

2024 Bond Flood Protection & Storm Drainage Subcommittee



City of Dallas

Recommendations to Citizen Bond Task Force

Anita Childress, Chair
Matt Penk, P.E., Assistant Director
Sarah Standifer, Director (I)

September 19, 2023

Overview



- Importance of stormwater management and flood protection
- Flood Protection & Storm Drainage Categories
- Summary of Needs
- Committee Efforts, Guiding Principles & Project Selection Criteria
- Recommended Projects
- Summary & Wrap-up
- Questions





Importance of Stormwater Management & Flood Protection





What is stormwater?

- Stormwater is runoff from precipitation that flows over surfaces into the drainage system (inlets, pipes, channels) and is carried to creeks, rivers, and water bodies.
- Impervious surfaces like roofs and pavement don't allow stormwater to soak into the soil and cause runoff that has to be carried by the drainage system (urbanization).
- Stormwater runoff must be managed to prevent flooding, reduce erosion, and protect the quality of water bodies.

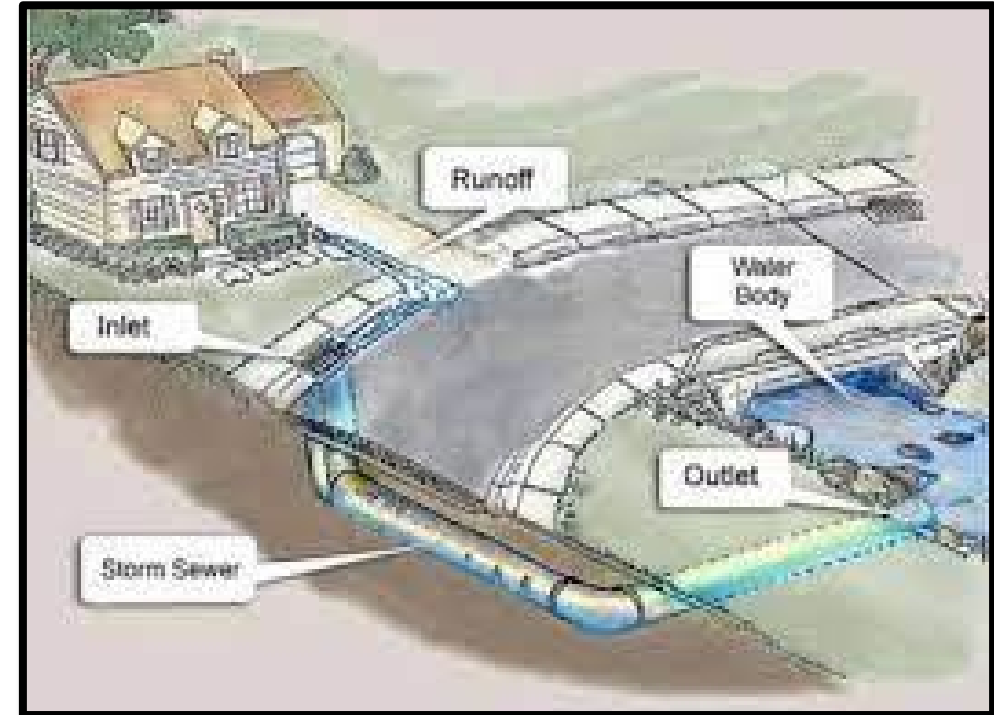


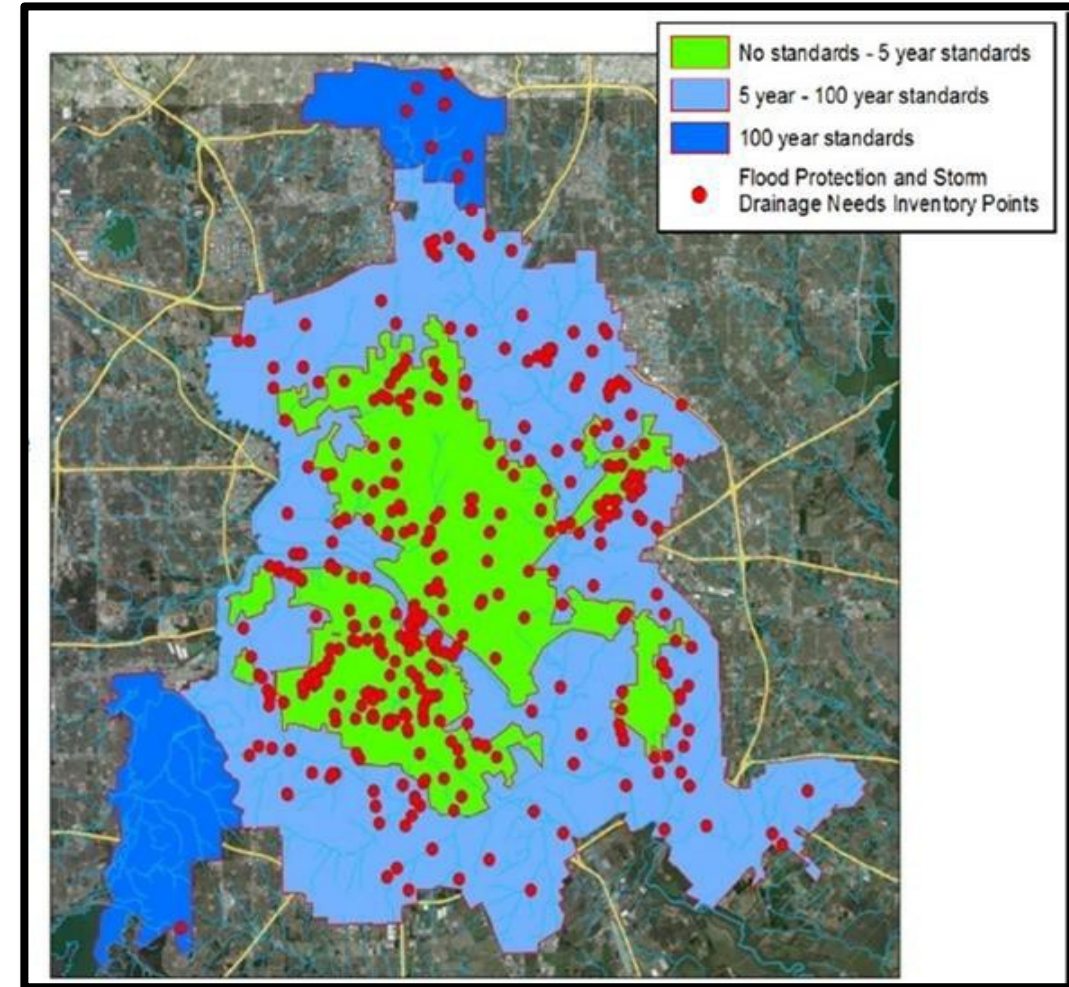
Image courtesy of City of Lubbock



Why does flooding occur?



- Rainfall, upstream reservoir releases, blockages in pipes/creeks, undersized infrastructure, and stream overflow are examples of types of flooding.
- Majority of drainage needs are associated with areas developed prior to current drainage standards.
- Most common reports are street flooding and house flooding.
- Can occur anywhere, regardless of “in a floodplain or not.”



Flood Protection & Drainage Saves Lives



People's lives are at risk because of inadequate drainage infrastructure



Flood Protection & Drainage Saves Lives



DALLAS

FOX WEATHER LIVE

HUNDREDS RESCUED, ONE KILLED IN DALLAS FLOODS

SCAN WITH PHONE

AMERICA RECOVERS

PHOENIX WED 101° 81° THU 101° 83° FRI 103° 83°

While water recedes, Texans begin to recover after historic rainfall

Prior to Monday's storms, Dallas was sitting 10.32" below average in terms of rain this year. That deficit has nearly been erased. It is now 1.28." But this is of little comfort to the Texans who lost their possessions in the flooding.

BREAKING NEWS

HISTORIC FLOODING EMERGENCY IN DALLAS

NBC NEWS

Aug 22, 2022 - Heavy rain led to flash flooding in Dallas, leaving some drivers stranded and others fleeing their cars as high water swept them off the road.



Flood Protection & Drainage Prevents Property Loss



Aug 22, 2022 — Few homes along the stretch of Alcalde Street between Victor and Elm streets were spared from floodwater, which rose to heights of 4 feet or more.



Flood Protection & Drainage Prevents Property Loss



Spring Grove Ave. 05/2019



Vanderbilt Ave. 9/2022



Martinelli Ave. 4/2022



312 Alcalde Street

August 22, 2023, Flash Flooding

The Dallas Morning News



Gloria Alvarez outside her home with furniture and other personal belongings that were damaged in the flood along Alcalde Street.



Gloria Alvarez points to the flood water line on the outside of her home along Alcalde Street. Several homes along Alcalde Street were flooded on Aug. 22, including Alvarez.





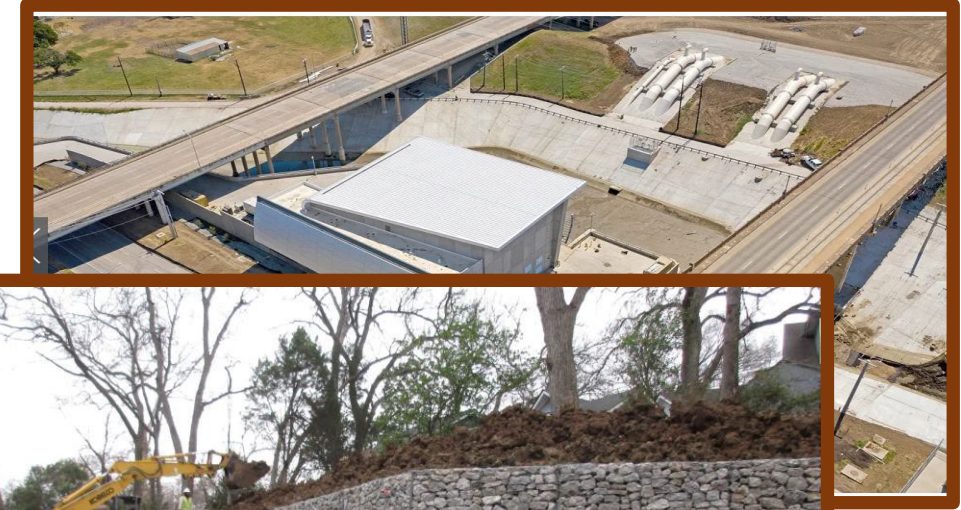
Flood Protection & Storm Drainage Categories



Flood Protection & Storm Drainage Categories



- Flood Management - bridges, channels, culverts, street pump stations, storm water dams, and voluntary purchase of flood prone properties.
- Storm Drainage Relief - drainage relief for areas served by undersized drainage systems, including upgrades and/or extensions of storm drain systems
- Erosion Control - armoring and erosion control for public and private property along natural creeks, including protection for streets, bridges, alleys and homes.



Example: Flood Management Project



**Elam Creek Phase I
Providing 100-yr storm protection
Before and during construction (2008)**



**Elam Creek Phase I
After construction (2012)**



Example: Storm Drainage Relief Project



***Ledbetter Storm Drainage Project
Upsizing a failed 48" Metal Pipe to 60"
Reinforced Concrete Pipe (2016)***



Example: Erosion Control Project



3330/3334 Shady Hollow Ct. Before Construction (2021)



3033/3334 Shady Hollow Ct. Construction Completed (2022)





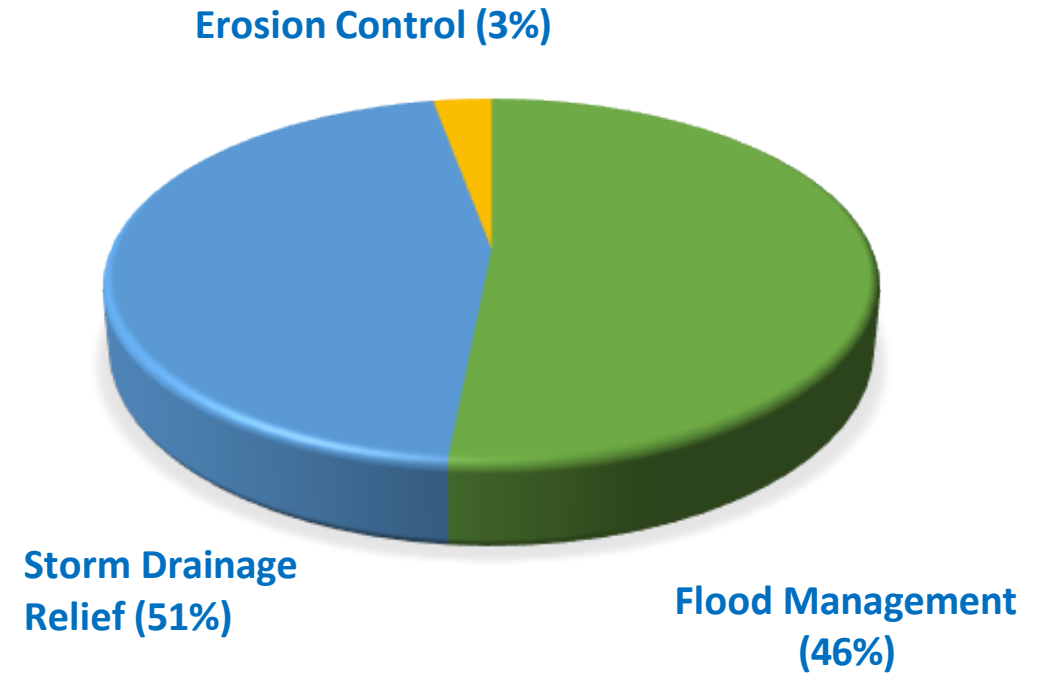
Summary of Needs



Summary of Needs



Category	Number of Projects	Total Cost ^[1]
Erosion Control	113	\$82,285,375
Flood Management ^[2]	141	\$1,180,710,750
Storm Drainage	173	\$1,308,755,200
Totals	427	\$2,571,751,325



