Repetitive Loss Area # 47

Cooley Creek
E. 6th St. & S. 132nd East Avenue Area

August 17, 2017
August 17, 2017

Dear Resident/Property Owner:

Once considered the most flood-prone city in America, Tulsa has worked hard to reduce or eliminate flooding of its homes and neighborhoods. The City joined the Federal Emergency Management Agency’s (FEMA) National Flood Insurance Program (NFIP) in 1974 and through decades of effort is now recognized as a national leader in flood hazard mitigation. As a result, property owners in Tulsa receive as much as 40% discount on their flood insurance.

A key component of the NFIP has been its focus on Repetitive Loss Properties, which make up only 1 percent of insured properties, but account for over 30 percent of flood insurance claims payments. A Repetitive Loss Property is defined by FEMA as any property that has been paid two or more flood insurance claims of $1,000 or more in a 10-year time period.

The NFIP recently expanded its flood hazard mitigation program to include the identification of “Repetitive Loss Areas” (RLA)—those properties near an existing Repetitive Loss Property that may be subject to the same general flooding conditions. In most instances, 95% of the properties in an RLA will never have experienced flooding—especially if the cause of damage is shallow, overland flow due to local drainage conditions. Once the City has identified an RLA, we are required to contact the owners and residents of the area and work together to develop a plan to reduce or eliminate flooding in the neighborhood.

Your property has been identified as being in a Repetitive Loss Area. We want to re-emphasize that this does not mean your property has flooded or is even likely to flood—only that it is in the same area, and in a similar geographical situation, as an existing Repetitive Loss Property.

You can protect your property from flooding. We would like to invite you to participate in our flood prevention and mitigation efforts for your neighborhood. We need your input. What can we do, working together, to eliminate potential flood losses in your area? We look forward to hearing from you.

To learn more about your risk of flooding visit www.floodsmart.gov or contact the City of Tulsa Customer Care Center at (918) 596-7777.

Sincerely,

CITY OF TULSA, ENGINEERING SERVICES

Bill Robison, P.E., CFM
Senior Special Projects Engineer
Stormwater Project Coordination
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The City of Tulsa Repetitive Loss Area Analysis Plans were developed by Engineering Services with local funding from the City of Tulsa in compliance with the Federal Emergency Management Agency's Community Rating System's requirements. Numerous agencies, departments, organizations and individuals participated in these studies, including:

City of Tulsa Elected Officials

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
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<tbody>
<tr>
<td>G.T. Bynum</td>
<td>Mayor</td>
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<tr>
<td>Vanessa Hall Harper</td>
<td>City Council District 1</td>
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<tr>
<td>Jeannie Cue</td>
<td>City Council District 2</td>
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<td>David Patrick</td>
<td>City Council District 3</td>
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<td>Blake Ewing</td>
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<td>Karen Gilbert</td>
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<td>Connie Dodson</td>
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<td>Anna America</td>
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<td>Phil Lakin, Jr.</td>
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<td>Ben Kimbro</td>
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Stormwater Drainage and Hazard Mitigation Advisory Board

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<thead>
<tr>
<th>Name</th>
<th>Position</th>
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<tbody>
<tr>
<td>Dr. Judith Finn, Esq., Chair</td>
<td>Attorney at Law</td>
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<tr>
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Tulsa Technical Advisory Committee

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Repetitive Loss Area # 47

Cooley Creek
E. 6th St. & S. 132nd East Avenue Area

Overview
Repetitive Loss Area #47 is comprised of four single-family residences on six property lots in the Meadowbrook Heights addition. The properties are on the west side of S. 132nd E. Ave., between E. 5th St. and E. 7th St., and back onto the south tributary of Cooley Creek. There is one repetitive loss property in the RLA that made claims in 1999 ($2,987) and 2000 ($2,811) for a total of $5,798. One other property made a claim in 1984 for $350. The cause of damage has been overbank flooding from the creek. The repetitive loss property is a slab-on-grade structure, while the single-loss property is built on a crawl space. According to the owner of one of the damaged properties, there has been water in the back yards every year, and two have had water inside the home. The properties are on generally level terrain that varies from 686 to 690 feet elevation, in a stretch of the creek where the 100-year floodplain reaches from 685-ft. at E. 5th St. to 692 feet at E. 7th St. All structures are within FEMA’s and the City’s 100-year floodplain, and all property lots are touched by the creek’s floodway. There have been no damage claims in the RLA since 2000, although one property reportedly had water in its yard in 2001.

I.

