

A photograph of the Jackson, Mississippi skyline across a river. A large steel truss bridge spans the river in the foreground. The city buildings are visible in the background under a clear sky. The text is overlaid on the image.

# City of Jackson Mississippi

*Team Presentation and Site Visit*

July 23-25, 2019

Troy, MI

**Climate Resilience, Water, and Equity:  
Urban Flooding Bootcamp**

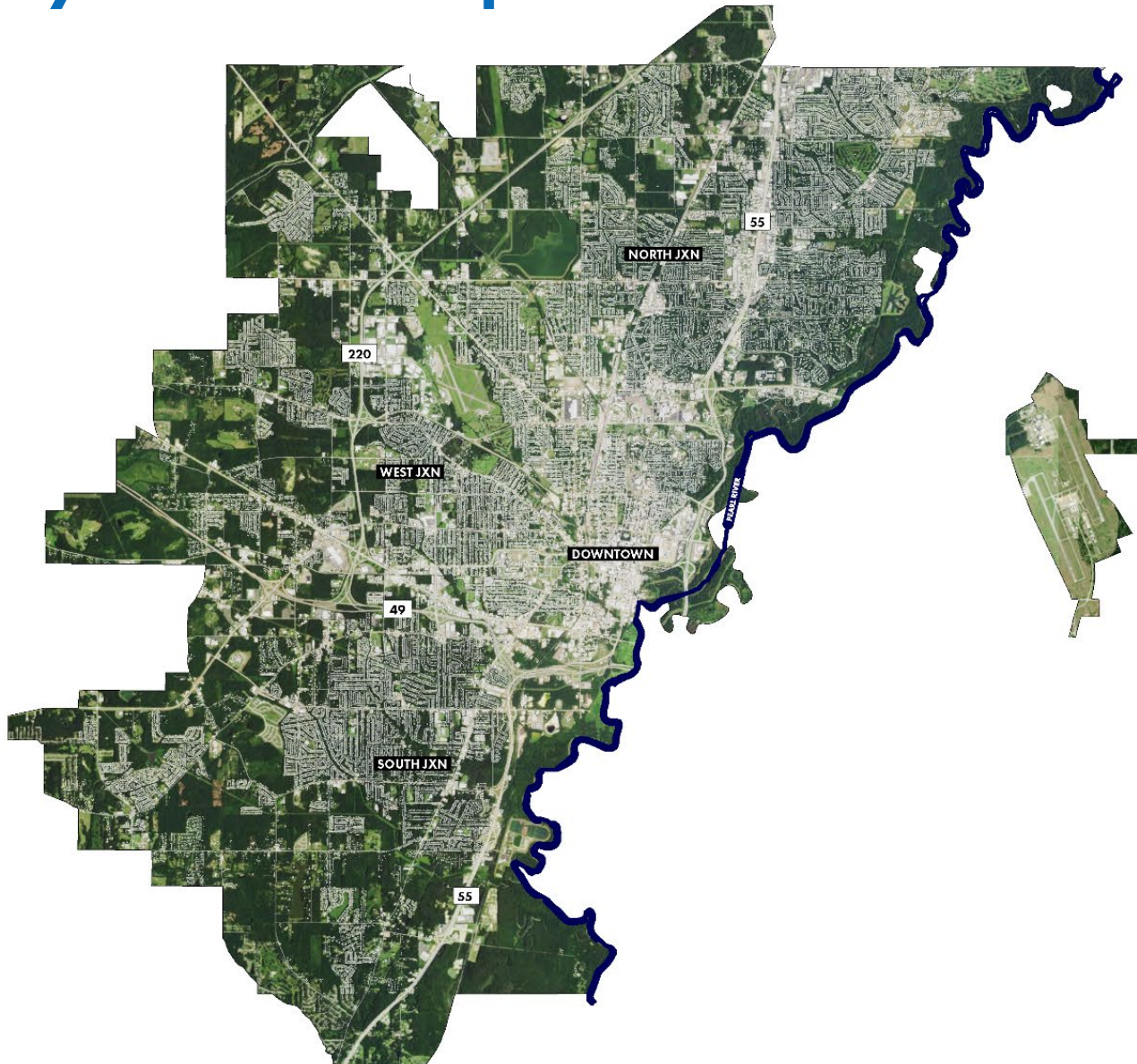
# City of Jackson Team Members

- City of Jackson City Council President – Virgi Lindsay
- City of Jackson Planning Department – Travis Crabtree
- City of Jackson Public Works – Anthony Harkless
- City of Jackson Attorneys Office – Ashley McLaughlin
- Pearl Riverkeeper – Abby Braman

# Key Water Challenges – City of Jackson

- Please briefly describe the central water-related challenges facing your city.
  - The city of Jackson floods frequently largely due to planning mistakes related to building within the floodplain and supporting car-oriented development patterns that create high amounts of impervious paved infrastructure.

