



CITY OF
Tulsa
A New Kind of Energy™

West Pond



City of Tulsa
October 15, 2019

West Pond Team



CITY OF
Tulsa
A New Kind of Energy™



GUY
ENGINEERING

SWIFT *WATER RESOURCES ENGINEERING, LLC*

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918-582-1380 - FAX 918-582-1381



ALABACK DESIGN
LANDSCAPE ARCHITECTS



a Haskell Company



D. W. Gates Engineering

Goals

- ▶ Present information
- ▶ Gather feedback
- ▶ Review acquisition process

Agenda

- ▶ Background & Hydrology
- ▶ Floodplain Benefits
- ▶ West Pond Design
- ▶ Timeline & Funding Sources
- ▶ Property Acquisition
- ▶ Breakout Sessions

Background & Hydrology

The background of the slide features abstract, overlapping geometric shapes in various shades of blue, primarily concentrated on the right side and bottom, creating a modern, architectural feel.

Elm Creek Floodplain - 1984



A 13-inch rain flooded Tulsa, Okla., and its suburbs yesterday. The city's skyline is in the background and the Arkansas River is at the upper right.

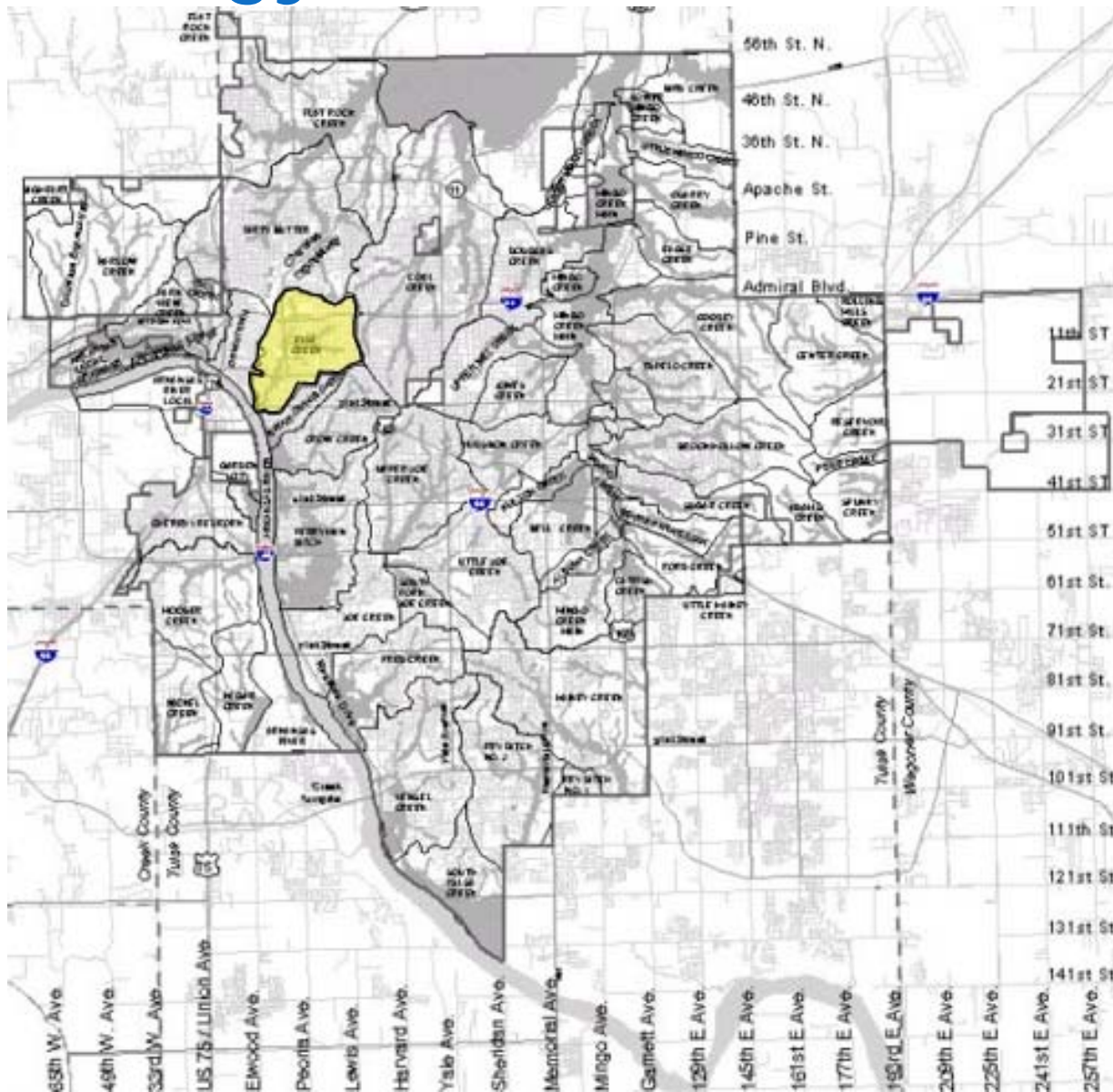
Associated Press

Tulsa flood kills 10, thousands homeless

(Continued from Page 1)

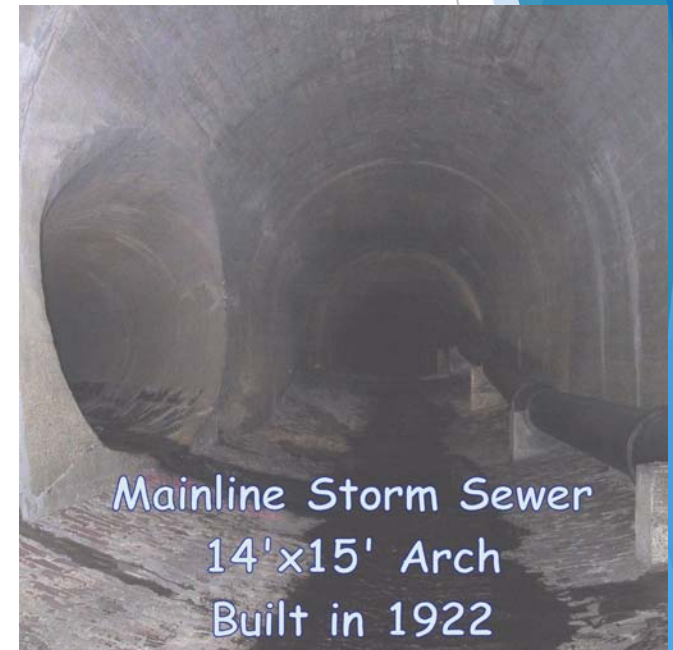
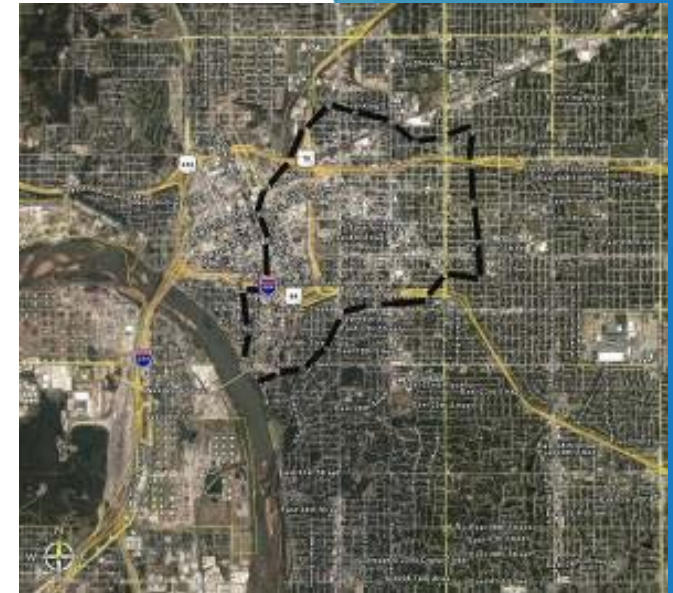
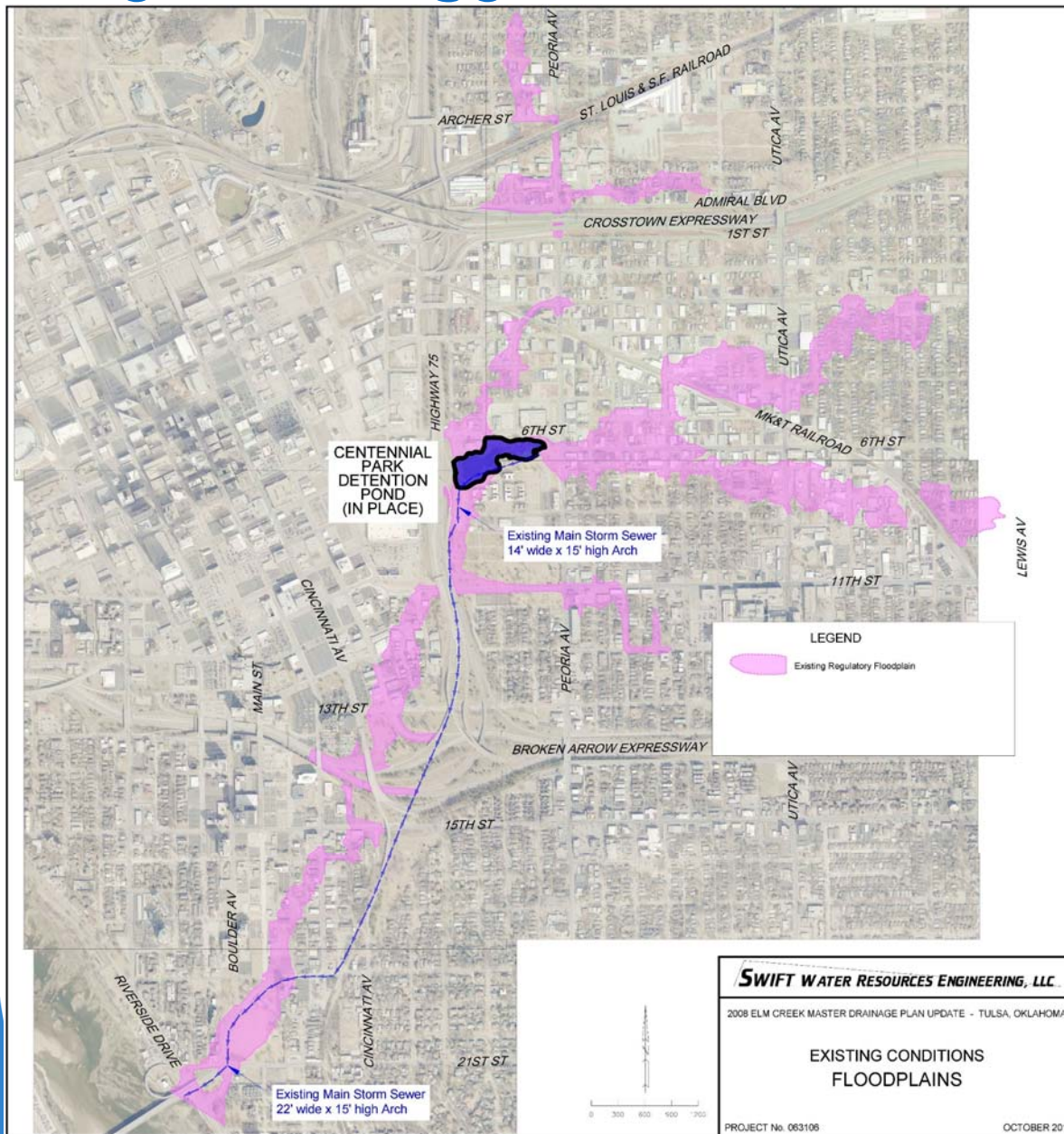


