RESILIENT HAMPTON

American Flood Coalition Resolution
+
Sea Level Rise Resolution
+
Resilient Hampton Pilot Area Project Recommendations

March 27, 2019

American Flood Coalition Resolution

Background

- Group of political, military, business, and local leaders working together to drive resilience and adaptation
- Advocates for national solutions to proactively address flooding and sea level rise
- Non-profit organization

AFC Resolution

- Joins the Coalition

- Currently 124 members across 10 states
- Based on current information, would be the first locality in Virginia to adopt

Sea Level Rise Resolution

Background

- 2015 – State required Comprehensive Plan to incorporate strategies to combat projected sea level rise and recurrent flooding (§ 15.2-2223.3)
- Many localities starting to develop resilience and flooding plans
  - Resilient Hampton initiative
- Hampton Roads Planning District Commission (HRPDC) developing guidance and providing support

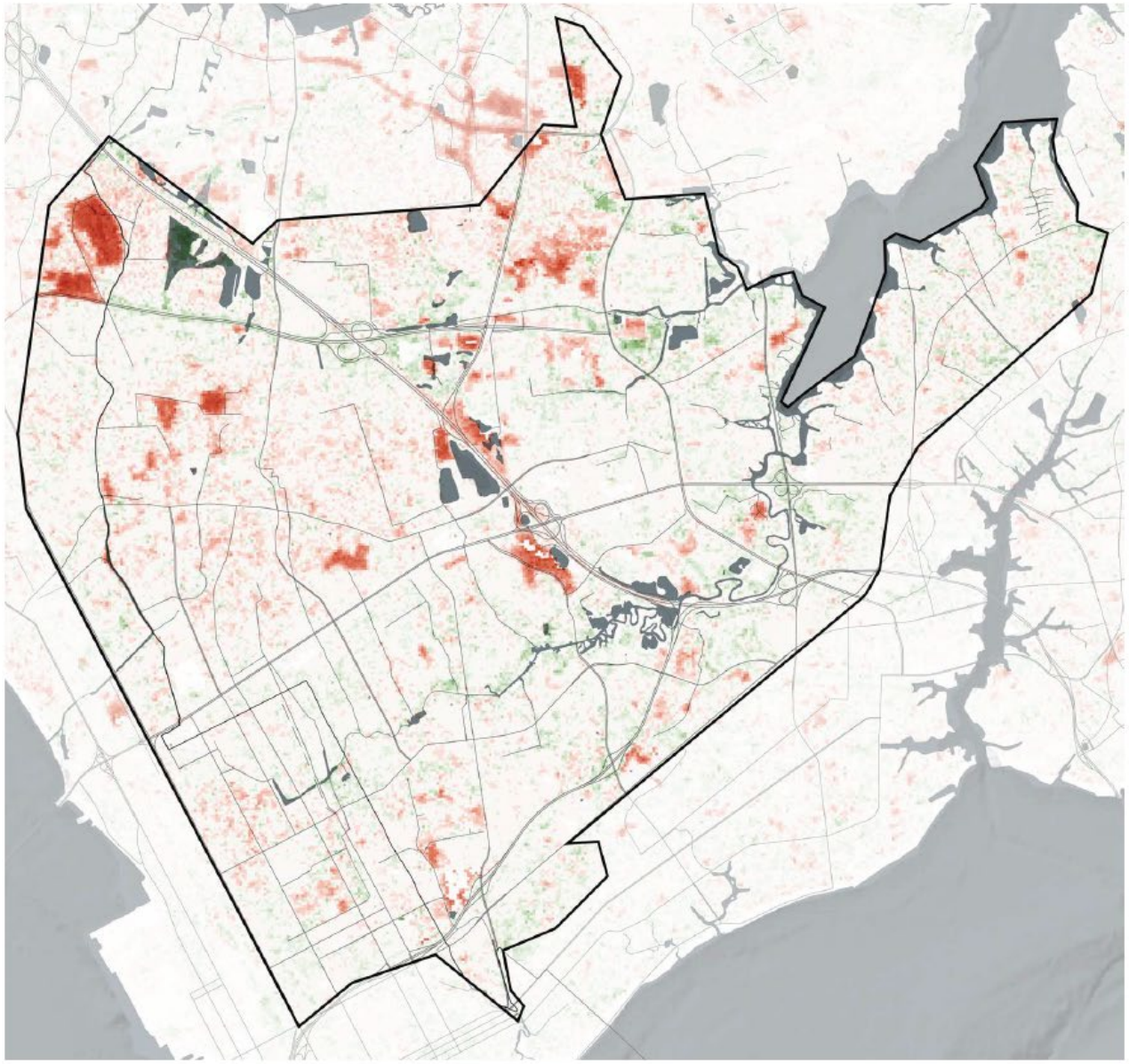
Resilient Hampton

- Phase I led to a guiding principle to "use best available data."
- Hampton Community Plan amended in July, 2018 to reflect resilience goals, policies, and principles.
- Supported HRPDC creation of region-wide planning horizon standards.

