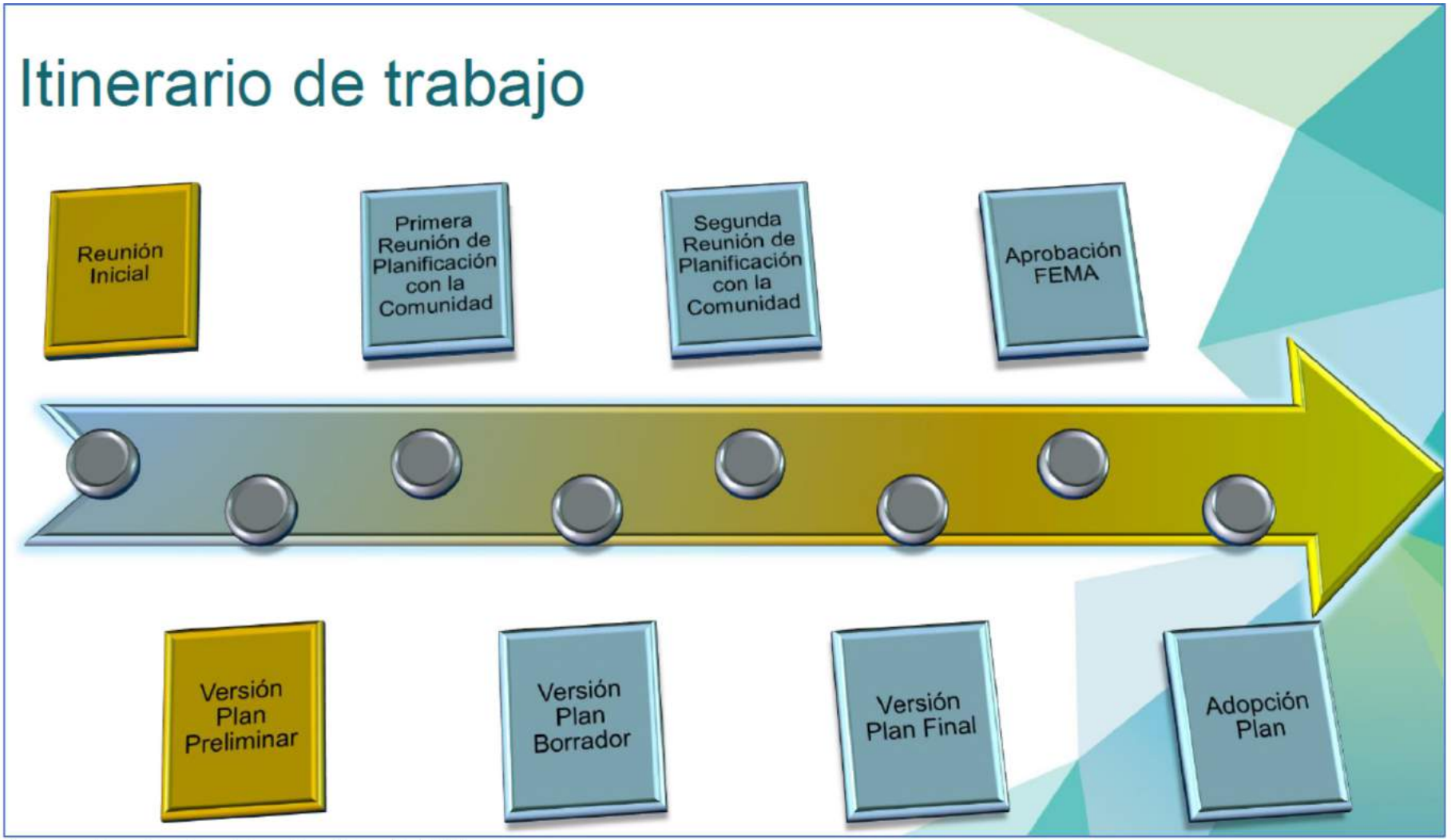
HAZARD MITIGATION PLANNING TASKS AND PROCESS FLOWCHART

Tareas de planificación de mitigación de peligros

1. Proceso de planificación
2. Evaluación de riesgos
3. Evaluación de capacidades
4. Estrategias de mitigación
5. Supervisión y evaluación del Plan
6. Documentación

Source: Puerto Rico Planning Board / Atkins

Itinerario de trabajo



Source: Puerto Rico Planning Board / Atkins

APPENDIX 5–3

PUERTO RICO PLANNING BOARD–LOCAL GOVERNMENTS' AGREEMENT TEMPLATE

GOBIERNO DE PUERTO RICO
JUNTA DE PLANIFICACIÓN
SAN JUAN, PUERTO RICO

ACUERDO COLABORATIVO ENTRE EL MUNICIPIO DE _____ Y LA JUNTA DE PLANIFICACIÓN SOBRE REVISIÓN AL PLAN DE MITIGACIÓN

----------**COMPARECEN**----------

DE LA PRIMERA PARTE: La Junta de Planificación de Puerto Rico, en adelante denominada la "Junta", representada por su Presidenta, María del C. Gordillo Pérez, mayor de edad, soltera, planificadora de profesión y vecina de Toa Baja, Puerto Rico, en adelante denominada como la "Presidenta".----------

DE LA SEGUNDA PARTE: El Municipio de _____, representado en este acto por su Alcalde, Hon. _____, mayor de edad, casado/soltero, funcionario municipal por elección y vecino de _____, Puerto Rico, en adelante denominado como el "Municipio".----------

Las partes comparecientes convienen en llevar a cabo el presente Acuerdo Colaborativo y, a tales efectos, libre y voluntariamente:----------

----------**EXPONEN**----------

PRIMERO: Que la Presidenta está facultada a contratar los servicios que considere necesarios para llevar a cabo las funciones de la Junta, conforme al Artículo 12 de la Ley Orgánica de la Junta de Planificación de Puerto Rico, Ley Núm. 75 del 24 de junio de 1975, según enmendada, 23 LPRA., sección 62 (k).----------

SEGUNDO: El Municipio está facultado a realizar este acuerdo colaborativo con cualquier agencia del Gobierno Central para que esta desarrolle o lleve a cabo, en beneficio del Municipio, cualquier estudio, trabajo, obra o mejora pública municipal conforme a lo establecido en la Ley de Municipios Autónomos, Ley Núm. 81 de 30 de agosto de 1991, según enmendada, 21 LPRA, sec. 4001 et seq.----------

TERCERO: El Municipio asegura que cuenta con personal que posee conocimientos especializados para colaborar con el proyecto **Actualización del Plan de Mitigación del Municipio de _____**, según se describe en la Cláusula Segunda del presente acuerdo, infra.----------

CUARTO: Ambas partes cuentan con la capacidad legal necesaria para otorgar el presente Acuerdo Colaborativo. Por lo que han acordado, libre y voluntariamente formalizarlo bajo las siguientes:----------

----------**CLÁUSULAS Y CONDICIONES**----------

PRIMERA: Mediante el presente Acuerdo Colaborativo la Junta se compromete a:-------

-----a. La Junta de Planificación como agencia líder trabajará el Plan de Mitigación del Municipio de _____. Tiene el objetivo principal de identificar actividades y medidas dirigidas a la mitigación de peligros naturales tales como huracanes, inundaciones, sequías, terremotos, deslizamientos, tsunami y otros peligros atmosféricos, hidrológicos y geológicos. El plan tiene dentro de sus prioridades la reducción de pérdidas de vida y propiedad asociado a los diferentes peligros naturales e identificar medidas para atender las necesidades de su Municipio y sus residentes de manera planificada y ordenada, promoviendo así el desarrollo sostenido mediante la preservación de la función natural y los beneficios de la conservación de los recursos naturales y la infraestructura. ----------

-----El plan de mitigación cumplirá con los requisitos del Acta de Mitigación de Desastre, la cual establece que los gobiernos municipales y estatales que hayan adoptado planes de mitigación contra riesgos serán elegibles para fondos de mitigación pre-desastre (Pre-disaster Mitigation Act) y post desastre a través del Programa de Subvención para la Mitigación de Riesgos (HMGP), el Predisaster Mitigation (PDM) y el Flood Mitigation Assistance Program (FMAP).----------

-----b. Coordinar Junto al Municipio la Aprobación del Plan----------

-----c. Coordinar la evaluación del Plan por parte del COR3 y FEMA----------

-----d. Entrega del Plan Aprobado por COR3 y FEMA al Municipio----------

-----e. La Junta de Planificación podrá utilizar recursos externos para realizar el plan de mitigación que se obliga a prestar conforme a los términos y condiciones que surgen del presente contrato.----------

SEGUNDA: Mediante el presente Acuerdo Colaborativo el Municipio se compromete a cumplir con:----------

-----a. Asignar una persona contacto o empleado municipal designado por el Alcalde que será el contacto oficial del Municipio para la coordinación, ejecución y la elaboración de

la Actualización del Plan de Mitigación. Esta persona trabajará directamente con el personal designado por la Junta de Planificación en este proyecto.----------

-----b. Agilizar y tramitar la Adopción del Plan de Mitigación por la Legislatura Municipal Mediante Ordenanza Municipal.----------

-----c. Coordinar en conjunto con la Junta de Planificación o el personal autorizado, el proceso de participación ciudadana.----------

-----El designado por el Alcalde coordinará la recopilación de información necesaria que se requerirá, incluyendo:----------

- Identificación de todos los Riesgos locales – Descripción de los diferentes eventos ocurridos en el Municipio y los impactos que han tenido en la comunidad.----------
- Identificación de inventario de activos del Municipio, de considerarse el activo como uno crítico favor de identificar el mismo como activo-crítico.----------
- Información necesaria para complementar la Tabla de análisis de capacidad --
- Identificación e Implantación de las Medidas / actividades de Mitigación: Lista de proyectos y Plan de Acción describiendo cómo los proyectos serán implantados por prioridades, cómo serán administrados, si son costo-beneficiosos.----------
- Evaluación del Plan Preliminar----------
- Evaluación del Borrador del Plan----------
- Evaluación del Borrador Final del Plan----------
- Implementación del Plan de Mitigación - Monitoreo, Evaluación y Actualización del Plan ciclo de cinco (5) años----------

TERCERA: El presente Acuerdo Colaborativo entrará en vigor desde la fecha de su otorgamiento y hasta los doce (12) meses subsiguientes.----------

CUARTA: Ambas Partes acuerdan que no se prestará servicio alguno a partir de la fecha de expiración del presente Acuerdo, excepto que a la fecha de expiración ya exista una enmienda firmada por ambas partes.----------

QUINTA: El presente Acuerdo Colaborativo no envuelve la erogación de fondos públicos por parte del Municipio ni de la Junta. ----------

SEXTA: La Junta se reserva el derecho de requerirle información al Municipio sobre la utilización de los datos provistos mediante este acuerdo.----------

SÉPTIMA: Las partes acuerdan que durante la vigencia del presente Acuerdo Colaborativo podrán incorporar por escrito las enmiendas que estimen necesarias al presente Acuerdo. En caso de incorporarse enmiendas al presente Acuerdo, las mismas deberán estar firmadas por ambas partes. ----------

