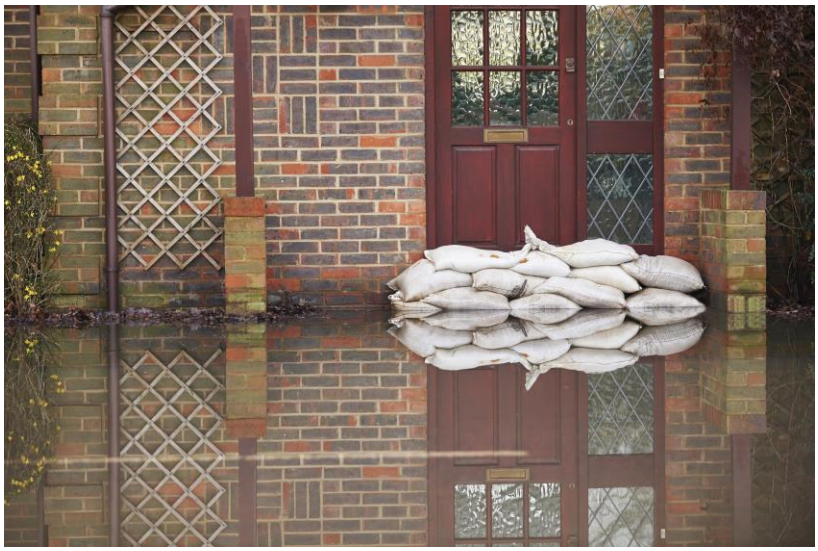
Sandbags

Overview

- Sandbags can be purchased and placed prior to flooding events in order to prevent floodwaters from entering a structure.
- Sandbags can be used for several months at a time for long-lasting flooding situations.
- Most sandbags can be re-used for later flood events.
- If the sandbags have absorbed toxic chemicals or sewage, they cannot be re-used and should be disposed of properly.
- Large sandbags can also be used along roadsides and on top of levees for additional floodwater protection.
- As these temporary barriers require active placement prior to flood events, a sandbag layout plan should be developed prior to flooding events.
- For additional protection, the sandbag wall can be sealed with plastic sheeting (6mm thick) by laying the sheeting over the top and flood-side of the sandbags. Another row of sandbags should be placed in front of the wall on top of the sheeting to secure the sheeting.
- Even with the sandbag wall, there will still be some water infiltration. Therefore, some type of dewatering system may be necessary.
- If the amount of flooding exceeds the height and capacity of the sandbags, floodwater can still cause damage to the structure.
- The barriers can also be used to mitigate water damage for leaks or broken pipes inside the structure.
- If the user intends to use the sandbags more than once or frequently, a storage shed or other structure may be necessary in order to properly store the sandbags.