HRPDC Resolution

- Recommends sea level rise numbers for three planning horizons based on Virginia Institute of Marine Science data:
  - 1.5 feet (2019-2050)
  - 3 feet (2050-2080)
  - 4.5 feet (2080-2100)
- Minimum standards that may need to be adjusted based on lifespan or relative importance of project
- Recommend Council adopt resolution

Resilient Hampton Update



Tree Canopy Loss/Gain, 2000-2015

High tree canopy loss

Low tree canopy gain

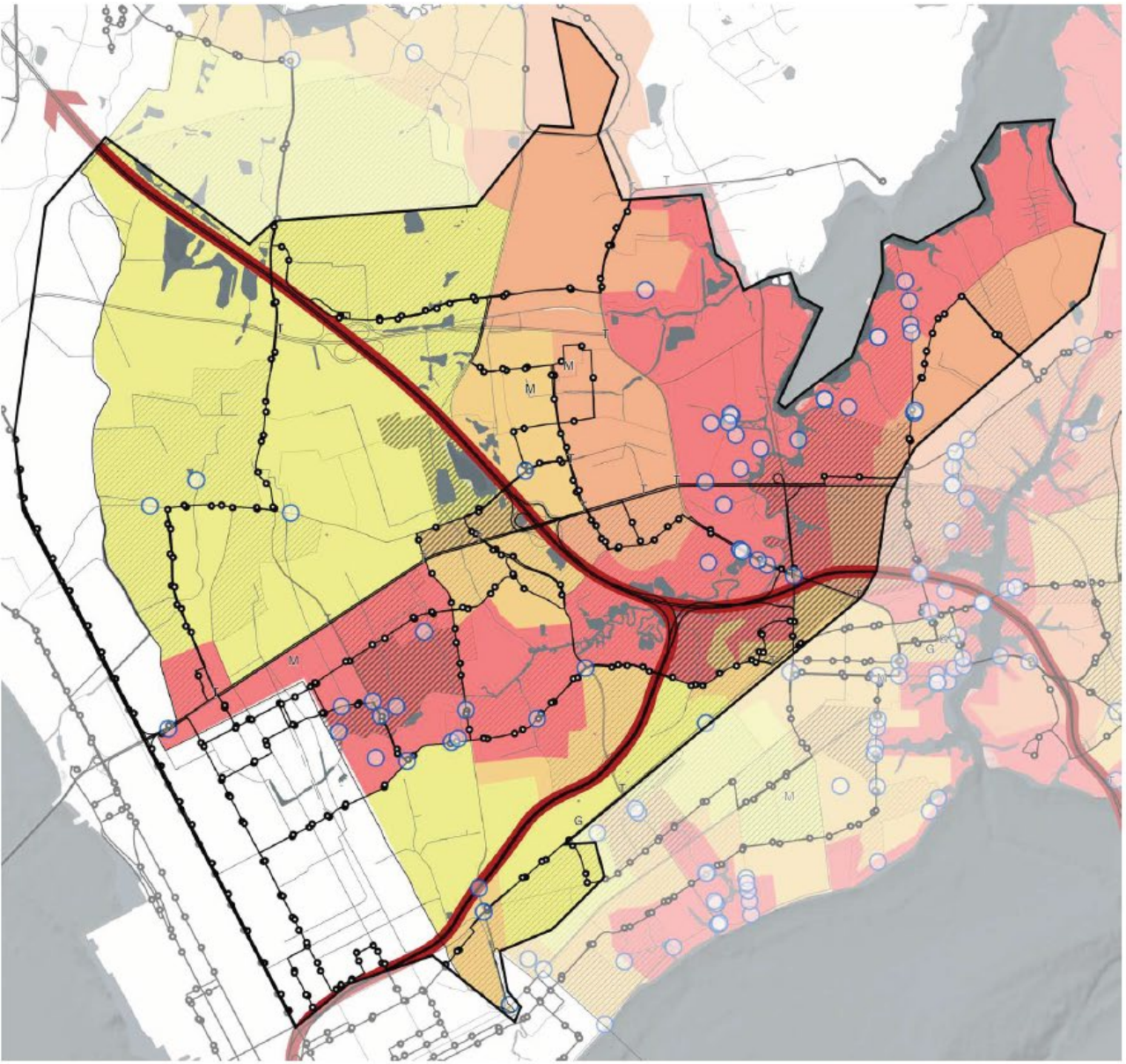
Source:
Tree Canopy Cover loss - Derived from Global Land Cover Facility

Scale:

0 0.5 1 1.5 2 Miles

Resilient Hampton Phase II

RESILIENT HAMPTON HAMPTON VA WAGGONNER &BALL



Transportation Vulnerability

Flooded Streets, Evacuation Zones, Public Transit Ridership, Public Transit Routes, Assisted Evacuation

- Flooded streets
- Evacuation Zone A
- Evacuation Zone B
- Evacuation Zone C
- Evacuation Zone D

- 75-92%* Bus Riders
- 50-75 % Bus Riders
- 25-50 % Bus Riders
- 1-25 % Bus Riders
- 0 % Bus Riders
- Bus Routes
- Bus Stops
- T Critical Transportation Infrastructure
- M Hospitals & Nursing Homes
- G Prisons

*maximum ridership

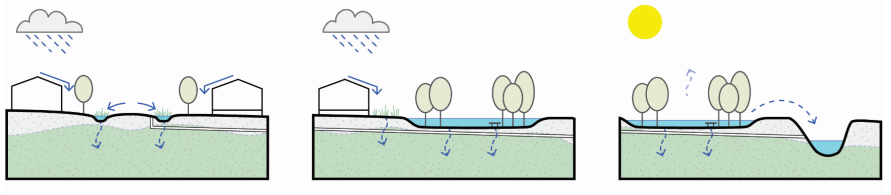
Source:
Evacuation Routes - Virginia Department of Emergency Management, 2017
Public Transit Use - United States Census, 2010
Bus Routes - US City Open Data Census, 2015
Flooded Streets, City of Hampton, 09/03/16, 10/02/15, 11/12/09