[1]: In 2026 dollars [2]: Excluding active Dallas Floodway Projects funded by the USACE





Committee Efforts, Guiding Principles & Project Selection Criteria



Flood Protection & Storm Drainage Committee



Chair: Anita Childress
Dept: Dallas Water Utilities

Member	District	Member	District
Edward McCullough	CD 1	Gregory Franklin	CD 8
Gloria Alvarez	CD 2	Susan J. Falvo	CD 9
Dr. Andrea Hilburn	CD 3	Woot Lervisit	CD 10
Matt Canto	CD 4	Macs Reynolds	CD 11
Larry Brannon	CD 5	Robert Fischer	CD 12
Erica Solis	CD 6	Laurel Stone	CD 13
Jeremy McConnell	CD 7	Stephen Tordella	CD 14



Guiding Principles



- Include **impactful Citywide projects** difficult to fund in annual budget
- **Importance/risk of flood protection** considered in recommendations
- Continue to provide **erosion control**
- Consider **amount of district needs** in how project dollars get allocated
- Prefer projects that “**move dirt**” but understand **planning needed for larger projects**
- **Provide balance** – large projects and district needs



Project Selection Criteria



- Project selection is based on technical criteria, equity and overlay scores, and committee/community input.
- 20% - Erosion Control; 80% - Flood Management & Storm Drainage
- No projects in 10-year capital plan unless slated for FY 28 or later
- Base on highest total project score and balance from there
- Use 2026/2027 escalated costs
 - Projects over \$12M must be Citywide or benefit multiple districts
 - \$35M cap on Citywide projects
- Planning/design cost only for largest, most expensive Citywide project

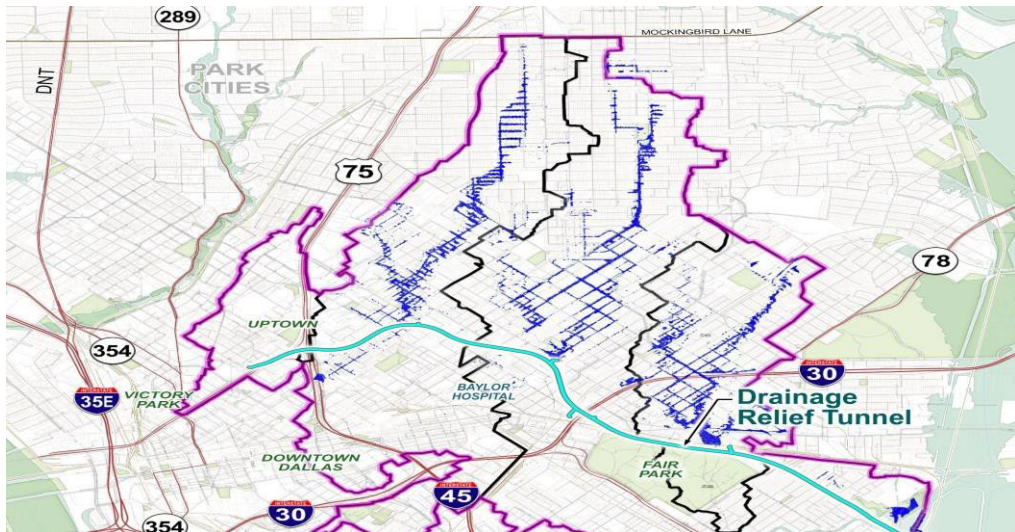
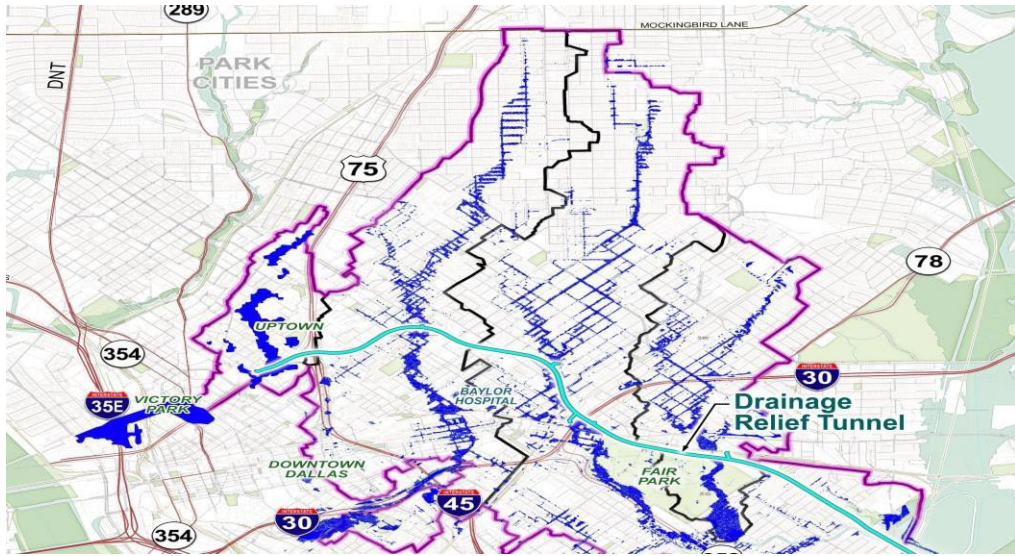




Recommended Citywide Projects



Mill Creek/Peaks/East Peaks



- Storm drainage relief tunnel providing relief to East Dallas:
 - Lower areas of Mill Creek (around Baylor Hospital)
 - Peaks Branch (south of Buckner Park)
 - East Peaks Branch (around Fair Park area)
 - Woodall Rodgers area and the State-Thomas area
- \$212.5M construction – 2006/2012 Bond Programs
- Completion planned for 2025
- Reduces flooding/protects:
 - 3,200 acres
 - 2,200 properties
 - Over \$4B in property
- Tunnel is initial phase of larger drainage master plans for Mill Creek and Peaks Branch watersheds

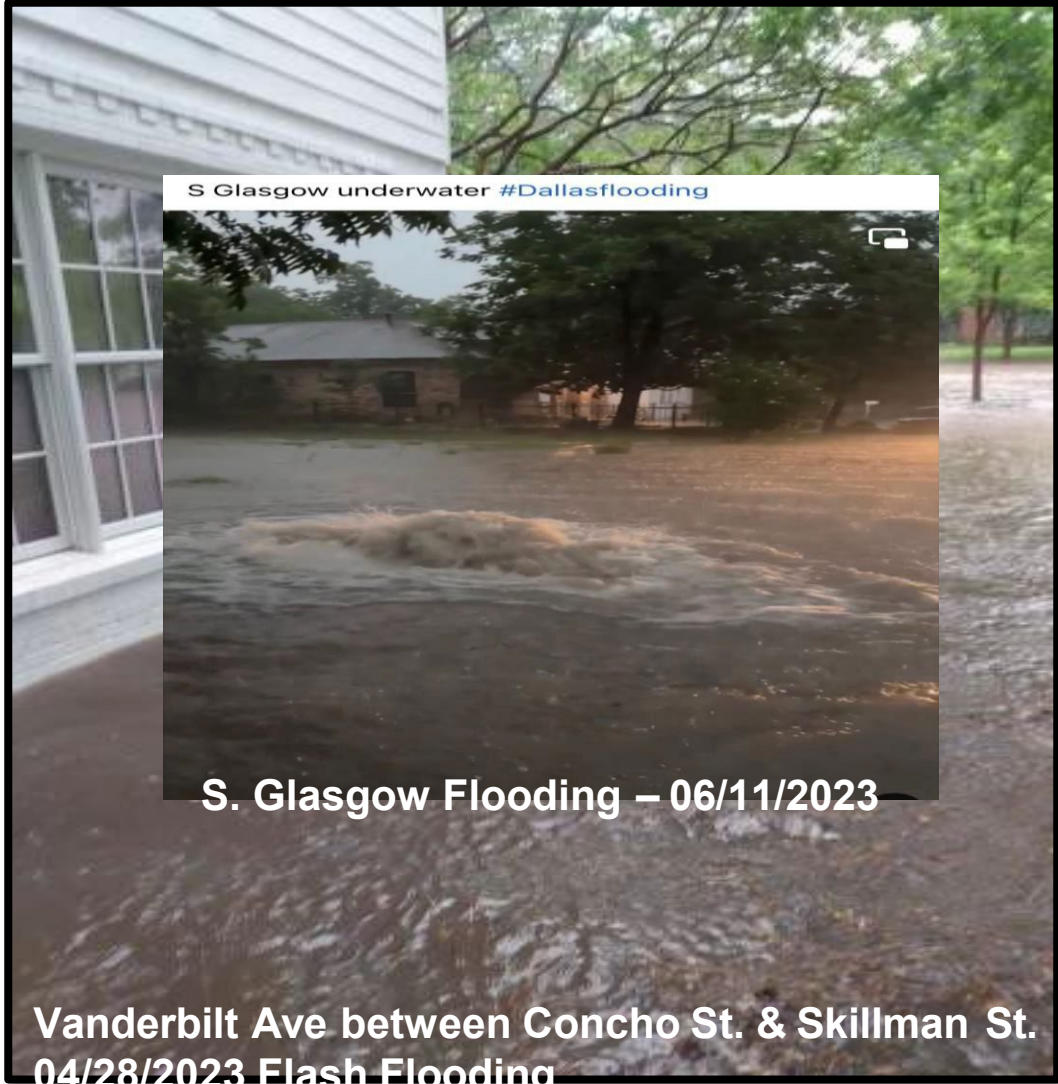


Mill Creek/Peaks/East Peaks (Next Steps)



- Improvements needed above tunnel up to Mockingbird within Mill Creek and Peaks Branch watersheds
- Costs estimated at ~ \$339M in 2026 dollars
- Planning and engineering in 2024 Bond to get a head start and fund construction in future bond and capital program - \$33.9M
- **Highest rated projects in the Needs Inventory**
- **Citywide project to capitalize on current investments**

• **Properties protected ~ 2,600 (est. > 7,500 people)**
• **Property values protected estimated at \$1.9B**
• **~380 acres protected from flooding in 100-yr storm**



Mill Creek/Peaks/East Peaks (Next Steps)



MILL CREEK AND PEAKS BRANCH FUTURE DRAINAGE IMPROVEMENTS

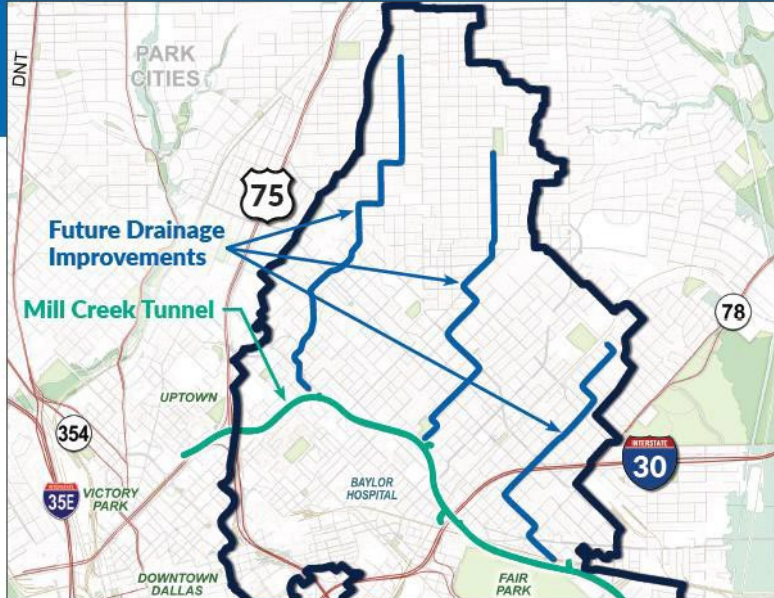


EXISTING FLOODING CONDITIONS

Undersized drainage systems in the Mill Creek and Peaks Branch watersheds lead to frequent flooding. The Drainage Relief Tunnel under construction and scheduled for completion in 2025/2026 is the initial phase of improvements. Future improvements are needed to address additional areas above the tunnel and extend current \$212M investment for the initial phase.

- **Existing Condition:** Approximately 2,600 properties remain at risk of flooding during a 100-year storm.
- **Existing Condition:** The estimated value of properties at risk of flooding during a 100-year storm is \$1.9B.
- **Existing Condition:** Approximately 380 acres is subject to flooding during a 100-year storm.

MILL CREEK AND PEAKS BRANCH FUTURE DRAINAGE IMPROVEMENTS



PROPOSED SOLUTIONS

MILL CREEK/PEAKS BRANCH TUNNEL

Initial Phase: The Mill Creek Tunnel is the first step to provide flood relief for these areas. Additional improvements are necessary to complete the system and provide flood relief.

AREAS UPSTREAM OF THE TUNNEL

Next Phase: The next phase of drainage improvements includes extending new storm-sewer systems from the Mill Creek Tunnel to the upper Mill Creek and Peaks Branch watersheds.

FLOOD RELIEF

Benefit: Once implemented, the Mill Creek and Peaks Branch storm-sewer improvements will provide drainage relief for the entire Mill Creek and Peaks Branch drainage basins.

