



Old Republic Inland Marine

Be Ready Before the Storm

Hurricane Emergency Response Plan

Guidance on Site-Specific Response Plan & Checklists

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INTRODUCTION

Hurricanes are among the most destructive natural forces on Earth, and even lower-category storms can pose serious risks to construction sites. Tropical storms—with wind speeds exceeding 74 mph (33 m/s)—can cause extensive damage through storm surges, heavy rainfall, tornadoes, and flying debris. These impacts can compromise structural integrity, delay timelines, and increase project costs.

For construction teams, proactive planning and site-specific hurricane preparation are essential. This includes securing loose materials, reinforcing temporary structures, protecting equipment, and ensuring proper drainage to prevent flooding. Understanding that hurricanes are a type of tropical cyclone—large, powerful systems that form over warm waters in the Atlantic Ocean, Caribbean Sea, Gulf of Mexico, and eastern Pacific—is key to anticipating their behavior and impact.

Construction sites face unique vulnerabilities during hurricanes due to incomplete structures, unsecured materials, and the presence of long-lead and heavy equipment. These factors not only pose significant safety risks but can also lead to costly damage and project delays. Ensuring site and worker safety and minimizing disruption requires a proactive approach to storm preparedness.

This brochure outlines essential strategies, including site securing procedures, proper storage of equipment and materials, effective workforce communication plans, evacuation and emergency protocols, and post-storm inspection and recovery measures. With hurricane wind speeds exceeding 74 mph capable of toppling scaffolding and cranes, and unsecured materials turning into dangerous projectiles, preparedness is not optional; it is critical.

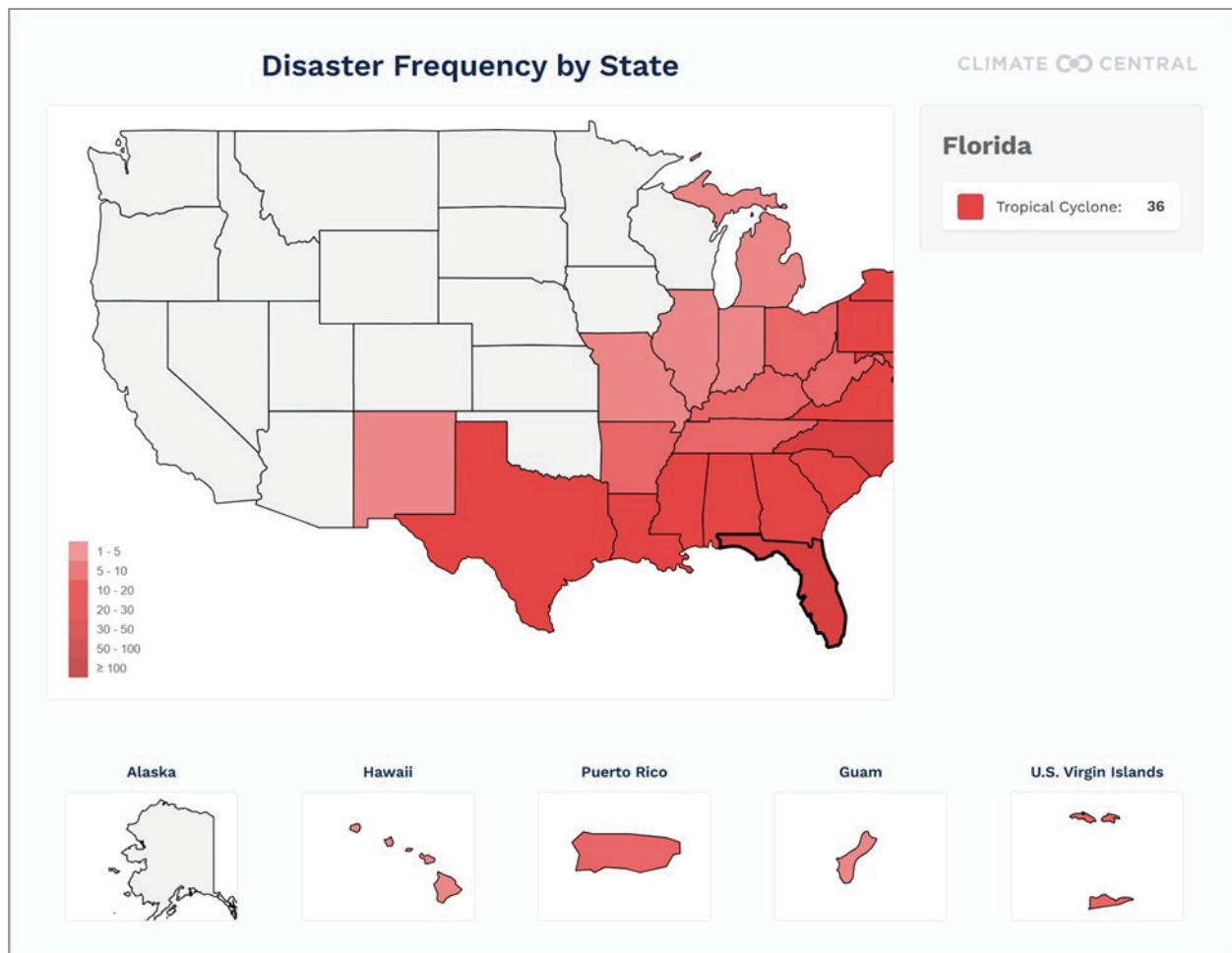
By integrating hurricane resilience into project planning and execution, construction teams can significantly reduce risk and protect both assets and personnel.