Scale:
0 0.5 1 1.5 2 Miles

Resilient Hampton Phase II

RESILIENT HAMPTON HAMPTON VA WAGGONNER & BALL

Newmarket Creek - Design Workshop



Slow, Store, Redirect

Newmarket Creek - Design Workshop

Community Meeting

Community Meeting

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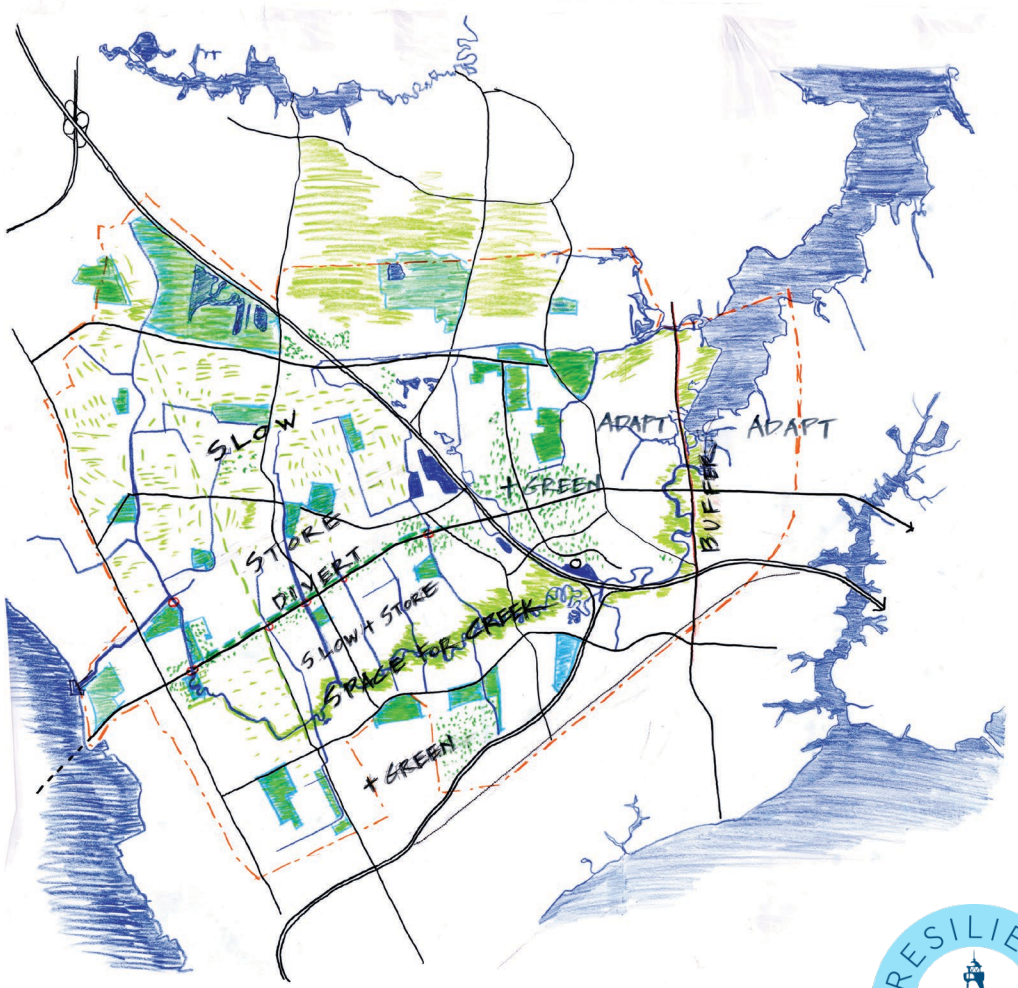
Key Takeaways

