



# Building Better Docks in Coastal North Carolina

For Waterfront Homeowners Who Want a Dock That's Safe, Strong, and Storm-Ready

If you own coastal property in North Carolina, building or maintaining a dock is more than just a weekend project, it's a long-term responsibility. From choosing the right materials to following state regulations, there's a lot to consider. The North Carolina Coastal Federation's guide (available at [nccoast.org/docks](https://nccoast.org/docks)) walks you through how to design and build a dock that's not only beautiful, but also durable, environmentally responsible, and fully compliant with state code. Here are a few highlights to help you get started:

## Key Elements of a Resilient Dock

### Decking

- **Flow-through or slatted decking** allows water to pass through during storms, reducing pressure and potential damage.
- Increase **deck board spacing** to help prevent boards from lifting during high water or wave events.
- Use **treated or composite materials** for durability.

### Structural Support

- Fasten with **galvanized or stainless-steel bolts** (not nails) to prevent corrosion and provide long-term stability.
- In high-risk areas, structural supports can be **tied to helix anchors** before a storm for added protection.

### Pilings

- Use **driven pilings**, not jetted ones. Driven pilings offer a tighter, more secure fit.
- As a general rule, **1/3 of the piling** should be buried below ground, and 10–12 feet above high tide to allow for storm surge.

### Floating Docks

- Use only **fully encapsulated foam floats**—they're longer lasting and prevent pollution.
- Unencapsulated foam can break apart and scatter debris into marshes and waterways.

# Why Building to Code Matters

- **Safety** – Reduce the risk of injuries and accidents.
- **Durability** – Withstand storms and rising sea levels.
- **Legal Compliance** – Avoid fines or penalties.
- **Financial Protection** – Reduce costly repairs and replacements.  
A resilient dock can save up to \$100,000 over 35 years.
- **Environmental Stewardship** – Prevent marine debris and protect natural habitats.



## STEPS TO BUILD A CODE-COMPLIANT DOCK

### 1. Hire Qualified Professionals

Choose a licensed marine contractor and engineer with strong references and coastal experience. Jobs over \$40,000 require licensed professionals in NC.

### 2. Design with Compliance in Mind

Ensure your design meets the NC Building Code (Section R327) and Coastal Area Management Act (CAMA) regulations.

### 3. Select the Right Materials

Use weather-resistant, marine-grade materials (e.g., composite decking, marine-grade lumber, UC5B and UC5C lumber, saltwater splash lumber, galvanized fasteners) and avoid cheap or non-treated wood, especially near seawater.

### 4. Monitor Construction

Have your engineer inspect progress to ensure the structure is built as designed and keep documentation of any changes or inspections.

### 5. Final Inspection & Certification

Secure a final inspection from your local authority and keep copies of all permits, plans, and approvals for future reference.

### Extra Tips for Long-Term Durability

- **Breakaway panels** help reduce structural damage during major storms.
- **Raise the deck height** to reduce flooding risk during high tides or surges.
- **Reinforce bracing and anchoring**—especially in storm-prone or high-energy areas.
- Use **stainless steel tie-down cables** and **rubber bumpers** for floating docks to extend lifespan and reduce wear.



North Carolina  
Coastal Federation  
*Working Together for a Healthy Coast*

## Protect Your Dock—and the Coastline

Building a strong, code-compliant dock protects more than your investment—it helps reduce debris in our coastal waters, keeps wildlife safe, and ensures your dock is still standing after the next big storm.

VISIT [NCCOAST.ORG/DOCKS](https://nccoast.org/docks) FOR VIDEOS, DIAGRAMS, REFERENCE GUIDES, AND MORE

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