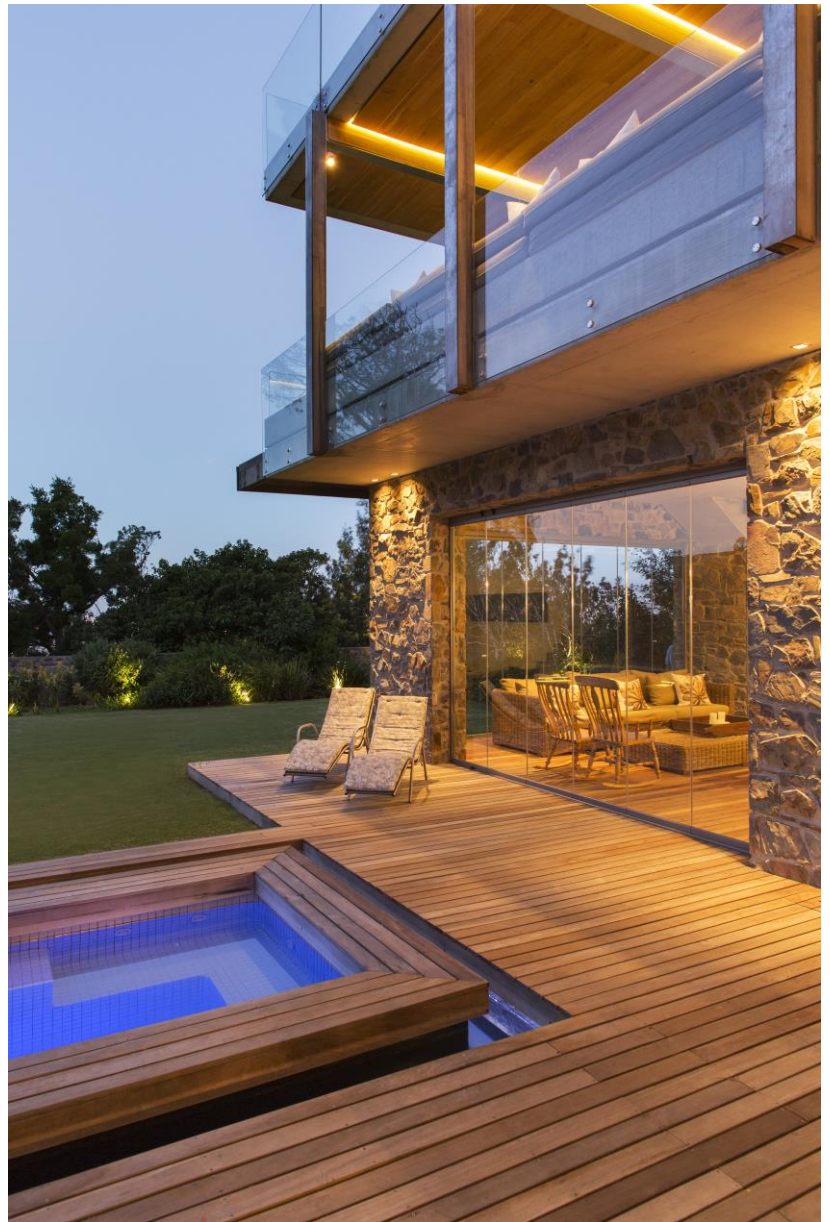


Cantilever Deck

Overview

- During flood events, flood waters can destroy decks that are located below the Base Flood Elevation line (BFE).
- Additionally, a damaged or destroyed deck can cause significant structural damage to the primary structure or to neighboring properties if the deck detaches and becomes a floating projectile.
- If the structure has a deck located below the BFE, remove the deck and install a cantilevered deck above the BFE with no attachments to the ground in order to reduce the risk of deck-related damages during flood events.
- A cantilevered structural deck is a type of deck that separates the deck's structure from the ground. A cantilevered deck is structurally attached to the building's walls and foundation. The deck is engineered to safely support the occupant load.
- Cantilevered decks can be more visually appealing and offer better views than ground level decks.
- Cantilevered decks above the BFE are recommended in coastal hazard areas including Zone V and Coastal A Zones.
- Hire a design engineer and deck contractor to upgrade your deck.



Key Takeaways

During flood events, ground level decks can be destroyed by floodwaters. Additionally, ground level decks can detach, become a projectile in the floodwater, and cause structural damage to the primary structure.

In order to avoid flood-associated damages from a destroyed or detached deck, the deck should be removed and replaced with a cantilevered deck located above the Base Flood Elevation line.





I-ADAPT

Exterior Adaptation Cantilever Deck

Estimated Costs/Benefits

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

Potential Costs		Potential Benefits	
Item	Estimate	Post-Flood Recovery Actions	Estimate
Demolition of old deck	\$2-\$10 per square foot	Remove debris from destroyed deck	\$2-\$10 per square foot
Installation of new cantilevered deck	\$18-\$50 per square foot	Install new deck	\$18-\$50 per square foot
		Deck door installation (if necessary)	\$800-\$2,500
Deck door installation (if necessary)	\$800-\$2,500	Repair damage to the siding of the primary structure	\$200-\$5,000
ESTIMATED TOTAL COST 20'x15' deck	\$6,000- \$20,500	ESTIMATED TOTAL SAVINGS	\$6,200-\$25,500

Expected Maintenance

- Inspect the deck for damage or deterioration periodically and after storm events.
- Regular deck maintenance.

Additional Resources

- [DNREC Cantilevered Deck Worksheet](#)
- [FEMA Free of Obstruction Requirements](#)

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

Additional Actions

- Before storm events, remove anything from the deck that could blow away.
- If the deck needs to be moved to an upper floor, a new door may need to be installed on the upper floor for deck access.

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

- [811 Call Before You Dig](#)
- Design professional or engineer
- Deck 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

