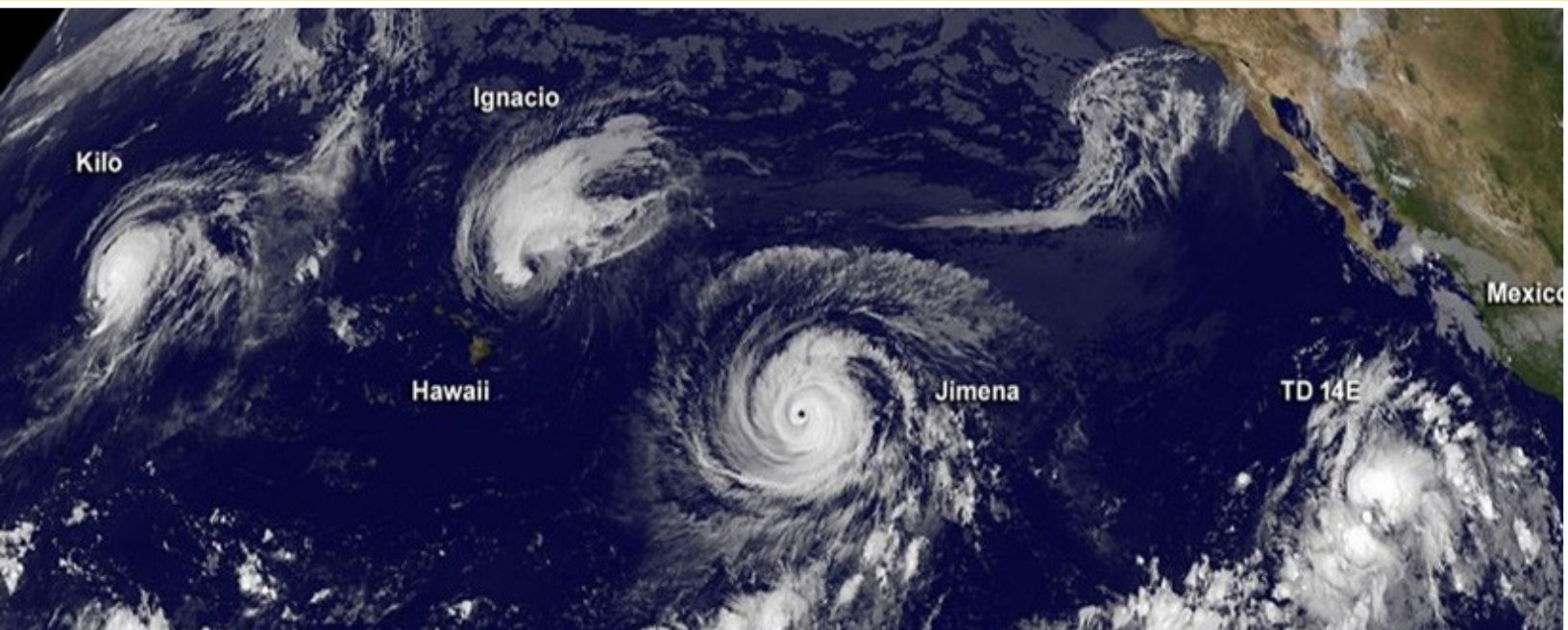


# Guidance for Disaster Recovery Preparedness in Hawai'i



Funding from: NOAA FY16  
Regional Coastal Resilience  
Grants Program





# Guidance for Disaster Recovery Preparedness in Hawai'i

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## Preface

Through a National Oceanic and Atmospheric Administration (NOAA) Regional Coastal Resilience Grant, the Hawai'i Sea Grant College Program together with the State of Hawai'i Department of Land and Natural Resources (DLNR), Office of Planning, and Tetra Tech, Inc., developed statewide guidance documents and tools to improve community resilience to coastal hazards and sea level rise. These guidance documents and tools support implementation of the recommendations of the *Hawai'i Sea Level Rise Vulnerability and Adaptation Report* (Hawai'i Climate Mitigation and Adaptation Commission 2017) especially to integrate sea level rise adaptation plans and policies into state, county and community plans and to develop pre-disaster recovery frameworks at the state and county levels that incorporate opportunities to adapt to sea level rise through disaster recovery. These statewide guidance documents and tools include:

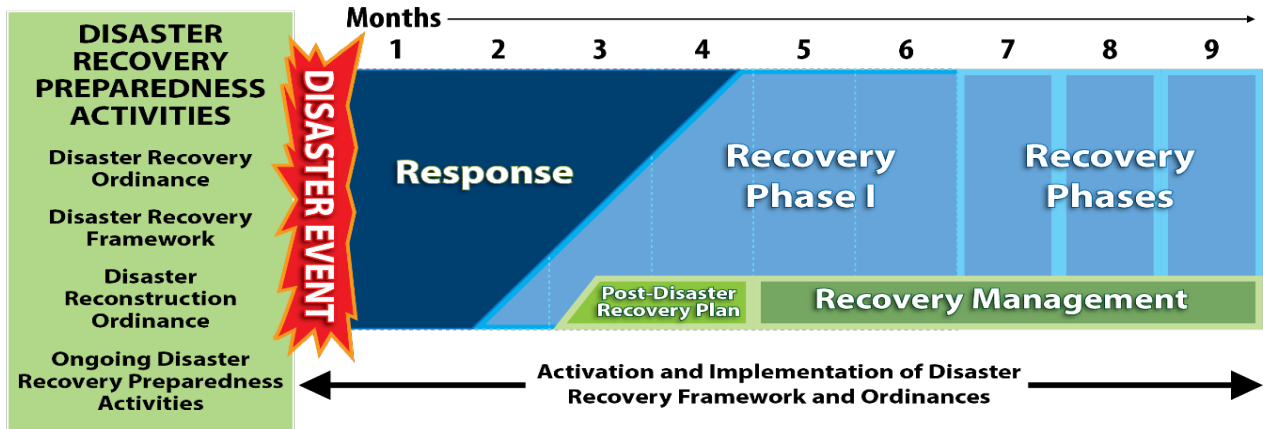
- **Hawai'i Sea Level Rise Viewer:** An online interactive atlas supporting the Hawai'i Sea Level Rise Vulnerability and Adaptation Report, providing map data depicting projections of future hazard exposure and vulnerabilities due to rising sea levels.
- **Guidance for Addressing Coastal Hazards and Sea Level Rise in Community Planning:** A guidance document and outreach to build capacity, particularly in county government, to address climate change, sea level rise, and coastal hazards through appropriate entry points in the county general and community planning process.
- **Guidance for Disaster Recovery Preparedness in Hawai'i:** This project works with state and county government to establish resilience-focused recovery practices before a disaster hits to enable communities to recover quickly while also adapting to sea level rise and protecting sensitive coastal environments through a guidance document, model resources, and outreach.

## Executive Summary

Hawaii's communities are highly vulnerable to extreme natural disaster events, including hurricanes, tsunamis, floods, seasonal high waves, earthquakes, volcanic eruptions, lava flows, and sea level rise. Disasters cause loss of life, disrupt people's lives, have long lasting economic effects, and damage environmental resources. In addition, climate change is expected to exacerbate the impacts of many natural hazards thereby increasing the risk of disaster at community, county, and state levels. Disaster recovery is costly, socially disruptive, and can take months or years to overcome. While emergency responders plan for, practice, and respond to save lives and restore critical infrastructure immediately following a disaster, county planners together with communities must address how to prepare for longer-term disaster recovery in a manner that is efficient, improves community resilience, and protects the environment. It is key for county permitting staff and long-range planners to lead disaster recovery preparedness activities as counties are on the front line of disaster recovery. Disasters place enormous burdens on all county departments including planning and permitting, public works, and environmental services. Once the immediate danger to public health and safety has largely passed, the bulk of the work to recover from a disaster falls on county staff.

*Counties are on the front line of disaster recovery. Disasters place enormous burdens on all county departments including planning and permitting, public works, and environmental services. Once the immediate danger to public health and safety has largely passed, the bulk of the work to recover from a disaster falls on county staff.*

Resilience in the context of disaster recovery strives to balance expediting reconstruction and rapid return to normalcy with building back safer, smarter, and more equitable communities that are better able to absorb, recover from, and successfully adapt to future adverse events. Having recovery plans and permitting protocols in place before a disaster will help expedite recovery and reconstruction; however, focusing on speed to achieve normalcy alone may sacrifice resilience to future events unless we strive to recover from disasters in a manner that reduces the potential for repeated and recurring losses. Communities can adapt to sea level rise and other climate change impacts while significantly reducing exposure to future disasters provided that certain activities are undertaken before a disaster event occurs. This requires implementation of disaster recovery preparedness frameworks or plans to guide recovery and reconstruction after the immediate danger from a disaster event has passed.

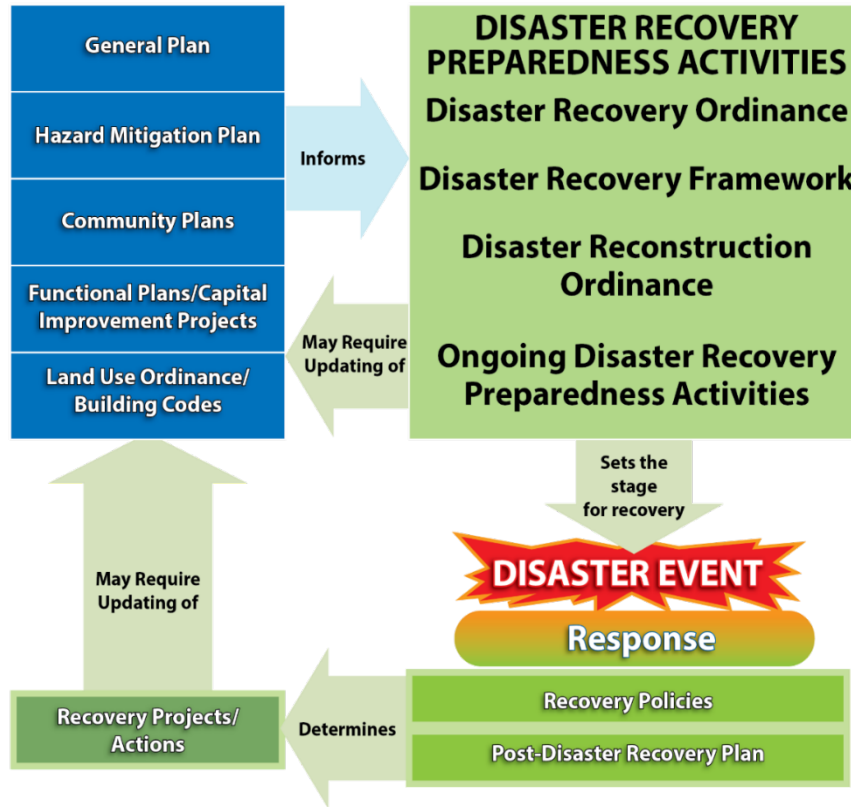


Disaster recovery preparedness activities are conducted before a disaster event and activated and implemented after a disaster event to support more resilient disaster recovery and reconstruction [adapted from FEMA (2017b)]

Disaster recovery preparedness activities set the stage for recovery from a disaster event informed by and contributing to a county's planning and implementation framework. In preparing for disaster recovery, county policies, plans, and ordinances will inform the process. However, updates or revisions to these policies, plans, and ordinances are needed to support more resilient disaster recovery and reconstruction. These activities emphasize the ongoing nature of disaster preparedness activities and their linkage with comprehensive plans, hazard mitigation plans, functional plans, capital improvement plans and projects, and implementing policies

This Disaster Recovery Preparedness Guidance (Guidance) was developed to help state and county planners:

- Improve governance structure for recovery functions.
- Identify pathways to pursue critical disaster recovery preparedness activities to support resilient recovery and reconstruction.
- Encourage integration of disaster recovery preparedness efforts among related plans and policies.

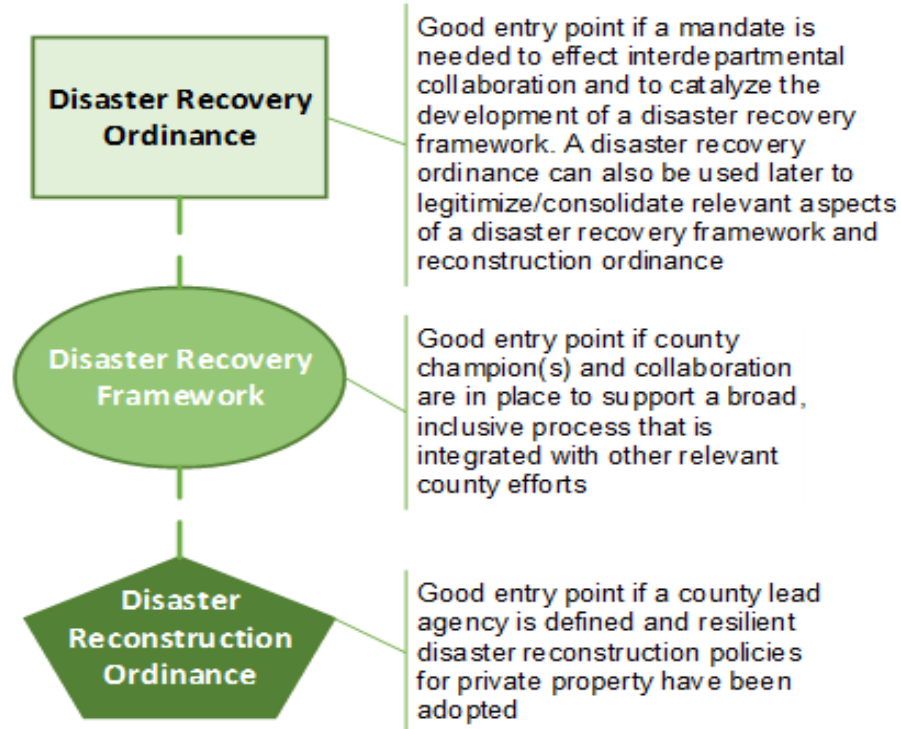


Disaster recovery preparedness activities as part of the county planning and implementation framework [adapted from FEMA (2017)]

This Guidance was developed to support the first step of a county’s pursuit of disaster recovery preparedness framed through national directives, frameworks, and models (FEMA 2017, American Planning Association). This Guidance builds on the State sea level rise adaptation recommendations (Hawaii Climate Mitigation and Adaptation Commission 2017) and county recovery preparedness efforts such as on Maui (County of Maui 2015), O’ahu (National Disaster Preparedness Training Center 2017), and Kaua’i. County-level guidance and model resources include three potential outputs of disaster recovery preparedness:

- **Disaster Recovery Ordinance:** provides a mandate to establish a recovery management organization (RMO) and preparation of a Disaster Recovery Framework.
- **Disaster Recovery Framework:** guides recovery activities both pre- and post-disaster, explores options for restoration of critical community functions, services, vital resources, facilities, programs, and infrastructure, establishes a framework for engaging those that should or need to be involved, and guides pre-disaster preparation.
- **Disaster Reconstruction Ordinance:** outlines decision-making protocols to expedite permitting for private property while at the same time exploring opportunities to increase community resilience.





### Entry Points for Developing Disaster Recovery Preparedness Activities Outputs

All three of these model resources complement each other and are considered disaster recovery preparedness activities. A county may consider any one of these as an entry point depending on its needs, capacity, and the timing of disaster events.

Finally, disaster recovery preparedness does not begin and end with the development of an ordinance or recovery framework. Recommended ongoing activities to strengthen disaster recovery preparedness include:

- Updating plans, policies, and ordinances to support more resilient disaster recovery and reconstruction.
- Integrating disaster recovery planning and hazard mitigation planning into county general and community plans.
- Updating and maintaining the county's geographic information system (GIS) database and permitting system with key information needed for disaster recovery.
- Working with state partners to support county disaster recovery preparedness efforts.

Investing in recovery preparedness activities developed with substantive community engagement will assure the public that local officials with recovery responsibilities are organized and have the foresight to carefully consider issues and contingencies throughout the recovery process. **The more thoroughly that recovery issues can be contemplated in advance, the greater will be the efficiency and quality of post-disaster decision-making, which will then lead to more resilient community recovery.**



## Acknowledgements

This guidance document was made possible through a partnership between the University of Hawai'i Sea Grant College Program, State of Hawai'i Department of Land and Natural Resources and Office of Planning, and through a cooperative agreement and funding support from the NOAA Office for Coastal Management through the FY16 Regional Coastal Resilience Grants Program (award no. NA16NOS4730016). Additional funding support was provided by the Department of Land and Natural Resources, Office of Conservation and Coastal Lands. The authors wish to express their sincere appreciation to the many individuals from state, county, and federal government, university, private sector, and public for their time and input through various workshops and meetings and review of this document, which proved vital to the project. In particular, we would like to thank the following people:

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- NOAA Office for Coastal Management: Paulo Maurin, Adam Stein.

## Acronyms and Abbreviations

|          |   |
|----------|---|
| APA      | American Planning Association                             |
| CDBG-DR  | Community Development Block Grant Disaster Relief         |
| CRS      | Community Rating System                                   |
| CZM      | Coastal Zone Management                                   |
| DLNR     | State of Hawai'i Department of Land and Natural Resources |
| EDA      | Economic Development Administration                       |
| ESF      | Emergency Support Function                                |
| FEMA     | Federal Emergency Management Agency                       |
| FHWA-ER  | Federal Highway Administration Emergency Relief Program   |
| GIS      | Geographic Information System                             |
| Guidance | Disaster Recovery Preparedness Guidance                   |
| HAR      | Hawai'i Administrative Rules                              |
| HI-EMA   | State of Hawai'i Emergency Management Agency              |
| HMA      | Hazard Mitigation Assistance                              |
| HRS      | Hawai'i Revised Statutes                                  |
| HUD      | Housing and Urban Development                             |
| NDPTC    | National Disaster Preparedness Training Center            |
| NDRF     | National Disaster Recovery Framework                      |
| NFIP     | National Flood Insurance Program                          |
| NOAA     | National Oceanic and Atmospheric Administration           |
| OCCL     | State of Hawai'i Office of Conservation and Coastal Lands |
| PRiMO    | Pacific Risk Management 'Ohana                            |
| RMO      | Recovery Management Organization                          |
| RSF      | Recovery Support Function                                 |
| SBA      | Small Business Administration                             |
| SMA      | Special Management Area                                   |
| USACE    | US Army Corps of Engineers                                |
| VOAD     | Volunteer Organizations Active in Disasters               |

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# 1. Introduction

Hawaii's communities experience a range of natural hazards, including hurricanes, tsunamis, floods, high waves, earthquakes, volcanic eruptions and lava flows, many of which result in disaster. Disasters in Hawai'i have disrupted people's lives, the economy, and the environment for months to years. Recovering from a disaster is a complex and long-term effort. The economy of Kaua'i returned to pre-Hurricane Iniki levels 7 to 8 years after the storm but had not recovered in terms of population and labor force even 17 years after the hurricane (Coffman and Noy 2009). Climate change is increasing Hawaii's risk to both chronic and event-based hazards (Hawai'i Climate Mitigation and Adaptation Commission 2017). Global warming increases sea level rise, exacerbates coastal flooding, and puts Hawai'i in the cross-hairs of more tropical cyclones.

Disaster recovery preparedness is one of five mission areas under the National Preparedness Goal (FEMA 2016). Recovery activities are primarily locally driven and counties need to plan for, practice, and be prepared to support disaster recovery in a manner that is efficient, improves long term community resilience, and protects the environment. This Disaster Recovery Preparedness Guidance (Guidance) was developed to:

- Improve governance structure for recovery functions.
- Identify pathways to pursue critical disaster recovery preparedness activities to support resilient recovery and reconstruction.
- Encourage integration of disaster recovery preparedness efforts among related plans and policies.

## Disaster Recovery Preparedness Mission Area (FEMA 2016)

*Assist communities affected by an incident to recover through a focus on the timely restoration, strengthening and revitalization of infrastructure, housing and the economy, as well as the health, social, cultural, historic and environmental fabric of communities affected by an incident.*

**The more recovery issues that can be thought through in advance the greater will be the efficiency and quality of post-disaster decision-making, which will then lead to more resilient community recovery.**

## Why prepare for recovery before disaster strikes?

Several factors put Hawai'i at particular risk to natural disasters and in urgent need of improving disaster recovery preparedness including: risk from a variety of natural hazards and climate change; the state's mid-Pacific location and geographic isolation; concentrated shoreline development; high dependency on visitor and coastal-dependent business; potential negative effects on county-level financial stability (such as downgrading of credit ratings), and socioeconomic disparities that can worsen following a disaster. Climate change and sea level rise will increase the intensity and frequency of disaster events, particularly in low-lying coastal communities. This means that the time between disaster events may be compressed, the impacts compounded, and a community's capacity to recover overwhelmed.

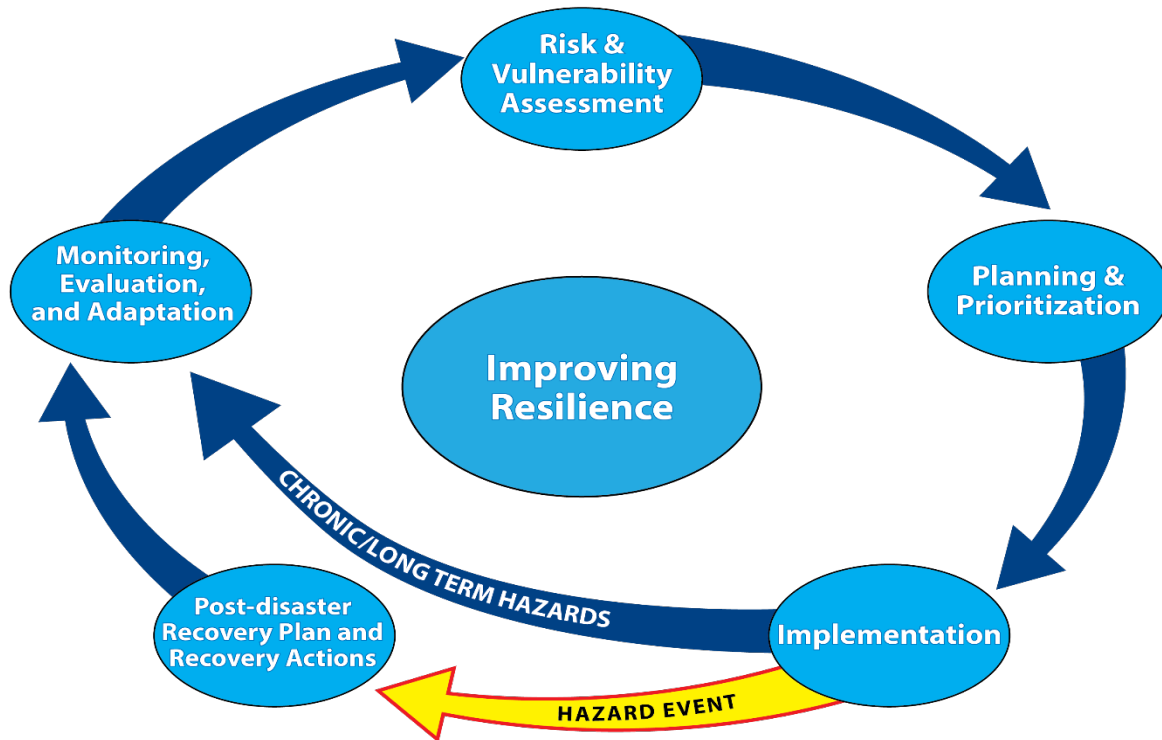
### Disaster Recovery Preparedness and Credit Ratings

Climate change and the increasing risk of disaster events is resulting in increasing scrutiny of municipal credit ratings (Mathiesen 2018, Wernick 2018). Credit ratings are opinions about credit risk, that express the ability and willingness of a corporation or state or city government, to meet its financial obligations in full and on time. The extent to which a state or county is prepared for disaster recovery can improve credit risk ratings. The risk of disaster events is resulting in increasing scrutiny of credit ratings related to the capacity of state and county governments to recover from disasters.

An event could have an impact on credit ratings if the fiscal capability of a jurisdiction is in question. In May 2018, S&P Global Ratings and Fitch Ratings expressed opinions on the ability of Hawai'i government entities to cope with flooding, mudslides, an earthquake and a volcanic eruption, all of which had occurred since mid-April (Aquila Distributors 2018). S&P stated that they did not expect the eruption of the Kīlauea Volcano to significantly impact the AA-/Stable credit rating of Hawai'i County. Rating agencies continued to evaluate the situation, along with the duration and on-going impact of the eruption, which had damaged local roads, highways, power lines, and residential structures. In this case the disaster event did not have an initial impact on the credit rating of Hawaii County, however rating agencies continue to monitor disaster prone entities, so it is prudent for jurisdictions to pro-actively address disaster recovery.

As a home rule state, any powers not expressly reserved for the State are delegated to the local governments. This places Hawai'i counties center stage in the disaster recovery preparedness mission while also requiring close and efficient collaboration with state and federal government. For this reason, planning for chronic hazards and hazard events needs to be fully integrated into the county planning and implementation cycle (Figure 1). Creating a framework to implement disaster recovery maximizes access to available funding including reimbursable recovery funding. In addition, creating a protocol for collecting relevant data from a variety of resources will allow for the collection/retention of critical information during and after the disaster. This will allow for the appropriate deployment of services, estimates of disaster impacts, and provision of critical data to access the recovery funding.

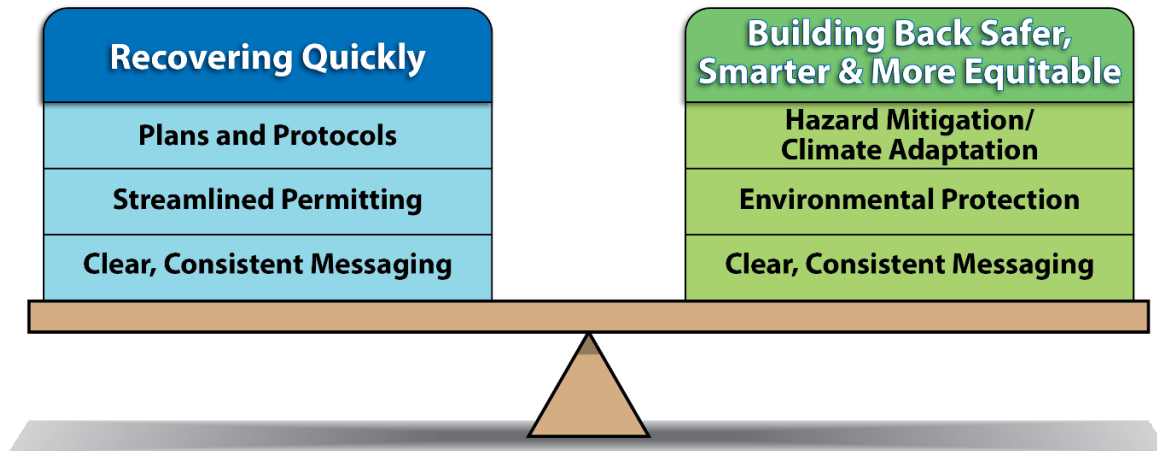




**Figure 1. The county planning and implementation cycle needs to address risk from both chronic hazards and hazard events to improve community resilience**

Disaster recovery preparedness requires a suite of strategies implemented after emergency response to reinforce community goals and values in advance of future disasters. Each county must identify disaster recovery leadership roles as well as the roles and responsibilities of county departments. It is key for county permitting staff and long-range planners to lead disaster recovery preparedness activities as counties are on the front line of disaster recovery. Disasters place enormous burdens on all county departments including planning and permitting, public works, and environmental services. Once the immediate danger to public health and safety has largely passed, the bulk of the work to recover from a disaster falls on county staff.

The magnitude of the event and the severity of the impacts as well as recovery preparedness will influence the duration of recovery. Better understanding and proactively planning for the transition from response to recovery will accelerate the recovery process once a disaster strikes and support more resilient, sustainable, and equitable recovery. Balancing recovery speed with deliberation provides opportunities to improve long-term community resilience and adapt to increasing impacts with climate change and sea level rise (Figure 2).



**Figure 2. Resilient disaster recovery balances recovering quickly and building back safer, smarter, and equitably**

Key objectives of disaster recovery preparedness include:

- Identifying the key parameters for the transition from response to recovery.
- Defining an organizational structure and developing governmental capacity before disaster strikes to support a coordinated transition to and management of the recovery process among county, state, and federal entities, and other stakeholders.
- Putting in place protocols to manage and alleviate the increased burden on county permitting agencies in a post-disaster setting. Having established standard operating procedures before an event allows an opportunity for community consensus building, decreasing post-event confusion and the need to create after-the-fact protocols.
- Identifying opportunities to mitigate impacts from future events by documenting what happened.
- Balancing expedited reconstruction with sustainable and more equitable recovery that considers public safety, ecosystem health, and changing hazard risks with climate change to improve a community's overall resilience to future disasters.
- While expediting permitting for minor repairs, also ensuring that proper deliberation is given in environmentally-sensitive areas with severe damage, such as on eroded shorelines, to seize opportunities to improve resilience, and protect public trust resources.
- Reinforcing the linkages with community plans and disaster redevelopment scenarios developed as part of a community plan update or development of a disaster recovery framework.
- Developing a shared understanding of the meaning of recovery. It is mission critical to any recovery process that those most severely impacted by an event understand what it means to "recover". What are the local government's goals and objectives for recovery? This can be accomplished by developing messaging protocols and templates to clearly and consistently communicate permitting requirements and any exceptions, as well as available government

resources to communities for repairing and restoring damage on private property following a disaster.

## Who is the audience for this Guidance?

Governance of recovery operations following an event can be very complex and influenced by multiple factors. Lessons learned from one event should inform preparations for recovery from the next event. Extreme hazard events exacerbated by climate change and sea level rise, combined with increased urbanization in coastal areas, creates an imperative that must be addressed in the context of pre-disaster planning. As such, it is mission critical that coastal planners have a thorough understanding of the following:

- Data available to help quantify the impacts of past events as well as project possible impacts from future events. For pre-disaster recovery planning, where are impacts expected to be the most severe and recovery needs the greatest.
- Core capabilities to be utilized at the local level will be utilized to support recovery.
- Integrating emergency response and management protocols with longer-term disaster recovery and reconstruction permitting and regulatory functions.
- Indicators that recovery is transitioning from initial response to recovery and reconstruction.

With these factors in mind, the primary audience of this guidance are county and state planners and decision makers responsible for the development and codification of a formal recovery governance framework. The secondary audience are those entities likely to be engaged in implementation of the recovery strategies once activated.

## What's in this Guidance?

The purpose of this document is to provide guidance and recommended best management practices to establish a defined governance structure to improve disaster recovery preparedness, primarily at the county level. Many disaster recovery preparedness activities can be undertaken before a disaster event occurs. The plans and policies resulting from these activities can be activated and implemented as part of the community's emergency management protocol after the immediate danger from a disaster event has passed (i.e., the transition from response to recovery) to guide recovery and reconstruction (Figure 3).

Response and recovery are separate but connected elements along the emergency management continuum (FEMA 2017b). Recovery governance protocols should be developed based on a sound understanding of the emergency management continuum. Emergency responders provide urgent and immediate assistance to disaster-impacted communities, including food, water, shelter, debris clearance, and medical attention. Response operations are typically shorter-term and usually focus on life-safety and property protection and continuity of operations of critical facilities and infrastructure. The duration of response operations is directly attributed to the scale, severity and magnitude of the event. For example, the Emergency Operations Center for Harris County, Texas, was fully staffed and operational for over 8 months following Hurricane Harvey in 2017. In contrast to disaster response, disaster recovery is a very

broad mission encompassing many different activities and multiple sectors to support short, medium, and long-term recovery. While the impacts of an event can be felt on a community to statewide scale, recovery operations are typically led by county staff from multiple departments such as the mayor's office, emergency management, planning and permitting, public works, and parks and recreation. Local stakeholders including property owners, businesses, nongovernmental organizations, and financial institutions also must be engaged.