OCTAVA: Las partes reconocen que tienen un deber de lealtad completa entre sí, lo que incluye no tener intereses adversos. Estos intereses adversos incluyen la representación de clientes que tengan o pudieran tener intereses encontrados con las partes. Este deber incluye la obligación continua de ambas partes de divulgar todas las circunstancias de sus relaciones con clientes y terceras personas y cualquier interés que pudiese influir en las partes al momento de otorgar el Acuerdo o durante su vigencia.----------

-----Se representa intereses encontrados cuando, en beneficio de un cliente, es su deber promover aquello a que debe oponerse en cumplimiento de sus obligaciones para con otro cliente anterior, actual o potencial. Representa intereses en conflicto, además, cuando su conducta es descrita como tal en las leyes y reglamentos del Gobierno de Puerto Rico.----------

-----Las partes evitarán hasta la apariencia de la existencia de intereses encontrados.---

NOVENA: Las partes reconocen y aceptan el poder de fiscalización de cada parte con relación al cumplimiento de las prohibiciones aquí contenidas. De entender que existen o han surgido intereses adversos, cualquiera de las partes notificará a la otra por escrito sus hallazgos y su intención de resolver el Acuerdo en el término de treinta (30) días. Dentro de dicho término, la parte apercibida podrá solicitar una reunión para exponer sus argumentos a dicha determinación de conflicto, la cual será concedida en todo caso. De no solicitarse dicha reunión en el término mencionado o de no solucionarse satisfactoriamente la controversia durante la reunión concedida, este Acuerdo quedará resuelto automáticamente, sin más necesidad de notificación. ----------

DÉCIMA: Las partes hacen constar que ningún funcionario o empleado de cada parte o ningún miembro de la unidad familiar de éstos, tiene interés pecuniario, directa o indirectamente con este Acuerdo y ningún funcionario o empleado de la Rama Ejecutiva, tiene algún interés en las ganancias o beneficios producto de este Acuerdo. ----------

Las partes garantizan que ningún funcionario o empleado de la Junta o del Municipio solicitó o aceptó, directa o indirectamente, para él, ella o algún miembro de su unidad familiar o para cualquier otra persona, negocio o entidad, regalos, gratificaciones, promesas, favores, servicios, donativos, préstamos o cualquier otra cosa de valor monetario.----------

-----El Municipio certifica y garantiza que no tiene relación alguna de parentesco, dentro del cuarto grado de consanguinidad y segundo de afinidad, con ningún empleado de la Junta que tenga facultad para influenciar y participar en las decisiones institucionales de la Junta. La Junta certifica y garantiza que no tiene relación alguna de parentesco, dentro del cuarto grado de consanguinidad y segundo de afinidad, con ningún empleado del Municipio que tenga facultad para influenciar y participar en las decisiones institucionales del Municipio.----------

-----Expresamente se reconoce que esta es una condición esencial del presente Acuerdo Colaborativo y de no ser correctas, en todo o en parte, las anteriores certificaciones, esto será suficiente para que cualquiera de las partes tome las medidas que entienda necesarias.----------

-----La Junta reconoce que, conforme a la información disponible al momento de otorgar el presente Acuerdo, lo señalado por el Municipio es correcto y el Municipio reconoce que, conforme a la información disponible al momento de otorgar el presente Acuerdo, lo señalado por la Junta es correcto.----------

-----Como parte del otorgamiento de este Acuerdo se entregó copia digital al Municipio de la “Ley de Ética Gubernamental de 2011”, Ley Núm. 1 de 3 de enero de 2012.---------

DÉCIMA PRIMERA: Para la administración efectiva y eficiente de este Acuerdo Colaborativo, y a los fines de que cada parte cumpla cabalmente con sus responsabilidades, todo acuerdo, obligación, solicitud, proceso o comunicación entre las partes con respecto al manejo o implementación de este Acuerdo Colaborativo, se reducirá a escrito y deberá ser efectuado, así como aprobado por un representante autorizado de la parte que corresponda. Dichas comunicaciones serán válidas y obligatorias para todos los fines legales y de interpretación o administración de este Acuerdo Colaborativo. En caso de conflicto entre el texto de tales comunicaciones y el texto de este Acuerdo Colaborativo, el presente Acuerdo Colaborativo prevalecerá.------

DÉCIMASEGUNDA: Ninguna enmienda a este Acuerdo Colaborativo será válida a menos que se reduzca a escrito y sea firmada por un representante autorizado de cada parte. Ninguna de las partes podrá ceder derechos ni delegar responsabilidades objeto de este acuerdo sin el previo consentimiento por escrito de la otra parte.----------

DECIMATERCERA: Un retraso o falta de cumplimiento de cualquiera de las partes causado por acontecimientos fuera del control de cualquiera de las partes, no constituirá un incumplimiento ni dará lugar a reclamación alguna por daños y perjuicios.----------

DECIMACUARTA: Ambas partes reconocen que este Acuerdo no establece responsabilidad alguna de compensarse económicamente entre sí por las actuaciones que se lleven a cabo en virtud de este Acuerdo Colaborativo. Tampoco este Acuerdo Colaborativo crea responsabilidad laboral alguna entre las partes, ni entre sus respectivos funcionarios, representantes o empleados, que presten cualquier servicio o realicen alguna función como parte de este Acuerdo Colaborativo.----------

DECIMAQUINTA: El Municipio mantendrá ilesa e indemnizará a la Junta por cualquier reclamación o acción, judicial, extrajudicial o administrativa, que resulte de cualquier acto u omisión negligente de su parte, sus agentes, representantes o empleados, respecto a sus actividades y obligaciones en virtud del presente Acuerdo Colaborativo.----------

DECIMASEXTA: En caso de que surja un incumplimiento del Acuerdo y este obedezca al abandono, negligencia o violación de los términos y condiciones del presente Acuerdo por parte del Municipio, la Junta podrá cancelar el Acuerdo sin previo aviso a este.----------El Municipio vendrá obligado a resarcir a la Junta por todos los daños y perjuicios

DECIMASÉPTIMA: Las partes acuerdan que podrán resolver el presente Acuerdo mediante notificación con treinta (30) días de anticipación de la fecha de la resolución. -----La notificación de la intención de resolver este Acuerdo deberá ser enviada a:--------

Junta de Planificación	**Municipio de _____**
PO Box 41119	**PO Box ____**
San Juan, PR 00940-1119	**_____, PR 00_____**

DECIMAOCTAVA: La validez, interpretación y cumplimiento del presente Acuerdo Colaborativo se regirá por las leyes del Gobierno de Puerto Rico. Ambas partes acuerdan que el único tribunal con competencia y jurisdicción sobre las partes y sobre los términos y condiciones especificados en el presente Acuerdo Colaborativo,

incluyendo todos los asuntos de litigio que puedan surgir de este Acuerdo Colaborativo, será el Tribunal de Primera Instancia de Puerto Rico, Sala de San Juan.----------

DECIMANOVENA: Se estipula que las Cláusulas y Condiciones de este Acuerdo son independientes y separadas entre sí, y que la determinación de nulidad de una o más cláusulas y condiciones por un Tribunal competente, no afectará la validez de las demás cláusulas y condiciones, las cuales se reputarán vigentes y válidas.----------

EN TESTIMONIO DE LO CUAL, ambas partes suscriben el presente Acuerdo por encontrarlo conforme a lo convenido y en tal virtud se obligan a su cumplimiento.----------

-----En San Juan, Puerto Rico, hoy _____ de _____ de 2020.----

_____	_____
(Nombre_____)	**María del C. Gordillo Pérez**
Alcalde	Presidenta
Municipio de _____	**Junta de Planificación**
Seguro Social Patronal _____	Seguro Social Patronal 690-00-1002

APPENDIX 5-4

AGREEMENT BETWEEN FEMA AND GPR FOR EMERGENCY DR-4339-PR

U.S. Department of Homeland Security
Region II
FEMA

AGREEMENT BETWEEN THE FEDERAL EMERGENCY MANAGEMENT AGENCY AND THE COMMONWEALTH OF PUERTO RICO FOR EMERGENCY FEMA-4339-DR-PR

I. PURPOSE AND BACKGROUND

On September 20, 2017, the President declared that a major disaster exists in the Commonwealth of Puerto Rico. This Declaration was based on Hurricane Maria (incident) beginning on September 17, 2017, and continuing (incident period). This is the FEMA-Commonwealth Agreement (Agreement) for this major disaster, designated FEMA-4339-DR (Declaration), under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. §§ 5121-5207 (Stafford Act), in accordance with 44 CFR § 206.44. This Agreement between the United States of America through the Regional Administrator, Federal Emergency Management Agency (FEMA), Department of Homeland Security (DHS) or his/her delegate, and the Commonwealth of Puerto Rico (State or Recipient) governs all federal assistance FEMA provides the State for this Declaration.

II. GENERAL PROVISIONS

A. **GRANT AWARD PACKAGE.** Any federal grant award package issued under this Agreement will consist of the Declaration, this Agreement, and the *Application(s) for Federal Assistance* (Standard Form (SF) 424), including *Assurances- Non-Construction Programs* (SF-424B) and also the *Assurances - Construction Programs* (SF 424D) when applicable, submitted by the State for each grant program provided under the Declaration and this Agreement.

B. **FEMA RESPONSIBILITIES.** FEMA may provide to the State or residents of the State, if applicable, funds in the form of federal grant assistance or direct federal services to support the activities and programs authorized under the Stafford Act and the President's Declaration (federal assistance) in accordance with this Agreement.

C. **STATE RESPONSIBILITIES.**

1. The State agrees to comply with the federal grant award terms and conditions set forth in the Declaration, this Agreement and all provisions of the State Administrative Plans in place for each grant award.

2. The State agrees to lead, manage and drive the overall recovery process and coordinate recovery activities and technical support by setting appropriate state policies. The State will coordinate with local, Tribal and Federal governments and

agencies, private businesses and nonprofit organizations to lead and coordinate state recovery planning and assistance to impacted communities.

3. The State agrees to be the "Recipient" for all federal financial assistance provided under the Stafford Act and this Agreement, with the exception of Housing Assistance or for Other Needs Assistance when administered by FEMA rather than by the State (i.e., the "the FEMA option") under the Individuals and Households Program, if applicable. The State also serves as the "pass-through entity" with respect to the State's role in providing subawards and administering grant assistance provided to sub-recipients.

a. Recipient and pass-through entity have the same meaning as "Grantee," as used in governing statutes, regulations, and FEMA guidance.

b. A recipient is also a "non-federal entity" for grants administration purposes.

4. The State agrees to comply with, and will require all subrecipients to comply with, the requirements of all applicable laws and regulations, including the Stafford Act, Title 44 of the Code of Federal Regulations (CFR) (*Emergency Management and Assistance*), 2 CFR Part 3002 (implementing 2 CFR Part 200 (*Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards*)), and applicable FEMA policies and guidance.

a. The term "subrecipient" has the same meaning as "subgrantee," as used in governing statutes, regulations, and FEMA guidance.

b. A subrecipient is also a "non-federal entity" for grants administration purposes.

