

On March 20, 2020, City Manager Gregory Rose declared a State of Emergency for the City of University City due to the COVID-19 Pandemic. Due to the ongoing efforts to limit the spread of the COVID-19 virus, the October 25, 2021 meeting will be conducted via videoconference.

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**NOTICE OF JOINT STUDY SESSION with STORM WATER COMMISSION**  
**RIVER DES PERES – TSP PATH FORWARD**  
VIA VIDEOCONFERENCE - ZOOM  
**October 25, 2021**  
**5:30 p.m.**

**AGENDA**

Requested by the City Manager

1. Meeting called to order
2. Changes to Regular Agenda
3. RIVER DES PERES – TSP PATH FORWARD (U.S. Army Corps of Engineers)
4. Adjournment

**Members of the public can view the meeting by one of the following:**

**Webinar** via the link below:

<https://us02web.zoom.us/j/81826823223?pwd=TnRoWHhQVjR0ZlpcHJUOE0ycmdrQT09>

Passcode: 443658

**Live Stream via YouTube:**

<https://www.youtube.com/channel/UCyN1EJ-Q22918E9EZimWoQ>

**Audio Only Call**

Or One tap mobile :

US: +13017158592,,81826823223# or +13126266799,,81826823223#

Or Telephone:

Dial(for higher quality, dial a number based on your current location):

US: +1 301 715 8592 or +1 312 626 6799 or +1 929 205 6099 or +1 253 215 8782 or 888 788 0099 (Toll Free) or 877 853 5247 (Toll Free)

Webinar ID: 818 2682 3223

International numbers available: <https://us02web.zoom.us/j/81826823223>

Posted this 21<sup>st</sup> day October, 2021.

LaRette Reese  
City Clerk



# RIVER DES PERES, UNIVERSITY CITY, MO

## General Reevaluation Report

### Update to University City City Council

October 25, 2021



US Army Corps  
of Engineers®



Photo: University City, 2019. Inset: KSDK, 2019



<b>Overview</b>	<b>Refined TSP/ New NED Plan</b>	<b>LPP Information</b>	<b>Cost Share &amp; Funding Sources</b>	<b>Schedule</b>	<b>Discussion</b>
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## **AGENDA**

1. Overview
2. Refined TSP -> new NED Plan
3. Locally Preferred Plan (LPP) information
4. Cost Share and Funding Options
5. Schedule
6. Discussion



<b>Overview</b>	Refined TSP/ New NED Plan	LPP Information	Cost Share & Funding Sources	Schedule	Discussion
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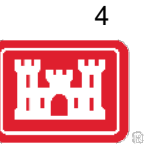
## Study Schedule (current)

Start date (funding received)	29 April 2020
Alternatives Milestone Meeting (AMM)	25 August 2020
Public Scoping Meeting	30 September 2020
Tentatively Selected Plan (TSP) Meeting	26 May 2021
Draft Report Released to the Public	July 2021
Public Meeting	July 2021
Agency Decision Milestone (ADM)	30 November 2021
Final Report Submitted for Approval	September 2022
Report Approval (Chief's Report)	April 2023

Push to  
Feb 2022  
if LPP  
requested



<b>Overview</b>	<b>Refined TSP/ New NED Plan</b>	<b>LPP Information</b>	<b>Cost Share &amp; Funding Sources</b>	<b>Schedule</b>	<b>Discussion</b>
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## Public Review of Draft Report

The Draft Report went out for public review on July 26, and two Public Meetings were held (July 26 and August 17)