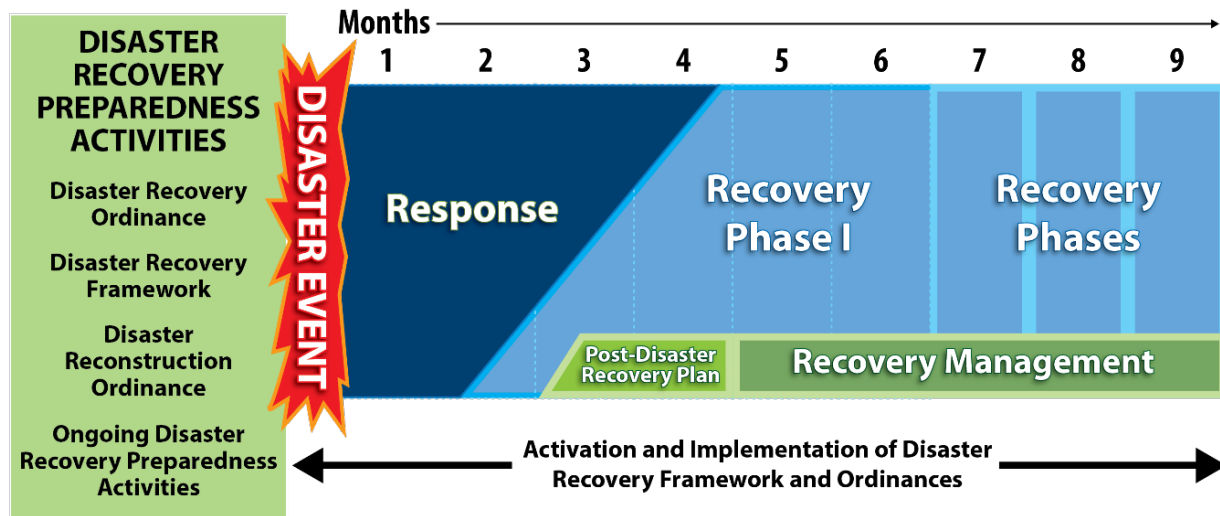


Figure 3. Disaster recovery preparedness activities to support post-disaster recovery [Adapted from FEMA (2017b)]

This Guidance was developed to help jumpstart a county's pursuit of disaster recovery capability through the National Disaster Recovery Framework, model resources, and examples from other local governments, as well as input from counties, the state, and other stakeholders.

Chapter 1 describes the purpose and scope of this Guidance, the process used to develop the guidance, and terminology used.

Chapter 2 contains an overview of the national disaster recovery preparedness context as a basis for this Guidance.

Chapter 3 provides an overview of the types of disaster recovery preparedness activities that can be undertaken and identifies three potential entry points for counties. Key themes in this chapter include integrating disaster recovery preparedness and hazard mitigation into county long range planning and implementation, developing the authority and capacity for disaster recovery, and identifying funding for disaster recovery.

Chapter 4, County-level Guidance and Model Resources, focuses on specific outputs of disaster recovery preparedness activities. A county may choose one of these as an entry point depending on its particular needs and existing capacity:

- **Disaster Recovery Ordinance:** Provides legal authority for actions to expedite recovery, together with emergency powers protecting public health and safety, and fostering desired beneficial long-term recovery outcomes. It also authorizes the establishment of a Recovery Management Organization (RMO) and mandates the development of a disaster recovery framework. The ordinance guides preparation of short-term and long-term recovery plans in concert with local emergency management, planning, and permitting agencies, and community stakeholders. The ordinance establishes emergency powers for extraordinary actions needed to facilitate short-term measures such as repairs and reconstruction, intervening in matters where catastrophic damage of private property impacts public safety and/or environmental resources, and ensuring desired long-term recovery outcomes.
- **Disaster Recovery Framework:** Guides recovery activities both pre- and post-disaster and explores options for restoration of critical community functions, services, vital resources, facilities, programs, and infrastructure. It establishes a framework for engaging relevant agencies and stakeholders and guides pre-disaster preparation. The term pre-disaster recovery plan used by the Federal Emergency Management Agency (FEMA) (FEMA 2017b) is synonymous with a disaster recovery framework. A county-level disaster recovery framework is aligned with the federal disaster recovery framework and based on examples from other local governments such as City of Seattle and County of Snohomish, Washington. The use of the prefix “post” as in “post-disaster recovery plan” or “post-disaster reconstruction plan” is reserved for a plan developed after a disaster event and in response to damages and actual conditions on the ground.
- **Disaster Reconstruction Ordinance:** Establishes legal authority and decision-making protocols for expediting permitting for repairs and reconstruction on private property while at the same time providing protocols for identifying and capturing critical opportunities for increasing community resilience to future disasters and protecting environmental resources. The ordinance is adopted before an event and establishes standard operating procedures for review and permitting for reconstruction of private property after a disaster event.

Chapter 5 recommends a number of activities for county-state collaboration on disaster recovery preparedness including training and capacity building, clarifying and communicating the state’s role in recovery at the local level, funding sources, and sharing lessons in disaster recovery.

Chapter 6 provides an example 5-year roadmap for disaster recovery preparedness building on the guidance and model resources in the previous chapters.

Appendix A is simple exercise using a list of questions to help define county roles and responsibilities as well as partners for disaster recovery toward developing an RMO. A Model Reconstruction Ordinance is provided as Appendix B. A sample workshop exercise is included in Appendix C that can be used to begin developing portions of a reconstruction ordinance.

## How was the Guidance developed?

This Guidance and model resources were developed over the course of many months and included input and recommendations from a variety of stakeholders. The project team reviewed the following previously conducted work upon which this effort builds, conducted additional background research, and identified areas where additional clarification/information was needed from key stakeholders. Key foundational documents that were used to frame the guidance and model resources include:

- **Post-Disaster Reconstruction Guidelines and Protocols for the Conservation of Coastal Resources and Protection of Coastal Communities, Maui County, Hawai'i:** The goal of the project was to develop reconstruction guidelines and protocols that will conserve sensitive coastal ecosystems while also streamlining the repair and reconstruction of homes, businesses, structures and private property. This document was prepared for use and implementation by the County of Maui Planning Department and Department of Public Works (Maui County Department of Planning et al., 2015).
- **APA Model Pre-Event Recovery Ordinance:** Developed by the American Planning Association (APA), a subset of the provisions of this model recovery ordinance were used to develop a model Disaster Reconstruction Ordinance, which is provided as Appendix B.
- **FEMA Pre-Disaster Recovery Planning Guide for Local Governments:** Describes key characteristics for disaster recovery preparedness activities, planning process, and checklists to support local government efforts. Counties should review this guide as a starting point for disaster recovery preparedness efforts.
- **Building Resilience to Coastal Hazards in Hawai'i: Strengthening the Disaster Recovery Process:** Developed in 2016 and submitted to the Maui County Department of Planning and the University of Hawai'i Sea Grant College Program, this document is intended to support Maui County's effort to better prepare for the impacts and uncertainty associated with climate change and natural hazards (Sabbag 2016). This white paper examines unmet needs as they relate to proactive planning for recovery in Hawai'i. Particular emphasis was placed on the reconstruction phase, and potential ways to not only expedite the process, but also ensure a more resilient outcome. The focus was framed around three elements: 1) emergency proclamations and the unintended consequences of suspending certain laws and regulations; 2) the applicability of a draft reconstruction ordinance with emphasis on repairing and rebuilding private property [home, condos, hotels]; and 3) key elements of proactive planning for disaster recovery for statewide reference and use.
- **Waikiki Pre-Disaster Recovery Planning Project:** Conducted as a partnership between the Waikiki Business Improvement District Association and the National Disaster Preparedness Training Center (NDPTC) at the University of Hawai'i at Mānoa and aimed to help facilitate a quick and successful recovery for Waikiki, a district which has significant historic, cultural, and economic importance for the State (National Disaster Preparedness Training Center 2017). The report provides recommendations for pre-disaster recovery planning and identifies steps necessary to move forward in the recovery planning process.

- Disaster Recovery Frameworks and Ordinances from Other States:** The efforts of various local governments in Washington, Florida, Hawai'i, and others were reviewed in the development of model resources for this Guidance. Where appropriate, information from these sources has been incorporated into the guidance to provide context and best practices which are included as references and footnotes throughout this document.

Consultations and outreach efforts included information-gathering meetings with key state and county stakeholders, introductory webinars for key county and state agency staff, in-person consultations on draft Guidance and model resources with each of the counties, and a 1-day workshop at the 2018 Pacific Risk Management 'Ohana (PRiMO) Conference (Table 1). Extensive notetaking was conducted for each outreach activity. These notes were reviewed and specific comments and inputs were highlighted for incorporation into the guidance as appropriate. The draft Guidance was disseminated for review to over 157 people from county government departments in Hawai'i (9), Maui (20), O'ahu (65), and Kaua'i (23), state (15) and federal agencies (6), as well as nongovernmental and academic institutions (12). General and specific comments received were incorporated into Excel spreadsheets, reviewed, addressed, and changes made to the document as appropriate. Over 180 general and specific review comments were received, reviewed, and incorporated as appropriate in the finalization of the document.

**Table 1. Outreach activities conducted on Guidance and Model Resource development<sup>1</sup>**

| Date                     | Outreach Activities  |
|--------------------------|--|
| <b>October 23, 2017</b>  | <b>State-level Clarification Meeting</b> —Information-gathering meeting with the State Department of the Attorney General and the Director of the State of Hawai'i Emergency Management Agency (HI-EMA) to clarify the State Emergency Proclamation Process          |
| <b>November 15, 2017</b> | <b>Stakeholder Consultation</b> —Information-gathering meeting on National Disaster Preparedness Training Center and Waikiki Pre-Disaster Recovery Planning Project and Waikiki Beach Special Improvement District Association                                       |
| <b>May 21, 2018</b>      | <b>Statewide Webinar No. 1</b> —Statewide Webinar on Disaster Reconstruction and Recovery in Hawai'i. <a href="#">The statewide webinar is available on the Hawai'i Sea Grant YouTube channel</a>  |
| <b>June 12, 2018</b>     | <b>State-level Clarification Meeting</b> —Information-gathering meeting with the Director of the Office of Conservation and Coastal Lands (OCCL) to better understand opportunities and needs for collaboration between the counties and OCCL after a disaster event |
| <b>June 18, 2018</b>     | <b>Statewide Webinar No. 2</b> —Statewide Webinar Focused on Disaster Reconstruction and Recovery in Hawai'i   |
| <b>July 11, 2018</b>     | <b>Maui County Consultation</b> —Consultation on draft guidance and model resources with County of Maui Staff  |
| <b>July 13, 2018</b>     | <b>City &amp; County of Honolulu Consultation</b> —Consultation on draft guidance and model resources with City and County of Honolulu Staff   |

<sup>1</sup> In-person consultation with the County of Kaua'i could not be scheduled due to ongoing recovery efforts from the major flood event that occurred in April 2018. County of Kaua'i staff attended the August 6, 2018 PRiMO Conference.



**Table 1. Outreach activities conducted on Guidance and Model Resource development<sup>1</sup>**

| Date                         | Outreach Activities   |
|------------------------------|---|
| <b>July 18, 2018</b>         | <b>County of Hawai'i Consultation</b> —Consultation on draft guidance and model resources with County of Hawai'i Staff                      |
| <b>August 6, 2018</b>        | <b>Workshop</b> —Workshop on revised draft guidance and model resources held at the PRiMO Conference, Honolulu                              |
| <b>November 1 – 21, 2018</b> | <b>Draft Guidance Circulated for Comment</b> —The draft guidance document was circulated to all stakeholders involved in the effort to date |

## Key terms defined

This document provides guidance and model resources for resilient disaster recovery preparedness. Key terms used in this document are described below:

- **Disaster recovery:** The timely restoration, strengthening, and revitalization of infrastructure, housing, and the economy, as well as the health, social, cultural, historic and environmental fabric of communities affected by a disaster achieved through pre-disaster planning and post-disaster actions (FEMA 2017b, Smith and Wenger; 2007).
- **Disaster recovery preparedness:** The activities undertaken before a disaster event occurs and activated upon the occurrence of a disaster event with the expressed purpose of accelerating recovery and enabling more resilient and sustainable recovery after the immediate danger from a disaster event has passed.
- **Disaster reconstruction:** Defined as a narrow subset of disaster recovery focused on repairing or rebuilding of private property.
- **Disaster redevelopment scenario:** A land use and development alternative, created before a disaster event, that can serve as a starting point for redevelopment and reconstruction should catastrophic damages occur shoreline and coastal properties located in areas exposed to sea level rise and in existing and potential future areas vulnerable to natural hazards. Stakeholder engagement conducted as part of county general and community plan updates provides opportunities to develop and substantiate these disaster redevelopment scenarios.
- **Resilience in the context of disaster recovery and reconstruction:** Strives to balance expediting reconstruction and rapid return to normalcy with building back safer, smarter, and more equitable communities that are better able to absorb impacts of and recover from future disasters.

## 2. National Context for Disaster Recovery Preparedness

Disaster recovery preparedness is framed from the top down through federal directives and frameworks and from the bottom up, through city, county, and state recovery preparedness efforts that emphasize locally-driven recovery activities.

### National Preparedness Goal and Mission Areas

The National Preparedness Goal (FEMA 2016) calls for “A secure and resilient nation with the capabilities required across the whole community to prevent, protect against, mitigate, respond to, and recover from the threats and hazards that pose the greatest risk.” Disaster recovery preparedness is one of the five mission areas outlined in the National Preparedness Goal to organize preparedness activities.

#### National Preparedness Goal Mission Areas

(FEMA 2016)

- **Prevention**—Avoid, prevent or stop an imminent, threatened or actual act of terrorism.
- **Protection**—Protect our citizens, residents, visitors, assets, systems and networks against the greatest threats and hazards in a manner that allows our vital interests and way of life to thrive
- **Mitigation**—Reduce the loss of life and property by lessening the impact of disasters.
- **Response**—Respond quickly to save lives, protect property and the environment, and meet basic human needs in the aftermath of an incident.
- **Recovery**—Assist communities affected by an incident to recover through a focus on the timely restoration, strengthening and revitalization of infrastructure, housing and the economy, as well as the health, social, cultural, historic and environmental fabric of communities affected by an incident.

### National Disaster Recovery Framework

The National Disaster Recovery Framework (NDRF) (U. S. Department of Homeland Security 2016) provides recommendations on the local role in preparing for and implementing recovery. It also identifies guiding principles, best practices, and expectations to enable efficient and effective recovery support and coordination for the whole community. It is built on a scalable, flexible, and adaptable coordinating structure to align key roles and responsibilities to deliver the necessary capabilities. A key feature of the NDRF is its use of Recovery Support Functions (RSFs) to organize Federal resources to promote a flexible recovery structure at the Federal level and interface with state and local government. The RSFs are designed to support local, State, and tribal recovery structures (see Chapter 4, for more discussion on using RSFs as part of developing a disaster recovery framework).

### Recovery Support Functions and Federal Leads

(U.S. Department of Homeland Security 2016)

- RSF 1: Community Planning and Capacity Building (led by FEMA).
- RSF 2: Economic Recovery (led by the U.S. Department of Commerce).
- RSF 3: Health and Social Services (led by the U.S. Department of Health and Human Services).
- RSF 4: Housing (led by the U.S. Department of Housing and Urban Development).
- RSF 5: Infrastructure Systems (led by the U.S. Army Corps of Engineers).
- RSF 6: Natural and Cultural Resources (led by the U.S. Department of Interior).

The Community Planning and Capacity Building RSF is tasked with helping to build local capacity and assist communities in planning for, managing, and leading the recovery process in their communities. Each FEMA region now has a recovery planning coordinator responsible for assisting states and local governments in their region.

## National Mitigation Framework

The National Mitigation Framework (U.S. Department of Homeland Security 2016) establishes a common platform and forum for coordinating and addressing how the Nation manages risk through mitigation capabilities. Mitigation reduces the impact of disasters by supporting protection and prevention activities, easing response, and speeding recovery to create better prepared and more resilient communities. During the recovery planning and coordination process, actions can be taken to address the resilience of local communities. Consideration should be given to integrating the National Mitigation Framework and Mitigation Core Capabilities into the structure, policies, and roles developed during the course of building a local recovery plan. A recovery plan can contain essential elements to operationalize the Mitigation Core Capabilities during the recovery period. The best way to integrate mitigation activities is to link the recovery plan with the local hazard mitigation plan.

## Emerging Lessons and Good Practices in Disaster Recovery Preparedness

There is a growing body for research on the quality and effectiveness of disaster recovery preparedness activities (Smith and Glavovic 2014, Horney et al. 2016, Wu and Lindell 2004, Berke and Campanella 2006, Brown, Naylor, and Quinn 2017, Community Planning Workshop 2010). A number of lessons were drawn from this emerging practice.

- **Disasters provide windows of opportunity.** Windows are moments of opportunity when a problem has become urgent enough to push for change of entrenched practices (Birkland 1997). But windows typically do not stay open for long after a disaster. The urgency of residents to get back to their homes coupled with pressure by business owners to return to normalcy builds quickly after a disaster and is amplified by a substantial inflow of capital for reconstruction. A community should be ready with solutions when a window opens while the importance and

priority that local officials assign to hazard threats are temporarily elevated (Berke and Campanella 2006). A pre-disaster recovery plan or framework facilitates housing reconstruction and allows local officials to make more effective use of the windows of opportunity after a disaster to integrate hazard mitigation and climate adaptation into the recovery process (Wu and Lindell 2004).

- **A well-conceived pre-disaster recovery plan or framework developed with substantial community engagement conveys a sense to the public that local officials with recovery responsibilities are organized and in charge because they had the foresight to carefully consider the issues and contingencies throughout the recovery process.** By involving and consulting residents in all phases of planning, the pre-disaster recovery planning process helps create a knowledgeable constituency that is more likely to support redevelopment policies and programs that take effect once a disaster strikes (Berke and Campanella 2006).
- **A standalone county-wide disaster recovery framework developed before a disaster event allows jurisdictions to initially gain acceptance and build capacity to directly deal with short-term and long-term disaster recovery.** Because recovery planning lacks a public constituency and is new and novel to most local jurisdictions, this option appears to be most effective at building support for recovery planning. Development of a recovery framework can have several benefits in addition to the obvious benefit of time spent considering recovery roles and responsibilities before an event. Research indicates that recovery planning lacks a “public constituency,” meaning that there are not well established and clearly defined advocate groups requesting government action on recovery preparedness activities (Berke et al. 2014). The development of a disaster recovery framework can raise awareness with the public and with county departments and agencies. This awareness raising can have several benefits (Wu and Lindell 2004, Berke and Campanella 2006, Berke et al. 2014):
  - The public may feel that the county government has taken a proactive approach to considering post-disaster recovery thus building trust regarding processes and protocols put in place post event.
  - The planning process itself builds capacity whether or not the actual plan is referred to in post-event setting.
  - Planning before an event has led to positive outcomes in mitigating risk after an event.
- **Pre-disaster recovery planning makes a difference in mitigating risk before and after a disaster.** In a review of post-disaster recovery efforts of Gulf coast states after Hurricane Katrina, many local governments were found to have weak plans and were not fully committed to disaster recovery and mitigation planning (Berke and Campanella 2006). A pre-disaster recovery plan increases the extent to which hazard mitigation is integrated into the recovery process. In its pre-disaster recovery plan, the Los Angeles Department of Building and Safety had prepared a draft ordinance to require retrofitting of tilt-ups (concrete slab construction), which was passed by the city council immediately after the Northridge earthquake (Wu and Lindell 2004).

- **Development of disaster recovery scenarios improves efficiency and quality of post-impact decision-making.** The more recovery issues that can be thought through in advance, such as through the development of disaster redevelopment scenarios, the greater will be the efficiency and quality of post-impact decision-making (Wu and Lindell 2004).
- **Good disaster recovery should support improvements in mitigation planning, preparedness, and the development of interventions that will contribute to enhanced disaster resilience in the future.** To support the development of high-quality, pre-disaster recovery plans, practitioners need useful and validated metrics to measure and monitor how well their community is recovering from a disaster over time (Horney et al. 2018). Baseline data on these metrics should be developed before a disaster event in order to help communities assess successful recovery.

### Good Practices in Disaster Recovery Preparedness Activities

(FEMA 2017b)

- **Locally driven**—Local, county governments, not the State or Federal government, are primarily responsible for recovery efforts.
- **Broad inclusive process**—Broad participation by all local stakeholders strengthens the process and builds support.
- **Builds upon and is integrated with other community plans**—Other community planning efforts have already done much of the work needed for successful recovery preparedness planning. Building upon and integrating with these efforts helps communities take advantage of opportunities inherent in recovery to work towards achievement of these broader community visions.
- **Closely aligned with hazard mitigation, resilience and sustainability**—Hazard mitigation planning and recovery preparedness planning have overlapping objectives that can be mutually beneficial. Both mitigation and recovery should support long term goals of increasing resilience and encouraging sustainability.
- **Goal oriented**—A transparent, inclusive, goal-oriented process can clarify decisions regarding tradeoffs that will need to be made after an event.
- **Scalable**—Plans and procedures should be developed so that they can be scaled appropriately to the extent of the disaster.
- **Comprehensive and long-term**—Flexibility and durability need to be considered to support the long-term nature of recovery as well as the propensity for changing conditions.

### 3. County-Level Disaster Recovery Preparedness Activities

Disaster recovery preparedness includes activities to define a recovery management organizational structure as well as process and protocols for recovery and reconstruction before a disaster event to set the stage for recovery (Figure 4). This Guidance recommends that counties establish policies and planning processes for recovery before a disaster occurs. Existing county general and community plans, hazard mitigation plans, and rules, codes, and ordinances will inform the process of preparing for disaster recovery. Further, updates or revisions to these policies, plans, and ordinances may be needed to support more resilient disaster recovery and reconstruction. After a disaster event occurs, the development of a post-disaster recovery plan will help identify new recovery policies and specific recovery projects based on damage assessments and conditions on the ground.

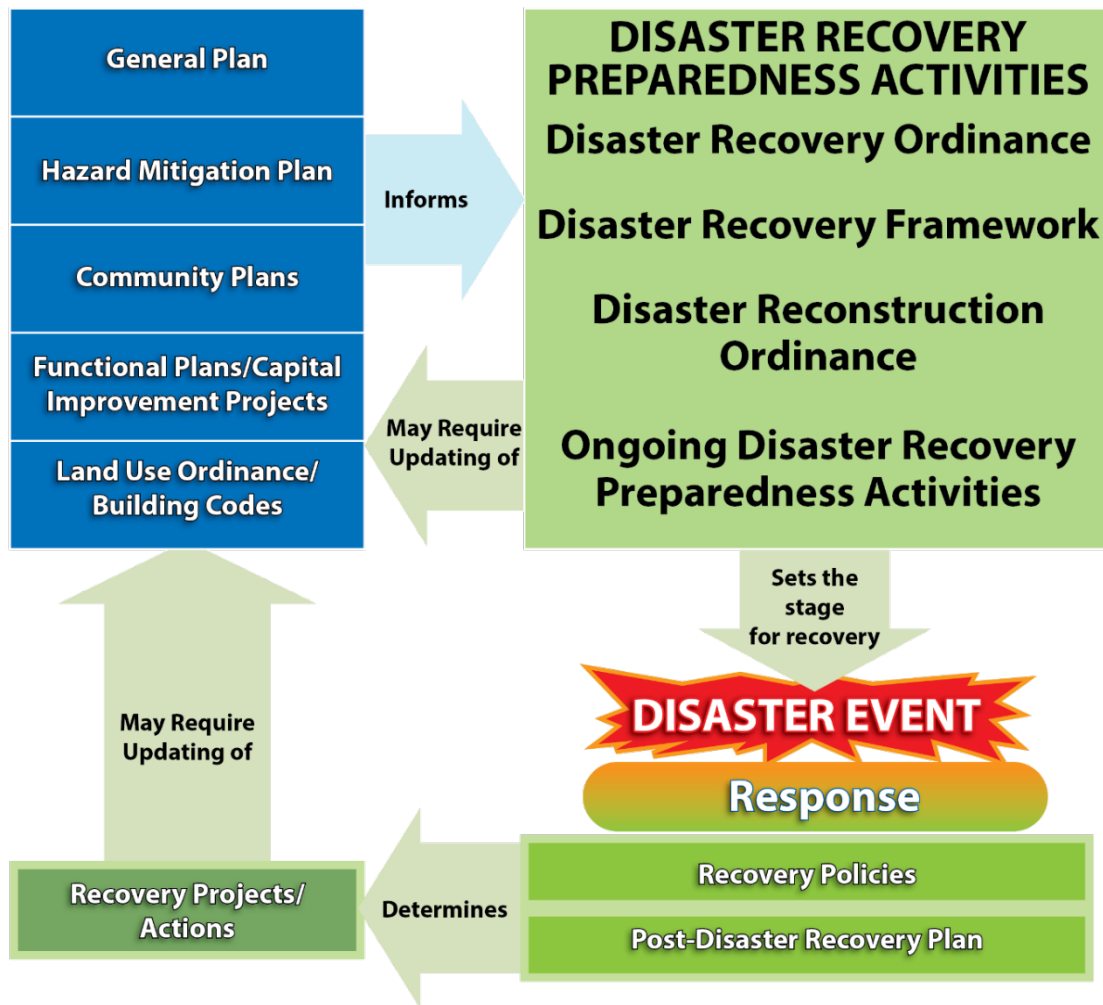


Figure 4. Disaster recovery preparedness as part of the recovery planning cycle (adapted from (FEMA 2017b))

## Entry Points

A county may consider different entry points and pathways for disaster recovery preparedness depending on its needs and capacity. This Guidance identifies three entry points for disaster recovery preparedness activities (Figure 5) supported by model resources (see Chapter 4 and Appendices). Stakeholder input obtained over the course of developing this Guidance made clear that there is value in developing both a Disaster Recovery Framework and Disaster Reconstruction Ordinance as complementary tools.

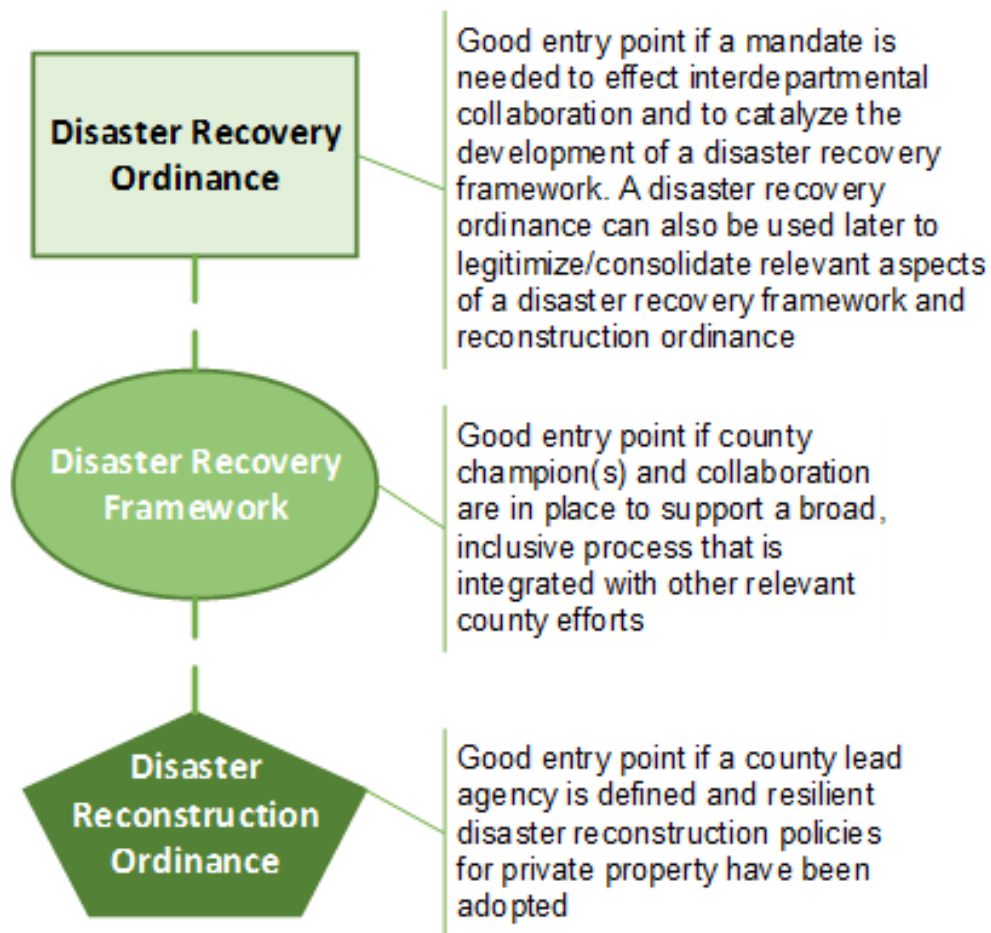


Figure 5. Entry points for developing disaster recovery preparedness outputs

- Develop a Disaster Recovery Ordinance.** A disaster recovery ordinance, adopted before a disaster, can serve as a formal catalyst for official government action by legitimizing and formalizing recovery preparedness planning within the community. Guidance from the American Planning Association (APA) suggests that a Disaster Recovery Ordinance be put in place before a disaster event to set the strategic stage for post-disaster recovery actions. The model Disaster Recovery Ordinance developed by APA (American Planning Association 2014b) authorizes the establishment of an RMO and mandates the development of a Disaster Recovery Framework. It is recommended that the agency charged with these responsibilities and functions be formally acknowledged, authorized, and directed via the County Council.



- **Develop a Disaster Recovery Framework.** A county may begin with the development of a Disaster Recovery Framework especially if the county has an organizational emergency management structure already in place for collaboration needed among county departments and the funding to support a broad and inclusive process. A Disaster Recovery Framework is a procedural document that defines transition points and sets the stage for how recovery activities will occur, thus reducing unnecessary delays, confusion, and pressure to rebuild in a manner that continues or exacerbates risks that contributed to a natural hazard event resulting in a disaster. The objectives of recovery planning at the county level are to engage community members in developing consensus policies about reconstruction and recovery activities, develop and enhance recovery capabilities throughout the whole community, and create an organizational framework to guide local recovery (FEMA 2017b). It is important to keep in mind that most local governments already have an emergency management structure in place following state and federal response and preparedness mandates. A disaster recovery framework should not “recreate the wheel” in that it duplicates structure that is already in place for the emergency management program. In fact, a good disaster recovery framework will build upon the core capability established for local emergency management and leverage the resources that will be utilized during the defined transition from response to recovery.
- **Develop a Disaster Reconstruction Ordinance.** A county may wish to start with the development of a more focused, disaster reconstruction ordinance that puts in place policies and permitting procedures for private property after a disaster. This might be the case, for example, if coastal planners have taken a lead role as in the case with the Maui County project (County of Maui 2015). After a disaster the planning and public works sectors will have enormous roles in guiding rebuilding and processing permits. The reconstruction ordinance focuses on codifying a permitting procedure for private property after a disaster event. The Disaster Reconstruction Ordinance serves to gather the existing planning and permitting standards and protocols as well as processes of different programs to ensure better interagency coordination and consistency post disaster. Further, a community can get credit for developing such an ordinance under the Community Rating System (CRS) program.

