City of Charleston

Board of Architectural Review

Building Elevation Design Workshop

November 3, 2017

DEPARTMENT OF PLANNING, PRESERVATION & SUSTAINABILITY

City of Charleston
South Carolina

Department of Planning, Preservation & Sustainability

Building Elevation Design Workshop
Friday, November 3, 2017
9:00am
Gaillard Center, 2 George Street, 1st floor meeting room

AGENDA

- Introduction – Review the Agenda/Schedule of Workshops 9:00 – 9:15
- Public Comments/Concerns 9:15 – 9:45
- Guest Speaker: Laura Cabiness – Director of Public Service 9:45 – 10:15
  "FEMA Grants/Available Grant Sources"
- Guest Speaker: Roderick Scott of L& R Resources, LLC 10:15 – 10:45
  based near New Orleans, LA
- Review of Relevant Maps (Images): 10:45 – 11:15
  - Evolution of Peninsula
  - Historic Districts
  - National Register Expansion Area
- Challenges in Considering Elevating Historic Residential Structures 11:15 – 12:00
  (Images):
  - Lack of National "Best Practices" Guidance
  - Architectural Building Categories
  - Sister/Grouped Buildings
  - Adjoining Buildings
  - Freedman's Cottages
  - Contractor Considerations
- LUNCH BREAK 12:00 – 12:30

City of Charleston
South Carolina

Department of Planning, Preservation & Sustainability

- Review of Successful/Unsuccessful Methods in Charleston and Other Communities (Images): 12:30 –1:30
  - Mississippi Gulf Coast
  - Louisiana
  - Annapolis
  - Wilmington

- Case Study Scenarios for Historic Buildings in Charleston (Images): 1:30 – 2:30
  - 9 Savage – Beatrice Bernier
  - 15 Council – Buz Morris

- Discussion Toward Developing a Building Elevation Policy Statement And/or Guidelines: 2:30 – 3:00
  - Is a Policy Statement of the Board Enough Guidance?
  - Important Considerations to Include in a Policy Statement
  - Independent Work by Design Community to Develop Strategies
  - Upcoming Workshops
    - Review of Strategies
      - Single House
      - Freedman's Cottage
      - Adjoined/Grouped Buildings
      - New Construction
    - Review of Draft of Policy Statement
    - What can the Preservation Non-Profits Do To Facilitate Development of Comprehensive Guidelines

- Wrap-up 3:00 – 3:30

RODERICK SCOTT, CFM
MANDEVILLE, LA
985-273.9590 C
RODERICK.SCOTT75@AOL.COM

$1 DOLLAR OF FLOOD MITIGATION INVESTMENT EQUALS $4 DOLLARS OF SAVINGS IN DISASTER RECOVERY COSTS

FLOOD HAZARD MITIGATION

THE NATIONAL FLOOD INSURANCE PROGRAM - NFIP IS INCREASING FLOOD POLICY RATES UNTIL THEY REACH ACTUARIAL

FLOOD HAZARD MITIGATION

FLOOD POLICY RATES ARE BASED ON WHERE THE FIRST FLOOR SITS IN RELATION TO THE MINIMUM FEMA FLOOD MAP ELEVATION

FLOOD HAZARD MITIGATION

NFIP EXCLUSION FOR MINIMUM ELEVATION

- THE NFIP ALLOWS AN EXEMPTION FROM MEETING THE MINIMUM FLOOD MAP ELEVATION REQUIREMENTS DUE TO THE POSSIBILITY OF THE MITIGATION PROJECT NEGATIVELY IMPACTING THE BUILDING HISTORIC DESIGNATION.
- THERE IS NO MEASURABLE CRITERIA FOR THIS EXEMPTION AND IT HAS BEEN USED BY HISTORIC BUILDING OWNERS WITH SUBSTANTIAL DAMAGE AND FOR SUBSTANTIAL IMPROVEMENT.
- THE EXEMPTION OPENS THE PROPERTY OWNER(S) UP TO FULL ACTUARIAL FLOOD POLICY RATES.

FLOOD HAZARD MITIGATION

THE INTERNATIONAL ASSOCIATION OF STRUCTURAL MOVERS – IASM IS THE WORLDWIDE ORGANIZATION WHOSE PROFESSIONAL MEMBERS ARE INVOLVED WITH FLOOD MITIGATION ELEVATION PROJECTS

IASM

International Association of Structural Movers

FLOOD HAZARD MITIGATION

ELEVATION

UNIFIED JACKING
MACHINE SYSTEM

ELEVATED AWAITING
NEW FOUNDATION
FOUNDATION

FLOOD HAZARD MITIGATION

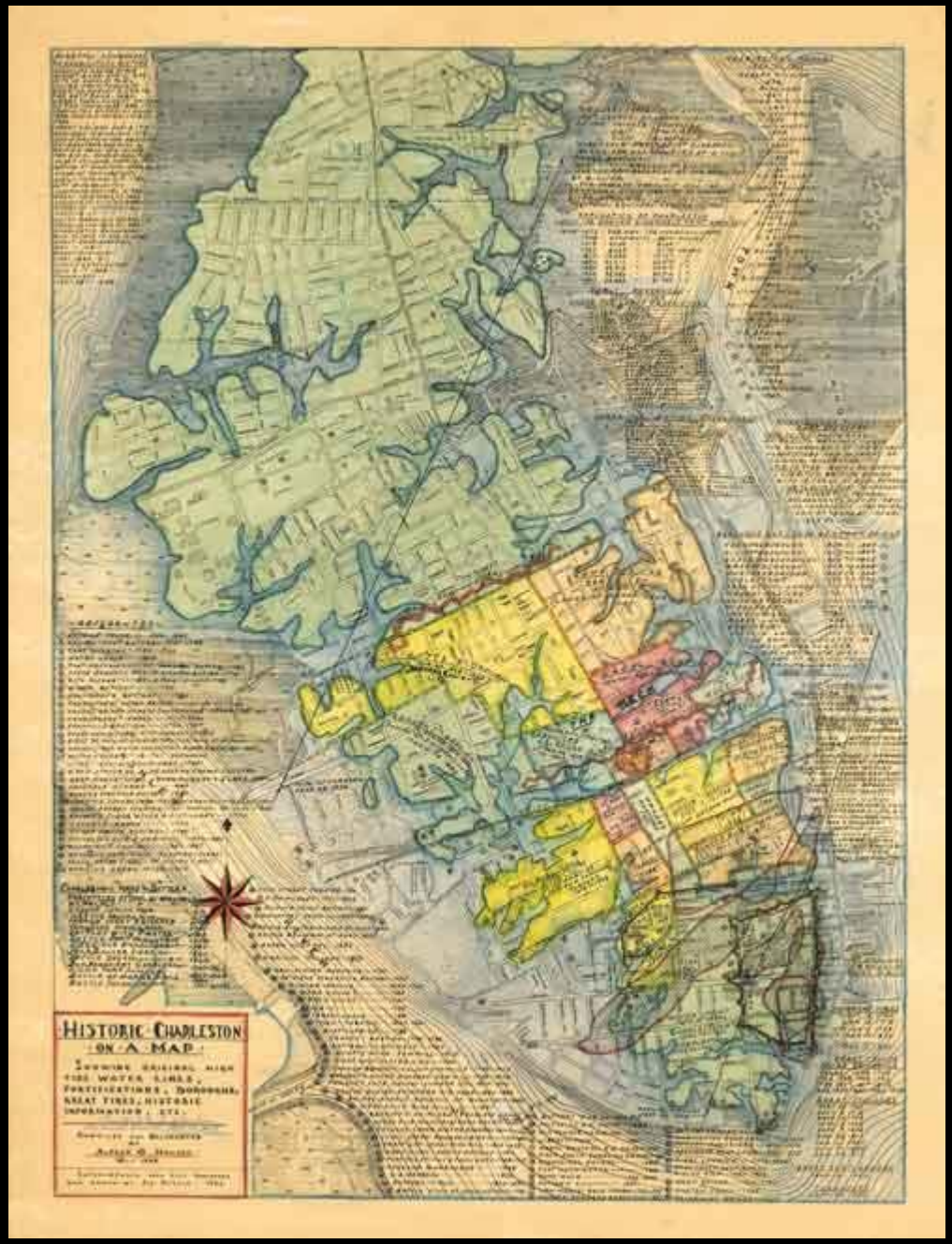
FINANCING THE PROJECT

- CASH, EQUITY, MORTGAGE
- INCOME TAX CREDITS/PROPERTY TAX EXEMPTIONS FOR HISTORIC REHAB
- INITIAL COST OF COMPLIANCE - ICC
- PRE/POST DISASTER FUNDING:
- FEMA/HUD-CDBG/DR
- SBA
- FUTURE SOURCES OF FUNDING:
- LOW INTEREST LOAN POOLS
- REVENUE BONDING