Hydrology Overview



Tulsa Drainage Basins - Elm Creek Basin in Yellow

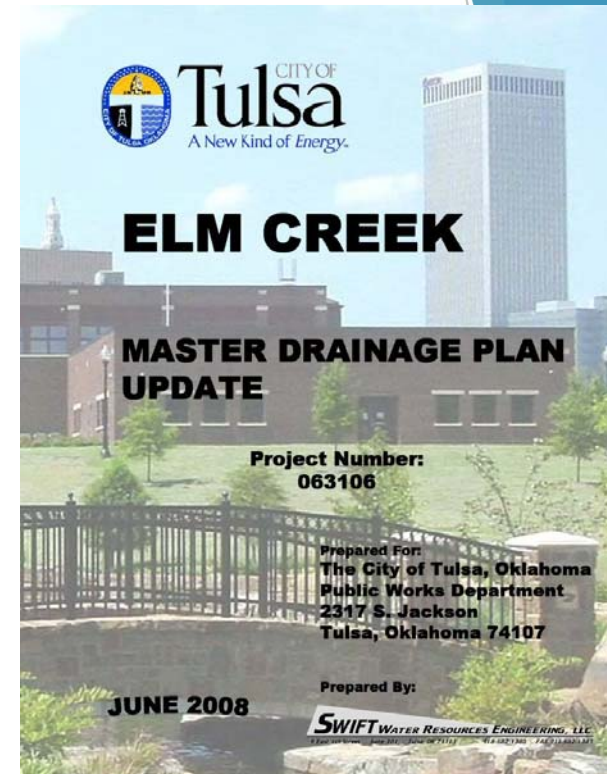
Hydrology Overview



3.4 square miles - Fully Urbanized - 524 Structures in Floodplain

Hydrology Overview

- ▶ 1988 Master Drainage Plan
- ▶ 1997 Elm Creek Conceptual Report Initiated Public Outreach Began
- ▶ 1997-2001 Examination of pond alternatives per MDP (19 alternatives examined)
- ▶ 2001-2004 Programming, Planning, Design of Centennial Park (Joint effort by Planning Department, Tulsa Development Authority, and Public Works)
- ▶ 2005-2007 Centennial Park Construction.



Hydrology Overview

- ▶ Updated the MDP in 2008
- ▶ Evaluated feasibility of several alternatives in 2008
- ▶ 2010 Elm Creek/6th Street Drainage, Detention and Conveyance Plan
- ▶ 8 Public Meetings
- ▶ Recommendation: a combo of detention ponds and conveyance
- ▶ Construction completed on Centennial Park in 2007
- ▶ Updated Master Drainage Plan was adopted by City Council in Oct. 2008

Hydrology Overview

Citizen/Neighborhood Involvement:

- ▶ Pearl District Assoc. (6th St Task Force)
- ▶ Kendall-Whittier Neighborhood Assoc.
- ▶ At Least 8 Public Meetings



Hydrology Overview



Citizen comments addressed and incorporated

Hydrology Overview

Coordination with Public Entities:

- ▶ Public Works Department
- ▶ Urban Development Department
- ▶ Parks Department
- ▶ Stormwater Drainage Advisory Board



