
City of Tulsa

**Floodplain Management Plan and
Repetitive Loss Area Analysis
Annual Progress Report**

August 18, 2026



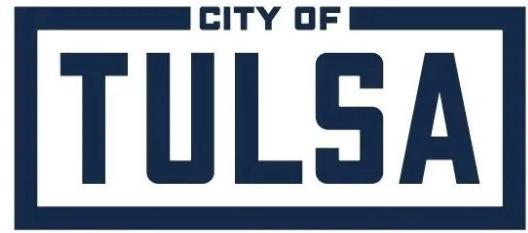


Table of Contents

Activity 510: Floodplain Management Plan and Repetitive Loss Area Analysis Annual Progress Report	2
Background & Purpose.....	2
Floodplain Management Planning Progress.....	3
Repetitive Loss Area Analysis Progress.....	5
Appendix A: 2026 Hazard Mitigation Action Items Update	7
Appendix B: 2026 Repetitive Loss Area Analysis Update	37
Mitigated RLAs	37
Mitigation of RLAs from Acquisition/Relocation or Demolition:.....	37
Ongoing Updates from 2023 Submittal	37
Mitigation of RLAs from Structural Projects	37
RL Properties Not Included in RLAs	38
Currently Active RLAs.....	38
East Tulsa	38
Joe Creek.....	38
Lower Middle Mingo Creek.....	41
Lower Mingo Creek	42
Upper Middle Mingo Creek.....	42
Upper Mingo Creek	43
Mid Tulsa.....	43
North Tulsa.....	44
Northwest Tulsa	45
South Tulsa	45
Southwest Tulsa.....	47
Summary Updates	48



Activity 510: Floodplain Management Plan and Repetitive Loss Area Analysis Annual Progress Report



Background & Purpose

Background

The City of Tulsa (City) participates in the National Flood Insurance Program (NFIP) administered by the Federal Emergency Management Agency (FEMA) and in the NFIP's Community Rating System (CRS). The objective of this activity is to credit the production of an overall strategy of programs, projects, and measures to reduce adverse impacts of hazards on the community and help meet additional municipal needs. In compliance with the NFIP, the City prepared the 2024 Multi-Hazard Mitigation Plan (HMP) which is an overall strategy of programs, projects, and measures aimed at reducing the adverse impact of hazards with the highest impact in the community. The City of Tulsa updated the Hazard Mitigation Plan in 2023, which was approved in December of 2024 (resolution# 20373). This HMP is located here:

<https://www.cityoftulsa.org/media/26942/2024-hazard-mitigation-plan-final-with-resolutions.pdf>

Individual Repetitive Loss Area Analyses (RLAA) reports were developed between 2017 and 2023 for the City's 67 RLAs. A single RLAA that covers each RLA was adopted by the City in 2020 as part of the HMP updates. The RLAA report covers the individual RLAs within the City of Tulsa. Included in the RLAA is an assessment of areas that include structures identified by FEMA as Repetitive Loss Properties. FEMA defines a repetitive loss property as any insurable building for which two or more claims of more than \$1,000 were paid by the NFIP within any rolling 10-year period, since 1978. The RLAA outlines areas that may be exposed to similar flood risk, the likely sources of flooding, and possible mitigation measures to reduce the risk from flood events. Current RLAA documents are located here:

<https://www.cityoftulsa.org/government/departments/water-and-sewer/flood-control/repetitive-loss-area/>



Purpose

This progress report's purpose is to provide an annual update on the implementation of activities outlined in the Floodplain Management Plan (512a) and serve as the action plan identified in the RLAA (512b). Our objective is to ensure a continuing and responsive planning process that will keep the plans and related outreach efforts dynamic and responsive to the needs and capabilities of the City and stakeholders.

This report discusses the following:

- Review of the action plan
- Implementation status of action plan
- Recommendations for changes/enhancement

How the City provided the Report to the media and public in 2026:

- The City of Tulsa provided the report to the media through a press release
- The Report is posted on the City of Tulsa website
- Copies of the report are available at the City's Water and Sewer Department

Floodplain Management Planning Progress

In December 2024, the Federal Emergency Management Agency (FEMA) approved the City of Tulsa Multi-Hazard Mitigation Plan, which serves as the Floodplain Management Plan for CRS. Formally created by a resolution #20258 of the City Council of Tulsa on June 25, 2023, the planning process began. Designating the Tulsa Stormwater Drainage and Hazard Mitigation Advisory Board (SDHMAB) to serve as the Tulsa Citizens Advisory Committee to oversee the planning effort, the resolution was approved. The SDHMAB elected to use the Program for Public Information Committee (PPI) as the Steering Committee for this project.

The Hazard Mitigation Plan identifies and prioritizes an action plan consisting of fifty-nine (59) all Hazard Mitigation Activities. The CRS program requires that an annual report of the status of current HMP actions be presented to the governing body of the City of Tulsa. This report satisfies this requirement and was presented to the SDHMAB, which meets monthly during the reporting period.

The SDHMAB reviewed the action items identified in the HMP and their current statuses, the board approved it in the subsequent meeting held on August 18, 2026.

Summary Overview of the Action Plan's Progress

As of this reporting period, the overall progress is as follows:

- 53 out of 59 initiatives (90 percent) reported ongoing action toward completion
- 6 out of 59 initiatives (10 percent) reported no action taken
- 0 out of 59 initiatives (0 percent) reported as completed

Review of the Action Plan: [Appendix A: 2026 Hazard Mitigation Action Items Update](#) reviews the action plan, reporting the status of each initiative. More detailed descriptions of each initiative and the prioritization process are in the HMP.



Recommendations for Changes or Enhancements: The 2026 reporting cycle is the second review of the 2024 Hazard Mitigation Plan as part of the Floodplain Management Plan annual review process. During the review of the 2024 Hazard Mitigation Plan by the PPI committee and the SDHMAB, the following recommendations were noted for future updates or revisions for future updates to the plan.

- The City of Tulsa should continue to use the Hazard Mitigation Plan to meet the FMP requirement for the Community Rating System. Tulsa should continue to include specific priorities of the CRS program in the HMP, such as the Flood Insurance Coverage Improvement Plan, Program for Public Information, and the Repetitive Loss Area Analysis.
- Convene during the 2026-2027 cycle year with stakeholders identified in the HMP to evaluate action items' statuses, prioritization and develop essential contact information for the following year's evaluations.



Repetitive Loss Area Analysis Progress

The City of Tulsa Repetitive Loss Area Analysis (RLAA) was adopted by the City Council in 2026. The previous City of Tulsa Repetitive Loss Area Analysis (RLAA) was adopted by the City Council in 2020 with the HMP (resolution# 20373). Individual RLAA for areas 1-63 was adopted in 2020 (resolution# 19859), RLAA for area 64 was adopted in 2020 (resolution# 20077), RLAAs for areas 65 and 66 were adopted in 2022, and RLAA for RLA 67 was adopted in 2023 (resolution# 20277).

Through this process the City has condensed the number of reports from 67 to 11. These 11 reports contain 46 individual repetitive loss area analyses covering 71 unmitigated repetitive loss properties in Tulsa's City Limits. The RLA reports are posted on the City website at: www.cityoftulsa.org/RLA. The NFIP has not been able to provide the City of Tulsa with a repetitive loss list since 2024 despite annual requests.

Summary Overview of the Action Plan's Progress: The RLAA was updated during the 2026 cycle to meet CRS requirements, improve alignment with the City's outreach goals and Master Drainage Plans, and consolidate areas with similar locations, risk profiles, and mitigation considerations. The update included revising background information, documenting completed mitigation measures, evaluating applicable Master Drainage Plans, and identifying the preferred mitigation alternative for each RLA. These efforts support the City's Capital Improvement Program (CIP) project prioritization process, provide a foundation for determining Hazard Mitigation Assistance (HMA) grant eligibility, guide the development of conceptual plans as needed, and inform future capital improvement project requests.

The City's Stormwater Drainage and Hazard Mitigation Advisory Board reviewed and approved the annual progress report at a meeting held on August 25, 2026.

Review of the Action Plan: [Appendix B: 2026 Repetitive Loss Area Analysis Update](#) reviews the action plan, reporting the status of each initiative. More detailed descriptions of each initiative and the prioritization process can be found in the RLAA or FMP.