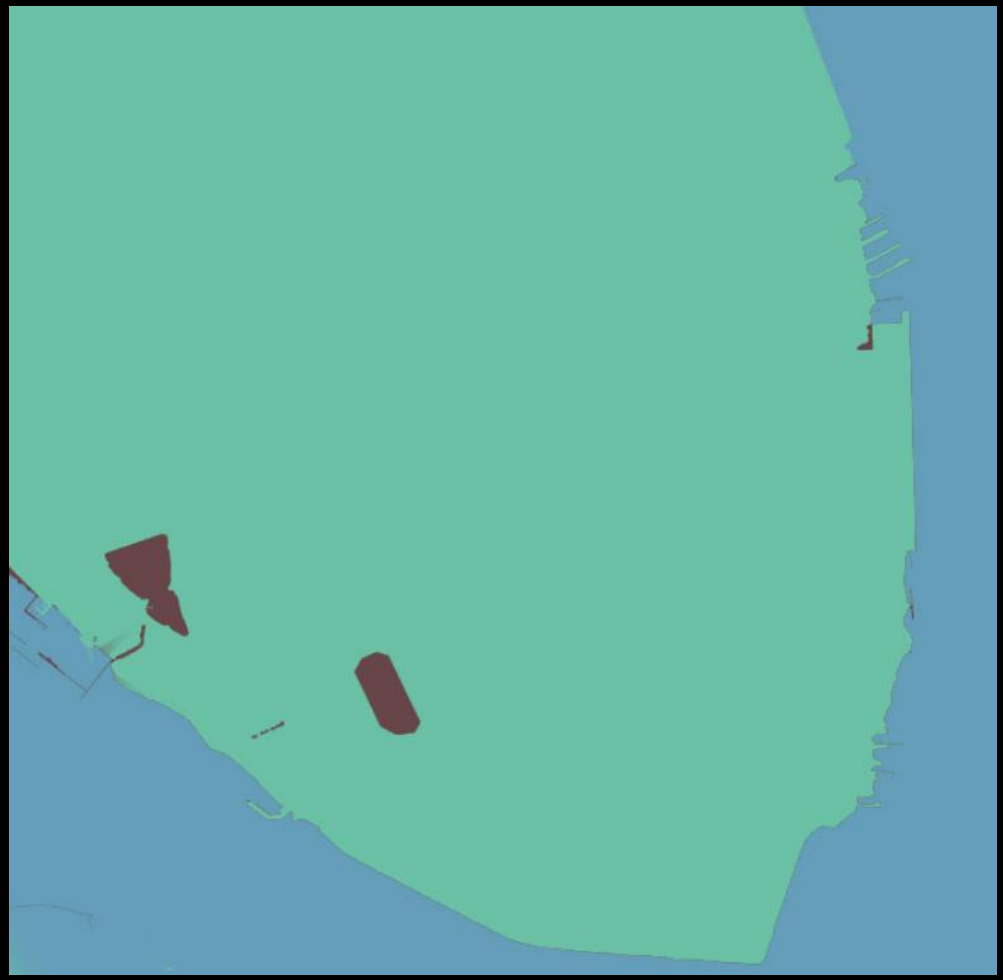
LAURA CABINESS – DIRECTOR OF PUBLIC SERVICE
"FEMA GRANTS & AVAILABLE GRANT SOURCES"

REVIEW OF RELEVANT MAPS

HALSEY MAP



EVOLUTION OF THE PENINSULA

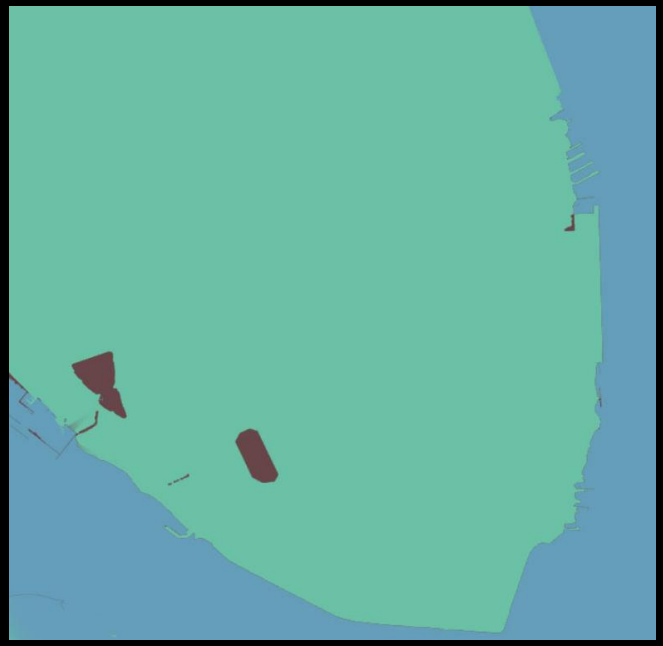


Today

Courtesy of Historic Charleston Foundation

EVOLUTION OF THE PENINSULA

1670



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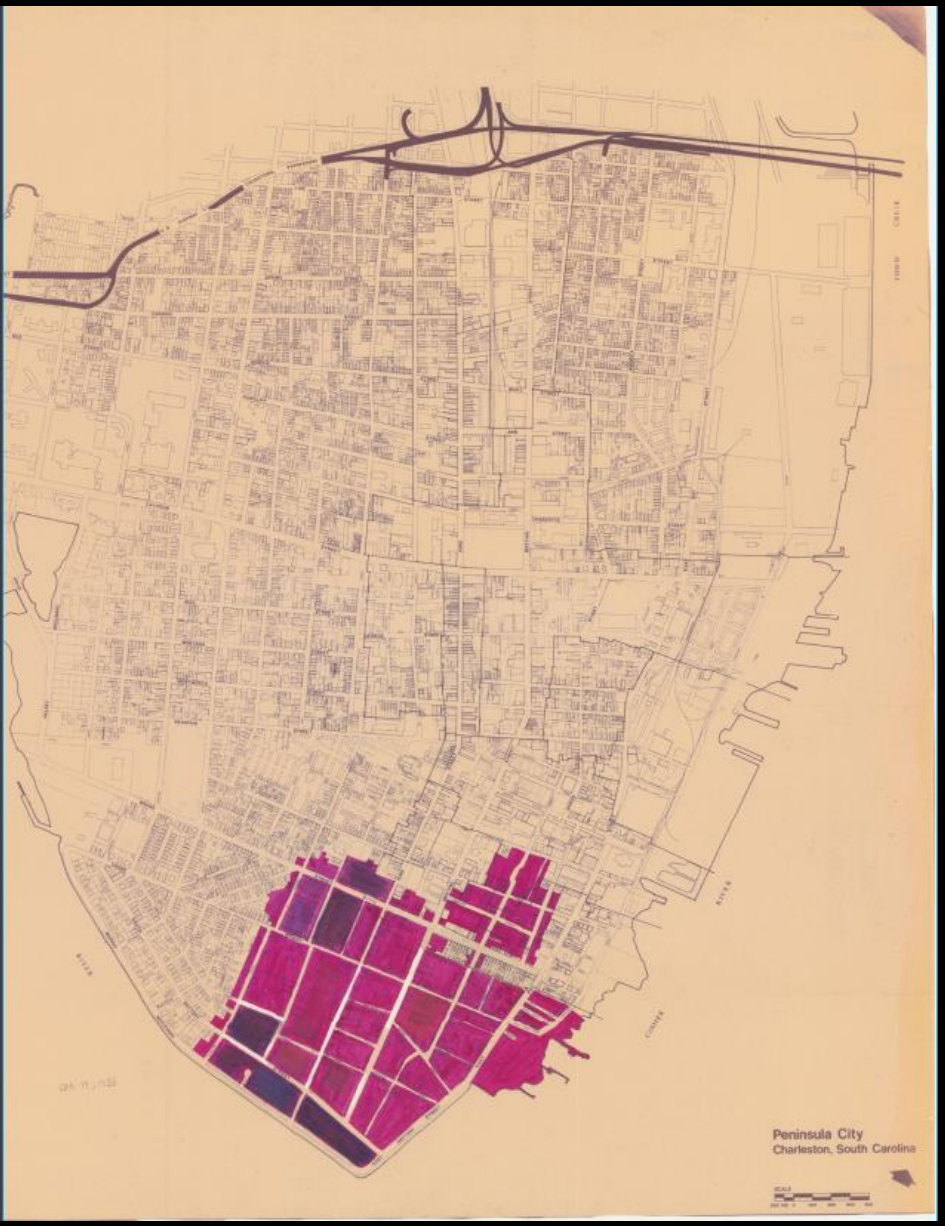
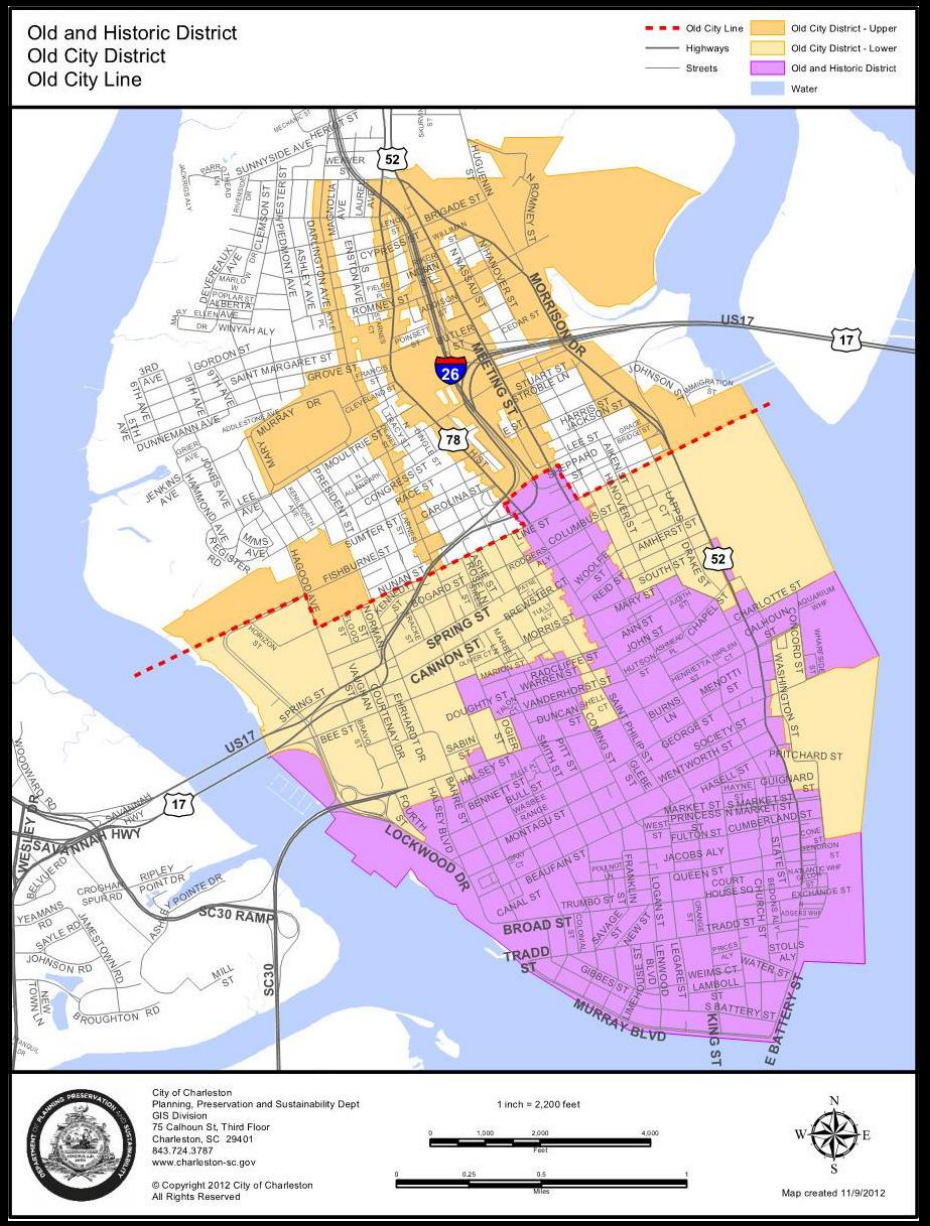
Courtesy of Historic Charleston Foundation