NOTES

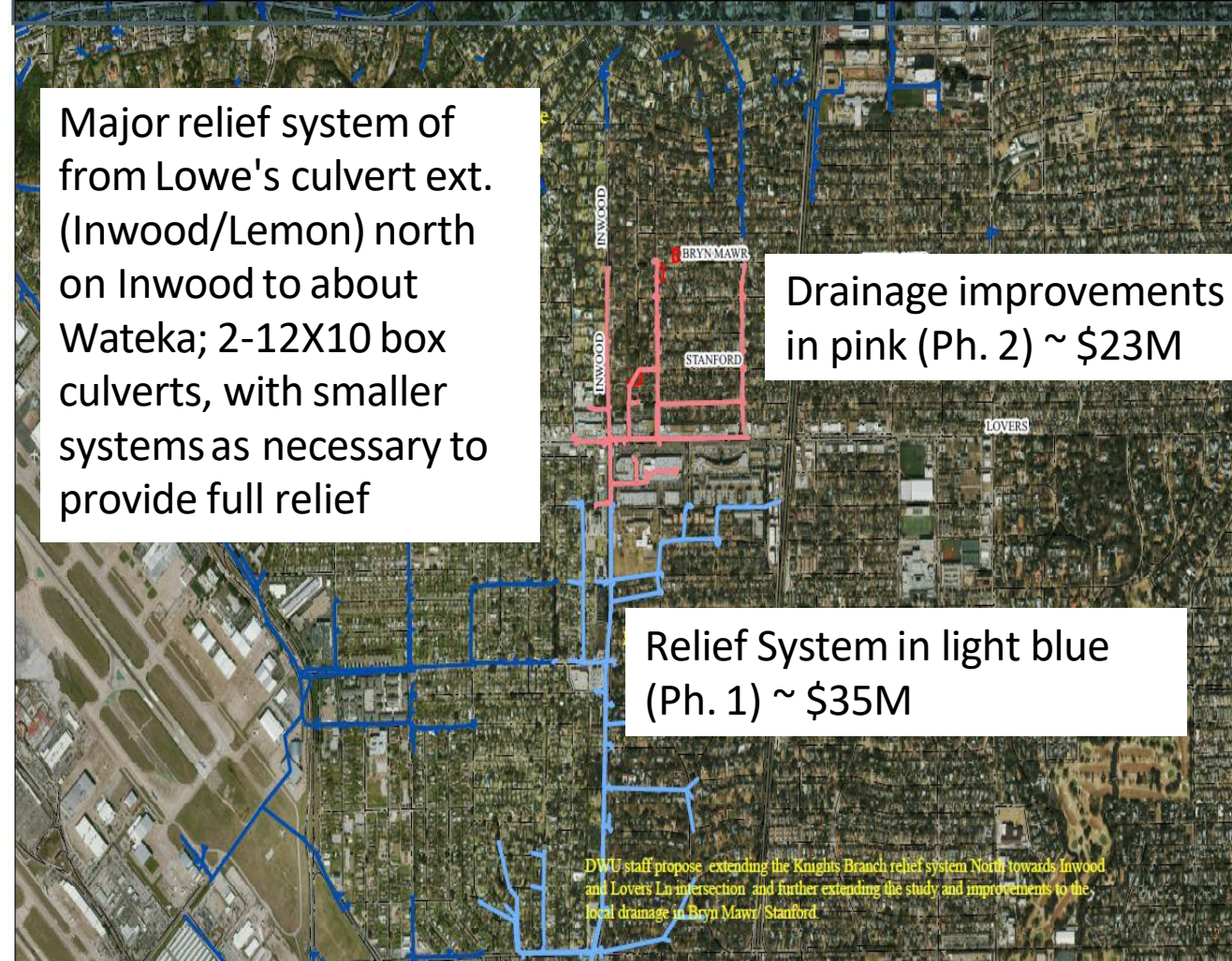
- Project Type: Storm Drainage Relief
- Highest Rated Project in the Needs Inventory for Flood Protection and Storm Drainage
- Council District: Citywide (falls in 2, 7 and 14)
- Planning / Engineering (2024 Bond): \$33.9M
- Construction Cost (2026 Dollars): \$339M



Knights Branch Upper Relief System



- Major relief system from Inwood/Lemmon to south of Lovers and neighborhood improvements to Preston Park (Bryn Mawr)
- Costs estimated at ~ \$58M in 2026 dollars (2 phases)
- \$35.1M in 2024 Bond to complete planning/engineering and first phase (relief system); \$17.2M to Ph. 2
- Highly rated CW project; located in districts 2,6,13



Knights Branch Upper Relief System



Knights Branch Flooding

2024 Bond Program

Flood Protection and Storm Drainage

Project Type

Flood Management & Storm Drainage

Project Cost (2026 dollars)

\$34.4M (Ph. 1) & \$23.5M (Ph. 2)

Council Districts

Citywide (Falls in 2, 6 & 13)

Scope

Major relief system of enclosed portion of upper Knights Branch watershed from Lowe's culvert extension (downstream of Inwood/Lemon) north on Inwoc to about Wateka, using 2-12X10 box culverts, with smaller system as necessary to provide full relief

Project Purpose/Benefits

- Property flooding relief
- Area flooding reduction
- Street flooding mitigation



Vicinity Map

Stormwater Project Management

Knights Branch Upper Relief System Project



100-Year Flooding in Purple

Project Highlights

Knights Branch Upper Relief System Study (\$649,750.00): Study, model, and preliminary design to update capital drainage recommendations.

Knights Branch Upper Relief System - Inwood/Mockingbird (\$34,500,000.00): Major relief system of enclosed portion of upper Knights Branch watershed from Lowe's culvert extension (downstream of Inwood/Lemon) north on Inwood to about Wateka, using 2-12X10 box culverts, with smaller systems as necessary to provide full relief.

Knights Branch Upper Relief System Phase 2 (\$23,000,000.00): Continuation of the Knights Branch Upper Relief System Project. Improve neighborhoods served by the Knights Branch Upper Relief System. Includes Preston Park neighborhood (Bryn Mawr).



Trinity River Channel



- Flood Management Project - \$23M
- Citywide Project
- Includes channel dredging, bank stabilization, tree removal, and other activities
- **Necessary to meet regulatory requirements**
- **Protects levees and ensures Corps certifies them in good standing**
- **Financial impact to flood insurance rates if levees not certified**
- Ensures river channel can carry low and maximum flows (300 cfs & 13,000 cfs)



Trinity River Channel



Trinity River Floodplain



Erosion at Trinity River



Trinity River Rahab

2024 Bond Program

Flood Protection and Storm Drainage

Project Type

Flood Management

Project Cost (2026 dollars)

\$23M

Council Districts

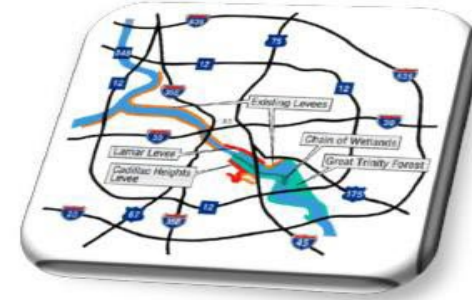
Citywide Project

Scope

Channel dredging, bank stabilization, tree removal, and other activities to meet regulatory requirements for ongoing PL 84-99 compliance to maintain river channel to carry low/max flows.

Project Purpose/Benefits

- Necessary – regulatory
- Protects levees
- Maintains levee certification



Vicinity Map

Stormwater Project Management

Trinity River Channel Project



Citywide Projects



Project Number	Project ID	Project Name	Project Description	Citywide – Located Districts	Technical Score	Equity Score	Overlay Score	Total Score	Estimate
1	FP22S10	East Peaks Upper/Middle Basin Relief System	Continuation of the MCPBST Drainage Relief Tunnel for the East Peaks Upper and Middle basins. Proposed trunk line as outlined in Master Plan. Design only.	2, 7, 14	80	10	6	96	\$9,200,000
1A	PB2906	Mill Creek Drainage Relief System - Phase III	Continuation of the MCPBST Drainage Relief Tunnel for the Mill Creek basins. Proposed trunk line as outlined in Master Plan. Design only.	2, 14	80	6	6	92	\$24,725,000
2	FP19F2, PB174375	Knights Branch Upper Relief System - Inwood/Mockingbird	Study, model, design and construct major relief system of enclosed portion of upper Knights Branch watershed from Lowe's culvert extension (downstream of Inwood/Lemon) north on Inwood to Wateka, using 2-12X10 box culverts, with smaller systems as necessary to provide full relief.	2, 6, 13	80	4	2	86	\$35,149,750
2A	FP21S06	Knights Branch Upper Relief System Phase2	Continuation of the Knights Branch Upper Relief System Project (PB174375). Improve neighborhoods served by the Knights Branch Upper Relief System. Includes Preston Park neighborhood (Bryn Mawr)	2, 6, 13	71	4	2	77	17,214,400
3	PB175010	White Rock Creek Floodplain Management Study Update	Update of the 1989 FPMS, extended into entire White Rock Creek watershed, to study flood control options.	2,5,7,9,10, 11,12,13	64	10	8	82	\$1,035,000
4	FP21F04	Trinity River Channel Project	Channel dredging, bank stabilization, tree removal, and other activities to meet regulatory requirements for ongoing PL 84-99 compliance to maintain the river channel to carry 300 cfs during low flow and maximum 13,000 cfs	1, 2, 4, 6	58	10	8	76	<u>\$23,000,000</u>
								Total	\$110,324,150



Citywide Projects - CD Breakdown



CD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Mill Creek/Peak/East Peaks (Next Phase – Design only)														
Estimate (\$M) *	0	5.2	0	0	0	0	0.04	0	0	0	0	0	0	28.6
Knights Branch Phase 1 & 2														
Estimate (\$M) *	0	17.5	0	0	0	17.5	0	0	0	0	0	0	17.5	0
White Rock Creek Floodplain Management Study														
Estimate (\$M) *	0	0.13	0	0	0.13	0	0.13	0	0.13	0.13	0.13	0.13	0.13	0
Trinity River Channel Project														
Estimate (\$M) *	5.8	5.8	0	5.8	0	5.8	0	0	0	0	0	0	0	0

* Estimate provided in millions (rounded up).



Detailed Citywide Breakdown



Mill Creek/Peaks/East Peaks	
East Peaks Upper/Middle Basin Relief System (Project 1)	
Council District	Expected Bond Amount
2	\$ 1,533,333.33
7	\$ 38,333.33
14	\$ 7,628,333.33
TOTAL	\$ 9,200,000.00
Mill Creek Drainage Relief System - Phase III (Project 1A)	
Council District	Expected Bond Amount
2	\$ 3,708,750.00
14	\$ 21,016,250.00
TOTAL	\$ 24,725,000.00

White Rock Creek Floodplain Management Study (Project 3)	
Council District	Expected Bond Amount
2	\$ 129,375.00
5	\$ 129,375.00
7	\$ 129,375.00
9	\$ 129,375.00
10	\$ 129,375.00
11	\$ 129,375.00
12	\$ 129,375.00
13	\$ 129,375.00
TOTAL	\$ 1,035,000.00

Knights Branch Phase 1 - Knights Branch Upper Relief System Study and Knights Branch Upper Relief System - Inwood/Mockingbird (Project 2)	
Council District	Expected Bond Amount
2	\$ 11,716,583.33
6	\$ 11,716,583.33
13	\$ 11,716,583.33
TOTAL	\$ 35,149,750.00
Knights Branch Phase 2 (Project 2A)	
Council District	Expected Bond Amount
2	\$ 5,738,133.33
6	\$ 5,738,133.33
13	\$ 5,738,133.33
TOTAL	\$ 17,214,400.00

Trinity River Channel Project (Project 4)	
Council District	Expected Bond Amount
1	\$ 5,750,000.00
2	\$ 5,750,000.00
4	\$ 5,750,000.00
6	\$ 5,750,000.00
TOTAL	\$ 23,000,000.00



Citywide Summary - CD Breakdown



CD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Total – Citywide Projects														
Estimate (\$M) *	5.8	28.6	0	5.8	0.13	23.2	0.17	0	0.13	0.13	0.13	0.13	17.6	28.6
# of Projects	1	6	0	1	1	3	2	0	1	1	1	1	3	2

* Estimate provided in millions (rounded up).





Recommended Flood Management & Storm Drainage Relief Projects



Flood Management Category



Implements recommendations from Floodplain Management Plans and Studies, including bridges, culverts, channels, street pump stations, storm water dams, and voluntary purchase of flood prone properties.

Technical Ranking Criteria

Frequency of flooding

Depth of flooding (100-year frequency event)

Depth x velocity of flow

Number of structures affected

Ratio of project costs per protected structure

← Cost Benefit



Flood Management Projects



Project ID	Project Name	Project Description	Council District	Technical Score	Equity Score	Overlay Score	Total Score	Estimate
FP22F03	Pruitt Branch - Channel & RR Culvert	Resolve flooding along Glenview, Bridges, Redkey and Birch through improvements of RR crossing and concrete channel. Design only.	5	80	6	8	94	\$1,090,775
FP23F02	Reinhart Branch Flood Management Study Update	Floodplain Management study of Reinhart Branch to determine potential capital projects to address flooding, drainage, and erosion.	9	80	8	6	94	\$230,000
FP23F01	Coombs Creek Flood Management Study Update	Update of 1983 Study & 2021 Kidd Springs Tunnel TM. Update H&H if needed. Identify new projects, including holistic streambank stabilization for Coombs Creek and Kidd Springs.	1	61	10	8	79	\$552,000
FP22F04	13033 & 13032 Copenhill Rd Culvert Improvements	Replace culvert crossing to prevent overtopping of roadway. Possible channel improvements along 13033 and 13032 Copenhill Rd.	11	60	8	6	74	\$224,250
PB1912	Estes Branch Bridge @ Bluffcreek	Install bridge, channel improvement. Analysis, design and construction	7	60	8	6	74	\$7,831,500
PB2557	Knights Branch @ Denton Dr.	Add culvert, raise road, analysis, design and construction	2	62	8	4	74	\$4,105,500
PB3205	Prairie Creek Bridge Improvement @ Fireside	Install bridge, analysis, design and construction	8	61	8	4	73	\$11,425,250
PB3728	Turtle Creek @ Blackburn	Raise road, replace ex. dam upstream with a 7' collapsible dam, 2 HOMES FLOOD, analysis, design and construction	14	60	4	4	68	\$10,695,000
PB174266	Hickory Creek Floodplain Management Study	Comprehensive floodplain management study with updated flood mapping and recommendations for improvements	8	60	6	2	68	\$253,000
FP22F02	Pruitt Branch @ C F Hawn	Analysis & Design. Construction by future project based on agreement with TxDOT. Upsize culvert crossing of US 175 to prevent overtopping.	5,8	46	6	6	58	\$575,000
FP23F03	Military Parkway @ Urbandale Park	Upgrade culvert crossing at Military Parkway and Urbandale Park. Approx. 3.8' depth of overtopping during 100-year.	5	42	8	6	56	\$575,000

Note: Citywide projects not included. Please refer to the appendix for a complete listing.