Floodplain Benefits

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Existing Conditions

Total Number of
Structures With 100-year
Flood Damages

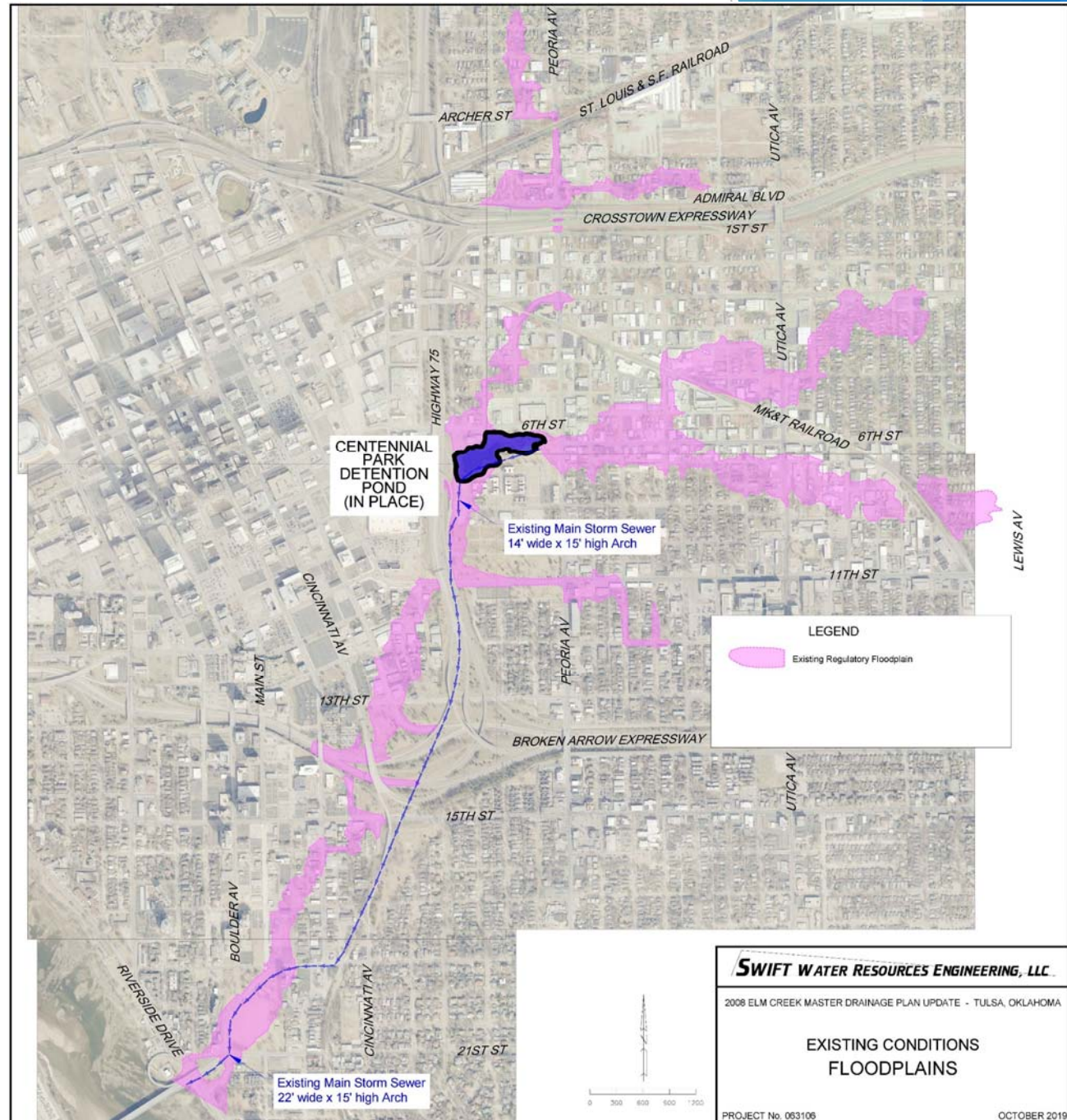
359

Number of Residential
Structures in the
100-year Floodplain

109

Total Value of Properties
In the 100-year
Floodplain

\$76.5m



West Pond Only Conditions

Total Number of
Structures Removed from
100-year Floodplain

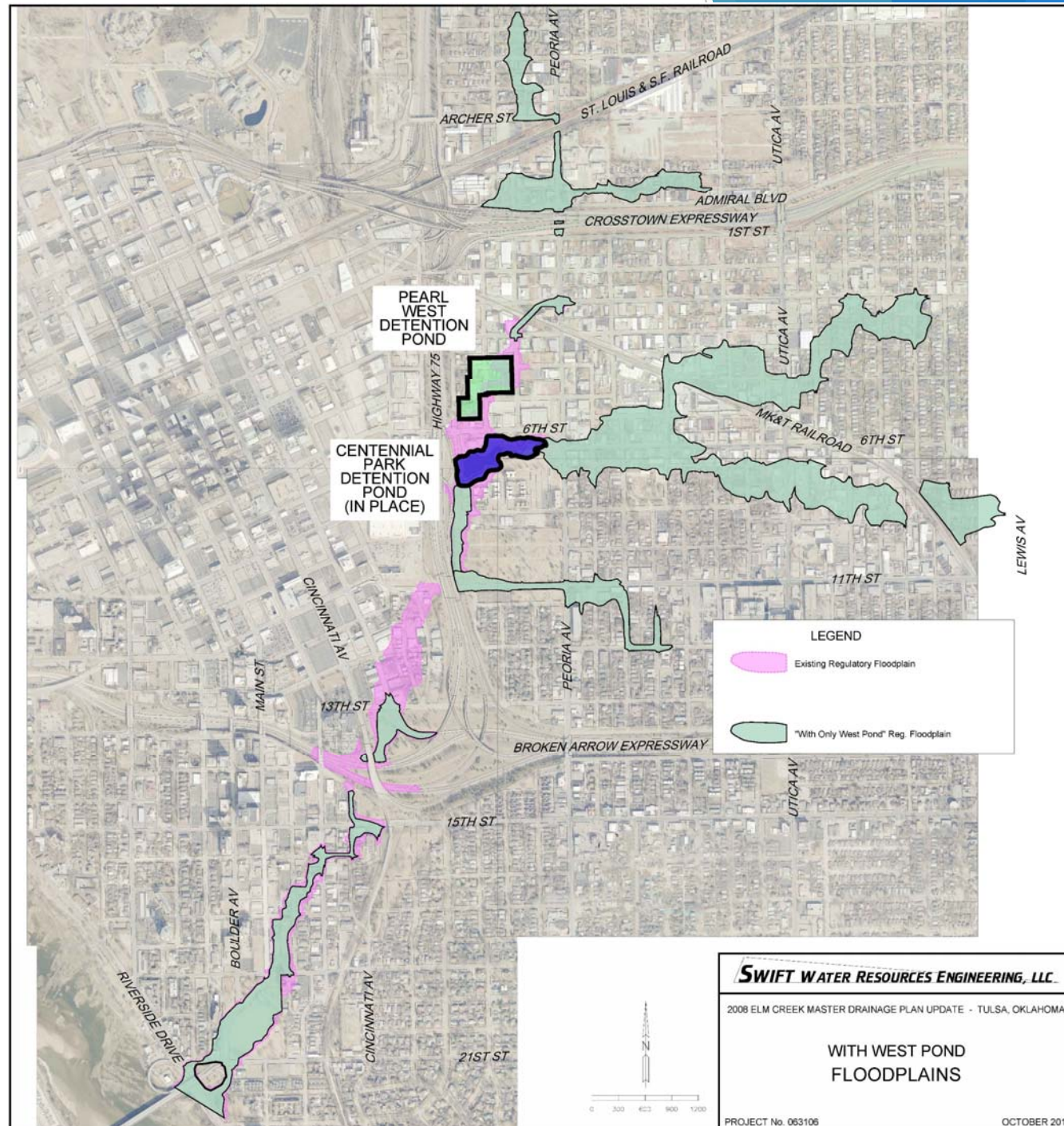
49

Number of Residential
Structures Removed from
100-year Floodplain

22

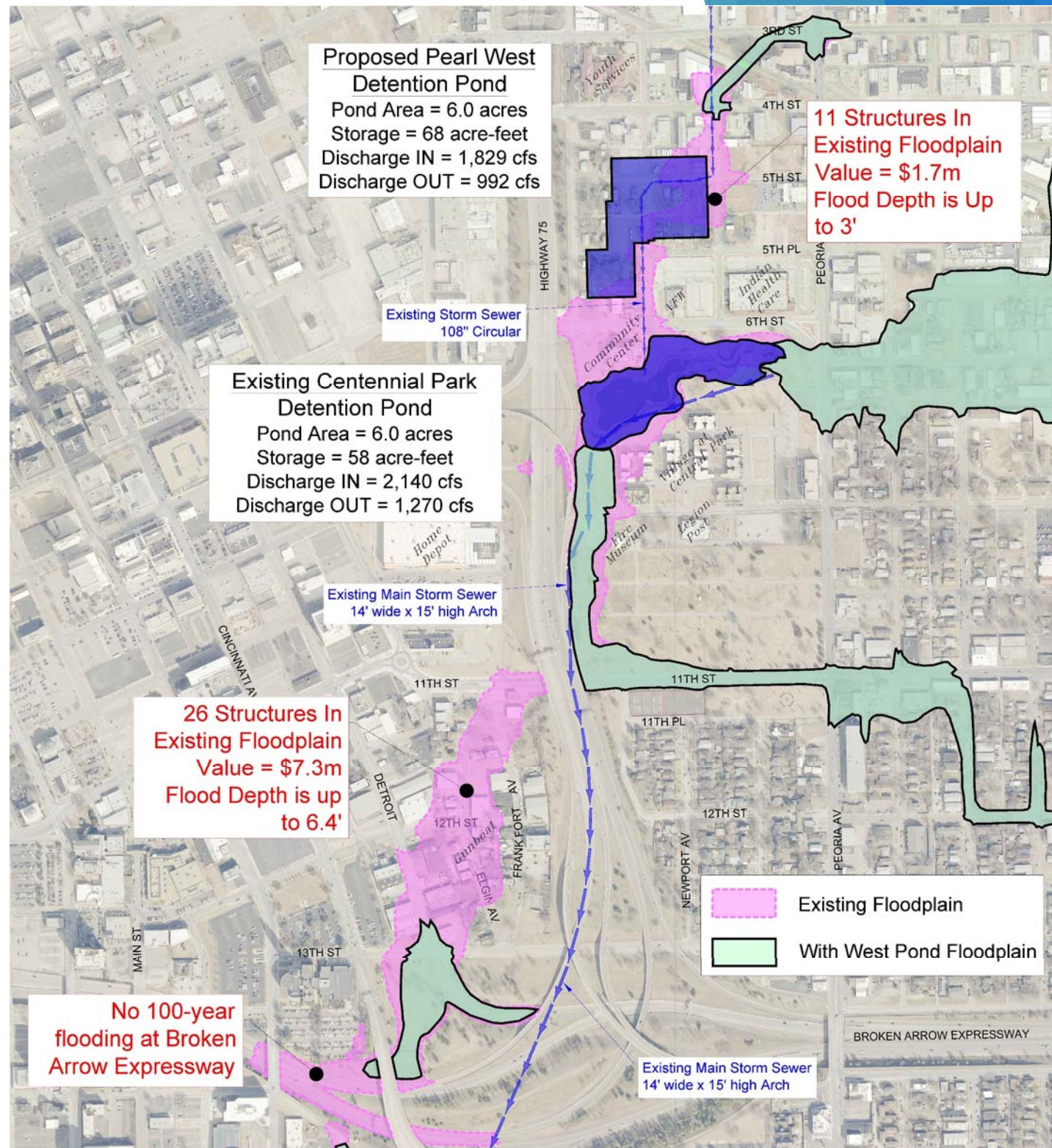
Total Value of Properties
Removed from the
100-year Floodplain

\$16.9m



Structures Removed from Floodplain by West Pond

South of 13th
Street:
12 Structures in
Existing Floodplain
Value = \$7.9m
Flood Depth is up
to 2.5'



All 3 Ponds Conditions

Total Number of
Structures Removed from
100-year Floodplain

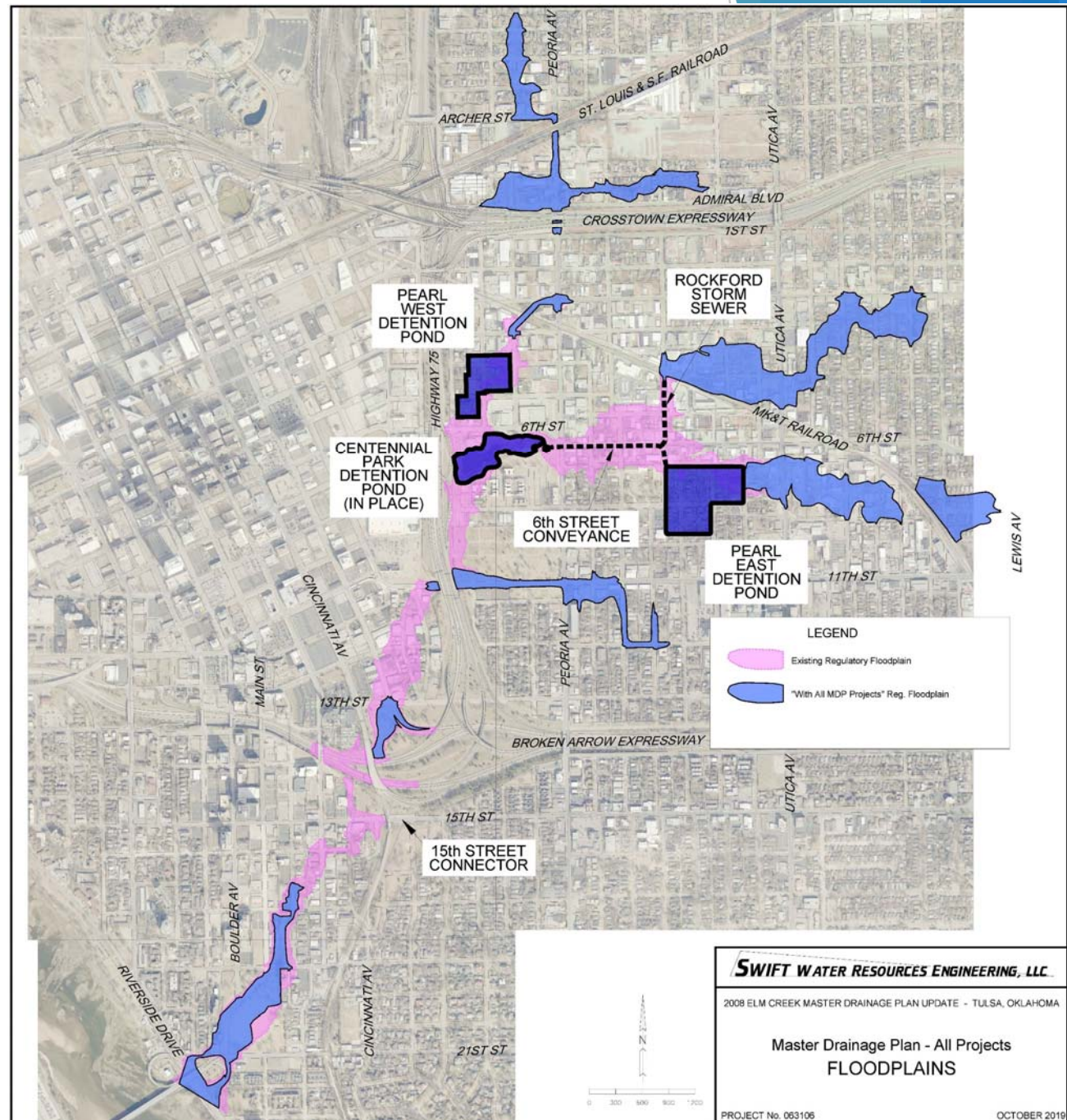
200

Number of Residential
Structures Removed from
100-year Floodplain

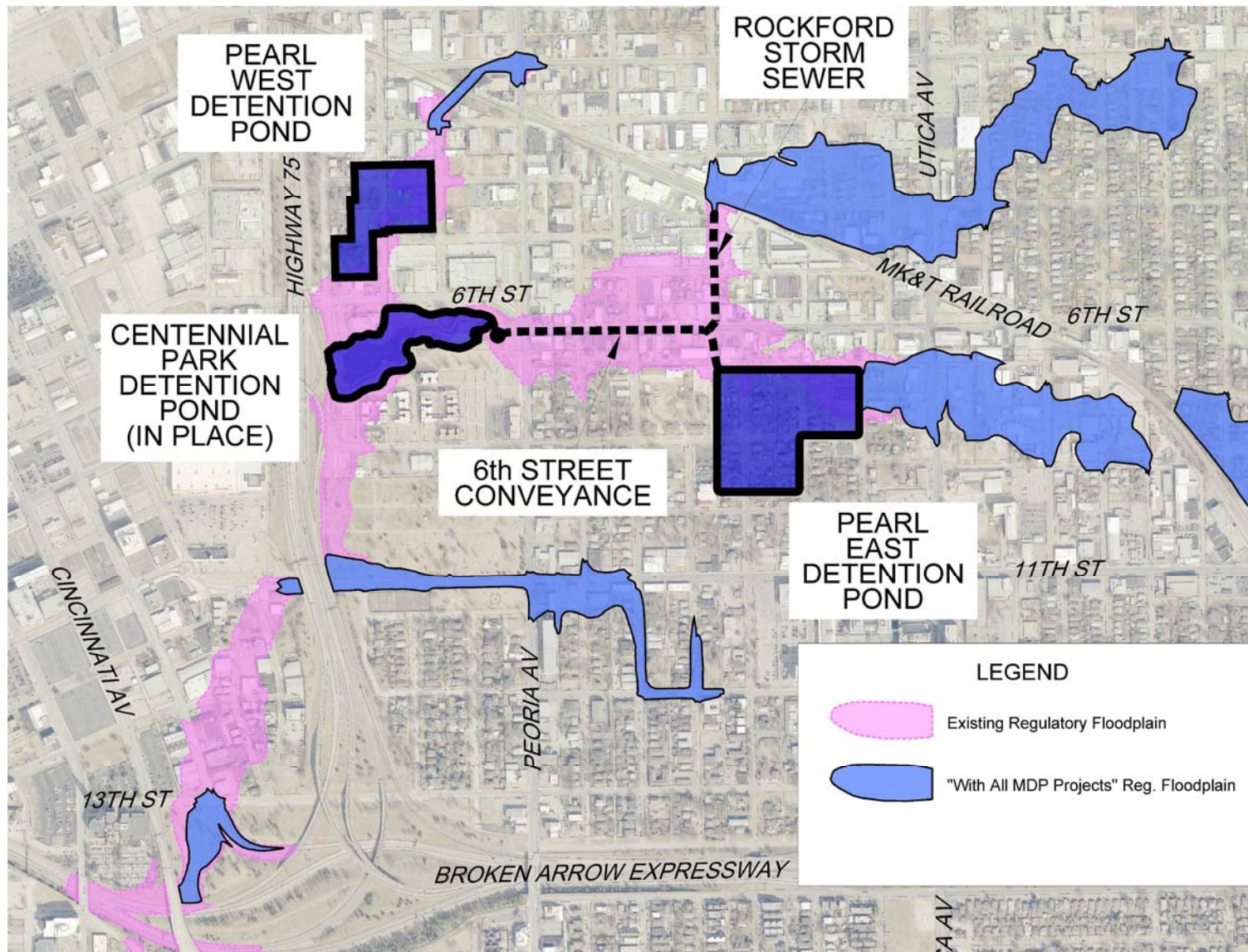
108

Total Value of Properties
Removed from the
100-year Floodplain

\$32.6m



Master Drainage Plan



3 Detention Ponds and Conveyance Feature
along 6th St

Floodplain Benefits

Remove from the Regulatory Floodplain

- ▶ Total number of structures = 49
- ▶ Residential structures = 22
- ▶ Total value of property = \$16,900,000
- ▶ Benefit/Cost Ratio = 1.2

When FEMA evaluates a project they are mostly concerned with the B/C Ratio. For every dollar spent, 1.2 dollars is returned in direct flood damage reduction.