HISTORIC DISTRICTS

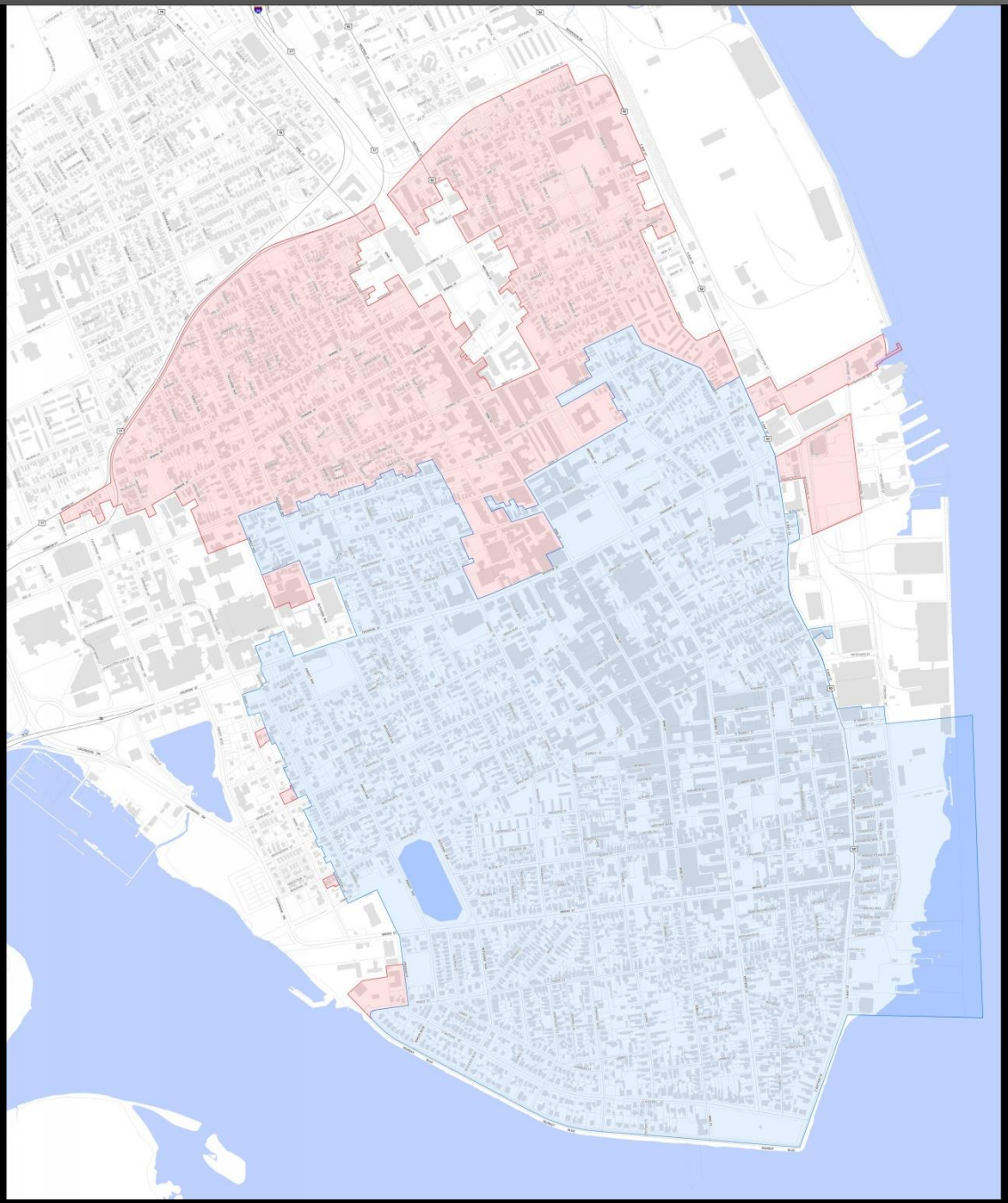


1931



Today

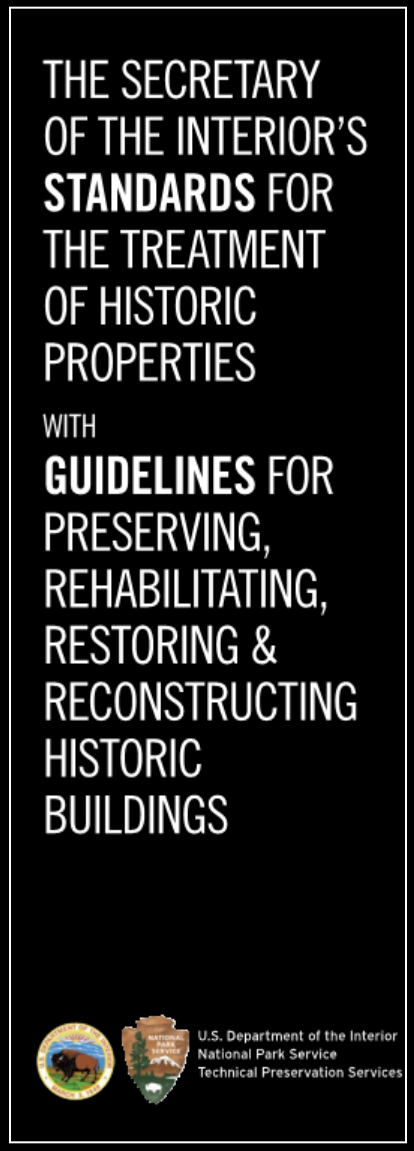
NATIONAL REGISTER HISTORIC DISTRICT & EXPANSION AREA