5. The State is required to maintain a FEMA- approved State Mitigation Plan (SMP) in accordance with 44 CFR Part 201(*Mitigation Planning*) as a condition of receiving non-emergency Stafford Act assistance.

a. The State must update its SMP every five years.

b. The State must have a FEMA-approved mitigation plan to receive the following assistance:

i. Public Assistance (PA) – Permanent Work Categories C-G

ii. Fire Management Assistance Grant (FMAG) Program

iii. Hazard Mitigation Grant Program (HMGP)

c. If the State does not have a FEMA-approved SMP as of the date of declaration, the State will submit its approvable SMP within 30 days of the date of the declaration for FEMA review and approval. If the State

fails to do so, FEMA will deny the State's application for PA Permanent Work and HMGP assistance under the Declaration.

d. FEMA will not obligate funds for PA Permanent Work or HMGP projects until the SMP is approved. FEMA will cease obligating funds for PA Permanent Work or HMGP projects for open disasters during any lapse period between expiration of the current SMP and approval of an updated SMP.

D. CERTIFICATION AND WAIVERS.

1. The State officials named by the Governor as authorized to execute certifications and otherwise to act on behalf of and to legally bind the State are listed on **Attachment 1** to this Agreement.

2. The State's Certification Regarding Lobbying is **Attachment 2** to this Agreement. This certification complies with the Lobbying Prohibitions in the DHS Standard Terms and Conditions and with the FEMA regulations found at 44 CFR Part 18 (*New Restrictions on Lobbying*).

3. The State waives any consultation process under Executive Order 12372 (*Intergovernmental review of Federal programs*) and 44 CFR Part 4 (*Intergovernmental Review of Federal Emergency Management Agency (FEMA) Programs and Activities*) for grants, loans, or other financial assistance under the Stafford Act for this major disaster or emergency.

E. FEDERAL ASSISTANCE.

1. The State has requested federal assistance and submitted FEMA Form 010-0-13 (*Request for Presidential Disaster Declaration – Major Disaster or Emergency*), the terms, representations and assurances of which are incorporated by reference.

2. Federal assistance, except for assistance under the Hazard Mitigation Grant Program, is limited to activities necessary to alleviate damage, loss, hardship, or suffering resulting from the incident that took place during the incident period, except that reasonable expenses that were incurred in anticipation of and immediately preceding such event may be eligible.

3. Federal assistance under the Stafford Act and this Agreement is limited to those areas and programs designated by the President or FEMA in the Federal Register Notices for this major disaster or emergency, which are listed in **Attachment 3** to this Agreement and are incorporated by reference.

4. All scopes of work and costs approved as a result of this Agreement, whether as estimates or final costs approved through subawards, project worksheets, or otherwise, will incorporate by reference the terms of this Agreement and must

comply with applicable laws, regulations, policy and guidance in accordance with this Agreement.

F. **CONTROLLING AUTHORITIES.** This Agreement is subject to the following governing authorities:

1. The Stafford Act and its implementing regulations contained in Title 44 of the Code of Federal Regulations (CFR), and FEMA policy and guidance.

2. "Uniform Administrative Requirements, Cost Principles and Audit Requirements for Federal Awards," 2 CFR Parts 200 and 3002.

3. The DHS Standard Terms and Conditions for grants in effect on the date this event was declared, available at http://www.dhs.gov/publication/fy15-dhs-standard-terms-and-conditions which are hereby incorporated by reference.

III. TYPES OF FEDERAL ASSISTANCE

The following disaster assistance programs may be authorized when a declaration is issued. The specific forms of assistance authorized for this Declaration are listed in Attachment 3 to this Agreement.

A. **PUBLIC ASSISTANCE (PA).** When the Declaration authorizes the PA Program, and FEMA makes a PA grant award to the State, the following terms apply:

1. The State agrees to make available the non-federal cost share of PA. FEMA funding will be limited to 75 percent of total eligible costs, except as may be provided for in **Attachment 4, Subpart B** reflecting cost share amendments to the Declaration and authorized cost share adjustments for debris removal if applicable under the conditions established in the attached **Public Assistance Program Addendum** for alternative procedures elected by PA applicants (subrecipients).

2. When Direct Federal Assistance is requested and the assistance is provided:

   a. The State will:

      i. Provide without cost to the United States all lands, easements, and rights-of-ways necessary to accomplish the approved work;

      ii. Hold and save the United States free from damages due to the requested work, and will indemnify the Federal Government against any claims arising from such work;

      iii. Provide reimbursement to FEMA for the non-federal share of the cost of such work; and

      iv. Assist the performing federal agency in all support and local jurisdictional matters.

b. FEMA will bill the State for the non-federal cost share of Direct Federal Assistance provided and the State agrees to pay the non-federal share pursuant to the timeframes set forth in the letter or other correspondence transmitting the bill.

3. When debris removal is authorized, the State agrees to indemnify and hold harmless the United States for any claims arising from the removal of debris or wreckage for this major disaster or emergency. The State agrees that debris removal from public and private property will not occur until an unconditional authorization for the removal of debris is provided.

4. The attached **Public Assistance Programmatic Addendum** includes additional terms and conditions for the implementation of the PA Program as applicable, PA grant performance goals, and cost share adjustments under alternative procedures for debris removal.

B. **INDIVIDUAL ASSISTANCE (IA).** When the Declaration authorizes IA overall or specific IA programs, and FEMA makes an IA grant award to the State, the following terms apply as applicable:

1. FEMA may award grant funds to the State for the IA programs authorized under the Declaration and requested by the State.

2. When the Declaration authorizes the Individual and Households Program (IHP), and FEMA provides IHP assistance including Other Needs Assistance (ONA) to individuals and households, the State agrees to make available its 25 percent share of any ONA that is provided under Section 408(e) of the Stafford Act (42 U.S.C. § 5174(e)).

a. When FEMA administers ONA under the FEMA Option, FEMA will bill the State monthly for the cost share. The State agrees to pay the amount billed within 30 days of receipt.

b. If the State administers ONA under the Joint Option, a Cooperative Agreement will be executed as an IA Program Addendum to this Agreement and FEMA will pay to the State 75 percent of the total ONA payments to individual recipients and administrative costs allowed under Section 408 of the Stafford Act (42 U.S.C. § 5174) .

c. If the State administers ONA under the State Option, an ONA Grant Agreement will be executed as an IA Program Addendum to this Agreement and FEMA will pay to the State 75 percent of the total ONA payments to individual recipients and administrative costs allowed under Section 408 of the Stafford Act (42 U.S.C. § 5174).

3. Additional terms and conditions regarding implementation of the IHP and other applicable Individual Assistance (IA) Programs including IA Grant performance goals may be included in an attached **IA Programmatic Addendum**.

C. **HAZARD MITIGATION GRANT PROGRAM (HMGP).** When the Declaration authorizes the HMGP, and FEMA makes a HMGP award to the State, the following provisions apply:

1. Total federal contributions are based on the estimated aggregate amount of grants to be made under the Stafford Act for this major disaster (less any associated administrative costs), and will be 15 percent for the first $2,000,000,000 or less of such amounts; 10 percent of the portion of such amounts over $2,000,000,000 and not more than $10,000,000,000; and 7.5 percent of the portion of such amounts over $10,000,000,000 and not more than $35,333,000,000.

2. The State agrees to make available the non-federal share of HMGP. FEMA funding will be limited to 75 percent of total eligible costs.

3. If the State requests and FEMA approves the State's request for inclusion in the Program Administration by States (PAS) Pilot Program, an Operating Agreement will be executed and included in an attached HMGP Programmatic Addendum.

4. Additional terms and conditions regarding implementation of HMGP, including performance goals, may be included in an attached **HMGP Programmatic Addendum**.

IV. FUNDING

A. PAYMENT PROCESS.

1. FEMA will pay the State using the U.S. Department of Health and Human Services Payment Management System (HHS/Smartlink).

2. Payments are governed by the Treasury-State Cash Management Improvement Act (CMIA) agreements and default procedures codified at 31 CFR Part 205 (*Rules and Procedures for Efficient Federal-State Funds Transfers)* and Treasury Financial Management Manual, Volume 1, Part 4A-2000.

3. FEMA will use a "single obligation" system to process payments through a subaccount for each subaward. When FEMA identifies an overpayment, subject to the exhaustion of appeals, FEMA will deobligate the funds from the subaccount. If there are insufficient funds in the subaccount, the State will have 30 days to reimburse the HHS/Smartlink subaccount. At that time, if there are still insufficient funds in the subaccount, FEMA will refer the amount to the FEMA Finance Center (FFC) for collection.

4. The State and subrecipients have no property interest in the funds made available through the HHS/Smartlink account. At any time during the lifecycle of the

grant, FEMA may adjust the amounts available to the State in HHS/Smartlink due to grant amendments, partial or full grant terminations, closeouts, or other reasons.

B. **AVAILABILITY OF FUNDING.** FEMA and the State agree to take measures to deliver assistance to individuals, households, governments and private nonprofits as expeditiously as possible, consistent with federal laws and regulations. To that end, the following terms and conditions apply:

1. This Agreement does not comprise an award of any type of assistance authorized for the Declaration or as described in Part III, Types of Federal Assistance, above and this Agreement does not obligate any federal funding. Rather, FEMA will separately make such award decisions for the assistance authorized for the Declaration.

2. If FEMA decides to make an award of federal assistance, such assistance will be made available within the limits of funds available from Congressional appropriations for such purposes.

3. FEMA may, in its sole discretion, if necessary because of limited funds, give first priority to assistance for individuals and households, emergency work for protection of public health and safety, and administrative costs for managing the disaster programs. FEMA will pay public assistance recovery claims, and hazard mitigation, when, and if, funds become available and will provide them in the order the claims are received.

V. REPORTING

A. FEDERAL FINANCIAL REPORTS.

1. Initial and Quarterly Financial Reports. The State shall submit complete and accurate Federal Financial Reports (Standard Form 425) to the FEMA Regional Office 30 days after the end of the first federal quarter following the federal award date for each program (PA, HMGP, and the various IA programs). The Regional Administrator or designee may waive the initial report if the incident is of such magnitude and complexity that it would place an undue administrative burden on the State. Subsequent reporting requirements shall not be waived. The State shall submit quarterly financial status reports thereafter until closeout of the federal grant award for each program funded. Reports are due on January 30, April 30, July 30, and October 30.

2. Subrecipient Final Financial Report.

a. Requirements. After the State has submitted all payment of claim information and certifications as required in applicable regulations, including 44 CFR § 206.205 for PA and § 206.438(d) for HMGP, for all

projects approved under a grant program for a particular subrecipient, the State will note in the remarks section of its next quarterly financial report:

i. That the report represents the final expenditures for a particular subrecipient;

ii. The name of that subrecipient; and

iii. The date on which the recipient submitted to FEMA a payment of claim for each of that subrecipient's approved projects, or reference to other document submitted to FEMA that includes this information.

b. Confirmation. FEMA will confirm the quarterly SF 425 as the final expenditure report for that subrecipient only if the State has submitted all outstanding information and certifications required by applicable regulations and FEMA policy and guidance for all the subrecipient's costs and work for the major disaster or emergency .

c. Governmental Subrecipients. This confirmed, complete and accurate quarterly report is the final expenditure report for a governmental subrecipient's final expenditures for the particular grant program for the major disaster or emergency for the purposes of Section 705(a) of the Stafford Act (42 U.S.C. § 5205(a)).