Floodplain Benefits for West Pond

The B/C ratio for the West Pond is 1.2 but it offers more than just “dollar benefits”

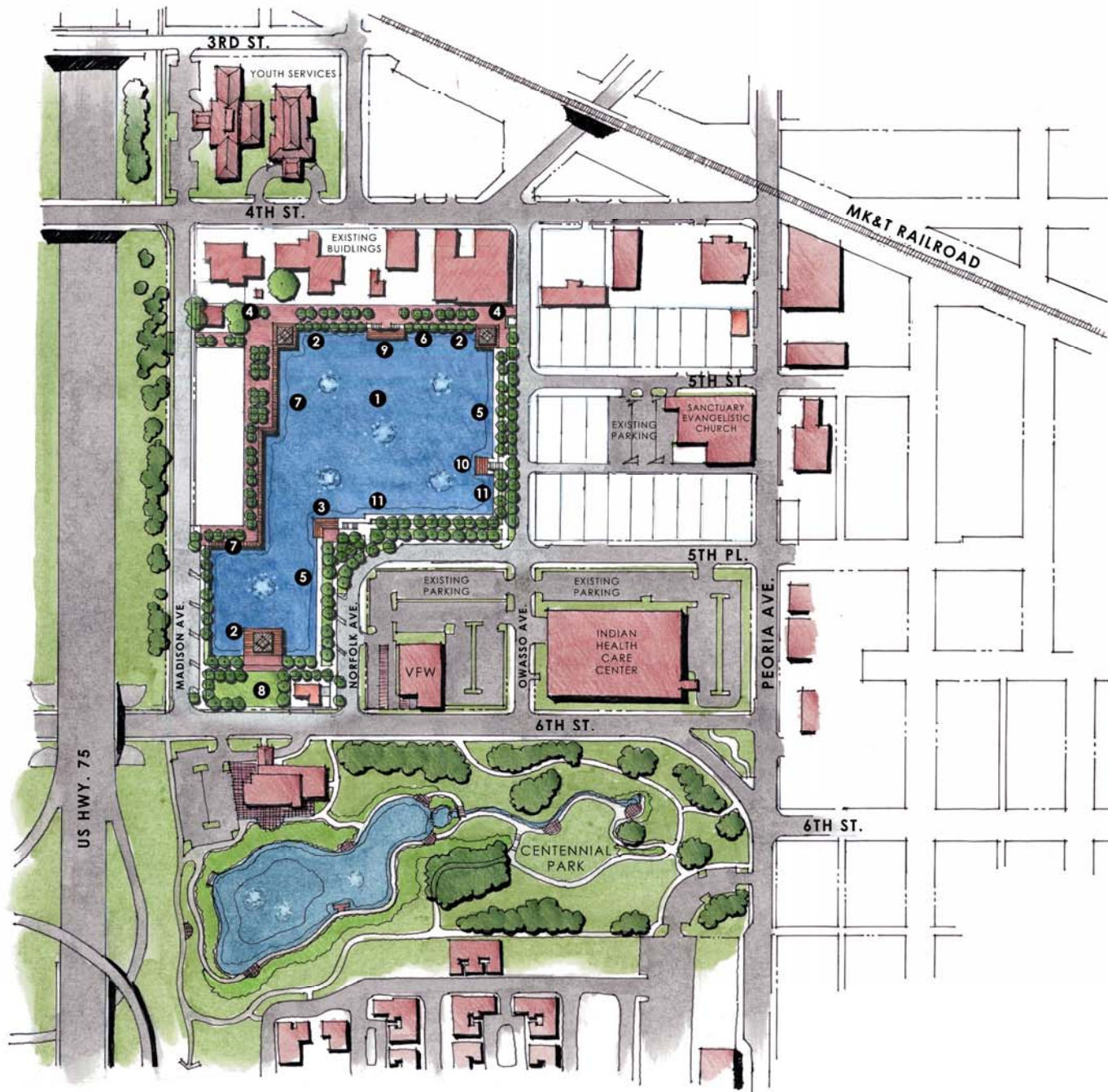
- ▶ No flooding of Broken Arrow Expressway
- ▶ Better emergency vehicle access during floods
- ▶ Reduced threat to public safety during floods
- ▶ Reduced flood losses to private property
- ▶ Less down time for flood recovery



A 15-inch rain flooded Tulsa, Okla., and its suburbs yesterday. The city's skyline is in the background and the Arkansas River is at the upper right.
Tulsa flood kills 10, thousands homeless
(Continued from Page 1)



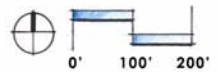
West Pond Design



LEGEND

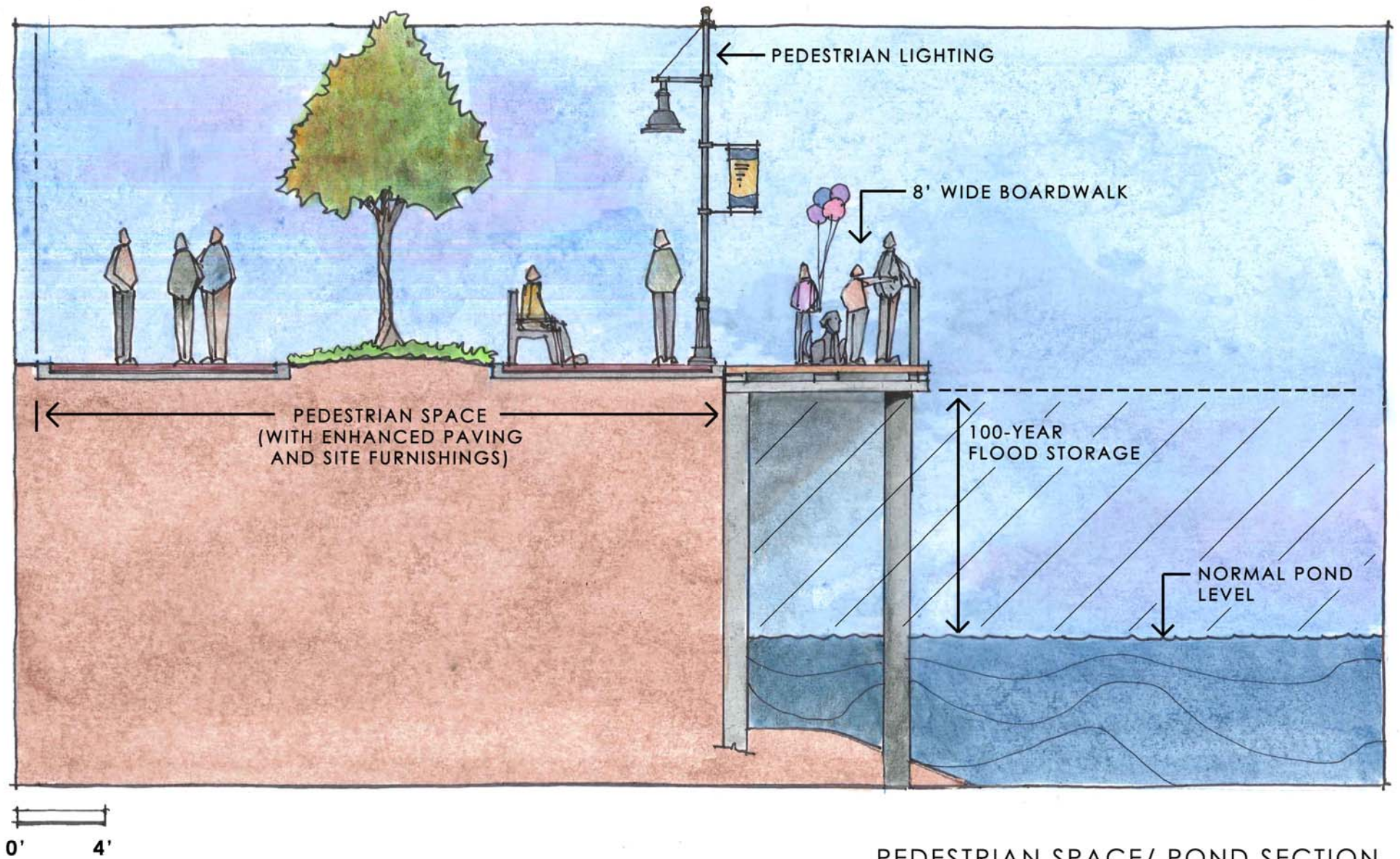
- 1 URBAN POND / STORMWATER DETENTION WITH AERATING FOUNTAINS (APPROX. 5.80 ACRES)
- 2 OVERLOOK / PAVILION
- 3 OUTLET STRUCTURE / FISHING DOCK
- 4 PEDESTRIAN SPACE / WALKWAY (STREET LEVEL)
- 5 RAMP (5% SLOPE)
- 6 TERRACED WALL
- 7 BOARDWALK (8' FT. WIDE)
- 8 GREEN SPACE / LINKAGE TO CENTENNIAL PARK
- 9 MID-LEVEL DECK
- 10 FISHING DOCK
- 11 LOWER LEVEL SIDEWALK

