DAVID, MEET GOLIATH:
HOW SMALL COMMUNITIES ARE FACING DOWN
BIG FLOOD ISSUES

FLOOD FEST 2019: THE MITIGATION & RESILIENCE TOUR
ASFPM
Cleveland, Ohio
MAY 19-23 2019

moffatt & nichol
WHAT IS RESILIENCE?

- Looking forward and applying resilient design for an uncertain future
- Developing creative, responsible and practical solutions for communities, the built environment and the natural environment that allow for their continued use under evolving conditions and rapidly increasing risks
- The ability of a community or a system to withstand, respond and recover from sudden shocks, regardless of chronic stressors and risk accelerators
TOWN OF PRINCEVILLE, NORTH CAROLINA
USACE LEVEE
Mission Statement

For Elizabeth City’s Waterfront, We Will...

Deliver on our promise as North Carolina’s Harbor of Hospitality by providing new opportunities for recreation, boating and commercial activity while supporting a strong community through thoughtfully designed public spaces and environmental preservation areas.
Core Tenets
To achieve the Mission, we will...

1. A Welcoming Harbor
   Promote a diversity of welcoming harbor uses, anchored by commercial, recreation and marine uses, with the assemblage embodying the spirit and flavor of North Carolina’s coastline.

2. Promote Accessibility
   Make it easy, safe and enjoyable to arrive, park, walk, bike, play and connect with the harborfront.

3. Targeted Renewal
   Focus renewal efforts at key parcels to transform the water’s edge into a contiguous, animated harborfront that sustains activity year-round.

4. Verdant, Resilient Shore
   Expand and connect natural landscape areas and habitat zones, providing new and strengthened greenways and blueways...the calling card of a renewed Elizabeth City.

5. Celebration of Community Heritage
   Promote the scale and story of Elizabeth City and the region through site architecture, landscape, wayfinding, and other elements.
**HARBORFRONT**

Fifty acres of quintessential North Carolina Harborfront supporting recreational boating, sailing, restaurants, parks and open spaces, and residential living. Key landside and in-water investments are advanced by the public and private sector to support Elizabeth City’s mission to be the Harbor of Hospitality.

**THE PRESERVE**

Charles Creek and floodplain are engineered to reduce flooding impacts to southern Elizabeth City. Extensive areas are preserved for park, open space and natural habitat zones.

**UNIVERSITY**

The district supports expansion of research, athletics, recreation and residential uses. Mid Atlantic Christian University and other regional institutions of higher learning are catalytic to the long-term growth of this area.

**CAUSEWAY**

A compelling welcome to Elizabeth City. Machelhe Island balances residential, maritime and ecological zones. Northern Machelhe Island evolves into an ecopark supporting hand powered water dependent recreation and other natural features.
2000

Bucktown Harbor (2000)

2000 Aerial Imagery

Located in:

Section 14, T44R11E

Jefferson Parish, Louisiana

2015

Bucktown Harbor (2015)

2015 Aerial Imagery

Located in:

Section 14, T44R11E

Jefferson Parish, Louisiana
THE VISION PLAN

LEGEND
1. Bucktown Harbor Living Shoreline
2. Commercial Fishing Operational Dock Relocation
3. Commercial Fishing Operational Area and Storage
4. Expanded Marina Recreation Boating Docks
5. Modification of Western Recreational Launch and Overlook
6. Bucktown Marsh Boardwalk
7. Fishing Pier and Pavilion
8. Parking Area Expansion
9. Bucktown Marina Harborwalk
10. Southern Passive Recreational Lawn
11. Children's Active Play Area, Lawns and Pavilions
12. Water Feature
13. Dockmaster Building, Marina Center and Restrooms
14. Kayak and Paddleboard Storage Building and Recreational Pier
15. North Great Lawn and Event Area
16. Western Sunset Lawns
17. Northern Ramble
18. Harbor Beacon
19. Multi-Purpose Pavilion
20. Levee Crossing for Bike and Pedestrian Activities
21. Lakeshore Trail Bike/Pedestrian Extension
22. Entry Enhancements and Streetscape Beautification
THE VISION PLAN

- One square mile of salt marsh stores the carbon equivalent of 25,000 gal. of gas annually.
- Marshes trap sediments from tidal water, allowing them to grow in elevation as sea level rises.
- Living shorelines improve water quality, provide fisheries habitat, increase biodiversity, and promote recreation.
- Marshes and oyster reefs act as natural barriers to waves. 15 feet of marsh can absorb 50% of incoming wave energy.
- Living shorelines are more resilient against storms than bulkheads.
- 33% of shorelines in the U.S. will be hardened by 2100, decreasing fisheries habitat and biodiversity.
- Hard shoreline structures like bulkheads prevent natural marsh migration and may create seaward erosion.

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**Low Tide:**
- High-marsh shrubs
- Wetland water’s edge
- Shoreline exposed to waves

**High Tide:**
- High-marsh shrubs
- Mainland-fringing tidal marsh

**High Tide in Storm:**
- Living shoreline
- Breakwater
- Submerged tidal marsh

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Duck Island Harbor Vision Book
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THANK YOU!
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