3. Final Financial Report. The State shall submit a complete and accurate final Federal Financial Report (SF 425), no later than 90 days after each program's federal grant award performance period expiration date. This report is the final expenditure report reflecting the State's total expenditures by program under the federal award for the disaster or emergency for purposes of Section 705(a) of the Stafford Act (42 U.S.C. § 5205(a)).

B. PERFORMANCE REPORTS.

1. Initial and Quarterly Reports. The State shall submit performance/progress reports in compliance with each program identified under this Agreement to the FEMA Regional Office 30 days after the end of the first federal quarter following the federal award date. The Regional Administrator or designee may waive the initial report if the incident is of such magnitude and complexity that it would place an undue administrative burden on the grantee. Subsequent reporting requirements shall not be waived. The State shall submit quarterly performance/progress status reports thereafter until the grant performance period ends. Reports are due on January 30, April 30, July 30, and October 30.

2. The State shall include in its quarterly performance/progress reports (OMB Form 1660-0017 PA and OMB Form 1660-0076 HMGP for PA and HMGP, respectively) a status of project/subaward completion, amount of expenditures, and

amount of payment for advancement or reimbursement of costs for each project/subaward funded under each of the programs authorized under this Agreement, including for properties purchased for open space under the HMGP. The State shall submit project overruns requiring additional obligations to FEMA for review and approval prior to incurring costs.

3. Final Performance Report. The State shall submit a final performance/progress report 90 days from each program's grant award performance period expiration date that addresses all approved activities and the performance goals outlined in the federal award.

C. **PROJECT CLOSEOUT.**

1. Project Closeout Report: Within 180 days from the date the State or a subrecipient completes each project, the State shall submit a payment of claim to FEMA as required by FEMA regulations and guidance, including 44 CFR § 206.205 for PA and § 206.438(d) for HMGP.

2. Project Reporting: The State shall indicate on the quarterly performance/progress report each time a subrecipient has completed a project.

D. **ENFORCEMENT.** FEMA may suspend drawdowns, provide other special conditions or take other authorized action pursuant to 2 CFR § 200.338 (*Remedies for Noncompliance*) if the State does not submit accurate and timely reports.

E. **RECORDS RETENTION.**

1. State Requirement. The State will retain records for 3 years, except in certain rare circumstances described in 2 CFR § 200.333 (*Retention requirements for records*), from the date it submits the final Federal Financial Report (SF 425), to FEMA in compliance with 2 CFR § 200.333, notwithstanding the time period prescribed for subrecipients in subsection 2, Subrecipient Requirement, below.

2. Subrecipient Requirement. The State will require subrecipients to retain records for 3 years from the date that the State submits to FEMA the final expenditure report for the program in question, as described above in Part V, Reporting, Section A, Federal Financial Reports, Subsection 2, Subrecipient Final Financial Report, for that subrecipient.

VI. RECOVERY OF FUNDS

A. **IN GENERAL.** This agreement does not limit FEMA's right to disallow costs and recover funds based on a later audit or review during or after performance of the award to ensure compliance with the terms of the Agreement and award document, or the obligation of the recipient to return such funds, including funds paid to any subrecipient. Pursuant to the Debt Collection Improvement Act, as amended, and subject to section 705 of the Stafford Act (42 U.S.C. § 5205(a)), the recipient is liable to repay funds to

FEMA if the recipient or subrecipient has ineligible underruns (for example, actual costs are less than the amount FEMA awarded based on initial estimates), knowingly or negligently withholds or misrepresents material information, or fails to complete work and comply with the terms of this Agreement or the approved award; or as a result of federal funds expended in error; or for costs that are unreasonable or otherwise disallowed. Upon adjudication of any other aforementioned conditions, a debt is established. FEMA and the State will follow the reimbursement procedures provided above in Part IV, Funding, Section A, Payments.

B. DUPLICATION OF BENEFITS.

1. General. The State shall take all actions necessary and reasonable to ensure that all who receive federal assistance are aware of their responsibility to repay federal assistance that is duplicated by amounts available from insurance or any other source for the same purpose. FEMA may at any time pre-award or post-award adjust the level of funding provided to account for financial assistance provided from any other source for the same purpose as the federal assistance, or to account for benefits available for the same purpose from another source.

2. Insurance. Within his/her authorities, the Governor shall ensure, through the state agency responsible for regulation of the insurance industry, that insurance companies make full payment of eligible insurance benefits to disaster survivors and others who receive federal assistance. The State shall also take all reasonable steps to ensure that disaster survivors are aware of procedures for filing insurance claims, and are informed of any state procedures instituted for assisting insured disaster survivors.

C. COOPERATION. The State agrees, on its behalf and on behalf of its political subdivisions and others that receive federal assistance, to cooperate with the Federal Government in seeking recovery of federal assistance against any party or parties whose intentional acts or omissions or whose negligence or other tortious conduct may have caused or contributed to the damage or hardship for which federal assistance was provided under this Agreement. If applicable, FEMA will treat recovered funds as duplicated benefits available to the recipient/ subrecipient in accordance with Section 312 of the Stafford Act (42 U.S.C. § 5155).

D. STATE RESPONSIBILITIES. The State is responsible for the recovery of federal assistance expended in error, misrepresentation, fraud, or for costs otherwise disallowed or unused.

1. The State shall adjust its expenditures as it recovers funding and will report these adjustments quarterly on the Federal Financial Report, SF 425.

2. The State shall designate on its PA and HMGP quarterly progress reports the applicants/subrecipients from which they have not processed recoveries but from which recoveries are due FEMA.

3. The State is responsible for notifying FEMA of any potential debt as a result of federal funds expended in error, misrepresentation, fraud, or for costs otherwise disallowed or unused.

4. The State shall report all cases of suspected fraud to the DHS Office of Inspector General. The State agrees to cooperate with any investigation conducted by the DHS Office of Inspector General.

5. The State shall cooperate with FEMA regarding any and all lawsuits that may result from the State or FEMA's attempt to recover funds or disallow costs.

E. **STATUTE OF LIMITATIONS.** The three-year statute of limitations limiting FEMA's ability to recover funds paid as provided for in Section 705(a) of the Stafford Act (42 U.S.C. § 5205(a)) begins with the State's submission of the "final expenditure report" as follows:

1. The statute of limitations for recovering funds directly from the State as the recipient (that is, funds not passed through to a subrecipient) begins to run on the date that the State submits to FEMA the last complete and accurate SF 425 (Federal Financial Report) for the relevant FEMA program, as required in Part V, Reporting, Section A, Federal Financial Reports.

2. The statute of limitations for recovering funds the State passed through to a governmental subrecipient begins to run on the date the State submits to FEMA the final expenditure report for the governmental subrecipient. The final expenditure report is the complete and accurate quarterly SF 425 in which the State indicates it reflects the final expenditures for the governmental subrecipient for the relevant FEMA program under the Declaration, as required in Part V, Reporting, Section A, Federal Financial Reports, Subsection 2, Subrecipient Final Financial Report.

F. **REFUNDS, REBATES AND CREDITS.** The State shall transfer to FEMA the appropriate share, based on the federal support percentage, of any refund, rebate, credit or other amounts arising from the performance of this agreement. The State shall take necessary action to promptly collect all monies due or which may become due and if applicable, to cooperate with the Federal Government in any claim or suit in connection with amounts due.

VII. CONSTRUCTION REQUIREMENTS

Prior to the start of any construction activity, the State will ensure that all applicable federal, state, and local permits and approvals are obtained and all permit conditions are addressed including FEMA and recipient/subrecipient compliance with the National Environmental Policy Act, the National Historic Preservation Act, the Endangered Species Act, and all other applicable environmental laws and executive orders. All construction should be in accordance with approved permits, projects plans and specifications, applicable building codes and program guidance.

VIII. PERFORMANCE PERIODS

A. **PROGRAM/GRANT AWARD.** The State will complete all grant award activities, including all projects and/or activities approved under each federal grant award, within the time period prescribed in FEMA regulations, program guidance and on the award documents.

B. **EXTENSIONS.** The State will include with any written request for an extension information and documentation to support the amendment and a schedule for completion. FEMA may approve subsequent work, monetary increase amendments, or activity time extension amendments only if the State submits all financial and performance reports to the appropriate Regional Office. FEMA will only approve extensions to the federal grant award period of performance or project completion timelines (if applicable) that comply with program regulatory timeframes. FEMA will not approve extensions for delays caused by lack of non-federal share funding.

IX. SURVIVOR/REGISTRANT DATA SHARING

The attached General Programmatic Addendum includes the terms and conditions for the sharing of FEMA Disaster Assistance Survivor/Registrant Data with State Governments under this Declaration.

X. REMEDIES FOR NONCOMPLIANCE

FEMA may take action as it determines appropriate under the circumstances including but not limited to withholding of payments, disallowance of costs, suspension or termination of the award if the State or sub-recipient fails to comply with applicable Federal statutes, regulations or the terms of this Agreement pursuant to 2 CFR § 200.338 (Remedies for Noncompliance).

XI. ATTACHMENTS, PROGRAMMATIC ADDENDUMS AND AMENDMENTS

A. **ATTACHMENTS.** Attached and also made part of this Agreement are the following Attachments which contain the terms and conditions applicable to all assistance provided under this Agreement:

Attachment 1: List of State Certification Officers

Attachment 2: Certification Regarding Lobbying

Attachment 3: List of Designated Programs and Areas

Attachment 4: Amendments

B. **PROGRAMMATIC ADDENDUMS.** Attached and also made part of this Agreement are the following Programmatic Addendums, which unless indicated otherwise in Attachment 1 may be signed or agreed to on behalf of the State by the Governor's Authorized Representative (GAR) listed in Attachment 1, and are included on a case by case basis depending on the assistance designated and whether additional terms and conditions for implementation of specific assistance programs are needed:

Public Assistance Programmatic Addendum:

- Subpart A: PA Performance Measures
- Subpart B: Alternative Procedures

Individual Assistance Programmatic Addendum:

- Subpart A: State ONA Processing Template for the Joint Option
- Subpart B: Other IA Grant Performance Measures

Hazard Mitigation Grant Program Programmatic Addendum

- Subpart A: HMGP Performance Measures

General Programmatic Addendum

- Subpart A: Terms and Conditions for the Sharing of FEMA Disaster Assistance Survivor/Registrant Data with State Governments Template

C. **AMENDMENTS.** This Agreement may be amended at any time by written approval of both parties and will be reflected as follows:

1. All amendments to this Agreement will be listed in Attachment 4, Subpart A to this Agreement;

2. Amendments to the State Certification Officers will be reflected in updates to Attachment 1;

3. Amendments to the programs and areas designated for this Declaration will be reflected in updates to Attachment 3;

4. Amendments to any of the cost share provisions will be reflected in Attachment 4, Subpart B;

5. Amendments to the Incident, such as type and period, will be reflected in Attachment 4, Subpart C; and

6. Amendments to any other term or condition contained in this Agreement or to the Declaration will be reflected in Attachment 4, Subpart D.

XII. SIGNATURES AND EFFECTIVE DATE

A. **COUNTERPART SIGNATURES.** This Agreement may be executed in two or more counterparts, each of which together shall be deemed an original, but all of which together shall constitute one and the same instrument. In the event that any signature is delivered by facsimile transmission or by e-mail delivery of a .pdf format data file, such signature shall create a valid and binding obligation of the party executing with the same force and effect as if such facsimile or .pdf signature page were an original thereof.