# City Context Map



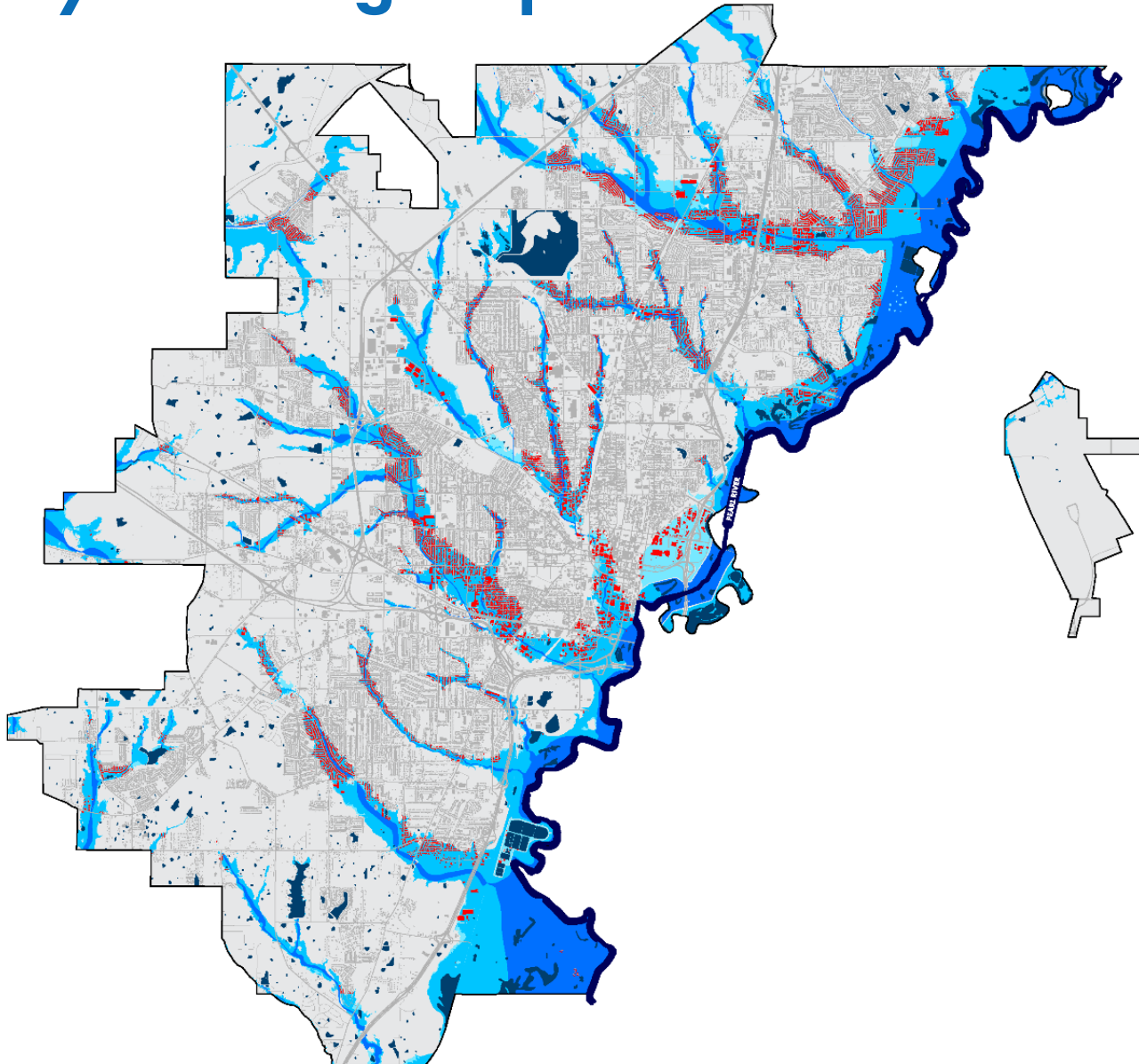
**LAND SIZE**  
**113 SQ. MI**

**CITY**  
**POPULATION**  
**166,000 PEOPLE**

**METRO**  
**POPULATION**  
**576,382 PEOPLE**



# City Flooding Map



**13% OF THE CITY  
IS IN A FLOOD  
HAZARD ZONE  
[15.6 SQ. MILES]**

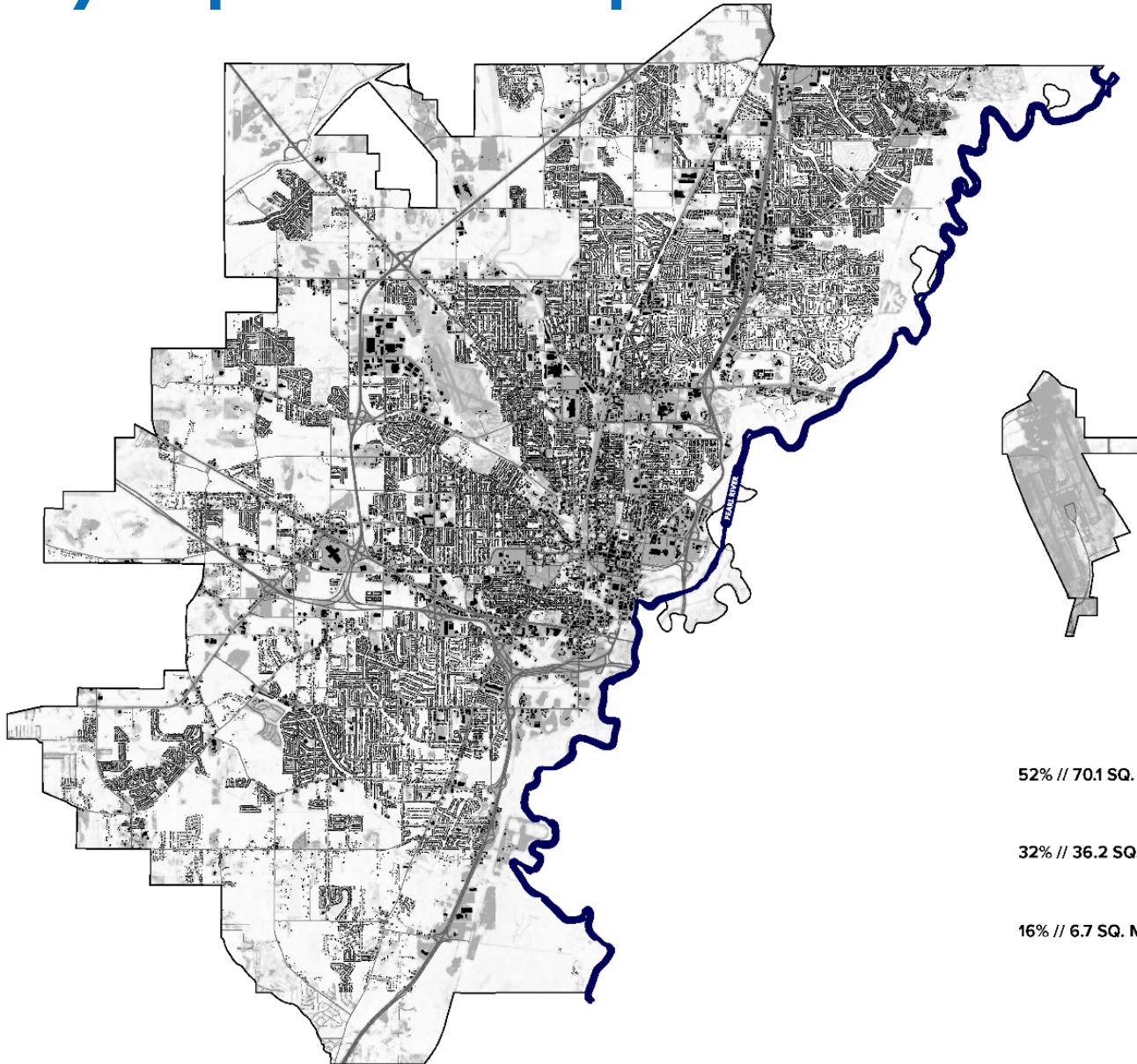
**14,400 STRUCTURES  
ARE LOCATED  
WITHIN AREAS OF  
ANNUAL FLOOD  
HAZARDS**

## FLOOD HAZARD AREAS

FEMA 2016 DATA

- AREA OF MINIMAL FLOOD HAZARD
- 0.2% ANNUAL CHANCE OF FLOOD HAZARD
- 1% ANNUAL CHANCE OF FLOOD HAZARD (ZONE AE)
- REGULATORY FLOODWAY
- WATER BODIES
- BUILDINGS LOCATED IN THE FLOOD ZONES