Recommendations for Changes or Enhancements: The following recommendations were made for future updates or revisions to the RLAA in 2025:

- Continue to improve the RLAA process through the consolidation of RLAs and mitigation of RL properties. 2026 Update: **Complete**



Public Review Notice

The contents of this report are considered to be public knowledge and have been prepared for total public disclosure. Copies of the report have been posted on the City's Website. Any questions or comments regarding the contents of this report should be directed to:

City of Tulsa

Water and Sewer Department

Project Planning - Stormwater

(918) 596-9798



Appendix A: 2026 Hazard Mitigation Action Items Update

Action 1: Develop and fund hazard preparedness, education, information, and awareness programs

2025 Status	Public awareness, education and information campaigns are ongoing via various avenues.
2026 Status	Responsible Agency updated to City of Tulsa Water and Sewer Department. Public awareness efforts are ongoing including Floodplain Letters, Levee Letters and Flood Basin Letters; as well as Education including the Greater Tulsa Association of Realtors Workshop and our Annual Flood Insurance Expo; and other informational campaigns.

Action 2: Develop a city-wide disaster recovery and reconstruction plan.

2025 Status	Reworded/updated Action Item to reflect shifting initiative from development of a plan, to updating the plan.
2026 Status	Ongoing





Action 3: Inventory and maintain an active list of disaster resources available in Tulsa.

2025 Status	TAEMA maintains a list in VEOCI which is updated continuously.
2026 Status	Updated TAEMA to City of Tulsa Emergency Management as one of the Responsible Agencies. Inventory is updated as needed on an ongoing basis.

Action 4: Develop an emergency preparedness and mitigation website.

2025 Status	City has configured the website and has been provided the necessary datasets to maintain it.
2026 Status	City maintains the website and updates the maps with internal and external data on a regular basis or as new data becomes available.





Action 5: Educate the general public and local builders, and other stakeholders, on the benefits of disaster resistant construction

2025 Status	Reworded/updated Action Item; Action Item is carried out in practice to continually educate builders and developers.
2026 Status	City of Tulsa Permit Center replaced Development Services as one of the Responsible Agencies. The practice of educating builders and developers is ongoing.

Action 6: Install generators at critical facilities

2025 Status	Reworded/updated Action Item. Community Service Council ceased operations in 2023 and have since re-established as Oklahoma Veteran's United.
2026 Status	Updated Responsible Agency to City of Tulsa Emergency Management. Generator needs at critical facilities have been identified; awaiting funding to become available.





Action 7: Develop and implement an ongoing air conditioner program as part of the City's extreme temperature plan

2025 Status	Reworded/updated Action Item: Resilient Tulsa program managed by the Mayor's Office of Resilience and Equity will implement when funding is identified; program is scalable
2026 Status	Updated TAEMA to City of Tulsa Emergency Management as one of the Responsible Agencies. Action status is awaiting available funding.

Action 8: Develop resilience hubs in neighborhoods within each council district to ensure proper hazard preparation, response, and recovery information is disseminated to the public

2025 Status	Current plan was completed in 2015 and needs to be updated
2026 Status	City of Tulsa Interns working in conjunction with the Mayor's Office have conducted studies on Resilience Hubs. They have presented findings on July 2026 to the Mayor and Staff.





Action 9: Update and implement Tulsa Urban Forest Master Plan

2025 Status	Current plan was completed in 2015 and needs to be updated
2026 Status	On June 12, 2026, Up With Trees planted 240 new trees between Adams Road and North 81st West Avenue along the Katy Trail. This planting is part of a long-term initiative to enhance and beautify the citywide trail system. Up With Trees is celebrating its 50th anniversary in 2026, and a key goal of the organization is to help Tulsa achieve 30% tree canopy coverage. Action status is ongoing.

Action 10: Develop and maintain a list of critical facilities outlining appropriate protections and resources related to natural hazards

2025 Status	Ongoing
2026 Status	The list of critical facilities is included in the City of Tulsa Flood Recognition and Response Plan. The list is reviewed annually and updated as required.





Action 11: Every 5 years, perform or compile an overall infrastructure assessment to address deficiencies and necessary improvements and make the report available to the public

2025 Status	Ongoing
2026 Status	Ongoing

Action 12: Develop a generator rebate program for small businesses

2025 Status	Ongoing
2026 Status	Ongoing





Action 13: Educate the public on the importance of flood insurance

2025 Status	Development of Flood Insurance Brochure currently underway in lieu of Flood Expo, which will be held every 3 years (as outlined in 2024 PPI Report). Multiple items are distributed through public outreach initiatives.
2026 Status	The Mayor's Annual Flood Insurance Letter for citizens in the Floodplain, The Flood Insurance Brochure and the Flood Insurance Expo are ongoing. A Flood Insurance Expo was held in 2026, and is scheduled every 3 years. The Flood Insurance Brochure is updated and mailed annually.

Action 14: Update Master Drainage Plans when conditions warrant

2025 Status	City of Tulsa maintains a GIS Viewer, which is used to track and schedule updates as required.
2026 Status	Ongoing





Action 15: Acquire properties in the FEMA floodplains, Tulsa regulatory floodplain and repetitive loss/severe repetitive loss properties; develop a Substantial Damage Management Plan

2025 Status	Added "Develop a Substantial Damage Management Plan" to Item description. The City is in the process of building an historic acquisition database for tracking of all previously and future acquired properties. Identification of RL/SRL properties for possible acquisition are gathered from MDP updates and added to a database for considerations when funding becomes available.
2026 Status	TAEMA updated to City of Tulsa Emergency Management as one of the Responsible Agencies RLA reports are currently being updated.

Action 16: Implement recommendations of the COT Master Drainage Plans

2025 Status	Tupelo Creek MDP improvements will be complete in December 2025. Fulton Creek (43rd & Sheridan) BRIC application has been approved for Phase 1 activities and work is ongoing.
2026 Status	Currently in design are three master drainage plan recommended projects. In the Hager Creek watershed, three bridges at 81st and Elwood will be upsized and raised to help prevent roadway overtopping. In Bell/Fulton, a project is in design that would improve multiple problem areas of structure and roadway flooding. Currently in construction, in Vensel Creek Tributary, on 91st St S between Harvard to Yale – Culvert replacement to mitigate roadway overtopping.





Action 17: Repair levees and berms that fall within the City of Tulsa's area of responsibilities

2025 Status	Reworded/updated Action Item; Project has begun and is in preliminary development.
2026 Status	Ongoing

Action 18: Notify the general public of the risk of living within the floodplain, levee, or dam inundation area

2025 Status	Annual messaging campaign is conducted by the City. Approximately 15,000 notifications are sent out each year.
2026 Status	Approximately 24,000 Floodplain Letters have been sent out in June 2026, Another 3500 Levee Notifications will be sent out in July 2026





Action 19: Seek funding to design and implement storm drainage improvements to prevent repetitive flooding

2025 Status	Stormwater projects funded in the City's FY2024-2025 capital budget
2026 Status	5-Year CIP is up to date and maintained. FY27 funding total is \$17,470,000

Action 20: Partner with neighboring jurisdictions and stakeholders, including state, Tribal, and Federal partners to develop a comprehensive response and recovery plan for the Arkansas River

2025 Status	Ongoing
2026 Status	Responsible Agency updated from TAEMA to City of Tulsa Emergency Management. Action status is Ongoing





Action 21: Provide incentives for developers to incorporate green stormwater infrastructure into overall site design, such as density bonuses, expedited permitting, or fee reductions

2025 Status	Ongoing
2026 Status	A Low Impact Development Manual, which incorporates elements of green stormwater infrastructure requirements, has been adopted by the City. Action status is ongoing.

Action 22: Continue to right-size parking and density requirements outside of CBD, CH, or MX zoning districts to support the reduction of impervious surfaces throughout the City

2025 Status	Ongoing
2026 Status	Ongoing





Action 23: Implement a riparian buffer restoration and erosion control project along creeks, streams, and waterways, focusing on areas prone to flooding and lacking vegetation. This project may include planting native vegetation along the creek banks to stabilize soil, reduce erosion, and improve water quality

2025 Status	Implemented as part of the City's annual stormwater operations and maintenance program and supported by the Stormwater CIP
2026 Status	Riparian buffers are enhanced, and erosion reduced, through the City's Watershed Wildflower Program, which is a program that has been implemented along Hager, Nickel, Coal, Haikey, Flat Rock, and Tupelo Creeks, and is part of the annual stormwater operations and maintenance activities and supported by the Stormwater CIP. 30 native species have been planted and mowing cycles have been reduced from 14 annually to 2 to promote buffer stability. Additional sites are being planned, and a future water quality monitoring component is being considered.