B. **EFFECTIVE DATE.** This FEMA-State Agreement becomes effective on the date of signature by the last Party.

Agreed:

Ricardo Rossello Nevares
Governor

September 23, 2017
Date

Alejandro De La Campa
Federal Coordinating Officer

SEPT 23, 2017
Date

FEMA-STATE AGREEMENT
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ATTACHMENT 1
LIST OF STATE CERTIFICATION OFFICERS

1. The Governor hereby certifies that Abner Gómez Cortes is the Governor's Authorized Representative (GAR) empowered to execute on behalf of the State all necessary documents for federal assistance, including approval of subawards and certification of claims for Public Assistance. Liza Hernández Rivera is the Alternate Governor's Authorized Representative and is similarly empowered. Their specimen signatures follow:

GAR

Abner Gómez Cortes

Alternate GAR

Liza Hernández Rivera

2. The GAR, named above, is responsible for State performance of hazard mitigation activities under this Agreement and, further, Abner Gómez Cortes is designated the State Hazard Mitigation Officer for the purposes of such hazard mitigation activities.

3. The Governor hereby certifies that Abner Gómez Cortes and Liza Hernández Rivera are the State Coordinating Officer (SCO) and Alternate SCO, respectively, who will act in cooperation with the Federal Coordinating Officer under this Declaration.

4. The Governor hereby certifies that Abner Gómez Cortes is the representative of the State authorized to receive donations or loans of surplus property on behalf of the State and to execute certification, agreements, and other necessary documents with regard thereto.

5. The Governor hereby certifies that Abner Gómez Cortes is the State official authorized to execute compliance reports, carry out compliance reviews, and distribute informational material as required by FEMA to ensure that all recipients of federal assistance are in full compliance with FEMA nondiscrimination regulations (44 CFR Part 7, *Nondiscrimination in Federally-Assisted Programs* and 44 CFR § 206.11, *Nondiscrimination in disaster assistance*).

6. The Governor hereby certifies that Abner Gómez Cortes is the State official who will execute compliance reports, carry out compliance reviews, and distribute informational material as required by FEMA to ensure that all recipients of federal assistance are in compliance with the General Services Administration List of Parties Excluded from Federal Procurement and Nonprocurement Programs.

Restrictions on approval authority of the above named officials: None.

Agreed:

Ricardo Rosselló Nevares
Governor

September 23, 2017
Date

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ATTACHMENT 2
CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

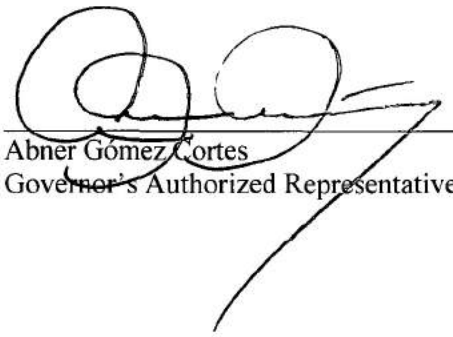
This certification is required by the regulations implementing the New Restrictions on Lobbying, 44 CFR Part 18. The undersigned certifies, to the best of his or her knowledge and belief, that:

1. No federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.

2. If any funds other than federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, *Disclosure Form to Report Lobbying*, in accordance with its instructions.

3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. § 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.



Abner Gómez Cortes
Governor's Authorized Representative

September 23, 2017
Date

ATTACHMENT 3

LIST OF DESIGNATED AREAS AND PROGRAMS

Individuals in the municipalities of Aguas Buenas, Aibonito, Arecibo, Arroyo, Barceloneta, Barranquitas, Bayamón, Caguas , Canóvanas, Carolina, Cataño, Cayey, Ceiba, Ciales, Cidra, Coamo, Comerio, Corozal, Culebra, Dorado, Fajardo, Florida, Guayama, Guaynabo, Gurabo, Humacao, Jayuya, Juana Díaz, Juncos, Las Piedras, Loíza, Luquillo, Manati, Maunabo, Morovis, Naguabo, Naranjito, Orocovis, Patillas, Ponce, Rio Grande, Salinas, San Juan, San Lorenzo, Santa Isabel, Toa Baja, Toa Alta, Trujillo Alto, Utuado, Vega Alta, Vega Baja, Vieques, Villalba, and Yabucoa are eligible to apply for Individual Assistance.

Eligible applicants within all 78 municipalities are eligible to apply for debris removal and emergency protective measure (Categories A and B), including direct Federal assistance, under the Public Assistance program.

Eligible applicants within the Commonwealth of Puerto Rico are eligible to apply for assistance under the Hazard Mitigation Grant Program.

ATTACHMENT 4
AMENDMENTS

Subpart A: List of Amendments (including listing amendments to the Declaration that are not reflected as amendments to the Agreement)

- **Not as yet**

Subpart B: Cost Share Amendments

- **Not as yet**

Subpart C: Amendments to the Incident (Type and Period)

- **Not as yet**

Subpart D: Other Amendments: not otherwise reflected in Attachments 1(List of State Certification Officers) or 3 (List of Designated Programs and Areas) and including Amendments to the Declaration that are not reflected as amendments to the Agreement.

- **Not as yet**

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PUBLIC ASSISTANCE PROGRAMMATIC ADDENDUM

SUBPART A: PA GRANT PERFORMANCE GOALS

(TBD per new requirements in 2 CFR § 200.210***)***

SUBPART B: ALTERNATIVE PROCEDURES

1. Prevailing Terms and Conditions.

FEMA has adopted several alternative procedures for the provision of Public Assistance (PA) as a pilot program pursuant to Section 428 of the Stafford Act (42 U.S.C. § 5189f). These alternative procedures are provided for in the Public Assistance Alternative Procedures (PAAP) for Permanent Work Pilot Guide, dated *December 19, 2013* and the Public Assistance Alternative Procedures for Debris Removal Pilot Guide (Version 3) dated *June 28, 2015*, the terms and conditions of which are hereby incorporated into this Agreement. Participation in the alternative procedures is at the election of the PA applicant for the subaward.

2. Special Cost Share Adjustments for Eligible Debris Removal Projects.

The PAAP for Debris Removal Pilot Guide provides for the use of a sliding scale for determining the federal share for removal of debris and wreckage based on the time it takes to complete debris and wreckage removal per the declared incident and also provides for a one-time incentive per applicant/subrecipient of a 2 percent cost share adjustment applied to debris removal work completed within 90 days when an applicant/subrecipient has a FEMA-accepted debris management plan before the date of the declared incident period.

Projects properly carried out under either procedure will be subject to adjustments in the federal cost share as established by the Pilot Guide which will be recorded in Attachment 4, Subpart B, Cost Share Adjustments.

INDIVIDUAL ASSISTANCE PROGRAMMATIC ADDENDUM

SUBPART A: IA GRANT PERFORMANCE GOALS

(TBD per new requirements in 2 CFR § 200.210)

SUBPART B: INDIVIDUALS AND HOUSEHOLDS PROGRAM OTHER NEEDS ASSISTANCE COOPERATIVE AGREEMENT ARTICLES CFDA NO. 97.050

I. PROGRAM DESCRIPTION

The Federal Emergency Management Agency (FEMA) agrees to provide funding through this Cooperative Agreement to the Commonwealth of Puerto Rico through its designated agency Puerto Rico State Agency for Emergency and Disaster Management (Agencia Estatal para el Manejo de Emergencias y Administración de Desastres (**AEMEAD**)). Funds in the amount specified on the Notice of Grant award document shall be used to support Other Needs Assistance (ONA). This Cooperative Agreement is included as an addendum to the FEMA-State Agreement for FEMA-4339-DR. The State agrees to abide by and comply with: the terms and conditions set forth in this Cooperative Agreement, all applicable statutory and regulatory provisions, the requirements of the ONA portion of the Individuals and Households Program (IHP), the State Administrative Plan, and all conditions contained in the FEMA-State Agreement.

II. PERIOD OF PERFORMANCE

A. **PERIOD OF PERFORMANCE.** This Cooperative Agreement takes effect on the date of Declaration and remains in effect for 18 months thereafter. All Cooperative Agreement implementation tasks shall be completed and all costs shall be incurred within the time period prescribed in the FEMA regulations and the award documents unless FEMA approves an extension.

B. **EXTENSION.** The State will include in any written requests for extensions documentation to support the request and a schedule for completion of program activities. FEMA may approve a request only if the State submits all financial and performance reports to FEMA.

III. FEMA and STATE TASKS

FEMA and the State agree to perform the following implementation tasks:

A. **FEMA'S ACTIVITIES.**

1. Registration Intake
2. Inspection Services

3. Provide Assistance Processing System
4. Mail Operations
5. Technical Assistance to the State

B. STATE'S ACTIVITIES.

1. Case Processing (Deciding whether Auto-Determination will be activated)
2. Helpline Operations
3. Funds Disbursement
4. Funds Recovery
5. Appeals Processing

IV. ADMINISTRATIVE COSTS

Administrative costs charged against the Cooperative Agreement:

A. LIMITATIONS. May not exceed 5 percent of the funding provided to finance ONA;

B. INDIRECT COSTS. Indirect Costs shall be included in the 5 percent allowance for administrative costs and all costs must be supported with source documentation; and

C. SALARY EXPENSES. Costs to pay regular time for State employees shall not be charged to the Cooperative Agreement, but overtime pay for those employees may be included in the 5 percent limitation.

V. COST SHARE

FEMA shall pay 75 percent of the total ONA payments to individual recipients and administrative costs allowed under Section 408 of the Stafford Act (42 U.S.C. § 5174). The State shall pay 25 percent.

VI. REQUEST FOR ADVANCEMENT/REIMBURSEMENT

FEMA will provide funds to the State using the U.S. Department of Health and Human Services Payment Management System (HHS/Smartlink), provided that the State establishes and complies with procedures for minimizing the time between transfer of funds from the U.S. Treasury and disbursement by the State. The State will: (1) initiate cash drawdowns only when actually needed for disbursement; (2) provide timely financial reports in accordance with the FEMA-State Agreement; and (3) impose the same standards upon any subrecipient.

VII. PROGRAM STATUS REPORTS

In addition to the performance reports required by the FEMA-State Agreement, the State shall provide weekly program status reports that include the number and dollar amount of applications approved, the amount of assistance disbursed, the number of appeals received, and the number of recoupments identified. These reporting requirements are required under 44 CFR § 206.120.

VIII. RECOVERY OF FUNDS

In addition to the requirements of the FEMA-State Agreement:

A. **RESPONSIBILITIES FOR RECOVERING ASSISTANCE.** The State will recover assistance paid to individuals and households as a result of processing error, misrepresentation, or fraud or if funds are spent inappropriately, except that FEMA will recover assistance where a FEMA error caused a mistake in payment.

B. **REQUIRED RECOVERY REPORTING.** The State will include a list of IHP applicants from whom funds are recovered in the quarterly progress report to allow FEMA to adjust its program and financial information systems.

C. **FRAUD REPORTING REQUIREMENT**. The State will report all cases of suspected fraud to the DHS Office of Inspector General. The State agrees to cooperate with any investigation conducted by the DHS Office of Inspector General.