# City Impervious Map



**52% OF THE CITY  
IS PERVIOUS**

**48% OF THE CITY  
IS IMPERVIOUS**

## URBANIZATION

USGS LANDCOVER 2011 IMAGERY

52% // 70.1 SQ. MI

□ LOW DENSITY OF IMPERMEABLE SURFACES  
(VEGETATION AND WATER BODIES)

32% // 36.2 SQ. MI

■ MEDIUM DENSITY OF IMPERMEABLE SURFACES  
(PARKING LOTS AND ROADWAYS)

16% // 6.7 SQ. MI

■ HIGH DENSITY OF IMPERMEABLE SURFACES  
(BUILDINGS)

# Climate Challenges – City of Jackson

- How is climate change exacerbating the water challenges your city is facing?
  - Climate change is increasing rainfall frequency and flash flooding in the city. Jackson's stormwater piping system isn't sized to handle the increased runoff.



# Flash Flooding

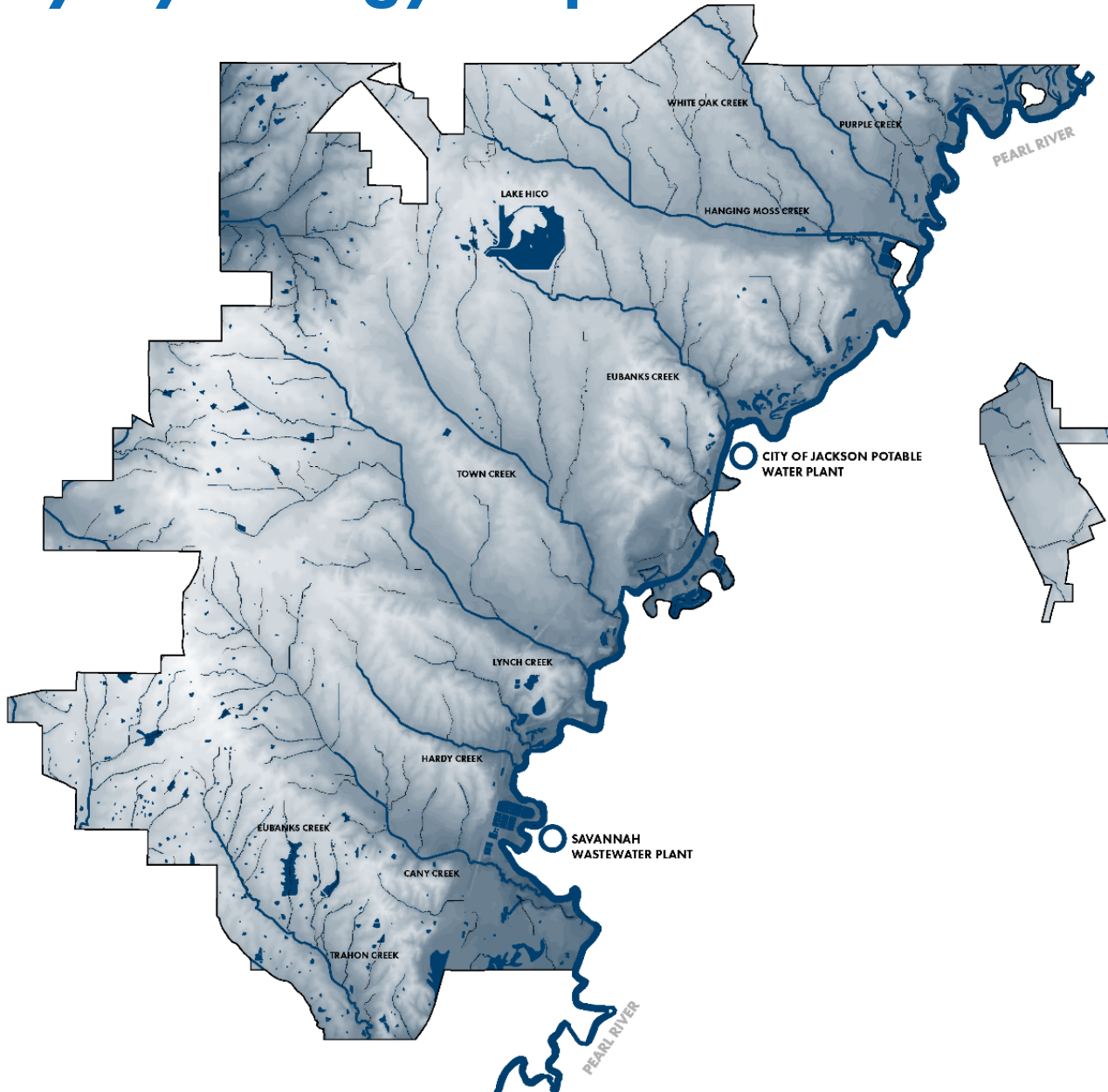




# Urban Flooding in City of Jackson

- Insert brief notes on flooding in your city. This may include what kind of flooding occurs, where, how often, what it looks like, or other characteristics.
  - Intense flooding occurs several times each year. The two types of areas that are frequently flooding are ones against the Pearl River and creek systems or in areas with large amounts of paved surface.

