Wrapped Technique

Overview

- The wrapped technique can provide temporary flood protection for a building. This measure can be used when elevation of the structure, dry floodproofing and wet floodproofing are not possible.
- There are several different ways to wrap the building:
  - Wrap plastic sheeting around the building so that the sheeting is supported by structures (most often 2x4s and plywood) up against the building. Landscaping features can be protected within the wrapping if applicable.
  - Wrap plastic sheeting directly onto the building's walls.
  - Use plastic sheeting to supplement the effectiveness of sandbag levees.
- You must wrap all doors, windows, drains, and all openings in order to successfully prevent water infiltration.
- Install backflow valves in water and sewer drains inside the structure.
- Sump pumps will be necessary to remove rain falling inside the barrier and any barrier leakage or seepage.
- Practice installing the wrap system once per year so that you are prepared for flood emergencies.
- If there is the potential for floating debris during the storm event, use heavier plastic sheeting.
- Before purchasing wrapping, ensure that the structure's walls can withstand the pressure and forces of the floodwaters by hiring a floodproofing design engineer/professional.
- This measure should not be used when floodwaters are expected to be long-lasting or more than 3 feet deep.

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Key Takeaways

During flood events, water that enters a structure can damage the building's interior and/or foundation. Permanent flooding adaptation strategies can take a lot of time to install or can be costly.

To avoid flood damage costs prior to installation of permanent flood adaptation measures, the property owner or renter can use the wrapped technique to waterproof the structure.

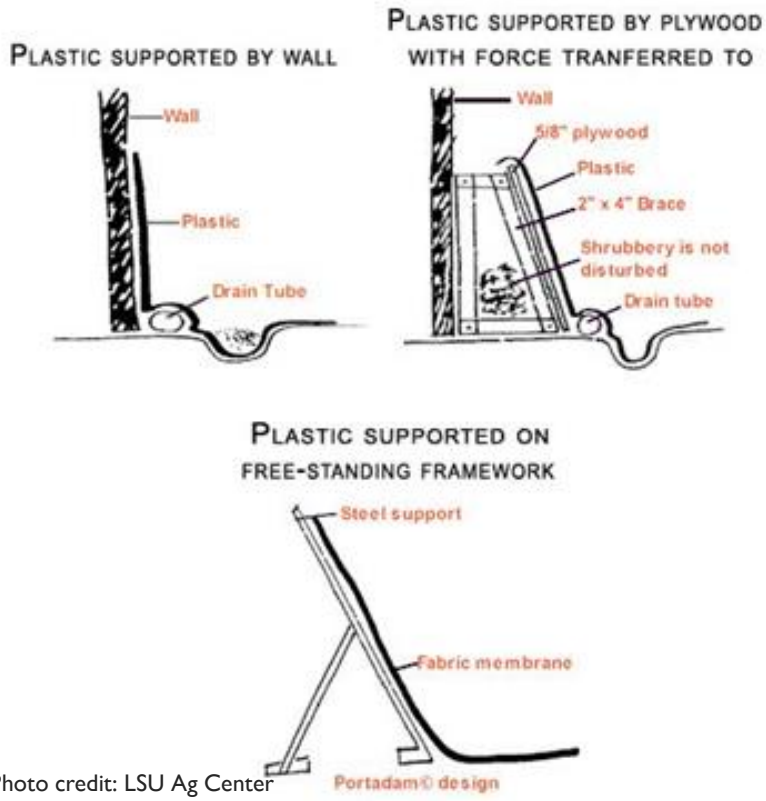
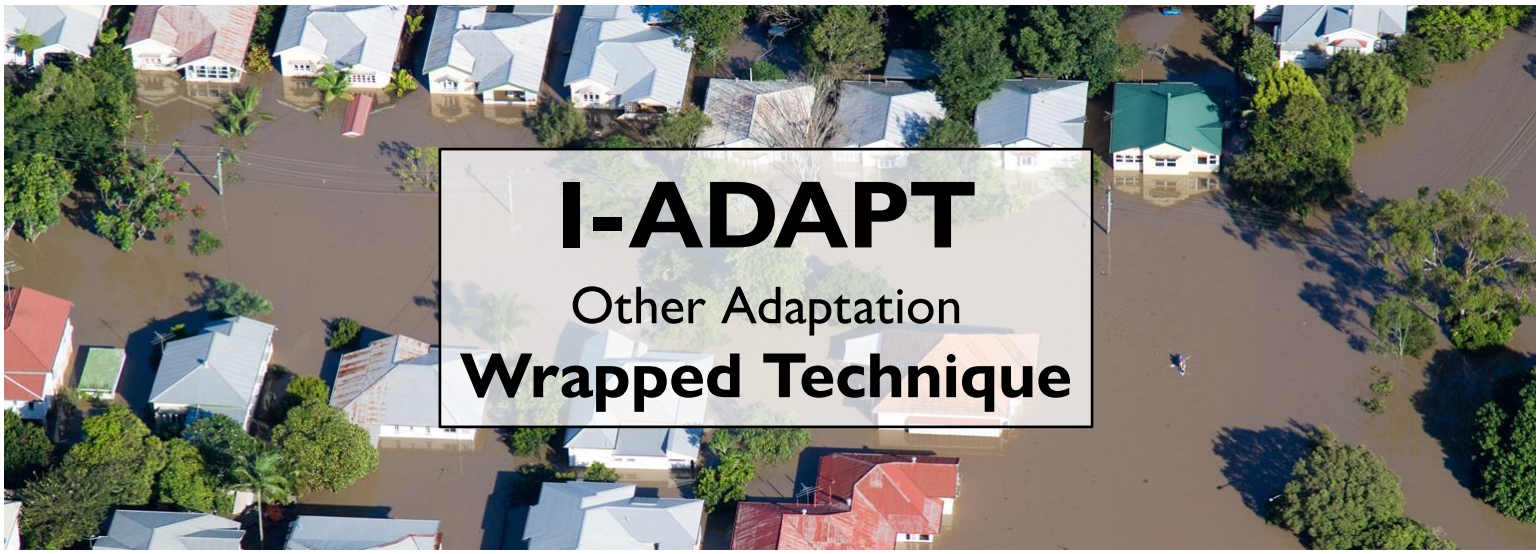


Photo credit: LSU Ag Center



I-ADAPT

Other Adaptation
Wrapped Technique

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*	
5-mil polyethylene plastic sheeting	$150-$330	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+
Drain tube	$100-$200			
4x8 sheet of plywood (17)	$22-$65			
Sump pump	$100-$500			
ESTIMATED TOTAL COST 1,000 sq ft structure	**$724-$2,135+**	**ESTIMATED TOTAL SAVINGS**	**$10,800-$185,700+**	

Potential Funding Sources

- Flood Mitigation Assistance Grant (FMA)
- Building Resilient Infrastructure & Communities Grant

Additional Resources

- LSU Ag Center: Flood Wraps and Temporary Shields
- LSU Ag Center: Flood Wraps and Temporary Shields pdf

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

Additional Actions

- This measure must be installed prior to the flooding event. Therefore, there must be adequate warning time prior to the flood event for installation.
- A sump pump must be purchased to remove any leaking or seeping floodwaters.
- Backflow valves must be installed in drains inside the structure.

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

Expected Maintenance

- Prior to and post flooding, the plastic must be checked for tears and damage.

Who to Contact

- Floodproofing design engineer

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