Garden City Flood Risk Management General Investigation Study

Update

1-8-2024

US Army Corps of Engineers®

Garden City
Nestled by the River

Historical Lower Boise River Flooding

The 1943 flood was 25,000 cfs (Lucky Peak Dam was not constructed until 1955, and Anderson Ranch Dam in 1946), which brought strong interest in Boise River flood risk.

The largest flood events on the Boise River since construction of Lucky Peak dam:

- 2017 – 9,590 cfs
- 2012 – 8,310 cfs
- 1998 – 8,350 cfs
- 1986 – 8,030 cfs
- 1983 – 9,840 cfs

Since 1982, the Glenwood Gage has been above 7,000 cfs (flood stage) 11 times.

Photo credit: Steve Sweet 2012

1 cfs = cubic feet per second
* Flows at Glenwood Street USGS Gage

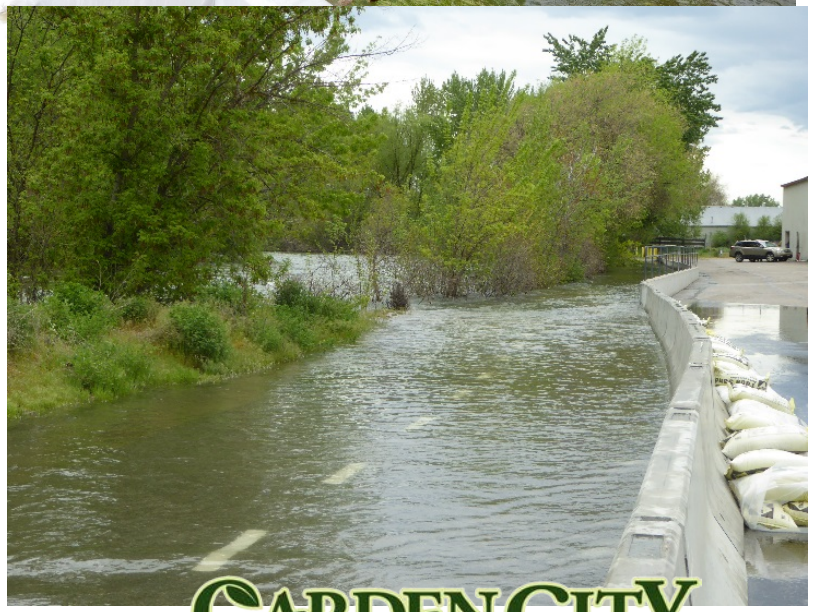
Prior to Dams

2006

2012

8,300 cfs

2017



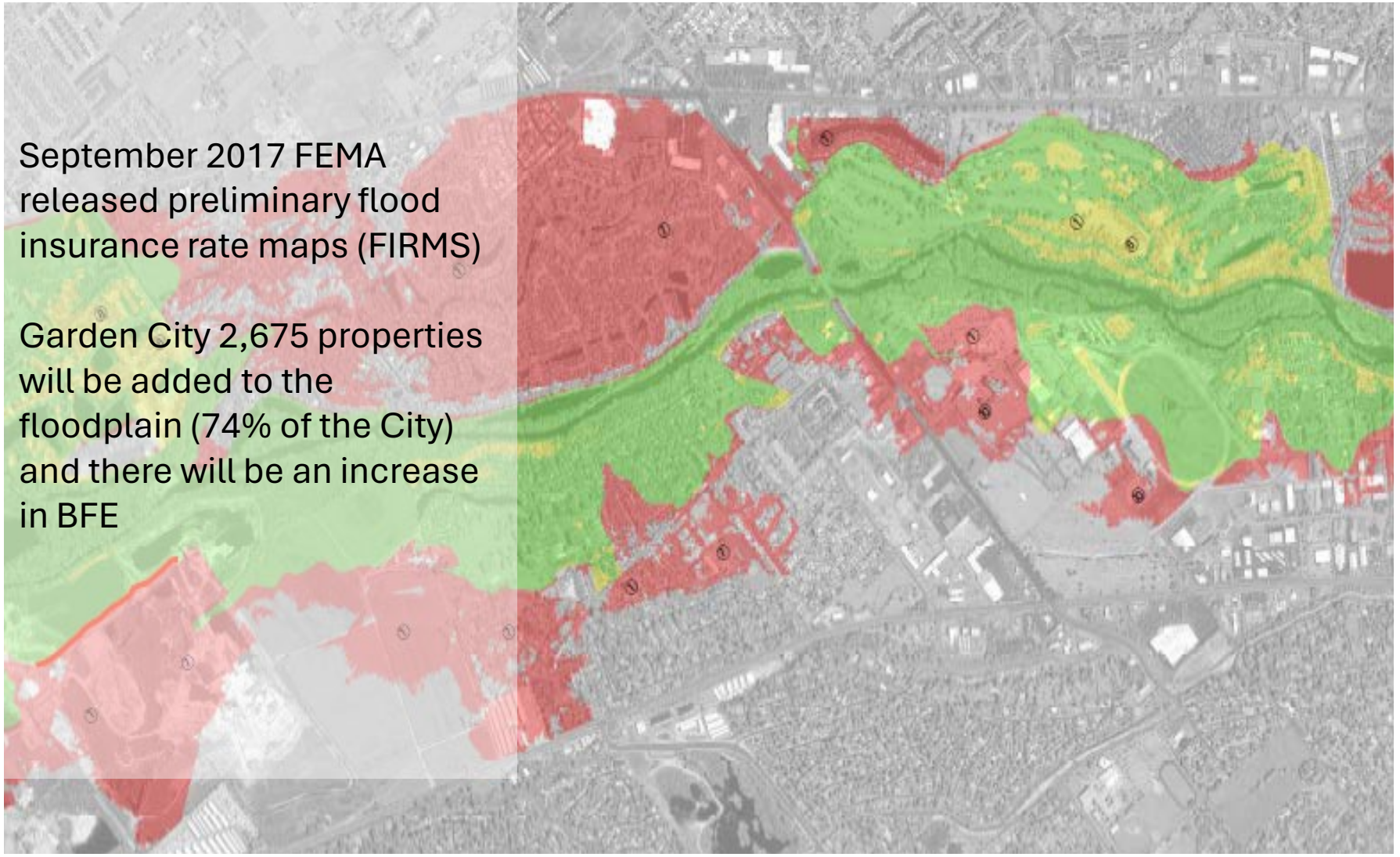
9,200 cfs

GARDEN CITY
NESTLED BY THE RIVER

Risk Factors for flooding

- Significant risk despite three large reservoirs upstream (Lucky Peak, Arrowrock, and Anderson Ranch Dams)
- Large runoff volumes
- Volume forecast errors
- Late season rainstorms
- Irrigation withdrawals may not be significant during peak flood flows
- Development in the floodplain

FEMA Flood Insurance Study (FIS)



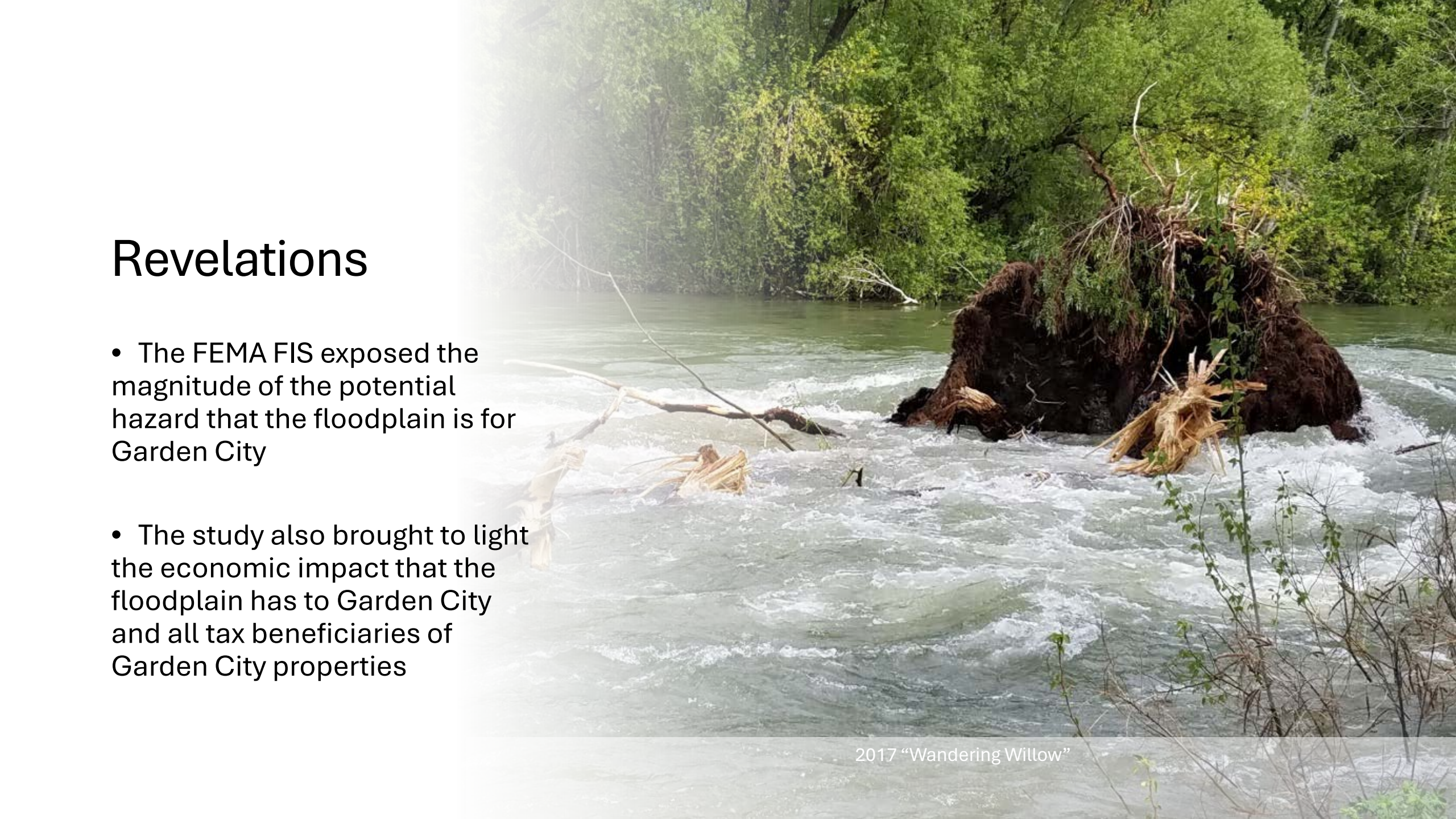
September 2017 FEMA released preliminary flood insurance rate maps (FIRMS)