# City Hydrology Map



**100 +  
TRIBUTARIES**

**9 STREAMS**

**1 RIVER**

## HYDROLOGY SYSTEM

MARIS 2017 DATA

— INTERMITTENT STREAMS

— PERENNIAL STREAMS

— PEARL RIVER

■ WATER BODY

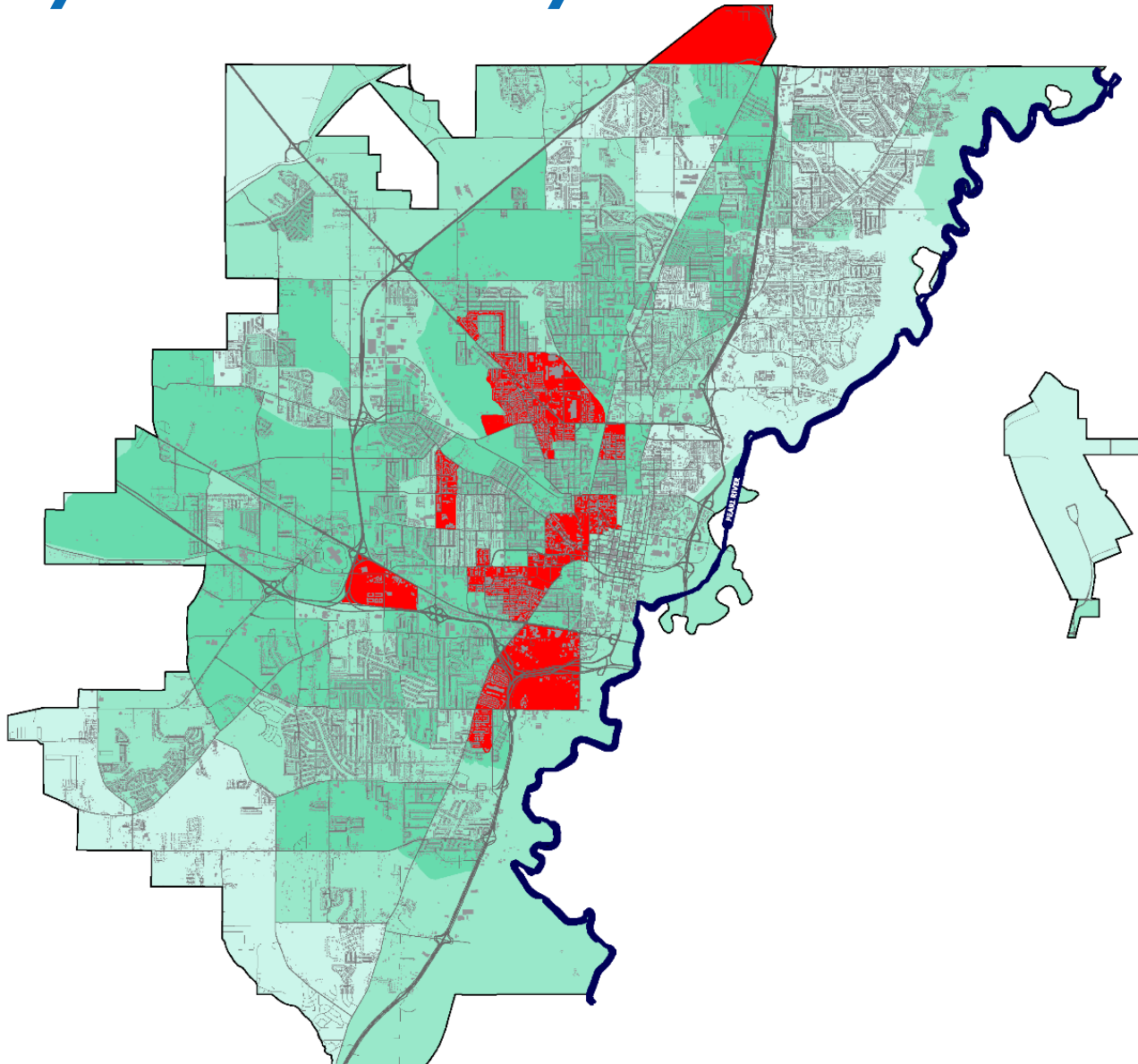
■ LOW ELEVATION

■ HIGH ELEVATION

# Equity Challenges in City of Jackson

- What ways do you see flooding and climate change impacting low-income people, communities of color, and other vulnerable populations?
  - Increased flooding is destroying homes in low income communities. Most low income communities housing types are wooden shotgun homes. Excessive water damage is causing the homes to mold which is extremely unhealthy for children and adults.
  - Are the impacts spatially distributed in an inequitable manner? Are their particular neighborhoods of concern?
  - Flooding actually occurs in extremely affluent neighborhoods and low income neighborhoods. The ratio is surprisingly almost equal.