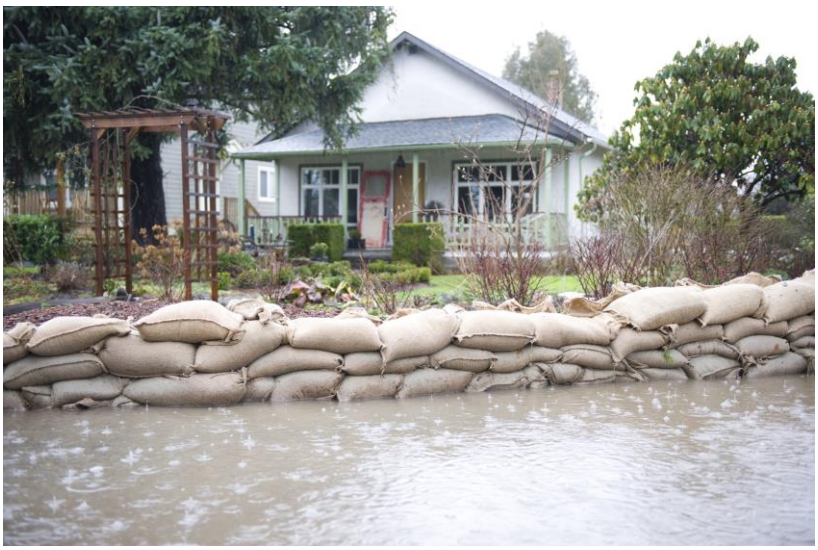


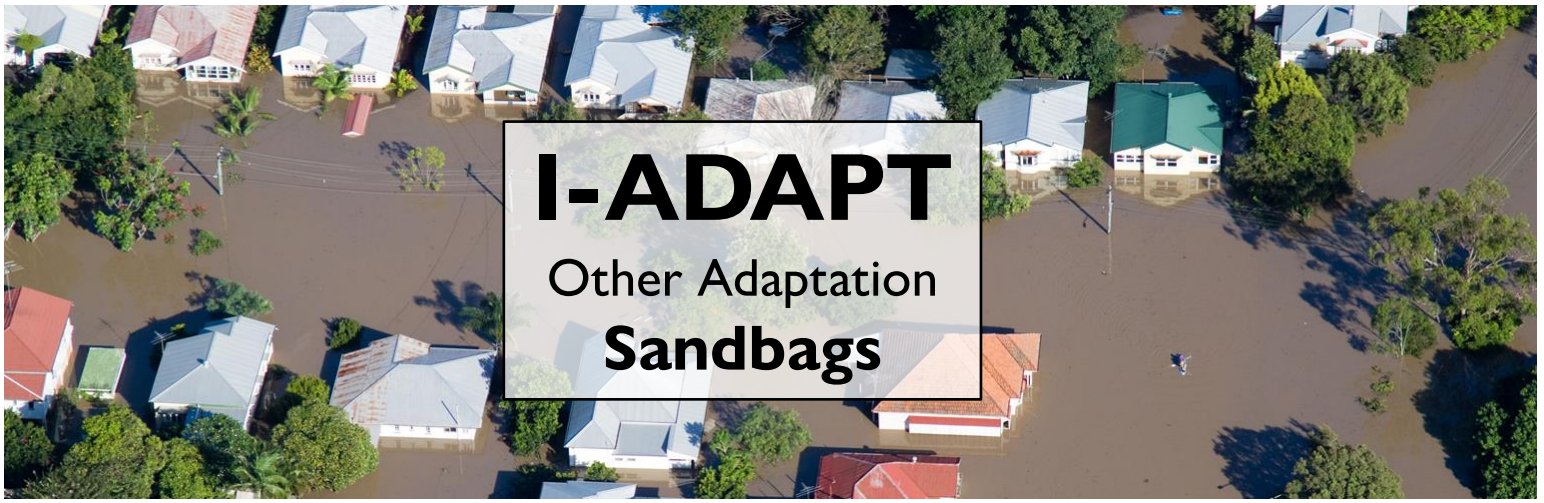
Key Takeaways

During flood events, floodwater can cause extensive damage to unprotected structures.

Structures that are not floodproofed and cannot be adapted through other strategies may require perimeter protection from floodwaters.

Sandbags can be used to protect structures. Sandbags are placed in front of doorways or along the perimeter of a building prior to flood events. The sandbags act as a barrier and form a temporary, short floodwall around the structure or in front of doors.





I-ADAPT

Other Adaptation
Sandbags

Estimated Costs/Benefits

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

Potential Costs		Potential Benefits		
Item	*Estimate*	*Post-Flood Recovery Actions*	*Estimate*	
Small sandbags for a doorway (25 pack)	$13-$30	Flood damage recovery (professional clean-up, mold removal, replacement/ repair of flood damaged items)	1 inch water ↓ 3 feet water	$10,800-$53,500+ ↓ $39,800-$185,700+
Small quantity of sand	$5-$10			
OR				
50lb capacity sandbags for a sandbag wall (100 pack)	$50-$270			
Sand (2 cubic yards)	$25-$35 per cubic yard			
ESTIMATED TOTAL COST	**$18-$340+**	**ESTIMATED TOTAL SAVINGS**	**$10,800-$185,700+**	

Who to Contact

- Design professional or engineer if you need advice on how much flooding to expect.

Additional Resources

- FEMA Protect Your Home from Flooding Low-Cost Projects You Can Do Yourself
- FEMA Standard Flood Insurance Reimbursement

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

Expected Maintenance

- Before placing the bags, check them to ensure they have not been damaged in any way.
- After flooding events, the sandbags will need to either be disposed of properly or left to dry out before re-use.

Additional Actions

- Potentially purchase a sump pump to remove water that has infiltrated the barrier.
- Sandbags will need to be manually installed immediately before each flooding event.
- Consider purchasing a storage shed if the sandbags will be saved for re-use.

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

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

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