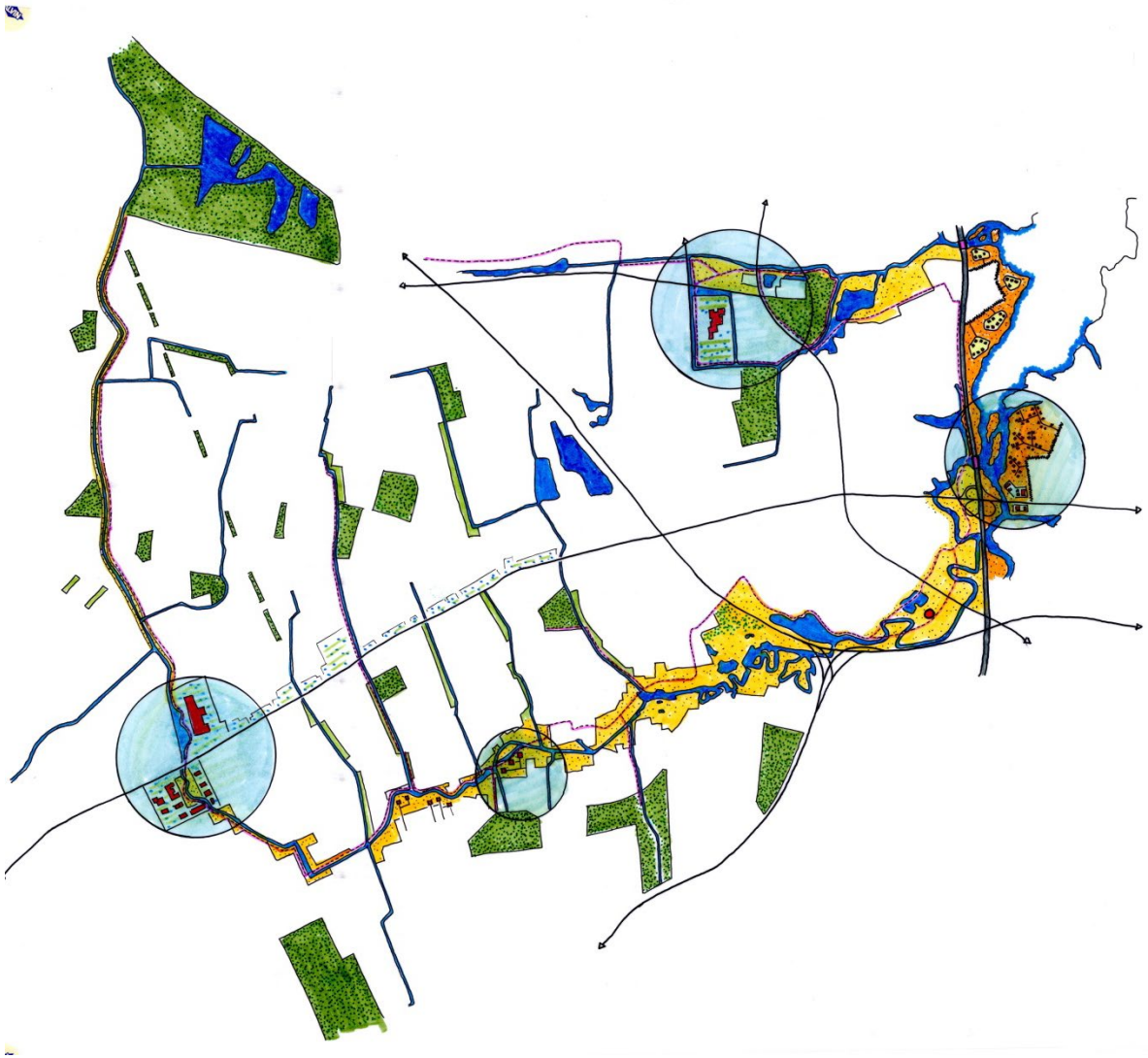
- Slow, Store, Redirect
- Solutions will come in many scales
- We can start working on things **now**
- Involve citizens
- Solve flooding while also providing benefits to the neighborhood
- Reinforced power of partnerships