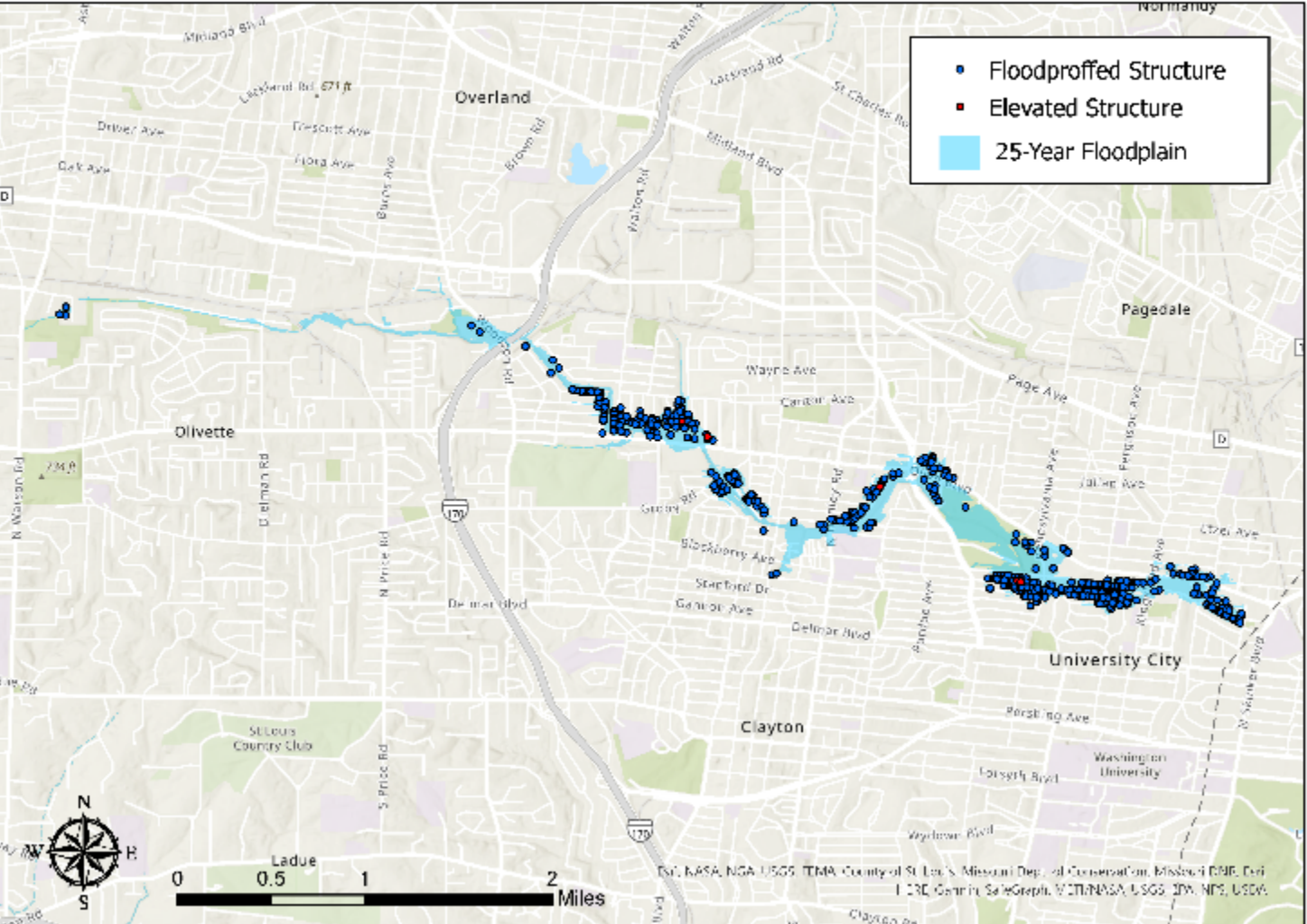
No public comments were received via email during the public review period; comments and questions received in the Public Meetings were considered and will be included in a Final Report appendix



Overview	<b>Refined TSP/ New NED Plan</b>	LPP Information	Cost Share & Funding Sources	Schedule	Discussion
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# Recap of the Tentatively Selected Plan (TSP) *(numbers from May 2021)*

## River Des Peres Nonstructural Alternative Map - Combination



Features:

- ~500 residential structures in 4% AEP (25-year) floodplain; most floodproofed, ~7 elevated
- Height of elevation/floodproofing: 1% AEP (100-yr)
- No acquisition (not cost-effective in comparison)

Level of risk reduction: 4% AEP (25-yr)  
 Total Cost: \$69M  
 Net Annual Benefits: **\$1.7M (1<sup>st</sup> – highest)**  
 BCR: 1.67

To be refined in next steps of the study:

- Optimized flood risk level for benefits, eg flood event smaller than 25-year
- Participation rate
- Cultural resources impacts (historic structures)
- Floodproofing types
- Possible inclusion of Detention Basins 3 & 4