CATEGORY AND SEASONS OF HURRICANE

HURRICANE SEASONS

Tropical storms (hurricanes, typhoons, and cyclones) rank among the most destructive natural disasters on Earth as they can cause widespread devastation. The term “hurricane” specifically refers to large storms that develop over the Atlantic basin, which includes the Atlantic Ocean, Caribbean Sea, Gulf of Mexico, and parts of the Pacific Ocean near North America. The broader term for these storms is “tropical cyclones,” though they are also known as “typhoons” or simply “cyclones,” depending on the region where they occur. The Atlantic hurricane season runs from June 1 to November 30, while the Eastern Pacific hurricane season begins earlier, from May 15 to November 30. The map below illustrates hurricane activity across North America, highlighting coastal states along the Gulf of Mexico and the Atlantic region.



Source: Climate Matters. "Disaster Frequency in Florida." Climate Central, 2025.

HURRICANE SEASONS IN THE UNITED STATES

Below is the summary of the typical seasons for hurricanes in the United States.



Eastern Pacific Hurricane Season:

May 15-November 30.



Atlantic Hurricane Season:

June 1-November 30.



Central Pacific Hurricane Season:

June 1-November 30.

HURRICANE CATEGORIES

When developing a hurricane action plan, it's crucial to understand the foundational criteria that guide your preparations. Hurricanes typically produce damaging winds spanning 50 to 100 miles in diameter, with the overall storm system extending between 100 and 300 miles wide. According to the National Hurricane Center, the Saffir-Simpson Hurricane Wind Scale rates hurricanes from Category 1 to 5 based solely on their maximum sustained wind speeds. However, this scale does not account for other life-threatening hazards such as storm surge, flooding from heavy rainfall, or tornadoes.