IX. AMENDMENTS

This Agreement may be amended at any time by written approval of both parties.

VIII. RECOVERY OF FUNDS

In addition to the requirements of the FEMA-State Agreement:

A. **RESPONSIBILITIES FOR RECOVERING ASSISTANCE.** The State will recover assistance paid to individuals and households as a result of processing error, misrepresentation, or fraud or if funds are spent inappropriately, except that FEMA will recover assistance where a FEMA error caused a mistake in payment.

B. **REQUIRED RECOVERY REPORTING.** The State will include a list of IHP applicants from whom funds are recovered in the quarterly progress report to allow FEMA to adjust its program and financial information systems.

C. **FRAUD REPORTING REQUIREMENT**. The State will report all cases of suspected fraud to the DHS Office of Inspector General. The State agrees to cooperate with any investigation conducted by the DHS Office of Inspector General.

IX. AMENDMENTS

This Agreement may be amended at any time by written approval of both parties.

HAZARD MITIGATION PROGRAMMATIC ADDENDUM

SUBPART A: HMGP PERFORMANCE GOALS

The key purpose of HMGP is to ensure that the opportunity to take critical mitigation measures to reduce the risk of loss of life and property from future disasters is not lost during the reconstruction process following a disaster. To achieve this, States must use their HMGP funding as soon as possible to support the development and update of state and local hazard mitigation plans and the completion of hazard mitigation projects based on the State, Tribal and local Hazard Mitigation plan.

The milestone described below will allow FEMA to assess the performance of the State in taking advantage of reconstruction opportunities after a disaster, making the entire state more sustainable.

State HMGP Award Performance Metric

1. All progress reports must be complete and submitted on time. Information in reports must accurately describe award and subaward activities, including data related to the completion of individual property acquisitions. Incomplete progress reports which do not provide information on all open awards and subawards or include all information required by the program guidance are not considered on-time.

2. All Federal Financial Reports (FFR), Standard Form (SF) SF-425 are submitted on time.

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GENERAL PROGRAMMATIC ADDENDUM

SUBPART A: TERMS AND CONDITIONS FOR SHARING FEMA DISASTER ASSISTANCE SURVIVOR/REGISTRANT DATA WITH STATE GOVERNMENTS

I. BACKGROUND

As provided for in Article IX of the FEMA-State Agreement for FEMA-4339-DR, this General Programmatic Addendum Subpart A provides the terms and conditions for sharing FEMA Disaster Assistance Survivor/Registrant Data with the State for this Declaration. FEMA establishes these administrative safeguards with the State to ensure the security and confidentiality of survivor/registrant records, to prevent substantial harm, embarrassment, inconvenience, or unfairness, as required by the Privacy Act of 1974 (5 U.S.C. § 552a(e)(10)). FEMA shares disaster survivor/registrant data with the State pursuant to Section 408(f)(2) of the Stafford Act (42 U.S.C. § 5174(f)(2)), "in order for the States to make available any additional State, and local assistance to the individuals and households," as well as to prevent a duplication of benefits. *Disaster Recovery Assistance Files Privacy Act Notice of System of Records*, 78 Fed. Reg. 25,282—285 (Apr. 30, 2013); and *Hazard Mitigation, Disaster Public Assistance and Disaster Loan Programs Notice of System of Records*, 79 Fed. Reg. 16,015 (Mar. 24, 2014). FEMA and the State agree to the following terms and conditions regarding the sharing of FEMA disaster assistance survivor/registrant information:

II. INFORMATION FEMA SHARES

A. **REPORTS AND FILES.** Upon receipt of a request by an Authorized Requestor, FEMA shall make the following available to the State as resources permit:

1. Standard reports: data reports that have been pre-identified as frequently requested and that are regularly generated.

2. Custom reports: ad-hoc data reports, as requested, that are created by FEMA data analysts to assist the State in effective and efficient data usage.

3. Raw data files: personally identifiable information (excluding social security and bank account numbers) collected from and/or about survivors/registrants who apply for and/or express an interest in receiving federal assistance through any of FEMA's programs for the present Declaration or for historic declarations within the State. FEMA will share survivor/registrant PII through the "FIDA" web URL portal. FEMA will provide "FIDA" login/password credentials and instructions to AEMEAD's designated points of contact (POCs) identified below. If necessary, while FEMA establishes access to "FIDA," FEMA will provide AEMEAD data via other secure means (such as password protected document sent via email and/or password protected compact disc).

B. **SENSITIVE PERSONALLY IDENTIFIABLE INFORMATION ELEMENTS.** On a case-by-case basis, the State and FEMA will identify those sensitive personally identifiable information elements (i.e., Social Security Number and/or bank account number) that the State actually needs in administering its assistance programs and efforts

to survivors/registrants. The parties recognize that these data elements, if lost, compromised, or disclosed without authorization, present substantial harm, embarrassment, inconvenience, or unfairness to the survivor/registrant. As such, if sharing of such elements is necessary, the State shall ensure this data, along with all personally identifiable information provided, is secure and safeguarded in accordance with all FEMA/DHS guidance.

1. FEMA will be the final arbiter to decide whether sharing a data element meets the standards set forth in this addendum.

2. The State is responsible for monitoring use and security of data elements conferred by FEMA.

III. AUTHORIZED REQUESTORS

Abner Gómez Cortes, Governor's Authorized Representative
Executive Director
PR Emergency Management Agency
PO Box 194140
San Juan, PR 00919-4140
Tel. (787) 721-3596

Liza Hernández Rivera, Alternate Governor's Authorized Representative
PR Emergency Management Agency
PO Box 194140
San Juan, PR 00919-4140
Tel. (787) 721-3596

The following State officials or employees are authorized to request disaster survivor information from FEMA under the provisions of this addendum: None.

IV. THIRD-PARTY SHARING

A. **DIRECT-ACCESS.** The following third-parties are administering survivor assistance programs within the State for this particular major disaster or emergency. The State authorizes these third-parties to request direct-access to FEMA survivor/registrant data via the preferred URL site or other means. Some limitations may apply to the information available for direct-sharing (set forth in Article II of this addendum) based upon the identity and reasonable operational needs of the third-party.

1. Puerto Rico VOADS

Edwin Nazario, PR VOAD Director
PO Box 3044
Guaynabo, PR 00970-4605
Tel. (787) 360-4605
edwinj.nazario2@gmail.com

2. American Red Cross

Lee Feliciano, ARC Director
P.O. Box 9021067
San Juan, PR 00902-1067
Tel. (787) 396 1246 and (787) 758-8150
Cell (787) 306-1238
felicianolee@cruzrojapr.org
Joseph Guzman (Alternate)
Tel. (787) 600-2256
joseph.guzman2@redcross.org

3. Salvation Army

Mayor Eric Rodriguez
PO Box 71523
San Juan, PR 00936-8623
Tel. (787) 999-7000, ext. 69036
Cell (787) 461-3060
eric.rodriguez@use.salvationarmy.org

Sr. Miguel Rivera (Alternate)
Emergency Services Director
Carr. # 1 Km, 39.6 Bo Turabo,
Caguas, Puerto Rico
Tel. (787) 745-6200 / 6201
Cell (787) 565-4269
miguel.rivera@use.salvationarmy.org

B. **INDIRECT-ACCESS.** The State may share information received from FEMA under the provisions of this addendum with the following third-parties that are administering survivor assistance programs in the State for this particular major disaster or emergency. *For these third-parties, an Authorized Requestor identified in Article III of this addendum shall access the data on behalf of the third-party.*

None authorized at this time.

V. RESTRICTIONS ON FURTHER INFORMATION SHARING

The State may share information received from FEMA under the provisions of this addendum with third-parties other than those listed and agreed upon in this addendum *only* through subsequent amendment to this addendum or through a separate Information Sharing Access Agreement (ISAA) between FEMA and the third-party directly.

VI. DUTY TO NOTIFY

In the event of a breach of this addendum or any exposure, unauthorized release or misuse of FEMA survivor/registrant information shared under the provisions of this addendum, the incident or breach shall be immediately reported by the State to the FEMA Privacy Office (FEMA- Privacy@fema.dhs.gov, (202) 212-5100) in accordance with the Department of Homeland Security's (DHS) Privacy Incident Handling Guide.

VII. STATE ACKNOWLEDGMENTS, STANDARDS, AND SECURITY

A. **COMPLIANCE.** The State understands the personal and confidential nature of the survivor/registrant PII and agrees that it and all entities listed in Articles III and IV of this Addendum shall comply with all applicable laws, regulations, policies, and provisions of this addendum to protect the confidentiality of survivor/registrant PII. The State understands that it and all entities listed in Articles III and IV are responsible for any privacy incidents concerning survivor/registrant PII while in the possession and/or control of the State and aforementioned entities.

B. **PRIVACY INCIDENT.** A privacy incident occurs when there is a loss of control, compromise, unauthorized disclosure, unauthorized acquisition, unauthorized access, or failure to secure PII in usable form, whether physical or electronic, or when authorized users access survivor/registrant PII for an unauthorized purpose. The term encompasses both suspected and confirmed incidents involving PII which raise a reasonable risk of harm.

C. **BREACH.** A privacy incident, involving PII that is in the possession and/or control of the State or any entity with which the State shares the PII, constitutes a breach of the FEMA-State Agreement and this addendum, notwithstanding whether such incident is the result of a negligent or intentional act or omission on part of the State and/or aforementioned entities.

D. **MINIMUM STANDARDS.** The State shall establish and implement the following minimum standards:

1. Store the survivor/registrant PII, whether in physical or electronic form, only in places and in a manner that is safe from access by unauthorized persons or for unauthorized use.

2. Take reasonable precautions to ensure that only authorized personnel and entities (those listed in Articles III and IV) have access to survivor/registrant PII.

3. Instruct all individuals with access to the survivor/registrant PII regarding the confidential nature of the information, the safeguard requirements of this addendum, and the criminal penalties and civil remedies specified in federal and state laws against unauthorized disclosure of survivor/registrant PII covered by the FEMA-State Agreement and this addendum.

The State hereby acknowledges and agrees that if it shares the PII with any entity listed in Articles III and IV that it will require such entity to follow the same requirements and standards found herein.

The State shall immediately notify the FEMA Privacy Office (FEMA-Privacy@fema.dhs.gov, (202) 212-5100) if there is a privacy incident or suspicion thereof.

E. **INVESTIGATION AND MITIGATION.** In the event of a privacy incident involving PII that is in the possession and/or control of the State or any entity with which the State shares the PII, the FEMA Privacy Office will investigate the incident pursuant to the DHS Privacy Incident Handling Guide and will consult with the State to determine the necessary steps to mitigate and manage the privacy incident. The State shall be responsible for carrying out the necessary measures to remedy and mitigate the effects of the privacy incident and shall, subject to fiscal law restrictions, be responsible for bearing any costs associated with such measures.

FEMA may also take additional actions to mitigate the incident. These actions may include, but are not limited to:

1. Terminating, in whole or in part, any federal award made to the State by FEMA;

2. Recouping any federal assistance funds awarded by FEMA to the State;

3. Debt collection pursuant to 6 CFR § 11.1(a);

4. Requiring surrender of all records of PII covered by this addendum to FEMA, including all records of PII in the possession of the entities listed in Articles III and IV of this addendum; and

5. Limiting or restricting State access to survivor/registrant PII records in this or future major disasters or emergencies.