- PROPOSED TREES
- EXISTING BUILDING
- EXISTING TREES



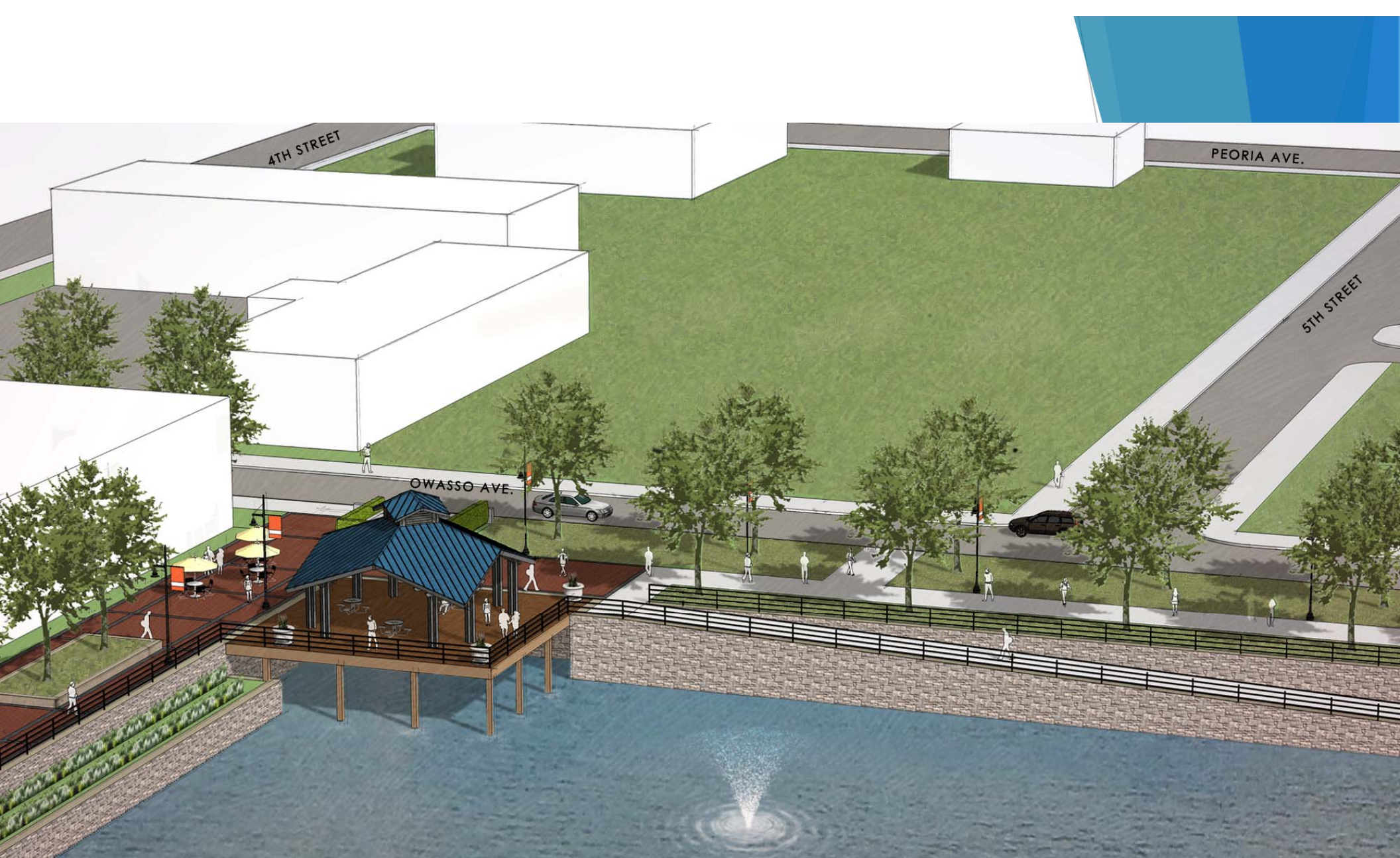
SITE PLAN
ELM CREEK WEST POND

West Pond - Site Plan

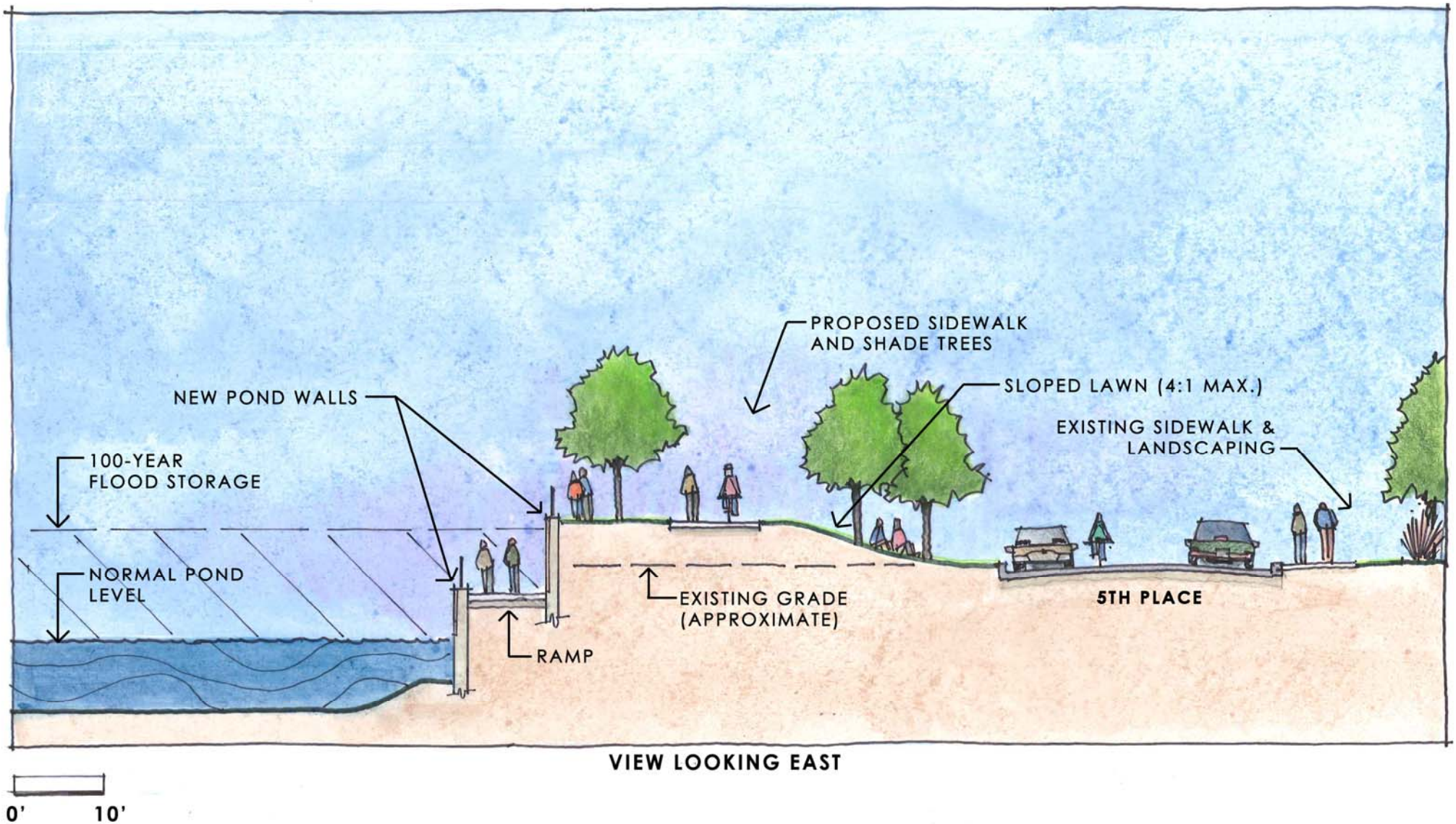


PEDESTRIAN SPACE/ POND SECTION
6TH ST./ELM CREEK - WEST POND

West Pond - Pond Overlook & Pedestrian Space
(West Edge of Pond)



Owasso Avenue / East Edge of Pond
(Looking East)



SOUTH END OF POND - SECTION
6TH ST./ELM CREEK - WEST POND

South End of Pond - Planned Section

Timeline & Funding Source



Timeline

2017-2021

- ▶ Property Acquisition
- ▶ Utility Relocations

2021-2023

- ▶ Construction

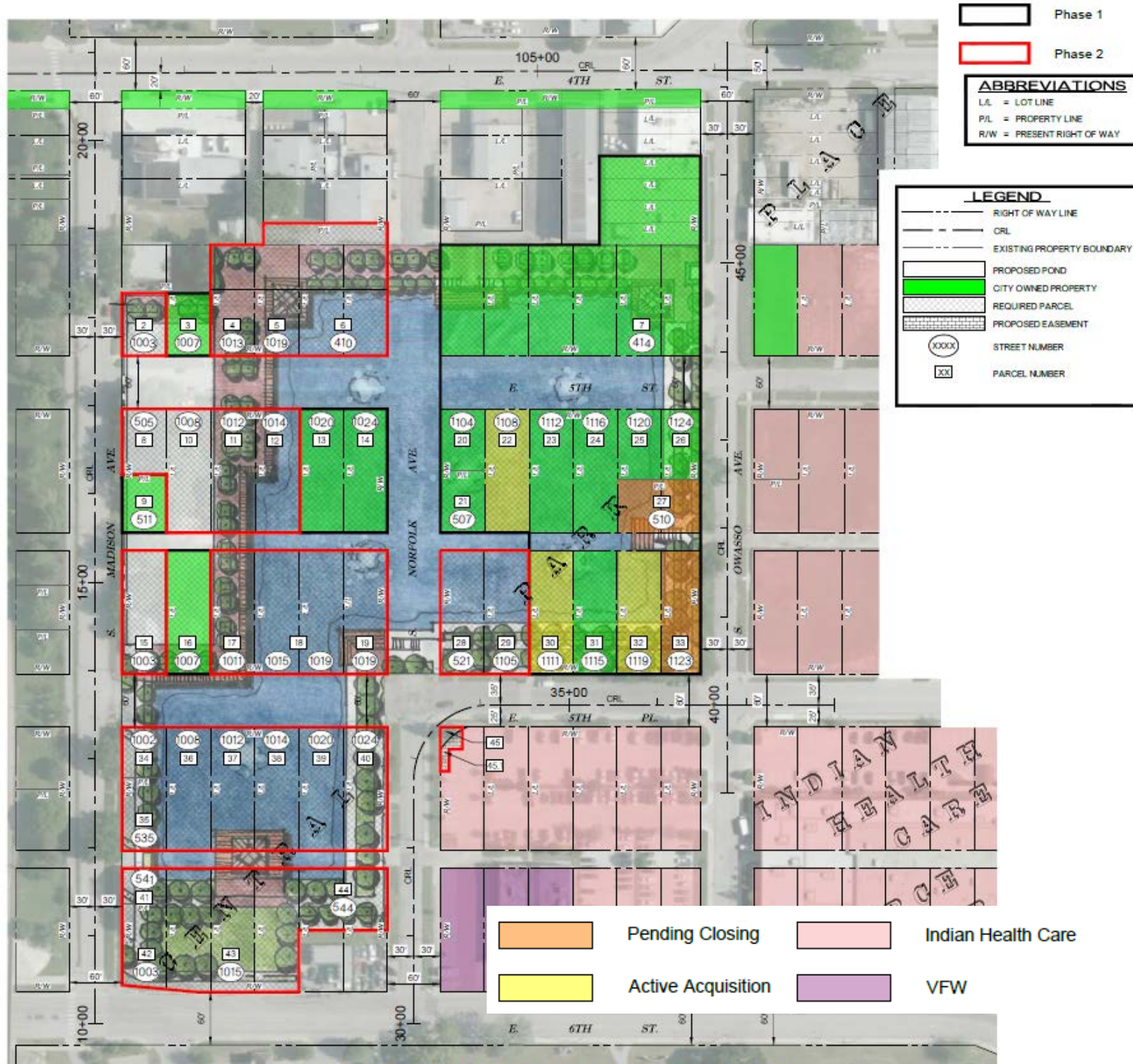
Construction Funding

- ▶ Future Capital Project Funding
- ▶ Stormwater Utility Fee
- ▶ Improve Our Tulsa

Property Acquisition

The background of the slide is white with abstract blue geometric shapes. On the right side, there are several overlapping triangles and polygons in various shades of blue, ranging from light sky blue to deep navy blue. A thin, light blue line extends diagonally from the bottom left towards the right side of the slide.

Property Acquisition



DRAFT AS OF OCTOBER 1, 2019

Property Acquisition



DRAFT AS OF OCTOBER 1, 2019

Uniform Relocation Assistance and Real Property Acquisition Policies Act (URA)

The City is utilizing the URA for:

- ▶ Property acquisitions
- ▶ Relocation of affected property owners and tenants

URA: Displacement Costs paid by the City of Tulsa

- ▶ Moving Costs
- ▶ Relocation advisory services
- ▶ Replacement housing payments (residential)
- ▶ Reestablishment costs (commercial)

City of Tulsa URA Consultant

- ▶ Universal Field Services, Inc



Real Estate Acquisition Process

- ▶ Notice of Interest to Acquire Property
- ▶ Appraisals
- ▶ Title Work
- ▶ Notification of Property Owners and Tenants regarding relocation
- ▶ Written Offer of Just Compensation
- ▶ Settle or negotiate a settlement
- ▶ Closing
- ▶ If not settled, eminent domain proceedings

Appraisals

- ▶ Independent Appraisers hired
- ▶ Owner can accompany appraiser - we strongly encourage this!
- ▶ All appraisals are reviewed by a separate Independent Appraiser
- ▶ Appraisals must follow industry standards

Offer & Negotiations

- ▶ Property owner is provided a minimum of 30 days to consider offer and negotiate a settlement

Closing

- ▶ All title curative requirements must be met
- ▶ Contract sent to Mayor for approval
- ▶ Closing date set
- ▶ The City pays all closing costs

Breakout Sessions

- ▶ Floodplain Questions
- ▶ West Pond Design
- ▶ Property Acquisition

Please fill out the comment form!

Question 1: Which properties are protected by the West Pond?

- ▶ 49 Properties removed from floodplain
- ▶ 22 residential properties removed from floodplain
- ▶ Broken Arrow Expressway
- ▶ Total value of prop \$16.9m
- ▶ Local City of Tulsa Streets

Question 2: Funding Project? 5 Million for Acquisition - 2014 IOT, where does remaining \$25 million come from and who will pay for it?

- ▶ Revenue Bond sales
- ▶ Storm-water utility fee

Question 3: What data is used for condemnation process, old photos presented to Council, why?