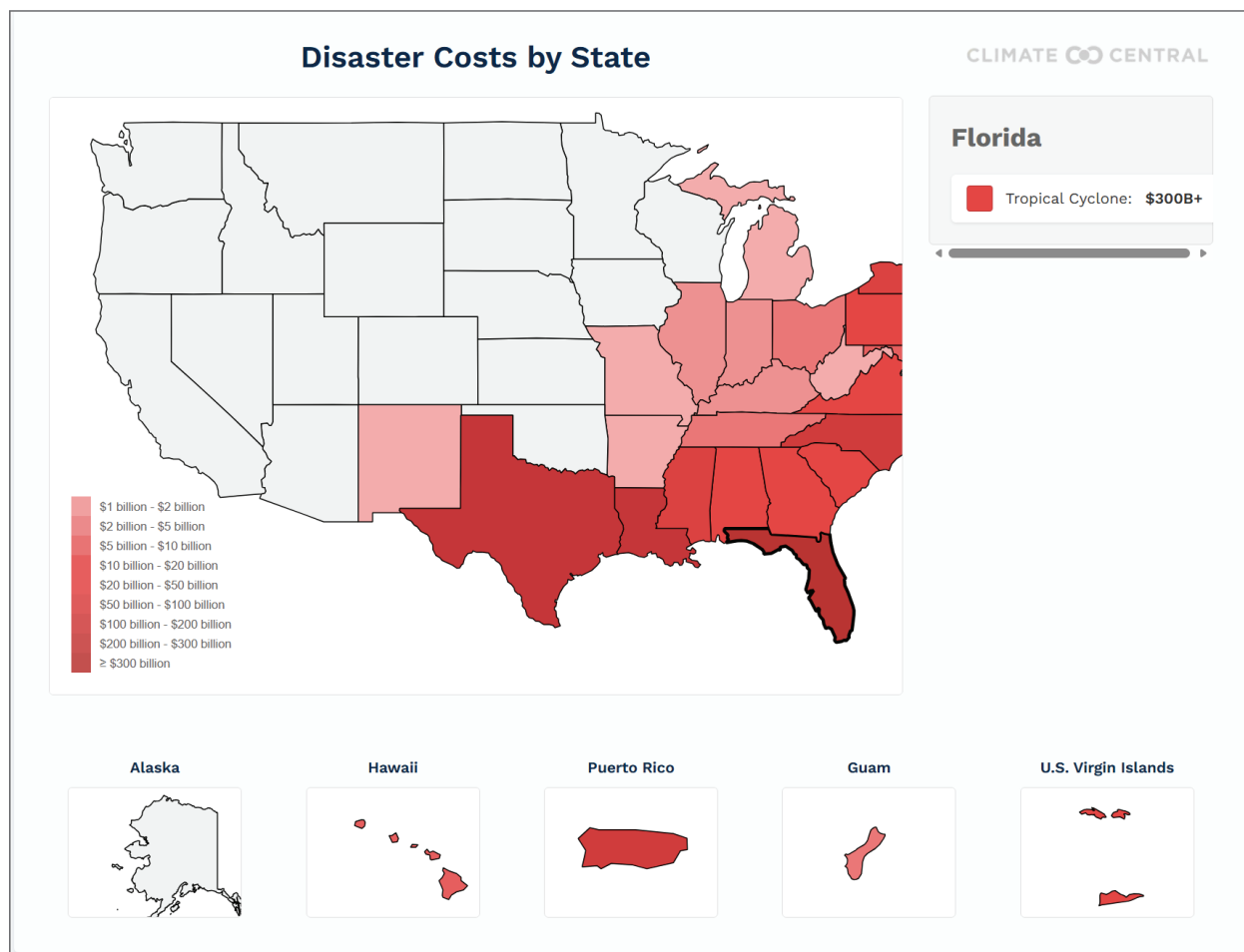
While the Saffir-Simpson scale is a valuable tool for assessing a hurricane's intensity and informing the public about potential wind-related impacts, it's important to recognize its limitations. Additional threats—like coastal and inland flooding and tornadoes—often accompany hurricanes, especially during and after landfall. Despite these limitations, hurricane warnings and forecast categories are essential for guiding emergency response efforts and resource deployment as a storm approaches. The table below outlines the wind speeds and potential damage associated with each hurricane category.

TABLE OF HURRICANE CATEGORIES AND THEIR DEFINITIONS

Category	Wind Speed (mph)	Description
1	74-95	Dangerous winds will produce some damage
2	96-110	Extremely dangerous winds will cause extensive damage
3	111-129	Devastating damage will occur
4	130-156	Extreme damage will occur
5	157+	Catastrophic damage will occur

ECONOMIC IMPACT OF HURRICANES IN THE UNITED STATES

According to the National Oceanic and Atmospheric Administration (NOAA), hurricanes are among the most devastating natural disasters in the United States, responsible for over half of the \$1.79 trillion in damages from billion-dollar weather events between 1980 and 2020. These storms cause extensive property damage through high winds, storm surge, and flooding, affecting buildings, infrastructure, and utilities. In addition to physical destruction, hurricanes lead to significant business interruptions by disrupting supply chains, transportation networks, and essential services. To mitigate these effects, NOAA's Industry Proving Grounds (IPG) collaborates with industries to develop tools that enhance infrastructure resilience and support rapid recovery. Furthermore, hurricanes trigger economic ripple effects such as debris flows, downed trees, and damaged roads, which prolong recovery efforts and increase costs. NOAA, along with the Federal Reserve Bank of New York, provides detailed county-level data to help quantify these losses and inform planning and insurance strategies.



Source: Climate Matters. "Disaster Costs in Florida." Climate Central, 2025.