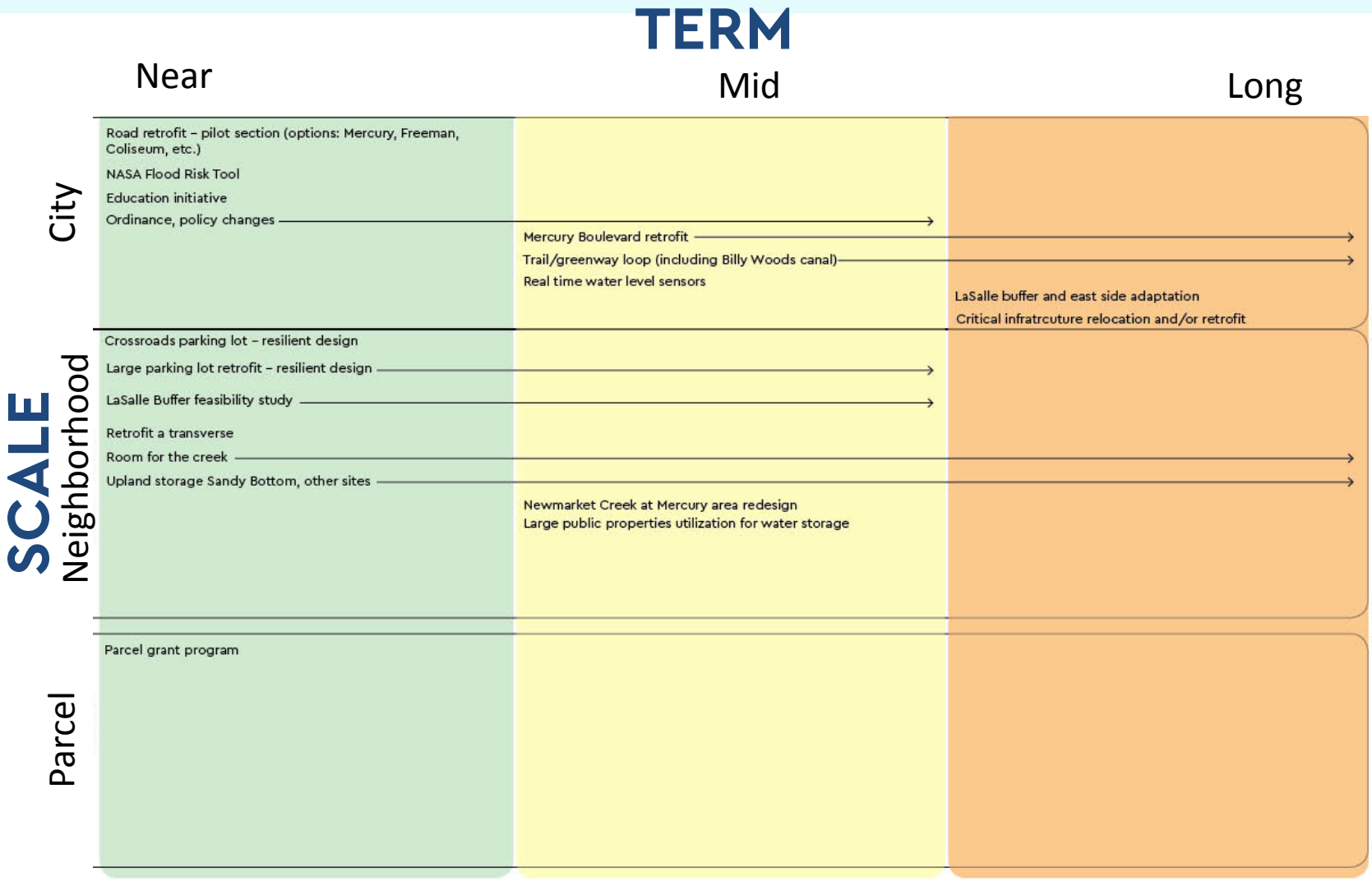
Projects

- Conceptual projects came out of design workshop
- Broken down into near-, mid-, and long-term
- Near-term could include upcoming CIP