### Expedited Repair and Reconstruction Permitting - A Case Study from Kaua'i

In cases where a county does not have an established post-disaster emergency reconstruction ordinance, expedited permitting through an emergency ordinance can be used to meet the needs of a constituency facing immediate post-disaster sheltering issues. In the case of Kaua'i, which was subjected to historic rainfall leading to massive flooding and landslides in April 2018, the county enacted an emergency ordinance (Ordinance 1035) relating to standards, permits, and fees for work on buildings, structures, and property damaged by the event. The ordinance allows for expedited repairs to structures after submittal of an application for qualification for expedited permitting and receipt of initial qualification from the planning department contingent upon:

1. Declaration of owner that repairs will be in conformance with code,
2. Written consent for entry of County or State officials to inspect the progress of work, and
3. Agreement that all permits are applied for not later than 30 days of receiving qualification.

This process includes a waiver of permitting fees for the expedited repairs and is an example of a decision-making protocol to expedite permitting for private property while at the same time exploring opportunities to increase community resilience.

***A post-disaster review of the ordinance could be conducted to identify changes based on lessons learned in implementation. These changes could serve as the basis for transforming the emergency ordinance to a disaster reconstruction ordinance before the next disaster event.***

## Early Actions

Each of these entry points have some common elements and early actions that can be taken. Each entry point requires the identification of county roles and responsibilities for disaster recovery and the review of existing state and county laws and codes. Disaster recovery is often defined in the narrow context of federal post-disaster grant programs and rapid reconstruction to pre-event conditions (Smith 2014). As such, the preparation of disaster recovery plans is typically led by emergency management departments. Disaster recovery preparedness, however, requires a complexity of strategies that are implemented long after emergency response is over to further community goals and values when disaster strikes. Each county will need to decide who leads disaster recovery as well as the roles, and responsibilities of county departments. It is imperative that county permitting staff and long-range planners and regulators be front and center in all disaster recovery preparedness activities.

**Identify funding opportunities for disaster recovery preparedness as part of county hazard mitigation plan update.** As part of a county hazard mitigation plan, the identification of pre-disaster mitigation projects can enhance a community's ability to recover from the impacts of a hazard event and will support the preparedness for disaster recovery. FEMA's Hazard Mitigation Assistance (HMA) grants are a suite of grants that include funding that can be used for pre-disaster mitigation activities that can support or enhance the preparedness for disaster recovery. These programs can provide planning and project grant opportunities for raising public awareness about reducing future losses before disaster strikes. Mitigation planning is a key process used to break the cycle of disaster damage, reconstruction, and repeated damage. Hazard Mitigation planning and HMA programs act as the key way to seek to increase the resilience of local governments by implementing projects that will avoid future losses, both

pre- and post-disaster. Components of HMA are funded annually by Congressional appropriations and are awarded on a nationally competitive basis. Other components of HMA are appropriated following an event that has triggered a Presidential declaration under edicts of the Robert T. Stafford Act. In addition, HI-EMA provides funding for training and capacity building to counties. These funding sources could be used to build capacity within the county for disaster recovery preparedness (see also, Chapter 4 - Funding for Disaster Recovery).

**Sharing information and lessons on disaster recovery among counties and with state and other partners.** Individual counties expressed that they could benefit from sharing information and lessons on recovery with each other. Recent disaster events, flooding, mudslides, an earthquake and a volcanic eruption, provide information and lessons on disaster recovery. Each county has both unique and common challenges and solutions that would be valuable to share with each other. Opportunities to share lessons and encourage research should be explored to help improve the disaster recovery practice in Hawai'i. Special sessions on disaster recovery preparedness could be incorporated into regular meetings including: Hawai'i Congress of Planning Officials Conference, Hawai'i Floodplain Managers Conference, and the PRiMO Conference.

**Review and update roles and responsibilities for disaster recovery.** Even without funding, a county can begin to define or refine the structure of an RMO (see example for the City of Seattle shown in Figure 6). An RMO defines clear roles and responsibilities of county departments and identifies key partners and stakeholders. The use of RSFs as part of this organizational structure (defined in the National Recovery Framework and further described further in Chapter 4 under the Disaster Recovery Framework), should be considered to provide seamless coordination with federal and state partners. Multisectoral and multiagency engagement and collaboration from the local government, state and federal governmental agencies, and other stakeholders are needed to support disaster recovery. A list of key questions that counties can use to begin the process of defining an RMO is provided in Appendix A.

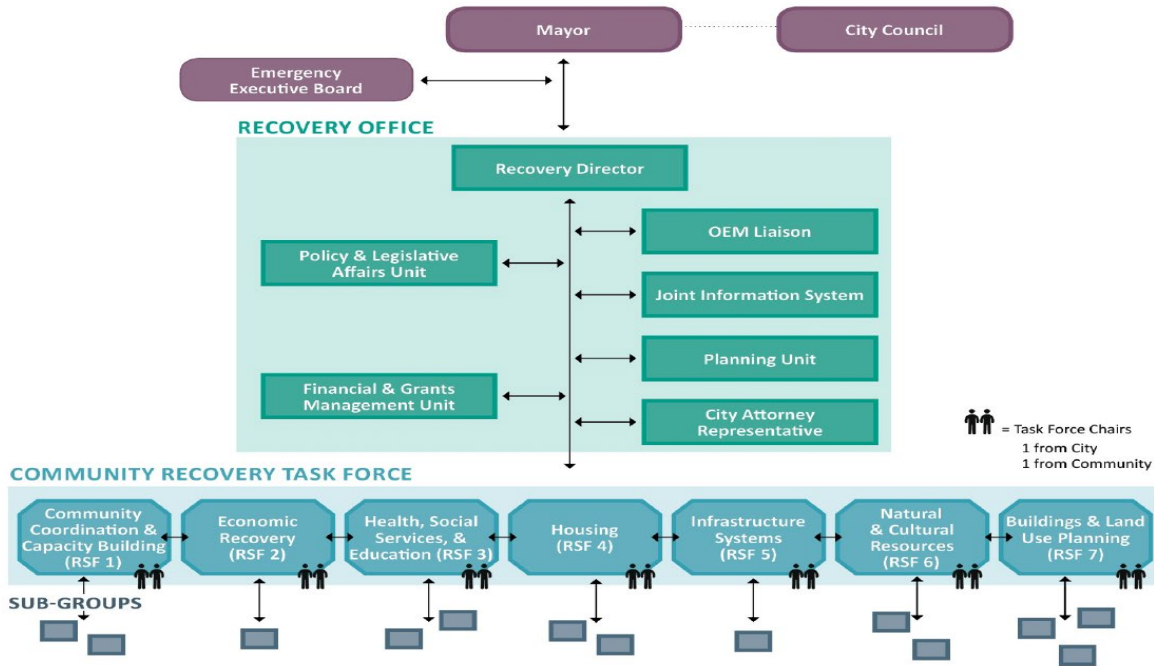


Figure 6. Recovery Management Organizational Structure for the City of Seattle (Seattle Office of Emergency Management 2015)

**Review existing state and county laws and regulations pertaining to disaster recovery.** Both the APA and FEMA highlight the need to ensure that local recovery preparedness activities are compliant with State and county law, especially in terms of planning and land use. Some provisions that should be considered in all recovery preparedness activities include:

- Moratoria and temporary restrictions**—Allows time to assess newly exposed land-use and structural vulnerabilities, clear debris, stabilize hazardous buildings and other life safety risks, repair damaged infrastructure, and explore mitigation and adaptation options and funding. A moratorium (temporary by definition) may be triggered where catastrophic damage to structures and shoreline has occurred and rebuilding in the same location is unfeasible or undesirable or at cross purposes to improving resilience and/or protecting natural resources (e.g., beaches and dunes).

**Pausing post-disaster to improve long-term community resilience**

Moratoria allow county planners and communities to address environmental issues and future hazards, such as sea level rise, in recovery projects and activities to improve long term community resilience. Disaster redevelopment scenarios, developed and vetted with a community before a disaster strikes, can be used as starting point during a moratorium to help the county and impacted communities make redevelopment decisions.

- Substantial damage assessments**—Consists of post-event assessment of structures in the special flood hazard area by the county that determines whether or not structures have been substantially damaged and triggers post-disaster reconstruction rebuilding protocols.

- **Hazard mitigation and resilience measures**—“Windows of opportunity” to reduce vulnerability to future disasters are common after a disaster. To harness these opportunities, it is crucial to understand powers and limitations on regulatory actions and funding to mitigate damage and improve resilience of private property (see Chapter 5, Funding for Disaster Recovery). Non-governmental funding sources may be leveraged to support faster recovery; however, care must be taken that permitting and other government requirements are taken into account.
- **Nonconforming uses**—Policies on nonconforming uses at the state and county level may be counter-productive to improving resilience to future disasters. Policies should be inventoried and the standards that will be enforced following a disaster should be identified and agreed upon. This will likely necessitate coordination with State agencies, such as the DLNR regarding Conservation District Lands or DOH regarding existing cesspools. These can be addressed in the Disaster Reconstruction Ordinance.
- **Emergency demolitions**—Local emergency powers should be in place before a disaster and should explicitly address due process issues associated with demolition including environmental review and historic resources<sup>2</sup>.
- **Environmental review**—Rules and regulations regarding environmental review triggers and emergency waivers to environmental review should be identified and clarified (see also Chapter 5, Emergency Proclamations and Waivers).
- **Cultural resources preservation**—A list of official designated cultural resources and sites should be developed, especially those located in known hazard areas. Cultural preservation organizations and practitioners should be engaged and involved in decision making.
- **Historic preservation**—A list of officially designated and potential historic resources should be developed, especially those located in known hazard areas. Local historic preservation organizations should be engaged and involved in decision making<sup>3</sup>.
- **Controlling blight**—Blight resulting from a disaster can exceed typical local code-enforcement procedures. Legal issues involving notification and decision processes, alternative means of financing, adjudication of abandoned properties, and acquiring, packaging, and selling properties

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<sup>2</sup> City of Fremont has in place an Ordinance No. 2181 regulating the demolition of damaged structures after a disaster (see <https://fremont.gov/378/Post-Disaster-Ordinances>)

<sup>3</sup> FEMA guidance on historic structures under the NFIP requirements should be consulted (FEMA 2018b). Criteria for historic structures include: Any structure that is: (a) Listed individually in the National Register of Historic Places or preliminarily determined as meeting the requirements for individual listing on the National Register; (b) Certified or preliminarily determined as contributing to the historical significance of a registered historic district; (c) Individually listed on a state inventory of historic places; or (d) Individually listed on a local inventory of historic places. Communities may exempt historic buildings from NFIP substantial improvement and substantial damage requirements in either of two ways. First, they can exempt them through their definition of substantial improvement. Second, they can issue variances for historic structures. However, the improvement must not preclude the structures continued designation as a historic structure and must be the minimum necessary to preserve its historic character.

should be researched and documented before a disaster<sup>4</sup>. This issue could be significant as Hawaii has many absentee homeowners.

- **Property acquisitions and relocations**— Pre-identifying potential retreat or acquisition areas before a disaster and imposing moratoria or temporary restrictions during reconstruction for areas with catastrophic damage and/or potential for repeat losses may assist in determining the feasibility of acquisition or other mitigation alternatives (see Codiga, Hwang, and Delaunay (2011) for potential takings issues).

### Hawai'i Urban Renewal Law and Disaster Recovery Preparedness

Counties should review the Hawai'i Urban Renewal Law (HRS Title 6 Chapter 53) as part of their disaster preparedness activities and identify opportunities to put in place the authority for redevelopment before a disaster strikes. The law provides broad authority to counties to plan and implement urban renewal and redevelopment especially in disaster areas (§53-7) and even provides special consideration for areas that have been certified by the council of a county to be in the need of renewal, redevelopment, or rehabilitation as a result of a seismic wave, flood, fire, hurricane, earthquake, storm, volcanic activity, explosion, or other catastrophe, natural or of human origin respecting which, the council of a county may approve an urban renewal plan and an urban renewal project with respect to the area. It also provides all of the rights, powers and privileges to these redevelopment agencies when they are preparing, planning, financing, acquisition, and disposal of real property, and the execution generally of an urban renewal project for disaster areas.

Under this law, counties have the authority to declare blighted areas for redevelopment and establish a redevelopment authority to prepare and implement redevelopment plans and projects. In the context of disaster recovery and reconstruction, blighted areas are defined broadly and include those areas which exhibit unsafe conditions or the existence of conditions which endanger life or property by fire or other causes; or any combination of these factors or conditions detrimental to the public health, safety, and welfare. Redevelopment is defined as the planning, development, replanning, redesign, clearance, reconstruction or rehabilitation, or any combination of these, in the redevelopment area.

## Ongoing Activities

Disaster recovery preparedness does not begin and end with the development of an ordinance or recovery framework. Suggested ongoing activities to strengthen disaster recovery preparedness are discussed below. These and other activities the county deems important to tackle before a disaster event should be included in the Disaster Recovery Framework and codified as needed in the Disaster Recovery and Reconstruction Ordinances, depending on the path chosen by the county.

<sup>4</sup> see Hawai'i Revised Statutes 53 – Urban Renewal Law for a definition of blighted areas and other requirements for urban redevelopment in disaster areas.

**Use community planning areas to scale hazard mitigation and disaster recovery planning.** County hazard mitigation plans assess risk and vulnerability to chronic and event-based hazards. Hazard mitigation plans are to be updated every five years thus providing the best available information for county planners. Further, each county has established community planning areas where community plans<sup>5</sup> are prepared to translate broad goals and objectives of a county general plan into detailed land use and development policies for an area. Downscaled risk assessments for each community planning area will support the development of a Disaster Recovery Framework and a community plan update thus helping planners identify and prioritize place-based policies, actions, and projects that reduce risk and to improve resilience. Updated hazard risk profiles at the scale of a community plan area provide insights to areas where impacts and recovery needs are most likely to be concentrated. Pre-disaster recovery planning should also be informed by more general risk and vulnerability assessments in county and state hazard mitigation plans.

**Identify disaster redevelopment scenarios to address sea level rise and other climate change impacts as part of county plans and programs.** A disaster redevelopment scenario is a land use and development alternative, developed before a disaster event, that can serve as a starting point for reconstruction should catastrophic damages occur to the shoreline and coastal properties located in areas exposed to sea level rise impacts. General and community planning provides an opportunity to develop and vet redevelopment scenarios should catastrophic damage occurs. The post-disaster environment offers unique windows of opportunity to adapt to climate change (State of Florida Department of Community Affairs 2010b). Counties may want to identify adaptation strategies that could be triggered by a disaster event. General and community planning processes provide significant opportunities for integration and synergies with disaster recovery preparedness activities.<sup>6</sup> Counties invest considerable money and effort toward updating general and community plans. These long-range planning processes consider various land use and development alternatives to support future population growth and needs of the county and communities. These alternatives need to address future conditions such as sea level rise and other climate change impacts. Counties should consider identifying potential disaster redevelopment scenarios as part of the alternative development process in community planning to support dual goals of recovery and climate adaptation. This would enable community vetting through the community planning process which again could jump start disaster recovery and support more resilient disaster reconstruction.

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<sup>5</sup> Depending on the county, a community plan may be referred to as a community development plan or sustainable communities plan.

<sup>6</sup> Just as a number of pathways to pursuing recovery preparedness activities are outlined in Figure 5, there are also a number of ways to link recovery preparedness with long range planning. In an evaluation of 87 local recovery plans in eight states, Berke et al. (2014) has suggested that the most effective choice for such linkage may be to prepare a stand-alone recovery plan in collaboration with the preparation of a comprehensive plan. Recognizing that this may be ideal, we have structured this Guidance so that a community does not have to wait until the next update cycle to begin contemplating such linkages.

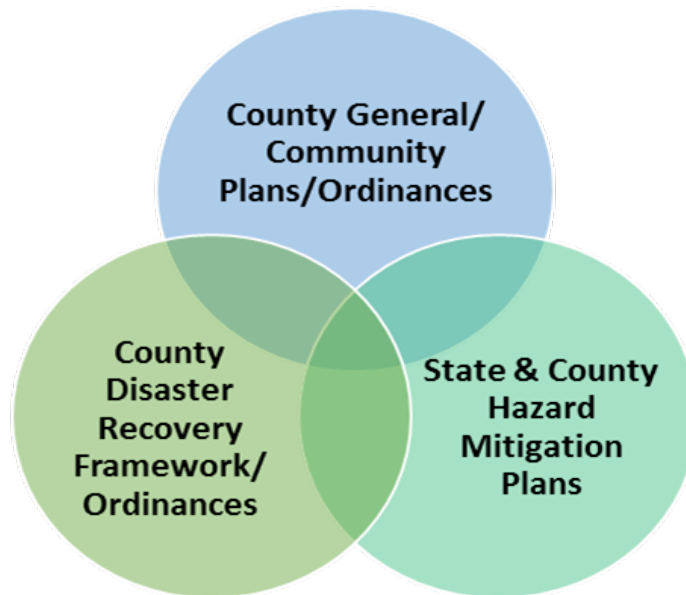


The Disaster Reconstruction Ordinance identifies pathways for reconstruction permitting within existing county regulatory frameworks based on levels of damage and specifically identifies careful and deliberate consideration of areas that have experienced catastrophic levels of damage, particularly within high-hazard and/or environmentally sensitive areas. The disaster redevelopment scenarios developed as part of a long-range planning process would provide a starting point for community engagement following a disaster-event that could support the development of a Post-Disaster Recovery Plan. For example, a community may express a long-term vision to restore coastal access, realign a roadway landward, or move structures outside areas exposed to sea level rise. A land use alternative that captures these preferences could also double as a disaster redevelopment scenario should catastrophic damages from a hurricane, tsunami, or other event cause catastrophic damage to the shoreline and loss of property and critical infrastructure. A conceptual disaster redevelopment scenario was developed as part of the Waikīkī Pre-Disaster Recovery Planning Project (National Disaster Preparedness Training Center 2017). A scenario like this could serve as an initial vision developed with community input for post-disaster recovery planning (Figure 7, see also Disaster Reconstruction Ordinance model resource and Figure 10).



Figure 7. Example of a conceptual disaster redevelopment scenario for Waikīkī (National Disaster Preparedness Training Center 2017)

**Conduct a plan integration for resilience review.** Plan integration is a critical task for reducing risk and improving resilience (FEMA 2015, U.S. Department of Homeland Security 2017)<sup>7</sup>. Plan integration involves a two-way exchange of information and incorporation of information and strategies between hazard mitigation plans (state and local) and other community plans. The *Plan Integration for Resilience Scorecard* (U.S. Department of Homeland Security 2017) outlines an approach that counties may wish to undertake to spatially evaluate networks of plans to reduce hazard vulnerability .



**Plan integration is the process by which communities look critically at their existing planning framework and align efforts with the goal of building a safer, smarter community (FEMA 2015)**



A resilience scorecard enables a community to track their progress toward resiliency and target efforts where they most need to improve (U.S. Department of Homeland Security 2017). A community's network of plans are cornerstones for resilient disaster reconstruction and recovery because they represent the community's vision, set goals, and guide community development, actions, and policy decisions. All county departments and their associated plans should integrate hazards when considering the long-term impacts of development. The Plan Integration for Resilience Scorecard aims to: (1) identify incongruities within networks of plans, (2) integrate and improve local plans in ways that reduce losses from hazard events, (3) provide communities developing new plans or updating existing plans with a guidance framework to reduce future hazard exposure, (4) Provide a validated tool to address on-the-ground needs and build capacity.

<sup>7</sup> The reader can refer to the companion document, Guidance for Addressing Sea Level Rise in Community Planning in Hawai'i to identify opportunities for plan integration and analysis to reduce risk.

**Update County Geographic Information System Database and Permitting Systems.** The county's Geographic Information System (GIS) database is a critical tool for disaster recovery. Accurate data and the ability to quickly generate reports on a variety of community assets and property conditions such as: location of historic resources, addresses of properties located in special flood hazard areas, shoreline structures (e.g., seawalls), and other shoreline conditions will come in extremely valuable in expediting decisions and providing clear and accurate information to property owners and residents on post-event needs and activities. Information generated to support the development of the risk assessment for a county's hazard mitigation plan is very likely to include valuable information on the expected extent and severity of the disaster impacts. This information is more times than not in a spatial GIS format that could easily be integrated into a local GIS system or database.

Furthermore, information in the county permitting system, if properly maintained, can greatly reduce the amount of time needed to sort through property-specific information for post-event decision-making and can enhance the amount of information that can be provided at one-stop shop permitting centers. If permitting systems and/or GIS databases are available that can provide information on non-conforming uses/structures, cumulative substantial damage, the need for additional permits, location in hazard areas, etc., property owners can have a detailed understanding of important site-specific considerations and permits required to rebuild. Depending on the location of property and reconstruction needs, multiple permits from different county departments may be needed, so improving permit and GIS databases would require close collaboration between a number of agencies and departments.

In addition to providing detailed pre-disaster information, considerations should also be made to how post-event information will be captured and stored in the county permitting and GIS databases. For example, the areas where additional damage assessments are to be conducted, where moratoria are in effect and other-spatially-based post-event policies can be translated into a GIS environment and shared with property owners. A simple report detailing the major considerations for reconstruction and permit requirements could be printed out for property owners. Such a report could also provide information on future risk, such as if the property is located in a sea level rise exposure area. Development and maintenance of such a system would require significant resources and technical capacity but may greatly enhance planning activities in the county and be useful in a variety of settings outside of recovery. Developing these databases before an event will help counties track disaster recovery metrics and will demonstrate the degree of success of the recovery effort in improving overall community resilience.

## 4. County-Level Disaster Recovery Preparedness Model Resources

### Disaster Recovery Ordinance

A disaster recovery ordinance provides a legal foundation for a county to organize and efficiently manage short and long-term recovery. The purpose of the disaster recovery ordinance is to:

- Authorize establishment and maintenance of a local RMO, designed for cooperative action with federal, state, and local emergency management and stakeholder entities.
- Direct the preparation of a pre-event short- and long-term recovery plan in concert with the local emergency management organization, volunteer organizations active in disasters (VOADs), businesses, community stakeholder organizations and state and federal agencies.
- Establish emergency powers by which the local government staff can take extraordinary action to protect public health, safety, and welfare during post-disaster recovery.
- Identify methods for local government to take cooperative action with other entities to assure full access to external financing resources as well as to facilitate recovery.
- Specify the means for consulting with and assisting citizens, businesses, and community stakeholder organizations during recovery planning and implementation.

Enacted before a disaster, the recovery ordinance should be adopted before a disaster happens, as well as periodically updated and amended, as needed. Counties are encouraged to review the APA's Model Pre-Event Recovery Ordinance (Disaster Recovery Ordinance) as a possible starting point for disaster recovery preparedness. [The APA Pre-Event Recovery Ordinance is available online](#) at their [planning.org](#) website. An outline of the ordinance is provided in (Table 2).

Table 2. Disaster Recovery Ordinance Outline (American Planning Association 2014b)

| Section  | Purpose  |
|--|--|
| <b>1. Authority</b>                              | Establishes the authorities under which the entity adopting the ordinance is acting.   |
| <b>2. Purposes</b>                               | Authorizes establishment and maintenance of a local RMO, both pre-event and post-event, including county emergency management organization; other county, state, and federal agencies; VOADs; businesses; and community stakeholder organizations. Identifies methods for local government to take cooperative action with other entities to facilitate recovery and assure full access to external financing resources. |
| <b>3. Definitions</b>                            | Defines terms used throughout the ordinance  |
| <b>4. Recovery Management Organization (RMO)</b> | Authorizes the establishment and maintenance of an ongoing RMO to plan, prepare for, direct, and coordinate expeditious and orderly post-disaster recovery strategies and actions in cooperation with federal, state, and local emergency management and stakeholder entities.   |
| <b>5. Recovery Framework</b>                     | Authorizes the preparation a Recovery Framework by the RMO to address pre-event and post-disaster recovery policies, strategies, and actions. The Recovery Framework is to be adopted, if possible, by the county council before a disaster and activated during the post-disaster period, as needed.  |
| <b>6. Interim Recovery Strategy</b>              | Authorizes the preparation of an Interim Recovery Strategy, to be prepared at the earliest possible time following a declaration of local emergency.   |
| <b>7. Hazard Mitigation Program</b>              | Directs the RMO to prioritize short- and long-term hazard mitigation measures to reduce disaster loss.   |
| <b>8. General Provisions</b>                     | Activates the RMO following a declaration of local emergency to coordinate recovery operations with county, state and federal agencies and other partners.   |
| <b>9. Temporary Regulations</b>                  | Authorize the RMO to temporarily modify provisions of building codes and permitting to protect life and property and mitigate hazard conditions.   |
| <b>10. One-Stop Service Center</b>               | Authorizes the establishment of a singular location where impacted residents can talk to a variety of permitting and other recovery staff.   |
| <b>11. Emergency Contractor Certification</b>    | Gives the RMO authority to establish standard certification process for contractors and volunteers   |
| <b>12. Temporary and Permanent Housing</b>       | Authorizes the Director of the RMO to assign staff to work with county, state, and federal agencies on housing issues.   |
| <b>13. Demolition of Historic Buildings</b>      | Authorizes the Director of the RMO to order condemnation and demolition of historic buildings and structures damaged in the disaster under certain provisions.   |
| <b>14. Severability</b>                          | Refers to the severability of a provision if found to be unconstitutional or invalid by a court.   |

## Disaster Recovery Framework

A Disaster Recovery Framework pre-defines recovery roles and capabilities, organizational frameworks, and specific policies and plans building on institutional and community awareness. This document guides recovery activities both pre- and post-disaster, explores options for restoration of critical community functions, services, vital resources, facilities, programs, and infrastructure, establishes a framework for engaging those that should or need to be involved, and guides pre-disaster preparation.

A Disaster Recovery Framework is intended to get a jump start on recovery operations by outlining potential strategies, anticipated priorities, and governance and coordination networks. This document is developed before disasters strike and activated in the short-term recovery phase and to guide long-term recovery. Counties should consult FEMA's Pre-Disaster Recovery Planning Guide for Local Governments (FEMA 2017b). Key steps and key activities in pre-disaster recovery planning process are shown in Figure 8.

Because the Disaster Recovery Framework must be driven by local initiation and broad community engagement, the details cannot be determined until planning activities have taken place. A model outline for a Disaster Recovery Framework and additional guidance is provided in (Table 3) This framework is based on the FEMA Guide, a review of other state disaster recovery frameworks, and Hawai'i-specific considerations highlighting opportunities for improving resilience.

### Disaster Recovery Terminology: Pre-/Post-, Recovery/Redevelopment, Framework/Plan

Many terms are used to describe documents that guide disaster recovery including: disaster recovery plans (Douglas County Office of Emergency Management 2014), post-disaster redevelopment plans (State of Florida Department of Economic Opportunity 2018, State of Florida Department of Community Affairs 2010b), pre-disaster recovery plans (FEMA 2017b), and disaster recovery frameworks (Seattle Office of Emergency Management 2015).

In this Guidance, we have chosen to use the term, **Disaster Recovery Framework**, to describe a document developed by county or state government that pre-defines recovery roles and capabilities, organizational frameworks, and specific policies and plans before a disaster event. A disaster recovery framework is activated during disaster response and used to guide short-term and long-term recovery. Several local governments have used this term which also reflects a downscaling of the National Disaster Recovery Framework. A Disaster Recovery Framework described in this Guidance is synonymous with a Pre-Disaster Recovery Plan, the term used by FEMA (FEMA 2017b). The term, post-disaster recovery plan, is used to describe a plan developed after a disaster event that reflects policies, projects, and actions based on actual conditions and needs on the ground.

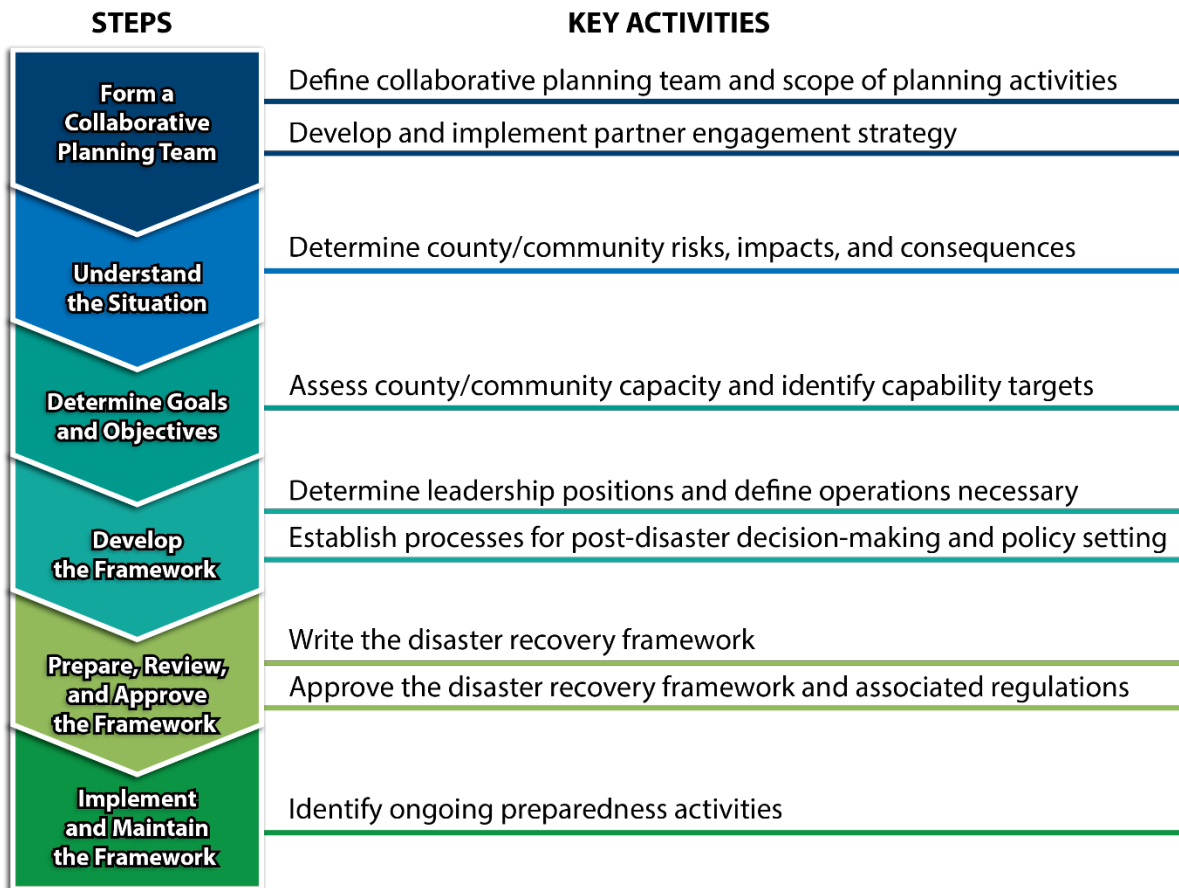


Figure 8. Steps and key activities in developing a Disaster Recovery Framework (adapted from FEMA 2017b)



### Why Prepare a Disaster Recovery Framework?

[Adapted from FEMA (2017b)]

- Establish clear leadership roles, including the mayor's office, county manager, and county council, for more decisive and early leadership.
- Improve public confidence in leadership through early, ongoing, and consistent communication of short- and long-term priorities.
- Avoid the often difficult, ad hoc process of post-disaster discovery of new roles, resources, and roadblocks.
- Gain support from whole-community partnerships necessary to support individuals, businesses, and organizations.
- Improve stakeholder and disaster survivor involvement after the disaster through a definition of outreach resources and two-way communication methods the local government and key organizations will employ.
- Maximize Federal, State, private-sector, and nongovernmental dollars through early and more defined local priorities and post-disaster planning activity.
- Provide for more rapid and effective access to Federal and State resources through better understanding of funding resources and requirements ahead of time.
- Enable local leadership to bring to bear all capabilities and more easily identify gaps through a coordination structure and defined roles.
- Better leverage and apply limited State and nongovernment resources when there is no Federal disaster declaration.
- Maximize opportunities to build resilience and risk reduction into all aspects of rebuilding.
- Speed identification of local recovery needs and resources and ultimately reduce costs and disruption that result from chaotic, ad hoc, or inefficient allocation of resources.
- Improve capability and continuity through pre-identification of when, where, and how the county government will employ and seek support for post-disaster planning, city operations, recovery management, and technical assistance.
- Proactively confront recovery and redevelopment policy choices in the deliberative and less contentious pre-disaster environment.
- Improve the ability to interface with State and Federal Recovery Support Function structure.