CHALLENGES IN CONSIDERING ELEVATING HISTORIC RESIDENTIAL STRUCTURES

CHALLENGES IN CONSIDERING ELEVATING HISTORIC STRUCTURES

- **Lack of Federal Guidance**



RESILIENCE TO NATURAL HAZARDS	
RECOMMENDED	**NOT RECOMMENDED**
Documenting the restoration-period character of the property as a record and guide for future repair work, should it be necessary, and storing the documentation in a weatherproof location.	Failing to document the restoration-period character of the property with the result that such information is not available in the future to guide repair or reconstruction work, should it be necessary.
Ensuring that historic resources inventories and maps are accurate, up to date, and accessible in an emergency.	
Maintaining the restoration-period building, its site, and setting in good repair, and regularly monitoring their condition.	Failing to regularly monitor and maintain the restoration-period property and the building systems in good repair.
Using and maintaining existing characteristics and features of the restoration-period building, its site, setting, and larger environment (such as shutters for storm protection or a site wall that keeps out flood waters) that may help to avoid or minimize the impacts of natural hazards.	Allowing loss, damage, or destruction to occur to the restoration-period building, its site, or setting by failing to evaluate potential future impacts of natural hazards or to plan and implement adaptive measures, when necessary to address possible threats.
Undertaking work to prevent or minimize the loss, damage, or destruction of the historic property while retaining and preserving significant features and the overall restoration-period character of the building, its site, and setting.	Carrying out adaptive measures intended to address the impacts of natural hazards that are unnecessarily invasive or will otherwise adversely impact the restoration-period character of the building, its site, or setting.
Ensuring that, when planning work to adapt for natural hazards, all feasible alternatives are considered, and that the options requiring the least alteration to the restoration-period character of the property are considered first.	Implementing local and regional traditions (such as elevating residential buildings at risk of flooding or reducing flammable vegetation around structures in fire-prone areas) for adapting buildings and sites in response to specific natural hazards which would negatively impact the restoration-period character of the property.
Using special exemptions and variances when adaptive treatments to protect buildings from known hazards would otherwise negatively impact the restoration-period character of the building, its site, or setting.	

- Documentation
- Accurate Mapping
- Maintain & Monitor
- Mitigate Flooding
- Prevent Damage
- Minimize Alterations
- Utilize Exemptions/Variances

CHALLENGES IN CONSIDERING ELEVATING HISTORIC STRUCTURES

➢ Architectural Building Categories

Category 1: Exceptional
Buildings of the highest architectural design quality. They are elegant and innovative, and **must be preserved and retained *in situ* at all costs.**

Category 2: Excellent
High style regional architecture—fine "Charleston Style." Of irreplaceable importance, **to be preserved *in situ* at all costs.**

Category 3: Significant
Good architectural quality of the vernacular mode. Less sophisticated and refined than "Excellent."

Category 4: Contributory
Buildings of architectural value without which the character of those buildings rated in groups 1-3 would be lessened.

Example Category 1 Structures

CHALLENGES IN CONSIDERING ELEVATING HISTORIC STRUCTURES

- **Grouped Buildings**

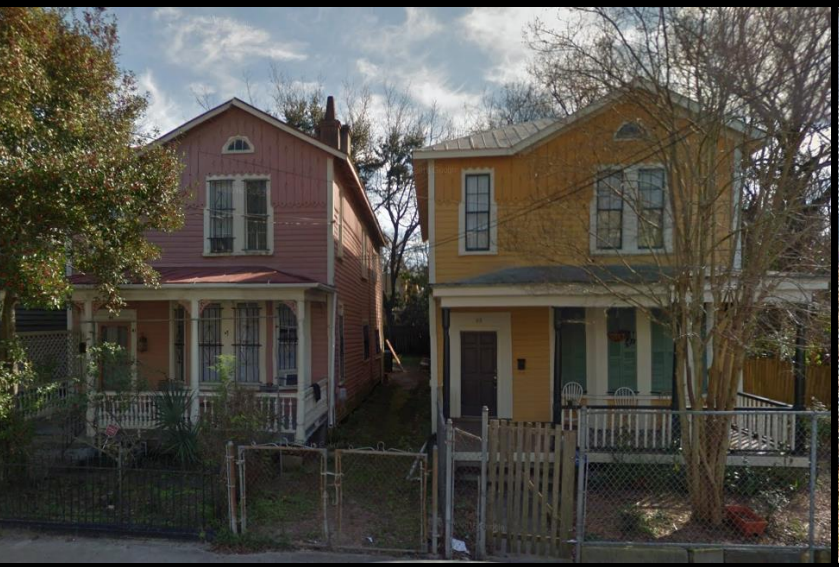
Enston Homes (King St)

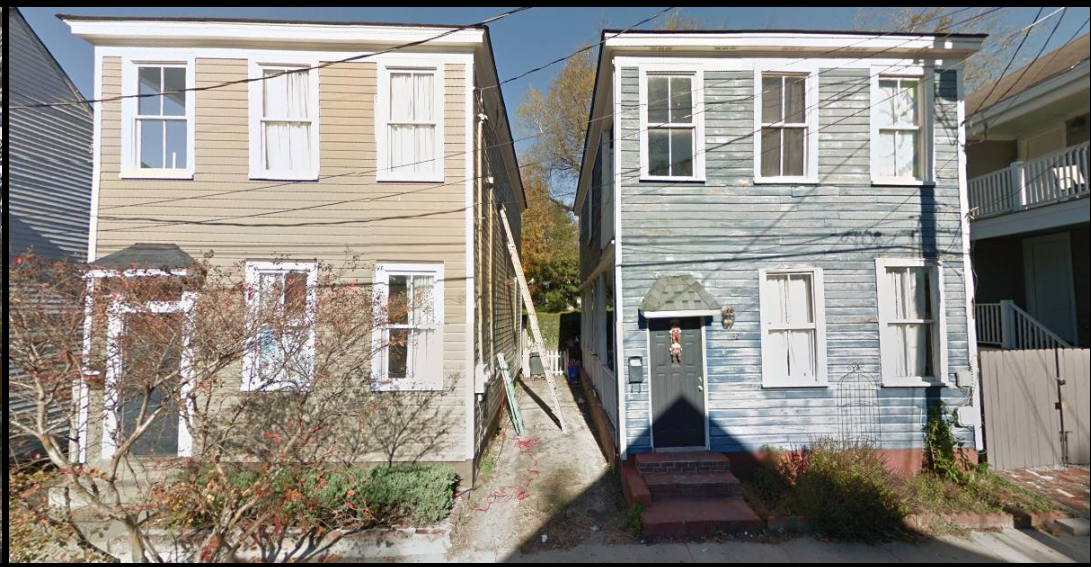
Grant Homes (Meeting St)

CHALLENGES IN CONSIDERING ELEVATING HISTORIC STRUCTURES

- **Sister Buildings**

Eastside Neighborhood





CHALLENGES IN CONSIDERING ELEVATING HISTORIC STRUCTURES

- **Adjoining Buildings**

Bull St

Rainbow Row

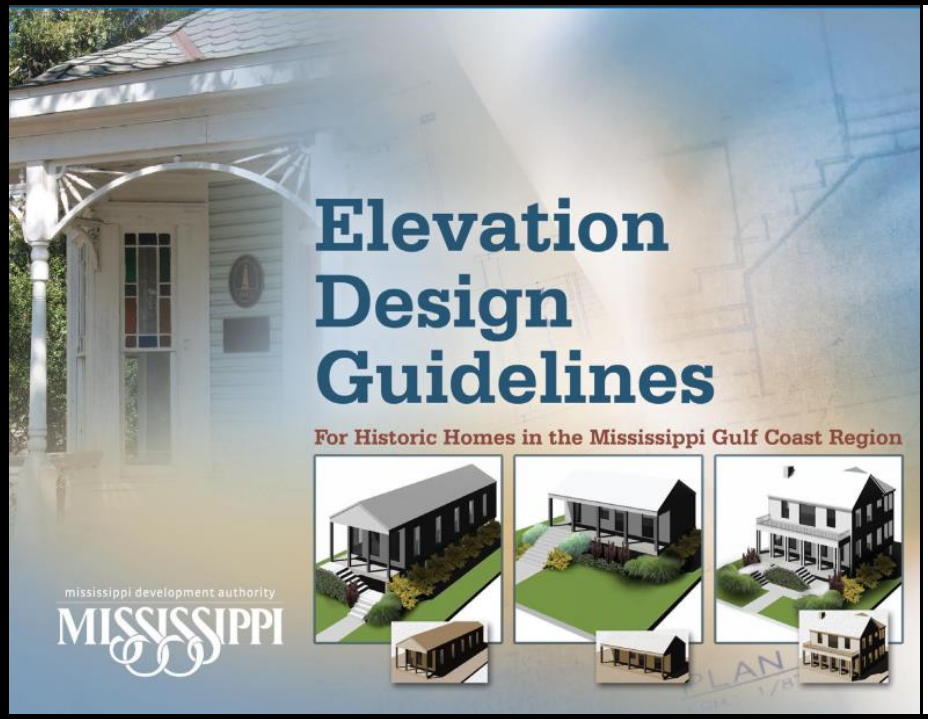
CHALLENGES IN CONSIDERING ELEVATING HISTORIC STRUCTURES

- **Freedmans Cottages**

Westside Neighborhood

REVIEW OF METHODS IN OTHER COMMUNITIES

REVIEW OF METHODS IN OTHER COMMUNITIES



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REVIEW OF METHODS IN OTHER COMMUNITIES