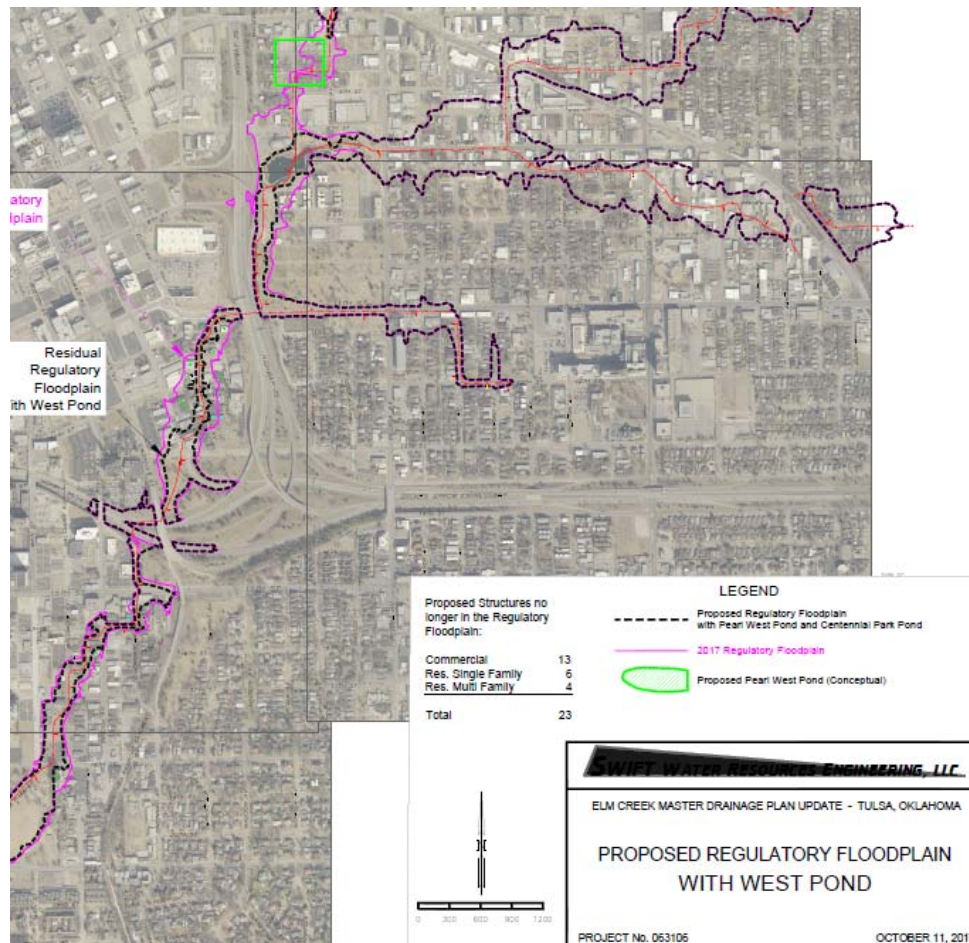
- ▶ A Request For Action - Resolution is prepared with a summary of appraisal, offer, contact timeline, and necessity of project for the public.
- ▶ Photos were from the appraisal establishing Fair Market Value (FMV) and written offer
- ▶ Renovations by property owner after appraisal are part of settlement negotiations
- ▶ Packet sent to Council for determination of whether the property is needed for a public project does not establish value/is not part of negotiations
- ▶ Court appointed Commissioners establish the new value

Question 4: Was this project proposed to FEMA, When? Was it rejected by FEMA? Why was it rejected?

- ▶ Further explanation being examined with FEMA representatives.

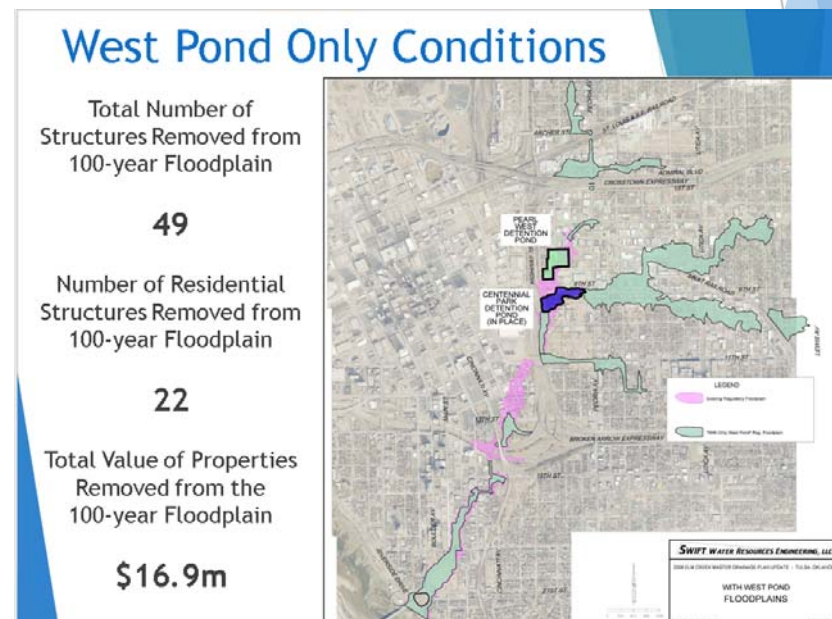
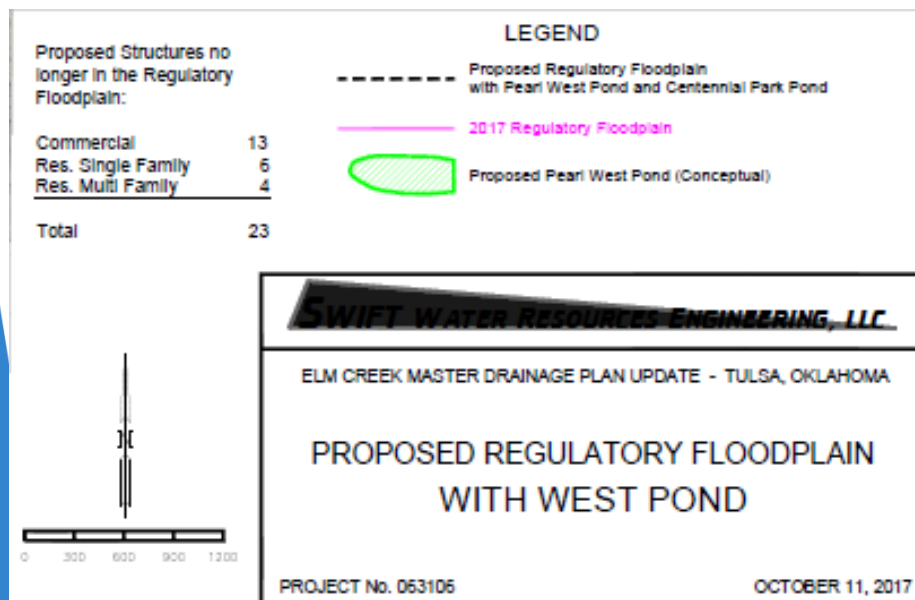
Question 5: Where is updated floodplain map-can it be viewed now, after Centennial pond built?

- Floodplain Map Dated October 11, 2017



Question 5 Cont.:

- ▶ 10.11.17 Floodplain map based on Conceptual Design Numbers
- ▶ As plans progressed towards 60%, pond changed to remove more properties from the Floodplain
- ▶ October 11, 2017 Property count October 2019 Property Count
- ▶ Based on 65 Acre-Feet of Storage Based on 68 Acre-Feet of Storage



Question 6: Have homes in the pond area flooded?

- ▶ There are 11 properties in the West Pond Area that are in the Regulatory Floodplain.
- ▶ During the 1984 flood the City set high water marks on Ernie Bails Garage and on the old Centennial Park Rec Center. *
- ▶ Highwater marks suggests similar flooding upstream.
- ▶ 2002 Resident Complaint Street Flooding 5th and Owasso Ave.
- ▶ 2015 Resident Complaint 6th Street and Madison Ave. Recurring Street Flooding.
- ▶ Information Taken from Espey, Huston & associates, Inc. Doc. No. 870593 "Final Interim Report MDP Elm Creek Watershed Vol. 1" July 1987

EC-29

High water mark on glass at front door of Central Park Recreation Center at 6th and Madison. Water 1'6" high, measured from brick floor.

8195

684.75

684.94

685.78

EC-30

Water mark on side of water fountain 1'5" above concrete floor of garage inside Ernie Bail's tuneup shop at 6th and Norfolk.

8395

685.49

684.96

685.80

Question 7: When was hydrological survey/study? Before or after Centennial?

- ▶ 2008 MDP re-study, after 2007 Construction of Centennial Park Pond.
- ▶ 2019 Hydrology and Hydraulic re-evaluation of 2008 MDP re-study.

Question 8: When was the project

Conceptualized? When were the public meetings? Is this part of a larger plan? Timing - Project?

► Conceptual

- 1988 master drainage plan (MDP) Complete (Final)
- 1997 Elm Creek Conceptual Report Initiated Public Outreach Began
- 1997-2001 Examination of pond alternatives per MDP (19 alternatives examined)
- 2001-2004 Programming, Planning, Design of Centennial Park (Joint effort by Planning Department, Tulsa Development Authority, and Public Works)
- 2005-2007 Centennial Park Construction.
- 2008 Elm Creek MDP Update (Includes Centennial Park Pond)
- 2010 - Elm Creek/6th Street Drainage, Detention and Conveyance Plan

Question 8 Cont:

- ▶ Communication
 - ▶ At least 8 public meetings
 - ▶ Pearl District Assoc.
 - ▶ Kendall-Whittier Neighborhood Assoc
- ▶ Part of larger Plan/Project
 - ▶ Construction completed on Centennial Park in 2007
 - ▶ 2017-2021 property acquisitions, utility relocations.
 - ▶ 2021-2023 Construction
 - ▶ Phase III - Elm Creek East Pond and 6th Street Conveyance

Question 9: Move from voluntary to involuntary?

- ▶ Real Estate, Engineering Services, Property Acquisitions scheduled for 2017-2021.
- ▶ These purchases are considered Involuntary (Uniform Relocation Act terminology) due to need for public project
- ▶ Eminent domain utilized if settlement not reached.

Question 10: Who is Paul Harvey and where is his childhood home?

- ▶ A Radio Personality in the 40s thru 90s who told “The Rest of the Story”
- ▶ His boyhood home was at 1014 East 5th Place.



Question 11: Homes for private development?

- ▶ The City of Tulsa does not purchase property for Development, nor develop property
- ▶ This project is for storm-water management within the Elm Creek Drainage Basin
- ▶ Vertical Walls are utilized to reduce needed footprint and gain acceptable storage capacity
- ▶ The 6th Street Infill Plan “provided a planning framework for developing alternatives for the new flood control projects that are included in this study”



Public Space Design
(The 6th Street Infill Plan)

The Pearl District’s bold mission statement is “to reinvent the art of city life in Tulsa.” This new vision is guided by an exceptional planning document, known as *The 6th Street Infill Plan*. This detailed neighborhood plan was prepared by the 6th Street Task Force, a group of area residents, property owners and business owners with planning support from the City of Tulsa’s Urban Development Division. This plan includes a thorough assessment of existing conditions and recommendations to transform a struggling, near-downtown neighborhood into a desirable, vibrant, pedestrian-oriented mixed-use district. The 6th Street Infill Plan **provided a planning framework for developing alternatives for the new flood control projects that are included in this study.**

Question 12: Why is Tulsa Dev. Authority involved? How are they Involved?