KEY ELEMENTS OF HURRICANE EMERGENCY RESPONSE PLAN (HERP)

When a hurricane is approaching a construction site, several critical procedures and elements must be considered to ensure safety and minimize damage. Primarily, site managers should activate the emergency preparedness plan, which includes securing loose materials, scaffolding, and equipment that could become airborne in high winds. All temporary structures should be reinforced or dismantled, and cranes should be properly tied down or lowered. It's essential to protect unfinished buildings by covering exposed areas with waterproof sheeting and ensuring drainage systems are clear to prevent flooding. Staff should be evacuated well in advance, and communication lines must remain open for updates and coordination. Additionally, documentation of the site's condition before the storm can be valuable for insurance and recovery purposes. Coordination with local authorities and adherence to NOAA and Federal Emergency Management Agency (FEMA) guidelines are also vital to ensure compliance and safety throughout the event. At a minimum, the following items should be considered when developing a hurricane preparedness plan. While not exhaustive, this list is intended to spark discussion and help generate a tailored, site-specific strategy. Each construction site presents unique conditions and vulnerabilities, so it's essential that the plan addresses the specific exposures, risks, and available resources relevant to that location.

GUIDANCE ON HURRICANE EMERGENCY RESPONSE PLAN PREPARATION

1. Emergency Planning

- a. Prepare a site-specific hurricane emergency response plan, which not only addresses the high wind but also flood and storm surge if the location is close to bayous, lakes, canals, rivers, and coastal areas.
- b. Be aware of upstream dams and levees and assess the impact on the construction site if their integrity is breached.
- c. Assess the impacts of power loss for an extended period and make arrangements in advance with a third party for portable power.
- d. Conduct risk assessments in advance to identify worst-case scenarios for the supply chain arising from hurricane events.
- e. Assign roles and responsibilities to key personnel and establish means of communication through phones, emails, websites, social media platforms, and news bulletins.
- f. Keep the contact information updated for local utility companies, local fire stations, jurisdictional authorities, and support services, including fire alarm monitoring companies, security, and telecommunications.
- g. Establish communication protocols with workers, contractors, and emergency services.

2. Site Securing

- a. Remove or secure loose materials, tools, and debris.
- b. Tie down or dismantle scaffolding, temporary structures, and signage.
- c. Secure construction equipment, mobile cranes, and temporarily staged equipment.
- d. Clear laydown areas of loose materials and stored equipment.
- e. Lower cranes and secure them properly.
- f. Ensure high-lead items are stored securely.

3. Structural Protection

- a. Cover exposed structures with waterproof sheeting or tarps.
- b. Ensure all windows, doors, and openings are sealed or boarded up.
- c. Check and clear all permanent and temporary drainage systems to prevent flooding.
- d. All below-grade constructions like basements, openings of tunnel shafts, tunnels, pipelines, and well systems should be protected by berms and/or coffer dams to protect these areas against flooding.
- e. Secure slope, excavation, and embankment from failures.
- f. Ensure that construction trailers and portable buildings are equipped with tie-down provisions. During hurricane season, any trailers or portable buildings that will remain on site must be securely anchored with tie-downs.

4. Utility Management

- a. Shut off gas, domestic water, and electricity if necessary.

- b. Arrange lightning and power surge protection for sensitive areas.
- c. Secure fuel tanks and hazardous materials under a well-established containment system.
- d. Verify backup power systems are operational and fuel supplies are adequate.

5. Protection from High Water, High Wind, and Wind-Driven Rain

- a. High Water: Use sandbags and barriers to prevent flooding on the first floor and below-grade construction.
- b. Elevator shafts should be protected on all levels against ingress of water by placing a leakproof berm by fastening two-high 2x4s.
- c. High Wind: Install hurricane shutters and reinforce structures where possible and when considered to be critical.
- d. Wind-Driven Rain: Seal windows and doors where possible and use waterproof covers for sensitive equipment.

6. Documentation

- a. Take photos or videos before and after the storm of the site for insurance and recovery purposes.
- b. Back up all project documents and data electronically and as hard copies at least 36 hours before the storm.

7. Evacuation and Safety

- a. Ensure all personnel are safely evacuated before the storm.
- b. Provide updated emergency contact information and shelter locations.