Site Design Guidelines

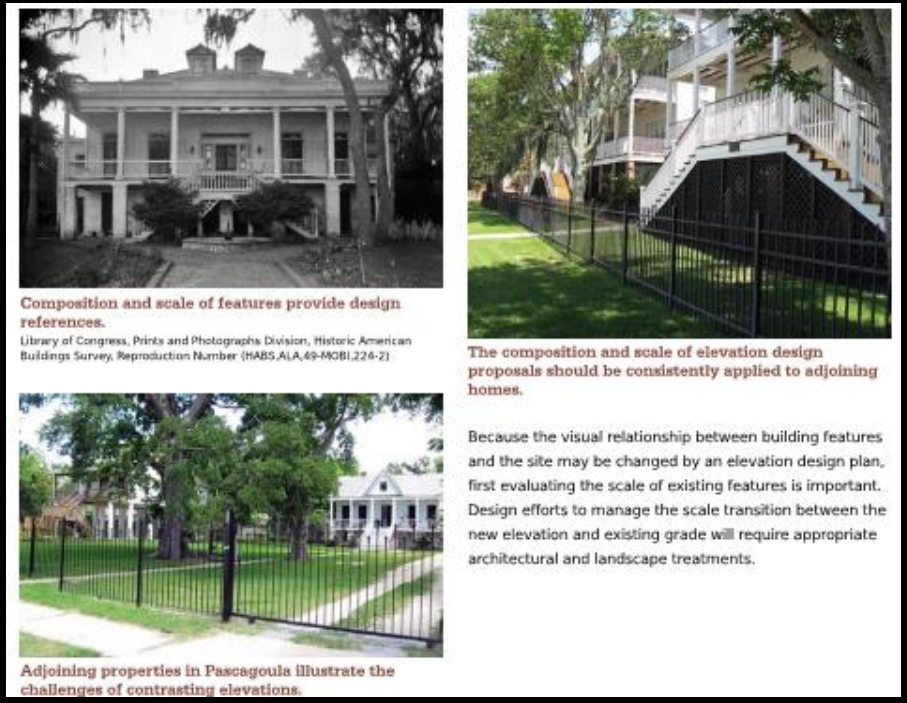
- Retain significant landscape features
- Retain relationship between buildings
- Protect significant vistas
- Protect large trees from construction activity

Landscape screening strategies provide visual buffers and scale transitions for an elevated home.

Foundation plantings should be scaled to the height of the new base elevation.

Architectural Guidelines

- Identify and integrate neighborhood character elements
- Minimize elevation change
- Examine successful elevations of similar buildings
- Minimize visual changes by maintaining proportions, relationships, and scale



Composition and scale of features provide design references.
Library of Congress, Prints and Photographs Division, Historic American Buildings Survey, Reproduction Number (HABS,ALA,49-MOBI,224-2)

The composition and scale of elevation design proposals should be consistently applied to adjoining homes.

Because the visual relationship between building features and the site may be changed by an elevation design plan, first evaluating the scale of existing features is important. Design efforts to manage the scale transition between the new elevation and existing grade will require appropriate architectural and landscape treatments.

Adjoining properties in Pascagoula illustrate the challenges of contrasting elevations.

Historic examples of context reveal neighboring houses with different elevations. Shown here are 502 and 504 Beach Boulevard in Bay St. Louis, destroyed in Hurricane Katrina.
Hancock County Historical Society

REVIEW OF METHODS IN OTHER COMMUNITIES

Foundation Design Guidelines

- Design & elevation height should be selected to preserve integrity of the building
- Successful designs preserve visual and architectural significant features
- Foundation components should complement existing façade features, such as columns, corners, trim & vertical elements
  - Use existing elements as visual references to be repeated and extended throughout foundation design

REVIEW OF METHODS IN OTHER COMMUNITIES

LOUISIANA
OFFICE OF CULTURAL DEVELOPMENT
DIVISION OF HISTORIC PRESERVATION
DEVELOPING OUR CULTURAL ASSETS

URS

Elevation Design Guidelines

For Historic Buildings in the Louisiana GO Zone

REVIEW OF METHODS IN OTHER COMMUNITIES

Elevation approaches specific to Louisiana architecture

The composition and scale of elevation design proposals should be consistently applied to adjoining homes, Irish Channel Historic District, New Orleans (2014)

Adjoining properties in the Holycross neighborhood, New Orleans, illustrate the challenges of contrasting elevations, Holycross Historic District (2014)

Composition and scale of features provide design references, Esplanade Ridge Historic District, New

An additional example of adjoining properties with contrasting elevations, Bywater Historic District (2014)

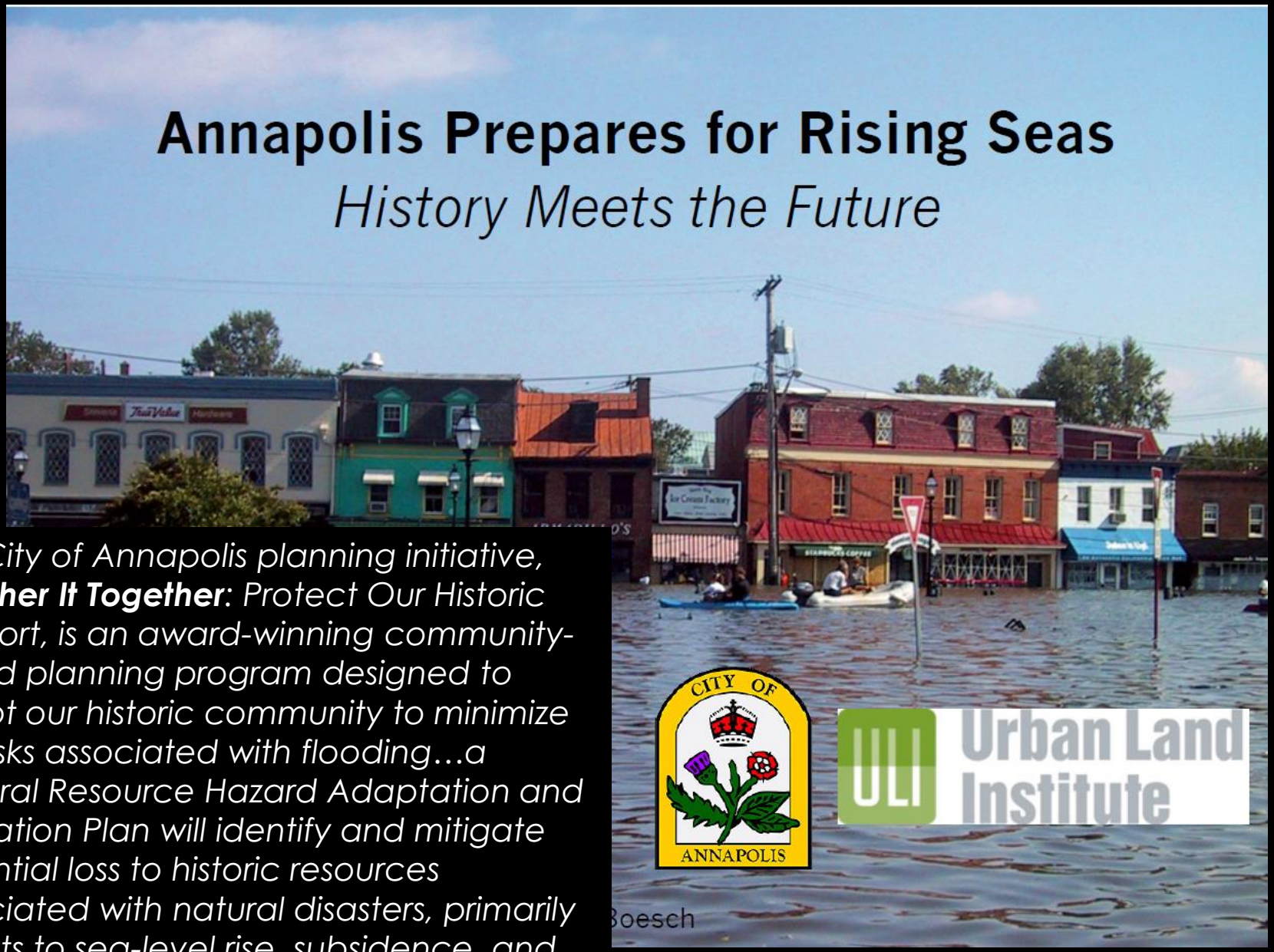
Today a restaurant, the circa 1830's Bechac House in Mandeville represents a pre-Hurricane Katrina elevation of approximately 9 feet above grade and exhibits a repetition of architectural forms, Mandeville Historic District (2014)