Garden City 2,675 properties will be added to the floodplain (74% of the City) and there will be an increase in BFE

Revelations

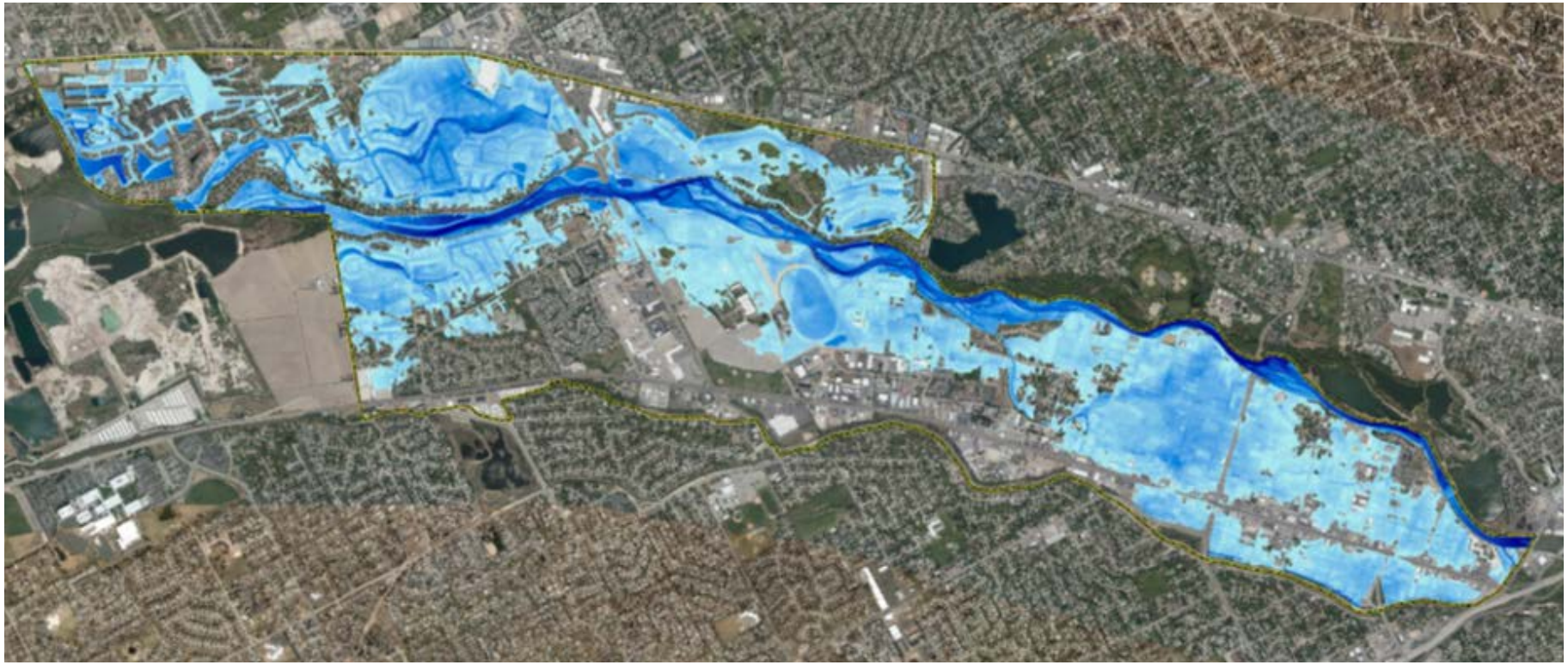
- The FEMA FIS exposed the magnitude of the potential hazard that the floodplain is for Garden City