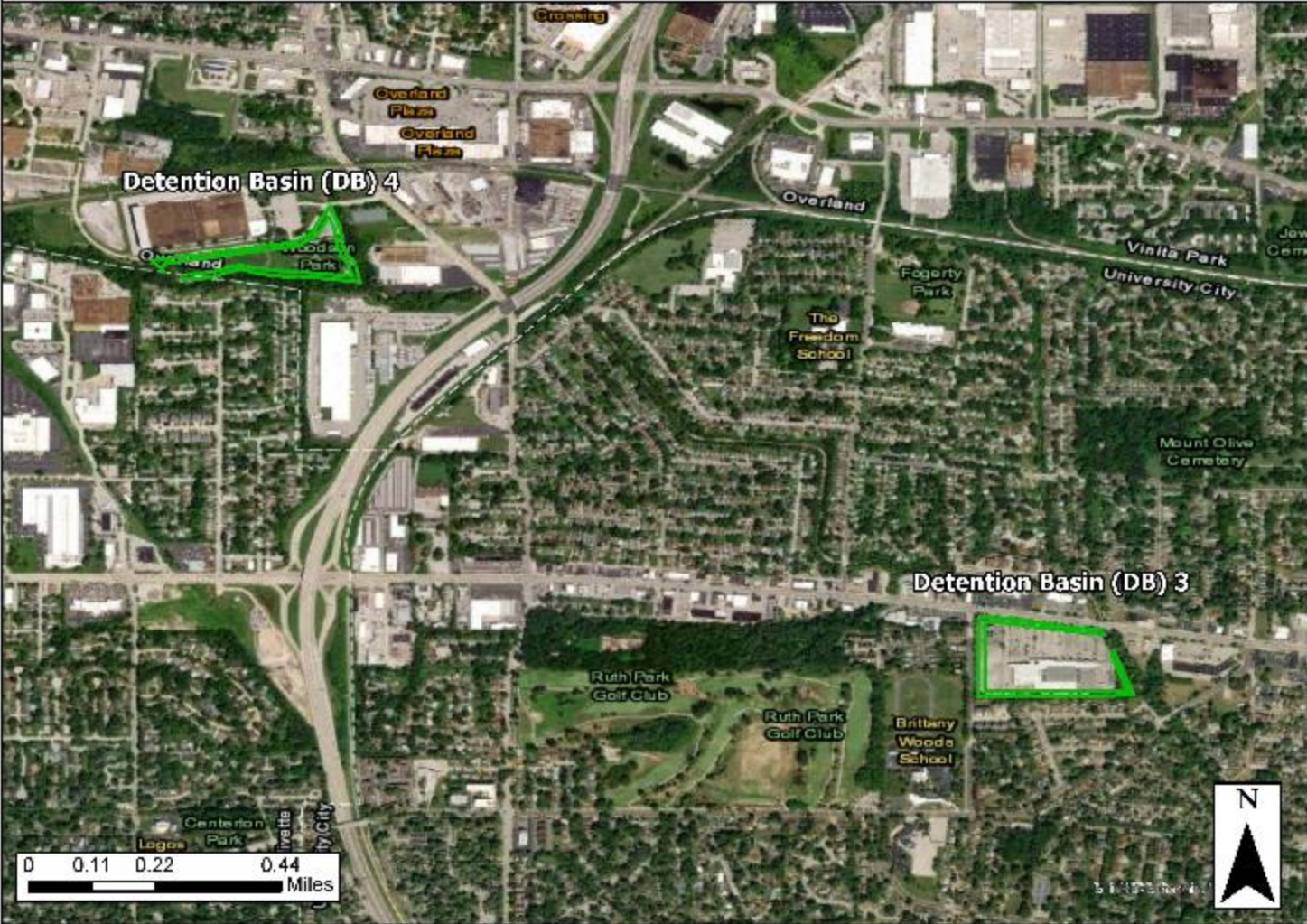


Overview	<b>Refined TSP/ New NED Plan</b>	LPP Information	Cost Share & Funding Sources	Schedule	Discussion
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# For further eval.: Detention basins *(numbers from TSP Milestone, May 2021)*

## River Des Peres Detention Basin Alternative



Features:

- 2 locations: DB3 and DB4
- Dry detention for maximum storage during storms
- Recreation & naturalized features TBD

Level of risk reduction: 50% (2-yr) to 10% AEP (10-yr)

3.a. DB3 and DB4

Total Cost: \$43M  
 Net Annual Benefits: \$724,000 (3<sup>rd</sup> highest)  
 BCR: 1.33

3.b. DB4 only

Total Cost: \$9M  
 Net Annual Benefits: \$1.2M (2<sup>nd</sup> highest)  
 BCR: 2.98