Action 24: Support ongoing City efforts to develop and implement LID/Green infrastructure education and construction guidance for both public and private development activities

2025 Status	Ongoing
2026 Status	Ongoing





Action 25: Temperature controlled space to house emergency materials related to water resources

2025 Status	Ongoing
2026 Status	Responsible Agency updated from TAEMA to City of Tulsa Emergency Management. Action status is ongoing.

Action 26: Identify, pre-screen, and vet locations for post-disaster shelters

2025 Status	Ongoing
2026 Status	TAEMA updated to City of Tulsa Emergency Management as one of the Responsible Agencies. Action status is ongoing.





Action 27: Convert generators at critical facilities to solar panels and battery backups

2025 Status	Ongoing
2026 Status	Ongoing

Action 28: Implement policy change to replace emergency response equipment used in weather event situations on a more frequent basis

2025 Status	Tulsa Parks is actively reevaluating emergency response equipment needs. A brine truck was added for winter treatment of recreation center parking lots, and we are exploring the purchase of additional specialized equipment. However, during snow and ice events, most Parks staff are reassigned to the Streets Department, limiting capacity to respond within the Parks Dept.
2026 Status	TAEMA updated to City of Tulsa Emergency Management as one of the Responsible Agencies. Action status is ongoing.





Action 29: Protection and maintenance of stockpile facilities, identify locations for future placement

2025 Status	Ongoing
2026 Status	Ongoing

Action 30: Evaluate, upgrade, and maintain outdoor warning systems

2025 Status	TAEMA has replaced and repaired sirens damaged because of the June 2023 storms, bringing the City's total to 110 sirens. There are 18 sirens approaching obsolescence that will need to be replaced soon.
2026 Status	TAEMA updated to City of Tulsa Emergency Management as one of the Responsible Agencies. Action status is ongoing.





Action 31: Purchase and distribute NOAA weather radios

2025 Status	Funding is needed to implement
2026 Status	Responsible Agency updated from TAEMA to City of Tulsa Emergency Management. Action status is ongoing

Action 32: Initiate an individual safe room program including a rebate program to reimburse for installation of qualified safe rooms and site surveys

2025 Status	Reworded/updated Action Item; No change, still awaiting funding availability.
2026 Status	Responsible Agency updated from TAEMA to City of Tulsa Emergency Management. Action status is ongoing; awaiting funding availability.





Action 33: Maintain safe room inventory and GIS database

2025 Status	Database is complete and will be maintained/updated as needed. Database is tracked through Tulsa Fire Department (TFD).
2026 Status	Ongoing

Action 34: Initiate a safe room program for multifamily and group living facilities including a rebate program to reimburse for installation of qualified safe rooms and site surveys

2025 Status	Ongoing
2026 Status	Ongoing





Action 35: Partner with schools and university to budget for increased use of cooled facilities for athletic events during peak summer temperatures

2025 Status	Ongoing
2026 Status	TAEMA updated to City of Tulsa Emergency Management as one of the Responsible Agencies. Action status is ongoing.

Action 36: Partner with non-government organizations to provide bottled water and cooling devices (e.g., fans) to vulnerable populations during peak summer temperatures

2025 Status	Ongoing
2026 Status	Ongoing





Action 37: Continue replacing inadequately sized water lines with lines of sufficient size as an element of both utility replacement and roadway projects whenever inadequate waterlines are identified

2025 Status	Water & Sewer Dept. maintains a Water Main Rehabilitation Risk Map that identifies high-risk/high-priority water lines in need of replacement, which is updated quarterly.
2026 Status	Water & Sewer Dept. maintains a Water Main Rehabilitation Risk Map that identifies high-risk/high-priority water lines in need of replacement, which is updated quarterly. TMUA provided \$14.8 M for water main replacements in FY27. Project funding for FY28 to FY31 is \$75M.

Action 38: Implement mitigation actions to reduce fire access issues

2025 Status	Reworded/updated Action Item; TAEMA is working with the State and Gilcrease Park to do a control for fire access roads in the park area since they are in the WUI.
2026 Status	Ongoing. City of Tulsa Emergency Management is working with the State and Gilcrease Park to do a control for fire access roads in the park area.





Action 39: Create a Community Wildfire Protection Plan (CWPP) in cooperation with Oklahoma Forestry Service (OFS) and United States Department of Agriculture (USDA) Forest Service; adopt as an addendum to the Multi-Hazard Mitigation Plan

2025 Status	Ongoing; estimated completion in 2026
2026 Status	TAEMA updated to City of Tulsa Emergency Management as one of the Responsible Agencies. Action status is ongoing.

Action 40: Identify areas of urban interface; create and implement a prescribed burn plan. Include in CWPP.

2025 Status	Ongoing; estimated completion in 2025
2026 Status	Responsible Agency updated from TAEMA to City of Tulsa Emergency Management. Status of action is ongoing.





Action 41: Review and update building codes to ensure compliance with National Fire Protection Association (NFPA) recommendations

2025 Status	Ongoing
2026 Status	Ongoing

Action 42: Reduce fire response times to eastside wildfires by building a new fire station in this area of Tulsa

2025 Status	Ongoing
2026 Status	Ongoing





Action 43: Implement vegetation management programs to reduce the risk of wildfires during drought periods and to prevent fallen trees and branches from occurring during severe winter storms

2025 Status	Ongoing
2026 Status	Ongoing

Action 44: Install hail guards for Heating, Ventilation, and Air Conditioning (HVAC) systems on critical facilities (as appropriate) to protect against severe hail that is greater than 1/2 inch diameter

2025 Status	Ongoing
2026 Status	Ongoing





Action 45: Implement Water Sense Program

2025 Status	TRO Title 11C, Chapter 13 contains the City of Tulsa water use restrictions in time of shortage. Ongoing water conservation is implemented on a voluntary basis. Public outreach program coordinated through CityLife newsletter.
2026 Status	Ongoing

Action 46: Continue replacing broken pipes in areas of high soil expansion with piping more resistant to breakage

2025 Status	The City of Tulsa maintains a Water Distribution System risk map that identifies water mains that are at a higher risk of failure.
2026 Status	The City of Tulsa maintains the Tulsa Water Risk Assessment Dashboard that identifies water mains that are at a higher risk of failure. It is updated quarterly and uses current GIS and work order data.





Action 47: Maintain and update the City's water and wastewater system master plans as needed

2025 Status	The City of Tulsa and TMUA are currently updating the Water and Wastewater Comprehensive Plan. Plans are reviewed and revised every 10 years.
2026 Status	The 2026 Wastewater Comprehensive Plan is being Completed. The Final Plan will be adopted by TMUA by September 2026

Action 48: Require proper foundation design and construction practices to mitigate local conditions such as expansive soils and neighborhood runoff

2025 Status	Ongoing
2026 Status	Ongoing





Action 49: Introduce a "Healthy Lawns for Stable Soils Program" promoting the selection of turfgrass species and cultivars adapted to Tulsa's environmental conditions

2025 Status	In our maintenance and planning practices, we refer to research-based guidance from Oklahoma State University, including their turfgrass cultivar recommendations and lawn management resources. These serve as a reliable foundation for selecting drought-tolerant, pest resistant, and site appropriate turf species. We are open to further developing this into a formal program to support public education and soil stabilization goals.
2026 Status	The research-based guidance from Oklahoma State University Cooperative Extension identified in the 2025 status update continues to serve as the centerpiece for the City's activity to educate residents on the selection of native turfgrass and vegetation species.

Action 50: Incorporate strategic native trees, shrubs, and other plant materials into plans and regulations for public and private development

2025 Status	The Tulsa Parks Natural Resources team actively incorporates strategic native and regionally adapted trees, shrubs, and other plant materials into public development projects. We review and evaluate proposed plant lists and installation specifications to endure they align with sustainable practices and are appropriate for site conditions. While a single, definitive list of native and/or adapted plants is not maintained due to variation in site conditions and project goals, we rely on regionally vetted resources such as the Oklahoma Proven program and the Oklahoma Garden Planning Guide developed by Oklahoma State University. These resources help guide the selection of resilient, low maintenance species that support long term success and environmental benefits. This practice is ongoing and integrated into current and future park planning and planting.
2026 Status	In addition to guidance from the Oklahoma State University Cooperative Extension, the City of Tulsa Planning Office published guidance in October 2024 detailing recommended and prohibited tree species to educate residents and business owners on which plant and tree species are recommended to be planted.