8. Post-Storm Planning

- a. Coordinate with local authorities to find out if it is safe to return to the site to conduct post-hurricane recovery efforts.
- b. Contact key personnel and vendors to organize and activate the recovery plan.
- c. Prepare for site inspection and damage assessment.
- d. Look out for leaks of hazardous chemicals, gases, and potential collapse due to mechanical integrity issues.
- e. Report claims and any impairments in fire protection.

9. Resources

Explore the following resources while preparing a site-specific hurricane preparedness plan.

- [Hurricane Safety Tips and Resources](#)
- [Hurricane Preparedness and Evacuation Planning | FEMA.gov](#)
- [Hurricane Preparedness and Response - Introduction | Occupational Safety and Health Administration \(OSHA\)](#)
- <https://www.ready.gov/recovering-disaster>
- <https://www.epa.gov/natural-disasters/hurricanes#recover>

BASICS OF HURRICANE EMERGENCY RESPONSE PLAN

On average, the U.S. coastline experiences three hurricanes every two years, with one typically being a major hurricane (featuring winds of 111 mph or higher). By understanding and preparing for the necessary actions before hurricane season, during a storm's approach, while it impacts your area, and after it passes, you can improve your chances of staying safe and recovering quickly.

The Hurricane Emergency Response Plan (HERP) should clearly specify when hurricane protection procedures begin and identify key milestones for action at the project site. It must detail the exact time limits for each required step and be coordinated with the individual action plans of all project contractors. Planning should include the following elements:

- Pre-season preparation (before June 1)
- 48 hours before landfall
- 36 hours before landfall
- During the storm
- After the storm

BEFORE HURRICANE SEASON BEGINS

The best time to prepare your HERP is before the hurricane season begins on June 1. It is vital to understand your location and project vulnerabilities to storm surge, flooding, and wind. Here is your checklist of things to do BEFORE hurricane seasons begin.

- Know your zone:** Is your project near the American Gulf or Atlantic Coasts? Find out if you are in a hurricane evacuation area by contacting your local government/emergency management office or by checking the evacuation site website.
- Emergency Kit:** Put together an Emergency Kit specific to the construction location. Check emergency equipment, such as standby power, flashlights, storm shutters, medical first aid kits, batteries, UPS, fuel storage for special vehicles, generator and fire pumps, cleanup materials and supplies, sump pumps and hoses, drying equipment, fire extinguishers, etc.
- Write or review your site-specific HERP: Before a hurricane or other emergency occurs, senior management—alongside a Natural Catastrophe (Nat Cat) specialist, whether internal or a third party—must develop a site-specific HERP. This plan should outline detailed actions to be taken at key intervals: prior to the hurricane, 48 hours before landfall, 36 hours before landfall, during the storm, and post-event recovery. All checklists associated with these phases must be completed and available before June 1.



- d. **The Emergency Response Team (ERT) should be thoroughly trained on the procedures** outlined in the HERP to ensure readiness.
- e. **Copies of the HERP and its checklists should be stored in the emergency supplies kit** or another secure, easily accessible location. For optimal accessibility during a disaster, digital versions should be made available to all relevant personnel via mobile devices and computers.
- f. **Review Your Insurance Policies:** Review your insurance policies to ensure that you have adequate coverage for your property and business interruptions.
- g. **Named Windstorm (NW):** Understand National Weather Service (NWS) forecast products, especially the meaning of NWS watches and warnings.
- h. **Evacuation Route Sign:** A sign directing evacuees to safety, symbolizing the importance of having a clear evacuation plan.

ACTIONS TO TAKE 48 HOURS AND 36 HOURS BEFORE HURRICANE

Each construction site is unique in terms of risks and vulnerabilities to high winds, flooding, and surges if located in coastal areas. Preparation for hurricanes and flooding should be specific to the site's exposures and vulnerabilities. The severity of the hurricane, the types and stages of the construction project, and the scope of the preparatory work should define the scope of the preparatory work. At a minimum, the following actions are recommended 48 hours and 36 hours prior to the landfall of a hurricane.

48 hours before landfall:

During this early stage of hurricane preparation, the Emergency Response Team (ERT) should prioritize tasks that are labor-intensive and require extended time to complete. These activities should be executed before the 48-hour mark ahead of landfall and may include:

- a. Securing all loose items and removing debris that could become airborne.
- b. Relocating critical equipment to higher ground or, if feasible, moving it indoors.
- c. Partially or fully disassembling tower cranes or relocating large mobile cranes to safe zones.
- d. Reinforcing temporary structures, construction office trailers, roof-mounted equipment, and uncured concrete floors to prevent damage.
- e. Planning for the collection of hazardous waste and construction materials.
- f. Ensuring all roof drains and storm drains are clean and operating normally.