- The study also brought to light the economic impact that the floodplain has to Garden City and all tax beneficiaries of Garden City properties



2017 “Wandering Willow”

Garden City anticipated 1% Flood Event



Economic Effects

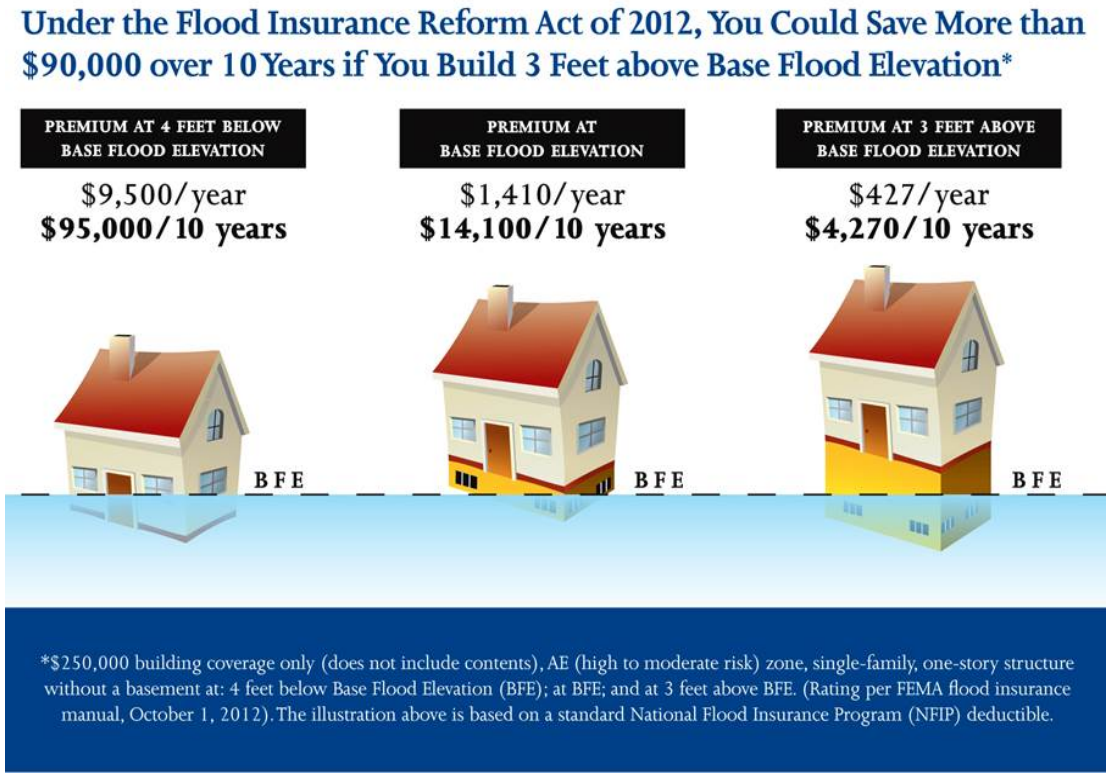
Federally backed mortgages are required to have flood insurance

Homes that were built out of the 2003 floodplain were not required to build to floodplain standards. They may be below the Base Flood Elevation (BFE).