Action 51: Maintain a list of species that homeowners/property landscapers can reference when developing landscape plans, including best practices related to xeriscaping and water conservation

2025 Status	While the Tulsa Parks Department does not currently maintain a formal list of recommended species for homeowners or property landscapers, we recognize the importance of promoting waterwise landscaping
2026 Status	The City of Tulsa Planning Office and the Oklahoma State University Cooperative Extension, in addition to the materials referenced in the 2026 status updates for Actions 49 and 50, also has information published online on their websites related to xeriscaping and water conservation.

Action 52: Implement an educational campaign with a mixture of media to share small tasks that the everyday person can take to mitigate expansive soils, subsidence

2025 Status	Ongoing
2026 Status	Ongoing





Action 53: Construct lightning rods or air terminals for protection of critical facilities

2025 Status	No significant changes or progress to report.
2026 Status	Ongoing

Action 54: Increase public awareness about seismicity. This may involve public information campaigns and outreach efforts to educate residents about the risks and how to stay safe during seismic events.

2025 Status	Ongoing
2026 Status	Action is being reevaluated due to the decreasing trend of earthquake activity that has affected the City since 2015.





Action 55: Consider a program to stabilize irreplaceable art pieces in museums highly susceptible to damage from even minor earthquake events

2025 Status	Coordinate with the Gilcrease Museum; where possible incorporate appropriate elements of the facility's risk management or disaster preparedness plans into the city-wide disaster recovery and reconstruction plan.
2026 Status	Ongoing

Action 56: Take measures to protect against cyber criminals; backup and update IT systems

2025 Status	Ongoing
2026 Status	The Information Technology Department continues to strengthen Water & Sewer operations by improving radio communications security, hardening SCADA-related components, and reinforcing network reliability at key facilities. IT advances system modernization through upgrades to aging servers and software, improved authentication and certificate management, and continued transition of Radio Services into the Lucity EAM work order system. Disaster-recovery and continuity planning progresses through emergency power evaluations, SCADA resilience activities, and supplemental network deployments that support uninterrupted operations during facility remodels and system outages.



Action 57: Follow the recommendations of the Eucha Dam Anchoring and Concrete Repairs, TMUA-W 190-01, Preliminary Engineering Report, first major component, to provide stability improvement to the three sections consisting of post-tensioned anchors

2025 Status	Adopted with 2023 HHPD Amendment addressing Spavinaw Lake Dam and Eucha Dam
2026 Status	Ongoing. Eucha Dam anchoring project is nearing completion.

Action 58: Provide an assessment and repairs of the downstream concrete surfaces of the Eucha Dam

2025 Status	Adopted with 2023 HHPD Amendment addressing Spavinaw Lake Dam and Eucha Dam; description updated to reflect planned project
2026 Status	Ongoing. Project expected to be completed late 2026.





Action 59: Develop a contingency plan for a scenario where the Spavinaw and Lake Eucha water sources are lost due to catastrophic failure for the City of Tulsa, including alternative water sources, costs of development, and implementation processes

2025 Status	Tulsa is currently completing the Comprehensive Plan for the Water System. The plan will review future water demand, source water supplies, and recommend improvements. Tulsa has two primary water sources, one emergency water source, and one future water source. In addition, there are two flow lines from each water source, and water can be moved from Lake Oologah to the Mohawk WTP. Both plants have terminal storage for up to 30 days of water supply. Spavinaw Dam has already been anchored to resist the current probable maximum flood, and the overall system capacity is two times the average day base demand.
2026 Status	Tulsa has two primary raw water sources, Spavinaw/Eucha and Oologah watersheds, and one emergency water source at Lake Hudson. There are two raw water flow lines from each water source and water can be moved from Lake Oologah to the Mohawk WTP at Bird Creek PS. Both WTPs have terminal water storage reservoirs on site. In addition, easements for a future permanent source water intake and third raw water flowline from Lake Hudson and a third terminal storage reservoir have already been purchased. The 2025 Comprehensive Water System Study recommends design for the third flowline to begin in 2040. Spavinaw Dam has already been anchored to resist the current probable maximum flood, and the overall system capacity is two times the average day base demand. The Eucha Dam anchoring project is expected to be completed in 2026.





Appendix B: 2026 Repetitive Loss Area Analysis Update

Mitigated RLAs

In 2023, the City of Tulsa submitted 43 existing RL properties to be mitigated based on acquisition and structural projects that protected the properties from flooding. The City of Tulsa also submitted 6 RL properties for conditional mitigation because they have been protected from the 4% (25-year) AC storm but not the 1% (100-year) AC storm by a project. Of the submitted properties, the City has received confirmation that 16 properties are considered mitigated, fully mitigating the RL properties in 8 RLA. This additional 8 areas beings the total to 16 mitigated RLAs. In 2026, the City completed the update of their Repetitive Loss Area Analysis for their unmitigated RLAs as required by the CRS program. During this analysis the City reviewed the areas and made updates to their boundaries based on additional flood claims, 311 complaints, and Master Drainage Plans. In 2025, the City had 71 RL properties spread over 68 areas. This has been reduced to 46 areas, covered in 11 reports. These reports correspond to the City's Master Drainage Plan basins.

As of 2026, 74 of the 150 repetitive loss properties in the City of Tulsa are confirmed to be mitigated, leaving 76 unmitigated RL properties. 5 of these unmitigated RL properties are located outside of city limits which leaved 71 unmitigated RL properties in the City of Tulsa. As a CRS Class 1 community, the City must demonstrate that at least 25% of the properties on their repetitive loss list are “protected from flood damage from repetitive flooding through acquisition, retrofitting, or structure control projects.”

The City of Tulsa is working with FEMA to provide the required documentation that was missing from the 2023 submittal to satisfy the change in mitigation status of 6 remaining properties. The RLAs that are being considered for mitigation from elevation, structural flood control projects, acquisition, or otherwise are listed below. These will be denoted as “Requested” in the accompanying table.

Mitigation of RLAs from Acquisition/Relocation or Demolition:

RLA 11- All buildings in this RLA have been demolished. The City of Tulsa will submit paperwork to update the status of this RL property.

Ongoing Updates from 2023 Submittal

Mitigation of RLAs from Structural Projects

The following properties received requests for more information to officially update their status to mitigated. The City will work with FEMA to update the status of the repetitive loss properties in the following RLAs.

RLA 27– The DOT East 71st Street South Street Improvement was completed in 2002 and 2003. It involved storm sewer improvements along E. 71st St. and the construction of a stormwater detention facility immediately upstream that mitigated flooding in the 100-year event in this area.



RLA 8– Vienna Woods Drainage Improvements recommended as part of the Fred Creek Master Drainage Plan (1989) completed in 2001. Increased the storm sewer capacity directly downstream of this RLA to convey the 100-year event.

RLA 58– The upstream area is being developed for a school which involves regrading of the lot and the installation of a stormwater detention facility.

RLA 51– This RL property has been mitigated as a result of the ODOT I-44 Widening Drainage Improvements in 2009-2010 and Perryman Ditch Drainage Improvements. These projects included increased storm sewer capacity and improved local drainage.

RLA 19– This RLA experienced flooding in 1979 and 1984, both extraordinary storms the latter being larger than the 100-year storm event. Detention ponds upstream were constructed between 1978 and 1980 to protect the RLA from flooding events up to the 100-year storm.

RL Properties Not Included in RLAs

Five properties are included in the City of Tulsa Repetitive Loss List but are outside the City of Tulsa's jurisdiction. These repetitive loss properties were submitted to FEMA to be removed from the City of Tulsa's list as part of the 2024 update. The City will continue to pursue the correction of their RL list.

Currently Active RLAs

East Tulsa

ROLLING HILLS CREEK

RLA 4- Flood damage in RLA 4 has historically resulted from overland flow entering the properties from the north and east, due to inadequate drainage paths directing runoff to the bar ditches and the buildings' location below street grade. These conditions have promoted ponding in the parking lots, which has contributed to flooding of the slab-on-grade structures. Though the properties have not made flooding claims or complaints since 1984 they are likely still susceptible to flooding in heavy rain events. A local solution to the flooding would be to continue to maintain the ditches to reduce the likelihood of back-up, create overland flow paths to better allow drainage of ponding water, and flood proofing as appropriate.