Study risks/uncertainty:

- DB4 location in City of Overland; coordination needed
- DB3 location – Asian businesses, amenity
- Compatible recreation features
- Life safety risk – needs further study





Overview	<b>Refined TSP/ New NED Plan</b>	LPP Information	Cost Share & Funding Sources	Schedule	Discussion
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## Refinement of the Tentatively Selected Plan (TSP)

- Updated costs of alternatives following internal Agency Technical Review and Division-level Legal & Policy Review
- Further refinement of the nonstructural TSP included:
  - ❖ Refining treatments applied to eligible structures with certain depths of flooding
  - ❖ Changes to the way structures were aggregated, based on input from the USACE Flood Risk Management Planning Center of Expertise
  - ❖ Review of land agreement for DB4 site (City of Overland agreement with DOI for Woodson Road Park)



Overview	<b>Refined TSP/ New NED Plan</b>	LPP Information	Cost Share & Funding Sources	Schedule	Discussion
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# Updated costs of alternatives

- Alternatives costs were updated following internal Agency Technical Review and Division-level Legal & Policy Review

Ranked by Net Annual Benefits:

#4

#2

#5

#3

#1

	Detention Basins 3 and 4	Detention Basin 4	U12 w/ Detention Basins 3 and 4	Nonstructural Only	Nonstructural and Detention Basin 4
<b>Total Project Costs</b>					
First Cost	\$ 50,707,000	\$ 9,457,000	\$ 65,924,000	\$ 21,488,640	\$ 17,074,000
Interest During Construction	\$ 1,730,000	\$ 213,000	\$ 2,249,000	\$ 485,000	\$ 384,864
Total Investment Cost	\$ 52,437,000	\$ 9,670,000	\$ 68,173,000	\$ 21,973,640	\$ 17,458,864
<b>Estimated Annual Costs</b>					
Annualized Project Costs	\$ 1,758,000	\$ 324,000	\$ 2,285,000	\$ 737,000	\$ 585,000
Annual OMRR&R	\$ 20,000	\$ 10,000	\$ 30,000	\$ -	\$ 10,000
Total Annual Costs	\$ 1,778,000	\$ 334,000	\$ 2,315,000	\$ 737,000	\$ 595,000
<b>Average Annual Benefits</b>					
Total Annual Benefits	\$ 2,436,000	\$ 1,222,000	\$ 2,734,000	\$ 1,465,000	\$ 1,934,000
Net Annual Benefits	\$ 658,000	\$ 888,000	\$ 419,000	\$ 728,000	\$ 1,339,000
Benefit to Cost Ratio	1.37	3.66	1.18	1.99	3.25
Residual Risk	\$ 2,716,000	\$ 3,930,000	\$ 2,418,000	\$ 3,687,000	\$ 3,218,000

NED Plan: highest Net Annual Benefits

Numbers are not final: One additional cost update needed (revised non-residential floodproofing cost); should not change totals much.



Overview	<b>Refined TSP/ New NED Plan</b>	LPP Information	Cost Share & Funding Sources	Schedule	Discussion
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## Nonstructural – Refining treatments applied to eligible structures