Lower Garden District, New Orleans (2014)

Garden District, New Orleans (2014)

These houses offer excellent examples of foundations designed with a combination of architectural treatments and landscaping screening, Garden District, New Orleans (2014)

REVIEW OF METHODS IN OTHER COMMUNITIES

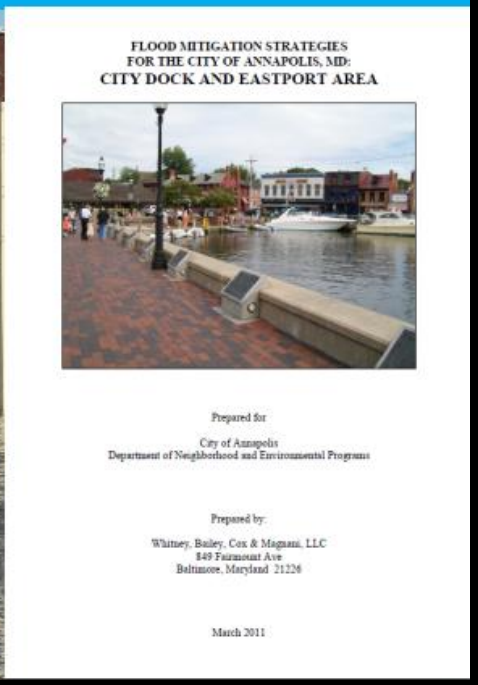


The City of Annapolis planning initiative, ***Weather It Together****: Protect Our Historic Seaport, is an award-winning community-based planning program designed to adapt our historic community to minimize the risks associated with flooding…a Cultural Resource Hazard Adaptation and Mitigation Plan will identify and mitigate potential loss to historic resources associated with natural disasters, primarily threats to sea-level rise, subsidence, and flooding*

City of Annapolis

Flood Mitigation Strategies

- *Focus on protecting existing structures*
- *Study downtown to determine the costs and benefits of public decision-making in mitigating property damage*
- *Evaluate the need and options for protecting historic structures*
- *Require floodproofing to the extent feasible*



FLOOD MITIGATION STRATEGIES
FOR THE CITY OF ANNAPOLIS, MD:
CITY DOCK AND EASTPORT AREA

Prepared for

City of Annapolis
Department of Neighborhood and Environmental Programs

Prepared by:

Whitney, Bailey, Cox & Magnani, LLC
849 Fairmount Ave
Baltimore, Maryland 21226

March 2011

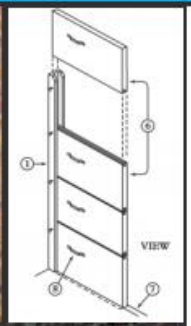
Excerpt of Presentation by City of Annapolis Historic Preservation Division

Weather It Together

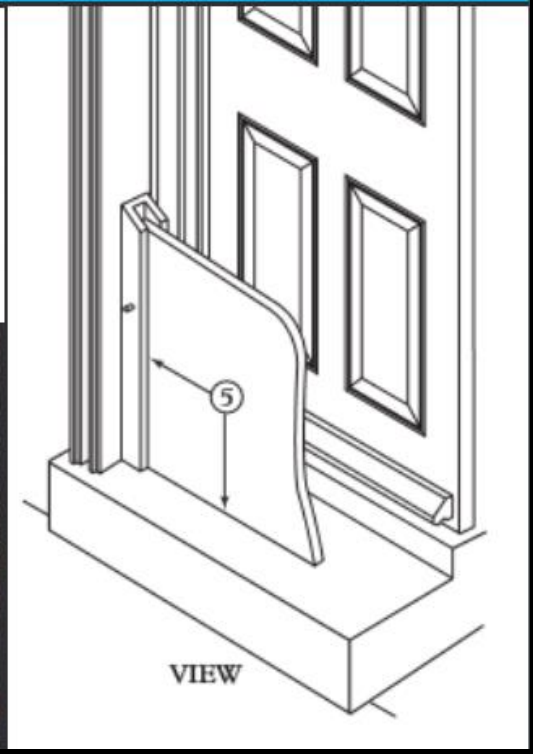
Develop Adaptation Alternatives - Dry Floodproofing

Dry floodproofing involves sealing building walls with waterproof compounds and using shields (dams or perimeter barriers) to seal off doors, windows and other openings to keep the building watertight. This technique can only be used when the walls are strong enough to withstand the hydrostatic force of the water.

Storefront Vestibule - CMU



Door & Window Dams



Excerpt of Presentation by City of Annapolis Historic Preservation Division

Weather It Together

Develop Adaptation Alternatives - Elevation

"Elevation may alter the appearance and scale of a historic building and redefine its relationship to its setting… If the building is raised only several feet, elevation should not severely alter scale."

"A preservation-sensitive alternative would be the elevation of floors within the building, particularly feasible in historic commercial structures with tall ceilings…"

Excerpt of Presentation by City of Annapolis Historic Preservation Division

REVIEW OF SUCCESSFUL/UNSUCCESSFUL METHODS IN CHARLESTON

EXAMPLE ELEVATED BUILDINGS IN CHARLESTON

- **Successful or Unsuccessful?**

Solid Foundation

EXAMPLE ELEVATED BUILDINGS IN CHARLESTON

- **Successful or Unsuccessful?**

  Pier Infill/Screening

EXAMPLE ELEVATED BUILDINGS IN CHARLESTON

- **Successful or Unsuccessful?**

Foundation Vents

EXAMPLE ELEVATED BUILDINGS IN CHARLESTON

- **Successful or Unsuccessful?**

Fenestration in Foundation

EXAMPLE ELEVATED BUILDINGS IN CHARLESTON

- **Successful or Unsuccessful?**

  Fenestration in Foundation

EXAMPLE ELEVATED BUILDINGS IN CHARLESTON

- **Successful or Unsuccessful?**

Elevated Full Floor

EXAMPLE ELEVATED BUILDINGS IN CHARLESTON

- **Successful or Unsuccessful?**

  Setback from Street

EXAMPLE ELEVATED BUILDINGS IN CHARLESTON

- **Successful or Unsuccessful?**
  Setback from Street (New Street)