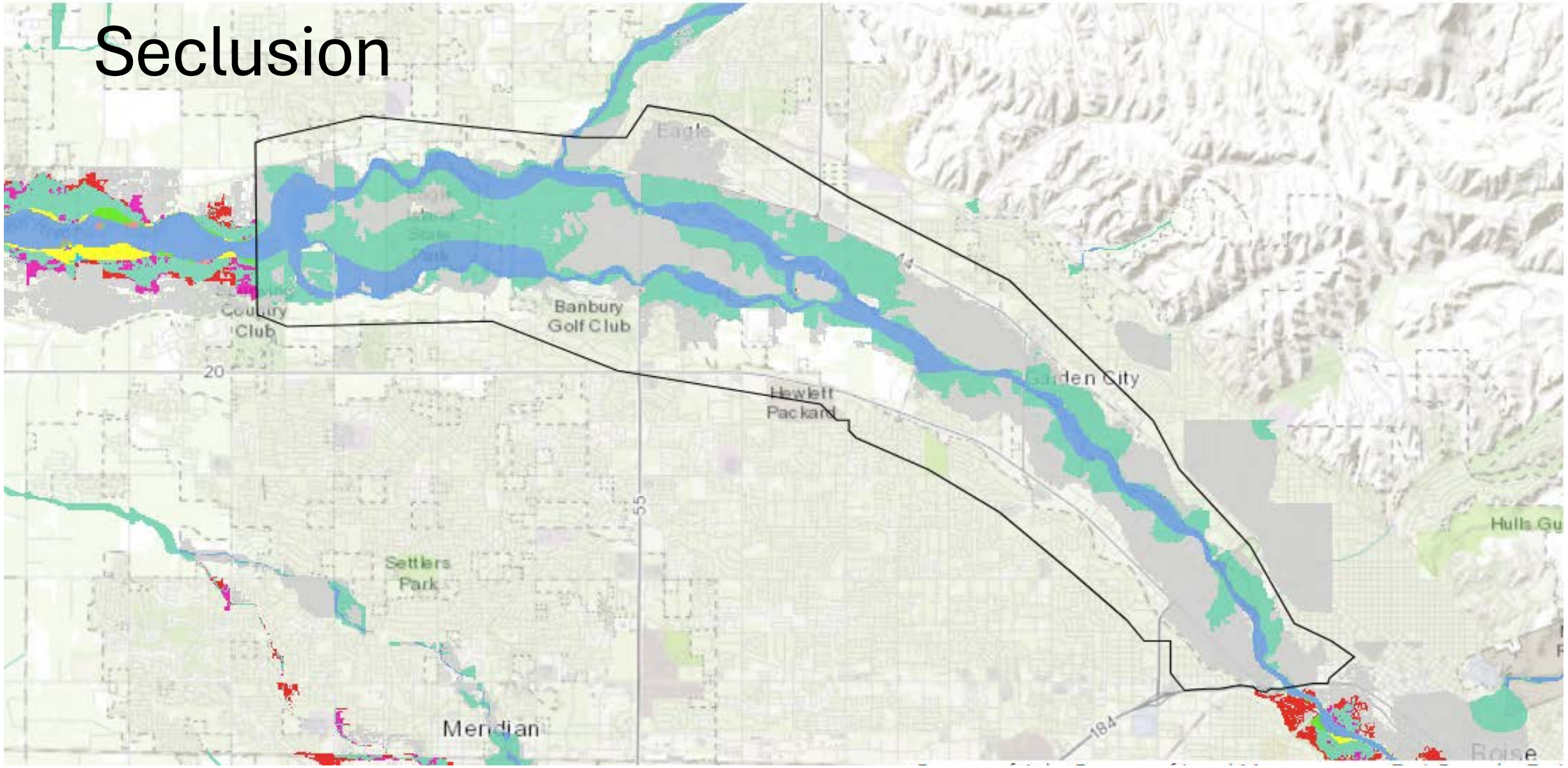
Homes that were built to standard may be below the BFE when the model is implemented due to changes in the BFE

Loss of money from the community to insurance

Loss of property value



Seclusion


Eagle
Banbury
Golf Club
Hewlett
Packard
Settlers
Park
Meridian
Boise
20
55
184

February of 2018 USACE 205- Study Exceeded Authorities

New (revised) partnership for General Investigation August 2022

U.S.ARMY

US Army Corps of Engineers ®
Walla Walla District

GARDEN CITY
NESTLED BY THE RIVER

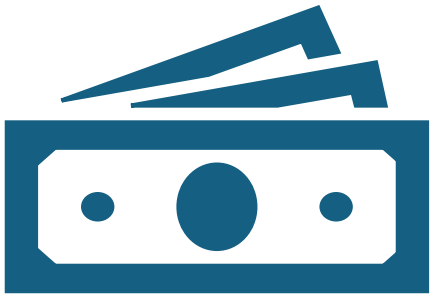
Focused Array of Alternatives

Objectives

- Reduce the risk to human health, and life safety from flooding in the vicinity of Garden City over the 50-year life of the project
- Reduce the risk of flooding to commercial, residential, industrial, and public properties in the vicinity of Garden City, Idaho over the 50-year life of the project