Joe Creek

JOE CREEK MAINSTEM

RLA 1- The historic cause of flooding in RLA 1 was overbank flooding from the mainstem of Joe Creek which runs through the center of this area. Eighteen properties in the RLA submitted flood claims during the 1984 flood. Subsequently, a large channel improvement project was completed through a partnership between USACE and the City. This channelization of the mainstem largely reduced if not eliminated overbank flooding during the 100-year event. Since these improvements, flood threat remains, but it is due to overland flow paths through properties and inadequate storm sewer coverage leading to ponding and flooding especially for the slab-on-grade structures. The MDP recommended storm sewer improvements and extensions, improved overland flow paths, creating berms/swales to direct runoff, away from residences, and acquisition and relocation.



RLA 59- Overland flooding from inadequate ditch sizes and storm sewer backup have historically threatened the properties in RLA 59. Several structures are not elevated above the roadway grade, increasing their susceptibility to runoff. The MDP recommended storm sewer improvements and extension, acquisition and relocation, and upstream detention. Individual mitigation actions can be taken to reduce overland flooding risk. Local solutions would include elevating utilities, creating overland flow paths to better allow drainage of ponding water, and floodproofing as appropriate.

JOE CREEK EAST BRANCH

RLA 33- Overland flooding and storm sewer backup along the historic creek bed have threatened the properties in RLA 33. Several structures have basements, increasing their susceptibility to runoff. The MDP recommended acquisition and relocation to mitigate the flooding in this area. Individual mitigation actions can be taken to reduce overland flooding risk. Local solutions would include elevating utilities, creating overland flow paths to better allow drainage of ponding water, and floodproofing as appropriate.

RLA 34- Overland flooding and storm sewer backup along the swale of the historic creek bed have threatened the properties in RLA 34. The MDP recommended storm sewer improvements and downstream detention to mitigate the flooding in this area. Individual mitigation actions can be taken to reduce overland flooding risk. Local solutions would include elevating utilities, creating overland flow paths to better allow drainage of ponding water, and floodproofing as appropriate.

JOE CREEK WEST BRANCH

RLA 26- Overland flooding and storm sewer backup along the swale of the historic creek bed have threatened the properties in RLA 26. The structures along S. Florence Ave. are not elevated above the roadway grade, increasing their susceptibility to runoff as water flows across the property to the next point of collection. The MDP recommended acquisition and relocation, storm sewer improvements and detention to mitigate the flooding in this area. Individual mitigation actions can be taken to reduce overland flooding risk. Local solutions would include elevating utilities, creating overland flow paths to better allow drainage of ponding water, and floodproofing as appropriate.

RLA 45- Overland flooding and storm sewer backup along the historic creek bed have threatened the properties in RLA 45. The structures along S. Florence Ave. are not elevated above the roadway grade, increasing their susceptibility to runoff as water flows across the property to the next point of collection. The MDP recommended acquisition and relocation to mitigate the flooding in this area. Individual mitigation actions can be taken to reduce overland flooding risk. Local solutions would include elevating utilities, creating overland flow paths to better allow drainage of ponding water, and floodproofing as appropriate.

LITTLE JOE CREEK

RLA 13- Overbank, overland flooding and storm sewer backup have historically threatened the properties in RLA 13. Though much of the overbank flooding threat was mitigated through the channelization project along Little Joe Creek in the 1980s, several properties remain in the floodplain. Overland flow and storm sewer backup are the primary cause of potential flooding since the project. This area is included in the MDP. The study cites the storm sewer capacity as 28% of the 100-year flow. The plan recommended storm sewer improvements, and acquisition and relocation of flooded properties to mitigate flooding in this area. Should localized flooding from overland flow remain a threat



to these slab-on-grade properties, individual mitigation actions can be taken to reduce flooding risk. Local solutions would include elevating utilities, creating overland flow paths to better allow drainage of ponding water, and floodproofing as appropriate.

RLA 16- Overbank, overland flooding and storm sewer backup have historically threatened the properties in RLA 16. Though much of the overbank flooding threat was mitigated through the channelization project along Little Joe Creek in the 1980s, several properties remain in the floodplain. Overland flow and storm sewer backup are the primary cause of potential flooding since the project. This is threatening to those properties with slab-on-grade foundations, but even more so to those properties with finished floor elevation below the surrounding terrain. This area is included in the MDP. The MDP recommended acquisition and relocation of several structures and additional upstream detention along S. 54th Pl. to mitigate the flooding in this area. Should localized flooding from overland flow remain a threat to these properties, individual mitigation actions can be taken to reduce flooding risk. Local solutions would include elevating utilities, creating overland flow paths to better allow drainage of ponding water, and floodproofing as appropriate.

RLA 22- Overbank, overland flooding and storm sewer backup have historically threatened the properties in RLA 22. Though much of the overbank flooding threat was mitigated through the channelization project along Little Joe Creek in the 1980s, several properties remain in the floodplain and subject to overbank flooding. Reports as recently as 2020 describe the channel causing yard flooding to the surrounding properties. Additionally, several structures in this area are located on low-lying terrain along the creek with inadequate overland flow paths that allow for runoff and ponded water to threaten the slab-on-grade structures. This area is included in the MDP. The MDP recommended storm sewer improvements and upstream detention to mitigate the flooding in this area. Should localized flooding from overland flow remain a threat to these properties, individual mitigation actions can be taken to reduce flooding risk. Local solutions would include elevating utilities, creating overland flow paths to better allow drainage of ponding water, and floodproofing as appropriate.

RLA 39- Overbank, overland flooding and storm sewer backup have historically threatened the properties in RLA 39. Though much of the overbank flooding threat was mitigated through the channelization project along Little Joe Creek in the 1980s, several properties remain in the floodplain. Overland flow and storm sewer backup are the primary cause of potential flooding since the project, especially between S. 67th E. Pl. and S. Sheridan Rd. This is threatening to those properties with slab-on-grade foundations, but even more so to those properties with basements and finished floor elevation below the surrounding terrain. This area is included in the MDP. The MDP recommended acquisition and relocation for open floodplain storage and upstream detention at Memorial High School to mitigate the flooding in this area. Should localized flooding from overland flow remain a threat to these properties, individual mitigation actions can be taken to reduce flooding risk. Local solutions would include elevating utilities, creating overland flow paths to better allow drainage of ponding water, and floodproofing as appropriate.

RLA 42- Overbank, overland flooding and storm sewer backup have historically threatened the properties in RLA 42. Though much of the overbank flooding threat was mitigated through the channelization project along Little Joe Creek in the 1980s, several properties remain in the floodplain and subject to overbank flooding. Three structures have been demolished since the 2017 report and two properties that were subject to flooding from overland flow have been redeveloped and drainage conditions have improved. This area is included in the MDP. The report cited minimal flooding concerns



persisting in this area and recommended floodplain storage to mitigate flooding in nearby problem areas LJC-14 and 16. The City submitted paperwork in 2023 to change the status of the repetitive loss property in this area and will follow up to confirm the status change. Should localized flooding from overland flow remain a threat to these properties, individual mitigation actions can be taken to reduce flooding risk. Local solutions would include elevating utilities, creating overland flow paths to better allow drainage of ponding water, and floodproofing as appropriate.

Lower Middle Mingo Creek

JONES CREEK

RLA 5- Overbank flooding, overland flooding, and storm sewer backup continue to threaten RLA 5. In accordance with the MDP, upstream detention and increased culvert capacity at S. Memorial Dr. have provided some relief to the structures within the SFHA, though it has not entirely reduced the overbank flooding. The structures remaining in the SFHA have finished floor elevations above the BFE. They remain at risk of flooding events greater than the 100-year storm. Overland flow and storm sewer backup likely still present a threat to the slab-on-grade structures in this area, though no flooding claims have been made since 1985. If localized flooding does continue to threaten these slab-on-grade structures, individual mitigation actions can be taken to reduce overland flooding risk. Local solutions would include elevating utilities, creating overland flow paths to better allow drainage of ponding water, and floodproofing as appropriate.