RLA #47 is on S. 132nd E. Ave., on the right bank of Cooley Creek’s south tributary.
Background
During the post-World War building boom of the 1950s and 1960s, Tulsa expanded rapidly east and south into the basins of Mingo, Joe and Fred creeks. Because of the city’s climate and the broad floodplains along these streams, this growth brought with it an increased risk of flooding. And indeed, by the mid-1980s floods were occurring almost yearly and flooding had become Tulsa’s most destructive natural hazard. One researcher at the time declared Tulsa “the most flood-prone community in the nation.”

Tulsa was not unique in its rapid post-war development and attendant risks. Cities across America were experiencing similar problems as they spread out into prosperous subdivisions. In response, the U.S. Congress created the National Flood Insurance Program (NFIP) in 1968 to help property owners protect themselves from flood losses. The NFIP offered flood insurance to homeowners, renters, and business owners if their community participated in the NFIP and agreed to adopt and enforce ordinances that met or exceeded FEMA requirements for reducing the risk of flooding.

Tulsa joined the NFIP in 1974, and through great effort and considerable expense has significantly reduced its exposure to flooding. As a result, Tulsa has been awarded a Class II rating in the NFIP’s Community Rating System (CRS), which grants its residents a 40 percent discount on the cost of flood insurance for structures in the Special Flood Hazard Area (SFHA), also known as the 1% or 100-year floodplain. Since the Biggert-Waters Flood Insurance Reform Act of 2012, many properties have seen a substantial increase in their premiums, making this discount even more important.

For its part, the NFIP is continually faced with the job of paying claims while trying to keep the price of flood insurance at an affordable level. Properties that flood repeatedly—known as “repetitive loss properties,” have been a particular problem for the program. Although they make up only 1 percent of insured properties, they account for one-third of all claims payments (about $200 million per year, or $4.5 billion to date). A repetitive loss property is defined by FEMA as any property that has been paid two or more flood insurance claims of $1,000 or more in a 10-year time period.

Consequently, one of the requirements of the CRS is that communities identify all repetitive loss properties in their jurisdiction and work with the owners to find ways to reduce or eliminate future flood damage. This initiative has been very successful in reducing flood losses and claims.

FEMA recently extended its repetitive loss program to include “Repetitive Loss Areas” (RLA). To maintain a Class II rating in the CRS, Tulsa is now required to analyze the area surrounding each of its repetitive loss properties and identify any neighboring properties (including uninsured ones) that may be subject to the same general flooding conditions. This group of nearby properties is then designated an “RLA.” The City is required to contact the owners of the properties in the RLA, inform them that they are located in an area subject to flooding, and develop a plan for mitigating or eliminating flooding in the area, much as has been done for the individual repetitive loss properties.

It is important to note that most of the structures in a Repetitive Loss Area—perhaps as many as 80% or 90%—may not have experienced flooding of any kind. What they have in common is being subject to the same general geographical and flood conditions as the nearby repetitive loss property. In addition, the flooding events in question may have had
little to do with overbank flooding from a creek, but perhaps may have been the result of storm sewer backup or overland flow. The location of RLA #47 is shown on the aerial photo/topography map on page 4, below. The map identifies residential properties, County Assessor parcels, floodplains and the existing storm drainage system.

II. Location

Cooley Creek is a 5-mile-long, right-bank tributary to Mingo Creek that drains about 6.4 square miles of east Tulsa. The creek has several tributary branches. The mainstem, itself, rises in Rogers County in the high ground near E. Jasper and N. 169th E. Ave. The south tributary to Cooley Creek, which passes through RLA #47, has its origins in southeast Tulsa, in the high ground around E. 31st St. and S. 171st E. Ave. The south tributary flows northwest for 4.6 miles to join Cooley Creek mainstem near E. Brady St. and S. 124th E. Ave. The combined streams flow another 1.7 miles to the junction with Mingo Creek near the intersection of Mingo Rd. and I-244. Mingo Creek continues north, generally between Mingo Rd. and US Hwy 169 (Mingo Valley Expressway), to its junction with Bird Creek at the Northside Wastewater Treatment Plant near E. 57th St. N.

Repetitive Loss Area #47 is located along S. 132nd E. Ave., between E. 5th St. and E. 7th St., in the Meadowbrook Heights addition. The terrain on which the homes are situated varies between 686 and 690 ft. in elevation. The floodplain in this reach of the south tributary rises from 685 feet at E. 5th St. to 692 feet at E. 7th St. All properties in the RLA are within FEMA’s and the City of Tulsa’s 100-year flood hazard zones, and two houses are touched by the creek’s floodway.