No Action*	Non-Structural*	Structural	Comp Benefit*	Bypass	Eco-Friendly
The existing FRM activities and efforts would continue, such as flood fighting	Combination of non-structural measures: • Floodproofing (Wet or Dry) • Elevation of Structures • Relocation of Structures • Buyouts • Easements • Temporary Flood Barriers • Zoning • Update and Improve Flood Preparedness • Floodplain Reconnection	Combination of the following structural measures: • Levees • Setback Levees • Floodwalls • Levee/Floodwall Combo • Ring Levees • Upgrading Irrigation Structure • Floodplain reconnection	Combination for the following structural and non-structural measures, with an emphasis on natural and nature based, life safety, and socioeconomics: • Setback Levees • Floodwalls • Levee/Floodwall Combo • Floodproofing (vulnerable populations) • Elevation of Structures • Relocation of Structures • Update and Improve Flood Preparedness • Recreation Features • Floodplain Reconnection	Combination of the following measures for bypassing the flood waters, using natural conveyance: • Floodplain reconnection designed to handle flooding, other retention ponds, and floodplains throughout the City to bypass floodwaters • Levees • Setback Levees	Combination of the following measures with an emphasis on NNBF and EQ: • Floodplain Reconnection • Targeted relocations, buyouts, and using land for riparian corridor (no development) • Setback Levees • Floodwall • Levee/Floodwall Combo • Bioengineering Bank Stabilization • Public Education Opportunities • Recreation Opportunities

*Required Alternatives; NED has not been identified to date.



January 2023

Study Budget change from $1,600,000 to $2,200,000

City is responsible for 50% of the study costs and all LEERDS

City is responsible for 35% of construction

Pause study, but complete model for Garden City to have opportunity to review to understand magnitude of potential improvements

Focused Array of Alternatives

No Action*	Non-Structural*	Structural	Comp Benefit*	Bypass	Eco-Friendly	Sponsor
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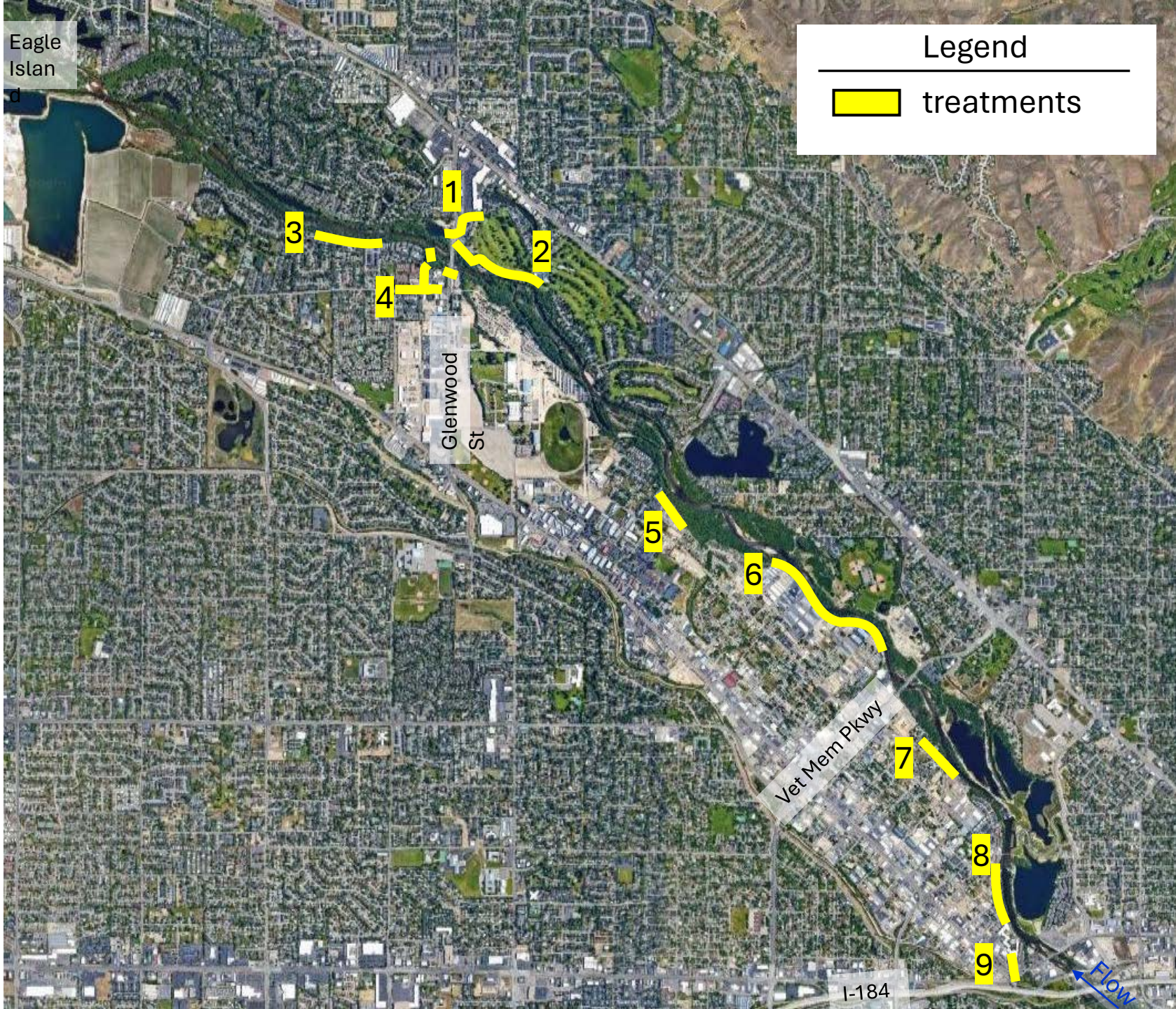
*Required Alternatives; NED has not been identified to date.