RLA 36- Overland flooding and storm sewer back-up have historically threatened the properties in RLA 36. This area is included in the MDP with recommended storm sewer improvements. In 2003, the City improved the storm sewer along Maplewood Ave. and reduced flooding potential in this area. The repetitive loss property has not been included in the annual NFIP list received by the City since 2018. There haven't been any complaints about flooding since the last claim made in 1995. If localized flooding does continue to threaten these slab-on-grade structures, individual mitigation actions can be taken to reduce overland flooding risk. Local solutions would include elevating utilities, creating overland flow paths to better allow drainage of ponding water, and floodproofing as appropriate.

UPPER MILL CREEK

RLA 44- Overland flooding and storm sewer backup have historically threatened the properties in RLA 44. This area is included in the MDP with recommended storm sewer improvements and upstream detention. The upstream detention was constructed as part of the Mingo Creek flood control project, but without the storm sewer diversions the effort did not mitigate flooding along this reach. The structures in this area are built along the swale of the historic Mill Creek and are primarily slab-on-grade. The storm sewer capacity is not enough to convey the 100-year event, and the overflow reaches depths of several feet in the area. In smaller events than the 100-year storm, localized flooding from overland flow can remain a threat to these properties. Individual mitigation actions can be taken to reduce overland flooding risk. Local solutions would include elevating utilities, creating overland flow paths to better allow drainage of ponding water, and floodproofing as appropriate.



Lower Mingo Creek

LOWER MINGO CREEK

RLA 50- Overbank and overland flooding have continued to threaten the properties in RLA 50. This area is not included in the MDP, but the industrial park's property group has identified solutions to mitigate the threat of overland flooding and storm sewer backup. The overbank flooding risk has been decreased due to the Mingo Creek flood control project in the 1990s and additional fill added to the levee. The levee overtopping elevation is greater than the 100-year water surface elevations through this reach but due to the levee not meeting certification requirements, the area is still mapped within the SFHA, and the properties are still threatened by larger storms overtopping this levee.

RLA 67- Overbank and overland flooding continue to threaten the properties in RLA 67. The MDP recommends flood proofing and acquisition of one structure to mitigate the flooding risk. As of 2020 complaints of overland flooding have been made to the City. The City of Tulsa has planned a Capital Improvement Project that would benefit this RLA by implementing the floodproofing measures recommended in the 1991 Master Drainage Plan. Individual mitigation actions can be taken to reduce overland flooding risk for the slab-on-grade structures. Local solutions would include elevating utilities and creating overland flow paths to better allow drainage of ponding water.

Upper Middle Mingo Creek

AUDUBON CREEK

RLA 21- Overbank and overland flooding have historically threatened the properties in RLA 21. This RLA is located in a heavily commercial and industrial part of Tulsa. Three structures are within or touched by the City of Tulsa's regulatory floodplain. Since the improvements of the downstream crossings, the overbank flooding risk has been significantly reduced and most of the properties in the area have been removed from the City regulatory floodplain. Though flood risk still exists as some structures remain in the floodplain and the area is subject to continued flooding from overland flow and undersized ditches. The MDP recommendations have been largely enacted. The City of Tulsa has planned a Capital Improvement Project that would benefit this RLA by implementing the pond capacity and storm sewer improvements recommended in the 1993 Master Drainage Plan. Individual mitigation actions can be taken to reduce overland flooding risk. Local solutions would include elevating utilities, creating overland flow paths to better allow drainage of ponding water, and floodproofing as appropriate.

BELL CREEK

RLA 31- Overbank and overland flooding have historically threatened the properties in RLA 31. Improvements along Bell Creek to improve the downstream culvert capacity have largely reduced overbank flooding risk in this RLA, though the risk of overland flow flooding these structures still exists. RLA 31 was included in the 2017 Master Drainage Plan with recommendations for increased storm sewer capacity for protection against the 5-year event. The City of Tulsa has planned a Capital Improvement Project that would benefit RLA 31 by implementing the storm sewer and channel improvements recommended in the 2017 Master Drainage Plan.

RLA 32- Overbank and overland flooding have historically threatened the properties in RLA 32. Improvements along Bell Creek to improve the downstream culvert capacity have largely reduced



overbank flooding risk in this RLA. Additionally, the City expanded the storm sewer system in this area in the 1990s. Overland flow paths and flooding complaints indicate that the risk of overland flow flooding these structures still exists. Individual mitigation actions can be taken to reduce overland flooding risk. Local solutions would include elevating utilities, creating overland flow paths to better allow drainage of ponding water, and floodproofing as appropriate.

Upper Mingo Creek

UPPER MINGO CREEK

RLA 9- Overbank and overland flooding have continued to threaten the properties in RLA 9. The MDP Recommendations in this area are to improve downstream culvert capacity, improve the channel through this reach, and install upstream detention. The downstream structures have been increased and largely provided relief from overbank flooding to this area. Two structures remain at risk to the 100-year flood and are still located within the SFHA and City regulatory floodplain. Overland flow continues to threaten these slab-on-grade structures as well. As recently as 2017 there have been complaints of overland flow from surrounding neighbors crossing through properties in this area. The City of Tulsa has planned a Capital Improvement Project that would benefit this RLA by implementing the channel and culvert capacity improvements recommended in the 1988 Master Drainage Plan. Individual mitigation actions can be taken to reduce overland flooding risk for the slab-on-grade structures. Local solutions would include elevating utilities and creating overland flow paths to better convey water away from your property.

Mid Tulsa

CROW CREEK

RLA 56- Overbank and overland flooding have continued to threaten the properties in RLA 56. The MDP Recommendations in this area are to improve storm sewer system and its outfall, detention, and channelization of Crow Creek. Local flooding solutions include creating overland flow paths and implementing berms/swales to better allow drainage of ponding water.

ELM CREEK

RLA 28 and 29- Limited storm sewer capacity and overland flow continue to be the primary cause of flooding within the Elm Creek RLAs. The City has installed a detention facility downstream of these areas with accompanying storm sewer improvements, but this did not mitigate the repetitive loss properties. The MDP suggests increased storm sewer capacity, detention, and acquisition to deal with the ongoing flooding problems. The City of Tulsa has planned a Capital Improvement Project that would benefit these RLAs by implementing the floodproofing, acquisition, detention and stormwater system improvements recommended in the 2008 Master Drainage Plan. For the localized flooding concerns, solutions include creating overland flow paths and implementing berms/swales to better allow drainage of ponding water, and flood proofing as appropriate.

PERRYMAN DITCH

RLA 48- Overbank and overland flooding from undersized ditches and storm sewer have continued to threaten properties in RLA 48. The MDP recommends upstream detention and storm sewer diversion capable of conveying the 100-year flow. This would reduce flood conditions in the RLA.



Another solution would be to acquire the flood-prone properties within the City regulatory floodplain and maintain them as open space.

RLA 51- The historic cause of flooding in RLA 51 is due to overland flow from inadequate drainage conditions along the relatively flat terrain, inadequate drainage ditches, and storm sewer backup. The City has undertaken two large flood control projects and greatly reduced flood risk within the area, removing 30 structures from the floodplain in this RLA alone. Since these improvements, no claims have been filed, and the residential complaints pertain to roadway and yard flooding. Flood risk still exists to these slab-on-grade homes in larger frequency events. For the localized flooding concerns, solutions include creating overland flow paths and implementing berms/swales to better allow drainage of ponding water, and flood proofing as appropriate. **In 2023, the City submitted paperwork to change this RLA's status based on mitigation from a structural project. All but one repetitive loss property in this RLA has had its status changed. The City will continue to pursue the status change of the remaining property.**

SWAN CREEK

RLA 68- Overland flooding has historically threatened RLA 68. This area is not included in the MDP. The structures in this RLA are either slab on grade or have basements and are generally located at an elevation lower than those structures to their north. The drainage patterns cause runoff to cross these properties on its way to a point of collection along E. 15th St. Local flooding solutions include creating overland flow paths and implementing berms/swales to better allow drainage of ponding water. The City is working with property owners to collect more information.

North Tulsa

COAL CREEK

RLA 43- Overland flooding has continued to threaten properties in RLA 43. The storm sewer system along this RLA is undersized for the 100-year storm causing inundation of roadways, yard flooding and potential structural flooding. The 2018 Coal Creek MDP recommended upstream detention as a solution to flooding along this reach, along with floodplain management. Storm sewer improvements were considered costly but were reviewed in addition to mitigation through voluntary acquisition are recommended. A local solution would be to create overland flow paths to better allow drainage of ponding water

DIRTY BUTTER CREEK

RLA 15- Overbank and overland flooding have continued to threaten properties in RLA 15. Despite the installation of detention facilities upstream on Dirty Butter Creek, overbank flooding continues to be a concern for the 100-year flood event in this RLA. Acquisition and floodproofing are the most cost-effective options for the four properties and five structures located in this area, especially for the three properties in the floodway. The City of Tulsa has planned a Capital Improvement Project that would benefit this RLA by implementing the acquisition and floodproofing measures recommended in the 1987 Master Drainage Plan.