Projects – Big Picture

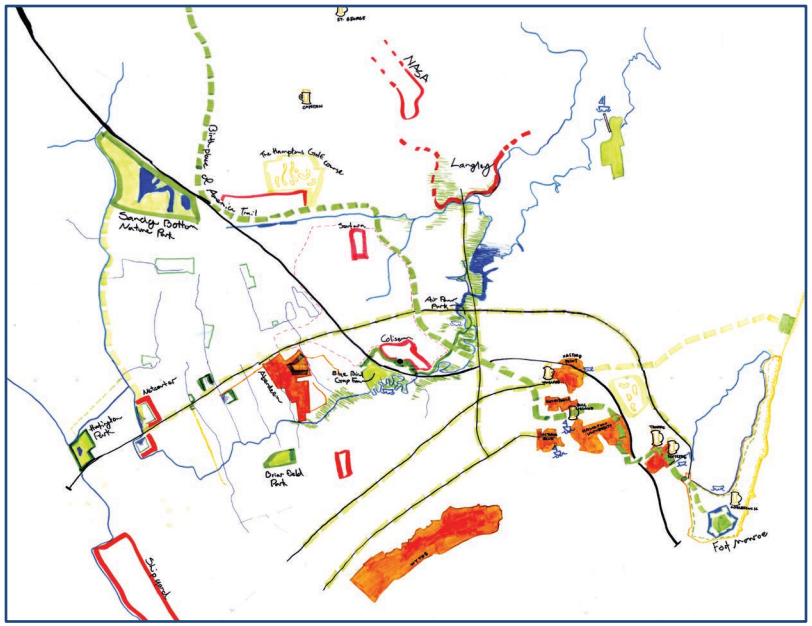


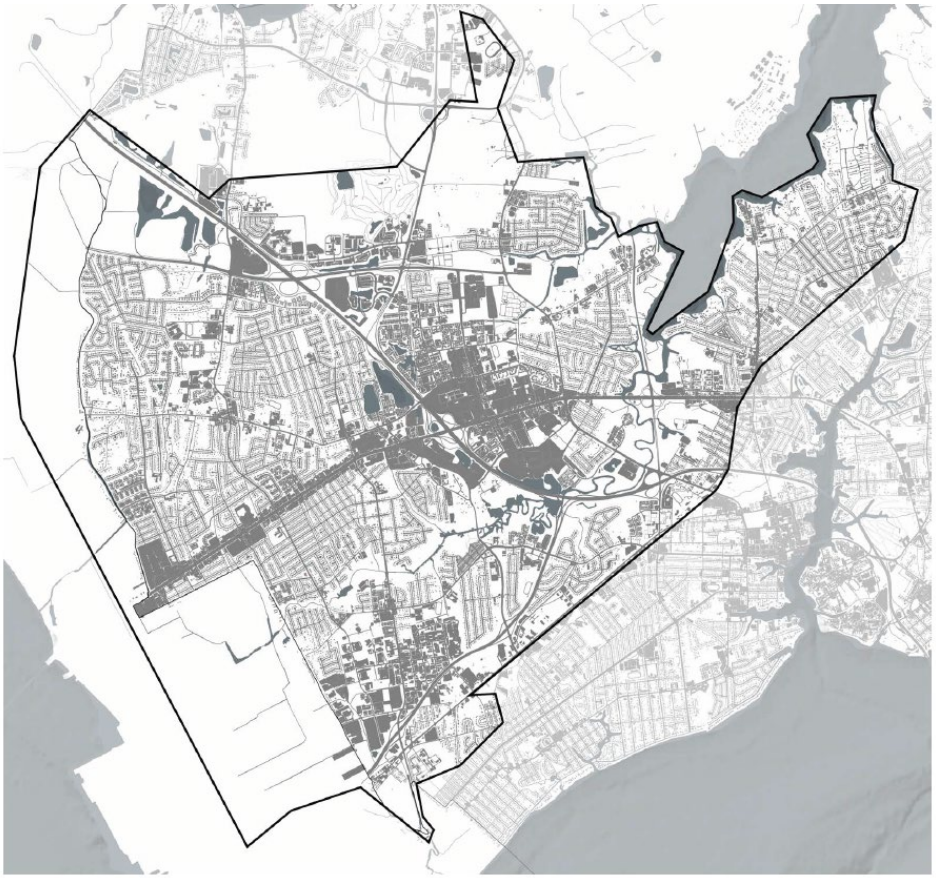
Projects Summary



Mid-Term Projects

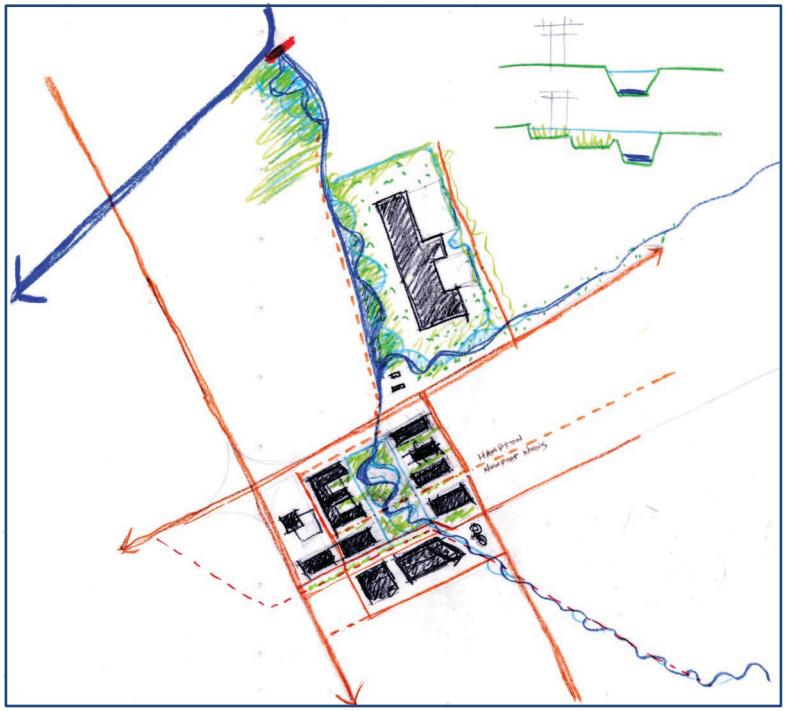
- Trail/Greenway loop
- Parking retrofit
- Space for water on public properties





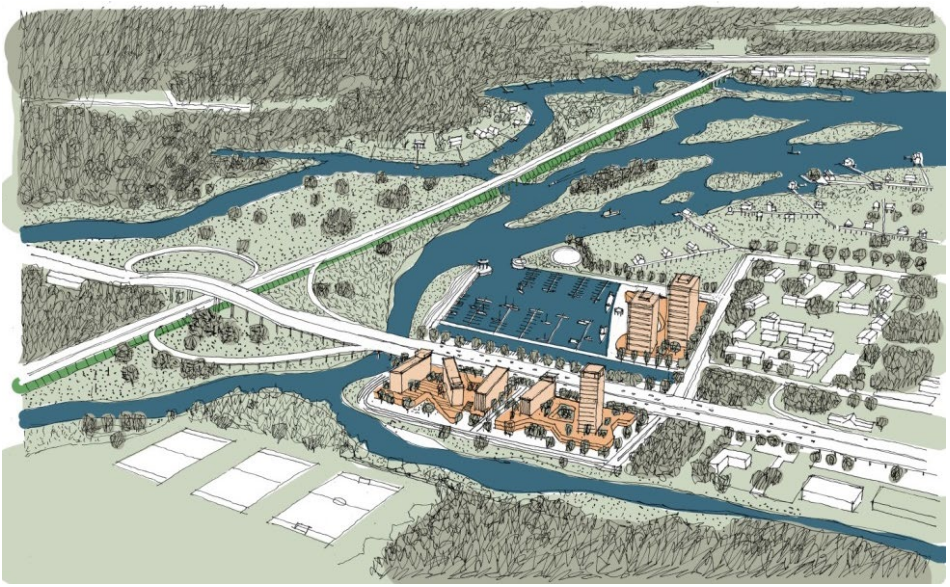
Mid-Term Projects

- Newmarket Creek at Mercury Boulevard resilient design



Long-Term Projects

- Critical infrastructure relocation and retrofit
- LaSalle buffer and east side adaptation

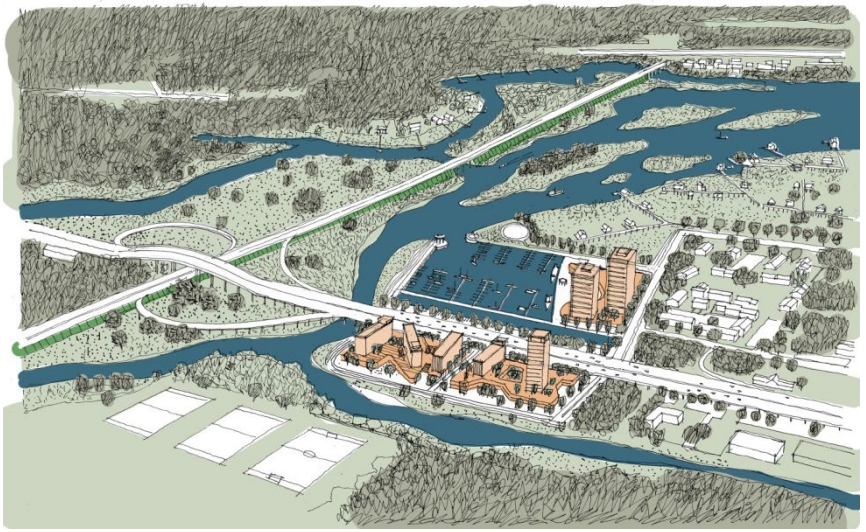


Recommended Near-Term Actions

Ditch Retrofit

- Pilot ditch retrofit between Forrest Elementary and Former Mallory School
- Connect school facilities, create education tie
- **Water Goal:** Slow and store water on large public sites before it reaches Newmarket Creek to reduce flooding