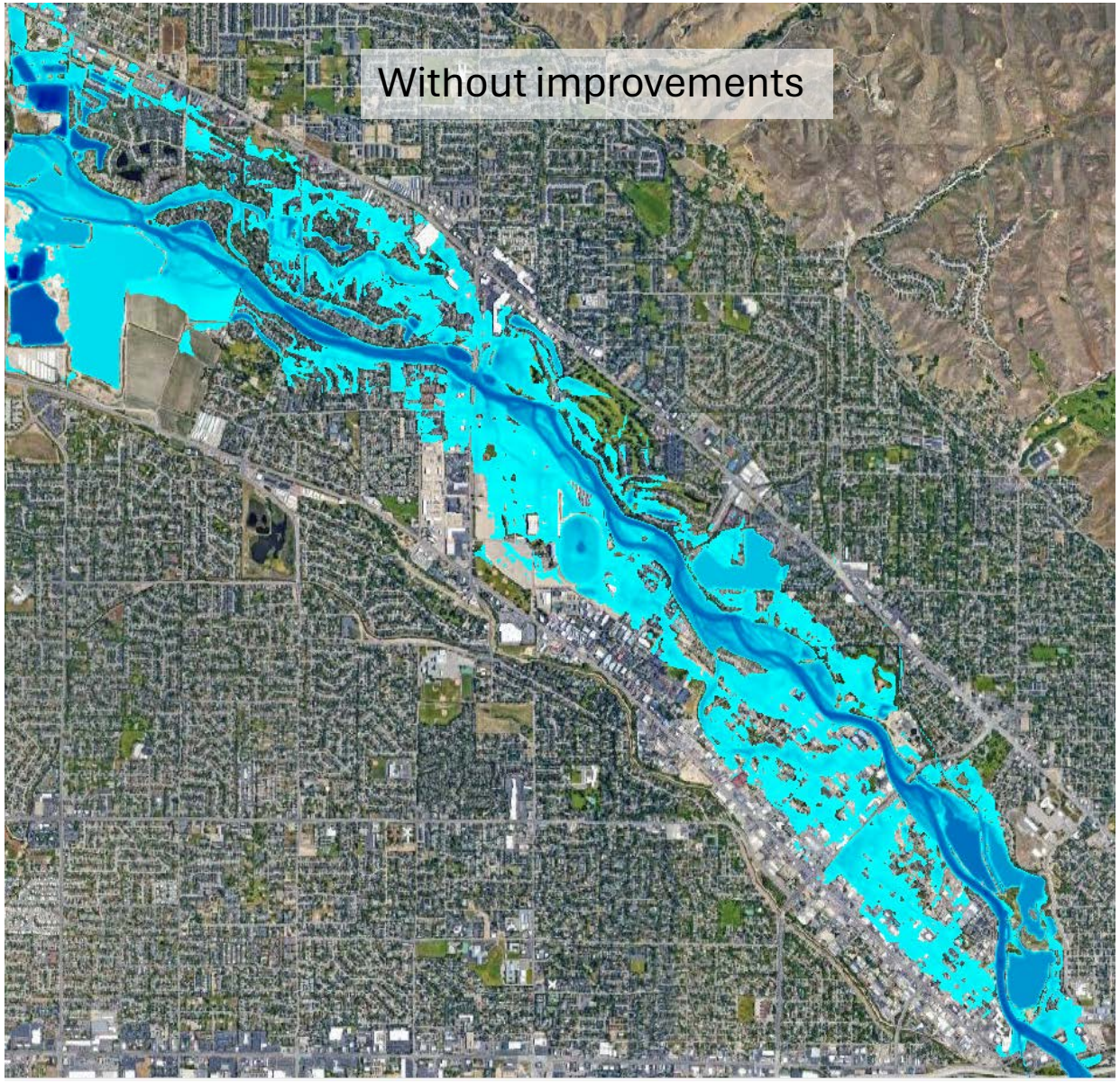
Life safety measures are included in several alternatives.