**Table 3. Disaster Recovery Framework Outline, Purpose and Guidance [Adapted from FEMA (2017b)]**

| Section   | Purpose  | Guidance   |
|---|--|--|
| <b>INTRODUCTION</b>                                   |  |  |
| <b>Purpose, Goal, Scope</b>                           | Prepared pre-disaster to ensure effective, efficient, and equitable recovery operations by establishing a governance structure that can leverage and coordinate resources from the whole community, explore disaster recovery options, and define disaster recovery preparedness activities. | Framework should be designed to guide recovery activities both pre- and post-event and doesn't replace but leverages and integrates with existing emergency response, hazard mitigation, and community plans.  |
| <b>Community Capacity Assessment</b>                  | Describes what recovery capacities the community currently has and how they might be compromised after a disaster.   | Use existing documents and resources to identify and describe recovery capacities including: <ul style="list-style-type: none"> <li>▪ The National Preparedness Goal mission area core capabilities.</li> <li>▪ The County and State Hazard Mitigation Plan capability assessments.<sup>8</sup></li> </ul>   |
| <b>Risks, Hazards, Exposures, and Vulnerabilities</b> | Lists and describe the community assets that would be at risk if a disaster struck and reference information obtained in the hazard mitigation plan risk assessment.   | In addition to the County and State Hazard Mitigation Plans, use information from the Hawaii Sea Level Rise Vulnerability and Adaptation Report and online Hawaii Sea Level Rise Viewer to describe future risk and vulnerability. <sup>9</sup>  |
| <b>Strategies</b>                                     | Based on existing capacities and risks, describes strategies the community should discuss and evaluate.  | <ul style="list-style-type: none"> <li>▪ Use information in existing planning documents including: <ul style="list-style-type: none"> <li>– County Hazard Mitigation Plan</li> <li>– General Plan</li> <li>– Community Development Plan</li> </ul> </li> <li>▪ Identify potential strategies for expediting post-disaster permitting.</li> <li>▪ Consider moratoria and other temporary restrictions on new development/redevelopment.</li> <li>▪ Consider requirements and waivers for environmental review.</li> </ul> |

<sup>8</sup> The State of Hawaii Hazard Mitigation Plan was updated in 2018 and includes a comprehensive capability assessment that identifies pre- and post-disaster capabilities in the State and those capabilities that provide funding for mitigation.

<sup>9</sup> The Waikiki Pre-Disaster Recovery Planning Project provides an example of how a community can begin to plan for how a community may wish to redevelop to consider sea level rise after a disaster event (National Disaster Preparedness Training Center 2017).

**Table 3. Disaster Recovery Framework Outline, Purpose and Guidance [Adapted from FEMA (2017b)]**

| Section                                  | Purpose  | Guidance   |
|--|--|--|
|  |  | <ul style="list-style-type: none"> <li>▪ Consider options for property acquisitions and relocations.</li> <li>▪ Consider developing post-disaster development scenarios.</li> <li>▪ Consider protocols for restoring lifelines and other critical infrastructure.</li> <li>▪ Consider mechanisms to identify how to build back infrastructure to higher standards.</li> <li>▪ Identify potential strategies for controlling blight.</li> </ul>         |
| <b>Recovery Goals and Policies</b>       | Identifies which community assets are a priority for recovery.   | <ul style="list-style-type: none"> <li>▪ Consider conducting a public outreach process, similar to what was conducted in Maui County, to prioritize reconstruction of private property and develop a detailed permitting procedure.</li> </ul>   |
| <b>Implementation Process</b>            | Describes how the recovery strategies, goals, and policies will be carried out. Includes actions statements and timelines by which to assess progress.   | <ul style="list-style-type: none"> <li>▪ Consider developing baseline information, indicators, and/or other mechanisms by which to track progress and success over time.<sup>10</sup></li> </ul>   |
| <b>Recovery Administrative Structure</b> | Describes what department should direct the local recovery process, chain of command, and departments responsible for activities.  | <ul style="list-style-type: none"> <li>▪ Depending on county preferences, this may be the RMO or another entity.<sup>11</sup></li> <li>▪ Counties may want to refer to the Recovery Emergency Support Functions (ESFs) of their Comprehensive Emergency Management Plan for entities with recovery responsibilities.</li> </ul>  |
| <b>Community Engagement Strategy</b>     | Identifies local and non-local volunteer agencies, non-governmental organizations and educational organizations that are active in disasters and describes how these organizations line up with the recovery team. | <ul style="list-style-type: none"> <li>▪ Include public messaging tools that supports key facets of recovery process, especially information clarifying private development reconstruction permitting requirements and any moratoria or temporary restrictions.</li> <li>▪ Ensure that community engagement strategy provides clear mechanism for two-way communication and determine how community input will be synthesized and utilized.</li> </ul> |

<sup>10</sup> See Horney et. al. (2018) for more information on potential baseline status metrics from which recovery success could be evaluated. [Also see the Disaster Recovery Tracking Tool available online.](#)

<sup>11</sup> See Appendix A for an exercise to help identify entities involved in the Recovery Administrative Structure and their roles and responsibilities.

**Table 3. Disaster Recovery Framework Outline, Purpose and Guidance [Adapted from FEMA (2017b)]**

| Section                                 | Purpose  | Guidance   |
|---|--|--|
| <b>Mitigation Measures</b>              | Describes mitigation measures that have been implemented, are in progress, or are planned.                             | <ul style="list-style-type: none"> <li>▪ Review existing community plans including:                             <ul style="list-style-type: none"> <li>– County and State Hazard Mitigation Plan</li> <li>– General Plan</li> <li>– Community Plans</li> <li>– Consider how nonconforming uses and structures will be handled</li> </ul> </li> </ul>   |
| <b>RECOVERY LEADERSHIP<sup>12</sup></b> |  |  |
| <b>Recovery Leadership</b>              | Identifies the recovery leaders in the community.  | <ul style="list-style-type: none"> <li>▪ Ensure that consideration is given to governmental and non-governmental groups and that special attention is paid to engaging historically underrepresented communities (such as renters, economically disadvantaged, non-English speakers, etc.); those with access and functional needs; and representatives from the business community.</li> </ul>  |
| <b>Authorities</b>                      | Identifies and describes the enabling legislation or policies that manage recovery after an event.                     | <ul style="list-style-type: none"> <li>▪ If adopted, this should include the ordinance authorizing the RMO (or granting equivalent authority to an existing entity).</li> <li>▪ If adopted, this should include the reconstruction ordinance.</li> <li>▪ Refer to authorization for emergency demolitions.</li> <li>▪ Refer to authorization for acquisitions.</li> <li>▪ Refer to authority for enacting moratoria.</li> <li>▪ Refer to floodplain damage prevention ordinance for elevations.</li> <li>▪ Consider authorities for any strategies that are not expressly authorized.</li> </ul> |
| <b>RECOVERY OPERATIONS</b>              |  |  |
| <b>Partners</b>                         | Identifies recovery partners (county, state, federal, non-governmental) and their recovery roles and responsibilities. | <ul style="list-style-type: none"> <li>▪ Include State level permitting agencies, such as OCCL.</li> <li>▪ Include federal level partners that would possibly be deployed to the Joint Field Office during a disaster or be performing damage assessments and providing short-term recovery funding (Individual Assistance, Small Business Administration (SBA), etc.).</li> <li>▪ Identify any mutual aid agreements that are in place.</li> </ul>  |
| <b>Activation of Personnel</b>          | Identifies how and when personnel assigned to fill recovery roles are activated.                                       | <ul style="list-style-type: none"> <li>▪ Include information on the qualifications and ongoing training required for Disaster Assessment Teams.</li> <li>▪ Include record keeping procedures/protocols for any activation reimbursable by federal programs, such as the public assistance program.</li> </ul>  |

<sup>12</sup> Recovery leaders in the community and partners can be documented as part of the development of Recovery Support Function strategies (see template provided in Table 7)

**Table 3. Disaster Recovery Framework Outline, Purpose and Guidance [Adapted from FEMA (2017b)]**

| Section                              | Purpose   | Guidance  |
|--------------------------------------|---|---|
|                                      |   | <ul style="list-style-type: none"> <li>▪ Include information on the One-Stop Permit Center, including possible locations, suggested operating hours, configurations, and departments/entities that will be asked/required to staff the center.</li> <li>▪ Include information on how personnel will communicate information from the public back to county decision makers.</li> </ul>  |
| <b>Assessment and Data Gathering</b> | Identifies the types of assessment and data gathering that will be conducted before/after a disaster strikes, who is responsible for data collection, and any pre-determined guidelines and forms to be used. | <ul style="list-style-type: none"> <li>▪ Develop a list of historical structures and those that may qualify as historical structures</li> <li>▪ Determine a standard protocol for substantial damage assessments in the special flood hazard area that meet FEMA requirements, including what will be used to determine fair market value and a method for appeals.<sup>13</sup></li> <li>▪ Determine what perishable data, such as high-water marks, should be captured after an event, the teams and methods by which this data will be captured, and develop any necessary forms.</li> <li>▪ Develop a method for determining when catastrophic damage has occurred for both development and the shoreline.</li> <li>▪ Inventory all polices in place in the county regarding nonconforming structures and uses</li> <li>▪ Consider a clear and strong link with the community engagement strategy and communication guidelines.</li> <li>▪ Develop a procedure and reporting process for tracking recovery metrics over time</li> <li>▪ Identify the county departments/agencies (public works, public safety, waste water treatment, purchasing etc.) that should play a role in collecting data related to the disaster and develop protocol for them.</li> </ul> |
| <b>Communication Guidelines</b>      | Describes how recovery leaders and stakeholders will communicate with one another and how often they should be communicating.   | <ul style="list-style-type: none"> <li>▪ Establish memorandums of understanding and/or modify emergency-related administrative rules before an event.<sup>14</sup></li> <li>▪ Develop a strategy for communicating with the general public about the disaster, available services after the disaster and recovery efforts. Define the media options that will be utilized (traditional and social media).</li> </ul>  |

<sup>13</sup> See the FEMA publication Substantial Improvement/Substantial Damage Desk Reference (FEMA 2010) and Answers to Commonly Asked Questions about Substantially Improved/Substantially Damaged Buildings (FEMA 2018a).

<sup>14</sup> Manatee County Florida developed a Post-Disaster Redevelopment Plan that included a Communication Plan. The communication plan included guidance on both external and internal communications (State of Florida Department of Community Affairs 2010a).

**Table 3. Disaster Recovery Framework Outline, Purpose and Guidance [Adapted from FEMA (2017b)]**

| Section   | Purpose   | Guidance  |
|---|---|---|
| <b>Notification and Engagement of Recovery Partners</b> | Identifies how and when recovery partners will be notified and engaged after a disaster.  | <ul style="list-style-type: none"> <li>▪ Establish memorandums of understanding and/or develop a communication plan.</li> </ul>   |
| <b>State and Federal Engagement</b>                     | Describes how county recovery leaders will communicate with the State and Federal governments and define any partnerships that exist. | <ul style="list-style-type: none"> <li>▪ Information in the Framework can be organized by Recovery Support Functions to facilitate state and federal coordination. These Recovery Support Function “strategies” can be included as an appendix to the Framework. See Template provided as Table 4.</li> </ul>   |
| <b>Organizational Chart</b>                             | Identifies how recovery leadership and partners are organized.  | <ul style="list-style-type: none"> <li>▪ Begin with Appendix A – Defining Disaster Recovery Responsibilities and Partners.</li> </ul>   |
| <b>Timelines</b>  | Shows the projected timelines for beginning the recovery process, starting at the time of disaster.                                   | <ul style="list-style-type: none"> <li>▪ Include “triggers” for activation, such as a local emergency.</li> <li>▪ Identifies the date that temporary disaster provisions cease (sunset clause).</li> </ul>  |
| <b>RECOVERY IMPLEMENTATION</b>                          |   |   |
| <b>Execution Strategy</b>                               | Articulates how the county will execute its strategy for recovery preparedness planning.  | <ul style="list-style-type: none"> <li>▪ If additional actions are needed to support implementation, such as identifying, clear standard operating procedures or protocols for permitting, debris management, developing communication plan templates, etc., identify how and by whom they will be developed.</li> <li>▪ If gaps in capabilities are identified, indicate what actions will be taken to address.</li> </ul>   |
| <b>Priorities and Policy Alternatives</b>               | Lists priorities for recovery implementation and policy alternatives.   | <ul style="list-style-type: none"> <li>▪ Be explicit about strategies chosen for implementation, such as potential acquisitions or relocations, high regulatory standards, shoreline migration, preserving and protecting important cultural resources, etc. and the conditions under which they should be considered for implementation.</li> <li>▪ Whenever possible, develop clear standard operating procedures and protocols (or identify who will) so that details of how strategies will be implemented are in place.</li> </ul> |
| <b>Funding Strategies<sup>15</sup></b>                  | Lists funding strategies that may be either in place through existing partnerships or legally authorized in emergency situations.     | <ul style="list-style-type: none"> <li>▪ Identify alternative means of financing for blighted properties.</li> <li>▪ Identify limits on government authority related to spending funds to mitigate private property.</li> </ul>   |

<sup>15</sup> The State of Hawaii Hazard Mitigation Plan was updated in 2018 and includes a comprehensive capability assessment that identifies pre- and post-disaster capabilities in the State and those capabilities that provide funding for mitigation.

**Table 3. Disaster Recovery Framework Outline, Purpose and Guidance [Adapted from FEMA (2017b)]**

| Section                                     | Purpose  | Guidance  |
|---|--|---|
|   |  | <ul style="list-style-type: none"> <li>▪ Identify and strive to set up MOUs with nongovernment funding sources with the flexibility to help post disaster e.g. Hawaii Community Foundation.</li> </ul>  |
| <b>APPENDICES</b>                           |  |   |
| <b>Recovery Support Function Strategies</b> | Defines lead and strategy for each RSF (see outline in Table 4). | <ul style="list-style-type: none"> <li>▪ Identify county lead, state and federal partners, private sector, nongovernmental organization, community, and other partners for recovery.</li> <li>▪ Strategy should be organized to address county-wide and individual community planning districts.</li> </ul> |

**Recovery Support Functions.** The NDRF (also discussed in Chapter 2) introduces six RSFs that are led by designated federal coordinating agencies at the national level in the event of a federally declared disaster. Each RSF has a designated coordinating agency along with primary agencies and supporting organizations with programs relevant to the functional area. The RSF Coordinating Agency, with the assistance of FEMA, provides leadership, coordination and oversight for that particular RSF. When coordinating agencies are activated to lead a RSF, primary agencies and supporting organizations are expected to be responsive to the function related communication and coordination needs. These RSFs are:

- Community Coordination and Capacity Building (RSF1).
- Economic Recovery (RSF2).
- Health, Social Services, and Education (RSF3).
- Housing (RSF4).
- Infrastructure Systems (RSF5).
- Natural and Cultural Resources (RSF6).
- Buildings and Land Use Planning (“RSF7”).<sup>16</sup>

#### FEMA Recovery Support Functions 1 – 6 versus Emergency Support Function 14

Emergency Support Function 14, Long-Term Community Recovery was superseded by the [National Disaster Recovery Framework, available online at FEMA](#). Recovery Support Functions (RSF 1 – 6) are the current federal standard under the National Disaster Recovery Framework. While the recovery tasks are generally the same for both RSFs and ESF-14, the descriptions of missions and capabilities of RSFs are much expanded within the National Recovery Framework. RSF’s work both before and after an incident either preparing a community to recover (resilience) or working all of various sectors of recovery post-event and therefore are not confined to a post-disaster response. As such, RSFs are better aligned with a resilience- and whole-community approach to both preparing for and performing recovery activities.

The RSFs are an effective way to engage county and state government agencies, nongovernment and private sector partners in strategy development as part of a broad inclusive planning process. The county lead for each RSF should be identified along with the state and federal supporting agency. This would help to ensure all counties are working with the appropriate state agencies in a standardized manner. Within each RSF, county-wide and community-specific partners and strategies could be developed. Using community planning districts as part of the recovery framework facilitates scalability if a disaster strikes one community and not the entire county and provides an opportunity for plan integration (see section on *Integrating Plans to Improve Resilience*). This information would be summarized in a strategy for each RSF and included as Appendix in the Disaster Recovery Framework. A sample outline of an RSF strategy

<sup>16</sup> FEMA defines six RSFs. The Seattle Disaster Recovery Framework (Seattle Office of Emergency Management 2015) includes a 7<sup>th</sup> RSF for buildings and land use planning. This buildings and land use RSF emphasizes goals and strategies for sustainability and resilience both pre- and post-recovery.

is provided in Table 4. The development of RSF strategies help guide post-disaster recovery and align recovery efforts with federal resources.

**Table 4. Example template for recovery support function strategies [Adapted from Seattle Office of Emergency Management (2015) and Snohomish County (2016), Washington]**

| Recovery Support Function Strategy for [insert RSF] <sup>17</sup>    |  |
|--|--|
| RSF Lead   | <ul style="list-style-type: none"> <li>▪ Defines county lead for the RSF.</li> </ul>   |
| Supporting Agencies and Organizations                                | <ul style="list-style-type: none"> <li>▪ Defines supporting county, state, federal agencies and other relevant non-governmental and private sector organizations.</li> </ul>   |
| Risks, Hazards, Exposures, and Vulnerabilities                       | <ul style="list-style-type: none"> <li>▪ Lists and describe the county and community assets in this function area by community planning area that would be at risk if a disaster struck and reference information obtained in the hazard mitigation plan risk assessment.</li> </ul> |
| Decision Making Framework  | <ul style="list-style-type: none"> <li>▪ Describes how information will be shared and decisions made. Notes organizations that may be involved in supporting the work of the RSF and reinforces the coordinating role of the RMO.</li> </ul>   |
| Planning Assumptions   | <ul style="list-style-type: none"> <li>▪ Describes likely starting points for disaster recovery.</li> </ul>  |
| Guiding Principles   | <ul style="list-style-type: none"> <li>▪ Asserts important guidance for how recovery should proceed, identifying approaches and values important to the community from the County General Plan and Community Plans.</li> </ul>   |
| Major Topics Related to Community Coordination and Capacity Building | <ul style="list-style-type: none"> <li>▪ Identifies key questions and challenges that should be monitored over the course of recovery.</li> </ul>  |
| Recovery Goals and Strategies  | <ul style="list-style-type: none"> <li>▪ Organizes potential paths forward for recovery, identifying major Goals, Supporting Strategies, and potential actions or options county-wide and by community planning area.</li> </ul>   |
| Disaster Recovery Preparedness Activities                            | <ul style="list-style-type: none"> <li>▪ Presents recommended actions, conversations, and investments that should be implemented prior to a disaster to better prepare the county for effective and coordinated recovery.</li> </ul>   |

<sup>17</sup> Where appropriate, sections of the RSF strategy should be organized by community planning district to support scalability needed from depending on the extent of damages from a disaster.



### RSF 6 Insights and Lessons - Coastal Resource Assessment and Recovery Efforts from Hurricanes in Puerto Rico

The Commonwealth of Puerto Rico suffered significant damages as Hurricane Irma, a Category 5 hurricane, passed just north of San Juan in September of 2017. Two weeks later Hurricane Maria, a massive Category 4 hurricane, made landfall in Puerto Rico. The hurricanes' devastating impacts caused catastrophic damages to the social, structural, environmental, and economic sectors throughout the entire territory. Congress signed the Hurricane Maria Supplemental Bill in February 2018 which required the Commonwealth of Puerto Rico to deliver a Recovery Plan to Congress within 180 days. The NDRF was activated through Federal Emergency Management Agency's (FEMA) leadership to bring Federal resources from numerous agencies to provide funds to assist the Commonwealth with tasks such as damage assessments and plan formulation.

During the recovery plan development process there were several "firsts" related to how federal funds were utilized related to natural resources: At the request of the Commonwealth, FEMA funded for the first time post-storm coastal resource impact assessments for coral reefs, sea grasses, wetlands, mangroves, beaches and dunes. The request for these coastal resource assessments were funded because the Commonwealth made them a priority and stressed how the environmental services provided by the coastal resources all provide protection to life, property and their economy.

FEMA funded the collection of high-resolution post-storm topography data. Since an existing shoreline topography dataset existed from a 2016 lidar collection, a comparison with the post-storm dataset could be used to assess the amount of beach and dune loss was incurred due to the hurricanes. This was the first time FEMA has funded this type of data collection to assess the impacts of a natural resource and not specifically for the assessment of impact to the built environment. The Commonwealth used this information to inform their recovery strategies developed to provide protection to coastal residences, businesses, and infrastructure from future hurricanes, coastal erosion, and wave run-up.

Studies that have shown that coral reefs dissipate 97% of the wave energy helped convince FEMA to fund the post storm assessment of coral reefs and reattachment, another first for FEMA. National Oceanic and Atmospheric Administration conducted surveys of 414,354 m<sup>2</sup> of reef, assessed the impacts to over 80,000 corals, and reattached over 10,000 living corals to the reef at 40 different locations throughout Puerto Rico.

Key lessons learned from coastal resource assessment and recovery efforts:

- **Coastal resource assessments must be identified as a priority of and come from the State/Jurisdiction not from a Federal agency.** Presidential Disaster Declarations are issued at the request of the Governor of the State/Territory. No requests to FEMA can be processed without State/Jurisdictional approval.
- **Coastal resource impact assessment protocols should be developed and be in place prior to an event.** Priority resources of concern for different types of events should be identified before a disaster event. Post-event, quickly organize working groups per assessment protocol.
- **If the NDRF is enacted, engage early and often with the Natural and Cultural Resources (NCR) Recovery Support Function Coordinator.** Encourage the NCR Lead to engage with the Federal Coordinating Officer in support of requests for coastal damage assessments.
- **Help FEMA show success of recovery efforts early and often.** Commonwealth staff and federal staff working in the NCR Recovery Support Function worked with FEMA public affairs staff and the local media to help publicize how the coastal resources efforts would benefit the overall economic, structural, social, and environmental recovery of Puerto Rico.

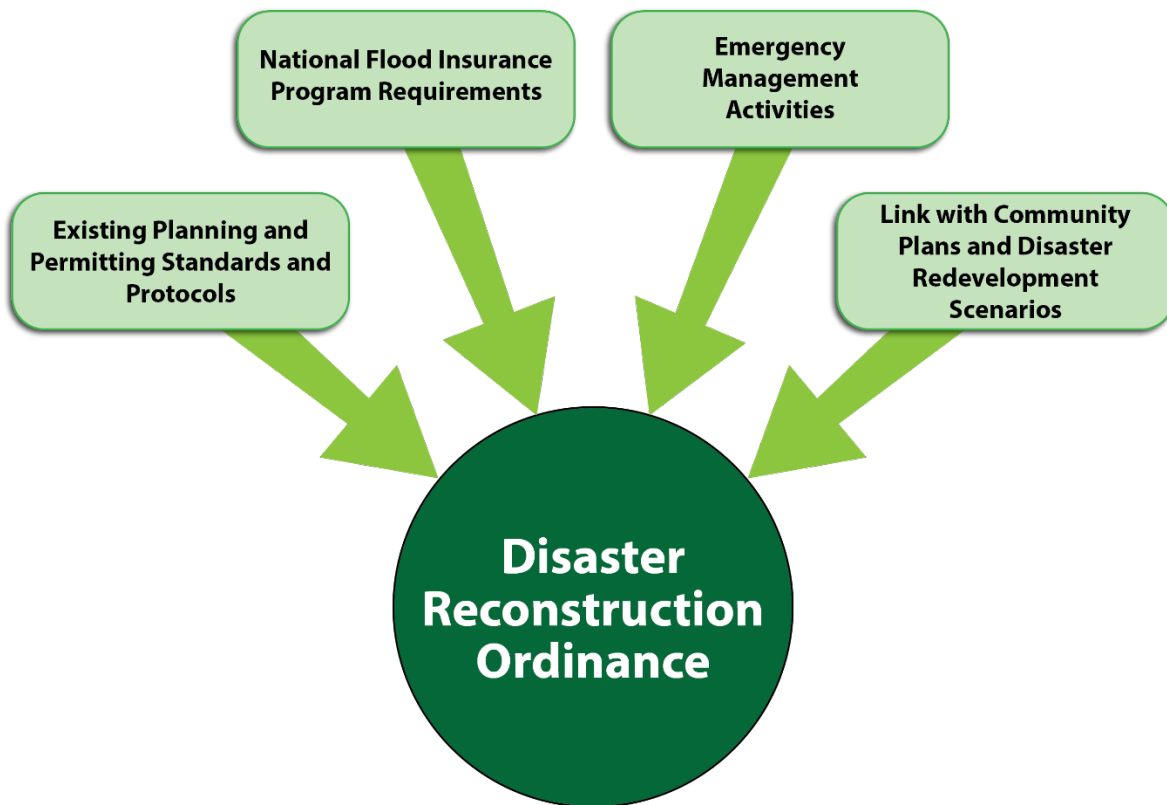
## Disaster Reconstruction Ordinance

The terms reconstruction and recovery are commonly understood to be interchangeable; however, the term reconstruction as used in this document relates to the reconstruction of private property. A Disaster Reconstruction Ordinance establishes legal authority to facilitate recovery, such as defining processes, procedures, and extraordinary actions regarding reconstruction activities. The ordinance is adopted before an event and establishes basic standard operating procedures for how permitting and regulation of reconstruction of private property will move forward after a disaster event. Because of this narrow focus, the APA model recovery ordinance was reviewed, and the portions determined to be most directly related to the reconstruction of private property were identified and expanded forming the model reconstruction ordinance discussed in this section. The basic premise is to balance speed with deliberation. Key characteristics of a Disaster Reconstruction Ordinance include:

- A protocol for expediting the permitting of minor repairs to enable residents to safely return to their homes and businesses to re-open.
- Allows for sufficient time for substantial damage assessment for buildings located in the special flood hazard area, which is necessary for all communities in Hawai'i since they all participate in the National Flood Insurance Program (NFIP).
- Enacts a temporary pause (moratorium) on new development to ensure strategic use of post-disaster resources.
- Enacts a temporary pause (moratorium) on rebuilding in highly impacted, high-hazard or environmentally sensitive areas to ensure community and ecosystem priorities are considered.
- Works to integrate disparate recovery-related processes, such as meeting NFIP requirements and ensuring the structural safety of buildings to increase agency coordination and situational awareness.
- Captures and prioritizes opportunities to rebuild resiliently and minimize environmental impacts.

The Disaster Reconstruction Ordinance gathers and builds on existing county planning and permitting standards and protocols as well as policies and processes of state and federal programs to ensure better interagency coordination and consistency post disaster (Figure 9). In addition, the Disaster Reconstruction Ordinance emphasizes linkages with community plans including disaster redevelopment scenarios developed as part of community plan updates or the creation of a Disaster Recovery Framework. Having standard operating procedures written down, before an event streamlines the implementation of protocols following a disaster and allows greater opportunity for community consensus building and vetting prior to a disaster event.

This document focuses particularly on reconstruction of private property within the much broader scope of recovery. The model reconstruction ordinance permitting procedures can be adopted stand-alone or as mandated through the adoption of the Disaster Recovery Framework.



**Figure 9. Disaster Reconstruction Ordinance integrates plans and protocols to streamline resilient reconstruction**

In reviewing the model reconstruction ordinance, each county should determine which sections are appropriate for inclusion. An alternative approach for counties to consider is adoption of a significantly reduced version of this ordinance that directs the appropriate county department to develop administrative rules outlined in the model reconstruction ordinance. Key regulatory and administrative considerations highly relevant to disaster reconstruction in Hawai'i, especially in coastal areas include but are not limited to the following:

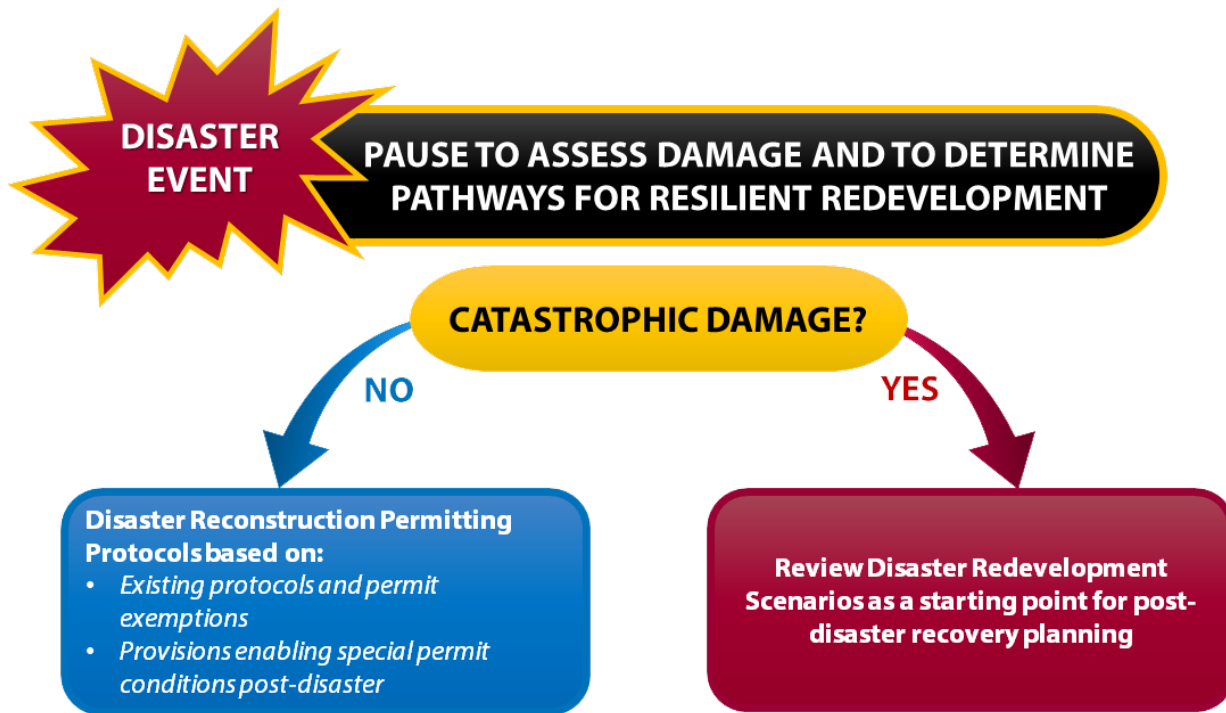
- **Building Codes**—The State of Hawai'i has adopted a state-wide minimum building code; however, some counties are still working toward adoption as of July 2018. County building codes may be modified to include to higher standards.
- **Hawai'i Coastal Zone Management Act (CZMA)**—The Hawai'i CZMA (HRS 205A) and Coastal Zone Management Program (CZM) serve as the State's coastal resource management policy umbrella and the guiding perspective for the design and implementation of allowable land and water use activities throughout the state. The purpose of Hawai'i CZMA and CZM Program is to "provide for the effective management, beneficial use, protection, and development of the Coastal Zone." All agencies must assure their statutes, ordinances, rules and actions comply with the CZMA's objectives and policies. The CZM area in the State of Hawai'i consists of the entire State

and the area extending seaward to the limit of the state's police power and management authority.