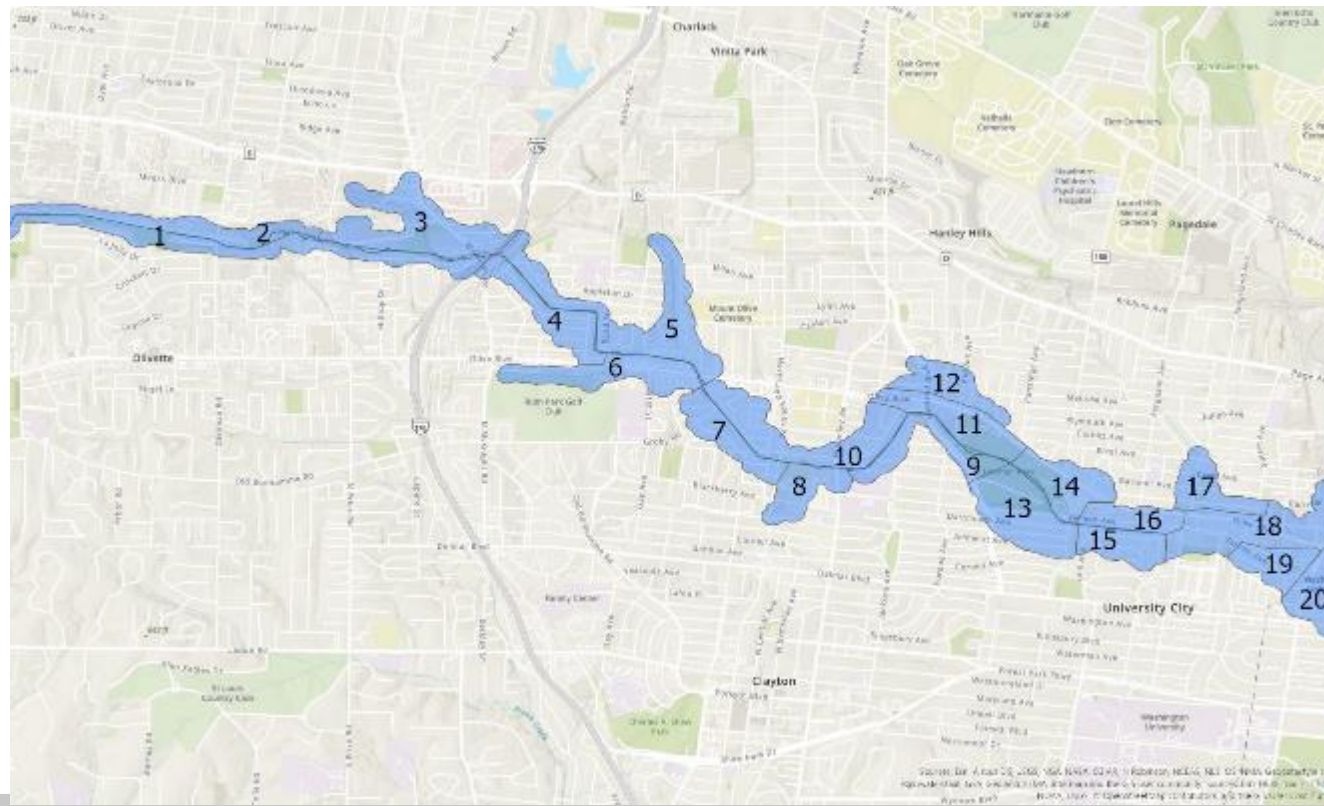
1. Residential with flooding 2+ feet relative to the first floor → Elevation
  2. Residential with -1 to 0 ft flooding relative to the first floor → Fill basement
  3. Nonresidential flooding up to 3 feet above first floor → Dry floodproofing
  4. Any structure for which cost of treatment exceeds buyout cost → Acquisition
- Commission – concerned about residential structures with 0-2 ft flooding relative to the first floor
    - Economist – Analysis for earlier Alternative 7 (Elevation Only) showed elevating those structures was too expensive relative to the benefit. The 2 feet cutoff was geared toward inclusivity, trying to reduce risk to more people while balancing with cost efficiency.



Overview	<b>Refined TSP/ New NED Plan</b>	LPP Information	Cost Share & Funding Sources	Schedule	Discussion
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## Nonstructural - Aggregation of structures

- Criteria used to define reaches: City boundaries (U City, Overland, St. Louis); left bank/right bank; residential vs. non-residential; Historic District boundaries
- 20 reaches identified
- The 10-, 25-, and 50-year flood events were applied to each reach; different events maximized benefits in each reach





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# Nonstructural – Aggregation optimized for each reach (the “mixed plan”)

Reach	Annual Exceedance Probability Aggregation	Elevation	Floodproof	Fill Basement	Acquisition	Total
1	No Action	0	0	0	0	0
2	10-Year	0	1	0	0	1
3	50-Year	0	1	0	0	1
4	No Action	0	0	0	0	0
5	10-Year	0	1	10	0	11
6	No Action	0	0	0	0	0
7	No Action	0	0	0	0	0
8	No Action	0	0	0	0	0
9	10-Year	0	0	1	0	1
10	10-Year	0	0	6	2	8
11	10-Year	0	4	0	0	4
12	50-Year	0	0	3	1	4
13	No Action	0	0	0	0	0
14	25-Year	0	7	0	0	7
15	No Action	0	0	0	0	0
16	25-Year	0	0	2	4	6
17	No Action	0	0	0	0	0
18	No Action	0	0	0	0	0
19	No Action	0	0	0	0	0
20	50-Year	0	5	0	0	5
Total	Mixed Plan	0	19	22	7	48

Table to left shows aggregation optimized for each reach in the DB4 + Nonstructural alternative (the new NED Plan).