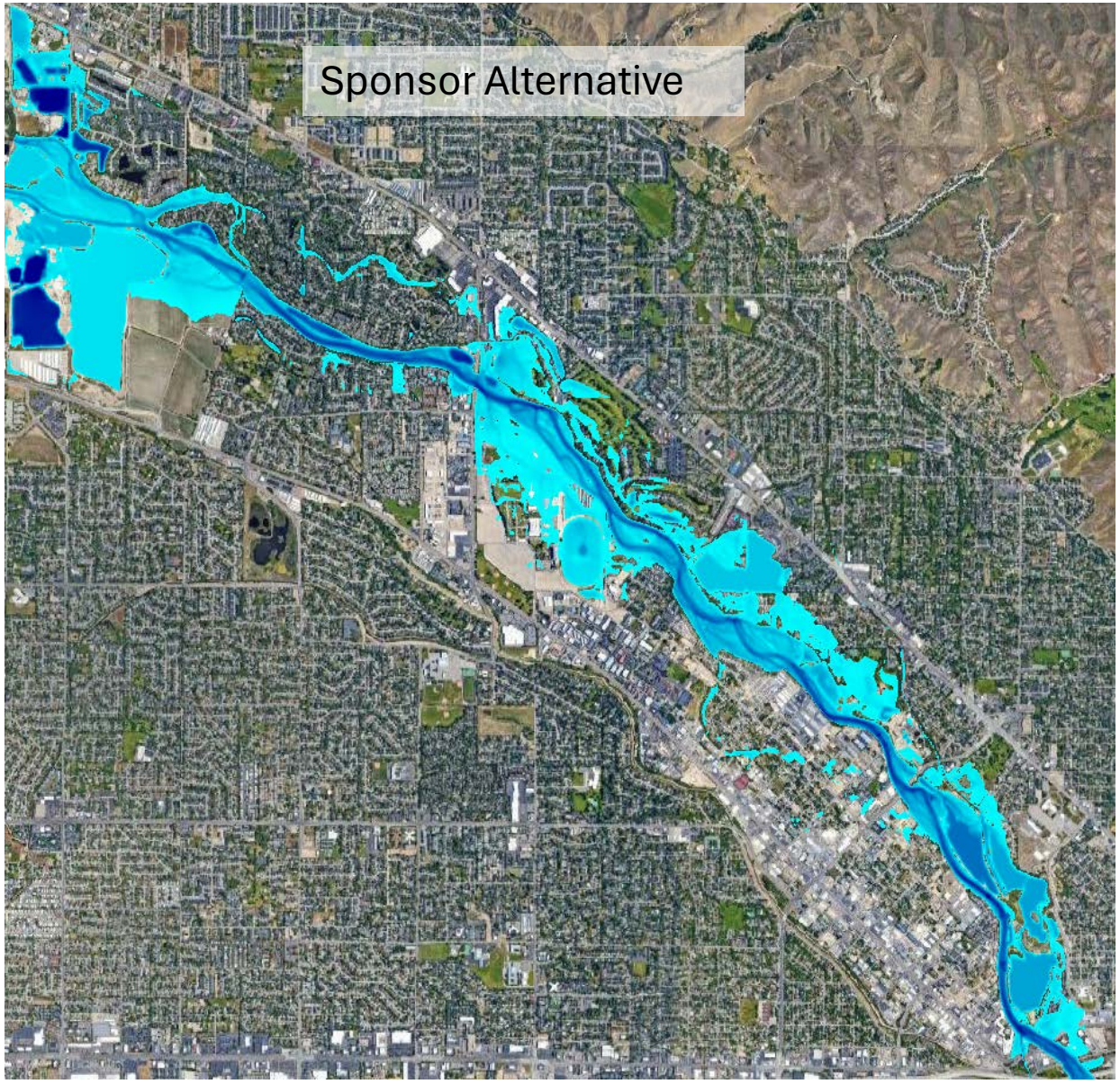
Sponsor Alternative

A work in progress

1. Glenwood North Bank: lower Riverside Dr, regrade swale east of Glenwood, cut return channel under Glenwood
2. Levee ending at Westmoreland Park
3. Levee at Strawberry Glenn
4. Glenwood South Bank: lower Marigold and River Pointe Dr, enlarge greenbelt underpass, cut return channel from River Pointe Park
5. Levee at 51st St
6. Levee ending at Mystic Cove Park
7. Levee at Heron Park
8. Levee downstream of Riverside Hotel
9. Levee or stormwater treatment south of Riverside Hotel




Without improvements


Sponsor Alternative


Thank you