Storm Drainage Relief Category



Provides drainage relief for areas served by undersized drainage systems, including upgrades and/or extensions of storm drain systems. Also, can include repetitive loss areas.

Technical Ranking Criteria

Type/effects of flooding

Frequency of flooding

Depth of 100-year flooding

Number of affected structures

Ratio of cost/affected structure

← Cost Benefit



Storm Drainage Relief Projects



Project ID	Project Name	Project Description	Council District	Technical Score	Equity Score	Overlay Score	Total Score	Estimate
PB174376	Spring Grove 13300 Block	Upgrade drainage system in the area of 13330 Spring Grove Ave to provide flooding relief during the 100-year. Refer to the 2021 Report.	11	68	8	8	84	\$1,725,000
FP22S11	Sanford Ave Relief System (Little Forest Hill) Phase 2	Continuation of the Sanford Ave Relief System project. 100-year drainage improvements from Sanford Ave @ Daytonia to Tavaros @ Forest Hills Blvd.	9	68	8	2	78	\$2,300,000
FP23S01	6750 Willow Storm Drainage Relief	Storm Drainage relief at 6750 Willow lane. Existing drainage ditch replaced with curbed sidewalk that doesn't have enough capacity to contain runoff. Reestablish capacity and upsize portion of drainage system. Current system approx. 10-year	11	70	4	0	74	\$632,500
TWM000104	Hymie Circle 10105-10109	Design & Const. - No system on improved street. Current street and gutters no longer have adequate slopes to convey runoff. Add system at the cul-de-sac of Hymie Circle to Masters Road.	5	51	6	8	65	\$408,250
FP22S12	Bruton Terrace Est. Storm Drainage Relief	Upsize drainage outfall pipes for the Bruton Terrace Est at the intersections of Riverway and Palisade and Riverway and Seaway.	5	50	8	6	64	\$575,000
TWM000084	Calm Meadow Drainage Rehabilitation	Design & Construction - Uncontrolled drainage of private pond due to slipped joints in existing public drainage system. Remove & replace existing public system in private pond.	12	45	4	2	51	\$310,500
FP20S02	10044 Elf St	Design & const. Alley unable to drain properly due to clogged unlet with unknown outfall.	5	36	6	4	46	\$143,750

Note: Citywide projects not included.



Flood & Storm Projects - CD Breakdown



CD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Estimate (\$M) *	0.6	4.1	0	0	10.3	0	7.8	12.0	2.5	0	2.6	0.3	0	10.7
# of Projects	1	1	0	0	11	0	1	3	2	0	3	1	0	1

* Citywide projects not included. Estimate provided in millions (rounded up).





Recommended Erosion Control Projects



Erosion Control Category



Provides armoring and erosion control for public and private* property along natural creeks, including protection for streets, bridges, alleys and homes.

Technical Ranking Criteria

Ratio of Distance to structure/depth of erosion

Rate of creek bank loss

Ratio of cost to number of structures protected ← Cost Benefit

Type of threat:

1: Homes, garages, streets, alleys, bridges

2: Pools and other permanent structures

3: Fences, yards, privately owned retaining walls

*1985 City Council Ordinance authorized City to provide erosion protection on private property, subject to willing property owners/easements/etc.



Erosion Control Projects



Project ID	Project Name	Project Description	Public/ Private	Council District	Technical Score	Equity Score	Overlay Score	Total Score	Estimate
FP23E09	Kiest Valley Parkway @ Kiest Knoll Outfall Protection	Five Mile Creek - Public - culvert headwall threatened, 1' from bank 16' deep, approx. 60 LF of erosion protection.	Public	3	65	10	6	81	\$264,500
FP23E02	Hillcrest Rd 13059	White Rock Creek - Address erosion threatening upstream/downstream & under bridge. Approx. 220 LF of erosion protection.	Public	11	72	4	4	80	\$885,500
PB175163	Ravinia S. 3338	Five Mile Creek - Private - house threatened, erosion around end of mortared stone headwall at culvert outfall, 20' from house, 4' deep, about 125 LF gabion wall	Private	3	68	10	2	80	\$503,125
FP22E13	11th E 1615	Cedar Creek - Private - one commercial structure threatened, 2' from bank 22' deep, approx. 110 LF of erosion protection.	Private	4	65	8	6	79	\$442,750
FP21E13	N Central Expy SB 13339	Cottonwood Creek - Private - Commercial structure threatened, 9' from bank 23' deep, approx. 107 LF of erosion protection	Private	11	64	10	4	78	\$430,675
FP23E04	Preston Creek 6144	White Rock Creek Tributary 6 - Private - home threatened, 11' from bank 24' deep. Approx. 125 LF of erosion protection	Private	11	64	8	6	78	\$502,550
FP22E16	Coombs Creek Dr 637	Unnamed Trib. to Coombs Creek - Private, one home threatened, 11' from bank 15' deep, approximately 65 LF of erosion protection	Private	1	64	8	6	78	\$261,625
TWM000105	Outfall at Compton 1203/1205	Cedar Creek - Public/Private - Design and construction of outfall & flume replacement that is currently bridging a portion of Creek. 18' from bank, 26' deep, approx. 120 LF of erosion protection	Public & Private	4	60	8	8	76	\$483,000
FP20E09	Esperanza 14000 (Buildings 2,6,7)	Hunt Branch - Private - Type 1, three apartment buildings, approx. 7' from bank and 16' deep. Approx. 105 LF of gabion wall	Private	11	60	10	2	72	\$422,625
FP22E11	Hampton N 635	Unnamed Trib. to Coombs Creek - Private - one home threatened, 11' from bank 7' deep, approximately 60 LF of erosion protection	Private	1	56	10	6	72	\$241,500



Erosion Control Projects



Project ID	Project Name	Project Description	Public/ Private	Council District	Technical Score	Equity Score	Overlay Score	Total Score	Estimate
FP23E05	Kiest Valley Parkway 3742	Five Mile Creek - Public- roadway threatened, 13' from bank 18' deep. Approx. 100 LF of erosion protection	Public	3	56	10	6	72	\$402,500
FP20E15	Woody Branch Erosion Control - Glen Oaks Blvd & Hunters View Group 6	Woody Branch – Private. Design of erosion control measures to protect the homes of Glen Oaks Blvd and Hunter View Ln.	Private	4	59	8	4	71	\$1,292,025
FP20E04	El Cerrito 2490 & Hunnicut 8181	Stream 5B5 - Private - one home & existing retaining wall threatened. El Cerrito on bank and 9' deep. Hunnicut 7' from bank and 8' deep. Approx. 200 LF of gabion wall	Private	7	59	8	4	71	\$805,000
FP21E02	Audelia Rd 11655 (Building 8 to 10)	Jackson Branch - three structures threatened. Approximately 370 LF of gabion wall. - Design & Construction	Private	10	58	8	4	70	\$1,489,250
PB4844	Claremont 8017, 8023, and 8030	Stream 5B5 - Private – 8017:house, 5', 8', 140 LF; 8023: fence/yard threatened 12', 5', 75 LF; 8030: detached garage 12', 10', 60 LF	Private	7	55	8	4	67	\$543,375
TWM000107	Sheldon Ave 3303 (Fire Station 26)	Unnamed Tributary to Coombs Creek - Public- 1 structure threatened, approx. 4' from bank 14' deep. Approx. 200 LF of gabion wall.	Public	1	53	8	6	67	\$805,000
FP19E8	Clubhouse Circle 6511	Unnamed Trib to White Rock Creek - Private - pool threatened, 4.5' from bank, 14' deep, approx. 95' of gabion wall	Private	11	53	8	6	67	\$382,375
FP22E18	Jefferson W 2909	Coombs Creek - Private - one home threatened, approx. 8' from bank 14' deep, approx. 70 LF of erosion protection	Private	1	52	8	6	66	\$281,750
FP21E14	Nutwood Cir. 6402	McKamy Branch - Private - Type 1, one home threatened. Approx. 50 LF of erosion control	Private	12	64	2	0	66	\$201,250
FP21E19	Cliffdale 120	Coombs Creek - Private - one home threatened, approx. 15' from bank and 14' deep, approx. 85 LF of erosion protection	Private	1	52	8	6	66	\$342,125



Erosion Control Projects



Project ID	Project Name	Project Description	Public/ Private	Council District	Technica I Score	Equity Score	Overlay Score	Total Score	Estimate
FP21E15	Barnett S 110	Coombs Creek - Private - one home threatened, approx. 55LF of erosion protection	Private	1	52	8	6	66	\$221,375
TWM000072	Creekwood Dr - St. Francis to Dead End	Ash Creek - Public/Private - 9 homes and 1 bridge apron threatened, 930 LF of gabion wall 25' deep. Includes bridge apron repairs	Public & Private	2	56	8	2	66	\$3,743,250
FP22E04	Boulder 4207 4112, Shady Hollow 3516, Shady Hollow Circle 3368 3372	Crow Creek - Private - 5 homes threatened. Approx. 614 LF of erosion protection.	Private	3	53	10	2	65	\$2,471,350
FP22E15	Riverway Dr 1720	Prairie Creek - Private - one home threatened, 10' from bank 14' deep, approx. 75 LF of erosion protection.	Private	5	55	6	4	65	\$301,875
FP21E17	Cliffwood 6702	Woody & Brooklawn Branch - Private - detached garage threatened, 6' from bank 12' deep. Approx. 68 LF of erosion protection.	Private	3	56	8	0	64	\$273,700
PB175068	Avenue Q 7512 and 7506	Stream 5B5 - Private - 2 houses threatened - recommend voluntary purchase of both - cost of wall exceeds property values - 25' from creek bank, would require 150 LF of 15' gabion wall	Private	7	52	10	2	64	\$603,750
FP23E03	Caracas Dr 5828	Red Bird Branch - Private - detached garage threatened, 30' from bank 19' deep. Approx. 40 LF of erosion protection	Private	3	52	8	4	64	\$161,000
PB175139	Elmwood 2227	Elmwood Branch - Private - house threatened, 20' from bank, 75 LF of 8' gabion wall	Private	1	47	10	6	63	\$301,875
FP20E11	Woody Branch - Glen Oaks Blvd & Hunters View Group 2	Woody Branch - Private, Design of erosion control measures to protect the homes of Glen Oaks Blvd and Hunter View Ln.	Private	4	48	10	4	62	\$776,825
PB172773	Glencairn 460	Herring Branch - Private - 70 LF gabion wall, 15' height, house threatened, difficult access	Private	8	48	10	4	62	\$281,750



Erosion Control Projects



Project ID	Project Name	Project Description	Public/ Private	Council District	Technica I Score	Equity Score	Overlay Score	Total Score	Estimate
FP22E08	Richardson Branch Trail 8505	Richardson Branch - Public - roadway threatened, 15' from bank 14' deep, approx. 285lf of erosion protection	Public	10	56	4	2	62	\$1,147,125
TWM000003	Cedarhurst 3411, 3421	Five Mile Creek - Private - two homes threatened, 39' from bank, creek is 22' deep, approx. 190 LF of gabion - design and construction	Private	3	48	10	4	62	\$764,750
PB175132	Ravinia S. 326 and 406	Coombs Creek - Private - two houses threatened, 35' from bank, 120 LF 18' gabion wall	Private	1	47	8	6	61	\$483,000
PB175136	Cripple Creek 3744, 3750, 3758	Red Bud Branch - Private - three houses threatened, 30' from bank, 300 LF of 15' gabion wall	Private	4	47	8	6	61	\$1,207,500
PB175133	Edgemont 1631	Little Cedar Creek - Private - house threatened, 30' from bank, 75LF of 15' gabion wall	Private	4	47	8	6	61	\$301,875
PB175134	Lockridge Circle 3216, 3222, 3226	Five Mile Creek - Private - three houses threatened, 20' from bank, 250 LF of 10' gabion wall	Private	3	47	10	4	61	\$1,006,250
PB174648	Stevens Wood Court 914	Coombs Creek - Private - Slight threat to home; 80 LF gabion wall, 10' height	Private	1	45	10	6	61	\$322,000
FP23E06	W Red Bird Ln 1117 & 1207, Boca Chica 1104, Matagorda 1409	Red Bird Branch - Public/Private - Roadway and 3 homes threatened. 5-24' from bank, 14-17' deep. Approx. 435 LF of erosion protection	Public & Private	3	49	8	4	61	\$1,750,875
FP23E06	Hillbrook St 3503	McCommas Branch - Private - erosion from detention pond being overtopped, Approx. 100LF of erosion protection.	Private	11	49	8	4	61	\$402,500
PB4850	Sunland 11835	Lippitt Branch - Private - Home threatened, 80 LF of 10' gabion wall	Private	9	47	8	6	61	\$322,000

Note: Please refer to the appendix for a complete listing



Erosion Control Projects - CD Breakdown



CD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Estimate (\$M) *	4.0	3.7	8.3	7.0	1.1	0	5.8	0.5	1.1	3.9	3.0	0.4	0	0
# of Projects	10	1	11	9	2	0	5	2	3	5	6	2	0	0

* Estimate provided in millions (rounded up).





Summary & Wrap-up



Recommended Projects - \$200M



Erosion Control - \$38.8M

Projects will prevent current and future erosion at 56 locations throughout the City.



Storm Drainage Relief - \$91.7M

Projects will include upgrading & replacing existing storm drainage lines and installing new lines at 11 locations throughout the City.



Flood Management - \$69.5M

Projects to prevent flooding and relieve properties that suffer repetitive flood loss at 19 locations throughout the City.