10 reaches optimized for “No Action”; don’t have positive net annual benefits with nonstructural treatments applied



Overview	<b>Refined TSP/ New NED Plan</b>	LPP Information	Cost Share & Funding Sources	Schedule	Discussion
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# Number of structures in new NED Plan

## DB4 + Nonstructural (“mixed plan”)

# Structures			
Elevation (residential)	Dry Floodproof (non-residential)	Fill Basement (residential)	Acquisition
0	19	22	7
<b>Total</b>			<b>48</b>

Elevation was not cost effective for any structures; the cost went up and properties previously IDed for elevation would be cheaper to acquire

Includes fewer structures than Nonstructural Only because DB4 reduces the flood elevation

## Compare with Nonstructural Only (“mixed plan”)

# Structures			
Elevation (residential)	Dry Floodproof (non-residential)	Fill Basement (residential)	Acquisition
0	43	37	39
<b>Total</b>			<b>119</b>

Elevation was not cost effective for any structures; the cost went up and properties previously IDed for elevation would be cheaper to acquire

Includes fewer structures than Nonstructural Only because DB4 reduces the flood elevation



Overview	<b>Refined TSP/ New NED Plan</b>	LPP Information	Cost Share & Funding Sources	Schedule	Discussion
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## New NED Plan Summary

### DB4 + Nonstructural (“mixed plan”)

- DB4 constructed in City of Overland at Woodson Road Park
- 19 nonresidential structures with 0-3 ft flooding relative to the first floor -> dry floodproofed
- 22 residential structures with 0 to -1 ft flooding relative to the first floor -> fill basement
- 7 structures with nonstructural cost exceeding acquisition cost -> acquisition
  
- Total First Project Cost: \$17M
  
- Net Annual Benefits: \$1.3M
- Benefit-to-Cost Ratio: 3.25

*Map will be created & provided shortly*



Overview	<b>Refined TSP/ New NED Plan</b>	LPP Information	Cost Share & Funding Sources	Schedule	Discussion
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## Coordination with the City of Overland re DB4

Site visit & Meeting held July 8; follow-up email communication

Woodson Road Park Agreement with Department of the Interior (DOI) provided to USACE

- USACE Real Estate determined path forward of repurposing site

Packet of information being developed to share with Overland City Council

Request made for verbal confirmation, letter of support, or motion passed within 1 month (by Nov. 15)





Overview	Refined TSP/ New NED Plan	LPP Information	Cost Share & Funding Sources	Schedule	Discussion
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## Survey

How we got here...

- Commission & City interested in gaging citizen interest in floodproofing & elevation (TSP) to estimate voluntary participation
- Commission developed 4-question survey; hoping for response data by mid-October
- Initial USACE understanding was that this would be fine
- USACE policy restricting involvement in surveys got in the way; suggested support from SEMA

Current status:

- University City survey to be conducted as part of Stormwater Plan process; survey not “in support of” study; USACE not involved



Overview	Refined TSP/ New NED Plan	<b>LPP Information</b>	Cost Share & Funding Sources	Schedule	Discussion
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## Locally Preferred Plan (LPP) information

- University City as the Non-Federal Sponsor may select an LPP different from the NED Plan
- The LPP must meet several criteria to be approved
- If the LPP is clearly **SMALLER** than the NED Plan (less scope and cost):
  - In all cases, the LPP must have **greater net benefits than smaller scale plans**. I.e. there is a smaller scale (less expensive) plan with less net benefits.
  - The feasibility report must document the rationale for lack of sponsor support for the NED plan; available facts regarding how and why the LPP is less costly and **still provides high-priority outputs**; information to show that **alternative non-Federal funding sources are not available**; the analysis performed; documentation to demonstrate that sufficient alternatives were formulated and evaluated to insure that net benefits do not maximize at a scale lower than the LPP and to **meet the requirements of NEPA**; and the consequences of lost opportunities associated with implementing a LPP including **residual risks** and potential solutions to other water resource needs and opportunities that may be foregone.
  - If the LPP meets the Administration's policies for high-priority outputs, an exception for deviation is usually granted by ASA(CW).
- If the LPP is **LARGER** than the NED Plan, several other criteria apply and the Sponsor must pay the difference between the cost of the LPP and the NED Plan
- The more different the LPP is from the NED Plan, the more time and effort required to get it approved, and the higher the potential the study will run out of funding



Overview	Refined TSP/ New NED Plan	<b>LPP Information</b>	Cost Share & Funding Sources	Schedule	Discussion
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## What might the City want in an LPP?