- **Hawai'i State Land Use Law.** The State Land Use Law (Chapter 205, Hawai'i Revised Statutes [HRS]) establishes a framework of land use management and regulation in which all lands in the State of Hawai'i are classified into one of four land use districts: urban, rural, agricultural and conservation. Permitting for local development is generally conducted pursuant to the zoning code or land use ordinance established at the county level.
- **National Flood Insurance Program (NFIP) and Community Rating System (CRS).** All counties in the State of Hawai'i participate in the NFIP thus meeting eligibility requirements for property owners to purchase flood insurance in exchange for county enforcement of the minimum flood damage prevention standards established by the NFIP. Two counties in the state, Hawai'i County and Maui County, participate in CRS and have enacted higher regulatory standards in return for resident discounts on flood insurance premiums in FEMA mapped flood hazard areas.
- **Conservation District Rules.** The DLNR Office of Conservation and Coastal Lands is responsible for overseeing and permitting land uses within private and public lands in the State Land Use Conservation District (HAR 13-5 and HRS 183C). The Conservation District includes beaches and submerged areas from the Certified Shoreline (annual highest wash of the waves) out to the seaward extent of the State's jurisdiction. The Conservation district boundary migrates with the Certified Shoreline (or where it would be located) with erosion and/or increasing landward wave run-up.
- **Shoreline Certification.** Shoreline certification (HRS 205A and HAR 13-10-222) plays an important role in the state of Hawai'i as follows: (1) setback lines (minimums are established by the state) are measured inland from the certified shoreline. The determination of a shoreline is usually valid for a period no longer than twelve months due to chronic and episodic natural hazard events; and (2) the certified shoreline establishes jurisdictional authority whereby lands seaward of the shoreline are administered by the state and lands landward of the shoreline are generally administered by the county.
- **Special Management Area (SMA) Permits.** The SMA permit is a management tool designed to assure that developments in the county SMAs designated pursuant to HRS section 205A-23 are designed and carried out in compliance with the CZM objectives, policies, and SMA guidelines. The SMA permitting system is administered by the county authorities and regulates development within the SMAs.
- **County Shoreline Setback and Special Management Area Policies.** In accordance with Hawai'i Coastal Zone Management Law (HRS Chapter 205A, the counties have created ordinances and administrative rules to establish shoreline setbacks to prohibit structures within the setback area. In Kaua'i and Maui, shoreline setbacks are based on historical annual rates of shoreline erosion.
- **Sea Level Rise Exposure Area (SLR-XA):** A SLR-XA based on 3.2 feet of sea level rise was modeled and mapped in the Hawai'i Sea Level Rise Vulnerability and Adaptation Report and may be viewed and downloaded from the Hawai'i Sea Level Rise Viewer

(hawaiisealevelriseviewer.org). The use of the SLR-XA as a hazard overlay is not codified in State or county law at the time of writing this document. However, in 2018 through executive order the mayors of Honolulu and Maui directed their county agencies to begin considering sea level rise and the SLR-XA in planning, permitting, and capital improvement.

The Disaster Reconstruction Ordinance is designed to support a pause to assess damage and determine pathways for resilient post-disaster reconstruction (Figure 10). Each county would need to define “catastrophic damage” to enable this pathway approach, which could build on existing policies defining percent thresholds for repair or improvement of existing structures. Damage assessment parameters that may be useful in defining catastrophic damage in an area might include: level of destruction of critical infrastructure, number or percent of structures assessed as major damage or destroyed, confluence of multiple hazard zones such as flood zones and sea level rise exposure, significant alteration of the shoreline. In defining or incorporating thresholds for catastrophic damage, attention should also be given to future risks (e.g., SLR-XA) and increasing potential for repetitive losses.



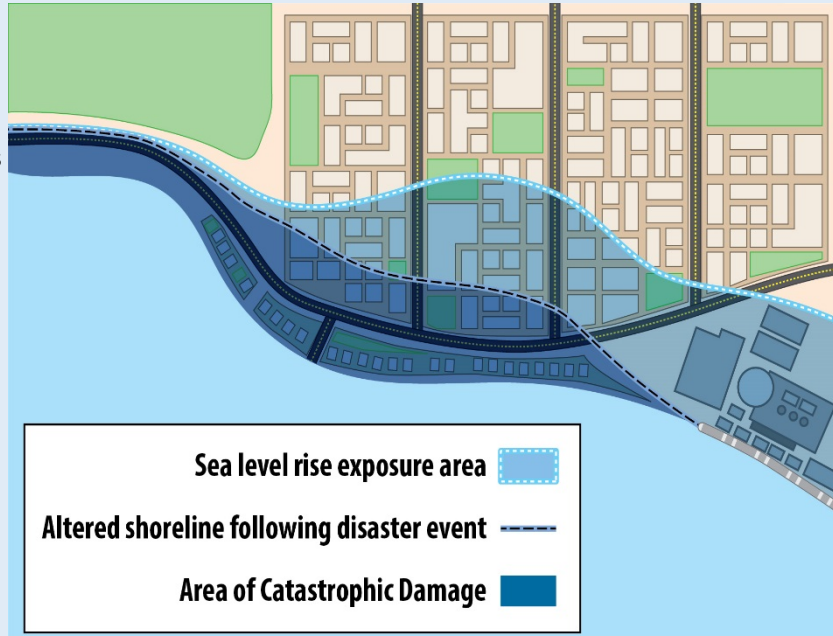
**Figure 10. Disaster Reconstruction Ordinance enables pausing to consider pathways for resilient reconstruction**

The reconstruction ordinance outline, purpose of each section, and guidance for the development of county-specific information is provided in Table 5. The model reconstruction ordinance can be found in Appendix A of this document. The reconstruction ordinance guidance is based on a review of academic literature and literature of practice. Relevant examples and resources are footnoted throughout the table that follows. In addition, guidance documents including those from the American Planning Association (2014b), Natural Hazard Mitigation Association (NHMA) (2018), City of Longboat Key (2007), City of

Marco Island (2001), and others were reviewed in developing the model disaster reconstruction ordinance.

### Disaster Events as Opportunities to Adapt to Sea Level Rise

The Hawai'i Sea Level Rise Vulnerability and Adaptation Report (Hawai'i Climate Mitigation and Adaptation Commission 2017) depicts areas that will be exposed to chronic flooding with sea level rise in mid- to latter half of this century. Many of these areas may not be able to support resilient and sustainable land use and development in the future. Communities will need to use a variety of land use tools as the number of days of chronic flooding increases impacting residents, businesses, and the county's ability to provide basic services.



Disaster events that cause extensive shoreline alteration and catastrophic damage to properties and critical infrastructure in areas exposed to sea level rise provide opportunities to pause and determine more resilient disaster reconstruction. A community that has developed disaster redevelopment scenarios and policies as part of their community planning process or disaster recovery framework may have a jumpstart on turning disaster into long term sustainable and resilient development (see example for Waikiki in Figure 7).

**Table 5. Reconstruction Ordinance Outline, Purpose, and Guidance [Adapted from American Planning Association (2014b)]**

| Section                         | Purpose   | Guidance   |
|---------------------------------|---|--|
| <b>Authority</b>                | Establishes the authorities under which the entity adopting the ordinance is acting.            | <ul style="list-style-type: none"> <li>▪ Ordinances should reference Hawai'i Revised Statutes §127A Emergency Management.</li> <li>▪ If the county has adopted a recovery ordinance, such as one establishing an RMO and directing the development of post-disaster permitting procedures, it should be referenced in this section.</li> </ul>   |
| <b>Purposes</b>                 | States the purposes for the ordinance. <sup>18</sup>  | <ul style="list-style-type: none"> <li>▪ Clearly state the key purposes or drivers for establishing the ordinance.</li> <li>▪ Counties may wish to provide the overarching purpose for each major section of the ordinance.</li> <li>▪ The purposes should clearly state if the procedures therein apply to public and/or private property.</li> </ul>   |
| <b>Initiation of Procedures</b> | Identify a clear triggering point for the procedures outlined in the ordinance to be initiated. | <ul style="list-style-type: none"> <li>▪ Counties should consider an automatic triggering event, such as an emergency declaration, rather than requiring that the procedures be initiated via an independent action.<sup>19</sup></li> <li>▪ If an emergency declaration is issued before any damage occurs (such as in severe storms) and the level of the event does not in the end rise to an emergency situation, the procedures may be lifted via a supplementary declaration and/or suspension of the declaration. In such instances, it is often the case that county offices (including permitting) are closed immediately preceding a major storm event; therefore, the disruption would not be anticipated to be significant.</li> </ul> |
| <b>Duration</b>                 | Identify a clear sunset period for the permitting procedures.                                   | <ul style="list-style-type: none"> <li>▪ Temporary provisions put in place following previous disasters have not had clear sunset clauses and, as a result, have been left in place for many years following an event.<sup>20</sup> A clear end point is useful in two regards:</li> </ul>   |

<sup>18</sup> Counties may also wish to clearly state what the purpose of the Chapter is and what it is not. For example, it is not the intent of the ordinance to alter existing land or building codes without due process. Section C of the Longboat Key, Florida ordinance provides such an example (City of Longboat Key 2007).

<sup>19</sup> After major flooding in the County of Kaua'i in 2018, post-disaster permitting procedures (County of Kaua'i 2018) were developed and adopted by the County Council.

<sup>20</sup> In 2013 County of Kaua'i Mayor Bernard P. Carvalho, Jr. requested that the planning commission repeal a 1997 ordinance "intended to facilitate the timely rebuilding of structures following the devastation of Hurricane Iniki." (Office of the Mayor 2018).

**Table 5. Reconstruction Ordinance Outline, Purpose, and Guidance [Adapted from American Planning Association (2014b)]**

| Section                   | Purpose   | Guidance  |
|---------------------------|---|---|
|                           |   | <ul style="list-style-type: none"> <li>– It helps to ensure that any expedited permitting procedures are being used to support reconstruction to the disaster event at hand, and</li> <li>– It clearly establishes that any moratoria or other temporary restrictions on reconstruction and development enacted are temporary in nature.</li> <li>▪ Consideration should be given to an appropriate length of time (which may or may not depend on the extent of damages) and how this timeframe may correspond/deviate from the established emergency period in the emergency declaration.</li> </ul>                  |
| <b>Area of Impact</b>     | <p>Defines where, in addition to the preliminary damage assessments, additional assessments will be conducted before reconstruction efforts should begin. Designation of an area of impact will be heavily reliant on the type/extent of the disaster and are intended to help county and other response and recovery agencies focus limited resources on areas that are most in need of additional assessment.</p> | <ul style="list-style-type: none"> <li>▪ Area of impact should be assumed to be county-wide unless stated otherwise</li> <li>▪ A method for communicating the area of impact to the public should be identified. Counties may wish to consider sending notice via certified mail to property owners within the area of impact; however, it is relatively common for there to be disruption to the mail system following a disaster event, so other methods and means of communication should be considered.</li> </ul>  |
| <b>Definitions</b>        | <p>Clearly define terms used throughout the ordinance.</p>  | <ul style="list-style-type: none"> <li>▪ Ensure that terms are clearly defined and are consistent with definitions in other county plans, programs, and ordinances.</li> </ul>  |
| <b>Damage Assessments</b> | <p>Establishes a standard protocol for damage assessments of private property to be conducted after a hazard event to determine the extent and location of damages and the reconstruction permit requirements.</p>  | <ul style="list-style-type: none"> <li>▪ Should include sections on damage assessment teams, rapid evaluation structural assessments, special flood hazard area substantial damage assessments, and shoreline damage assessments.</li> <li>▪ Given limited resources and the potential need for multiple types of assessment, it is possible that another agency (State or Federal) may be leading such efforts. If this is the case perishable data capture may not be feasible. It is important to consider; however, any feasible means for collecting damage assessment information in a manner that can</li> </ul> |



**Table 5. Reconstruction Ordinance Outline, Purpose, and Guidance [Adapted from American Planning Association (2014b)]**

| Section   | Purpose   | Guidance   |
|---|---|--|
| <b>Damage Assessment Teams</b>                                  | Describes who, at the county level, will be responsible for conducting damage assessments.                                  | <p>effectively and efficiently support the decision-making process during the rebuilding process and/or future mitigation efforts.</p> <ul style="list-style-type: none"> <li>▪ Damage Assessments are typically coordinated through the county emergency management staff; however, building code officials and other staff may be well suited to conduct such assessments and may be able to take on additional responsibilities pertaining to the coordination of these efforts given the limited emergency management staff in many counties and the direct relevance to building code officials' professional knowledge and expertise. It should also be noted that not all damage assessments suggested in this ordinance may be appropriate for all disaster events and may or may not be within the capabilities of each, individual county. Any efficiencies that can be achieved in reducing or consolidating the number and type of assessments is highly encouraged.</li> <li>▪ Due to limited staff resources, counties may wish to consider pre-identifying and training staff without pre-existing post-event responsibilities to conduct these assessments and/or establishing a list of qualified volunteers (e.g. engineers, retired code officials, etc.) to assist in these efforts. Whichever option is chosen, damage assessment teams should undergo regular training and exercises.</li> </ul> |
| <b>Rapid Evaluation Structural Assessments</b>                  | Provides a systematic process and methodology for assessing building safety immediately following an event.                 | <ul style="list-style-type: none"> <li>▪ If Rapid Evaluation Structural Assessments are not likely to be conducted in a county due to limited trained staff or other reasons, counties should consider how structurally unsafe, private structures will be identified.</li> <li>▪ Counties should carefully consider messaging to be included on this placarding to ensure that information is clearly and simply articulated and that it corresponds with messaging from other sources such as state and federal officials.</li> </ul>  |
| <b>Special Flood Hazard Area Substantial Damage Assessments</b> | Provides a systematic process for evaluating damage in the county special flood hazard areas and meeting federal compliance | <ul style="list-style-type: none"> <li>▪ Communities that participate in the NFIP (all Hawai'i counties) may choose to conduct large-scale substantial damage determinations on structures located within special flood hazard areas on the community's Flood Insurance Rate Map (FIRM). Communities that participate in the NFIP agree to enforce flood damage prevention regulations that specify that structures located in the special flood hazard area that sustain 50 percent</li> </ul>  |

**Table 5. Reconstruction Ordinance Outline, Purpose, and Guidance [Adapted from American Planning Association (2014b)]**

| Section | Purpose   | Guidance   |
|---------|---|--|
|         | <p>expectations with the National Flood Insurance Program (NFIP).</p> | <p>or more damage be brought into compliance with the community’s flood damage prevention ordinance regulations. Failure to do so has many impacts for property owners and has the potential to jeopardize the community’s participation in the NFIP if the regulations are not enforced. To be clear, compliance with regulations following substantial damage (or in the case of substantial improvement) is a minimum requirement of the NFIP regardless of the source of damage. The choice for the community is whether to conduct a proactive, comprehensive assessment of the impacted area or to address each property on case-by-case basis. If a community does not conduct large-scale substantial damage assessments following an event, then structures that require repairs of 50 percent or more should be flagged as substantial improvements when repair plans are brought to the community for permitting.<sup>21</sup></p> <ul style="list-style-type: none"> <li>▪ Conducting large-scale substantial damage determinations can assist property owners in making informed decisions about how to proceed after their homes or businesses have been damaged, pave the way for mitigation, and open up access to additional funding to elevate homes through increased cost of compliance clauses in NFIP flood insurance policies. Fifty percent is a minimum requirement and some communities, including those in Hawai’i, have higher standards and/or consideration of cumulative substantial damages/improvements.</li> <li>▪ The method by which each county determines how fair market value will be determined should occur before an event and should conform with FEMA standards for substantial damage estimation methods and any existing definitions in the county flood damage prevention ordinance. It should be noted that use of replacement cost value for such estimations may require a waiver by the FEMA regional office. It may also be useful for</li> </ul> |

<sup>21</sup> See the FEMA publication Substantial Improvement/Substantial Damage Desk Reference (FEMA 2010) and Answers to Commonly Asked Questions about Substantially Improved/Substantially Damaged Buildings (FEMA 2018a).

**Table 5. Reconstruction Ordinance Outline, Purpose, and Guidance [Adapted from American Planning Association (2014b)]**

| Section   | Purpose   | Guidance  |
|---|---|---|
|   |   | county staff to confer with building code officials to determine how values are determined for substantial improvement determinations that occur during steady-state operations. <sup>22, 23</sup>  |
| <b>Shoreline Damage Assessments</b>                                       | Establishes a protocol for ensuring shoreline restoration activities are considered holistically within the broader goals and priorities of the County and the State of Hawai'i Coastal Zone Management Law (HRS 205A), avoiding a piecemeal approach that perpetuates risks or results in environmental externalities, to best meet the needs and obligations of the County. | <ul style="list-style-type: none"> <li>▪ A rule or memorandum of understanding/agreement that describes procedures for shoreline certifications in the event of a disaster resulting in large-scale changes to the shoreline may be needed as well as preestablished protocols for ensuring close coordination between county departments and the relevant state agencies should be developed.</li> </ul> |
| <b>Designation of Areas of Catastrophic Levels of Damage<sup>24</sup></b> | Establishes a mechanism to allow for reconsideration of development patterns and/or standards in areas that were significantly impacted by  | <ul style="list-style-type: none"> <li>▪ Disasters allow for the opportunity to correct vulnerable development patterns and to revisit development decisions that may have had unintended consequences. For example, development decisions made decades ago have different implications in the present day and near future because of the impacts of sea level rise. Generally,</li> </ul>                |

<sup>22</sup> Lee County, Florida has different definitions of building value depending on whether a disaster is a major or catastrophic disaster event. Replacement value is defined as market building value contained in the Lee County Property Appraiser's file multiplied by 120 or 150 percent, respectively (See Document 47). Longboat Key, Florida also uses a percentage of assessed value (27 percent – (Lee County).

<sup>23</sup> For more information see FEMA (2010) and FEMA (2017a) for more information on substantial improvement/damage and FEMA's Substantial Damage Estimator tool and FEMA (2018a) for Answers to Commonly Asked Questions about Substantially Improved/Substantially Damaged Buildings

<sup>24</sup> If Counties are uncomfortable with the term "catastrophic damage" another term may be substituted. The term catastrophic was recommended as it did not align with other commonly used terms with different meanings, such as "major" or "substantial." Whatever term the County prefers, it is intended to define the damage level at which the county may want to pause to reconsider underlying regulations (e.g. building code, land use, etc.).

**Table 5. Reconstruction Ordinance Outline, Purpose, and Guidance [Adapted from American Planning Association (2014b)]**

| Section | Purpose  | Guidance   |
|---------|--|--|
|         | <p>the disaster event. This will ensure that reconstruction efforts can proceed expeditiously in areas where such reconstruction has been deemed appropriate while also ensuring opportunities for resilient reconstruction in areas that were badly damaged and prone to increasing future impacts, thus breaking the damage/rebuilding cycle.<sup>25</sup></p> | <p>transformative change will occur through a holistic reassessment of areas that were catastrophically damaged and may build on already existing resources, such as long-range planning documents including community development plans.<sup>26, 27</sup></p> <ul style="list-style-type: none"> <li>▪ There is no single definition of catastrophic damage – it depends on community needs and damage assessments. Counties may wish to designate a specific threshold for damage and/or leave such a designation to the discretion of the Director. In general, catastrophic damage should be interpreted as a level of damage that results in significant alteration of the shoreline; causes extensive damage or destruction of residences; causes extensive damage or destruction of facilities that provide and sustain human needs; produces an overwhelming demand on State and local response resources and mechanisms; causes a severe long-term effect on general economic activity; and/or causes damage that challenges pre-disaster understanding of the location, extent, and/or magnitude of risk.</li> <li>▪ Counties may wish to designate such areas using a different name depending on local preference (e.g. extremely damaged areas, adaptation areas, significantly impacted areas, etc.).</li> </ul> |

<sup>25</sup> Lee County Florida defines a catastrophic disaster as “a disaster that will require massive state and federal assistance including immediate military involvement” (Lee County).

<sup>26</sup> Boulder County has integrated procedures for establishing a post-disaster rebuilding moratorium into its Land Use Code. The Code contains an entire section titled “Procedures Following Disasters.” (City of Boulder , Colorado State Department of Local Affairs and University of Colorado Denver).

<sup>27</sup> The companion guidance document to this effort, *Guidance for Addressing Sea Level Rise in Community Planning*, provides additional discussion on the development of disaster redevelopment scenarios that can be used as a starting point after a community sustains catastrophic levels of damage. The Disaster Reconstruction Ordinance should include a provision that points to a community plan that has developed a disaster redevelopment scenario as the starting point for a post-disaster reconstruction.

**Table 5. Reconstruction Ordinance Outline, Purpose, and Guidance [Adapted from American Planning Association (2014b)]**

| Section   | Purpose   | Guidance   |
|---|---|--|
| <p><b>Post-Disaster Permit Requirements</b></p> | <p>Specifies any exceptions to standard permitting procedures within the county.<sup>28</sup></p> | <ul style="list-style-type: none"> <li>▪ Exceptions to Permit Requirements—County staff should determine if they are willing to expand the list of exceptions to permitting requirements in order to expedite post-event repair. If staff does not wish to expand these exceptions, the ordinance and public messaging should ensure that any exceptions and the circumstances in which they apply are made clear. It is recommended that exceptions not be made for any repair activity that requires work to code, such as plumbing or electrical work. Counties may want to consider that notification of repairs meeting these expanded exceptions be required via an online reporting system. Such as system should be developed prior to an event and penalties for nonreporting should be clearly articulated.</li> <li>▪ Special Flood Hazard Area Permits—The model reconstruction ordinance proposes a reporting and blanket permitting system that will allow the county to meet NFIP permitting requirements while reducing the burden on county permitting staff.</li> <li>▪ Historic Buildings—Counties should establish a database of listed and qualified historical buildings before an event to ease the burden of identification after a disaster.</li> <li>▪ Cultural Resources—Counties should work with the State and organizations and practitioner to establish a database of cultural resources before an event to ease the burden of identification after a disaster</li> <li>▪ Permit Fees—Counties should determine how they wish to handle fees for permits before an event. It is common for fees to be waived after a disaster event; however, this can have significant impacts to county finances, especially when combined with any tax reassessments and adjustments conducted after a major event.<sup>29</sup></li> </ul> |

<sup>28</sup> An ordinance in the City of Fremont, California specifically addressed requirements for Post-Disaster Demolition that differ from standard demolition procedures within the City (City of Fremont 2002).

<sup>29</sup> The City of Richland, South Carolina waived permit fees for storm related damage following the 1,000-year flood event in 2015 (Richland County 2015).

**Table 5. Reconstruction Ordinance Outline, Purpose, and Guidance [Adapted from American Planning Association (2014b)]**

| Section                                    | Purpose  | Guidance   |
|--|--|--|
|  |  | <ul style="list-style-type: none"> <li>▪ <b>Nonconforming Buildings and Uses</b>— Before an event, counties should inventory existing policies regarding nonconforming buildings and uses and determine how nonconforming structures and uses will be handled post-event. It is recommended that the county maintain existing standards for addressing nonconforming uses. Once policies are inventoried, a database of known nonconforming structures/uses should be developed.</li> <li>▪ <b>Current Regulatory Standards</b>— Within the body of the ordinance , counties should clarify that structures are to be repaired and reconstructed to current regulatory standards.</li> </ul> |
| <b>Post-Disaster Permitting Procedures</b> | Specifies permitting procedures and any changes in those procedures within the county for post-disaster reconstruction of private property, including privately owned infrastructure and other development, that will assure a balanced approach to expedited and resilient reconstruction <sup>30</sup> . | <ul style="list-style-type: none"> <li>▪ Counties should adapt the purposes and subsequent permitting procedures to align with community goals and preferences. It is likely that different communities will have different needs/preferences for how post-event reconstruction should occur. If desired, counties may want to specify how these preferences differ by community planning area or other designation.<sup>31</sup></li> <li>▪ Other ordinances/underlying regulations for things like grading and filling/erosion and sedimentation control/retaining wall repair or reconstruction should be referenced as appropriate.</li> </ul>   |

<sup>30</sup> All counties expressed a range of difficulties in post-disaster permitting such as the time needed for building permits to be processed by multiple departments, structures built without permits and therefore not in the county database, and the reluctance of some property owners to get permits. This is exacerbated in properties damaged along the shoreline where owners may illegally construct seawalls or place rocks to protect their property after a disaster event.

<sup>31</sup> The Maui County 2015 planning effort upon which this effort builds, includes information on extensive public outreach that was conducted in order to identify community-specific preferences that would be incorporated into a reconstruction ordinance and/or administrative rules. There are several examples in the current Maui County Code where communities have different standards based on community needs and preferences. Such preferences may be evident in existing documents, such as community development or area plans.

**Table 5. Reconstruction Ordinance Outline, Purpose, and Guidance [Adapted from American Planning Association (2014b)]**

| Section                        | Purpose  | Guidance   |
|--------------------------------|--|--|
| <b>One-Stop Service Center</b> | Provides a singular location where impacted residents can talk to a variety of permitting and other recovery staff.  | <ul style="list-style-type: none"> <li>▪ Consider incorporating a provision for pre-approved house plans to expedite permitting and reconstruction<sup>32</sup>.</li> <li>▪ Counties may want to list the relevant departments who should be represented at one-stop service centers.</li> <li>▪ The location, business hours, and services available should be widely publicized.</li> <li>▪ State departments should be invited to send relevant staff to answer questions about State requirements and/or provide temporary staffing support the county.</li> <li>▪ In the event of a major disaster, consider co-locating with a Disaster Assistance Recovery Center.</li> </ul>   |
| <b>Moratoria<sup>33</sup></b>  | Phased moratoria provide a mechanism to ensure a brief pause to evaluate damages before reconstruction begins. Moratoria are designed to help expedite or triage reconstruction in areas that have sustained minor damage and allow for careful consideration of redevelopment scenarios in areas that have sustained catastrophic | <ul style="list-style-type: none"> <li>▪ Initial Moratorium—Counties should note that immediately following a major disaster event, it is likely that permitting offices will be closed or significantly disrupted. Concern has been raised through stakeholder discussion about defaulting to an initial moratorium. It should be noted that the initial moratorium outlined in the model reconstruction ordinance is intended to be of a short duration to allow time for damage assessments to occur in order to determine which areas have been significantly or catastrophically impacted. It should also be noted that it is likely that a <i>de facto</i> moratorium would occur during this time period as a result of permitting offices being closed and continuing response efforts. Any efficiencies gained in the damage assessment process would reduce the amount of time needed for the initial moratorium to be in effect.</li> </ul> |

<sup>32</sup> Hawai'i County has pre-approved model homes in the building code that can be used for post-disaster reconstruction. People have not previously selected these models as most want to customize their homes. In response to the lava flow, the County suggested that this existing provision in the building code could help people get into new housing quickly.

<sup>33</sup> Following major flooding in Colorado in 2013 the Town of Jamestown and the Town of Evans imposed building moratoriums (Colorado State Department of Local Affairs and University of Colorado Denver). The Town of Longboat Key, Florida and the City of Marco Island, Florida have developed conditions under which a moratorium may be declared. These conditions include provisions for an initial building moratorium, an allowance for a moratorium if 50 or more structures have received major damage or have been destroyed, and phased moratoria for destroyed, major and minor damaged structures (City of Longboat Key 2007, City of Marco Island 2001).

**Table 5. Reconstruction Ordinance Outline, Purpose, and Guidance [Adapted from American Planning Association (2014b)]**

| Section | Purpose   | Guidance   |
|---------|---|--|
|         | <p>damage and may be prone to repeat impacts.</p> | <ul style="list-style-type: none"> <li data-bbox="930 313 1906 613">▪ Continued Moratorium—This is intended to provide a period wherein extensive damage assessments require extended periods, there is a need for engineering studies to clearly identify hazards and determine proper solutions, or to allow post-disaster policies or procedures to be enacted. It is noted that a continued moratorium may not significantly delay reconstruction activities as funding such as insurance payments and small business administration loans in the event of a major disaster, take time to secure and can act as a <i>defacto</i> moritorium. Many impacted residents will not be able to proceed with repairs until these funds are approved and received.</li> <li data-bbox="930 621 1906 803">▪ Each county should ensure that moratoria procedures comply with any relevant state and local laws. Such requirements may include local authority and specific notification procedures. If counties prefer to not establish an initial moratoria, considerations should be made to how the increased demand for permits will be met, such as training additional staff in permitting protocols and to help staff one-stop permitting centers.</li> </ul> |



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## Exercising the Disaster Recovery Framework and Ordinances

Just as emergency responders exercise their emergency response plans and protocols, county departments involved in disaster recovery should exercise the disaster recovery ordinance/framework and reconstruction ordinance with key stakeholders, ideally leveraging recurring events such as the statewide Makani Pahili exercise. Exercises should include representatives from all county departments and recovery partners to facilitate practicing roles and responsibilities and effective messaging to the public regarding processes and procedures for recovery and reconstruction. A sample scenario to use during such an exercise is available in Appendix C of this Guidance. This exercise was tested at a workshop during the Pacific Risk Management 'Ohana conference with participants from local government and community throughout Hawai'i, federal partners including National Oceanic and Atmospheric Administration (NOAA) and FEMA, and invited subject matter experts.

An exercise, such as that provided in Appendix C, could be used to help counties begin planning for disaster recovery as well as an activity to help finalize a Disaster Recovery Framework and Ordinances. Counties may wish to conduct a workshop exercise before developing a reconstruction ordinance or disaster recovery framework in order to identify current roles and responsibilities (Appendix A), initial concerns and challenges, and potential opportunities or synergies. After draft processes and protocols have been developed, counties may wish to create a second scenario that will be used to conduct a dry run of the draft processes and protocols. It is recommended that a different scenario be used so that the county can test that draft processes for their flexibility and scalability and ensure that they are not specific to a particular disaster event.<sup>34, 35</sup> In addition, repeating a workshop scenario exercise with draft processes and procedures may allow participants to identify more detailed needs, such as equipment, data, or communication, as they work through the details or the established processes.

## Communication and Public Messaging Strategies and Protocols

Timely, consistent, and factual communication regarding recovery and reconstruction should be a top priority for all counties. Residents are largely unfamiliar with existing policies and a growing number of coastal properties are owned as second homes or income properties. Business owners traditionally are also unfamiliar with the recovery services available after a disaster and it is important to get the economy back up and running so goods and services can be provided and residents can return to work. Misinformation can spread quickly when there is a lack of information coming from a reliable source. As

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<sup>34</sup> There are a number of basic scenario events available on line that can be used as starting points for developing county scenarios to workshop disaster preparedness processes. Counties may wish to use their hazard mitigation plan and emergency management plans to tailor these scenarios to probable hazard events. The workshop scenario available in Appendix B was roughly based on information provided in the *2015 Hawaii Catastrophic Hurricane Plan*.

<sup>35</sup> Wu and Lindell (2004) suggested that the more recovery issues can be thought through in advance, perhaps by means of disaster scenarios, the greater will be the efficiency and quality of post-impact decision-making (see also Geis (1996) Haas et al., 1977; Olson et al., 1998). See also FEMA publication Foresight Workshop How-to-Guide (available at: [https://www.fema.gov/media-library-data/1422989258096-6aeb946a17ccb021d5d994fa1b3218b5/5\\_SFI\\_Foresight\\_Workshop\\_How-to-Guide.pdf](https://www.fema.gov/media-library-data/1422989258096-6aeb946a17ccb021d5d994fa1b3218b5/5_SFI_Foresight_Workshop_How-to-Guide.pdf))

part of any disaster recovery preparedness approach, a communication strategy should be developed that enables two-way communication that not only informs the public about how and when to repair and reconstruct but also acts as a mechanism for reporting back and providing information, such as through damage assessment teams and the one stop service center, about what people are hearing in the community, especially concerns or misinformation.