Proposition Summary- CD Breakdown



CD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
<u>Total Scalable Proposition</u> Flood Management – \$69.5M Storm Drainage Relief - \$91.7M Erosion Control - \$38.8M														
Estimate (\$M) *	10.4	36.4	8.3	12.8	11.5	23.2	13.8	12.5	3.7	4.0	5.7	0.8	17.6	39.3
# of Projects	12	8	11	10	14	3	8	5	6	6	10	4	3	3

* Estimate provided in millions (rounded up). Citywide projects included in CD they fall within.



Wrap-up



- Flood Protection and Storm Drainage are **core infrastructure** needs that **protect property, save lives** and impact quality of life.
- Flood Protection, Drainage Relief, and Erosion Control **needs are significant** at \$2.6B (15-20% of City needs)
- Recommendations include:
 - Impactful Citywide projects
 - Stress importance/risk of flood protection
 - Continue to provide erosion control
 - Consider amount of district needs and provide balance/equity
 - Capitalize on previous investments (Mill Creek Tunnel)
- Recommendations broken into Citywide projects (big needs) and district needs to **allow for scaling** to fit proposition allocation.





Questions?



2024 Bond Flood Protection & Storm Drainage Subcommittee



City of Dallas

Recommendations to Citizen Bond Task Force

Anita Childress, Chair
Matt Penk, P.E., Assistant Director
Sarah Standifer, Director (I)

September 19, 2023



Appendix – Complete Project Lists



Flood Management Projects (Complete)



Project ID	Project Name	Project Description	Council District	Technical Score	Equity Score	Overlay Score	Total Score	Estimate
FP22F03	Pruitt Branch - Channel & RR Culvert	Resolve flooding along Glenview, Bridges, Redkey and Birch through improvements of RR crossing and concrete channel. Design only.	5	80	6	8	94	\$1,090,775
FP23F02	Reinhart Branch Flood Management Study Update	Floodplain Management study of Reinhart Branch to determine potential capital projects to address flooding, drainage, and erosion.	9	80	8	6	94	\$230,000
FP23F01	Coombs Creek Flood Management Study Update	Update of 1983 Study & 2021 Kidd Springs Tunnel TM. Update H&H if needed. Identify new projects, including holistic streambank stabilization for Coombs Creek and Kidd Springs.	1	61	10	8	79	\$552,000
FP22F04	13033 & 13032 Copenhill Rd Culvert Improvements	Replace culvert crossing to prevent overtopping of roadway. Possible channel improvements along 13033 and 13032 Copenhill Rd.	11	60	8	6	74	\$224,250
PB1912	Estes Branch Bridge @ Bluffcreek	Install bridge, channel improvement. Analysis, design and construction	7	60	8	6	74	\$7,831,500
PB2557	Knights Branch @ Denton Dr.	Add culvert, raise road, analysis, design and construction	2	62	8	4	74	\$4,105,500
PB3205	Prairie Creek Bridge Improvement @ Fireside	Install bridge, analysis, design and construction	8	61	8	4	73	\$11,425,250
PB3728	Turtle Creek @ Blackburn	Raise road, replace ex. dam upstream with a 7' collapsible dam, 2 HOMES FLOOD, analysis, design and construction	14	60	4	4	68	\$10,695,000
PB174266	Hickory Creek Floodplain Management Study	Comprehensive floodplain management study with updated flood mapping and recommendations for improvements	8	60	6	2	68	\$253,000
FP22F02	Pruitt Branch @ C F Hawn	Analysis & Design. Construction by future project based on agreement with TxDOT. Upsize culvert crossing of US 175 to prevent overtopping.	5,8	46	6	6	58	\$575,000
FP23F03	Military Parkway @ Urbandale Park	Upgrade culvert crossing at Military Parkway and Urbandale Park. Approx. 3.8' depth of overtopping during 100-year.	5	42	8	6	56	\$575,000



Flood Management Projects (Continued)



Project ID	Project Name	Project Description	Council District	Technical Score	Equity Score	Overlay Score	Total Score	Estimate
PB2615	Lake June Branch Culvert @ Glencliff	Add culvert, raise road. Analysis, design and construction	5	33	6	8	47	\$1,495,000
PB1868	Elam Creek Culvert @ Rosemont	Add culvert, Analysis, design and construction	5	28	8	6	42	\$1,035,000
PB3206	Prairie Creek Bridge Improvement @ Military Pkwy	Install bridge, design and construction	5	28	8	2	38	\$4,136,550
PB3702	Prairie Creek Trib 271 + 36 Culvert @ Haverhill	Add culvert and headwall. Design and construction	5	22	6	6	34	\$132,250
PB3703	Prairie Creek Trib 313 + 59 Culvert @ Glencliff	Add culvert, raise road. Analysis, design and construction	5	22	6	6	34	\$465,750



Storm Drainage Relief Projects (Complete)



Project ID	Project Name	Project Description	Council District	Technical Score	Equity Score	Overlay Score	Total Score	Estimate
PB174376	Spring Grove 13300 Block	Upgrade drainage system in the area of 13330 Spring Grove Ave to provide flooding relief during the 100-year. Refer to the 2021 Report.	11	68	8	8	84	\$1,725,000
FP22S11	Sanford Ave Relief System (Little Forest Hill) Phase 2	Continuation of the Sanford Ave Relief System project. 100-year drainage improvements from Sanford Ave @ Daytonia to Tavaros @ Forest Hills Blvd.	9	68	8	2	78	\$2,300,000
FP23S01	6750 Willow Storm Drainage Relief	Storm Drainage relief at 6750 Willow lane. Existing drainage ditch replaced with curbed sidewalk that doesn't have enough capacity to contain runoff. Reestablish capacity and upsize portion of drainage system. Current system approx. 10-year	11	70	4	0	74	\$632,500
TWM000104	Hymie Circle 10105-10109	Design & Const. - No system on improved street. Current street and gutters no longer have adequate slopes to convey runoff. Add system at the cul-de-sac of Hymie Circle to Masters Road.	5	51	6	8	65	\$408,250
FP22S12	Bruton Terrace Est. Storm Drainage Relief	Upsize drainage outfall pipes for the Bruton Terrace Est at the intersections of Riverway and Palisade and Riverway and Seaway.	5	50	8	6	64	\$661,250
TWM000084	Calm Meadow Drainage Rehabilitation	Design & Construction - Uncontrolled drainage of private pond due to slipped joints in existing public drainage system. Remove & replace existing public system in private pond.	12	45	4	2	51	\$322,000
FP20S02	10044 Elf St	Design & const. Alley unable to drain properly due to clogged unlet with unknown outfall.	5	36	6	4	46	\$143,750

Note: Citywide projects not included.



Erosion Control Projects (Complete)



Project ID	Project Name	Project Description	Public/ Private	Council District	Technical Score	Equity Score	Overlay Score	Total Score	Estimate
FP23E09	Kiest Valley Parkway @ Kiest Knoll Outfall Protection	Five Mile Creek - Public - culvert headwall threatened, 1' from bank 16' deep, approx. 60 LF of erosion protection.	Public	3	65	10	6	81	\$264,500
FP23E02	Hillcrest Rd 13059	White Rock Creek - Address erosion threatening upstream/downstream & under bridge. Approx. 220 LF of erosion protection.	Public	11	72	4	4	80	\$885,500
PB175163	Ravinia S. 3338	Five Mile Creek - Private - house threatened, erosion around end of mortared stone headwall at culvert outfall, 20' from house, 4' deep, about 125 LF gabion wall	Private	3	68	10	2	80	\$503,125
FP22E13	11th E 1615	Cedar Creek - Private - one commercial structure threatened, 2' from bank 22' deep, approx. 110 LF of erosion protection.	Private	4	65	8	6	79	\$442,750
FP21E13	N Central Expy SB 13339	Cottonwood Creek - Private - Commercial structure threatened, 9' from bank 23' deep, approx. 107 LF of erosion protection	Private	11	64	10	4	78	\$430,675
FP23E04	Preston Creek 6144	White Rock Creek Tributary 6 - Private - home threatened, 11' from bank 24' deep. Approx. 125 LF of erosion protection	Private	11	64	8	6	78	\$502,550
FP22E16	Coombs Creek Dr 637	Unnamed Trib. to Coombs Creek - Private, one home threatened, 11' from bank 15' deep, approximately 65 LF of erosion protection	Private	1	64	8	6	78	\$261,625
TWM000105	Outfall at Compton 1203/1205	Cedar Creek - Public/Private - Design and construction of outfall & flume replacement that is currently bridging a portion of Creek. 18' from bank, 26' deep, approx. 120 LF of erosion protection	Public & Private	4	60	8	8	76	\$483,000
FP20E09	Esperanza 14000 (Buildings 2,6,7)	Hunt Branch - Private - Type 1, three apartment buildings, approx. 7' from bank and 16' deep. Approx. 105 LF of gabion wall	Private	11	60	10	2	72	\$422,625
FP22E11	Hampton N 635	Unnamed Trib. to Coombs Creek - Private - one home threatened, 11' from bank 7' deep, approximately 60 LF of erosion protection	Private	1	56	10	6	72	\$241,500



Erosion Control Projects (Continued)



Project ID	Project Name	Project Description	Public/ Private	Council District	Technical Score	Equity Score	Overlay Score	Total Score	Estimate
FP23E05	Kiest Valley Parkway 3742	Five Mile Creek - Public- roadway threatened, 13' from bank 18' deep. Approx. 100 LF of erosion protection	Public	3	56	10	6	72	\$402,500
FP20E15	Woody Branch Erosion Control - Glen Oaks Blvd & Hunters View Group 6	Woody Branch – Private. Design of erosion control measures to protect the homes of Glen Oaks Blvd and Hunter View Ln.	Private	4	59	8	4	71	\$1,292,025
FP20E04	El Cerrito 2490 & Hunnicut 8181	Stream 5B5 - Private - one home & existing retaining wall threatened. El Cerrito on bank and 9' deep. Hunnicut 7' from bank and 8' deep. Approx. 200 LF of gabion wall	Private	7	59	8	4	71	\$805,000
FP21E02	Audelia Rd 11655 (Building 8 to 10)	Jackson Branch - three structures threatened. Approximately 370 LF of gabion wall. - Design & Construction	Private	10	58	8	4	70	\$1,489,250
PB4844	Claremont 8017, 8023, and 8030	Stream 5B5 - Private – 8017:house, 5', 8', 140 LF; 8023: fence/yard threatened 12', 5', 75 LF; 8030: detached garage 12', 10', 60 LF	Private	7	55	8	4	67	\$543,375
TWM000107	Sheldon Ave 3303 (Fire Station 26)	Unnamed Tributary to Coombs Creek - Public- 1 structure threatened, approx. 4' from bank 14' deep. Approx. 200 LF of gabion wall.	Public	1	53	8	6	67	\$805,000
FP19E8	Clubhouse Circle 6511	Unnamed Trib to White Rock Creek - Private - pool threatened, 4.5' from bank, 14' deep, approx. 95' of gabion wall	Private	11	53	8	6	67	\$382,375
FP22E18	Jefferson W 2909	Coombs Creek - Private - one home threatened, approx. 8' from bank 14' deep, approx. 70 LF of erosion protection	Private	1	52	8	6	66	\$281,750
FP21E14	Nutwood Cir. 6402	McKamy Branch - Private - Type 1, one home threatened. Approx. 50 LF of erosion control	Private	12	64	2	0	66	\$201,250
FP21E19	Cliffdale 120	Coombs Creek - Private - one home threatened, approx. 15' from bank and 14' deep, approx. 85 LF of erosion protection	Private	1	52	8	6	66	\$342,125



Erosion Control Projects (Continued)



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FP21E15	Barnett S 110	Coombs Creek - Private - one home threatened, approx. 55LF of erosion protection	Private	1	52	8	6	66	\$221,375
TWM000072	Creekwood Dr - St. Francis to Dead End	Ash Creek - Public/Private - 9 homes and 1 bridge apron threatened, 930 LF of gabion wall 25' deep. Includes bridge apron repairs	Public & Private	2	56	8	2	66	\$3,743,250
FP22E04	Boulder 4207 4112, Shady Hollow 3516, Shady Hollow Circle 3368 3372	Crow Creek - Private - 5 homes threatened. Approx. 614 LF of erosion protection.	Private	3	53	10	2	65	\$2,471,350
FP22E15	Riverway Dr 1720	Prairie Creek - Private - one home threatened, 10' from bank 14' deep, approx. 75 LF of erosion protection.	Private	5	55	6	4	65	\$301,875
FP21E17	Cliffwood 6702	Woody & Brooklawn Branch - Private - detached garage threatened, 6' from bank 12' deep. Approx. 68 LF of erosion protection.	Private	3	56	8	0	64	\$273,700
PB175068	Avenue Q 7512 and 7506	Stream 5B5 - Private - 2 houses threatened - recommend voluntary purchase of both - cost of wall exceeds property values - 25' from creek bank, would require 150 LF of 15' gabion wall	Private	7	52	10	2	64	\$603,750
FP23E03	Caracas Dr 5828	Red Bird Branch - Private - detached garage threatened, 30' from bank 19' deep. Approx. 40 LF of erosion protection	Private	3	52	8	4	64	\$161,000
PB175139	Elmwood 2227	Elmwood Branch - Private - house threatened, 20' from bank, 75 LF of 8' gabion wall	Private	1	47	10	6	63	\$301,875
FP20E11	Woody Branch - Glen Oaks Blvd & Hunters View Group 2	Woody Branch - Private, Design of erosion control measures to protect the homes of Glen Oaks Blvd and Hunter View Ln.	Private	4	48	10	4	62	\$776,825
PB172773	Glencairn 460	Herring Branch - Private - 70 LF gabion wall, 15' height, house threatened, difficult access	Private	8	48	10	4	62	\$281,750



Erosion Control Projects (Continued)



