FLOOD PROOFING YOUR BUSINESS

There are many techniques to flood proof your business, or at least minimize the risk of water damage. Choosing the most appropriate technique, however, is helpful for avoiding even more costly damage. Therefore, it is important to first seek a professional to determine what type of flood proofing should be applied to your structure. Techniques include:

Dry flood proofing: techniques to prevent water from entering your structure. Some examples include:
- Waterproof coating or membrane to exterior walls
- Waterproof shields over all openings, including windows and doors
- Strengthened walls to withstand flood water pressures and debris.

Wet flood proofing: techniques to allow water to enter your structure, but minimizes the damage to the structure and interior materials. Some examples include:
- Sealed walls and floors to reduce or prevent the penetration of floodwater. It’s important to choose the right sealant for the job.
- Anchored ancillary structures, tanks and sheds to prevent them from being washed away
- Flood resistant materials and elevated mechanical and utility equipment above the BFE, or 1-3 feet higher than freeboard
- Openings, vents or breakaway walls to allow water to move through the structure, including the basement

Elevating your structure: raising your building several feet above the base flood elevation will reduce the exposure to flood waters.

Note that the BFE is a conservative estimate for determining flood level because it is based on historical data, and does not account for recent trends of heavy precipitation and intense storm, which are expected to continue. For this reason, state law requires new construction to be one foot above the BFE, though some communities require an even higher freeboard (distance above BFE).
FLOOD MANAGEMENT PREPAREDNESS

- Ensure up-to-date facility plans document emergency shutoffs, utilities and fire-protection systems and other important infrastructure details. A copy of these plans should be stored off site.
- Locate all the drains on your property, both indoors and outdoors, and mark your drains where they go. Consider locating drain covers and spill supplies near drains so you can close them off, if you have time and it is safe to do so.
- Designate an individual to regularly conduct inspections of containers stored in outdoor storm shelters.
- Have supplies ready such as filled sandbags, plywood to fit the windows, screws and tools.

SAVE MONEY—SAVE YOUR BUSINESS

Here’s how:
- Reduced or eliminated costs of permitting, monitoring, tracking and reporting by switching to safer chemicals
- Reduced repair costs for property damage due to floods
- Reduced disposal costs by switching to safer chemicals
- Potentially lower business costs associated with workers’ comp and liability insurance
- Protection of product inventory by preventing the accidental release during floods
- Lower cleanup costs after a flood by switching to safer chemicals
- Getting your business up and running again sooner
- Reduced risk of illness or death from flood hazards and chemical exposure

AS EASY AS 1, 2, 3...

Three steps to reduce toxic exposures during a flood or storm surge.

1. SUBSTITUTE
   - Switch to safer chemicals or processes when feasible.

2. REDUCE
   - Keep chemical inventory to a minimum.

3. SECURE
   - Store chemicals properly and securely above the base flood elevation.

1. Substitute and Reduce the Hazard of a Chemical Spill
   The most effective way to eliminate a toxic release is to eliminate the hazard. This can be done by switching to safer chemicals and processes. If possible, the most hazardous chemicals should be replaced with alternatives that pose significantly less risk to workers, the community and the environment. For example, dry cleaners can switch from solvent based cleaning to eco-friendly wet cleaning.

2. Reduce Your Chemical Inventory
   - Review your chemical inventory and ordering practices to ensure the inventory does not include more hazardous materials on-site than necessary.
   - Reduce or eliminate outdoor storage of materials to prevent loss and possible release during a flood. If necessary, make sure materials are secured and anchored.
   - Schedule hazardous waste pick-up to minimize the amount of time waste is on-site.

3. Safe Chemical Storage
   - At the end of a work shift, be sure chemical containers are tightly closed and returned to their designated storage space.
   - Keep chemicals off floors and store them on secured shelves 1-3 feet higher than the BFE.
   - Anchor shelving areas to prevent chemicals from tipping over from water movement through the building.
   - Select appropriate containers to store liquids inside.
   - Properly anchor and contain above ground storage tanks. See FEMA.gov for technical guidance.

Resources
- EPA Region 2 Insight Bulletin: Dry Cleaning Sector Best Management Practices
- EPA’s Safer Choice: www.epa.gov/saferchoice
- EPA P2 What You Can Do About Pollution Prevention—Business Resources: www.epa.gov/p2/p2-resources-business

This factsheet is not an exhaustive list. For additional information and resources, please go to www.njwec.org/p2resources.

This factsheet is a work product of a collaboration between NJ Work Environment Council and Sustainable Jersey and funded in part by the US Environmental Protection Agency.