Information gleaned from the community in the short-term recovery may have significant impacts for long-term recovery efforts. For example, county officials may be making an underlying assumption that impacted community members wish to rebuild in exactly the same manner as before the disaster event. However, some residents and communities may be interested in rebuilding in an altered development pattern (e.g., increased setbacks, more resilient designs, restored nature-based protection), while others may be looking for opportunities to rebuild entirely out of the hazard area., e.g., through relocation or buyouts. Because disaster events disrupt the social fabric and informal communication networks, asking impacted residents qualitative questions while assessing damage may provide an early opportunity to hear from residents on their needs and preferences for recovery.

**Communication Goals for Disaster Recovery  
(County of Maui 2015)**

- Provide the public with clear and unambiguous instructions
- Dispel misinformation and rumors
- Instill civic responsibility and community stewardship
- Provide timely updates and helpful information to the public

Special attention should be paid to working with VOADs through a communication and public messaging strategy. VOADs frequently mobilize quickly after a disaster event and

may not always be familiar with the specific land use and development requirements of a local community. In addition, many VOADs and the residents that they are assisting may not be aware that all labor, including volunteer labor is to be included in substantial damage assessments in a community's special flood hazard area. Further, because VOADs mobilize so quickly after an event and are eager to assist impacted residents, assistance in rebuilding may be accepted by residents before they are aware of or have considered all of their recovery options. This may be especially true for economically disadvantaged residents or communities who lack event-related insurance or cash reserves to support rebuilding.

Once a county has developed a recovery framework or reconstruction ordinance, a communication and messaging strategy can be used for a variety of mediums including, newspaper, flyers for inspectors to distribute, radio public service announcements, tweets, Facebook messages and website announcement. Public messaging may include:

- Messages to clarify that emergency proclamations and associated waivers do not apply to reconstruction of private property
- Messages on provisions of the Disaster Recovery Framework or Ordinances
- Messages specific to permitting by property damage types and levels, fees, inspections
- Messages on the types and timing of damage assessments

- Messages on any specific considerations for reconstruction in specific areas such as Conservation District Lands or special flood hazard areas
- Messages specific to industry groups supporting recovery such as contractors and volunteer organizations
- Messages specific to impacted communities on disaster recovery and reconstruction efforts
- Messages on financial assistance and support especially on insurance types, applicability, and requirements (both for residents and business owners)

Many example messages were developed in the previous work for the Post-Disaster Reconstruction Guidelines and Protocols for Maui County (County of Maui 2015). Some of this messaging can be compiled into a property owner checklist especially those provisions that relate to the Disaster Reconstruction Ordinance. A property owner checklist and other communication messages were included in Maui County's report and can serve as an example for other counties.

### Example Property Owner Checklist from County of Maui (2015).

| GUIDELINE B – PROPERTY OWNER CHECKLIST  |             |  |
|---|-------------|--|
| Pay close attention to the following requirements in order to help facilitate expedited review and treatment of your repair or rebuilding request. Keep careful records of your repair or reconstruction efforts. |             |  |
| No.   | Topic       | Instructional Message  |
| B1  | Protocols   | Read the Planning Department publication entitled <i>Protocols for Post-Disaster Reconstruction in Maui County</i> . Document the types of damages incurred on your property and its buildings or structures. Take note of the type of damage, the shoreline type nearest your property, and the alpha-numeric code of each protocol that is applicable to your situation. County permits and inspections, as an example, may be required as proof to obtain property and flood insurance payments.                                  |
| B2  | Photographs | Take before and after photographs of the damage along with any emergency repairs you believe necessary to prevent the structure from failing. Gather past photographs of the building taken before the disaster event.   |
| B3  | Documents   | Assemble any past site plans or construction drawings related to the building, structure and/or property. Include any past government approvals or County permits that you may have on file.   |
| B4  | Placards    | Note on any correspondence which building(s), if any, have green, yellow or red placards placed there by FEMA or government disaster assessment teams.   |
| B5  | Amenities   | Amenities are accessory structures. Note those that are damaged, removed or demolished, along with any temporary repairs conducted to prevent the structures failure, such as shoring up of a carport.   |
| B6  | Plans       | Building and repair plans need to be stamped by an architect licensed in the United States. Plans must have the license number and date, month and year of the license expiration. Using a Hawaii-licensed architect may save you considerable time and money, as they should be familiar with acceptable designs and State and County building, fire, utility, zoning and flood code requirements. Ask the architect if he or she is familiar with the International Building Code 2006 used by Maui County.                        |
| B7  | Contractors | Get the Hawaii contractor's license number and an itemized quote for all work performed. When making repairs or reconstructing your homes and buildings, it is important to use a Hawaii-licensed contractor, as he or she should be more familiar with current state building codes and requirements. <b>Work conducted by unlicensed contractors may have to be removed and redone!</b>  |
| B8  | Inspections | Make sure contracted work is inspected by government officials twice—first, when the work is being done, and, second, when it is completed. This is in your best interest because inspections will help ensure corrective action can be taken before the repair is finished and the contractor's work is complete. Require that the work adheres to the International Building Code 2006 to comply with Maui County regulations.   |
| B9  | Permits     | At this time in the recovery process, <i>after-the-fact (ATF) permits</i> will not be issued by the County. ATF permits can void your insurance payments, hamper federal disaster assistance, and hinder sale of your property. Ultimately, ATF permits may require removal of the repairs made and new repairs made using the traditional, non-expedited permitting procedure. Avoid the extra costs and risks involved and obtain proper County approval of needed work using the instructions and damage procedures listed above. |
| B10   | Fees        | Permit fees may be waived by the County for storm related repair and reconstruction activities. Non-storm related new construction or subdivisions may not be accepted or processed temporarily until resources become available. Check with the   |

A communication plan is an essential component of disaster recovery. Developing a template and prepopulating that template to the extent practicable with information before a disaster event will help jumpstart disaster recovery and reconstruction efforts. An example template of a communication plan for a disaster recovery project is provided in Table 6.

**Table 6. Example Communications Plan Template for Recovery Projects (from Snohomish County, Washington, Disaster Recovery Framework (2017))**

|   |
|---|
| <b>Communications Plan for:</b> [Enter Project Topic/Name]<br><b>Prepared by:</b> [Enter Name]<br><b>Date of Document:</b> [Enter Date]   |
| <p><b>Background</b><br/>                 [Provide relevant background on the incident, the project, and any related efforts]</p> <p><b>Scope of Project/ Overview</b><br/>                 [Discuss the project as if explaining it to media or the public. Include timeline, financial information, community engagement, and other significant details]</p> <p><b>Key Media Contacts</b><br/>                 [Please refer all media inquiries to the following [County] representatives: Provide at least two names, emails, and phone numbers]</p> <p><b>Outreach to Affected Community</b><br/>                 [Describe how those directly affected by the disaster will be informed and updated on the project status]</p> <p><b>Community Awareness</b><br/>                 [Describe how the broader area community will be notified of the project and/or status as appropriate]</p> <p><b>Partner Awareness</b><br/>                 [Describe how key stakeholders/partner agencies will be kept up to date on the project, if appropriate]</p> <p><b>Other</b><br/>                 [Include any reference material, talking points, visuals, or other items that will benefit the plan]</p> |
| <p><b>Approved by:</b> [Enter Name (Recovery Manager or Lead)]<br/> <b>Date:</b> [Entry Date]</p>   |

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## 5. County, State, and Federal Coordination for Disaster Recovery Preparedness

Greater attention should be placed on the multiple roles that States play in supporting county disaster recovery pre- and post-event (Smith, Sabbag, and Rohmer 2018). Coordination with federal and state partners including emergency management and regulatory offices is critical for the success of county disaster recovery preparedness activities for two primary reasons: (1) State resources are frequently called in to support local staff and resources in the event of a disaster event that overwhelms county capabilities, (2) State plans, policies, and statutes influence aspects of local recovery efforts. This section highlights key areas for county-state coordination for disaster recovery preparedness, and (3) Federal agencies provide technical support before, during, and after disasters.

### Emergency Proclamations and Waivers

An emergency as defined by the Hawai'i Revised Statutes (HRS) is “any occurrence, or imminent threat thereof, which results or may likely result in substantial injury or harm to the population or substantial damage to or loss of property” [HRS §127A-2]. A disaster is defined as “any emergency, or imminent threat thereof, which results or may likely result in loss of life or property and requires, or may require, assistance from other counties or states or from the federal government” [HRS §127A-2]. The governor may declare a state of emergency via proclamation if an emergency or disaster has occurred or is in imminent danger of occurring and the mayor of each county may declare a local state of disaster in the same circumstances. Both the governor and the mayor are the sole judge of whether or not to issue an emergency proclamation. Emergency management is administered at the state level by HI-EMA and at the county level by the county civil defense or emergency management agency. However, the HRS reserves the following power for the governor, in the event of disaster or emergency beyond local control, or an event which, in the opinion of the governor, is such as to make state operational control necessary, or upon request of the local entity, [the governor can] assume direct operational control over all or any part of the emergency management functions within the affected area” [HRS §127A-13(4)].

In general, an emergency proclamation is issued to accomplish two goals: 1) to activate the jurisdiction's emergency plan, thereby authorizing and directing jurisdiction resources to carry out their emergency responsibilities; and 2) to allow the jurisdiction to waive and/or suspend its laws, regulations, and administrative rules that may stand in the way of responding to the emergency incident. Many times, these waivers relate to the administrative and financial rules that delay the expenditure of public funds. During an emergency, the jurisdiction needs the flexibility to quickly purchase emergency supplies and equipment, allocate staff time, and contract with vendors to help save lives and protect property and the environment from the impacts of the emergency. By waiving certain rules, the jurisdiction can quickly make these expenditures without having to follow the normal procurement process during response and short-term recovery. Under the HRS, Section 127A-14, the duration of the state of emergency proclamation is limited to no more than sixty days, unless it is renewed by the governor (for state

declarations of emergency) or mayor (for local declarations of emergency). A jurisdiction can only waive or suspend its own laws/regulations/rules. A county cannot waive state requirements, and a state cannot waive federal requirements.

- County governments should work with State counterparts to clarify the process for identifying which statutes are waived and to develop a common set of messages about the applicability of waivers to reconstruction for private property. A review of emergency proclamations issued between 2011 and 2016 (Sabbag, 2016) identified a long list of statutes that were suspended during these emergencies as well as some inconsistencies in language. These inconsistencies created ambiguity as to whether or not the suspensions applied to both public and private structures. During a state level clarification meeting with the project team on October 23, 2017, the Supervising Deputy Attorney General from the State of Hawai'i Department of the Attorney General confirmed that despite this specific language not being included in the declaration, it should be understood that the waivers in emergency proclamations only apply to public entities, and only suspend sections and provisions of State laws and regulations that pose a barrier to carrying out emergency operations.<sup>36</sup> Counties can work with the State to:
  - Ensure the following statement is included in all emergency proclamations to clarify that the waiver of environmental statutes is for public infrastructure only: "In order to provide emergency disaster relief and to repair, restore, rebuild, with any necessary improvements, any public structures, facilities, roadways or bridges damaged by this event, I hereby suspend as allowed by federal law, the following additional statutes:"
  - Develop a template emergency proclamation that includes the above statutes and phrasing to demonstrate the intent of each waiver.
  - Ensure the State has comprehensive knowledge of a county's disaster recovery preparedness activities so that a county's disaster reconstruction ordinance is not inadvertently waived by a state-level emergency proclamation.
  - Consider developing public outreach messaging that makes clear that emergency proclamation waivers do not apply to private property.<sup>37</sup>

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<sup>36</sup> Beyond the inability of States to waive or suspend Federal laws via the emergency proclamation process, it should be noted that Federal disaster reimbursement and grant programs generally require strict adherence to existing laws and regulations. Anecdotally, confusion over waivers tends to be particularly prevalent for environmental laws. The reader may wish to consult Gerrard (2006) for additional discussion of this issue.

<sup>37</sup> It should be noted that the review of emergency proclamations conducted over the course of the development of this Guidance was focused on State level emergency proclamations. Any such proclamations or declarations issued at the county-level should have the unintended potential for misunderstanding the intent and purposes of any waivers of county laws and ordinances.

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## State Shoreline Requirements and Disaster Reconstruction

As described in Regulatory Considerations for a Disaster Reconstruction Ordinance, the Certified Shoreline is the jurisdictional boundary between the State Conservation District (beach or submerged lands) and the county-administered SMA on the landward side, and also serves as the baseline for shoreline construction setbacks. Together, county permitting departments and the State of Hawai'i Department of Land and Natural Resources Office of Conservational and Coastal Lands (OCCL) and the Land Division should examine policies and practices as they apply in cases of emergencies, imminent threat, and encroaching and/or damaged shoreline structures after a disaster event. This can lead to better coordination, development of protocols, and possibly revised administrative rules to better enable communities and government to capture opportunities to build back in a manner that will be more resilient to future disasters and ensure the conservation of beaches and coastal environments. Areas for focused consideration and coordination in the context of disaster reconstruction include: (1) jurisdiction around the shoreline, particularly if substantial erosion and land loss has occurred, (2) interplay and overlap of conservation district rules and SMA regulations around the shoreline, and (3) protocols for shoreline damage assessment and information sharing.

The certified shoreline in Hawai'i is defined as “the upper reaches of the wash of the waves, other than storm and seismic waves, at high tide during the season of the year in which the highest wash of the waves occurs, usually evidenced by the edge of vegetation growth, or the upper limit of debris left by the wash of the waves” [HRS §205A-1]. The process by which shorelines are certified is described in the Hawai'i Administrative Rules (HAR) Title 13, Sub-Title 10, Chapter 222. All areas landward of the certified shoreline are primarily under county jurisdiction, while those areas seaward of the certified shoreline are under state jurisdiction (to the territorial limits of the state). According to the *Post-Disaster Reconstruction Guidelines and Protocols* (County of Maui 2015) this may become problematic in instances where the shoreline has been artificially hardened (e.g. by a seawall or revetment) as the shoreline may be located in the midst of or migrate landward of a structure. Once determined, the certified shoreline is valid for no more than 12 months unless the shoreline is fixed by an approved, artificial structure [HAR §13-222-11]. County setback provisions utilize the certified shoreline as a baseline. Setback requirements vary by county; however, no county can establish setbacks less than the state minimum requirements.<sup>38</sup>

The Shoreline Certification administrative rules include provisions for the restoration of shoreline that is lost as a result of natural hazards including subsidence due to earthquake, storm or tidal waves. In such an instance, a property owner *may* apply for certification “at or near the location which existed immediately prior to the event that resulted in the property loss” [HAR §13-222-18], at the DLNR Chairperson's discretion. A property owner must submit an application to restore the lost shoreline within one year of the time of the event that caused the loss.<sup>39</sup> If the shoreline is not restored within the allotted

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<sup>38</sup> State minimum setbacks of 20 to 40 feet from the shoreline are established under HRS Section 205A-43 and 205A-45. Counties may expand the setback area beyond the minimum requirements.

<sup>39</sup> It should be noted that the rules indicate that a property owner may apply for certification and may submit an application to restore lost shoreline. This should not be construed to mean that such applications will be granted in every instance.



timeframe, then the pre-event location of the shoreline may not be certified. The certified shoreline is also used to determine the “right of transit” for public access known as the “beach transit corridors.” Building or installing new structures or initiating new land uses on conservation land including beaches require a Conservation District Use Permit and an easement from the Board of Land and Natural Resources and State Legislature.

The administrative rules regarding Conservation District Use Permits explicitly address emergency permits. Emergency permits can be issued at the discretion of the chairperson or deputy director of the department if it is determined that a land use is “essential to alleviate any emergency that is a threat to public health, safety, and welfare, including natural resources, and for any land use that is imminently threatened by natural hazards.”<sup>40</sup> These actions shall be temporary in nature to the extent that the threat to public health, safety, and welfare, including natural resources, is alleviated (e.g., erosion control, rockfall mitigation).” The rules further indicate that “Where a natural disaster has occurred, such as a hurricane, flood, tsunami, volcanic eruption, earthquake, fire, or landslide, damaged structures and land uses may be repaired or reconstructed in conformance with HAR §13-5-22 [Identified land uses and required permits].”

As discussed above, the Shoreline Certification Rules include provisions for restoring a shoreline altered by a disaster and emergency permits for disaster damaged structures. These provisions should be carefully reviewed in the context of supporting resilient disaster recovery and reconstruction. Shoreline restoration may or may not be beneficial in recovery efforts. Chronic shoreline erosion is occurring along 70 percent of the State’s sandy shorelines and is being exacerbated by sea level rise and continued coastal development and hardening. A disaster redevelopment scenario should be developed that prioritizes beach conservation. Provisions for issuing emergency permits should be reconciled with a county’s disaster reconstruction ordinance and efforts to build back safer, smarter, and more equitably.

In addition, the Shoreline Certification Rules require that county building or grading permits be obtained as part of the standard conditions for approval. With this understanding, the county reconstruction ordinance should be sufficient to address permitting requirements during reconstruction. A rule or memorandum of understanding/agreement that describes procedures for shoreline damage assessment and shoreline certification in the event of a disaster resulting in large-scale changes to the shoreline may be needed as well as pre-established protocols for ensuring close coordination between county departments and relevant state agencies. In addition, county public messaging should explicitly address potential points of confusion and misunderstanding regarding state shoreline requirements after a disaster event. These issues are addressed in this guidance as recommendations in the Disaster Recovery Framework and Disaster Reconstruction Ordinance.

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<sup>40</sup> "Imminently threatened" means an inhabited dwelling, essential cultural or natural resource, or other (non-movable) major structure or public facility that is in danger of destruction or severe damage due to natural hazards. For coastal erosion, "imminently threatened" shall mean a distance of twenty feet or less from an actively eroding shoreline or erosion that will threaten the structure in less than six months. (HAR §13-5).



State and county agencies should also consider federal requirements in coordinating post-disaster reconstruction and environmental protocols around the shoreline. The U.S. Army Corps of Engineers (USACE) has regulatory and permitting jurisdiction in navigable waters of the United States, generally interpreted as seaward of the high-water line, through the Federal Rivers and Harbors Act and Section 404 of the Clean Water Act. Projects including repair or reconstruction of shoreline structures or restoration of beaches and dunes within Federal jurisdiction may require a Section 404 Dredge and Fill permit, which is issued by the USACE. OCCL and county permitting offices should consult with the local USACE regulatory office to clarify federal shoreline requirements following a disaster and integrate those requirements in disaster recovery plans and protocols.

## Core Capabilities for Disaster Recovery

The core capabilities defined in the NDRF (U. S. Department of Homeland Security 2016) are distinct critical elements necessary to achieve the National Preparedness Goal which the whole community must be able to perform. They provide a common vocabulary describing the significant functions that must be developed and executed across the whole community (e.g. individuals, families, faith-based and community organizations, businesses, nongovernmental organizations, schools and academia, media outlets, and all levels of government) to ensure national disaster recovery preparedness.

Core capabilities for disaster recovery are shown in Table 7. The first three core capabilities: planning, information and warning, and operational coordination, are common to all National Preparedness Goal mission areas (prevention, protection, mitigation, response, and recovery). Core capabilities unique to disaster recovery include: economic recovery, health and social services, housing, and natural and cultural resources. Developing and maintaining recovery core capabilities within a community requires a multiagency, interdisciplinary approach that engages the whole community, including a wide range of service and resource providers and stakeholders. Counties should conduct a needs assessment to identify training to strengthen core capabilities and develop a training and staffing plan to build capacity in all disaster recovery core capacities<sup>41</sup>.

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<sup>41</sup> The HI-EMA -Emergency Management Performance Grant provides funds for training and exercising. The National Disaster Preparedness Training Center (NDPTC) conducts Community Planning for Disaster Recovery Training Course.

**Table 7. Recovery Core Capabilities (U. S. Department of Homeland Security 2016)**

|                                       |  |
|---------------------------------------|--|
| <b>Planning</b>                       | Conduct community planning and pre-disaster and post-disaster recovery planning as a systematic process engaging the whole community, as appropriate, in the development of executable strategic, operational, and/or tactical- level approaches to meet defined objectives.   |
| <b>Public Information and Warning</b> | Deliver coordinated, prompt, reliable, and actionable information to the whole community through the use of clear, consistent, accessible, and culturally and linguistically appropriate methods to effectively relay information regarding any threat or hazard and, as appropriate, the actions being taken and the assistance being made available.                   |
| <b>Operational Coordination</b>       | Establish and maintain a unified and coordinated operational structure and process that appropriately integrates all critical stakeholders and supports the execution of core capabilities.  |
| <b>Economic Recovery</b>              | Return economic and business activities (including food and agriculture) to a healthy state and develop new business and employment opportunities that result in an economically viable community.   |
| <b>Health and Social Services</b>     | Restore and improve health and social services capabilities and networks to promote the resilience, independence, health (including behavioral health), and well-being of the whole community.   |
| <b>Housing</b>                        | Implement housing solutions that effectively support the needs of the whole community and contribute to its sustainability and resilience.   |
| <b>Natural and Cultural Resources</b> | Protect natural and cultural resources and historic properties through appropriate planning, mitigation, response, and recovery actions to preserve, conserve, rehabilitate, and restore them consistent with post-disaster community priorities and best practices and in compliance with applicable environmental and historic preservation laws and executive orders. |

## Funding for Disaster Recovery

Many funding sources are available for disaster recovery (FEMA 2019, American Planning Association 2014a). Some funding sources are tied to a disaster declaration however other funding sources can be used before a disaster to reduce risk and improve resilience. Counties in collaboration with State agencies should explore all funding opportunities to reduce risks from chronic and event-based hazards. Even though many funding sources are only available post-disaster, actions can be taken now to be positioned to best take advantage of funding after a disaster strikes. Table 8 provides a summary of funding sources for disaster recovery along with actions that can be taken before a disaster strikes. Many of the outputs of these actions can then be integrated into the Disaster Recovery Framework and appropriate RSF.

**Table 8. Summary of selected funding sources for disaster recovery [adapted from American Planning Association (2014a)] and disaster recovery preparedness actions**

| Funding Source | Program/ Fund Availability                                       | Description   | Disaster Recovery Preparedness Actions  |
|----------------|--|---|---|
| FEMA           | Pre-Disaster Mitigation Grant Program<br><br><b>Pre-Disaster</b> | Assist states and territories in implementing a sustained pre-disaster natural hazard mitigation program to reduce overall risk to the population and structures from future hazard events, while also reducing reliance on federal funding in the event of future disasters.   | <ul style="list-style-type: none"> <li>▪ Obtain funding integrate an already established recovery plan into a hazard mitigation plan.<sup>42</sup></li> <li>▪ Identify mitigation projects in each community planning area that increases resilience to disaster events.</li> </ul>   |
|                | Flood Mitigation Grant Program<br><br><b>Pre-Disaster</b>        | Provides funds for planning and implementing projects to reduce or eliminate the risk of flood damage to buildings that are insured under the National Flood Insurance Program (NFIP).  | <ul style="list-style-type: none"> <li>▪ Add attributes in the county parcel GIS database to enable query of properties in the NFIP and in Special Flood Hazard Areas.</li> <li>▪ Develop a list of properties insured under the NFIP.</li> <li>▪ Address FEMA identified repetitive loss properties.</li> <li>▪ Identify projects to reduce flood risk to those properties.</li> </ul> |
|                | Public Assistance<br><br><b>Post-Disaster</b>                    | Provides grant funding to state, local, and tribal governments, and certain private nonprofit entities, to allow for the repair and/or replacement of damaged infrastructure. Eligible types of work for PA funding include Emergency Work (debris operations and emergency protective measures) and Permanent Work (permanent repairs and/or replacements of damaged public facilities). | <ul style="list-style-type: none"> <li>▪ Identify county lead for eligible types of work.</li> <li>▪ Develop protocol for the collection of data during the disaster related to each of the Public Assistance Categories.</li> <li>▪ Create a debris monitoring procedures; include considering a stand-by contractor.</li> </ul>   |
|                | Individual Assistance<br><br><b>Post-Disaster</b>                | Provides financial assistance directly to disaster survivors for the necessary and serious needs that cannot be met through insurance or low-interest Small Business Administration (SBA) disaster loans.   | <ul style="list-style-type: none"> <li>▪ Identify stakeholders in each community planning area that could be eligible for assistance.</li> </ul>  |

<sup>42</sup> The FEMA Pre-Disaster Mitigation Program will fund the integration of an established recovery plan into a hazard mitigation plan or hazard mitigation plan update, but not development of a stand-alone recovery plan.

**Table 8. Summary of selected funding sources for disaster recovery [adapted from American Planning Association (2014a)] and disaster recovery preparedness actions**

| Funding Source                            | Program/ Fund Availability  | Description  | Disaster Recovery Preparedness Actions  |
|---|---|--|---|
|   | Hazard Mitigation Grant Program<br><br><b>Post-Disaster</b>                             | Assists in implementing long-term hazard mitigation planning and projects following a presidential major disaster declaration.   | <ul style="list-style-type: none"> <li>▪ Identify projects in each community planning area that require long-term planning and implementation.</li> </ul>   |
| Housing and Urban Development (HUD)       | Community Development Block Grant Disaster Relief (CDBG-DR)<br><br><b>Post-Disaster</b> | Provides funds designed to be used for unmet recovery needs where projects are intended to be beneficial to low- and moderate-income housing needs of the impacted jurisdiction. All CDBG-DR activities must: (1) have a tie to a disaster; (2) meet a HUD Eligible Activity; and (3) meet a HUD National Objective (typically related to housing needs).  | <ul style="list-style-type: none"> <li>▪ Identify communities that meet CDBG-DR eligibility criteria (2) and (3).</li> <li>▪ Identify unmet needs.</li> <li>▪ Identify the impacts of those unmet needs on Low to moderate income (LMI) populations.</li> <li>▪ Develop prototype Action Plan that can be quickly developed once needs assessment completed.</li> <li>▪ Develop protocol for the collection of data during the disaster.</li> </ul> |
| Economic Development Administration (EDA) | Economic Adjustment Assistance Program<br><br><b>Post-Disaster</b>                      | Administers disaster program funds through targeted grants to disaster-affected communities to help them shift their focus when appropriate from short-term emergency response to long-term economic impacts and to enable the development of an economic recovery programs that reflect local priorities Can also perform economic impact evaluations and carry out other specific tasks through special “mission assignments” created by FEMA. The EDA provides grants to small businesses in addition to local governments. | <ul style="list-style-type: none"> <li>▪ Inventory the business in the community (types, # of employees, industry sectors, etc.).</li> <li>▪ Develop process for engaging the business community after the disaster to understand their needs and damages.</li> </ul>   |
| USDA                                      | <b>Post-Disaster</b><br>National Resource Conservation Service Emergency                | Provides low-interest disaster loans, loan guarantees, technical assistance, and grant assistance to rural communities, rural homeowners, rural small businesses, nonprofit organizations, rural renters, farmers, ranchers, and rural families impacted by natural disasters through many of its agencies and programs<br><br>Provides funds for recovery efforts to address natural resource concerns such as debris removal and streambank stabilization and hazards  | <ul style="list-style-type: none"> <li>▪ Inventory farmers.</li> <li>▪ Develop process for engaging the farmers after the disaster to understand their needs and damages</li> <li>▪ Identify county lead for eligible types of work.</li> </ul>   |

**Table 8. Summary of selected funding sources for disaster recovery [adapted from American Planning Association (2014a)] and disaster recovery preparedness actions**

| Funding Source                      | Program/ Fund Availability  | Description  | Disaster Recovery Preparedness Actions   |
|-------------------------------------|---|--|--|
|                                     | Watershed Protection Program<br><br><b>Post-Disaster</b>                                      |  |  |
| DOT                                 | Federal Highway Administration Emergency Relief Program (FHWA-ER)<br><br><b>Post-Disaster</b> | Offers several funding programs, including the FHWA-ER for the repair or reconstruction of federal aid highways and roads on federal lands that have suffered serious damage as a result of: (1) natural disasters or (2) catastrophic failures from an external cause. FHWA-ER funds have federal share requirements for permanent work: 90 percent for interstates and 80 percent for all other federal aid highways.  | <ul style="list-style-type: none"> <li>▪ Identify federal partner that would lead this effort.</li> <li>▪ Identify vulnerable assets..</li> </ul>  |
| Federal Communications              | Repair Funds<br><br><b>Post-Disaster</b>  | Provides funds to telecommunications providers for repair and hardening of telecommunications infrastructure.  | <ul style="list-style-type: none"> <li>▪ Develop a list of potential providers and vulnerable facilities.</li> </ul>   |
| Small Business Administration (SBA) | SBA Loans<br><br><b>Post-Disaster</b>   | Provides disaster assistance programs, typically in the form of loans, for businesses of all sizes and for homeowners and renters for damage restoration activated when a presidential disaster declaration is made.<br><br>Can also independently activate its disaster recovery programs in areas with certain damage levels but which did not get a presidential declaration. All homeowners and individuals must register first with FEMA in order to qualify for SBA assistance. Business owners can apply directly to the SBA. Loans are only made for losses uncompensated by insurance or other disaster programs. | <ul style="list-style-type: none"> <li>▪ Identify county lead for this assistance.</li> <li>▪ Develop a list of stakeholders that could be eligible for this assistance.</li> </ul>  |
| Insurance                           | Private Insurance<br><br><b>Post-Disaster</b>   | Primary source of recovery funding for homeowners and businesses   | <ul style="list-style-type: none"> <li>▪ Educate homeowners on the types of private insurance and what is covered/not covered, and to emphasize that insurance companies may withhold payments if property has not complied with permitting requirements.</li> </ul> |

**Table 8. Summary of selected funding sources for disaster recovery [adapted from American Planning Association (2014a)] and disaster recovery preparedness actions**

| Funding Source             | Program/ Fund Availability                                  | Description  | Disaster Recovery Preparedness Actions   |
|----------------------------|---|--|--|
|                            | State-backed Insurance<br><br><b>Post-Disaster</b>          | Several states have created state-backed insurance programs for specific disaster types such as hurricanes (Hawai'i and Florida), These programs mostly focus on providing peril-specific coverage to homeowners and, in some cases, to renters and small businesses. Additional coverage beyond the limits available under these programs are available from private insurers.  | <ul style="list-style-type: none"> <li>▪ Educate homeowners on the types of private insurance and what is covered/not covered.</li> </ul>  |
|                            | National Flood Insurance Program (NFIP)<br><br>Pre-Disaster | Provides federal backing of flood insurance coverage to homeowners, renters, and business owners residing in communities that adopt and enforce floodplain management measures.  | <ul style="list-style-type: none"> <li>▪ Maintain/improve floodplain management to remain in NFIP program.</li> <li>▪ Participate in/increase credits under the Community Rating System (CRS).</li> </ul>                        |
| County-led Financing Tools | Capital Improvement Programs                                | Funds infrastructure and public facilities repairs and reconstruction projects associated with disaster recovery. Even if these projects qualify for state and federal disaster assistance programs, such as FEMA's Public Assistance, capital improvement programming and any associated bonds and revolving funds can be particularly effective in helping to finance a local match that may be required. It can also help to fund improvements or alternative projects that do not qualify for state and federal programs. Integrated programming of both disaster and non-disaster capital improvement programming can also provide a more comprehensive view of locally led activities which can be valuable in communicating with citizens, credit rating agencies, and investors. | <ul style="list-style-type: none"> <li>▪ Integrate projects for infrastructure that are particularly vulnerable to disasters and sea level rise into state and county ongoing, multiyear schedule and financing plan.</li> </ul> |
|                            | Redevelopment   | Redevelopment is nearly always part of local reconstruction following major disasters. Once a redevelopment district is established, tax increment financing can be used to offset redevelopment costs and earmark a portion of the new tax revenues generated by the new development.   | <ul style="list-style-type: none"> <li>▪ Enact enabling legislation that empowers local governments to undertake redevelopment planning and regulation functions post-disaster.</li> </ul>                                       |
|                            | Public-Private Partnerships                                 | Used increasingly by state and local governments to fund infrastructure projects, such as road and bridge construction. These projects typically involve up-front private investment that helps leverage the public funding component and a construction   | <ul style="list-style-type: none"> <li>▪ Identify potential public-private partnerships.</li> </ul>  |