Project ID	Project Name	Project Description	Public/ Private	Council District	Technica I Score	Equity Score	Overlay Score	Total Score	Estimate
FP22E08	Richardson Branch Trail 8505	Richardson Branch - Public - roadway threatened, 15' from bank 14' deep, approx. 285lf of erosion protection	Public	10	56	4	2	62	\$1,147,125
TWM000003	Cedarhurst 3411, 3421	Five Mile Creek - Private - two homes threatened, 39' from bank, creek is 22' deep, approx. 190 LF of gabion - design and construction	Private	3	48	10	4	62	\$764,750
PB175132	Ravinia S. 326 and 406	Coombs Creek - Private - two houses threatened, 35' from bank, 120 LF 18' gabion wall	Private	1	47	8	6	61	\$483,000
PB175136	Cripple Creek 3744, 3750, 3758	Red Bud Branch - Private - three houses threatened, 30' from bank, 300 LF of 15' gabion wall	Private	4	47	8	6	61	\$1,207,500
PB175133	Edgemont 1631	Little Cedar Creek - Private - house threatened, 30' from bank, 75LF of 15' gabion wall	Private	4	47	8	6	61	\$301,875
PB175134	Lockridge Circle 3216, 3222, 3226	Five Mile Creek - Private - three houses threatened, 20' from bank, 250 LF of 10' gabion wall	Private	3	47	10	4	61	\$1,006,250
PB174648	Stevens Wood Court 914	Coombs Creek - Private - Slight threat to home; 80 LF gabion wall, 10' height	Private	1	45	10	6	61	\$322,000
FP23E06	W Red Bird Ln 1117 & 1207, Boca Chica 1104, Matagorda 1409	Red Bird Branch - Public/Private - Roadway and 3 homes threatened. 5-24' from bank, 14-17' deep. Approx. 435 LF of erosion protection	Public & Private	3	49	8	4	61	\$1,750,875
FP23E06	Hillbrook St 3503	McCommas Branch - Private - erosion from detention pond being overtopped, Approx. 100LF of erosion protection.	Private	11	49	8	4	61	\$402,500
PB4850	Sunland 11835	Lippitt Branch - Private - Home threatened, 80 LF of 10' gabion wall	Private	9	47	8	6	61	\$322,000



Erosion Control Projects (Continued)



Project ID	Project Name	Project Description	Public/ Private	Council District	Technical Score	Equity Score	Overlay Score	Total Score	Estimate
PB174630	Danube 1715	Little Cedar Creek - Private - Remote threat to home; 60 LF gabion wall, 12' height	Private	4	46	8	6	60	\$241,500
PB3912	Wixom Lane 835	Prairie Creek Branch - Private - 1 home threatened - Approx. 50 LF.	Private	8	52	6	2	60	\$201,250
PB175072	Ferguson Rd. 11511	Long Branch of Duck Creek - Private - condominium unit threatened, 20' from creek bank, 125 LF of 15' gabion wall	Private	9	48	8	4	60	\$503,125
PB175173	Seaton 3321	Honey Springs Branch - Private - Design and construct about 90 LF of 12-foot-tall gabion retaining wall	Private	4	48	8	4	60	\$362,250
FP22E17	Kiest Forest 3234	Hardin Creek - Private - one home threatened, 31' for bank 16' deep, approx. 120 LF of erosion protection	Private	3	48	10	2	60	\$483,000
TWM000063	Stevens Wood Court 902, 906	Unnamed Trib to Coombs - Private - 2 homes slightly threatened, 175' of gabion wall 7' tall	Private	1	44	10	6	60	\$704,375
PB175078	Guadalupe 3033	Five Mile Creek - Private - slight threat to townhouse, erosion over gas pipeline, possibly short gabion wall - nearest home 30' from erosion, requires 50 LF of 16' gabion wall on creek bank, or combination flowable fill and lower wall near pipe	Private	3	47	10	2	59	\$201,250
PB1603	Coppertowne 8439	Jackson Branch - Private - 2 condos, erosion 35 feet from structure - gabion mattress 100'X15'X2', repair headwall	Private	10	47	8	4	59	\$402,500
FP19E5	Driftway Drive 2415 & 2421	Stream 5B5 - Private - 2 homes threatened, ~17-20' from structure, ~16-17' deep, approximately 252 LF of erosion protection	Private	7	46	8	4	58	\$1,014,300
PB175065	Mediterranean Circle 8567	Dixon Branch - Private - house threatened, 40' from creek bank, 110 LF of 20' gabion wall	Private	10	47	8	2	57	\$442,750



Erosion Control Projects (Continued)



Project ID	Project Name	Project Description	Public/ Private	Council District	Technica I Score	Equity Score	Overlay Score	Total Score	Estimate
FP20E07	Forston Ave 18503	McKamy Branch - Private - one home threatened, approx. 6' from bank and 9' deep. Approx. 45 LF of gabion wall	Private	12	53	4	0	57	\$181,125
PB16589	Poplar Springs Lane	Estes Branch - Private - Design and construction of ~700 LF gabion mattress at 3:1 slope w/conc. toe wall to protect 12 homes adjacent to filled-in channel - 3300 and 3400 block	Private	7	44	8	4	56	\$2,817,500
TWM000109	Creekspan Drive 12209	Audelia Branch - Private - 1 home, approx. 30' from bank 20' deep. Approx. 100 LF of gabion wall	Private	10	44	8	4	56	\$402,500
FP20E14	Woody Branch Erosion Control - Glen Oaks Blvd & Hunters View Group 5	Woody Branch - Private, Design of erosion control measures to protect the homes of Glen Oaks Blvd and Hunter View Ln.	Private	4	44	8	4	56	\$1,919,925
TWM000021	Lullwater Drive 8223, 8235	Park Branch - Private - duplex properties threatened, 25' from bank, creek is 16' deep, 75 LF of gabion - design and construction	Private	9	52	2	2	56	\$301,875
TWM000106	Great Trinity Forest Way 7767	Unnamed Tributary to Elam Creek - Private - 1 structure threatened, approx. 26' from bank 25' deep. Approx. 187 LF of gabion wall.	Private	5	37	8	6	51	\$752,675





Appendix – CD Highlight Sheets



Council District 1



COUNCIL DISTRICT 1: FLOOD PROTECTION & STORM DRAINAGE

Below is a preliminary list of projects in Council District 1 considered for the 2024 Bond Program. The selected projects are subject to change, will fluctuate as the amount allocated for Flood Protection & Storm Drainage changes, and will ultimately require City Council approval and voter approval in a bond election.



Existing Erosion



Storm Drainage



Storm Drainage



Flood Management

<p>637 Coombs Creek Drive: \$261,625.00 Unnamed Tributary to Coombs Creek - Private - Type 1, one home threatened, 11 feet from bank and 15 feet deep, approximately 65 feet of erosion protection.</p>	<p>2909 W. Jefferson Boulevard: \$281,750.00 Coombs Creek – Private – Type 1, one home threatened, approximately 8 feet from bank and 14 feet deep, approximately 70 feet of erosion protection.</p>	<p>2227 Elmwood Boulevard: \$301,875.00 Elmwood Branch - Private - Type I, house threatened, 20 feet from bank, 75 feet of 8 feet high gabion wall for erosion protection.</p>	<p>Coombs Creek Flood Management Study Update: \$552,000.00 Update of 1983 Coombs Creek study & 2021 Kidd Springs Tunnel evaluation. Update Hydrologic and Hydraulic (H&H) if needed. Identify new projects, including holistic streambank stabilization and protection, for Coombs Creek and Kidd Springs.</p>
<p>635 N. Hampton Road: \$241,500.00 Unnamed Tributary to Coombs Creek - Private - Type 1, one home threatened, 11 feet from bank and 7 feet deep, approximately 60 feet of erosion protection.</p>	<p>120 Cliffdale Avenue: \$342,125.00 Coombs Creek - Private - Type 1, one home threatened, approx. 15 feet from bank and 14 feet deep, approximately 85 feet of erosion protection.</p>	<p>326 and 406 S. Ravinia Drive: \$483,000.00 Coombs Creek - Private - Type I, two houses threatened, 35 feet from bank, 120 feet of 18 feet high gabion wall for erosion protection.</p>	<p>Trinity River Channel Project (Citywide): \$5,750,000.00 Channel dredging, bank stabilization, tree removal, and other activities to meet regulatory requirements for ongoing PL 84-99 compliance to maintain the river channel to carry 300 cubic feet per second (cfs) during low flow and maximum 13,000 cfs.</p>
<p>3303 Sheldon Avenue (Fire Station 26): \$805,000.00 Unnamed Tributary to Coombs Creek - Public - Type 1, 1 structure threatened, approximately 4 feet from bank and 14 feet deep. Approximately 200 feet of gabion wall for erosion protection.</p>	<p>110 S. Barnett Avenue: \$221,375.00 Coombs Creek - Private - Type 1, one home threatened, approximately 55 feet of erosion protection.</p>	<p>914 Stevens Wood Court: \$322,000.00 Coombs Creek - Private - Slight threat to home; 80 feet gabion wall, 10 feet high for erosion protection.</p>	
		<p>902 and 906 Stevens Wood Court: \$704,375.00 Unnamed Trib to Coombs - Private - Type I, 2 homes slightly threatened, 175' of gabion wall 7' tall.</p>	

SEPTEMBER 2023



Council District 2



COUNCIL DISTRICT 2: FLOOD PROTECTION & STORM DRAINAGE

Below is a preliminary list of projects in Council District 2 considered for the 2024 Bond Program. The selected projects are subject to change, will fluctuate as the amount allocated for Flood Protection & Storm Drainage changes, and will ultimately require City Council approval and voter approval in a bond election.



Erosion Control



Storm Drainage



Flood Management



Storm Drainage

<p>Creekwood Drive - St Francis Avenue to Dead End: \$3,743,250.00 Ash Creek - Public/Private - Type 1, up to 9 homes and 1 bridge apron threatened, up to 930 feet of gabion wall, 25 feet deep for erosion protection. Includes bridge apron repairs - Design & Construction.</p> <p>East Peaks Upper/Middle Basin Relief System: \$1,533,333.33 Continuation of the MCPBST Drainage Relief Tunnel for the East Peaks Upper and Middle basins. Construction of proposed trunk line as outlined in the 2018 East Peaks Master Drainage Plan.</p>	<p>Mill Creek Drainage Relief System - Phase III: \$3,708,750.00 Engineering and construction for remainder of creek area ROW, creek restoration, upper basin relief systems, and rerouting of existing system trunk lines that are on private property or crossing mid-block - completes full relief for Mill Creek.</p> <p>Knights Branch Upper Relief System Study (Citywide): \$216,583.33 Study, Model, & Preliminary Design: Update capital drainage cost estimate & recommendations for the Knights Branch Upper Relief System projects.</p> <p>White Rock Creek Floodplain Management Study Update: \$129,375.00 Update of the 1989 FPMS, extended into entire WRC watershed, to study flood control options.</p>	<p>Knights Branch Upper Relief System Phase 2 (Citywide): \$5,738,133.33 Continuation of the Knights Branch Upper Relief System Project. Improve neighborhoods served by the Knights Branch Upper Relief System. Includes Preston Park neighborhood (Bryn Mawr).</p> <p>Trinity River Channel Project (Citywide): \$5,750,000.00 Channel dredging, bank stabilization, tree removal, and other activities to meet regulatory requirements for ongoing PL 84-99 compliance to maintain the river channel to carry 300 cubic feet per second (cfs) during low flow and maximum 13,000 cfs.</p>	<p>Knights Branch @ Denton Drive: \$4,105,500.00 Add culvert, raise road, FREQ. 2 YR. DEPTH 8.1, analysis, design and construction.</p> <p>Knights Branch Upper Relief System – Inwood Road/Mockingbird (Citywide): \$11,500,000.00 Major relief system of enclosed portion of upper Knights Branch watershed from Lowe's culvert extension (downstream of Inwood/Lemon) north on Inwood to about Wateka, using 2-12X10 box culverts, with smaller systems as necessary to provide full relief.</p>
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SEPTEMBER 2023



Council District 3



COUNCIL DISTRICT 3: FLOOD PROTECTION & STORM DRAINAGE

Below is a preliminary list of projects in Council District 3 considered for the 2024 Bond Program. The selected projects are subject to change, will fluctuate as the amount allocated for Flood Protection & Storm Drainage changes, and will ultimately require City Council approval and voter approval in a bond election.



Existing Erosion



Erosion Control



Existing Erosion



Erosion Control

<p>Kiest Valley Parkway @ Kiest Knoll Outfall Protection: \$264,500.00 Five Mile Creek - Public - Type II, culvert headwall threatened, 1' from bank 16' deep, approx. 60 LF of erosion protection.</p> <p>3338 S. Ravinia Drive: \$503,125.00 Five Mile Creek - Private - Type I, house threatened, erosion around end of mortared stone headwall at culvert outfall, 20 feet from house, 4 feet deep, about 125 feet gabion wall for erosion protection.</p> <p>3742 Kiest Valley Parkway: \$402,500.00 Five Mile Creek - Public - Type 1, roadway threatened, 13' from bank 18' deep. Approx. 100 LF of erosion protection.</p>	<p>4207, 4112 Boulder Drive, 3516 Shady Hollow, 3368, 3372 Shady Hollow Circle: \$2,471,350.00 Crow Creek - Private - Type I, 5 homes threatened. Approximately 614 feet of erosion protection.</p> <p>6702 Cliffwood Drive: \$273,700.00 Woody Branch & Brooklawn Branch - Private - Type II, detached garage threatened, 6 feet from bank 1' deep. Approx. 68 feet of erosion protection.</p> <p>5828 Caracas Drive: \$161,000.00 Red Bird Branch - Private - detached garage threaten, 30' from bank 19' deep. Approx. 40 LF of erosion protection.</p>	<p>3411, 3421 Cedarhurst Drive: \$764,750.00 Five Mile Creek - Private - Type I, two homes threatened, 39 feet from bank, creek is 22 feet deep, approximately 190 feet of gabion for erosion protection.</p> <p>3216, 3222, 3226 Lockridge Circle: \$1,006,250.00 Five Mile Creek - Private - Type I, three houses threatened, 20 feet from bank, 250 feet of 10 feet gabion wall for erosion protection.</p> <p>1117, 1207 W. Red Bird Lane, 1104 Boca Chica, 1409 Matagorda Drive: \$1,750,875.00 Red Bird Branch - Public/Private - Roadway and 3 homes threatened. 5-24 feet from bank, 14-17 feet deep. Approximately 435 feet of erosion protection.</p>	<p>3234 Kiest Forest: \$483,000.00 Hardin Creek - Private - Type 1, one home threatened, 31 feet for bank 16 feet deep, approximately 120 feet of erosion protection.</p> <p>3033 Guadalupe Avenue: \$201,250.00 Five Mile Creek - Private - Type I, slight threat to townhouse, erosion over gas pipeline, possibly short gabion wall - nearest home 30 feet from erosion, requires 50 feet of 16 feet gabion wall on creek bank, or combination flowable fill and lower wall near pipe for erosion protection.</p>
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SEPTEMBER 2023



Council District 4



COUNCIL DISTRICT 4: FLOOD PROTECTION & STORM DRAINAGE

Below is a preliminary list of projects in Council District 4 considered for the 2024 Bond Program. The selected projects are subject to change, will fluctuate as the amount allocated for Flood Protection & Storm Drainage changes, and will ultimately require City Council approval and voter approval in a bond election.