VIII. LIABILITY

In the event of any litigation arising from or in connection with any privacy incident or breach as described in this addendum, involving data which is in the care or custody of the State and/or any third party which the State has shared the data with, and notwithstanding whether the privacy incident or breach is the result of a negligent or intentional act or omission, the State agrees, subject to fiscal law restrictions, to pay for any and all costs associated with the defense of that litigation, including costs and attorneys' fees, and to reimburse the United States, FEMA, and any of their officers and employees in full for any adverse judgments against them.

FEMA shall not be liable to the State or to any third person for any cause of action arising from the possession, control, or use by State of survivor/registrant PII, or for any loss, claim, damage or liability, of whatsoever kind or nature, which may arise from or in connection with the FEMA-State Agreement or this addendum or the use of survivor/registrant PII, subject to fiscal law restrictions.

Nothing in this Article shall be construed as a waiver of sovereign immunity against suits by third persons against the State.

IX. AMENDMENTS

This addendum may be amended at any time by written approval of both parties.

APPENDIX 5-5

PUERTO RICO HAZARD MITIGATION GRANT PROGRAM – NOTICE OF FUND AVAILABILITY (MAY 2019)

GOVERNMENT OF PUERTO RICO

Central Recovery and Reconstruction Office

Date: May 30th, 2019

To: Municipalities, Government of Puerto Rico Agencies, and Private Non-Profit Organizations

From: José L. Valenzuela, State Hazard Mitigation Officer (SHMO)
Central Recovery and Reconstruction Office (COR3)

Re: Amendment No. 1 - Hazard Mitigation Grant Program
Notice of Funds Availability FEMA-4339-DR-PR (Hurricane Maria)

Authority

In anticipation of the need for a centralized entity to lead the coordination of the long-term recovery and reconstruction planning and execution process for the Government of Puerto Rico, the Governor of Puerto Rico, Hon. Ricardo Rosselló Nevares, issued Executive Order 2017-65 (as amended, by Executive Order 2017-69). These executive orders created the Central Recovery and Reconstruction Office (COR3) within the Puerto Rico Public Private Partnership Authority ("P3 Authority") to leverage that agency's unique and proven track record on procurement and financing of major projects. The Governor has designated the COR3 as the lead agency within the Government of Puerto Rico in the coordination, development and execution of long-term recovery and reconstruction efforts.

On February 5, 2018, the Governor appointed the Executive Director of the P3 Authority, Mr. Omar J. Marrero, Esq., as the Governor's Authorized Representative ("GAR") to ensure that the COR3, which he leads, has full visibility and leadership within the long-term recovery and reconstruction process.

As part of the commitment of the Governor to make this recovery process the most transparent, effective, and efficient in the history of the US, the COR3 provides an additional layer of oversight to all state government agencies to ensure full compliance with all applicable laws and regulations including the Hazard Mitigation Grant Program (HMGP). In such regard, although GAR will be the state agency responsible before FEMA, the COR3 will provide oversight and monitor the HMGP in terms of procurement, recovery strategy, legal and regulatory support, grants claim review, project formulation, and data management, pursuant to the Executive Orders creating the COR3.

Program Summary

The Office of the Governor's Authorized Representative (GAR) announces the availability of Hazard Mitigation Grant Program (HMGP) funds as a result of the Federal Disaster Declaration for Hurricane Maria (FEMA-4339-DR-PR).

HMGP funding is authorized by Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act). This post-disaster funding helps the Government of Puerto Rico to implement hazard mitigation measures to reduce or eliminate long-term risk to people and property from natural hazards.

The amount of HMGP funding available to the Government of Puerto Rico is derived from the total federal disaster assistance provided under the disaster declaration. As a result of Hurricane Maria, on February 12, 2019, FEMA notified the Government of Puerto Rico of the establishment of the 12-month funding lock-in limit. The amount available based on this disaster is **$2,999,975,000** in federal hazard mitigation funding.

Funding Priority

The Government of Puerto Rico and FEMA have agreed to implement hurricane recovery based on prioritized infrastructure sectors. All federal recovery funding – including HMGP – will be delivered via sectors to eligible sub-applicant. Additionally, the Government of Puerto Rico has prioritized the available HMGP funds to protect the federal investment in Puerto Rico's public infrastructure.

For FEMA-4339-DR-PR, HMGP projects will be identified and developed as part of the overall recovery process through the sectors. Eligible HMGP projects will be identified and project applications developed as part of the sub-recipient's overall recovery process, and in conjunction with the identification of permanent repair/replacement/restoration project development. Where possible and feasible, HMGP funding will be aligned with and will support both permanent repair/replacement/restoration scope of work and Section 406 mitigation scope of work development.

For the purposes of HMGP, and in accordance with 44 CFR, §206.433(b), the Government of Puerto Rico has established priorities for the selection of mitigation projects to receive HMGP funding. For FEMA-4339-DR-PR, HMGP funding requests will be prioritized by the State Hazard Mitigation Officer (SHMO) based on the following sector priorities:

1. Power
2. Water/Wastewater
3. Transportation
4. Communications/IT
5. Education
6. Public Buildings
7. Municipalities
8. Health and Social Services
9. Housing
10. Capacity Building
11. Natural and Cultural Resources
12. Economics

As recovery progresses and sectors complete their project identification and funding activities, these sectors may be reviewed and reprioritized based on the work and available funding remaining at the time.

Cost Share Requirement

No Cost Share will be required.

On October 22nd, 2018, FEMA approved the Governors' request, dated February 26th, 2018, to use the Global Match approach to meet Hazard Mitigation Grant Program (HMGP) 25 percent non-federal cost share requirement. FEMA also acknowledge the intent to use the value of projects funded with Community Development Block Grant Disaster Recovery (CDBG-DR) funds to carry the Global Match Program. The Government of Puerto Rico will dedicate approximately $1b in CDBG-DR funding to provide the required cost share for HMGP projects

This means that all HMGP projects will be fully funded, with no additional cost share required from the sub-applicant. The CDBG-DR funding will provide eligible matching projects that will count as the HMGP cost share.

HMGP Funding Allocation Plan

The Government of Puerto Rico has developed an allocation plan for HMGP funds. This allocation plan also utilizes the prioritized sector approach. For FEMA-4339-DR-PR, HMGP funding will be allocated in the following manner and amounts:

Sector	Percentages	Initial Allocation
Water/Wastewater	20%	$ 599,995,000.00
Power	15%	$ 449,996,250.00
Communications/IT	12%	$ 359,997,000.00
Health and Social Services	11%	$ 329,997,250.00
Municipalities	10%	$ 299,997,500.00
Transportation	7%	$ 209,998,250.00
Education	7%	$ 209,998,250.00
Public Buildings	7%	$ 209,998,250.00
Housing	5%	$ 149,998,750.00
Capacity Building	3%	$ 89,999,250.00
Natural and Cultural Resources	1.50%	$ 44,999,625.00
Economics	1.50%	$ 44,999,625.00
Total	**100%**	**$ 2,999,975,000.00**

This allocation plan will be routinely monitored by the SHMO. As recovery progresses and sectors complete their project identification and funding activities, the HMGP funds allocation plan will be reviewed and redistributed based on the work and available funding remaining at the time.

Letters of Intent to Participate

Eligible Sub-Applicants are encourage to prioritize sector-based mitigation projects considering the **Eligible Activities** as described in that section, and submit Online - Letters of Intent (O-LOI) to participate in the HMGP. The O-LOI will be submitted via the COR3's DRS (Disaster Recovery Solution).

The DRS is an enterprise data management system implemented as a result of the Data Management RFP released by the Government of Puerto Rico, Central Office of Recovery, Reconstruction, and Resiliency. It provides comprehensive and centralized data management across the financial, operational, and program management aspects of the recovery efforts on the state side.

To request access, please contact the DRS Help Desk at:

- **Email: helpdesk@recovery.pr**
- **Phone number: 1-800-685-6022**

Timeline

The period to submit LOI through the online application will be open until August 30th, 2019. LOI's will be taken into consideration until all granted funds are extinguished. During that period, COR3 will prioritize received LOI and will notify sub-applicants for next steps on selected projects.

Minimum HMGP Eligibility

This section provides eligibility criteria for the HMGP grant program. The LLM program guidance will provide details of eligibility requirements for projects under that program.

Eligible Sub-Applicants

44 CFR, §206.434(a) defines eligible applicants for HMGP as:

- State and local governments
    - Local government applicants for project sub-grants must have an approved local mitigation plan prior to receipt of HMGP sub-grant funds; and
- Private non-profit organizations that own or operate a private non-profit facility as defined in 44 CFR, §206.221(e)
    - A qualified conservation organization as defined by 44 CFR, §80.3(h) is the only private non-profit organization eligible to apply for acquisition or relocation for open space projects

Eligible Activities

Projects may be of any nature that will result in protection to public or private property. Activities for which implementation has already been initiated or completed, are not eligible. Based on 44 CFR, §206.434(d)(2) and (e), the Government of Puerto Rico will prioritize the following eligible activities for HMGP:

- Property Acquisition and Structure Demolition
- Mitigation Reconstruction
- Dry Floodproofing of Historic Residential Structures
- Dry Floodproofing of Non-residential Structures
- Generators
- Localized Flood Risk Reduction Projects
- Non-localized Flood Risk Reduction Projects
- Structural Retrofitting of Existing Buildings
- Non-structural Retrofitting of Existing Buildings and Facilities
- Wind Retrofit for One- and Two-Family Residences
- Infrastructure Retrofit
- Safe Room Construction
- Soil Stabilization

- Miscellaneous/Other
- Aquifer and Storage Recovery**
- Flood Diversion and Storage**
- Floodplain and Stream Restoration**
- Green Infrastructure**

**Indicates that any proposed action will be evaluated on its own merit against program requirements. Eligible projects will be approved provided funding is available.

Minimum Project Criteria

44 CFR, §206.434(c) requires the following eligibility criteria for any project funded under the HMGP:

- The project must be in conformance with both the state and local hazard mitigation plan;
- The project must have a beneficial impact on the designated disaster area, whether or not located in the designated area;
- The project must be in conformance with 44 CFR, Part 9 (Floodplain Management and Protection of Wetlands) and other applicable environmental and historic preservation laws, regulations, Executive Orders, and agency policy;
- The project must solve a problem independently or constitute a functional portion of a solution where there is assurance that the project as a whole will be completed;
    - Projects that merely identify or analyze hazards or problems are not eligible;
- Be cost-effective and substantially reduce the risk of future damage, hardship, loss, or suffering resulting from a major disaster. The project application must demonstrate this by documenting that the project:
    - Addresses a problem that has been repetitive, or a problem that poses a significant risk to public health and safety is left unsolved;
    - Will not cost more than the anticipated value of the reduction in both direct damages and subsequent negative impacts to the area if future disasters were to occur;
    - Has been determined to be the most practical, effective, and environmentally sound alternative after consideration of a range of options;
    - Contributes, to the extent practicable, to a long-term solution to the problem it is intended to address; and
    - Considers long-term changes to the areas and entities it protects and has manageable future maintenance and modification requirements.