**Table 8. Summary of selected funding sources for disaster recovery [adapted from American Planning Association (2014a)] and disaster recovery preparedness actions**

| Funding Source                                   | Program/ Fund Availability                     | Description   | Disaster Recovery Preparedness Actions  |
|--|--|---|---|
|  |  | and operation management structure to reduce the risks of cost overrun and schedule delays as well as maintenance throughout the concession period. It can also provide private capital and operational resources to the recovery process.  |   |
| Philanthropic and Private Investments            | Donations                                      | Nongovernmental organizations, private nonprofit entities, faith-based organizations, foundations, and businesses provide both material and financial assistance to individuals, families, community organizations, and local governments. Some organizations provide resources for recovery, ranging from immediate repairs to homes to funding for long-term investments in housing, schools, infrastructure, and other critical elements of the community's well-being. Communities are often challenged to manage the early donations effectively and often do not take advantage of the opportunity to leverage this early interest into long-term community recovery investments. | <ul style="list-style-type: none"> <li>▪ Establish partnership with local community foundations that act as the fiscal agents receiving monetary donations, which are then disbursed to qualified service providers in the locality.</li> <li>▪ Invest in systems that manage material donations and connect them with donors, such as Aidmatrix (<a href="http://www.aidmatrix.org">www.aidmatrix.org</a>), or established agreements with foundations that already have similar tools.</li> </ul> |
| Other Disaster Recovery Financing Considerations | Transfer of Development Rights                 | A transfer of development rights ordinance allows property owners to sell or transfer some or all of their future development rights. This tool has become a common means of reducing development density in order to preserve open space, agricultural and forest lands, and habitats. They can also be used to reduce development density on hazard-prone land or to help property owners redevelop outside heavily damaged areas, such as flood plains; coast lines; and landslide, liquefaction, and other ground failure areas.  | <ul style="list-style-type: none"> <li>▪ Explore the use of transfer of development rights and develop enabling legislation/program.</li> <li>▪ Scope of program should impact both new developments as well as redevelopment proposals.</li> </ul>   |
|  | Density Bonuses                                | Provide density bonuses to development projects that agree to include additional public amenities. In post-disaster recovery, density bonuses could be provided for offsetting the costs of repairing or reconstructing to higher levels of safety, for setting back from hazard-prone lands, or for being an early reinvestor in heavily damaged areas of the community.   | <ul style="list-style-type: none"> <li>▪ Establish enabling legislation</li> </ul>  |
|  | Public Mortgage Lending Subsidies and Policies | Establish programs to subsidize interest rates or provide other fiscal incentives for low-income or first-time home buyers or to encourage redevelopment in blighted areas. Similar programs  | <ul style="list-style-type: none"> <li>▪ Develop program and subsidy parameters and estimate needed funding.</li> </ul>   |

**Table 8. Summary of selected funding sources for disaster recovery [adapted from American Planning Association (2014a)] and disaster recovery preparedness actions**

| Funding Source     | Program/ Fund Availability                         | Description   | Disaster Recovery Preparedness Actions   |
|--------------------|--|---|--|
|                    |  | could be created or modified post-disaster to help low- to moderate-income home and business owners with repairs or to purchase, refinance, and rehabilitate damaged properties.  | <ul style="list-style-type: none"> <li>Outreach out to legislators to introduce enabling legislation.</li> </ul>   |
| Incentive Programs | Community Rating System (CRS)                      | While not a bona-fide funding source, participation in the CRS provides economic relief for NFIP-insured property owners by the availability of premium discounts for higher levels of community floodplain management and regulatory standards.  | <ul style="list-style-type: none"> <li>Review county floodplain management capabilities in preparation for applying to participate in the CRS.</li> </ul>  |
|                    | Building Code Effectiveness Grading System (BCEGS) | A community's commitment to code enforcement is reflected in a high BCEGS rating with a strong rating providing insurance premium relief for structures built during or after the year the building is rated.   | <ul style="list-style-type: none"> <li>Review county building permitting and inspection administration and procedures to create a path forward to improve code enforcement.</li> </ul>   |
|                    | Fire Suppression Rating System (FSRS)              | The system utilized by the Insurance industry to support the rating for fire insurance coverage on private property insurance coverage. The program looks at the fire suppression capabilities for local fire departments and rates those capabilities on a scale from 1 (the best) to 10 (the lowest). Rating factors are associated with each of the 10 classes)                          | <ul style="list-style-type: none"> <li>Understanding the core capabilities of a key 1<sup>st</sup> responder such as your fire department can aid your recovery process by addressing gaps in capabilities identified by the FSRS.</li> </ul>  |
|                    | Storm Ready  | StormReady uses a grassroots approach to help communities develop plans to handle all types of severe weather—from tornadoes to tsunamis. The program encourages communities to take a new, proactive approach to improving local hazardous weather operations by providing emergency managers with clear-cut guidelines on how to improve their hazardous weather operations.              | <ul style="list-style-type: none"> <li>Like all incentive-based programs, StormReady is a program based on core capability. This program evaluates a community in comparison to a national standard to see how the program scores, thus allowing communities to address identified gaps.</li> </ul>  |
|                    | Firewise   | The Firewise USA® program provides a collaborative framework for neighbors to reduce wildfire risks at the local level. The national recognition program's annual criteria are designed to empower and engage residents living in wildfire prone areas with a plan and actions that can increase their home's chances of surviving a wildfire, while also making it safer for firefighters. | <ul style="list-style-type: none"> <li>Meeting the criteria for becoming a Firewise USA® helps communities get organized and find direction for their wildfire safety efforts. Like the first rungs on a ladder, the criteria help a community progress toward annual, systematic actions to reduce their risks from brush, grass and forest fires.</li> </ul> |



**Table 8. Summary of selected funding sources for disaster recovery [adapted from American Planning Association (2014a)] and disaster recovery preparedness actions**

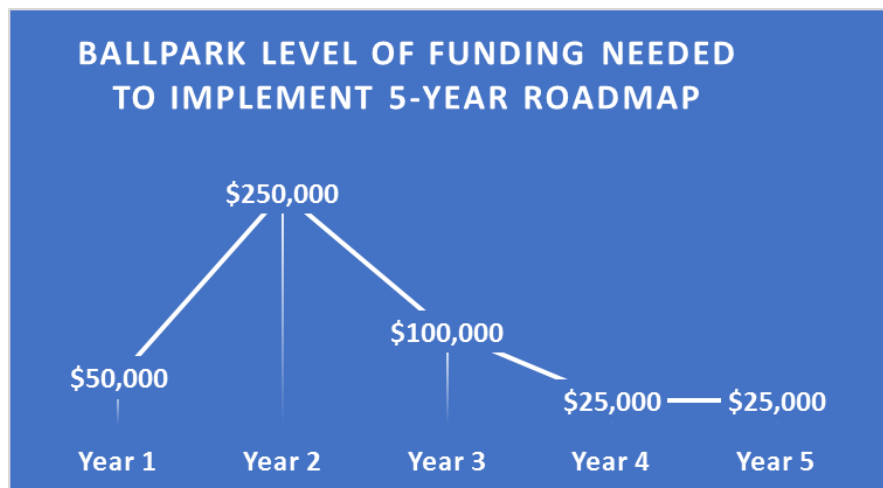
| Funding Source | Program/ Fund Availability                        | Description  | Disaster Recovery Preparedness Actions   |
|----------------|---|--|--|
|                | Emergency Management Accreditation Program (EMAP) | EMAP, the voluntary standards, assessment, and accreditation process for disaster preparedness programs throughout the country, fosters excellence and accountability in emergency management and homeland security programs, by establishing credible standards applied in a peer review accreditation process. | <ul style="list-style-type: none"> <li>▪ EMAP defines "emergency management" in the broadest sense, meaning it encompasses all organizations with emergency/disaster functions in a jurisdiction, rather than only one agency or department. This system includes organizations involved in prevention of, mitigation against, preparedness for, response to, and recovery from disasters or emergencies.</li> </ul> |

## 6. Roadmap for Disaster Recovery Preparedness

**Counties are on the front line of disaster recovery. Disasters place enormous burdens on all county departments including planning and permitting, public works, and environmental services. Once the immediate danger to public health and safety has largely passed, the bulk of the work to recover from a disaster falls on county staff.** Recovering from a disaster can be a lengthy process taking many years. The more recovery issues that can be thought through in advance, such as the development of disaster redevelopment scenarios, the greater will be the efficiency and quality of post-disaster decision-making, which will then lead to more resilient community recovery.

Investing time and money in disaster recovery preparedness is essential to support the complex nature of recovery and to balance accelerating reconstruction with building back safer, smarter, and more equitably. Planning for the appropriate balance of these considerations is best conducted in advance of a disaster event providing the opportunity to engage and inform partners and the public. Recovery and reconstruction can be facilitated by adoption of a disaster recovery framework and disaster reconstruction ordinance. Ongoing disaster recovery preparedness activities are needed to ensure that these instruments are exercised and familiar not only to county staff but the public at large.

An example roadmap for disaster preparedness is provided in Table 9 building on the guidance and model resources in this document to help jumpstart this important and relatively new



practice of disaster recovery preparedness within the emergency management continuum. With funding in hand, a Disaster Recovery Framework could be prepared within 2 years. Many ongoing disaster preparedness activities can be integrated within existing planning and implementation cycles such as hazard mitigation plan updates, general and community plan updates, and review and revision of building codes and other regulations. A county could be well prepared for disaster recovery within 5 years if resources are not diverted to responding and recovering from a disaster event. As the intensity and frequency of disaster events increase with climate change; however, the need for recovery from one or more disasters will be invaluable in stressing the importance of and for the need for disaster recovery preparedness.

**Table 9. Example 5-Year Roadmap for County-led Disaster Recovery Preparedness**

| Tasks/Activities |  | Year 1       |               | Year 2       |               | Year 3 | Year 4 | Year 5 |
|------------------|--|--------------|---------------|--------------|---------------|--------|--------|--------|
|                  |  | Months 1 - 6 | Months 7 - 12 | Months 1 - 6 | Months 7 - 12 |        |        |        |
| <b>1.0</b>       | <b>Develop technical and financial capacity and authorization for disaster recovery preparedness</b> |              |               |              |               |        |        |        |
| 1.1              | Obtain funding for disaster recovery preparedness activities.  | ■            | ■             |              |               |        |        |        |
| 1.2              | Conduct a statewide workshop to share lessons in disaster recovery.                                  | ■            |               |              |               | ■      | ■      | ■      |
| 1.3              | Assess training and capacity needs for recovery core capabilities.                                   | ■            |               |              |               |        |        |        |
| 1.4              | Review existing roles and responsibilities for disaster recovery.                                    | ■            |               |              |               |        |        |        |
| 1.5              | Review existing state and county laws and regulations pertaining to disaster recovery.               | ■            | ■             |              |               |        |        |        |
| 1.6              | Develop Disaster Recovery Ordinance to authorize recovery preparedness activities (as needed).       | ■            | ■             |              |               |        |        |        |
| <b>2.0</b>       | <b>Prepare the Disaster Recovery Framework<sup>43</sup> and Reconstruction Ordinance</b>             |              |               |              |               |        |        |        |
| 2.1              | Form a collaborative planning team.  |              |               | ■            |               |        |        |        |
| 2.2              | Develop and implement stakeholder engagement strategy.   |              |               | ■            | ■             | ■      |        |        |
| 2.3              | Determine risks, impacts, and consequences.  |              |               | ■            |               |        |        |        |
| 2.4              | Assess capacity and capability targets.  |              |               | ■            |               |        |        |        |
| 2.5              | Determine leadership positions and define operations.  |              |               | ■            | ■             |        |        |        |

<sup>43</sup> Key activities in preparing the Disaster Recovery Framework are from FEMA’s Pre-Disaster Recovery Planning Guide (FEMA 2017b) (also shown in Figure 8 of this Guidance). The reader is encouraged to refer to this guide for details of the planning process, in particular, Appendix G: Local Pre-Disaster Recovery Planning Key Activities Checklist, is useful. Reminder that for reasons explained in the Disaster Recovery Framework chapter of this Guidance, the term “Disaster Recovery Framework” is used synonymously with “Pre-Disaster Recovery Plan.”

**Table 9. Example 5-Year Roadmap for County-led Disaster Recovery Preparedness**

| Tasks/Activities |  | Year 1       |               | Year 2       |               | Year 3 | Year 4 | Year 5 |
|------------------|--|--------------|---------------|--------------|---------------|--------|--------|--------|
|                  |  | Months 1 - 6 | Months 7 - 12 | Months 1 - 6 | Months 7 - 12 |        |        |        |
| 2.6              | Establish processes for post-disaster decision-making and policy setting.                                      |              |               | ■            | ■             |        |        |        |
| 2.7              | Write the Disaster Recovery Framework.   |              |               |              | ■             |        |        |        |
| 2.8              | Review and approval of the Disaster Recovery Framework.  |              |               |              | ■             | ■      |        |        |
| 2.9              | Prepare Disaster Reconstruction Ordinance to authorize relevant provisions in the Disaster Recovery Framework. |              |               |              |               | ■      |        |        |
| <b>3.0</b>       | <b>Support Ongoing Disaster Recovery Preparedness Activities</b>   |              |               |              |               |        |        |        |
| 3.1              | Conduct training for county staff on disaster recovery.  | ■            |               |              |               | ■      |        |        |
| 3.2              | Update GIS database and permitting to support disaster recovery.   | ■            | ■             | ■            | ■             | ■      | ■      | ■      |
| 3.3              | Develop public outreach strategy and conduct annual messaging for disaster recovery preparedness.              |              |               |              |               | ■      | ■      | ■      |
| 3.4              | Exercise Disaster Recovery Framework and Ordinance.  |              |               |              |               | ■      | ■      | ■      |

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## Appendix A. Defining Disaster Recovery Responsibilities and Partners

Defining specific responsibilities for disaster recovery is an important first step in preparing for disaster recovery and defining a Recovery Management Organization (RMO). In addition, a wide range of partners will be critical to support recovery operations. During the consultation held with Maui County in July 2018, County staff engaged in an exercise whereby the group was asked who would perform each responsibility/task. This exercise was based on the model reconstruction ordinance used at the time of the consultation. It is recommended that counties review, refine, and answer these questions as a preliminary effort to define the universe of recovery responsibilities and partners:

1. Who is on the damage assessment team?
2. Who recommends that the Mayor activate the disaster reconstruction ordinance through emergency declaration?
3. Who designates/delineates the area of impact?
4. Who is the key point of contact for the rapid evaluation structural assessments?
5. Who is responsible for substantial damage assessments in the Special Flood Hazard Area?
6. Who would coordinate with DLNR to conduct a shoreline assessment?
7. Who determines if catastrophic damage has occurred?
8. Who should be at the one-stop service center?
9. Who determines if there should be a development moratorium?
10. Who issues permits post-disaster?
11. Who determines compliance with land use codes?
12. Who approves demolition of structures?
13. Who conducts inspections?
14. Who certifies/licenses contractors?
15. Who enforces compliance with the ordinance?
16. Who communicates to the public?
17. What county department is the lead for each recovery support function?
18. What are the supporting county, state, and federal agencies for each Recovery Support Function?
19. What are partner organizations and entities for each Recovery Support Function?

## Appendix B. Model Disaster Reconstruction Ordinance

An ordinance guiding the processes and procedures for the reconstruction of structures and other development damaged because of a disaster event substantial enough to cause significant disruption to the County of [insert County name] and subject to the authority of the County codes and ordinances and granting emergency powers for County staff actions, which can ensure timely, expeditious and resilient disaster reconstruction within the County and amending Section(s) XX of the County Code.

### **Chapter X. After the Disaster Reconstruction Procedures for Private Property Owners**

[Insert listing of all section and subsection titles]

WHEREAS, the County is vulnerable to various natural hazards such as flooding, severe storms, coastal erosion, landslides, earthquakes, and wildfires, causing substantial loss of life and property resulting in declared local, state, or federal level disasters;

WHEREAS, the County is authorized under state law to declare a local emergency and take actions necessary to ensure the public safety and well-being of its residents, visitors, business community, and property during and after such disasters;

WHEREAS, after a disaster [insert name of county department(s)] will face enormous burdens related to permitting for reconstruction activities with necessary considerations for insurance obligations and liability concerns as well as the future vulnerability of reconstructed structures;

WHEREAS, it is essential to the well-being of the County to balance expedited reconstruction with other considerations such as, mitigation of hazardous conditions threatening public safety, the appropriate deliberation of impacts to environmental conditions and ecosystems services from the disaster event and proposed reconstruction activities, and changing conditions resulting from global climate change to improve the community's level of hazard resilience;

WHEREAS, planning for the appropriate balance of these considerations is best conducted to the extent practical in advance of a disaster event;

WHEREAS, the [insert name of Department] within the County government has been authorized to plan, coordinate, and expedite reconstruction activities, including expedited permitting procedures by County permitting departments, for private development, repair and reconstruction;

WHEREAS, reconstruction can be facilitated by adoption of a pre-disaster ordinance

authorizing certain extraordinary staff actions and procedures to be taken to expedite implementation of reconstruction from damages to private property owners, which includes single family residences, hotels, condominiums, commercial businesses, and other private development, and to incorporate strategies to reduce risk and increase resilience wherever practical and feasible;

WHEREAS, coordination is needed between County departments and State of Hawai'i agencies to ensure that proper deliberation is given to environmental considerations, such as changes in shoreline conditions affecting more than one property, to best meet the needs and obligations of the people of the County;

WHEREAS, in the event of catastrophic damage appropriate deliberation is needed to ensure that reconstruction activities do not perpetuate or increase risk to public health and safety by rebuilding in a manner that does not consider the best available information regarding future conditions, such as sea level rise or other new information.

The County Council does hereby ordain:

- 1) **Authority.** This ordinance is adopted by the County Council acting under authority of the [authorizing legislation], Hawai'i Revised Code §127A, and all applicable federal laws and regulations.
- 2) **Purposes.** It is the intent of the County Council under this chapter to:
  - a) Establish, in advance of a disaster, a standard protocol for damage assessments of private property to be conducted after a hazard event to determine the extent and location of damages and the reconstruction permit requirements;
  - b) Establish, in advance of a disaster, powers to be implemented by the County, upon official declaration of a local, county, state and/or federal declared disaster, by which staff of the County [insert department charged with implementation], and other County departments can take extraordinary action to reasonably assure safe and healthy post-disaster recovery, including expedited permitting;
  - c) Specify, in advance of a disaster, permitting procedures for post-disaster reconstruction of private property, including privately owned infrastructure and other development, that will assure a balanced approach to expedited and resilient reconstruction;
  - d) Establish, in advance of a disaster, a protocol for ensuring shoreline restoration activities are considered holistically within the broader goals and priorities of the County and the State of Hawaii Coastal Zone Management Law (HRS 205A), avoiding a piecemeal approach that perpetuates risks or results in environmental externalities, to best meet the needs and obligations of the County;
  - e) Establish, in advance of a disaster, a procedure by which pre-disaster development patterns and conditions can be reconsidered to reduce or alleviate future risk before reconstruction activities commence.

- 3) **Initiation of Procedures.** The following procedures shall go into effect upon initiation by the Mayor of the County of XXXX via emergency declaration or supplementary declaration.
- 4) **Duration.** The procedures shall be in effect for the duration of the emergency period and will be extended by the Mayor, upon the advice and recommendation of the [insert name of Department], until sufficient reconstruction and recovery, as determined by the Director of the [insert name of Department], has occurred as to enable the return to standard permitting procedures. The procedures shall be in place for no more than [insert timeframe] from the date of their initiation and shall only be extended beyond [insert timeframe] in the event of subsequent disasters that occur while the procedures are in effect.
- 5) **Area of Impact.** Upon initiation, the procedures will be assumed to apply countywide. If the completion of initial damage assessments indicate that the area of impact should be reduced to a sub-area of the County, notice shall be given of the revised area of impact pursuant to the procedures outlined below section 7(b) and the procedures will no longer be in effect countywide.
- 6) **Definitions.**
  - a) **Accessory Structure.** [Insert county-specific definition].
  - b) **After the Disaster Permitting Procedures.** Post-disaster permitting procedures (the procedures) established by this ordinance and activated via local emergency declaration.
  - c) **After-the-Fact Permit.** Permits obtained retroactively after work or development has occurred.
  - d) **Area of Impact.** An area within the County having designated boundaries within which the disaster occurred, and the procedures outlined in this ordinance shall apply.
  - e) **Catastrophic Level of Damage.** [Insert county-specific definition].
  - f) **Certified Shoreline.** The upper reaches of the wash of the waves, other than storm or seismic waves, at high tide during the season of the year in which the highest wash of the waves occur, usually evidenced by the edge of vegetation growth, or the upper limit of debris left by the wash of the waves.<sup>44</sup>
  - g) **Damage Assessment Team.** Non-emergency management office staff, other personnel or volunteers who do not have responsibilities immediately following a disaster. These teams are trained to gather information and conduct rapid evaluation structural assessments using the rapid evaluation structural assessment placarding system described in 7(c).<sup>45</sup>
  - h) **Development.** Any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.

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<sup>44</sup> State of Hawaii Administrative Rules (HAR) §13-222

<sup>45</sup> FEMA, 2016

- i) **Director.** The Director of the [insert name of Department] or an authorized representative.
- j) **Disaster.** Any emergency, or imminent threat thereof, which results or may likely result in loss of life or property and requires, or may require, assistance from other counties or states or from the federal government.<sup>46</sup>
- k) **Emergency Period.** The dates covered by a declaration issued by the Mayor declaring a local state of emergency.<sup>47</sup>
- l) **Emergency.** Any occurrence, or imminent threat thereof, which results or may likely result in substantial injury or harm to the population or substantial damage to or loss of public or property.<sup>48</sup>
- m) **In-kind.** The same as the prior (pre-damaged) building or structure in size, height and shape, type of construction, number of units, general location, appearance, and use.
- n) **Local State of Emergency.** The occurrence in any part of a county that requires efforts by the county government to save lives, and to protect property, public health, welfare, or safety in the event of an emergency or disaster, or to reduce the threat of an emergency or disaster.<sup>49</sup> A Local State of Emergency is so declared by the Mayor.
- o) **Moratorium.** A temporary hold, for a defined period of time, on the issuance of building permits, approval of land-use applications or other permits and entitlements related to the use, development, redevelopment and occupancy of private property in the interests of protection of life and property.
- p) **Preliminary Damage Assessment.** Assessment of damages and impacts conducted immediately following an event by the County in coordination with FEMA that aids in the decision-making process for a major disaster declaration.
- q) **Rapid Evaluation Structural Assessments.** Building evaluation and placarding protocol system to quickly determine which buildings are safe to enter and those that are unfit for occupancy.
- r) **Reconfiguration.** Removing portions of a building that are in erosion or flood prone areas as defined in [insert reference to where this standard is defined] and reconstructing them inland.
- s) **Disaster Recovery Framework.** A document prepared pre-disaster by the County to help guide recovery, comprising policies, plans implementation actions, and designated responsibilities related to expeditious and orderly post-disaster recovery and redevelopment, as well as long-term mitigation.

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<sup>46</sup> HRS §127A

<sup>47</sup> HRS §127A

<sup>48</sup> HRS §127A

<sup>49</sup> HRS §127A

- t) **Repair.** The reconstruction, replacement or renewal of any part of an existing building for the purpose of its maintenance or to correct damage.
  - u) **Fair Market Value.** The price that the seller is willing to accept and the buyer is to pay on the open market and in an arm's length transaction.
  - v) **Special Flood Hazard Area.** The land area covered by the floodwaters of the base flood is the Special Flood Hazard Area on NFIP maps. The area where the NFIP's floodplain management regulations must be enforced and the area where the mandatory purchase of flood insurance applies. The Special Flood Hazard Area includes Zones A, AO, AH, A1-30, AE, A99, AR, AR/A1-30, AR/AE, AR/AO, AR/AH, AR/A, VO, V1-30, VE, and V.
  - w) **Structural Repair.** Repairs that involve replacing structural elements of a damaged building.
  - x) **Substantial Damage Assessments.** Post-event assessment by the County of structures in the special flood hazard area that determines whether they have been substantially or non-substantially damaged.
  - y) **Substantial Damage.** [Insert County-specific definition]
  - z) **Substantial Improvement.** [Insert County-specific definition]
- 7) **Damage Assessments.** After a disaster event, the Director shall direct damage assessment teams having authority to conduct field surveys of damaged structures and other private development to conduct damage assessments.
- a) **Damage Assessment Teams.** Damage assessment team members, procedures and protocols will be developed by the Director and made available to the public. These procedures shall require damage assessment team members to carry identification and an explanation of the assessment process in languages commonly spoken in the County and shall outline required qualifications for consideration of a damage assessment team member.
  - b) **Designation of Area of Impact.** The area of impact will initially be assumed to be countywide. If, based on the results of the preliminary damage assessments conducted immediately following an event, the Director determines that the area of impact is less than the full extent of the County, the Director shall clearly delineate identifiable boundaries using commonly known and understood features, such as landmarks, street names, planning districts, etc., to delineate the area of impact. Upon determination of the area of impact, this information will be conveyed to the public via the [insert name of Department] website, social media, and other methods deemed appropriate by the Director.
  - c) **Rapid Evaluation Structural Assessments.** Rapid evaluation structural assessments of the area of impact will be conducted and damage assessment teams will post placards designating the condition and permitted occupancy of structures as follows:
    - i) **Inspected**—Lawful Occupancy Permitted is to be posted on any building in which no apparent structural hazard has been found. This does not mean that other forms of damage

(non-structural) that may temporarily affect occupancy are absent. Such buildings will be designated using a green placard.

- ii) **Restricted Use**—Restricted use is to be posted on any building in which damage has resulted in some form of restriction to continued occupancy. The individual posting this placard shall note in general terms the type of damage encountered and shall clearly and concisely note the restrictions on continued occupancy. Such building will be designated with a yellow placard.
  - iii) **Unsafe**—Do Not Enter or Occupy is to be posted on any building that has been damaged to the extent that continued occupancy poses a threat to life safety. Buildings posted with this placard shall not be entered under any circumstances except as authorized in writing by the [insert name of Department] that posted the building or by authorized members of damage assessment teams. The individual posting of this placard shall note in general terms the type of damage encountered. This placard is not to be considered a demolition order. This chapter and section number, the name of the department, its address, and phone number shall be permanently affixed to each placard. Once a placard has been attached to a building, it shall not be removed, altered, or covered until done so by an authorized representative of the department or upon written notification from the department. Failure to comply with this prohibition will be considered a misdemeanor punishable by a \$X00 fine. Such building will be designated using a red placard.
  - iv) All placards or information affixed to placards (green, yellow, and red) will contain a simple explanation of the placarding system, resources for property owners to contact regarding questions, and a basic description of the After the Storm permitting system that will be deployed.
  - v) If rapid evaluation structural assessments are conducted under the direction of the Director, damage assessment teams shall capture perishable data, such as high-water marks and/or the location of emergency flood protection measures, during the rapid evaluation structural assessment process.
- d) **Special Flood Hazard Area Substantial Damage Assessments.** Substantial damage assessments, conducted by the damage assessment teams, FEMA, and/or others contracted or otherwise arranged by the County, will commence immediately following the rapid evaluation structural assessment inspections, upon initiation by the Director.
- i) Substantial damage assessments shall be conducted within all special flood hazard areas within the area of impact as defined by the Director. Any modification from the entirety of the special flood hazard area located within the area of impact shall be at the discretion of the Director, be widely publicized to the property owners through communication means described above and shall ensure that there is consistent application of the substantial damage assessment procedure.

- ii) Substantial damage assessments and determinations shall be conducted using the assumptions and protocols outlined in the County floodplain damage prevention ordinance and shall meet FEMA NFIP requirements for substantial damage.
  - iii) The County shall make a reasonable effort to notify property owners of the results of the substantial damage determination within a reasonable time. Notifications will be sent via certified mail and/or hand delivered; further, a hotline or other means for communication will be established for property owners and renters to inquire on the status and implications of their assessment and will be widely publicized. All notifications of substantial damage or non-substantial damage determination shall outline the defined protocol for appeal.
- e) **Shoreline Damage Assessments.** After a disaster event, the Director shall coordinate with the Chairperson of the State of Hawai'i Department of Land and Natural Resources (DLNR) to determine the extent of damage to the shoreline and any needed changes to standard procedures to account for shoreline changes, coordinated restoration efforts, and modifications to the standard shoreline certification procedures. In the event that catastrophic damage of the shoreline has occurred, the Directors of the [insert name of Department] and DLNR Chairperson shall determine the area that experienced a catastrophic level of damage.
- 8) **Designation of Areas of Catastrophic Levels of Damage.** After the rapid evaluation structural assessments, special flood hazard area substantial damage assessments, and shoreline damage assessments have been conducted, the Director shall make a recommendation to the County Council on areas that should be designated as having sustained catastrophic levels of damage. The County Council shall review and approve these designations and planning for comprehensive redevelopment, relocation or restoration options shall commence and a Recovery Plan shall be developed for these areas. The location of the areas of catastrophic levels of damage shall be widely publicized.
- 9) **After the Disaster Permitting Procedures.**
- a) **Purposes.** After the disaster permitting procedures have been designed and shall be implemented to serve the following purposes:
    - i) Expedite the permitting of minor repairs;
    - ii) Allow sufficient time for substantial damage assessment for buildings located in the special flood hazard area;
    - iii) Enact a moratorium on new development and subdivisions until there are sufficient resources on island to support rebuilding;
    - iv) Prioritize housing repairs, so that residents can safely return to their homes; and
    - v) Capture opportunities to rebuild resiliently, such as through rebuilding to current flood damage prevention ordinance, building codes, and shoreline setbacks; utilizing regulatory base flood elevations that reflect future conditions; rethinking development patterns in vulnerable areas, such as sea level rise exposure areas; and considering nature-based solutions for risk reduction.



- b) **One-Stop Service Center.** Representatives of pertinent County departments charged with permit processing shall be available in person at the one-stop service center(s) established by the [insert name of Department].
- c) **Moratoria.** The Director shall have the authority to establish a moratorium on the issuance of building permits, approval of land use applications or other permits and entitlements related to the use, development, and occupancy of private property authorized under other chapters and sections of the County Code and related ordinances, provided that, in the opinion of the Director, such action is reasonably justifiable for protection of life and property.
  - i) **Initial Moratorium.** A development moratorium shall be in effect for the entire area of impact for the time in which damage assessments are being conducted. This moratorium shall be subject to the following:
    - (1) Duration—The initial moratoria shall last no longer than XX days unless an extension is reviewed and approved by the County Council.
    - (2) Posting—Notice of the moratorium shall be posted in a public place and on the Internet, and shall clearly identify the boundaries of the area(s) in which moratorium provisions are in effect, and shall specify the exact nature of the development permits or abeyance. Reference to the moratorium shall also be explicit in the Mayor's local emergency proclamation or supplementary proclamation.
  - ii) **Continued Moratoria.** Upon rescission or expiration of the initial moratorium, continued moratoria will be in effect for the following:<sup>50</sup>
    - (1) Accessory structures (excluding 'ohana units and any other habitable structures); swimming pools and amenities; new sea walls; new construction (plans submitted or in process); new construction (plans approved; requires inspection); subdivision of land; and post disaster repair and reconstruction permits.
      - (a) Insert duration.
    - (2) Areas determined by the [insert name of Department] to have sustained catastrophic levels of damage to development or the shoreline whereby comprehensive redevelopment, relocation or restoration options should be considered to allow for time to develop such plans.
      - (a) Insert duration
    - (3) Development in special flood hazard areas until substantial damage determinations have been completed.