Erosion Control



Erosion Control



Erosion Control



Flood Management

<p>1615 E. 11th Street: \$442,750.00 Cedar Creek - Private - Type 1, one commercial structure threatened, 2 feet from bank 22 feet deep, approximately 110 feet of erosion protection.</p> <p>Outfall at 1203, 1205 Compton Street: \$483,000.00 Cedar Creek - Public/Private - Design and construction of outfall & flume replacement that is currently bridging a portion of Creek. 18 feet from bank, 26 feet deep, approximately 120 feet of erosion protection.</p> <p>1715 Danube Drive: \$241,500.00 Little Cedar Creek - Private - Remote threat to home; 60 feet gabion wall, 12 feet height for erosion protection.</p>	<p>Woody Branch Erosion Control - Glen Oaks Boulevard & Hunters View Group 6: \$1,292,025.00 Woody Branch - Private, Type I/II. Design of erosion control measures to protect the homes of Glen Oaks Boulevard and Hunters View Lane.</p> <p>Woody Branch Erosion Control - Glen Oaks Boulevard & Hunters View Group 2: \$776,825.00 Woody Branch - Private, Type I/II. Design of erosion control measures to protect the homes of Glen Oaks Blvd and Hunters View Lane.</p>	<p>3744, 3750, 3758 Cripple Creek Drive: \$1,207,500.00 Red Bud Branch - Private - Type I, three houses threatened, 30 feet from bank, 300 feet of 15 feet gabion wall for erosion protection.</p> <p>1631 Edgemont Avenue: \$301,875.00 Little Cedar Creek - Private - Type I, house threatened, 30 feet from bank, 75 feet of 15 feet gabion wall for erosion protection.</p> <p>3321 Seaton Drive: \$362,250.00 Honey Springs Branch - Private - Design and construct about 90 feet of 12-foot-tall gabion retaining wall for erosion protection.</p>	<p>Woody Branch Erosion Control - Glen Oaks Blvd & Hunters View Group 4: \$1,919,925.00 Woody Branch - Private, Type I/II. Design of erosion control measures to protect the homes of Glen Oaks Blvd and Hunters View Lane.</p> <p>Trinity River Channel Project: \$5,750,000.00 (Citywide) Channel dredging, bank stabilization, tree removal, and other activities to meet regulatory requirements for ongoing PL 84-99 compliance to maintain the river channel to carry 300 cubic feet per second (cfs) during low flow and maximum 13,000 cfs.</p>
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SEPTEMBER 2023



Council District 5



COUNCIL DISTRICT 5: FLOOD PROTECTION & STORM DRAINAGE

Below is a preliminary list of projects in Council District 5 considered for the 2024 Bond Program. The selected projects are subject to change, will fluctuate as the amount allocated for Flood Protection & Storm Drainage changes, and will ultimately require City Council approval and voter approval in a bond election.



Erosion Control



Erosion Control



Flood Management



Storm Drainage

<p>1720 Riverway Drive: \$301,875.00 Prairie Creek - Private - Type 1, one home threatened, 10 feet from bank 14 feet deep, approximately 75 feet of erosion protection.</p> <p>7767 Great Trinity Forest Way: \$752,675.00 Unnamed Tributary to Elam Creek - Private - Type 1, 1 structure threatened, approx. 26' from bank 25' deep. Approx. 187 LF of gabion wall.</p> <p>Pruitt Branch - Channel & RR Culvert (Analysis & Design): \$1,090,775.00 Analysis, Design, & Construction. Resolved identified flooding area along Glenview, Bridges, Redkey and Birch through improvements of a railroad crossing and concrete channel.</p> <p>Elam Creek Culvert @ Rosemont Rd: \$1,035,000.00 Add culvert, Analysis, design and construction.</p>	<p>White Rock Creek Floodplain Management Study Update: \$129,375.00 Update of the 1989 FPMS, extended into entire WRC watershed, to study flood control options.</p> <p>10105-10109 Hymie Circle: \$408,250.00 Design & Const. - No system on improved street. Current street and gutters no longer have adequate slopes to convey runoff. Add system at the cul-de-sac of Hymie Circle to Masters Road.</p> <p>Bruton Terrace Est. Storm Drainage Relief: \$575,000.00 Upsize drainage outfall pipes for the Bruton Terrace Est at the intersections of Riverway and Palisade and Riverway and Seaway.</p>	<p>Pruitt Branch @ C F Hawn: \$287,500.00 Analysis & Design. Construction will be a future project contingent on agreement/cooperation with TxDOT. Upsize culvert crossing of C F Hawn US 175 to prevent overtopping as shown by CTP FY19.</p> <p>Military Parkway @ Urbandale Park: \$575,000.00 Upgrade culvert crossing at Military Parkway and Urbandale Park. Approx. 3.8' depth of overtopping and 0.55 fps from Stream 5B1 regulatory model during 100-year.</p> <p>Lake June Branch Culvert @ Glenclyff: \$1,495,000.00 Add culvert, raise road, FREQ. 50 YR., DEPTH 1.1, Analysis, design, and construction.</p>	<p>10044 Elf Street: \$143,750.00 Design & const. Alley unable to drain properly due to clogged inlet with unknown outfall.</p> <p>Prairie Creek Bridge Improvement @ Military Pkwy: \$4,136,550.00 Install bridge, FREQ. 100 YR., DEPTH 1.1', design and construction.</p> <p>Prairie Creek Trib 271 + 36 Culvert @ Haverhill: \$132,250.00 Add culvert and headwall, FREQ. 100 YR., DEPTH .3, design and construction.</p> <p>Prairie Creek Trib 313 + 59 Culvert @ Glenclyff: \$465,750.00 Add culvert, raise road, FREQ. 100 YR., DEPTH .6, VEL. .9, RATING = .54, Analysis, design, and construction.</p>
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SEPTEMBER 2023



Council District 6



COUNCIL DISTRICT 6: FLOOD PROTECTION & STORM DRAINAGE

Below is a preliminary list of projects in Council District 6 considered for the 2024 Bond Program. The selected projects are subject to change, will fluctuate as the amount allocated for Flood Protection & Storm Drainage changes, and will ultimately require City Council approval and voter approval in a bond election.



Flood Management



Storm Drainage



Storm Drainage



Flood Management

<p>Knights Branch Upper Relief System Study (Citywide): \$216,583.33 Study, Model, & Preliminary Design: Update capital drainage recommendations & cost estimate for the Knights Branch Upper Relief System projects.</p>	<p>Knights Branch Upper Relief System Phase 2 (Citywide): \$5,738,133.33 Continuation of the Knights Branch Upper Relief System Project. Improve neighborhoods served by the Knights Branch Upper Relief System. Includes Preston Park neighborhood (Bryn Mawr).</p>	<p>Trinity River Channel Project (Citywide): \$5,750,000.00 Channel dredging, bank stabilization, tree removal, and other activities to meet regulatory requirements for ongoing PL 84-99 compliance to maintain the river channel to carry 300 cubic feet per second (cfs), during low flow and maximum 13,000 cfs.</p>	<p>Knights Branch Upper Relief System – Inwood Road/Mockingbird Lane (Citywide): \$11,500,000.00 Major relief system of enclosed portion of upper Knights Branch watershed from Lowe's culvert extension (downstream of Inwood/Lemon) north on Inwood to about Wateka, using 2-12X10 box culverts, with smaller systems as necessary to provide full relief.</p>
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[No Title]



Council District 7



COUNCIL DISTRICT 7: FLOOD PROTECTION & STORM DRAINAGE

Below is a preliminary list of projects in Council District 7 considered for the 2024 Bond Program. The selected projects are subject to change, will fluctuate as the amount allocated for Flood Protection & Storm Drainage changes, and will ultimately require City Council approval and voter approval in a bond election.



Erosion Control



Erosion Control



Erosion Control



Flood Management

<p>2490 El Cerrito Drive & 8181 Hunnicut: \$805,000.00 Stream 5B5 - Private - Type 1, one home & existing retaining wall threatened. El Cerrito on bank and 9 feet deep. Hunnicut 7 feet from bank and 8 feet deep. Approximately 200 feet of gabion wall for erosion protection.</p>	<p>7512, 7506 Avenue Q: \$603,750.00 Stream 5B5 - Private - Type I, 2 houses threatened - consider voluntary purchase of both - cost of wall exceeds property values – 25 feet from creek bank, would require 150 feet of 15-foot-high gabion wall for erosion protection.</p>	<p>Poplar Springs Lane: \$2,817,500.00 Estes Branch - Private - Design and construction of ~700 feet gabion mattress at 3:1 slope with concrete toe wall to protect 12 homes adjacent to filled-in channel for erosion protection - 3300 and 3400 block.</p>	<p>White Rock Creek Floodplain Management Study Update (Citywide): \$129,375.00 Update of the 1989 FPMS, extended into entire WRC watershed, to study flood control options.</p>
<p>8017, 8023, 8030 Claremont Drive: \$543,375.00 Stream 5B5 - Private - 8023: type III fence/yard threatened 12 feet, 5 feet, 75 feet; 8030: type II detached garage 12 feet, 10 feet, 60 feet. Improvements for erosion protection.</p>	<p>2415, 2421 Driftway Drive: \$1,014,300.00 Stream 5B5 - Private - Type 1, 2 homes threatened, ~17-20' from structure, ~16-17' deep, approximately 252 LF of erosion protection.</p>	<p>East Peaks Upper/Middle Basin Relief System (Citywide): \$38,333.33 Continuation of the MCPBST Drainage Relief Tunnel for the East Peaks Upper and Middle basins. Construction of proposed trunk line as outlined in the 2018 East Peaks Master Drainage Plan.</p>	<p>Estes Branch Bridge @ Bluffcreek: \$7,831,500.00 Install bridge, channel improvement, Frequency 2 year, Analysis, design and construction for flood management.</p>

SEPTEMBER 2023



Council District 8



COUNCIL DISTRICT 8: FLOOD PROTECTION & STORM DRAINAGE

Below is a preliminary list of projects in Council District 8 considered for the 2024 Bond Program. The selected projects are subject to change, will fluctuate as the amount allocated for Flood Protection & Storm Drainage changes, and will ultimately require City Council approval and voter approval in a bond election.



Erosion Control



Erosion Control



Flood Management



Flood Management

<p>460 Glencairn: \$281,750.00 Herring Branch - Private - 70 feet gabion wall for erosion protection. 15 feet height, Type I, house threatened, difficult access.</p> <p>835 Wixom Lane: \$201,250.00 Prairie Creek Branch - Private - Type I, 1 home threatened - design and construction. Approximately 50 feet of erosion protection.</p>	<p>Prairie Creek Bridge Improvement @ Fireside: \$11,425,250.00 Install bridge, frequency 100-year, depth 4.2, analysis, design and construction. Flood Management improvements.</p>	<p>Hickory Creek Floodplain Management Study: \$253,000.00 Comprehensive floodplain management study with updated flood mapping and recommendations for improvements.</p>	<p>Pruitt Branch @ C F Hawn: \$287,500.00 Analysis & Design. Construction will be a future project contingent on agreement/cooperation with TxDOT. Upsize culvert crossing of C F Hawn US 175 to prevent overtopping as shown by CTP FY19.</p>
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SEPTEMBER 2023



Council District 9



COUNCIL DISTRICT 9: FLOOD PROTECTION & STORM DRAINAGE

Below is a preliminary list of projects in Council District 9 considered for the 2024 Bond Program. The selected projects are subject to change, will fluctuate as the amount allocated for Flood Protection & Storm Drainage changes, and will ultimately require City Council approval and voter approval in a bond election.



Erosion Control



Erosion Control



Erosion Control



Storm Drainage

<p>11835 Sunland Street: \$322,000.00 Lippitt Branch - Private - Home threatened, Type I; 80 feet of 10-foot-high gabion wall for erosion protection.</p> <p>11511 Ferguson Road: \$503,125.00 Long Branch of Duck Creek - Private - Type I, condominium unit threatened, 20 feet from creek bank, 125 feet of 15-foot-high gabion wall for erosion protection.</p>	<p>8223, 8235 Lullwater Drive: \$301,875.00 Park Branch - Private - Type I, duplex properties threatened, 25 feet from bank, creek is 16 feet deep, 75 feet of gabion for erosion protection.</p> <p>Reinhart Branch Flood Management Study Update: \$230,000.00 Floodplain Management study of Reinhart Branch to determine potential capital projects to address flooding, drainage, and erosion.</p>	<p>White Rock Creek Floodplain Management Study Update (Citywide): \$129,375.00 Update of the 1989 FPMS, extended into entire WRC watershed, to study flood control options.</p>	<p>Sanford Ave Relief System (Little Forest Hill) Phase 2: \$2,300,000.00 Continuation of the Sanford Avenue Relief System project. 100-year drainage improvements from Sanford Avenue @ Daytonia to Tavaros @ Forest Hills Boulevard.</p>
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SEPTEMBER 2023



Council District 10



COUNCIL DISTRICT 10: FLOOD PROTECTION & STORM DRAINAGE

Below is a preliminary list of projects in Council District 10 considered for the 2024 Bond Program. The selected projects are subject to change, will fluctuate as the amount allocated for Flood Protection & Storm Drainage changes, and will ultimately require City Council approval and voter approval in a bond election.



