Sump Pump (Flood Pump)

Overview

- A sump pump is used to remove water from a flooded area.
- Sump pumps can be used in the following ways:
  - Permanently installed inside the structure:
    - For structures where basement or lower-level flooding occurs
    - When water needs to be routed out of the structure using a drainage system (see Interior Drainage System with Sump Pump and Exterior Drainage System with Sump Pump strategy documents)
  - Temporarily placed during or after storms:
    - For a yard with drainage issues
    - For a patio or driveway with drainage issues
    - For a road with drainage issues
- There are several types of sump pumps (submersible, pedestal, battery-operated backup, and water-powered backup). Be careful to select one best suited to your home and flooding conditions.
- The user must be careful that the water is not pumped into an area where it will flow right back into the flooded area or onto neighboring properties.
- Sump pumps are not intended to remove everyday tidal flood water. They are better suited for stormwater removal.
- Large flood pumps can be used to remove larger quantities of water after storms (e.g. storm surge associated floodwater).
- If you experience deeper floodwaters or have a larger home, a pump with more horsepower may be necessary.



Key Takeaways

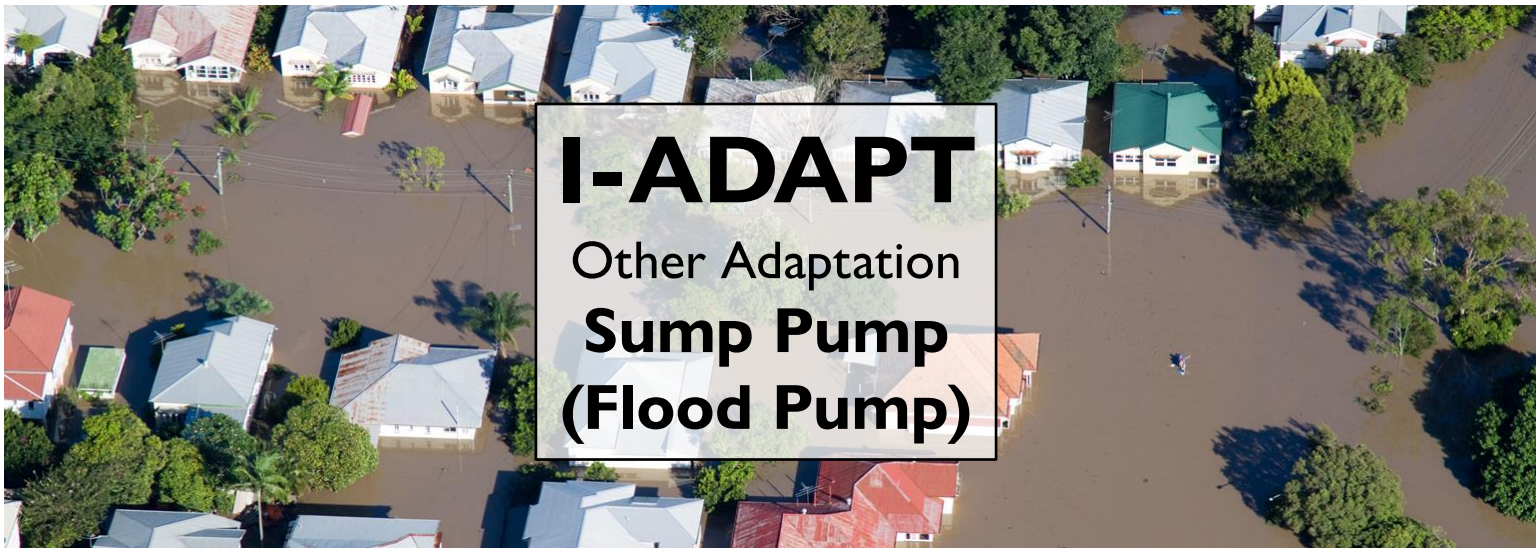
During and after flood events, floodwater can damage structures and/or personal property as well as limit access to property.

To avoid replacement and/or repair costs related to flood damaged or destroyed property, residents and business owners can utilize sump pumps or flood pumps to remove floodwater.

Estimated Costs/Benefits

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

Potential Costs		Potential Benefits		
Item	*Estimate*	*Post-Flood Recovery Action*	*Estimate*	
Residential Sump Pump (installed inside structure)	$2,000-$10,000	Flood damage recovery (professional clean-up, mold removal, replacement/ repair of flood damaged items)	1 inch of water ↓ 24 inches of water	$10,819 ↓ $36,600+
Residential Sump Pump or Flood Pump (for yard or patio drainage)	$100-$1,200			
Commercial Sump Pump (pump for street water removal or large structure water removal)	$1,850-$4,000			
ESTIMATED TOTAL COST (1,000 sq ft structure)	**$100-$10,000**	**ESTIMATED TOTAL SAVINGS** (1,000 sq ft structure)	**$10,800-$36,600+**	



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Other Adaptation

Sump Pump (Flood Pump)

Expected Maintenance

- Conduct quarterly maintenance based on manufacturer's guidance and any permitting requirements.
- Inspect sump pump for rust or corrosion annually.
- Make sure that the discharge pipe is not obstructed and that it drains completely with no residual water remaining.

Additional Resources

- FEMA Engineering Principles and Practices for Retrofitting Flood-Prone Residential Structures (FEMA P-259)
- FEMA Homeowner's Guide to Retrofitting

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

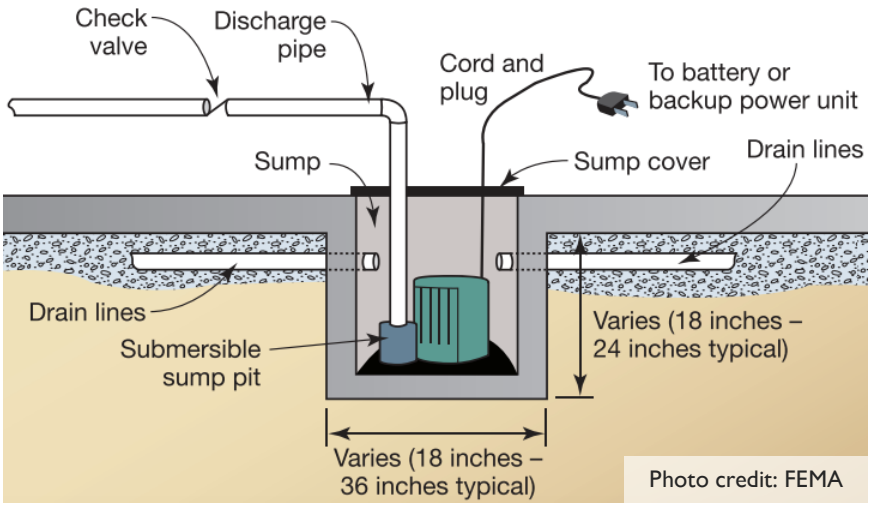


Photo credit: FEMA

Additional Actions

- A portable generator may need to be rented/purchased for back-up energy.

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

Who to Contact

- 811 Call Before You Dig
- Drainage contractor



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