- g. Ensure all below-grade areas are protected with sandbags and sump pumps along with backup power to be tested for functioning and placed at appropriate places.

36 hours prior to hurricane:

- a. Activate Hurricane Emergency Response Plan and Flood Emergency Response Plan.
- b. Shut down non-essential operations.
- c. Ensure all personnel are aware of evacuation routes and procedures.
- d. Cover critical materials with waterproof tarps; seal open valves, pipes, and conduit runs; raise critical equipment off the floors; shut down equipment and turn off fuel gas services.
- e. Ensure all items noted in the Emergency Kit list are procured and stored at a safe location.

These proactive measures will help reduce risk and ensure the site is better prepared for the approaching storm.

DURING THE HURRICANE

Actions taken during the 48-hour and 36-hour windows prior to the landfall of the hurricane will be critical determines the effectiveness of the application of HERP.



The coastal regions under hurricane watches and warnings can shift frequently as the storm progresses. These alerts offer a general idea of how much time residents may have to prepare. However, it's important to remember that these timeframes are only estimates—hurricanes are unpredictable and may arrive sooner than expected.

The key elements for the successful deployment of the HERP and ERT are communication, Risk Assessment of the overall impacts of the hurricane approaching the facility, personnel training, and the availability of required resources. The head of the ERT should ensure the following:

AFTER HURRICANE

- a. Monitor weather updates and communicate to the team
- b. Follow evacuation orders if issued
- c. Ensure all personnel are safe and accounted for
- d. Follow local instructions
- e. Local emergency managers will provide the latest safety recommendations. Follow their guidance closely. Use multiple methods to receive alerts, such as the FEMA app, National Weather Service updates, community alerts, and the Emergency Alert System (EAS).

Post-hurricane site re-entry and recovery plan

Site Access and Safety Verification: Before entering the affected site, the emergency response team (ERT) must first consult with local authorities to confirm that access is safe and permitted.

Preparation Before Arrival: Ensure all necessary supplies, including personal protective equipment (PPE) and cameras, are brought to the site. These will be essential for documenting damage and ensuring safe entry.

Initial Site Assessment: Upon arrival, conduct a thorough survey of the facility. Pay special attention to potential hazards, especially in high-risk environments such as chemical plants, gas processing facilities, or commercial buildings with tower cranes. Look for any unusual or dangerous conditions.



Damage Documentation: Record and photograph all visible damage. This documentation is critical for initiating immediate repairs and for supporting insurance claims. **Salvage and Mitigation Activities:** Begin salvage operations as soon as it is safe to do so. Prompt action can help prevent further damage to property and equipment. **Vendor Coordination:** Contact all relevant third-party vendors immediately to initiate the recovery process and minimize downtime.

Claims and Impairment Reporting: Notify Old Republic Inland Marine to report any claims and document impairments to fire water systems or other critical fire protection infrastructure.

CONCLUSION

In conclusion, effective hurricane preparation on construction sites demands a proactive, well-structured approach. Begin by assessing your site's vulnerability to wind, rain, flooding, and tornadoes. Assign both a primary and alternate Hurricane Coordinator by name and establish a detailed Hurricane Emergency Response Plan (HERP) with clearly defined checklists for 48 hours prior, 36 hours prior, during, and after the storm—finalized before June 1. Each checklist should have designated personnel, including alternates, identified by name.

Ensure all team members, subcontractors, and vendors are trained and informed prior to the start of hurricane season. Know your evacuation zones and routes and develop

contingency plans for both personnel and equipment. Secure all critical documents—such as contracts, drawings, procedures, and insurance policies—in a protected digital format. Reinforce temporary structures, secure loose materials, and safeguard technology assets. Stock essential supplies to maintain operations and support personnel during disruptions.

Once the storm has passed and it is safe to do so, assess damage, initiate cleanup, and restore operations in phases. Senior management must conduct a post-event review to identify gaps and update the HERP based on lessons learned.

By adhering to this timeline and plan, your team will be well-prepared to protect lives, minimize damage, and ensure the continuity of your construction project throughout hurricane season.