EXAMPLE ELEVATED BUILDINGS IN CHARLESTON

- **Successful or Unsuccessful?**

  Hybrid

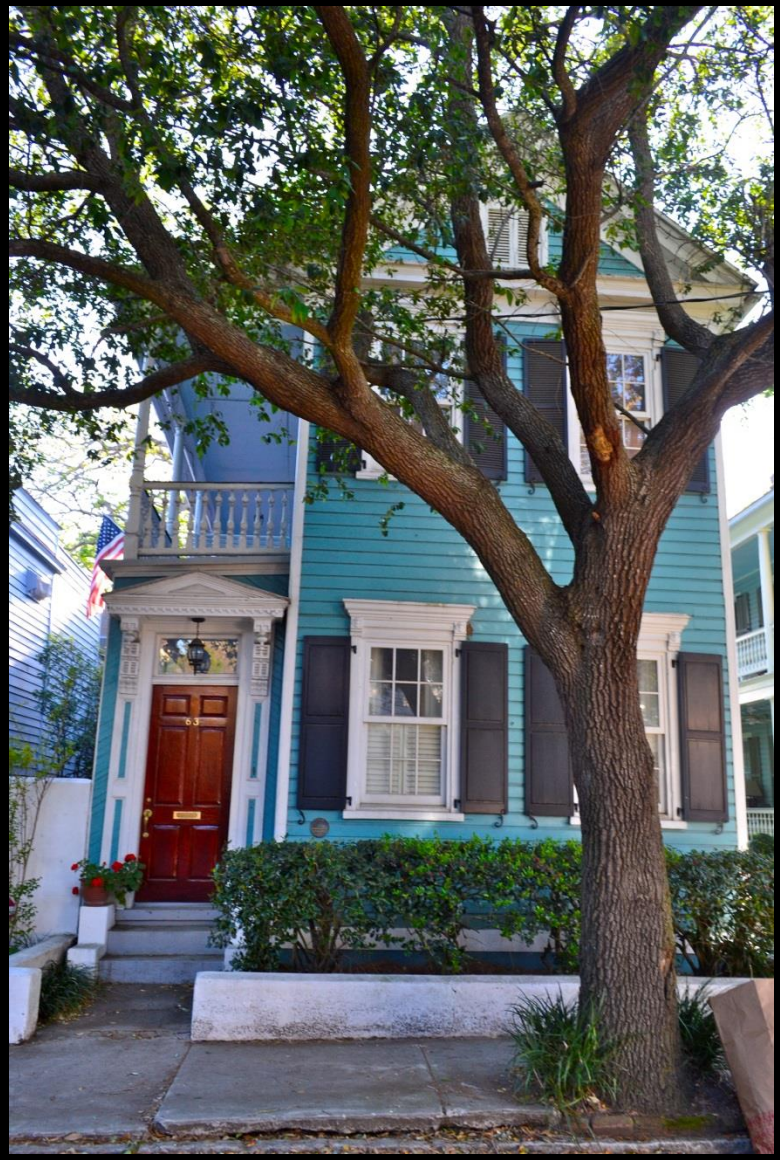
EXAMPLE ELEVATED BUILDINGS IN CHARLESTON

- **Successful or Unsuccessful?**
  Transitional Porch

EXAMPLE ELEVATED BUILDINGS IN CHARLESTON

- **Successful or Unsuccessful?**

  Planter Bed/Knee Wall



EXAMPLE ELEVATED BUILDINGS IN CHARLESTON

- **Successful or Unsuccessful?**
  Creative Façade Treatment

EXAMPLE ELEVATED BUILDINGS IN CHARLESTON

- **Successful or Unsuccessful?**

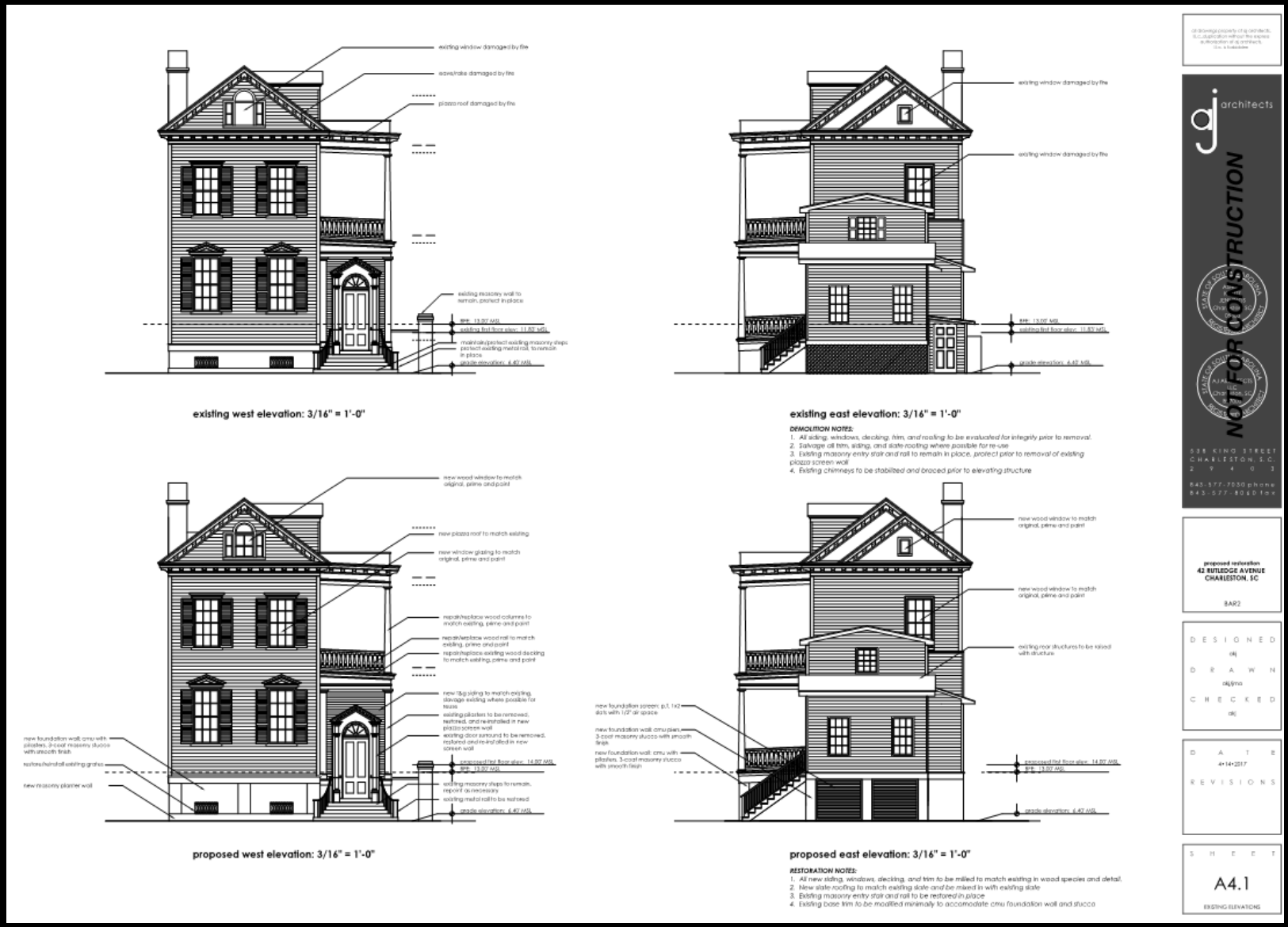
  Sister Houses

EXAMPLE ELEVATED BUILDINGS IN CHARLESTON

- **42 Rutledge:** Category 2, c.1859

EXAMPLE ELEVATED BUILDINGS IN CHARLESTON

- **42 Rutledge:** Category 2, c.1859



EXAMPLE ELEVATED BUILDINGS IN CHARLESTON

- **42 Rutledge:** Category 2, c.1859

EXAMPLE ELEVATED BUILDINGS IN CHARLESTON

- **42 Rutledge:** Category 2, c.1859

existing rutledge avenue streetscape: 1/8" = 1'-0"

proposed rutledge avenue streetscape: 1/8" = 1'-0"

gj architects

NOT FOR CONSTRUCTION

538 KING STREET
CHARLESTON, S.C.
29403
843-577-7030 phone
843-577-8060 fax

proposed restoration
42 RUTLEDGE AVENUE
CHARLESTON, SC

BAR2

DESIGNED
(dj)
DRAWN
dj/jmo
CHECKED
(dj)

DATE
4-14-2017
REVISIONS

SHEET
A4.4
STREETSCAPES

CASE STUDY SCENARIOS FOR HISTORIC BUILDINGS IN CHARLESTON

CASE STUDY SCENARIOS

- **9 Savage Street:** Category 3, c.1894-98

CASE STUDY SCENARIOS

- 9 Savage Street (Context)

CASE STUDY SCENARIOS

- 9 Savage Street (Context)

9 Savage Street elevation proposal to meet FEMA BFE height requirement

beatricembernier@yahoo.com

Our home after Irma, **third consecutive flooding in less than 2 years.**

Our home is no longer sustainable. We are camping 3 to 6 months every year since 2015.

Our home is joining the increasing number of Repetitive Flood Loss properties and Severe Repetitive Loss properties, according to NFIP.

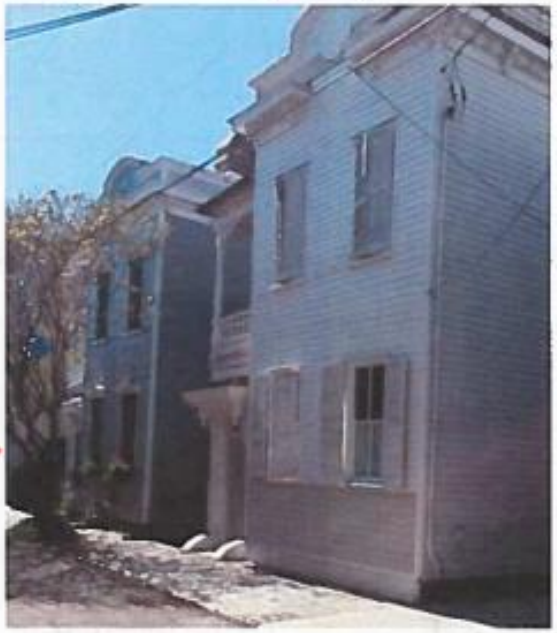
Our home will lose its integrity and might need to be demolished if nothing is done to save it.