FLAT ROCK CREEK

RLA 37- Overbank and overland flooding have continued to threaten properties in RLA 37. The MDP recommended acquiring the flooded structures and improving the crossing at US Highway 75 to



improve conveyance. The capacity improvements have been completed, and the acquisition effort has been partially completed. The 2017 RLAA reports that homeowners in the area have rejected offers of voluntary acquisition and therefore remain at risk of flooding. Local solutions include creating overland flow paths and implementing berms/swales to better allow drainage of ponding water

VALLEY VIEW CREEK

RLA 46- Overbank and overland flooding have continued to threaten the properties in RLA 46. Several MDP projects have been carried out with positive impacts to the conveyance along this reach. Though structures remain within the FEMA and City regulatory floodplain. The overland flooding risk also remains due to inconsistent drainage patterns across several of the properties allowing for increased potential of ponding. A local solution would be to create overland flow paths to better allow drainage of ponding water and flood proofing as appropriate.

Northwest Tulsa

PARKVIEW CREEK

RLA 3- Flood damage in RLA 3 has historically resulted from overland flow from the south, inadequate grading to promote runoff capture in the bar ditches, and inadequate storm sewer capacity. These factors have made the buildings more susceptible to flooding, especially those with slab-on-grade foundations. The MDP recommends voluntary acquisition and relocation of five structures in this area. To manage localized flooding, the property owner can undertake individual mitigation actions, these include creating overland flow paths to better allow drainage sheet flow, and flood proofing as appropriate. The City of Tulsa has planned a Capital Improvement Project that would benefit this RLA by implementing the voluntary acquisition and relocation measures recommended in the 2022 Master Drainage Plan.

RLA 66- Flood damage in RLA 66 has historically resulted from overland flow entering the properties from the north and east, and an undersized storm sewer system. These conditions have led to flooded streets and structural flooding. A local solution to protect the slab-on-grade homes from overland flow draining from the east would be to create overland flow paths to reduce ponding potential and flood proofing as appropriate. The MDP recommends increasing the mainline storm sewer capacity throughout the reach which now has approximately a 2-year capacity. The City of Tulsa has planned a Capital Improvement Project that would benefit this RLA by implementing the channel and storm sewer capacity improvements recommended in the 2022 Master Drainage Plan.

South Tulsa

FRED CREEK

RLA 8- The historic cause of flooding in RLA 8 was overbank flooding caused by storm sewer backup. This area was analyzed during the MDP update and suggested improving the storm sewer system. This recommendation is complete. The system was designed to contain the 100-year event. **The City submitted paperwork to change the status of this RLA in 2023 and will continue to pursue its status change.**

RLA 27- Overland flow from 71st St. historically threatened the properties in RLA 27. The City's efforts to expand the storm sewer system along 71st St. in the 1990s and early 2000s likely mitigated this RLA. As the nature of any continued flooding would likely be localized, the property owner can



undertake individual mitigation actions as suitable. A local solution would be to create overland flow paths to better allow drainage of ponding water and flood proofing as appropriate. **The City submitted paperwork to change the status of this RLA in 2023 and will continue to pursue its status change.**

RLA 30- The historic cause of flooding in RLA 30 has been overland flow across the properties as flood water flows to the stormwater inlets. This RLA was not analyzed during the MDP and is located outside of FEMA and the City's regulatory floodplain. Individual mitigation actions can be taken to reduce overland flooding risk. Local solutions would include elevating utilities, creating overland flow paths to better allow drainage of ponding water, and floodproofing as appropriate.

FRY DITCH NO. 2

RLA 35- Overbank and overland flooding have historically threatened the properties in RLA 35. This area was analyzed in the MDP, and the recommendations were detention upstream, increased culvert capacity to improve conveyance at S. 76th E. Ave., erosion control along the channel, and acquisition and clearing of homes. The structural actions did not mitigate the 100-year flood in this RLA therefore acquisition or floodproofing are the most cost-effective remaining options to mitigate their susceptibility to riverine flooding.

RLA 58- Overland flow has historically been the primary cause of flooding in RLA 58. This area was not analyzed in the MDP. The overflow from the adjacent property has been mitigated through redevelopment in 2023. If flooding has continued it is likely due to these overland flow paths through yards in the area. Individual mitigation actions can be taken to reduce overland flooding risk. Local solutions would include elevating utilities, creating overland flow paths to better allow drainage of ponding water, and floodproofing as appropriate.

HAIKEY CREEK

RLA 19- Flooding in RLA 19 is likely caused by inadequate storm sewer conveyance and overland flow along the low-lying properties in this RLA. The detention pond that was installed directly north of these homes has lowered their susceptibility to flooding in the 100-year event although they flooded shortly after the construction of the pond by a larger storm than the system was designed for. This RLA is protected from flooding in the 100-year event. The City submitted paperwork to change the status of this RLA in 2023 and will continue to pursue its status change.

RLA 57- Flooding in RLA 57 has historically been due to overland flow and storm sewer backup from an undersized system threatening the slab-on-grade properties along the low-lying terrain in this area. The MDP recommendations were acquisition and storm sewer diversion. Neither action has been completed and the structures are still susceptible to the 100-year flood.

VENSEL CREEK

RLA 62- The causes of flooding in RLA 62 are overland flow from the high ground to the east that is not captured by the storm sewer and riverine flooding along the channel. This area was analyzed in the 1995 MDP. The recommendations were flood proofing of homes along the channel. The 2024 update recommended downstream channel improvements and acquisition. Despite the installation of larger culverts at E. 77th St. and storm sewer improvements along S. Quebec Ave. the RLA is still susceptible to riverine flooding from the 100-year event.



Southwest Tulsa

HAGER CREEK

RLA 49- Riverine and overland flooding have continued to threaten properties and structures in the floodway and 100-year floodplain of RLA 49. This area was analyzed in the MDP and the recommendations included channel and crossing improvements, upstream stormwater detention ponds, floodproofing, and acquisition. Three properties have been acquired, and no other actions have been taken. The two remaining properties have rejected offers for voluntary acquisition by the City. Acquisition and/or floodproofing as appropriate are the most cost-effective remaining options for these properties, especially for the property in the floodway. As of this 2026 update, there is a stormwater Capital Improvement Project within the area that could provide relief from flooding to this RLA. The project is estimated to go to construction in phases from 2028 to 2029. The plans include bridge, channel and storm sewer improvements.

MOOSER CREEK

RLA 64- Riverine and overland flooding have contributed to the repetitive losses of RLA 64. The primary cause of flooding seems to be localized. This area was not included in the MDP. The 2020 RLAA recommended the property owners improve/extend the storm sewer system, create overland flow path to better allow drainage of ponding water, create berms or swales to direct runoff away from structures, and floodproofing, as appropriate, as possible actions.

RLA 65- Riverine flooding has continued to threaten the properties in RLA 65. These properties are susceptible to overtopping of Mooser Creek and its tributary through this area. The recommended action from the MDP is floodproofing the three structures as appropriate. Acquisition is potentially a feasible solution as funding becomes available because these properties are all located in the FEMA SFHA.