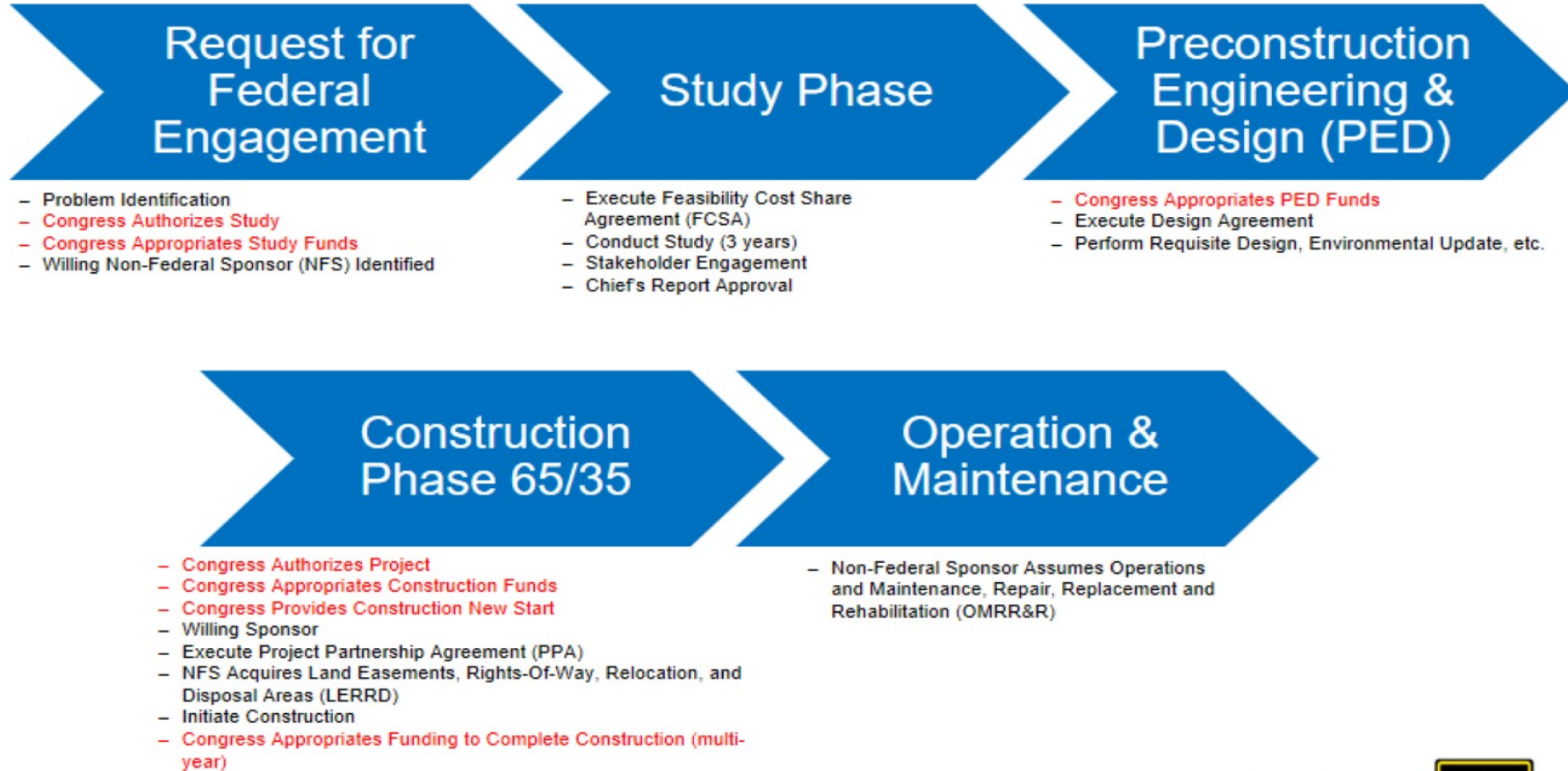
Ideas already generated by the study team & Commission:

- Scaled-down version of the nonstructural mixed plan, with fewer structures (e.g. fewer/zero acquisitions, or only including structures impacted at the 10-year event)
- Add residential structures with 0-2 ft flooding relative to the first floor
- Eliminate structures in reaches outside U City (i.e. structures in Overland and St. Louis)\*
- A different alternative, e.g. U12 channel & bridge modifications with DB3 & DB4
- Move Detention Basin 3 to another location within University City
- Other ideas?