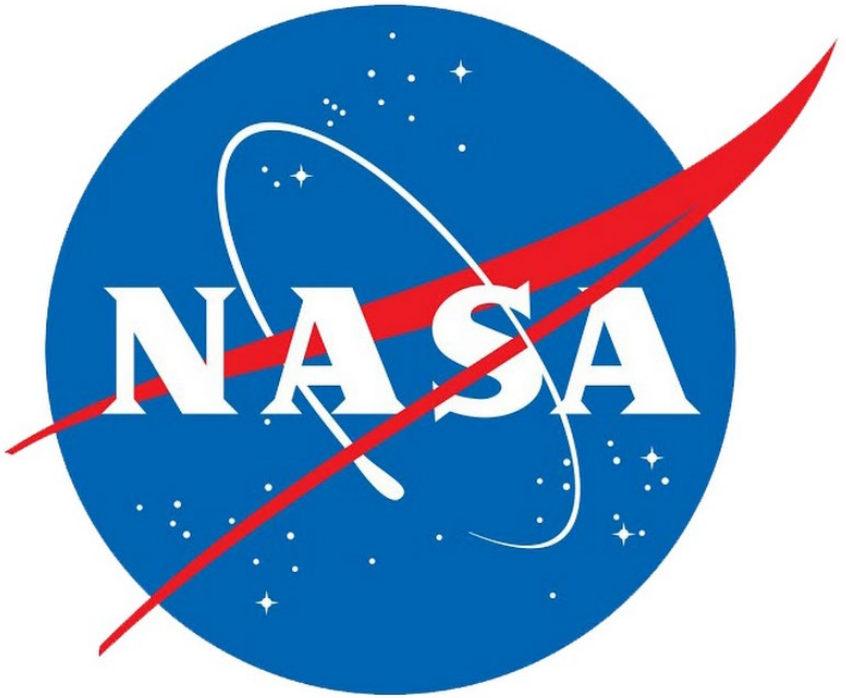
LaSalle Avenue Buffer and Adaptation



- Study to explore feasibility of creating a protective greenway along LaSalle Avenue
- Explore adaptive reuse of commercial properties into innovative floodplain commercial and residential
- **Water Goal:** Prevent water from backing up farther down Newmarket Creek, create additional storage

NASA Flood Impact Tool

- NASA has existing tool
- Models impact of various storms – can be used to prepare for future storms, understand areas of vulnerability
- **Water Goal:** Preparedness, reduce impacts to critical infrastructure



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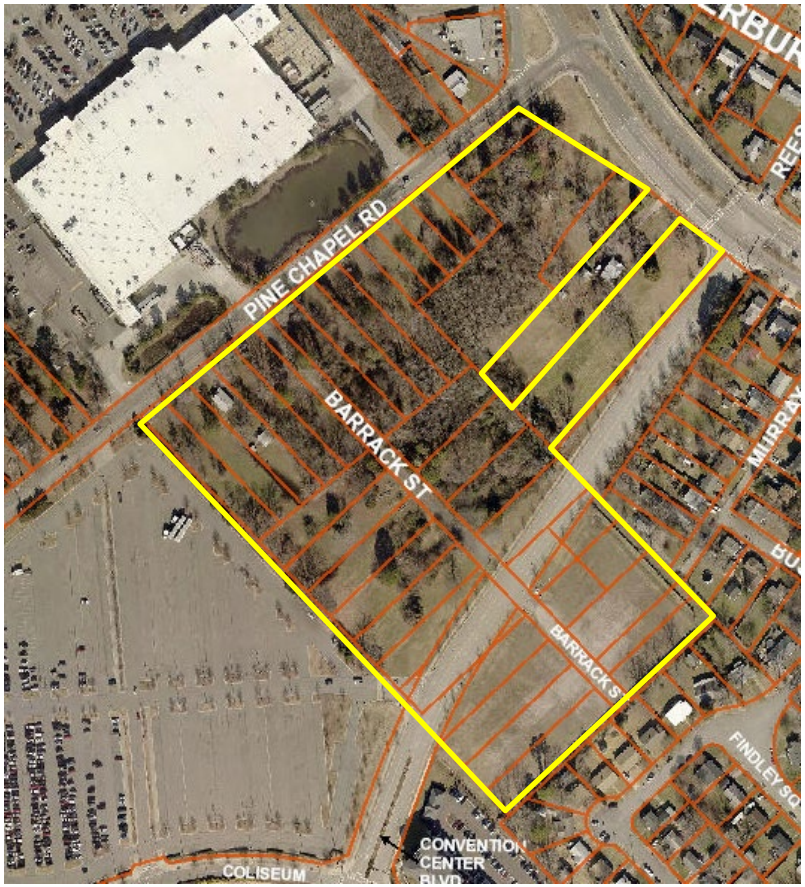
Crossroads Parking Lot