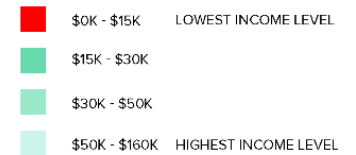
# City Median Family Income



**LOWEST MEDIAN  
FAMILY INCOME  
LEVELS ARE  
CONCENTRATED  
IN THE CENTER  
OF THE CITY**

## **MEDIAN FAMILY INCOME**

ACS 2015 5YR ESTIMATES





# 2019 Flash Flooding



Floodwaters Trapped Students Inside  
of Jim Hill High School

**BREAKING**  
NEWS

**16** WAPT  
NEWS



# 2019 Flash Flooding





# 1979 Easter Flood

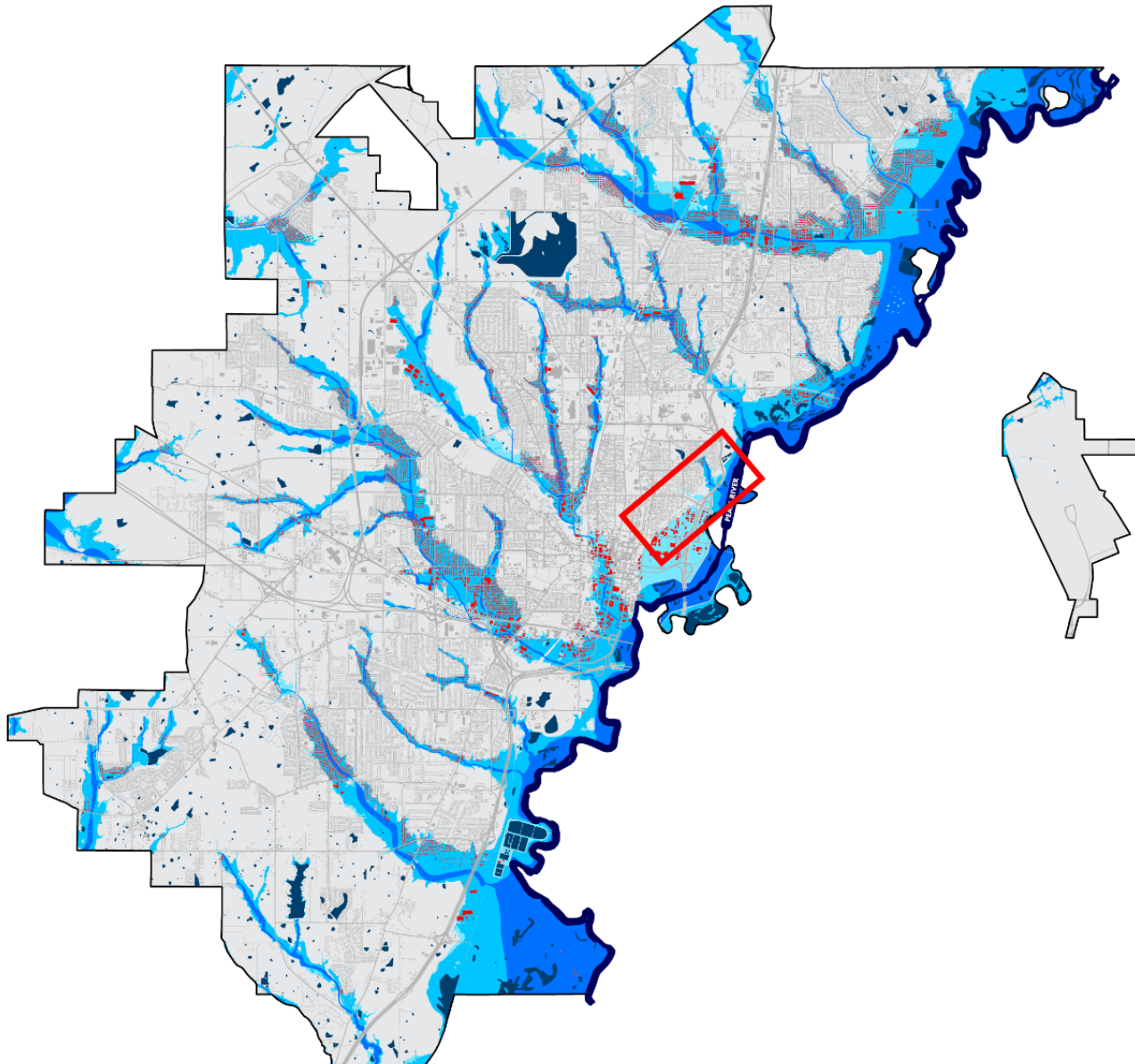


# Highlights from Your Site Visit

- Site Location: Belhaven Heights Neighborhood
- Demographics Information:
  - Median Age – 31.8
  - Median Family Income - \$30,721
  - Race - 52% White / 47% Black
- Mixed income neighborhood
- High population density / Multi family housing
- Touches 2 creeks and the Pearl River
- Public space investment already occurring (Museum to Market Trail)
- City of Jackson land ownership
- Variety of Non Profit actors in the neighborhood



