Top 10 Hurricane Preparedness Practices for Construction Sites
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Last year, the National Oceanic and Atmospheric Administration (NOAA) recorded that the North Atlantic saw the third highest number of major hurricanes to date. North America alone saw three tropical storms and four hurricanes make landfall, the most hurricane landfalls since 2005.

As the 2018 hurricane season is upon us (running from June 1 to November 30), it can be difficult to predict when and where a hurricane will hit, but being prepared for a pending storm is invaluable. It’s imperative to begin construction site hurricane planning efforts early and to be as prepared as possible prior to any storm. Preparing for a storm can help ensure the safety of not only project and on-site teams but also of the surrounding communities. Below are 10 items the CBRE Project Management team find most helpful when preparing for a hurricane or natural disaster.

1. Develop and Review a Hurricane Preparedness and Safety Plan
   Prior to hurricane season make sure the project contractor has provided the team with a hurricane preparedness and safety plan. Review this plan with the entire team and compare it with the overall facility hurricane preparedness plan to ensure proper integration with the owner. This document outlines the exact timeline and steps the contractor will take to safely secure the project site in the
event of a storm. The integrated process is especially important when dealing with renovation projects, exterior upgrades or projects that connect new construction to existing facilities.

It's imperative that every member of the project team realize the importance of safety and how to prevent on-site incidents. Be sure to speak up, if you see something that could be a safety hazard then let your team lead know and fix the issue right away. Please use caution and stay inside once the storm hits your project site. Going outside could put you, facility staff and team members at risk. Be sure to use your best judgement and always embody a safety first culture.

2. Create a Construction Site Risk Register

With a storm approaching, assess and document all potential risks and impacts on the construction site in a risk register. Partner with the contractor to create this list and increase awareness by sharing it with the owner, team members and other stakeholders. The risk register should include cost impacts if stored materials are compromised due to storm damage. Having these risks identified early will give you supporting documentation to prepare for added project costs, schedule impacts incurred as a result of a storm or an insurance claim, if needed.

3. Establish a Ride-Out Team

Work with the general contractor and subcontractors to create a ride-out team during a hurricane. This team will stay at the facility throughout the duration of the storm. For renovation projects, electrical and mechanical subcontractors will typically be familiar with existing hospital systems and can play a critical support role in the event of utility failures. They can provide additional reinforcement to the facility maintenance team, connecting temporary equipment including generators and chillers, as well as aid in securing the exterior of the facility. Securing the facility includes, but is not limited to, boarding windows and placing sand bags. The ride-out team will work with the facility team after the general contractor has completed activities outlined in their hurricane preparedness plan and can help bring the facility back online after the storm.
4. Evaluate Tower Crane Risks on a Project Site

If tower cranes are a part of your project, communicate clearly to project leadership the risks of having tower cranes on the project site during a storm and be prepared for questions. Tower cranes can’t be removed quickly; they require extensive planning, scheduling and time to disassemble. Our team suggest having the general contractor and subcontractor provide wind ratings for the cranes and an action plan for proper protection, i.e. wind veining and tie down supports. The subcontractor may also deliver an engineering report for structural integrity. All of this information should be provided to project stakeholders so they understand the risks and precautions taken to ensure the tower cranes stay standing.

5. Prepare Your Home for the Storm and Complete a Personal/Family Evacuation Plan

Being prepared for a storm on your project site is important, but preparing your home and family is more important. Don’t forget to secure your home and board up windows. Also, be sure to have an evacuation plan for your family. This includes having vehicles filled with gas and preparing a bug-out bag with all the necessary supplies including water, food, flashlight, extra batteries and medications needed. The FEMA hurricane website is a great resource to review to make sure your home and family stay safe.

6. Monitor Reports and Local Announcements

Be sure to monitor NOAA NHC reports, local jurisdiction and CBRE emergency websites for weather updates, and follow local AHJ recommendations for evacuation announcements. These sites will keep you and your team updated on the latest storm developments, storm tracking and local safety recommendations. Remember, you can’t help keep others safe if you yourself are in danger. Safety before service, always.

7. Document All Work in Progress, Inventory of Materials and On-site Teams

Partner with the contractor to document all work currently in progress, overall inventory of materials and on-site teams. This, along with the risk register, will help you assess the jobsite for damage after the hurricane and get you back to work quickly. This documentation should be saved and submitted in the event an insurance claim needs to be filed.
8. Request Access to the Facilities Disaster Communications Team

With the jobsite secure and shut down, be sure the ride-out team is integrated into the facilities hurricane operations and communications. This will keep the team updated on what’s going on inside the facility and help disperse the team where needed. Ride-out project managers should be the main point of contact between the project team and the facility’s emergency command center. This line of communication is critical as the storm approaches.

9. Assess the Damage After the Storm

After the hurricane has passed, assess the construction damage, manpower costs and schedule impact. Keep in mind the construction contractors and subcontractors are affected personally by the storm, and it may take several weeks to get the project fully staffed after a natural disaster.

At this point, the risk register and documentation will be useful. If done correctly, most issues have been identified and will only need updating. Remember, all of this documentation will need to be submitted to the owner and/or stakeholders to provide insight to how the hurricane impacted the project. There may be two unknown schedule impacts to be aware of:

- **Reduced manpower:** Depending on the severity of the storm, workers may be spending time away from the project to support their family and personal property. If they are trade workers that travel, they may not be able to physically travel back to the city.
- **Product/material distribution and procurement:** Distribution routes, distribution facilities and material suppliers may be damaged or impacted by the storm, causing unexpected delays to product and material deliveries.

10. Decide to Leave or Ride Out the Storm

Traffic on hurricane routes will be at a standstill for those who wait until the last minute to evacuate. Oftentimes, those who wait end up getting stuck in their vehicles when the storm hits, which can leave them in a life-threatening predicament. Make your travel choices early and stick to your plan.

Conclusion

In closing, remember not to panic. If you work closely with your team, communicate with staff, prepare the construction site and keep safety as your number one priority, then you are as prepared as possible. Make yourself available and communicate often before and after the storm. Although we can’t control natural disasters, we can control how we prepare for them. Plan early and stay safe.
About the Author

Last year, Andrew Gilbert worked alongside his client, project team and CBRE facilities management team to protect a multi-million-dollar project after Hurricane Harvey made landfall. His team was able to keep the facility and its occupants safe and fully operational by following the suggestions listed above. Andrew is a part of CBRE’s Healthcare Project Management team and manages large capital projects, field coordination, logistics planning, shutdown management and day-to-day client representation in all project discussions. His strengths lie in communication and coordination of multiple project teams which greatly benefit the construction management of healthcare facilities projects.

For more information on how to actively prepare your construction site for a hurricane, contact Andrew.Gilbert@cbre.com.