- Retrofit parking lot and/or consider garage
  - Resilient design
  - Increase natural stormwater management
- **Water Goal:** Store
- Project already under design
  - FY20 CIP

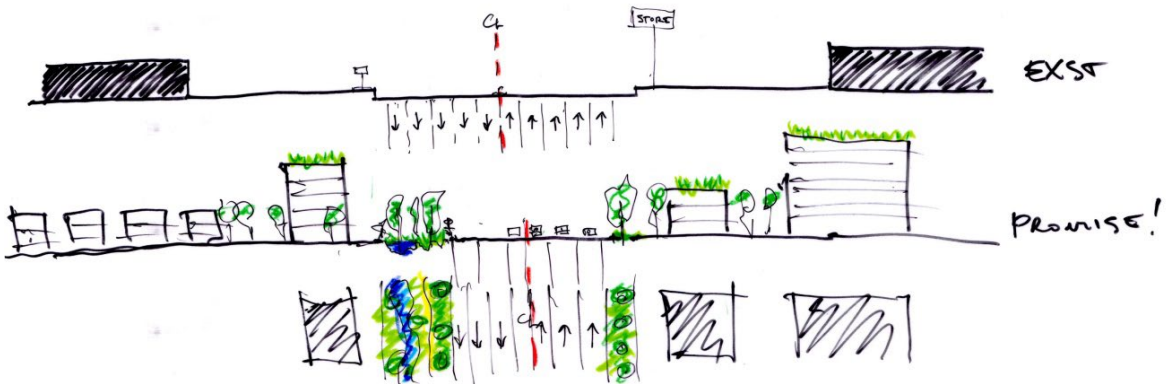


Parcel Grant Porgram

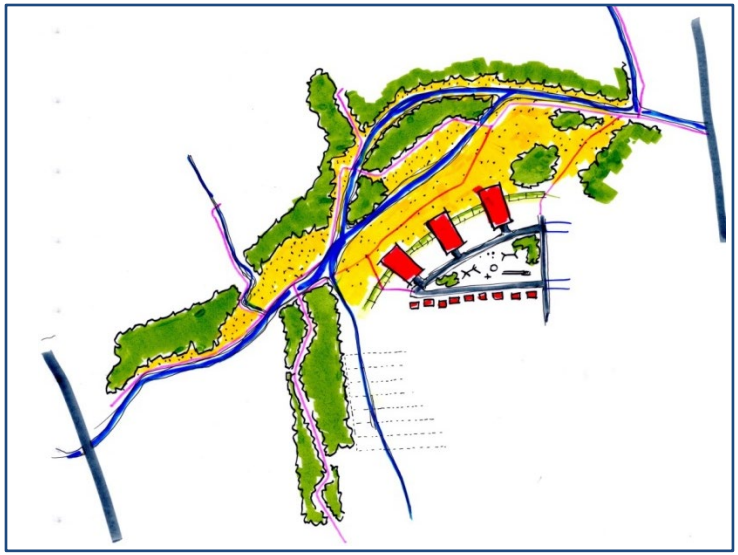
- Program to aid property owners and tenants to make small improvements that contribute to slowing and storing rainwater.
- FY20 CIP
- **Water Goal:** Slow and store runoff, citizen role

Streets Retrofit

- Reduction of impervious surfaces
  - Lane reduction, pervious pavement
- Raise roads strategically
  - Armistead Avenue
  - LaSalle Avenue
- Introduce other water infiltration and amenities
- **Water Goal:** Redirect/store water



Space for Water – Large Public Properties



- Create floodplain and water flow.
- Add innovative economic development that treats water as an asset, with reduced flood risk
- **Water Goal:** Slow water, more storage in Newmarket Creek

Short Term – Low Cost

- Education Initiative: Hampton City Schools
  - Work with HCS on curriculum, partnerships, and integration of school site projects into learning
  - Academies of Hampton
- Education initiative: Homeowners/resident education
  - How-tos
  - Resource guides
  - Partnerships

Short Term – Low Cost

- Ordinance and Policy Changes
  - ERU
  - Amending the Site Plan Ordinance regarding standards for parking lots
  - Review the Parking Section of the Zoning Ordinance
  - Tree Canopy
  - Impervious Surface limitations
  - Regional BMP Floodway Buffer
  - Incentives for retrofits
  - Transfer of Development Rights

- **Current Steps:** analyze how difficult to implement, what we currently have legal authority to do

Summary Near Term Projects

- Ditch Retrofit – Forrest to Mallory
- LaSalle Avenue Buffer and Adaptation
- NASA Flood Impact Tool
- Crossroads Parking Lot
- Parcel Grant Program
- Retrofit of City Streets Pilot
- Space For Water on Large Public Properties

Potential Funding

- Proposed $1 Stormwater fee increase
- Environmental Impact Bonds
- Capital Improvement Plan
- Partnerships
  - Grant projects

Next Steps

- Further develop project proposals
  - Prioritize
  - Conceptual plans
  - Estimated cost
  - Potential funding sources
- Developing CIP proposals
- Next community meeting late spring/early summer

Request

- Adopt resolution on American Flood Coalition
- Adopt resolution on sea level rise planning horizon
- Provide feedback on project proposals