

Install Breakaway Walls

Overview

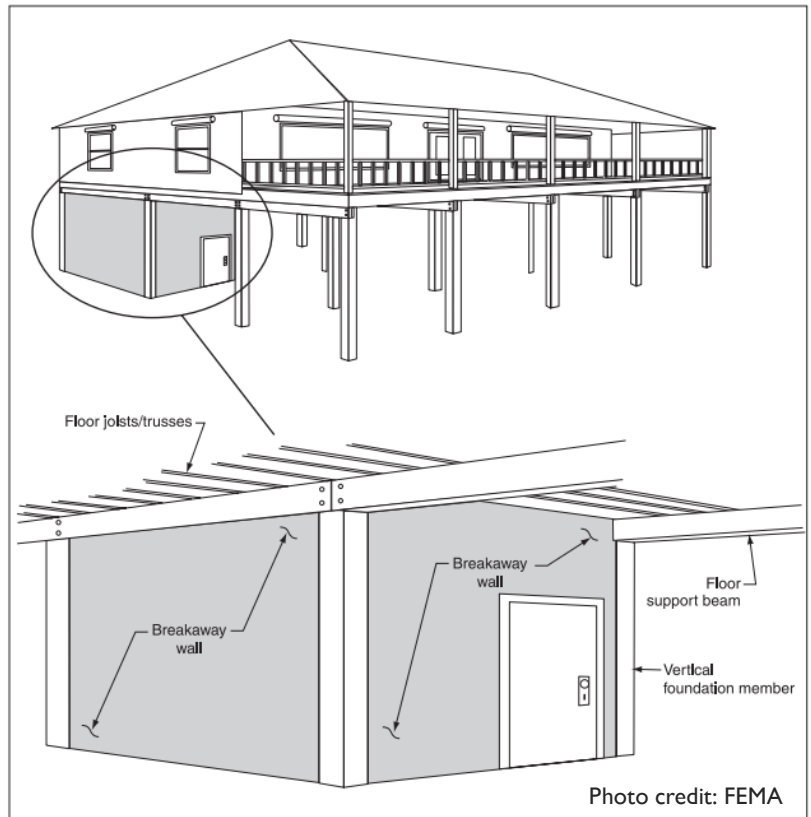
- Obstructions below elevated buildings significantly increase the flood damage potential of a structure.
- In order to reduce flood damage risk in high flood hazard coastal areas, replace regular walls with breakaway walls underneath the elevated structure.
- Breakaway walls are non-supportive walls that are designed to collapse under wave forces without causing any significant damage to the rest of the building.
- Types of breakaway walls:
 - Non-supportive, solid walls designed to collapse under pressure
 - Open wood lattice
 - Insect screening
- National Flood Insurance Program (NFIP) regulations require all area under the elevated structure to either have no obstructions to floodwaters or to be constructed with breakaway walls.
- NFIP regulations also indicate that breakaway wall enclosures can only be used for the following purposes:
 - Parking of vehicles
 - Building access
 - Storage
- Within the NFIP regulations there are specific design requirements for all breakaway wall construction.
- This measure is required when a structure has received a Substantial Damage or Substantial Improvement designation if the owner wants any type of enclosure below the structure.



Key Takeaways

During flood events, floodwaters and wave action can cause extensive damage to coastal structures.

Elevated structures with non-breakaway walls are at higher risk for flood damage as they are more susceptible to velocity flooding and wave forces. Breakaway walls can be installed below the lowest floor of an elevated structure in order to greatly reduce flood damage risk.



I-ADAPT

Exterior Adaptation Breakaway Walls

Estimated Costs/Benefits

*U.S. dollars (2022), estimates are subject to change

Potential Costs		Potential Benefits	
Item (quantity needed)	Estimate	Post-Flood Recovery Actions	Estimate
Insect screening	\$240-\$500	Repair of foundational /structural damage	\$20,000-\$100,000
OR			
Lattice (70 panels for 1,000 sq ft structure)	\$14-\$20 per 2x8 panel	OR	
OR		Demolition and reconstruction of structure	\$143,000-\$190,000
Non-supportive, solid walls	Highly dependent on the material		
ESTIMATED TOTAL COST 1,000 sq ft structure	\$240-\$1,400+	ESTIMATED TOTAL SAVINGS	\$20,000-\$190,000+

Expected Maintenance

- Periodically check the breakaway walls to ensure they have not been damaged in any way.
- Frequently check for and remove potential obstructions within and around the breakaway walls.

Additional Resources

- [FEMA Breakaway Wall](#)
- [FEMA Design and Construction Guidance for Breakaway Walls](#)

Resources can also be found at <https://de.gov/iadapt>

Additional Actions

- Remove any items being stored within or around the breakaway walls prior to flood events, including vehicles.
- Breakaway walls may need to be replaced after each flooding event.
- Utilities may need to be moved and/or elevated to a safer location.

Permitting Agencies

Contacts for permitting requirements include but are not limited to the following:

- Your city and/or county government for local flood ordinances or regulations
- Your city and/or county government for building permits
- [DNREC Coastal Construction Permit](#)

Who to Contact

- Design professional or engineer
- General contractor
- NFIP insurance agent

Technical definitions and more information are located on the I-ADAPT website: <https://de.gov/iadapt>.



This information is intended to be used for planning purposes. It is not intended to substitute or take precedence over the guidance of design engineers, contractors, utility companies or regulatory agencies.

For more information, contact DNREC's Division of Climate, Coastal and Energy at DNREC_IADAPT@Delaware.gov