This is about saving the house. To save it, the only solution is to raise it.

9 Savage Street elevation proposal to meet FEMA BFE height requirement

beatricembernier@yahoo.com

5' line



Left:
our home, 9 Savage Street
Right:
11 and 9 Savage Street together.

Our home flood elevation is 7 feet, which means it lies 6 feet below current BFE and 4 feet or 5 feet below proposed 2018 **FEMA flood zone map new BFE** (11 feet).

The 2015 floodplains ordinance requires buildings to be elevated 1 foot above National Flood Insurance Program minimum height requirements (Freeboard) BFE+1'

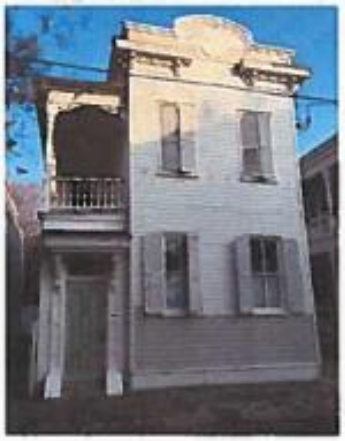
Sec. 54-306. Old City Height Districts states that if a building is required to be raised per FEMA requirements, that same height shall be added to the maximum height allowed, up to a maximum of 6 feet. This measurement shall be taken from the highest curb elevation.

Savage street is listed under the Repetitive Loss Areas in the Charleston under Charleston Regional Hazard Mitigation Plan

7 Savage Street

9 Savage Street

11 Savage Street



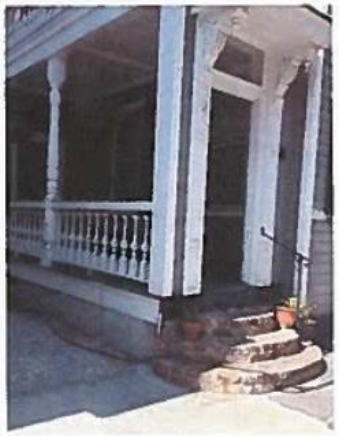
13 Savage Street

15 Savage Street

9 Savage Street elevation proposal to meet FEMA BFE height requirement

beatricembernier@yahoo.com

below:
Existing piazza and step options, stairs could be integrated in many ways behind Piazza and front street door, steps location and height option swill depend upon FEMA BFE final height.



Existing entrance piazzas for 9, 11, 13, 15. All have been altered over time, losing some or all of their original piazzas.

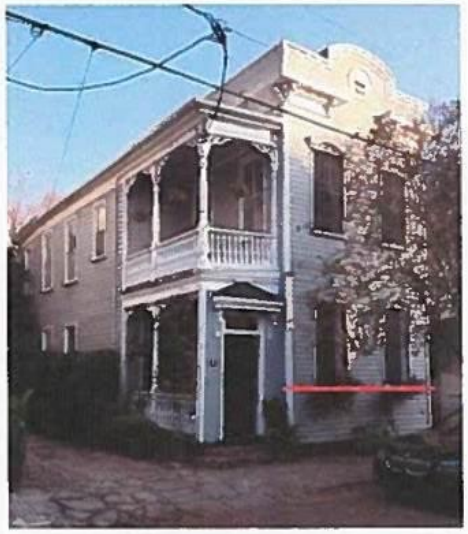
13 Savage was raised about 1 foot and vents added as part of an earlier remodel in the mid 1990s. It still flooded in 2017.

15 Savage lost its entire piazza

9 Savage Street elevation proposal to meet FEMA BFE height requirement

beatricembernier@yahoo.com

Below:
photos of existing facades and sketches illustrating **possible elevation options about 5 feet** with raised masonry foundation and vents that can be integrated in the existing house by bringing clapboard siding over part of new foundation. New steps to house could either be integrated behind piazza door or on the side. **Final elevation height will be determined once we know what will be the final flood zone map for our area.**



CASE STUDY SCENARIOS

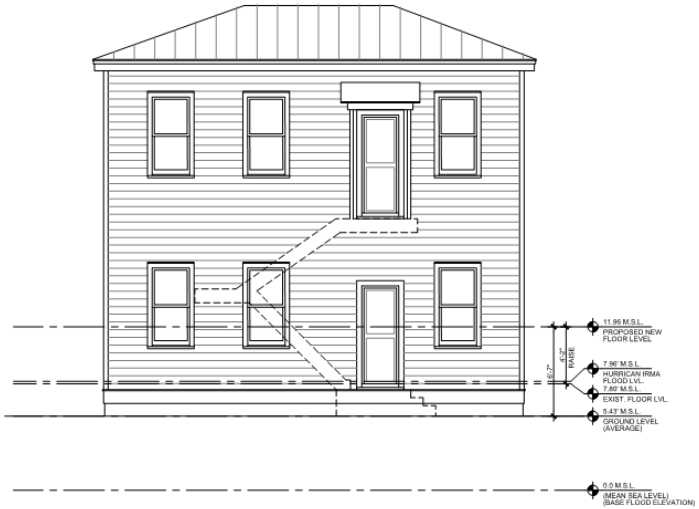
- **15 Council Street:** Not Surveyed, early 20th Century

CASE STUDY SCENARIOS

- **15 Council Street**

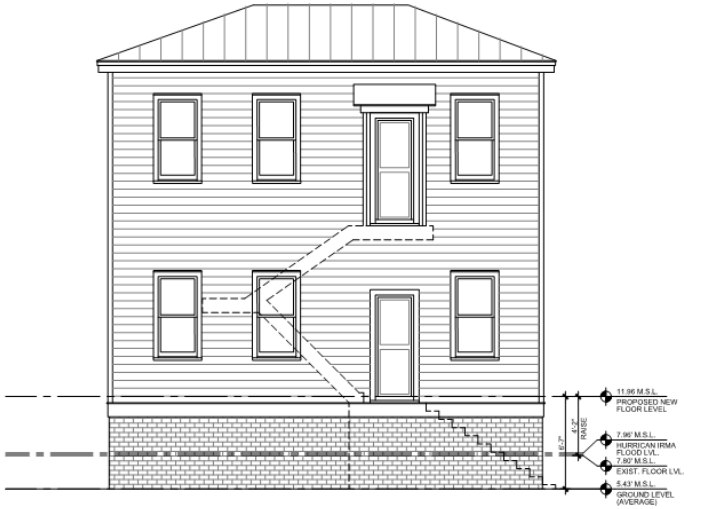
CASE STUDY SCENARIOS

- **15 Council Street (Context)**



2 E-201 REAR ELEVATION

1 E-201 FRONT ELEVATION



2 A-201 PROPOSED NEW REAR ELEVATION
Scale 1/4"=1'-0"

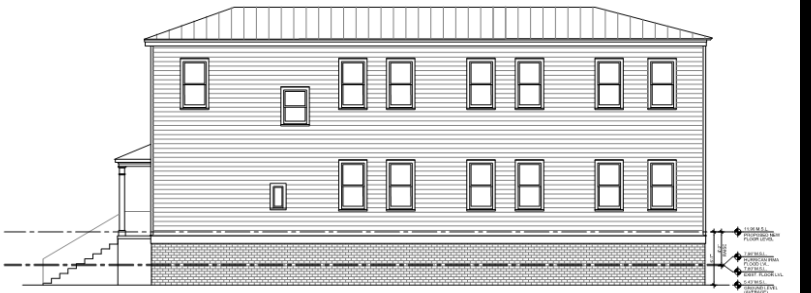
1 A-201 PROPOSED NEW FRONT ELEVATION
Scale 1/4"=1'-0"

SIDE ELEVATION

Scale: 1/2"=1'-0"

SIDE ELEVATION

Scale: 1/2"=1'-0"



PROPOSED NEW SIDE ELEVATION

Scale: 1/4"=1'-0"

PROPOSED NEW SIDE ELEVATION

Scale: 1/4"=1'-0"

1 / E-020 STREETSCAPE ELEVATION
Scale 1/8"=1'-0"

1 / A-020 STREETSCAPE ELEVATION
Scale 1/8"=1'-0"

DISCUSSION/WRAP-UP

DEVELOPING A BUILDING ELEVATION POLICY STATEMENT/GUIDELINES

- Is a Policy Statement of the Board Enough Guidance?
- Important Considerations for a Policy Statement
- Independent Work by Design Community to Develop Strategies
- Upcoming Workshops
  - Review of Strategies:
    - Single House
    - Freedman's Cottages
    - Adjoined/Grouped/Sister Buildings
    - New Construction
  - Review of Draft Policy Statement
- What can the Preservation Non-Profits do to facilitate development of comprehensive guidelines?