Technical Assistance

Eligible HMGP sub-applicants will be provided with technical assistance through the sector teams. For questions regarding this notice, please contact José L. Valenzuela, State Hazard Mitigation Officer: hmgp-pr@cor3.pr.gov

APPENDIX 7-1

STATE NATURAL HAZARD MITIGATION PLAN PROGRESS REPORT (MONITORING SHEET #1)

INFORME DE PROGRESO

Informe para el Periodo: De _____ (Fecha) A: _____ (Fecha)

Nombre del Proyecto: _____ Núm. Id.: _____

Agencia Responsable: _____

Dirección: _____

Ciudad/Municipio: _____

Persona Contacto: _____ Título: _____

Núm.(s) Teléfono: _____ Correo Electrónico: _____

Enumere Agencias de Apoyo y Contactos en dichas Agencias:

_____

_____

_____

Costo Total del Proyecto: _____

Aumentos/Reducciones en Costo Anticipadas: _____

Descripción del Proyecto (Incluya una descripción de cada fase, si aplica, y la programación en tiempo de cada fase): _____

_____

_____

FASES DEL PROYECTO	COMPLETADO	FECHA ESTIMADA A COMPLETARSE

Meta(s)/Objetivo(s) del Plan Atendida:

Meta: _____

Objetivo: _____

Indicador de Desempeño: (Ejemplo: pérdidas que se evitaron como resultado de un programa de adquisición):

En la mayoría de los casos, se debe indicar las pérdidas que se evitaron como el indicador. En los casos donde sea difícil cualificar los beneficios en términos de cantidades en dólares, se deberán usar otros indicadores como: el número de personas que tomaron conocimiento sobre mitigación o que están tomando acciones de mitigación para reducir su vulnerabilidad a los peligros naturales.

_____

_____

Status (Marque en encasillado pertinente y provea una explicación para los ítems marcados con un asterisco. Para proyectos que han sido cancelados o terminados, refiérase a la Hoja de Seguimiento Núm. 2 – para completar la evaluación del proyecto):

Status del Proyecto

☐ Proyecto en Desarrollo a Tiempo

☐ Proyecto Completado

☐ Proyecto Pospuesto*

*Explicar: _____

_____

☐ Proyecto Cancelado

Status del Costo del Proyecto

☐ No Cambios en Costo

☐ Aumento en Costos*

*Explicar: _____

_____

☐ Reducción en Costos*

*Explicar: _____

_____

Resumen de Progreso del Proyecto en este Informe:

A. ¿Cuáles fueron los logros durante el periodo del informe?

_____

_____

_____

B. ¿Cuáles fueron los obstáculos, problemas o retrasos encontrados, si alguno?

_____

_____

_____

C. ¿Cómo se resolvió cada problema?

Curso a Seguir: ¿Cuál(es) sería(n) el(los) próximo(s) paso(s) a lograrse durante el próximo periodo de informe?

Otros Comentarios:

Adaptado de Plan de Mitigación Estatal de Carolina del Norte

APPENDIX 7-2

EVALUATION REPORT: PLANNING, EVALUATION, AND MONITORING COMMITTEE (MONITORING SHEET #2)

INFORME DE EVALUACIÓN
COMITÉ DE PLANIFICACIÓN, EVALUACIÓN Y MONITOREO

Durante el proceso de evaluación y monitoreo del PEMPN, el Comité de Planificación deberá reevaluar su composición y contestar las siguientes preguntas:	**SI**	**NO**
¿Han ocurrido cambios en el personal de la organización que ameriten invitar miembros diferentes a formar parte del Comité de Planificación?		
Comentarios/Acción Propuesta:		
¿Se han identificado organizaciones que hayan sido invaluables en el proceso de planificación o en la implantación de proyectos que deban estar representadas en el Comité de Planificación?		
Comentarios/Acción Propuesta:		
¿Se han identificado representantes de organizaciones esenciales que no hayan participado activamente en la implantación de acciones y proyectos? De ser así, ¿es posible identificar a otro representante de la organización que se comprometa a trabajar con el Comité de Planificación?		
Comentarios/Acción Propuesta:		
¿Se han identificado procedimientos (ej. firma de memorandos de entendimiento, comentarios a informes de progreso sometidos, distribución de minutas de reuniones, etc.) que se puedan realizar de forma más eficiente?		
Comentarios/Acción Propuesta:		
¿Existen otras formas de obtener una cooperación más diversa y difundida?		
Comentarios/Acción Propuesta:		
¿Se han identificado recursos adicionales o diferentes (financieros, técnicos, y humanos) que estén disponibles al presente para la planificación de mitigación?		
Comentarios/Acción Propuesta:		

Si el Comité de Planificación determina que la contestación a cualquiera de estas preguntas es "Sí", es posible que algunos cambios sean necesarios.

APPENDIX 7-3

PROJECT OUTCOME EVALUATION (MONITORING SHEET #3)

EVALUACIÓN DE RESULTADO DE LOS PROYECTOS

Nombre y Número de Proyecto_____

_____

Presupuesto del Proyecto:_____

_____

Descripción del Proyecto:_____

_____

_____

Meta y Objetivo(s) Asociado(s):_____

_____

_____

Inserte mapa de localización.

Incluya fotos de antes y después, de ser

Indicador de Desempeño (Ej. pérdidas evitadas): _____

_____

_____

¿Se completó la Acción? ☐ **SI** ☐ **NO**

SI LA CONTESTACION ES NO:

¿Por qué no?	**SI**	**NO**
¿Se obtuvo apoyo político para implantar la acción?	☐	☐
¿Hubo fondos suficientes disponibles?	☐	☐
La carga de trabajo, ¿se distribuyó de forma equitativa y realista?	☐	☐
¿Se descubrió nueva información sobre peligros o comunidades que hizo que la implantación fuera difícil o insensible?	☐	☐
El tiempo para la implantación, ¿fue razonable?	☐	☐
La carga de trabajo, ¿se distribuyó de forma equitativa y realista?	☐	☐
¿Los recursos disponibles (Ej. personal y asistencia técnica), fueron suficientes?	☐	☐

SI LA CONTESTACION ES SI:

¿Cuáles fueron los resultados de la implantación de la acción de mitigación? _____

_____

_____

_____

	SI	NO
¿Los resultados fueron los esperados? Si la contestación es No, por favor explique:		
¿Los resultados obtenidos alcanzaron la meta y objetivo(s) esperados? Explique como:		
La acción de mitigación que se implantó, ¿fue costo-efectiva? Explique cómo:		
¿Cuáles fueron las pérdidas que se evitó incurrir como resultado de completar el proyecto?		
Si fue un proyecto estructural, ¿cómo cambió el perfil del peligro natural que afectaba el área?		
Comentarios adicionales sobre otros resultados obtenidos.		

Fecha: _____

Preparado por: _____

APPENDIX 7-4

MONITORING AND EVALUATION OF NATURAL HAZARDS (MONITORING SHEET #4)

MONITOREO Y EVALUACIÓN DE PELIGROS NATURALES

PASOS EN LA EVALUACIÓN DE PELIGROS NATURALES	PREGUNTAS	SI	NO	COMENTARIOS
Identificar Peligros	¿Se han identificado algunos peligros naturales nuevos que puedan afectar el territorio?			
Perfil de los Eventos de Peligros	¿Se han identificado nuevos récords históricos?			
	¿Se han hecho disponibles nuevos mapas o estudios técnicos sobre peligros?			
	¿Han cambiado las probabilidades de eventos futuros? (conjuntamente con su magnitud, extensión, etc.)			
	¿Se ha evaluado el desarrollo reciente y futuro en la comunidad y su efecto sobre las áreas en peligro?			
Inventario de Instalaciones Críticas	¿Se ha actualizado el inventario de instalaciones críticas en áreas de peligro?			
	¿Se ha tomado en consideración como parte del inventario, el desarrollo futuro de los terrenos?			
	¿Se han identificado algunas nuevas poblaciones en alto riesgo?			
Estimado de Pérdidas Potenciales	¿Se han actualizado los estimados de pérdidas potenciales a la luz de cambios recientes?			

Si se contestó que "Sí" en alguna de las preguntas arriba enumeradas, revise los datos utilizados y actualice la evaluación de peligros naturales de acuerdo a los cambios identificados.

APPENDIX 7–5

STATE MITIGATION PLAN REVIEW GUIDE (MONITORING SHEET #5) AND DOCUMENT LOG.

GUÍA DE REVISIÓN DEL PLAN ESTATAL DE MITIGACIÓN DE PELIGROS NATURALES DE PUERTO RICO

Preparación para la actualización del Plan

En la preparación para la actualización del Plan: *Haga marca de cotejo al completar:*

1. Recopile información, incluyendo hojas de evaluación de los proyectos, informes de progreso, estudios, planes relacionados, etc.	
Comentarios:	
2. Reorganice el Comité de Planificación, haciendo los cambios en la composición del comité que sean necesarios (Haga referencia a la Hoja de Monitoreo Núm. 2).	
Comentarios:	

Considere los resultados de la evaluación y nuevas estrategias para el futuro

En la evaluación de las comunidades considere: *Haga marca de cotejo al completar:*

1. Los resultados de los esfuerzos de planificación y de participación comunitaria.	
Comentarios:	
2. Los resultados de los esfuerzos de mitigación.	
Comentarios:	
3. Tendencias en los cambios en el desarrollo.	
Comentarios:	

4. Áreas afectadas por desastres recientes.	
Comentarios:	
5. La magnitud, localización y tipo de peligro natural o desastre más reciente.	
Comentarios:	
6. Nuevos estudios o tecnologías.	
Comentarios:	
7. Cambios en leyes, políticas, prioridades o financiamiento a nivel local, estatal o federal.	
Comentarios:	
8. Cambios en la composición socioeconómica de las comunidades.	
Comentarios:	

9. Otras condiciones cambiantes	
Comentarios:	

Incorpore sus hallazgos al Plan

Cuando examine el Plan considere: *Haga marca de cotejo al completar:*

1. Revise la Evaluación de Peligros Naturales (Hoja de Monitoreo Núm. 4).	
Comentarios:	
2. Actualice sus metas y estrategias.	
Comentarios:	
3. Recalcule los análisis de costo-beneficio de los proyectos para asignar nuevas prioridades a las actividades.	
Comentarios:	

Utilice los siguientes criterios para la evaluación del Plan

Criterio de Evaluación	SI	NO	COMENTARIOS
¿Las metas siguen siendo aplicables?			

¿Han ocurrido cambios a nivel estatal o municipal que hayan hecho que las metas sean obsoletas o irrelevantes?			
¿Es necesario el asignar nuevas prioridades para la implantación de las actividades de mitigación existentes?			
¿Las prioridades existentes son consistentes con las prioridades municipales?			
¿Se pueden implantar las acciones con los recursos disponibles?			

Comentarios:

Document Change Log

The most current copy of this document, including any changed pages, is available on the WebEOC platform and PREMB Preparedness Division Director. Send recommended changes or comments to PREMB Email Drop box: eoc-planning@prema.pr.gov

Version	Date	Summary of Changes	Name

REFERENCES

REFERENCES

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