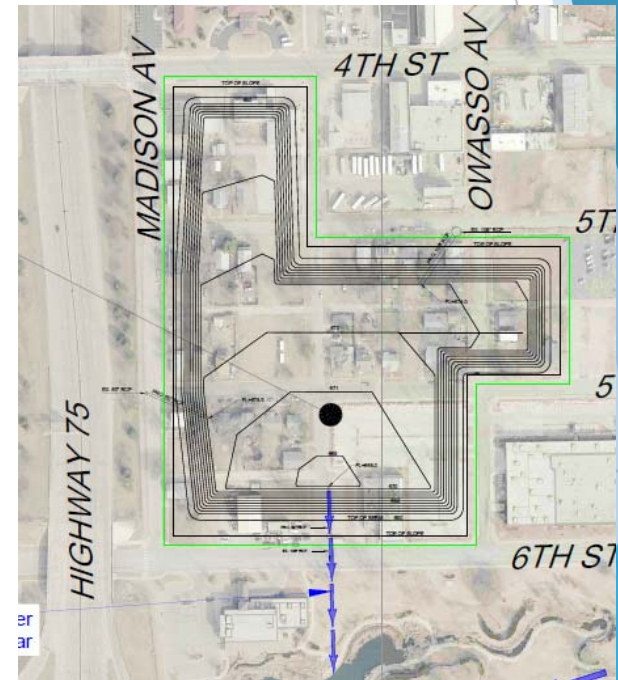
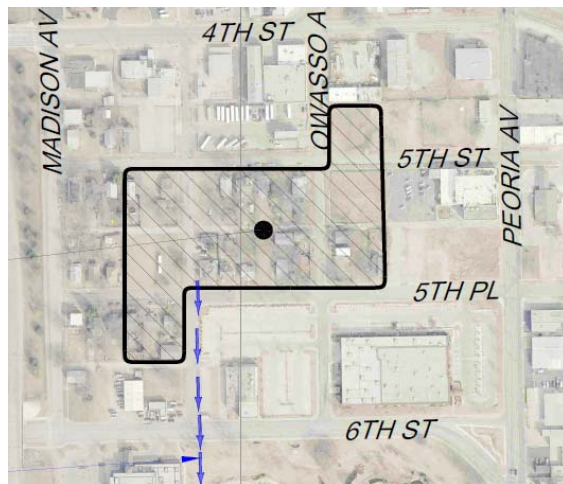
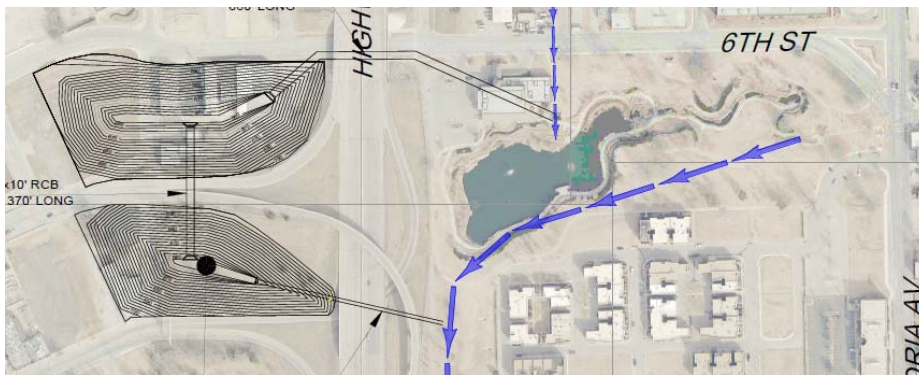
- ▶ TDA was involved in voluntary acquisitions prior to transfer to Engineering Services Real Estate.
- ▶ TDA is not involved in involuntary acquisitions in West Pond location.

Question 13: Existing owners trade property around pond?

- ▶ The City cannot take private property from one citizen to give to another
- ▶ The City has Disposition Policies to surplus property no longer deemed necessary for a public purpose. Asset Management Department is responsible for surplus property.
- ▶ See Uniform Relocation Act for additional information

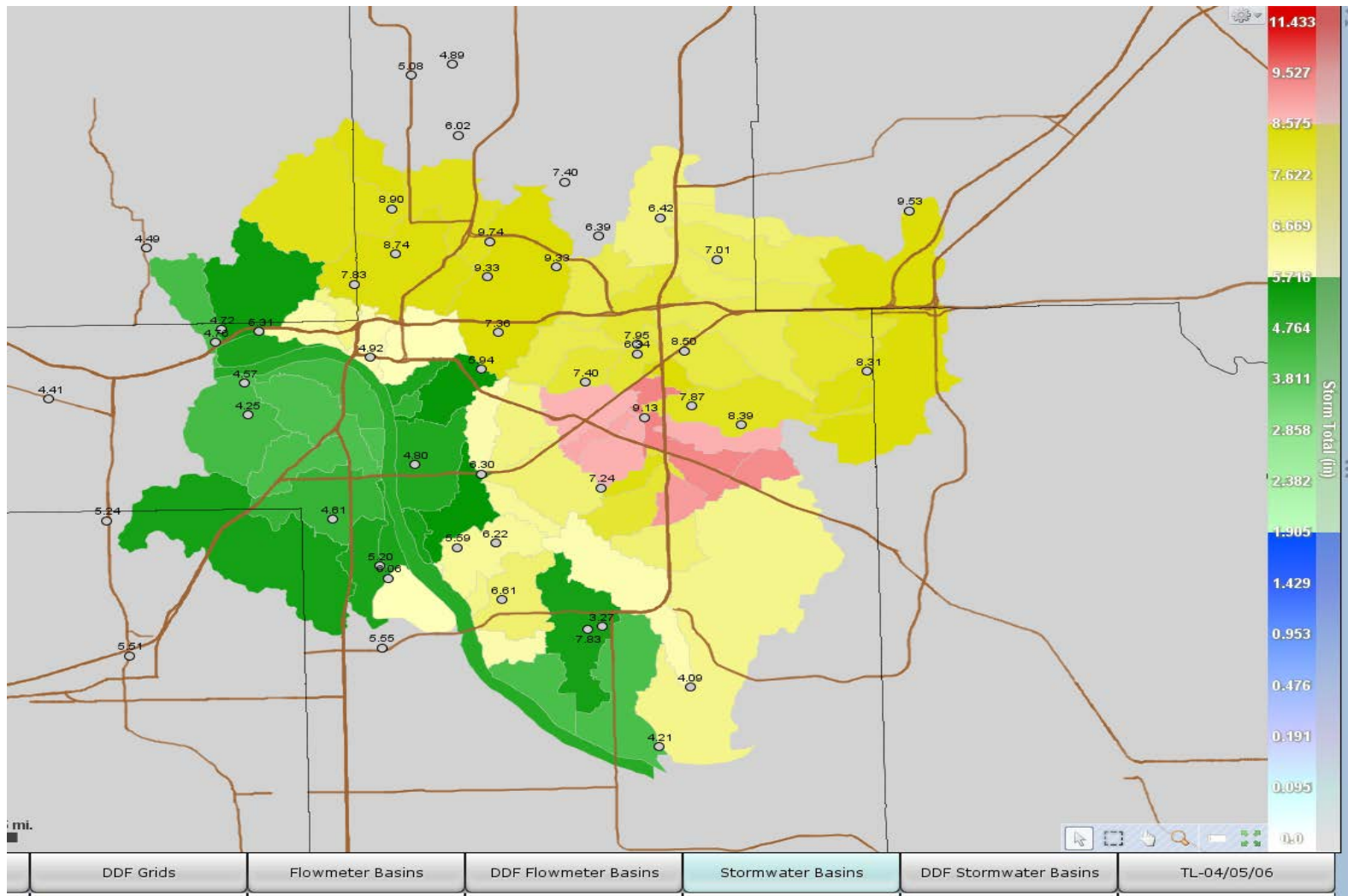
Question 14: Other projects solutions? What alternatives did not make the “Cut”?

- ▶ There was a total of 19 total alternative detention pond site/configurations that were considered for Elm Creek.



Question 15: In 2019 flooding, which area of Tulsa was most affected?

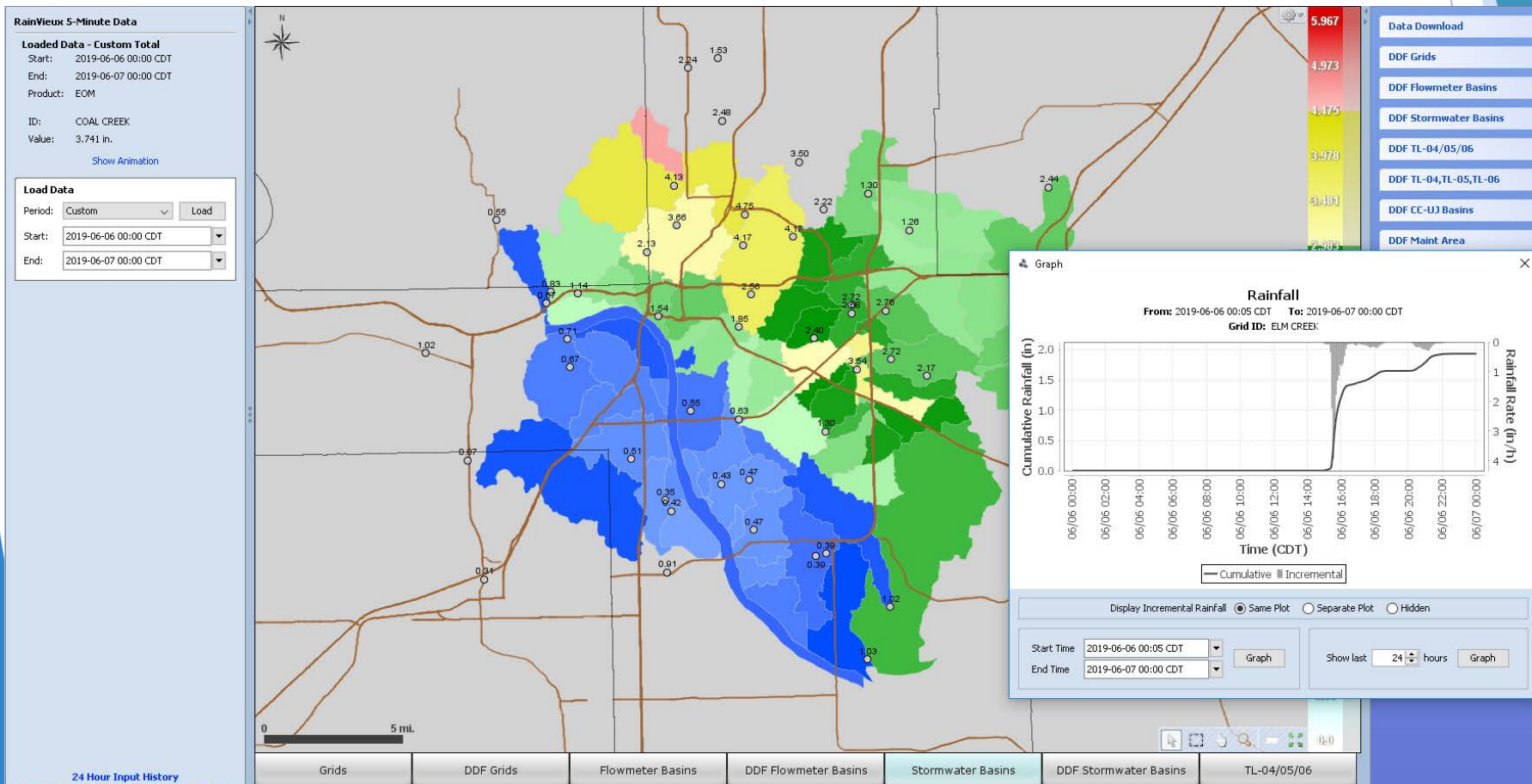
- ▶ Areas of most Rainfall (June Total Inches) in Tulsa are:
- ▶ Coal Creek, Spunky Creek, Dirty Butter



Question 15 Cont.: June 4.2"