Summary Updates

Table 1: City of Tulsa RLA Summary Table

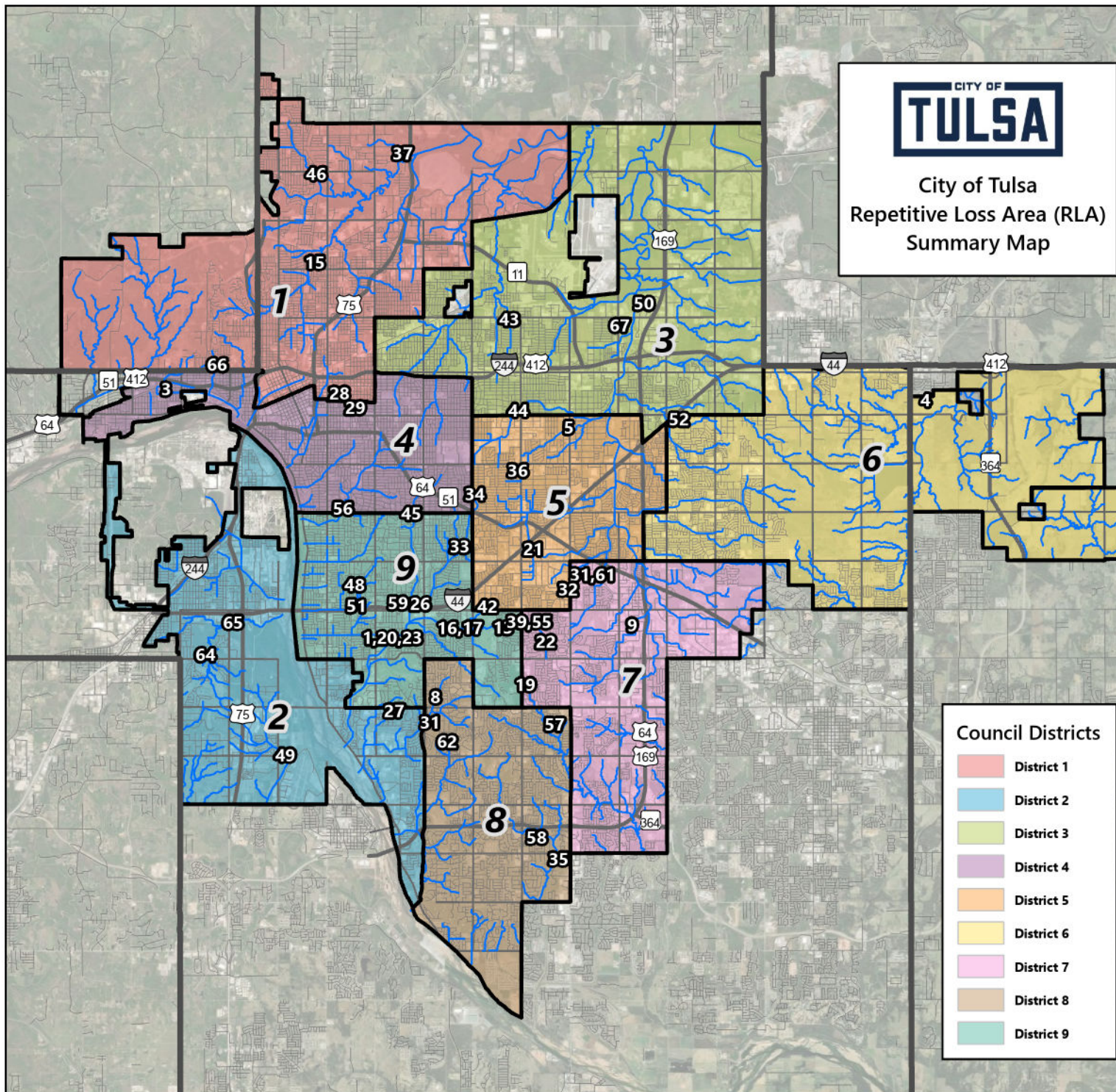
New RLA #	Historic RLA #	Location	Status	Drainage Basin	Report Basin
1	1, 20, 23	59th & Birmingham	Not mitigated	Joe Creek Mainstem	Joe Creek Mainstem
3	3	38th & Archer	Not mitigated	Park View Creek	Park View Creek
4	4	6th & 197th E Ave	Not mitigated	Rolling Hills Creek	Rolling Hills Creek
5	5	13th & Memorial	Not mitigated	Jones Creek	Jones Creek
8	8	67th & Knoxville	Requested	Fred Creek	Fred Creek
9	9	54th & 101st E Ave	Not mitigated	Mingo Creek Mainstem MU	Mingo Creek Mainstem MU
11	11	7th and Mingo	Requested	Tupelo Creek	Tupelo Creek
13	13, 41, 63	54th & Joplin	Not mitigated	Little Joe Creek	Little Joe Creek
15	15	27th & Madison	Not mitigated	Dirty Butter	Dirty Butter
16	16, 17	53rd & Toledo	Not mitigated	Little Joe Creek	Little Joe Creek
19	19	66th & Sheridan	Requested	Little Haikey Creek	Little Haikey Creek
21	21	36th & Sheridan	Not mitigated	Audubon Creek	Audubon Creek
22	22	58th & 72nd E Ave	Not mitigated	Little Joe Creek	Little Joe Creek
26	26	49th & Harvard	Not mitigated	Joe Creek, East Branch, West Branch, Mainstem	Joe Creek, East Branch, West Branch, Mainstem



27	27	71st & Birmingham	Requested	Fred Creek	Fred Creek
28	28	5th & Trenton	Not mitigated	Elm Creek	Elm Creek
29	29	7th & Wheeling	Not mitigated	Elm Creek	Elm Creek
30	30	75th & Jamestown	Not mitigated	Fred Creek	Fred Creek
31	31,61	46th & 85th E Ave	Not mitigated	Bell Creek	Audubon Creek
32	32	46th & Memorial	Not mitigated	Bell Creek	Audubon Creek
33	33	37th & Sandusky	Not mitigated	Joe Creek East Branch	Joe Creek East Branch
34	34	26th & Yale	Not mitigated	Joe Creek East Branch	Joe Creek East Branch
35	35	101st & 77th E Ave	Not mitigated	Fry Ditch No 2	Fry Ditch No 2
36	36	21st & Sheridan	Not mitigated	Jones Creek	Jones Creek
37	37	51st & Columbia	Not mitigated	Flat Rock Creek	Flat Rock Creek
39	39, 55	53rd & Sheridan	Not mitigated	Little Joe Creek	Little Joe Creek
42	42	49th & Darlington	Not mitigated	Little Joe Creek North Fork	Little Joe Creek North Fork
43	43	Pine & Maplewood	Not mitigated	Coal Creek	Coal Creek
44	44	7th & Sheridan	Not mitigated	Upper Mill Creek	Upper Mill Creek
45	45	31st & Florence	Not mitigated	Joe Creek West Branch	Joe Creek West Branch
46	46	46th Street North & Kenosha	Not mitigated	Valley View Creek	Valley View Creek
48	48	45th & Victor	Not mitigated	Perryman Ditch	Perryman Ditch



49	49	81st & Elwood	Not mitigated	Hagar Creek, Arkansas River Local Drainage	Hagar Creek, Arkansas River Local Drainage
50	50	Ute & 105th E Ave	Not mitigated	Mingo Creek Mainstem MLM	Mingo Creek Mainstem MLM
51	51	50th & Wheeling	Requested	Perryman Ditch	Perryman Ditch
56	56	30th & Trenton	Not mitigated	Crow Creek	Crow Creek
57	57	74th & 77th E Ave	Not mitigated	Little Haikey Creek	Little Haikey Creek
58	58	98th & 69th E Ave	Requested	Fry Ditch No 2	Fry Ditch No 2
59	59	49th & Columbia	Not mitigated	Joe Creek Mainstem	Joe Creek Mainstem
62	62	77th & Quebec	Not mitigated	Vensel Creek	Vensel Creek
64	64	W. 61st St. & S. 25th West Ave. Area	Not mitigated	Mooser Creek	Mooser Creek
65	65	West 53rd St. & South Union Ave. Area	Not mitigated	Mooser Creek	Mooser Creek
66	66	N. Yukon Ave. & W. Haskell Pl. Area	Not mitigated	Parkview Trib. LB1	Parkview Trib. LB1
67	67	N. Mingo Rd. & E. Pine St. Area	Not mitigated	Mingo Creek Mainstem MLM	Mingo Creek Mainstem MLM
68	68	15th St. & Xanthus Ave.	Not mitigated	Swan Creek	Swan Creek



RLA 2026	Historic RLA	Council District
15	15	1
28	28	1
37	37	1
66	66	1
46	46	1
27	27	2
49	49	2
64	64	2
65	65	2
43	43	3
50	50	3
67	67	3
44	44	3
56	56	4
29	29	4
3	3	4
21	21	5
32	32	5
34	34	5
36	36	5
5	5	5
42	42	5
4	4	6
52	52	6
31	31,61	7
19	19	7
39	39,55	7
22	22	7
9	9	7
30	31	8
8	8	8
35	35	8
58	58	8
57	57	8
62	62	8
33	33	9
1	1,20,23	9
59	59	9
45	45	9
26	26	9
13	13	9
16	16,17	9
48	48	9
51	51	9