# Site Location



## SITE LOCATION

+ MIXED INCOME NEIGHBORHOOD

+ HIGH POPULATION DENSITY

+ TOUCHES 2 CREEKS AND THE PEARL RIVER

+ HAS PUBLIC SPACE INVESTMENT ALREADY OCCURRING (MUSEUM TO MARKET TRAIL)







+ CITY OF JACKSON LAND OWNERSHIP

+ VARIETY OF NPO PARTNERS

 SITE LOCATION

## FLOOD HAZARD AREAS

FEMA 2016 DATA

-  AREA OF MINIMAL FLOOD HAZARD
-  0.2% ANNUAL CHANCE OF FLOOD HAZARD
-  1% ANNUAL CHANCE OF FLOOD HAZARD (ZONE AE)
-  REGULATORY FLOODWAY
-  WATER BODIES
-  BUILDINGS LOCATED IN THE FLOOD ZONES



# MUSEUM TO MARKET TRAIL

## SITE INVENTORY AND ANALYSIS



- 1 farmers market
- 2 mississippi coliseum
- 3 belhaven heights park
- 4 belhaven heights
- 5 belhaven
- 6 industrial park

- 7 laurel street park
- 8 city of jackson water plant
- 9 belhaven beach

- 0.2% annual chance of flood hazard
- 1% annual chance of flood hazard
- regulatory floodway