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<sup>50</sup> Please note that this is a generalized list of types of reconstruction that would be under a continued moratorium that is based on outreach conducted in Maui County. Different communities may have different needs/desires that can be reflected in the ordinance.

- iii) **Rescission of Moratoria.** The initial moratorium and/or continued moratoria can be rescinded by the natural expiration of the duration of the moratorium without extension or by an official action of the County Council.
  
- d) **After the Disaster Permit Requirements.** Permitting for repair and reconstruction will proceed in a manner that protects the health, safety and welfare of the County, its residents, and natural environment with varying levels of review requirements based on location, level of damage, likelihood of future vulnerability, and other factors deemed relevant by the Director. The permit requirements outlined herein apply only to County-issued permits. Proper procedure and protocol must be followed for any state or federal issued permits. County departments and agencies shall coordinate, to the extent practical, with other permitting agencies to ensure consistent messaging and procedures.
  - i) **Exceptions from Permit Requirements.** The [insert County name] building code contains exceptions from permit requirements for certain activities [insert county-specific exceptions or refer to listing in exiting code]. The After the Disaster permitting procedures expand these exceptions to include the following:
    - (1) Insert expanded exceptions
    - (2) These expanded exceptions do not apply to reconstruction activities in the County's special flood hazard areas and areas of continued moratoria.
  - ii) **Special Flood Hazard Area Blanket Permit.** After substantial damage assessments have been completed, reconstruction activities consistent with exceptions to building permits outlined in Section 9.d.i may be completed for structures found to be non-substantially damaged. All such activities are required to be reported within XX days of completion via the online reporting system or via the One Stop Shop Permit Center. Failure to report could result in fines and penalties including [insert county-specific penalties]. The County will issue a blanket floodplain development permit for all reported reconstruction activities in special flood hazard areas conforming with these requirements.
  - iii) **Demolition.** The Director shall have authority to order the condemnation and demolition of buildings and structures damaged in the disaster under the standard provisions of the County Code, except as otherwise indicated below:
    - (1) **Demolition of Damaged Historical Buildings.** The Director shall have authority to order the condemnation and demolition of buildings and structures damaged in the disaster under the standard provisions of the County Code [insert citation], except as otherwise indicated below:
      - (i) **Condemnation and Demolition.** Within XX days after the disaster, the building official [or equivalent] shall notify the State Historic Preservation Officer that one of the following actions will be taken with respect to any building or structure

determined by the building official to represent an imminent hazard to public health and safety, or to pose an imminent threat to the public right of way:

1. Where possible, within reasonable limits as determined by the building official, the building or structure shall be braced or shored in such a manner as to mitigate the hazard to public health and safety or the hazard to the public right-of-way;
  2. Whenever bracing or shoring is determined not to be reasonable, the building official shall cause the building or structure to be condemned and immediately demolished. Such condemnation and demolition shall be performed in the interest of public health and safety without a condemnation hearing as otherwise required by the County Code. Prior to commencing demolition, the building official shall photographically record the entire building or structure.
- (ii) Notice of Condemnation. If, after the specified time frame noted in Subsection 11.c.i(3a) of this chapter and less than 30 days after the disaster, a historic building or structure is determined by the building official to represent a hazard to the health and safety of the public or to pose a threat to the public right of way, the building official shall duly notify the building owner of the intent to proceed with a condemnation hearing within business days of the notice in accordance with County Code Section [insert section] ; the building official shall also notify FEMA, in accordance with the National Historic Preservation Act of 1966, as amended, of the intent to hold a condemnation hearing.
- (iii) Request to FEMA to Demolish. Within 30 days after the disaster, for any historic building or structure that the building official and the owner have agreed to demolish, the building official shall submit to FEMA, in accordance with the National Historic Preservation Act of 1966, as amended, a request to demolish. Such request shall include all substantiating data.
- (iv) Historic Building Demolition Review. If after 30 days from the event, the building official and the owner of a historic building or structure agree that the building or structure should be demolished, such action will be subject to the review process established by the National Historic Preservation Act of 1966, as amended.
- iv) **Temporary Waiver of Permit for Emergency Repair.** Following a disaster, temporary emergency repairs to secure structures and property damaged in the disaster against further damage or to protect adjoining structures or property may be made without fee or permit where such repairs are not already exempt under other chapters of the County Code. The building official must be notified of such repairs within XX working days, and regular permits or the disaster permits with fees may then be required.

- v) **Deferral of Fees for Repair and Reconstruction Permits.** Except for temporary repairs issued under provisions of this chapter, all other repairs, restoration, and reconstruction of buildings damaged or destroyed in the disaster shall be approved through permit under the provisions of this ordinance or other chapters of State and County code. Fees for such repair and reconstruction permits may be deferred until issuance of certificates of occupancy.
  - vi) **Nonconforming Buildings and Uses.** [Insert County-specific information]
  - vii) **Penalties for Noncompliance.** [County should insert explicit penalties for noncompliance with procedure. These are most likely to be the typical penalties associated with permit violations.]
- 10) **Severability.** If any provision of this chapter is found to be unconstitutional or otherwise invalid by any court of competent jurisdiction, such invalidity shall not affect the remaining provisions, which can be implemented without the invalid provision, and, to this end, the provisions of this ordinance are declared to be severable.

## Appendix C. Exercise Scenario for a Disaster Reconstruction Ordinance

The following table provides the workshop scenario that was utilized at a half-day workshop at the Pacific Risk Management 'Ohana (PRiMO) Conference in August 2018. The results of this workshop were used to influence the content of this document. The scenario can be adapted and used with county staff and stakeholders to inform the development of a Disaster Recovery Framework, Disaster Reconstruction Ordinance and other disaster recovery preparedness activities. The images that follow are the slides that were used to walk participants through the workshop scenario exercise. Workshop attendees were distributed in break out groups at several tables. Efforts were made to ensure that break out groups included representatives from federal, state and county agencies, as available, and that each table had representation from different types of agencies involved in recovery and reconstruction (e.g. emergency management, land use planning, code enforcement, etc.). Facilitators read the information for each portion of the scenario (indicated by eight total read-outs) and attendees were given a set amount of time to discuss. It is recommended that shorter-time be given to the initial scenario read-outs and longer time frames for discussion be allocated as workshop attendees progress throughout the workshop exercise. If possible a designated facilitator and a separate, designated note taker should be placed in each break out group.

| SCENARIO  | RECONSTRUCTION ORDINANCE PROCESS AND STATUS   | FOCUS QUESTIONS  | NOTES/QUESTIONS |
|---|---|--|-----------------|
| <p><b>1. PREPARE</b> - Hurricane Adam is rapidly approaching the State of Hawai'i with sustained hurricane force winds, attendant heavy rains, potential lightning, flooding, high surf, and storm surge. Impacts to the State are expected to begin on or about Monday, August 6<sup>th</sup>. The Governor and the Mayors of each county have issued emergency proclamations/ declarations.</p> | <p><b>PROCESS: Procedures Initiated.</b> The procedures outlined in the reconstruction ordinance (moratorium, expedited permitting, damage assessments, on stop service centers, etc.) are triggered by the Mayor's emergency declaration.</p> <p><b>STATUS:</b> The triggering of the procedures Initiates a county-wide moratorium<sup>51</sup> on the issuance of building permits, approval of land use applications or other permits and entitlements related to the use, development, and occupancy of private property authorized under other sections</p> | <ol style="list-style-type: none"> <li>1. Is there messaging regarding reconstruction that should be issued at this point?</li> <li>2. What actions (if any) to prepare for reconstruction should be taken at this point?</li> <li>3. Do planning and permitting folks have pre-existing preparedness responsibilities/ procedures?</li> </ol> |                 |

<sup>51</sup> A temporary hold, for a defined period of time, on the issuance of building permits, approval of land use applications or other permits and entitlements related to the use, development, redevelopment and occupancy of private property in the interests of the protection of life and property.

| SCENARIO  | RECONSTRUCTION ORDINANCE PROCESS AND STATUS   | FOCUS QUESTIONS   | NOTES/QUESTIONS |
|---|---|---|-----------------|
|   | and chapters of the County Code and related ordinances.   |   |                 |
| <p><b>2. RESPOND</b> - Hurricane Adam, now a Category 4 storm, wreaks havoc in the State as it approaches from the southeast, and veers westward so that it impacts all counties within 48 hours. Hurricane Adam produces sustained winds of 130 mph and gusts up to 160 mph with a wind radius of 219 miles. A storm surge of 10 to 15 feet is seen in some places, while a rainfall rate of 1 to 2 inches per hour contributes significantly to the inundation and flooding damage. All counties are impacted, with a direct hit in our County. Search and rescue and lifesaving emergency response efforts are ongoing and only cursory information on damages is available as of August 8<sup>th</sup>.</p> | <p><b>PROCESS:</b> None</p> <p><b>STATUS:</b> Countywide moratorium is in effect.</p>   | <ol style="list-style-type: none"> <li>1. Do planning and permitting folks have pre-existing response responsibilities/roles that need to be taken into consideration?</li> <li>2. Is there messaging regarding reconstruction that should be issued at this point?</li> </ol>  |                 |
| <p><b>3. ASSESS DAMAGE</b> - On August 9<sup>th</sup> damage assessment teams are deployed in the County. Preliminary Damage Assessments indicate that there are significantly impacted areas, particularly in the County's floodplains and along the coast. Due to the severe extent and magnitude of the disaster, Federal assistance was deemed necessary prior to the completion of joint Preliminary Damage Assessments and a Presidential Major Disaster Declaration was issued statewide.</p>  | <p><b>PROCESS: Damage Assessments and Designation of Areas of Impact:</b> Preliminary damage assessments<sup>52</sup> are conducted and, based on the results, the entire County is determined to be in the Area of Impact.<sup>53</sup></p> <p><b>STATUS:</b> Countywide moratorium is in effect. Post-disaster permitting procedures<sup>54</sup> will be in effect countywide once moratorium is lifted.</p> | <ol style="list-style-type: none"> <li>1. Do we need to wait for these assessments to be complete before moving forward with reconstruction? What should be in place to expedite damage assessment?</li> <li>2. Is it our planning and permitting folks that will be part of these damage assessment teams?</li> <li>3. Is there messaging regarding reconstruction that should be issued at this point?</li> </ol> |                 |

<sup>52</sup> Assessment of damages and impacts conducted immediately following an event that aids in the decision-making process for a major disaster declaration.

<sup>53</sup> An area within the County having designated boundaries within which the disaster occurred, and the procedures outlined in the reconstruction ordinance shall apply.

<sup>54</sup> Predefined permitting procedures that potentially expand the exceptions granted under normal operating conditions (e.g. raising exception threshold to \$10,000 in non-structural, non-utility repairs, with notice provided to County of repair work conducted).

| SCENARIO  | RECONSTRUCTION ORDINANCE PROCESS AND STATUS  | FOCUS QUESTIONS   | NOTES/QUESTIONS |
|---|--|---|-----------------|
| <p><b>4. ASSESS DAMAGE</b> - On August 9<sup>th</sup> Rapid Evaluation Structural Assessment Teams were also deployed and placarding was conducted countywide. Of the approximately 20,000 homes and 1,500 businesses in the County, 6,000 received red placards (structurally unsafe), 4,000 received yellow placards (restricted use), and 11,500 received green placards (inspected).</p>  | <p><b>PROCESS: Damage Assessments.</b> Rapid Evaluation Structural Assessments<sup>55</sup> are conducted.</p> <p><b>STATUS:</b> Countywide moratorium is in effect. Post-disaster permitting procedures will be in effect countywide once moratoria is lifted.</p>  | <ol style="list-style-type: none"> <li>1. Do we need to wait for these assessments to be complete before moving forward with reconstruction? What should be in place to expedite damage assessment?</li> <li>2. Is there messaging regarding reconstruction that should be issued at this point? What should it focus on?</li> <li>3. What process related obstacles do you foresee here?</li> </ol>  |                 |
| <p><b>5. ASSESS DAMAGE</b> – While structural damage assessments are ongoing County planning staff/officials’ and State of Hawai’i Department of Land and Natural Resources staff conduct a shoreline damage assessment and conclude that catastrophic damage of the shoreline has occurred along a stretch of the southeastern shoreline due to massive erosion, beach loss, and sea wall damage. In addition, State and County floodplain management staff consult and determine the need for substantial damage assessments within the entirety of the County’s special flood hazard area. These substantial damage assessments within the County’s special flood hazard area begin as soon as assessment teams can be formed.</p> | <p><b>PROCESS: Damage Assessments.</b> Shoreline damage assessments are conducted and the need for special flood hazard area substantial damage determinations<sup>56</sup> is evaluated.</p> <p><b>STATUS:</b> Countywide moratorium is in effect. Post-disaster permitting procedures will be in effect countywide once moratoria is lifted.</p> | <ol style="list-style-type: none"> <li>1. What protocols should be in place between the state and county for shoreline assessment?</li> <li>2. What protocols should be in place to expedite special flood hazard area substantial damage assessments? Can any assessment procedures be used to serve multiple purposes?</li> <li>3. Is there messaging regarding reconstruction that should be issued at this point? What should it focus on?</li> </ol> |                 |

<sup>55</sup> Building evaluation and placarding system to quickly determine which buildings are safe to enter and those that are unfit for occupancy.

<sup>56</sup> The National Flood Insurance Program (NFIP) requires that counties enforce flood damage prevention regulations that specify that structures located in the special flood hazard area that sustain 50 percent or more damage be brought into compliance with the community’s flood damage prevention ordinance regulations.

| SCENARIO  | RECONSTRUCTION ORDINANCE PROCESS AND STATUS  | FOCUS QUESTIONS   | NOTES/QUESTIONS |
|---|--|---|-----------------|
| <p><b>6. ASSESS DAMAGE</b> – The County government now has a relatively detailed understanding of where damages occurred and the extent of damages in those areas. The Mayor consults with appropriate staff (emergency management, planning, public works, floodplain manager, etc.) to determine how to proceed with reconstruction and the overall recovery effort.<sup>57</sup></p> | <p><b>PROCESS: Designation of Areas of Catastrophic Levels of Damage.</b><sup>58</sup> Using the information obtained through all the damage assessments, the Mayor designates areas where catastrophic levels of damage have occurred. The sea level rise exposure area with 3.2 feet of sea level rise (SLRXA-3.2 feet) of the southeastern shoreline community planning area is designated an area of catastrophic damage due to the destruction/major damage of the majority of homes and businesses located therein, catastrophic shoreline damage, asset exposure to future flooding conditions, and loss of critical infrastructure and lifeline services supporting the development.</p> <p><b>STATUS:</b> The countywide moratorium is lifted. Continued moratoria are put in place for areas designated as catastrophically damaged and the county's special flood hazard area until substantial damage assessments are complete. Post-disaster permitting procedures are in effect for areas not in continued moratoria. One-Stop Service Centers are staffed by appropriate State and County staff.<sup>59</sup></p> | <ol style="list-style-type: none"> <li>1. Is there messaging regarding reconstruction that should be issued at this point? What should it focus on?</li> <li>2. What needs to be put in place beforehand to support designation of areas of catastrophic damage?</li> <li>3. Who needs to be at one-stop service centers? Do we have enough trained staff to cover multiple centers?</li> </ol> |                 |

<sup>57</sup> Ideally, the County would have completed a Recovery Preparedness Plan that pre-defines roles and responsibilities for the recovery process including parameters for catastrophic damage and how recovery activities will occur.

<sup>58</sup> A level of damage that results in significant alteration of the shoreline; causes extensive damage or destruction of residences; causes extensive damage or destruction of facilities that provide and sustain human needs; produces an overwhelming demand on State and local response resources and mechanisms; causes a severe long-term effect on general economic activity; and/or causes damage that challenges pre-disaster understanding of the location, extent, and/or magnitude of risk.

<sup>59</sup> Designated area where residents can come to inquire about and receive information on permitting requirements. In the event of a major disaster this may be co-located with a disaster assistance recovery center.



| SCENARIO   | RECONSTRUCTION ORDINANCE PROCESS AND STATUS   | FOCUS QUESTIONS   | NOTES/QUESTIONS |
|--|---|---|-----------------|
| <p><b>7. RECOVER</b> – The County begins to transition more fully from response and short-term recovery into intermediate and long-term recovery as reconstruction begins in areas not impacted by continued moratoria, special flood hazard area substantial damage assessments are completed, and recovery planning efforts are underway in areas deemed catastrophically damaged.</p> | <p><b>PROCESS: Permitting Procedures, One-Stop Service Center, Recovery Planning.</b> The reconstruction process is in full swing.</p> <p><b>STATUS:</b> Special flood hazard area substantial damage assessments are completed so the special flood hazard area moratorium is rescinded. Post-disaster permitting procedures are in place and reconstruction is occurring in those areas not deemed to be catastrophically damaged. Continued moratoria are still in effect in catastrophically damaged areas and the recovery planning process for these areas is underway.</p> | <p>1. What could we do before an event to expedite the recovery planning process in catastrophically damaged areas?</p> <p>2. Is there messaging regarding reconstruction that should be issued at this point? What should it focus on?</p> |                 |
| <p><b>8. RECOVER</b> – After one year the County has made considerable progress in its recovery efforts.</p>   | <p><b>PROCESS:</b> Post-disaster permitting procedures are still in effect for another year (2 years after event). The continued moratorium on catastrophically damaged areas is lifted. One-Stop Service Centers are closed.</p> <p><b>STATUS:</b> The recovery planning process has concluded and reconstruction/ elevation/relocation has started in catastrophically damaged areas. Most of the minor damage to structures has been repaired and considerable progress has been made on repairing/ reconstructing major and substantially damaged properties.</p>             | <p>1. What could we do before an event to expedite the recovery planning process in catastrophically damaged areas?</p>   |                 |

## Workshop Objectives

### Focus

process outlined in reconstruction ordinance

### Test

on decision-support information

### Learn

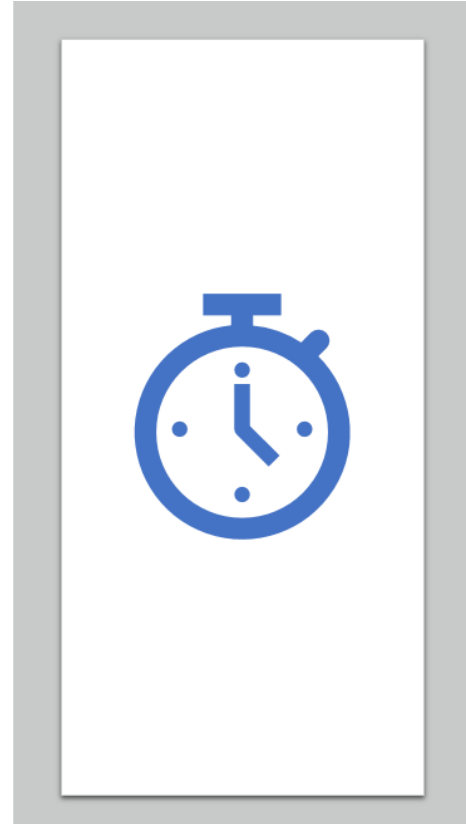
from attendees expertise and lived experience

## Ground Rules

- This is a thought exercise, suspend disbelief, and have fun!
- Focus on streamlined and resilient post-disaster reconstruction of private property
- All participants' thoughts and ideas are encouraged ... please speak up!
- Please be considerate of the large group – be concise in your remarks!
- Process is untested!
- No need for resolution

# Scenario Instructions

- You will receive 8 scenario updates
- You have 10 minutes to discuss each scenario update
- Each scenario update will begin with a alert siren!
  - Review scenario, process update, & status
  - Discuss focus questions
  - Document thoughts, questions, ideas, etc.
- You will given a warning to wrap up 2 min before the next scenario update
- We will shift to the next scenario when you hear the siren



## #1 - PREPARE

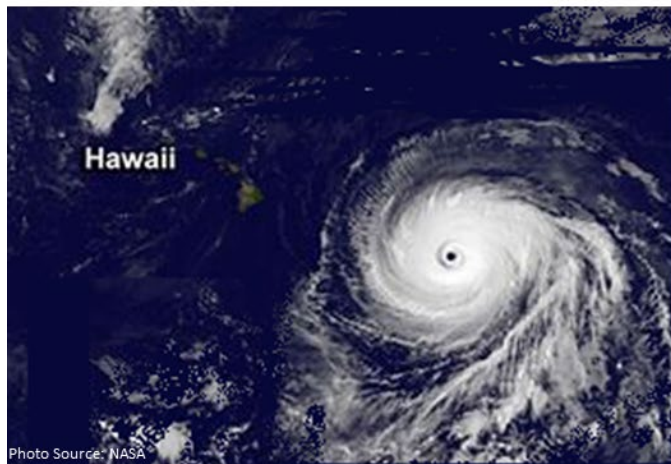
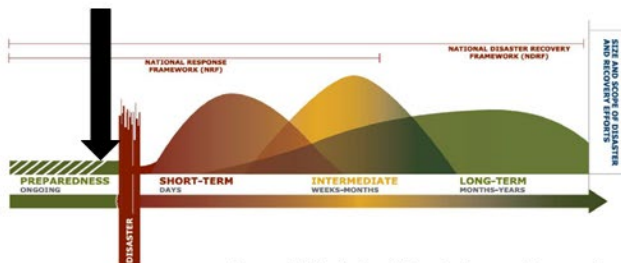
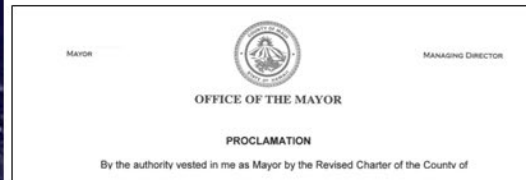


Photo Source: NASA



Source: FEMA, National Disaster Recovery Framework

### RECONSTRUCTION STATUS

- Countywide development moratoria

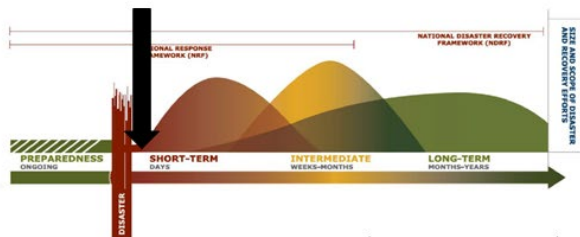
## #2 - RESPOND



Photo Source: FEMA



Photo Source: FEMA



Source: FEMA, National Disaster Recovery Framework

### RECONSTRUCTION STATUS

- Countywide development moratoria

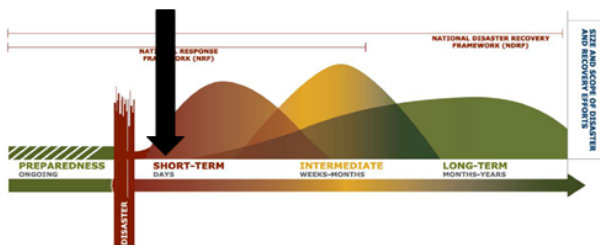
## #3 – ASSESS DAMAGE



Photo Source: FEMA

### \*\*NOTICE\*\*

A countywide moratorium on all reconstruction is in effect until damage assessments have been completed.



Source: FEMA, National Disaster Recovery Framework

### RECONSTRUCTION STATUS

- Countywide development moratoria
- Post-disaster permitting procedures will be in effect countywide once moratoria is lifted

# #4 – ASSESS DAMAGE



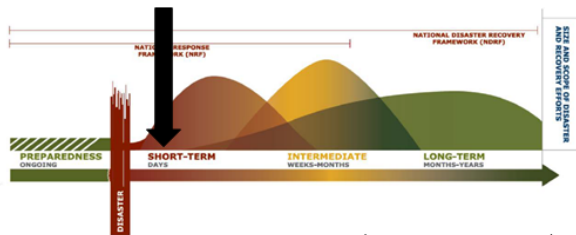
11,500 homes and businesses



4,000 homes and businesses



6,000 homes and businesses

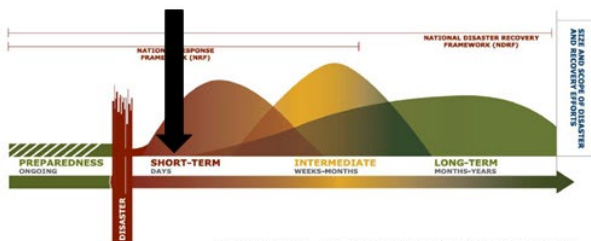
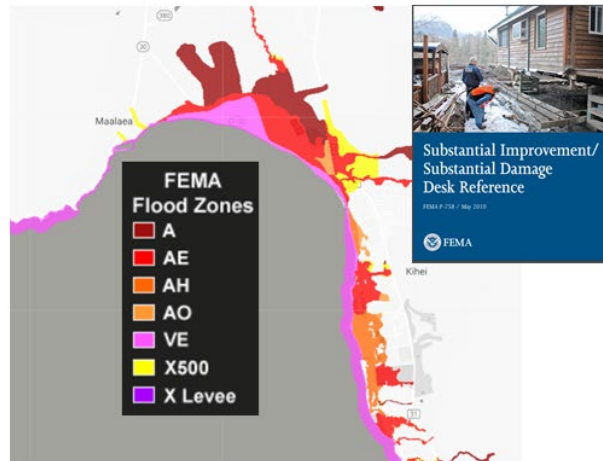


Source: FEMA, National Disaster Recovery Framework

## RECONSTRUCTION STATUS

- Countywide development moratoria
- Post-disaster permitting procedures will be in effect countywide once moratoria is lifted

# #5 - ASSESS DAMAGE



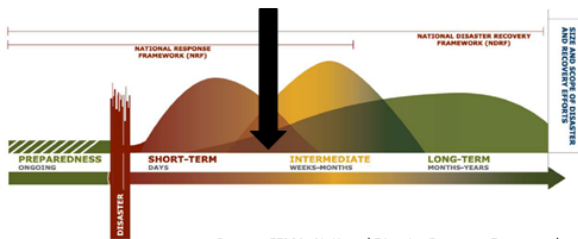
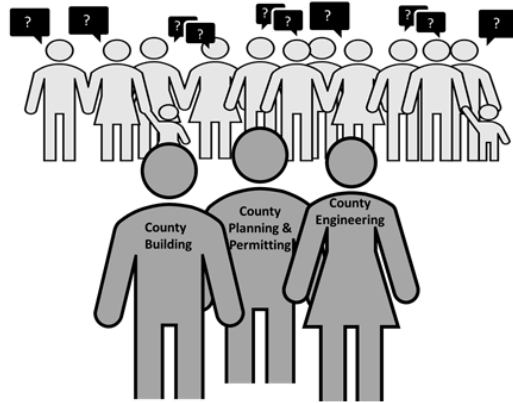
Source: FEMA, National Disaster Recovery Framework

## RECONSTRUCTION STATUS

- Countywide development moratoria
- Post-disaster permitting procedures will be in effect countywide once moratoria is lifted



# #6 - ASSESS DAMAGE



Source: FEMA, National Disaster Recovery Framework

## RECONSTRUCTION STATUS

- Continued moratoria are in place
  - Special Flood Hazard Areas
  - Catastrophically Damaged Areas
- Post-disaster permitting is in place
- One-Stop Service Centers are open

# #7 - RECOVER

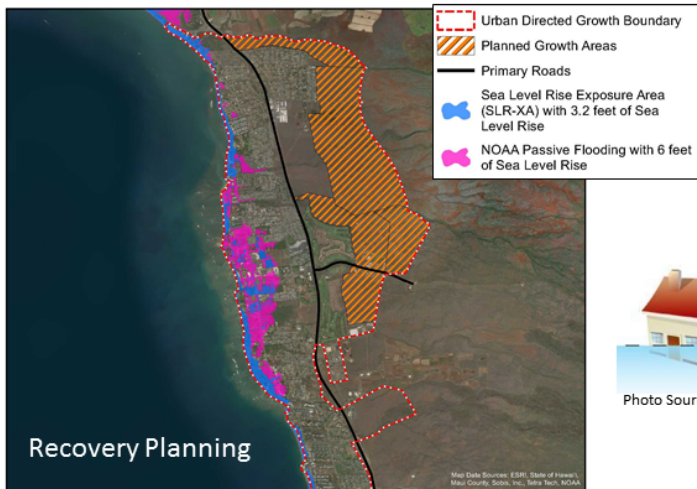
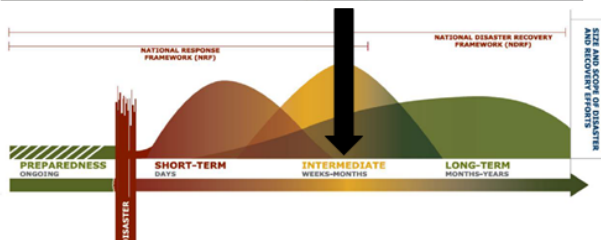


Photo Source: FEMA

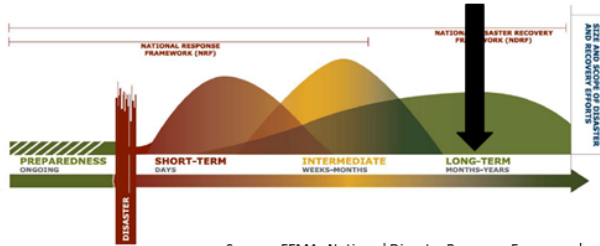
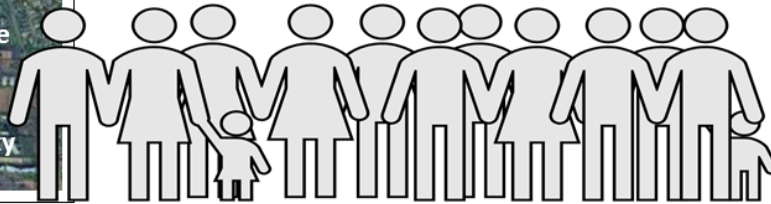
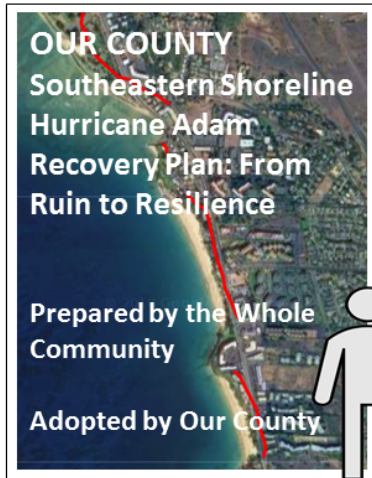


Source: FEMA, National Disaster Recovery Framework

## RECONSTRUCTION STATUS

- Post-disaster permitting is in place
- One-Stop Service Centers are open
- Continued moratorium for catastrophically damaged areas
- Recovery planning process is underway

# #8 - RECOVER



Source: FEMA, National Disaster Recovery Framework

## RECONSTRUCTION STATUS

- No moratoria in effect
- Post-disaster permitting procedures still in effect for hurricane related damages

## Reconstruction Ordinance Scenario Debrief



Based on your experience does this process seem workable?

What unanticipated issues arose or what areas do you think are the least likely to be feasible?

What gaps were identified? What have we not considered that we should?

## Catastrophic Damage Determination

- Have other counties/municipalities used a catastrophic damage determination to redirect development outside hazard prone areas?
- What criteria should be considered in defining catastrophic damage?
- How can long-range planning support post-disaster reconstruction?

## Hot Wash

1

Is the process scalable to different levels of disaster impacts?

2

What are pro's and con's of focusing on an ordinance vs recovery preparedness plan?

3

What are priorities for moving forward?