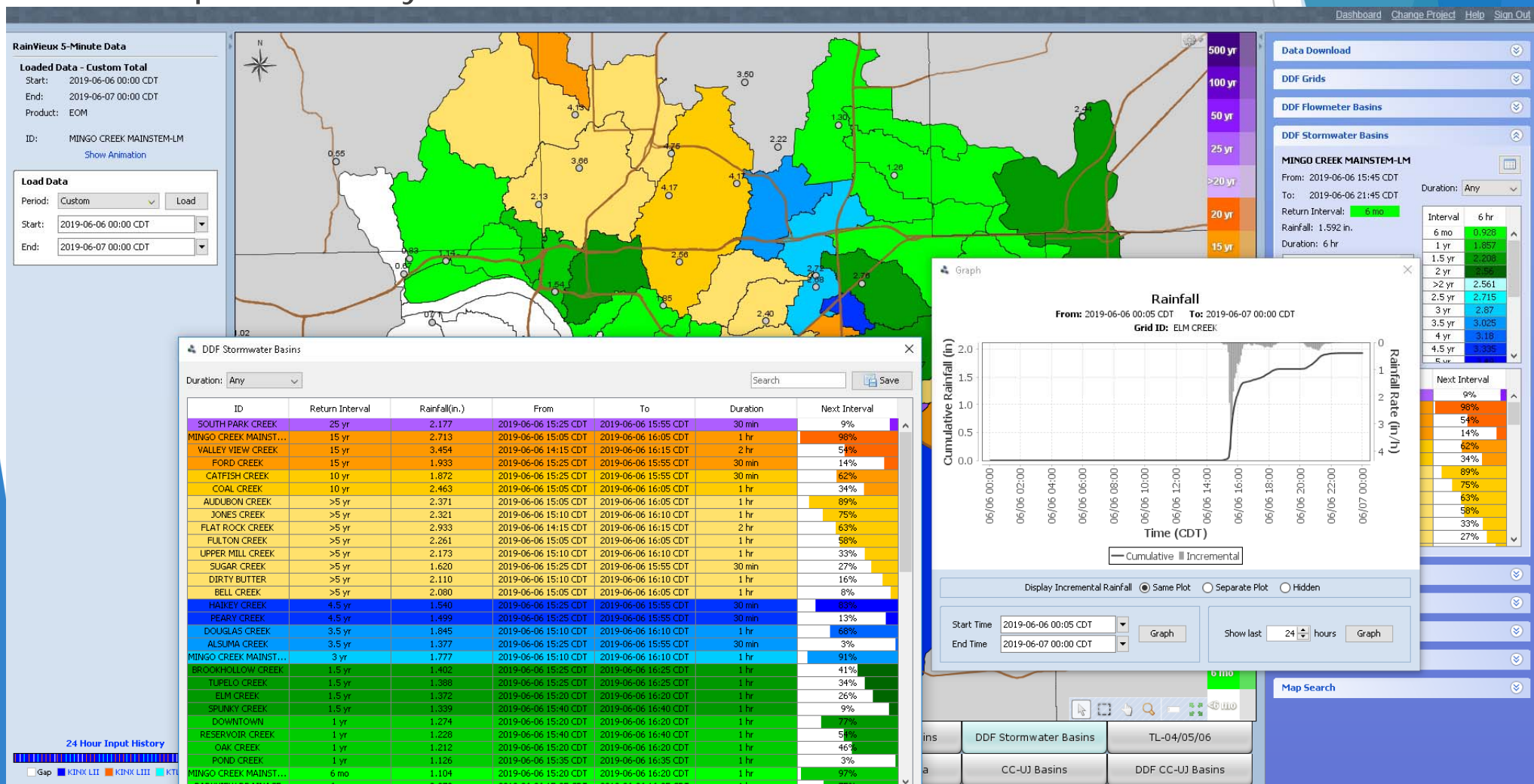
rain effect on Centennial and area?

- ▶ Centennial Park and West Pond Proposed area are in Elm Creek Drainage Basin
- ▶ Elm Creek Drainage Basin, during June 6-7, 2019 rains Received almost 2" of rain



Question 15 Cont.: June 4.2" rain effect on Centennial and area?

- The rainfall that fell on Elm Creek June 6-7, 2019 equaled a 1.5yr Return Interval



Question 15 Cont.: June 4.2" rain effect on Centennial and area?

- ▶ Mesonet Station 137 Tulsa (TULN)
- ▶ Located in the Upper Reach of Flatrock Creek
- ▶ Not part of Elm Creek Drainage Basin

Tulsa (TULN)

Station Number: 137

Location: 4.2 miles NE of Tulsa

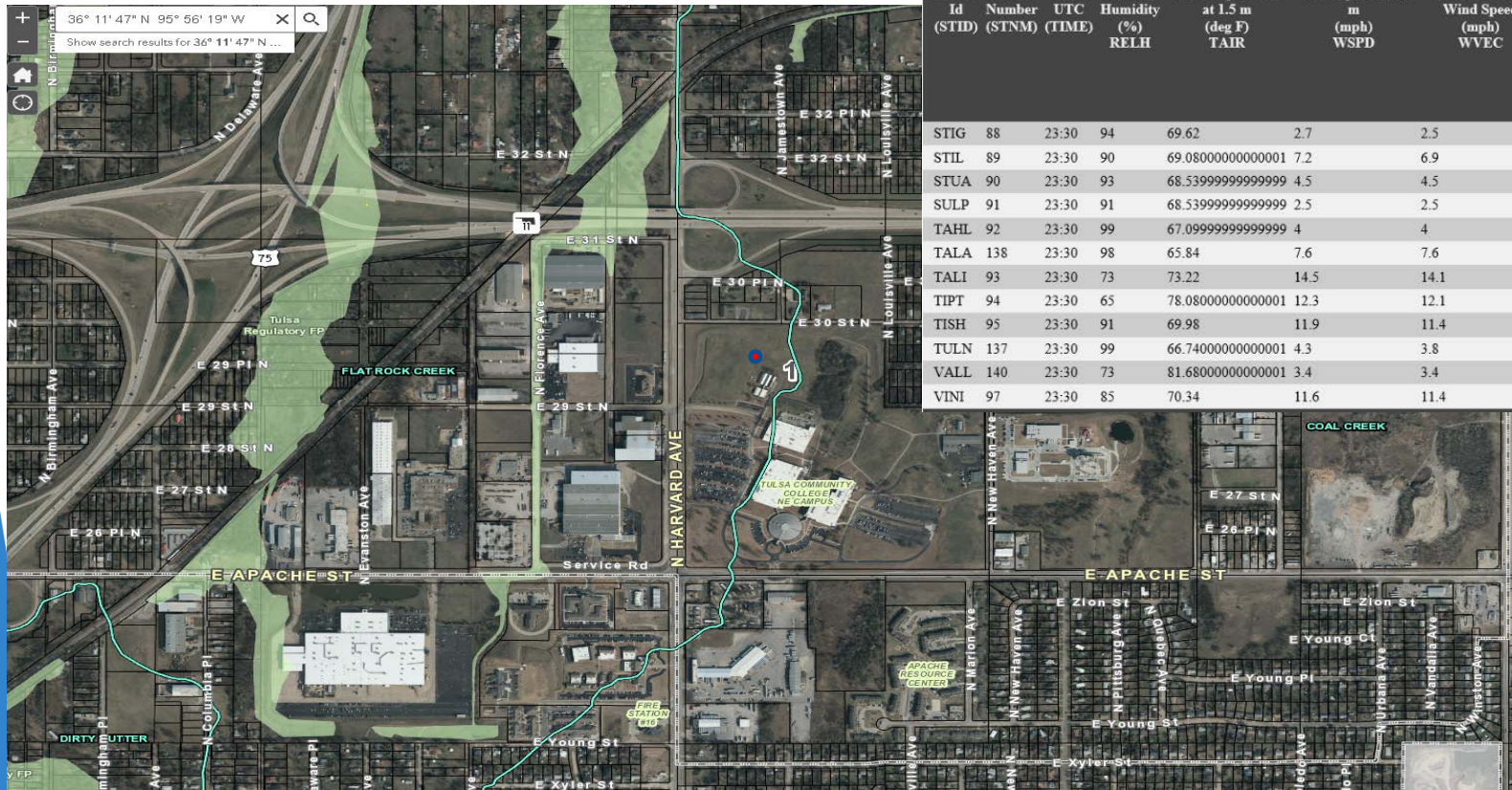
County: Tulsa

Commissioned: 06/25/2013

Latitude: 36.196660° / 36° 11' 47" N

Longitude: -95.938830° / 95° 56' 19" W

Elevation: 209 meters above Mean Sea Level (686 feet)



Station Id (STID)	Station Number (STNM)	Time UTC (TIME)	Relative Humidity (%) RELH	Air Temperature at 1.5 m (deg F) TAIR	Wind Speed at 10 m (mph) WSPD	Vector Average Wind Speed (mph) WVEC	Wind Direction at 10 m (degr) WDIR	Standard Deviation of Wind Direction (degr) WDSD	Standard Deviation of Wind Speed (mph) WSSD	Maximum Wind Speed (mph) WMAX	Rainfall Since Midnight UTC (inches) RAIN
STIG	88	23:30	94	69.62	2.7	2.5	289	20.7	1.3	5.1	0.17
STIL	89	23:30	90	69.08000000000001	7.2	6.9	356	7.9	1.1	9.800000000000001	2.20
STUA	90	23:30	93	68.53999999999999	4.5	4.5	18	11.3	0.7	6	0.37
SULP	91	23:30	91	68.53999999999999	2.5	2.5	64	12.3	0.7	3.8	2.34
TAHL	92	23:30	99	67.09999999999999	4	4	345	14.4	0.9	6.7	1.05
TALA	138	23:30	98	65.84	7.6	7.6	316	11.4	1.1	9.800000000000001	0.70
TALI	93	23:30	73	73.22	14.5	14.1	289	15.4	2.9	22.1	1.35
TIPT	94	23:30	65	78.08000000000001	12.3	12.1	348	11.5	1.6	15.7	0.16
TISH	95	23:30	91	69.98	11.9	11.4	358	18.8	1.6	16.3	0.73
TULN	137	23:30	99	66.74000000000001	4.3	3.8	24	21.4	0.9	6.7	4.27
VALL	140	23:30	73	81.68000000000001	3.4	3.4	320	16.2	0.7	4.7	0.07
VINI	97	23:30	85	70.34	11.6	11.4	239	8.2	1.3	14.5	0.03

Question 16: Benefit cost ratio analysis in FEMA paperwork, has City analyzed since FEMA denial?

- ▶ FEMA being contacted for additional Information

Question 17: Tracy Chamber - Activist - FEMA says of little benefit, need true transparency - What is purpose of pond? Are we trying to be like OKC?

- ▶ Purpose:
 - ▶ The West Pond will remove 49 structures from floodplain
 - ▶ Reduce flood levels (depth of flood) of about 78 structures
 - ▶ Remove Broken Arrow Expressway flood levels.
- ▶ Mimic OKC?
 - ▶ Strictly City of Tulsa flood Control Project
 - ▶ Based off 1988 MDP Study, and Council Approved 2008 Re-study.

Question 18: What exact properties were flooded and When? Specific?

- ▶ Exact properties cannot be shared by City of Tulsa due to privacy concerns for citizens.
- ▶ City of Tulsa Regulatory floodplain based off High-Water marks and Engineering modeling.
- ▶ Maps can show what properties are/would be affected by a 1% annual chance storm. (See floodplain maps)

Question 19: Ratio of vacant vs. structured?

- ▶ Identified West Pond acquisitions 43 parcels total take, fee simple.
 - ▶ 22 parcels with structures 51.2%
 - ▶ 21 parcels vacant 48.8%

Question 20: Can Centennial pond be enlarged to compensate?

- ▶ The required storage to achieve what we need, is 68 acre-feet.
- ▶ The Centennial Pond is 58 acre-feet.
- ▶ It would not be possible to enlarge Centennial Pond by over double, there isn't enough land/volume available in the Park.
- ▶ Pond location and depth regulated by existing drainage structures and depth of flowlines.

Question 21: What is a RLA & are there any in this area?

- ▶ RLA stands for Repetitive Loss Area.
- ▶ Defined by FEMA as any property that has been paid two or more flood insurance claims of \$1,000 or more in a 10-year time period.
- ▶ Repetitive Loss Areas are those properties near an existing Repetitive Loss Property that may be subject to the same general flooding conditions.
- ▶ The Pearl District area contains one RLA (RLA-#28) near 5th and Trenton.

Question 22: Description of pond, who will maintain? Centennial not maintained now.

- ▶ 68 acre-ft. of storage, Boardwalk, fishing dock, see site plan.
- ▶ Currently pond will be maintained in a joint effort between Stormwater Operations and Maintenance and Parks Department
- ▶ Steps are being added to reduce litter in pond:
 - ▶ Trash Collection System
 - ▶ Vertical Wall Construction
 - ▶ Pond Aerators

Question 23: Does the pond drain East of Hillcrest?

- ▶ Yes, the Hillcrest area drains into the large Arch storm sewer at 11th Street just southwest of Oaklawn Cemetery.

Question 24: FEMA

denial/recommendations- Spirit Bank Building? Can something be done closer to the site/has been considered?

- ▶ City of Tulsa does not Floodproof Residential or Commercial properties.
- ▶ City of Tulsa is reaching out to FEMA for more information

Question 25: Power of city council to halt and rescind the project?

- ▶ Master drainage plan adopted by City Council 2008