Erosion Control



Erosion Control



Erosion Control



Erosion Control

<p>11655 Audelia Road. (Building 8 to 10): \$1,489,250.00 Jackson Branch - Private, Type 1, three structures threatened. Approximately 370 feet of gabion wall for erosion protection.</p> <p>8505 Richardson Branch Trail: \$1,147,125.00 Richardson Branch - Public - Type 1, roadway threatened, 15 feet from bank, 14 feet deep, approximately 285 feet of erosion protection.</p>	<p>8439 Coppertowne Lane: \$402,500.00 Jackson Branch - Private - 2 condos, erosion 35 feet from structure, type 1 - gabion mattress - 100'X15'X2', repair headwall for erosion protection.</p> <p>8567 Mediterranean Circle: \$442,750.00 Dixon Branch - Private - Type I, house threatened, 40' from creek bank, 110 LF of 20' gabion wall.</p>	<p>12209 Creekspan Drive: \$402,500.00 Audelia Branch - Private - Type 1 - 1 home, approximately 30 feet from bank, 20 feet deep. Approximately 100 feet of gabion wall for erosion protection.</p>	<p>White Rock Creek Floodplain Management Study Update (Citywide): \$129,375.00 Update of the 1989 FPMS, extended into entire WRC watershed, to study flood control options.</p>
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SEPTEMBER 2023



Council District 11



COUNCIL DISTRICT 11: FLOOD PROTECTION & STORM DRAINAGE

Below is a preliminary list of projects in Council District 11 considered for the 2024 Bond Program. The selected projects are subject to change, will fluctuate as the amount allocated for Flood Protection & Storm Drainage changes, and will ultimately require City Council approval and voter approval in a bond election.



Erosion Control



Erosion Control



Erosion Control



Storm Drainage

<p>13059 Hillcrest Road: \$885,500.00 White Rock Creek - Address erosion threatening upstream/downstream and areas under the bridge not covered by bridge repair work. Approximately 220 feet of erosion protection.</p> <p>13339 N Central Expwy SB: \$430,675.00 Cottonwood Creek - Private - Type 1, Commercial structure threatened, 9 feet from bank 23 feet deep, approximately 107 feet of erosion protection.</p>	<p>6144 Preston Creek Drive: \$502,550.00 White Rock Creek Tributary 6 - Private - home threatened, 11 feet from bank 24 feet deep. Approximately 125 feet of erosion protection.</p> <p>14000 Esperanza Road. (Buildings 2,6,7): \$422,625.00 Hunt Branch - Private - Type 1, three apartment buildings, approximately 7 feet from bank and 16 feet deep. Approximately 105 feet of gabion wall for erosion protection.</p>	<p>6511 Clubhouse Circle: \$382,375.00 Unnamed tributary to White Rock Creek - Private - Type II, pool threatened, 4.5 feet from bank, 14 feet deep, approximately 95 feet of gabion wall for erosion protection.</p> <p>3503 Hillbrook Street: \$402,500.00 McCommas Branch - Private - Type II, erosion from detention pond being overtopped, Approx. 100LF of erosion protection.</p> <p>Spring Grove 13300 Block: \$1,725,000.00 Upgrade drainage system in the area of 13330 Spring Grove Avenue to provide flooding relief during the 100-year.</p>	<p>White Rock Creek Floodplain Management Study Update (Citywide): \$129,375.00 Update of the 1989 FPMS, extended into entire WRC watershed, to study flood control options.</p> <p>13033, 13032 Copenhill Road Culvert Improvements: \$224,250.00 Replace culvert crossing to prevent overtopping of roadway. Possible channel improvements in this area.</p> <p>6750 Willow Lane Storm Drainage Relief: \$632,500.00 Existing drainage ditch replaced with curbed sidewalk that doesn't have enough capacity to contain runoff. Reestablish capacity and upsize portion of drainage system. Current system approx. 10-year.</p>
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SEPTEMBER 2023



Council District 12



COUNCIL DISTRICT 12: FLOOD PROTECTION & STORM DRAINAGE

Below is a preliminary list of projects in Council District 12 considered for the 2024 Bond Program. The selected projects are subject to change, will fluctuate as the amount allocated for Flood Protection & Storm Drainage changes, and will ultimately require City Council approval and voter approval in a bond election.



Storm Drainage



Erosion Control



Erosion Control



Erosion Control

<p>6402 Nutwood Circle: \$201,250.00 McKamy Branch - Private - Type 1, one home threatened, approx. 18 feet from bank and 20 feet deep. Approximately 50 feet of erosion control.</p>	<p>18503 Forston Avenue: \$181,125.00 McKamy Branch - Private - Type 1, one home threatened, approx. 6 feet from bank and 9 feet deep. Approximately 45 feet of gabion wall for erosion protection.</p>	<p>White Rock Creek Floodplain Management Study Update (Citywide): \$129,375.00 Update of the 1989 FPMS, extended into entire WRC watershed, to study flood control options.</p>	<p>Calm Meadow Drainage Rehabilitation: \$322,000.00 Design & Construction - Uncontrolled drainage of private pond due to slipped joints in existing public drainage system. Remove & replace existing public system in private pond.</p>
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SEPTEMBER 2023



Council District 13



COUNCIL DISTRICT 13: FLOOD PROTECTION & STORM DRAINAGE

Below is a preliminary list of projects in Council District 13 considered for the 2024 Bond Program. The selected projects are subject to change, will fluctuate as the amount allocated for Flood Protection & Storm Drainage changes, and will ultimately require City Council approval and voter approval in a bond election.



Erosion Control



Flood Management



Storm Drainage



Storm Drainage

<p>Knights Branch Upper Relief System Study (Citywide): \$216,583.33 Study, Model, & Preliminary Design: Update capital drainage recommendations & cost estimate for the Knights Branch Upper Relief System projects.</p>	<p>White Rock Creek Floodplain Management Study Update (Citywide): \$129,375.00 Update of the 1989 FPMS, extended into entire WRC watershed, to study flood control options.</p>	<p>Knights Branch Upper Relief System Phase 2 (Citywide): \$5,738,133.33 Continuation of the Knights Branch Upper Relief System Project. Improve neighborhoods served by the Knights Branch Upper Relief System. Includes Preston Park neighborhood (Bryn Mawr).</p>	<p>Knights Branch Upper Relief System – Inwood Road/Mockingbird Lane (Citywide): \$11,500,000.00 Major relief system of enclosed portion of upper Knights Branch watershed from Lowe’s culvert extension (downstream of Inwood/Lemmon) north on Inwood to about Wateka, using 2-12X10 box culverts, with smaller systems as necessary to provide full relief.</p>
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SEPTEMBER 2023



Council District 14



COUNCIL DISTRICT 14: FLOOD PROTECTION & STORM DRAINAGE

Below is a preliminary list of projects in Council District 14 considered for the 2024 Bond Program. The selected projects are subject to change, will fluctuate as the amount allocated for Flood Protection & Storm Drainage changes, and will ultimately require City Council approval and voter approval in a bond election.



Storm Drainage



Storm Drainage



Storm Drainage

<p>East Peaks Upper/Middle Basin Relief System: \$7,628,333.33 (Citywide with 83% in CD 14) Continuation of the Mill Creek- Peak Branch- State Thomas (MCPBST) Drainage Relief Tunnel for the East Peaks Upper and Middle basins. Construction of proposed trunk line as outlined in the 2018 East Peaks Master Drainage Plan (Design Only).</p>	<p>Mill Creek Drainage Relief System - Phase III: \$21,016,250.00 (Citywide with 85% in CD 14) Engineering and construction for remainder of creek area ROW, creek restoration, upper basin relief systems, and re-routing of existing system trunk lines that are on private property or crossing mid-block - completes full relief for Mill Creek (Design Only).</p>	<p>Turtle Creek Boulevard @ Blackburn Street: \$10,695,000.00 Raise road, replace existing dam upstream with a 7 feet collapsible dam, Frequency 50-year, Depth 5.6 feet, Velocity 5.3, Rating = 29.7, 2 Homes Flood, analysis, design, and construction.</p>
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SEPTEMBER 2023





CITYWIDE: FLOOD PROTECTION & STORM DRAINAGE

Below is a preliminary list of Citywide projects considered for the 2024 Bond Program. The selected projects are subject to change, will fluctuate as the amount allocated for Flood Protection & Storm Drainage changes, and will ultimately require City Council approval and voter approval in a bond election.



Vanderbilt Avenue between Concho Street & Skillman Street: 04/28/2023



Flooding near South Glasgow Drive 06/11/2023



Erosion on Trinity River



Floodplain Study (Typical)

<p>East Peaks Upper/Middle Basin Relief System: \$9,200,000.00 Continuation of the Mill Creek-Peak Branch- State Thomas (MCPBST) Drainage Relief Tunnel for the East Peaks Upper and Middle basins. Construction of proposed trunk line as outlined in the 2018 East Peaks Master Drainage Plan (Design Only).</p> <p>Knights Branch Upper Relief System Study: \$649,750.00 Study, Model, & Prelim. Design: Update capital drainage recommendations & cost estimate for the Knights Branch Upper Relief System projects. Update PB174375 and FP21S06 estimates and limits</p>	<p>Mill Creek Drainage Relief System - Phase III: \$24,725,000.00 Engineering and construction for remainder of creek area ROW, creek restoration, upper basin relief systems, and re-routing of existing system trunk lines that are on private property or crossing mid-block - completes full relief for Mill Creek (Design Only).</p> <p>White Rock Creek Floodplain Management Study Update: \$1,035,000.00 Update of the 1989 Floodplain Management Study (FPMS), extended into entire White Rock Creek (WRC) watershed, to study flood control options.</p>	<p>Knights Branch Upper Relief System Phase 2: \$17,214,400.00 Continuation of the Knights Branch Upper Relief System Project. Improve neighborhoods served by the Knights Branch Upper Relief System. Includes Preston Park neighborhood (Bryn Mawr).</p> <p>Trinity River Channel Project: \$23,000,000.00 Channel dredging, bank stabilization, tree removal, and other activities to meet regulatory requirements for ongoing PL 84-99 compliance to maintain the river channel to carry 300 cfs during low flow and maximum 13,000 cfs.</p>	<p>Knights Branch Upper Relief System – Inwood Road/Mockingbird: \$34,500,000.00 Major relief system of enclosed portion of upper Knights Branch watershed from Lowe's culvert extension (downstream of Inwood/Lemon) north on Inwood to about Wateka, using 2-12X10 box culverts, with smaller systems as necessary to provide full relief.</p>
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SEPTEMBER 2023



Appendix – Needs Inventory Data



Needs Inventory



ProjectID	Name	Category	Description	CD	Normalized Score Max = 80	Equity Max = 10	Other Priority Overalys** Max = 10	Total Score	Estimate	2026 Cost Estimate (Assume 5% Inflation Per Year)	Created On	Modified On	Current 10-Year CIP	10-Year CIP FY
TWM000075	Woody Branch Floodplain Management Study	Flood Management	Floodplain Management study of the Woody Branch Watershed to determine flood control and erosion control options.	CW	80	10	6	96	\$ 200,000.00	\$ 230,000.00	12/28/2016	12/28/2016	Yes	FY22-23
FP22510	East Peaks Upper/Middle Basin Relief System	Storm Drainage	Continuation of the MCPBST Drainage Relief Tunnel for the East Peaks Upper and Middle basins. Construction of proposed trunk line as outlined in the 2018 East Peaks Master Drainage Plan.	CW	80	10	6	96	\$ 80,000,000.00	\$92,000,000	10/7/2022	10/7/2022	Yes	FY 32-33
PB174564	Peaks Branch Upper Basin Relief System (RL Area 13)	Storm Drainage	Drainage relief system for Peaks Branch watershed from Buckner Park north to M Streets; this is a continuation of Middle Peaks Branch Phases I & II, which is currently planned for design and construction with Mill Creek Phases I & II and State-Thomas	CW	80	8	6	94	\$ 140,000,000.00	\$161,000,000	11/20/2014	10/7/2022	Yes	FY 25-26
PB2458	Joes Creek - West Fork Channel and Culvert Improvements	Flood Management	Channel improvements, relief system, added culvert at Denton Road, design and construction - relieves flooding of approximately 46 commercial and about 130 residential structures. Much of the concrete-lined channel is deteriorating or failed and further	6	80	8	6	94	\$ 51,750,000.00	\$ 59,512,500.00	11/20/2014	10/12/2022	Yes	FY 24-25
PB1039	Alpha at Peyton (RL Area 3)	Storm Drainage	Design & Const. 100-yr replacement for the Northwood Hills drainage system from Spring Valley to Peyton. Approx. 16 homes impacted	11	80	8	6	94	\$ 7,000,000.00	\$8,050,000	11/20/2014	6/23/2022	Yes	FY 24-25
FP21F03	Lake Cliff Dam Rehabilitation	Flood Management	Rehabilitation of Lake Cliff Dam to meet TCEQ PMF requirements. Evaluate and select from Alts 1 to 3. Design and construct selected alternative.	1	80	8	6	94	\$ 14,000,000.00	\$ 16,100,000.00	6/23/2021	9/7/2022	Yes	FY 23-24
FP21S02	Lake Cliff Dam Seepage Project	Storm Drainage	Construct drainage system to convey seepage away from downstream toe of Lake Cliff Dam that is currently ponding. Plans developed from HHPD program.	1	80	8	6	94	\$ 1,500,000.00	\$ 1,725,000.00	4/5/2021	6/24/2022	Yes	FY 24-25



Note: Full Needs Inventory Data not provided as it would take ~ 60 slides but is available on request.