**Museum to Market Trail**





**Common multi-family housing**





The highway divides the city and the river

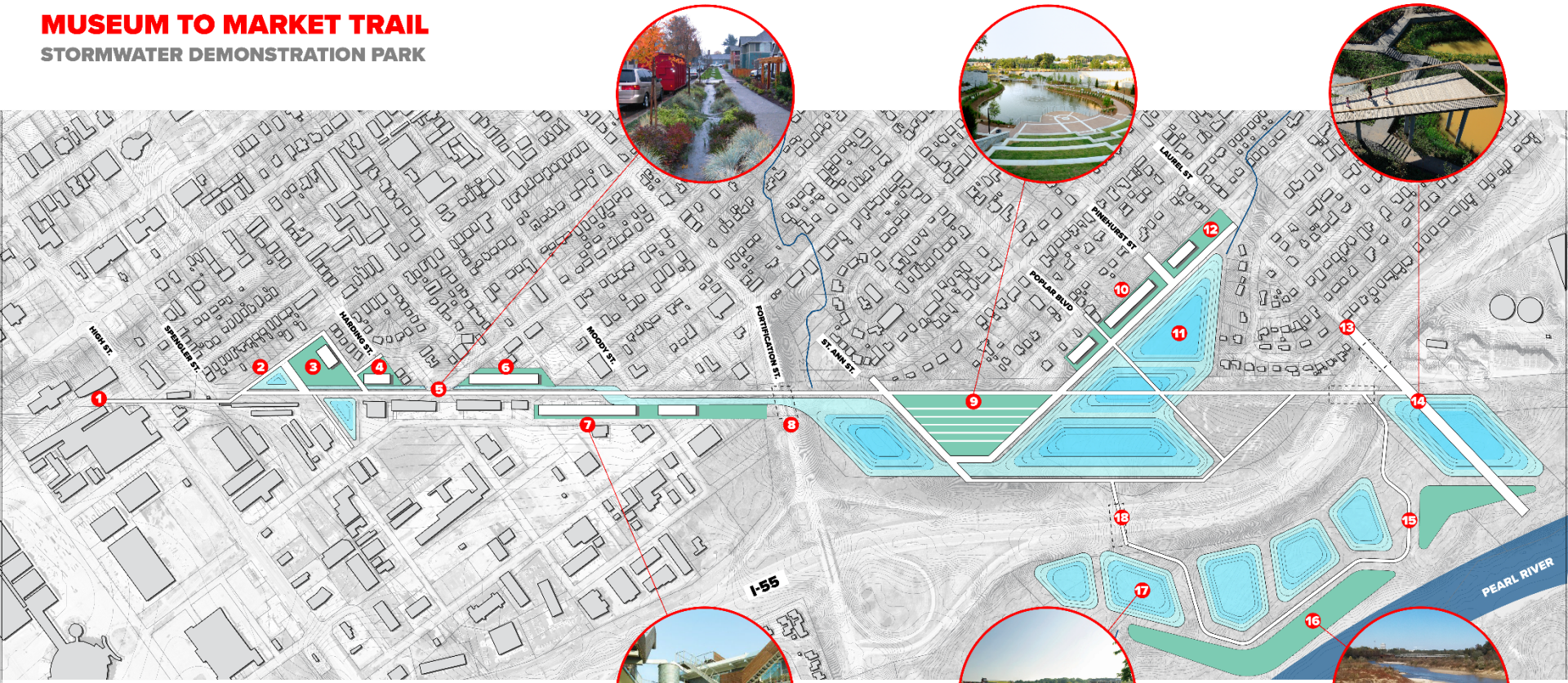


# Site Visit and Conclusions

- Can we create developments within the city that use flooding as an asset?
- Jackson has no examples of creative green infrastructure interventions in the city.
- We thought it would be useful to take this opportunity to imagine what a creative stormwater approach to flooding could look like.

# MUSEUM TO MARKET TRAIL

## STORMWATER DEMONSTRATION PARK



- |                         |                           |                              |
|-------------------------|---------------------------|------------------------------|
| 1 farmers market        | 7 mixed-use housing       | 13 laurel street river entry |
| 2 park rain garden      | 8 street underpass        | 14 observation overlook      |
| 3 belhaven heights park | 9 stormwater amphitheater | 15 managed trails            |
| 4 mixed-use housing     | 10 mixed-use housing      | 16 sandbar beaches           |
| 5 bioswale              | 11 retentional ponds      | 17 constructed wetland       |
| 6 mixed-use housing     | 12 laurel street park     | 18 highway underpass         |



# Thank you!

For more information:

## Presenters

Travis Crabtree – [tcrabtree@jacksonms.gov](mailto:tcrabtree@jacksonms.gov)  
[www.jxnplanning.com](http://www.jxnplanning.com)

Abby Braman – [abbybraman@gmail.com](mailto:abbybraman@gmail.com)  
[www.pearlriverkeeper.com](http://www.pearlriverkeeper.com)

Anthony Harkless – [aharkless@jacksonms.gov](mailto:aharkless@jacksonms.gov)  
[www.jacksonms.gov](http://www.jacksonms.gov)

Ashley McLaughlin – [amclaughlin@jacksonms.gov](mailto:amclaughlin@jacksonms.gov)  
[www.jacksonms.gov](http://www.jacksonms.gov)