\*A Sponsor-recommended change to the NED Plan like this may be supported with rationale



# CIVIL WORKS PROJECT DELIVERY PROCESS





Overview	Refined TSP/ New NED Plan	LPP Information	<b>Cost Share &amp; Funding Sources</b>	Schedule	Discussion
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## Funding options to support the Non-Federal cost share

Mr. Shawn Sullivan, Strategic Planning Coordinator (USACE), presented at Technical Meeting on 8/23/2021

Slides were sent to City and Commission representatives 8/23/2021

Funding source examples identified included:

- Brentwood Bound – Certificates of Participation, Economic Development Sales Tax, & additional funding from grants and partnerships
- Metro East Levees – State of Illinois approved ¼ cent sales tax
- Eureka, MO – Proposition E passed 2018 adds a ½ cent sales tax over 20 years
- Yarnell Creek, Fenton, MO – Parks/Storm Water half percent sales tax
- BRIC Notice of Funding Opportunity - \$1 billion available
- Missouri Department of Economic Development – Community Development Block Grants, \$41.5M available



Overview	Refined TSP/ New NED Plan	LPP Information	<b>Cost Share &amp; Funding Sources</b>	Schedule	Discussion
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## Costs – Federal and Non-Federal share

Federal cost: 65% of Total First Project Cost

Non-Federal cost: 35% of Total First Project Cost

Example: New NED Plan Total First Project Cost:	\$ 17M
Federal share:	\$11.05M
<u>Non-Federal share:</u>	<u>\$ 5.95M</u>

Cost to the homeowner or renter: \$0

Temporary relocation costs will be covered for renters

Compensation will be provided for the loss of basement or living space



Overview	Refined TSP/ New NED Plan	LPP Information	Cost Share & Funding Sources	<b>Schedule</b>	Discussion
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## “Optimistic Schedule” leading up to the Agency Decision Milestone (ADM)

Dates are deadlines, not start dates. 1.5 months total.

1. *Real Estate costs & floodproofing costs to Jordan – October 15*
2. *‘Final’ nonstructural & DB4 + nonstructural alternatives (NED plan) – October 19*
3. *Historic structures letter to SHPO – October 20*
4. *Commission meeting to discuss ‘final’ alternatives – October \_\_ (TBD)*
5. **City Council meeting – Present NED plan & funding options – October 25**
6. **Participation sensitivity analysis – Nov 1**
7. **Commission meeting – Nov 2**
8. **City Council meeting – Present to City on options for TSP/LPP – Nov 8**
9. **Letter/Motion from City of Overland re DB4 – Nov 15**
10. **Historic structures impacts & mitigation – Nov 16 (<30 days after letter to SHPO)**
11. **ADM Readaheds sent to MVD (incl. LPP waiver request if needed) – Nov 16**
12. **City Council meeting – Final Deadline for Decision on TSP/LPP – Nov 22 (verbal confirmation ok)**
13. **ADM – Nov 30 (City representatives to attend & provide Sponsor viewpoint)**



Overview	Refined TSP/ New NED Plan	LPP Information	Cost Share & Funding Sources	<b>Schedule</b>	Discussion
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## Schedule changes if a Locally Preferred Plan is selected

Instead of the ADM meeting with the USACE vertical team, an In Progress Review (IPR) meeting will be held on 30 Nov.

An LPP Waiver will be submitted to the vertical team ASAP.

The ADM will be moved to February 2022 to allow time for HQ-USACE to review and approve the waiver.

Total HQ-USACE review/decision period is expected to be 6 months.





Overview	Refined TSP/ New NED Plan	LPP Information	Cost Share & Funding Sources	Schedule	Discussion
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## Discussion & Questions

- What questions do you have for us?
- What are your concerns about the path forward?
- What information can we provide by/at the next meeting to better inform your decision?



# Thank you!



Photo: St. Louis Post Dispatch

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Project website:  
<https://www.mvs.usace.army.mil/Missions/Programs-Project-Management/River-Des-Peres-University-City-General-Reevaluation-Report/>