III. History

Development

The four residential properties in RLA #47 were developed in the Meadowbrook Heights addition between 1956 and 1984. The surrounding terrain is generally level, but rises slightly to the east, away from the creek, and to the south. The streets in the neighborhood are curbless and the bar ditches shallow. Two of the four structures in the RLA are built on crawl spaces and two are slab-on-grade. Several of the original homes along S. 132 E. Ave. appear to have been cleared.
**Flooding**

Cooley Creek experienced flooding in October 1959, May 1970, September 1974, May 1984, April 1999 and May 2000. The flood of May 1984 was the flood of record for the basin.

Flooding in RLA #47 resulted in claims on May 27, 1984 ($350), April 26, 1999 ($2,987) and May 6, 2000 ($2,811). Total claims for the RLA are $6,148. There have been no flood damage claims since 2000. Flood damage has been due to overbank flooding from the south tributary of Cooley Creek, which flows from south to north behind the properties. All but $350 of the claims has been the result of shallow flooding to the RLA’s repetitive loss property. A former owner of this property converted a lower-level, slab-on-grade garage area into a living space—which was an unauthorized improvement.

**Improvements**

Massive flood-control improvements along Mingo Creek and Cooley Creek in the 1980s and 1990s included the channelization of nine miles of Mingo Creek, the enlargement or removal of undersized stormwater conduits and bridges, and the installation of 23 detention facilities in the basin. Among these improvements was the replacement of the undersized conduit beneath E. 4th Pl., about 1,000 feet north of the RLA. These measures have reduced backup flooding on Mingo Creek and Cooley Creek and its tributaries. Nevertheless, all properties in RLA #47 remain in the FEMA’s and the City’s 100-year flood hazard zone.

**IV. Research and Analysis**

The analysis of Repetitive Loss Area #47 was conducted by the Project Team through interviews with City officials, research into Engineering Services and Stormwater Drainage files, including the several master drainage plans for Mingo Creek and Cooley Creek and their tributaries, review of the City’s extensive flood history documentation, assessment of insurance claims, field trips to the RLA, interviews with home owners and questionnaires mailed to the property owners and occupants soliciting information about prior and existing flooding issues, if any.
Agencies and Organizations
The City of Tulsa's Storm Drainage & Hazard Mitigation Advisory Board (SDHMAB), which also serves as the City's Hazard Mitigation and CRS Committee, and the CRS Public Participation Involvement & Information Committee (PPI) met monthly during the two-year Repetitive Loss Area Planning process. Each committee was updated on the status of the planning process, discussed issues, and provided guidance. Research and analysis were done in accordance with guidelines from the Federal Emergency Management Agency (FEMA), the National Flood Insurance Program (NFIP) and the Community Rating System (CRS).

Local, State & Federal Agencies and non-profit organizations are represented on the PPI Committee. The RLA plans were discussed at the PPI Committee meetings, and other agencies such as TAEMA were contacted by phone or email. The RLA plans were presented to City Council for adoption; the agenda was made public and furnished to the media. The council meeting is a public meeting and the local media was present at the meeting. In addition the council meetings are aired on our local government network TV channel TGOV.

Participating agencies and organizations involved were: City of Tulsa (CoT) Storm Drainage & Hazard Mitigation Advisory Board, CRS PPI Committee, CoT Communications Department, CoT Development Services, Working in Neighborhoods, CoT Engineering Services, CoT Finance Department, CoT Legal Department, CoT Streets & Stormwater, CoT Water & Sewer Department, Child Care Resource Center, Indian Nations Council of Governments, Tulsa Area Emergency Management Agency (TAEMA), Disaster Resilience Network, Metropolitan Environmental Trust, Oklahoma Insurance Department, Tulsa Association of Realtors, U.S. Army Corps of Engineers.

Plans, Studies and Documents
The following City of Tulsa and FEMA documents were used in the analysis:

- *Mainstream Channel and Detention Sites, Mingo Creek, Tulsa, Oklahoma*, January 2003, US Army Corps of Engineers
- FEMA Regulatory Flood Map 40143C0264L
- *2014 City of Tulsa Hazard Mitigation Plan Update*, Flanagan & Assoc., 2014
- *City of Tulsa Stormwater Management Plan*
- Stormwater Capital Improvements List, City of Tulsa, Engineering Services
- *Cooley Creek Master Drainage Plan, Final Report*, May 1980
- *Guidebook to Conducting Repetitive Loss Area Analyses*, UNO and FEMA

Capital Improvements Plans
No City of Tulsa Capital Improvements are currently planned that could have a positive impact on the flooding problems in Repetitive Loss Area # 47.
**Flood Insurance Data**

Two properties in RLA #47 currently carry flood insurance.

**Claims Data.**

Overbank flooding along Cooley Creek’s south tributary generated three claims between 1984 and 2000 totaling $6,148. The repetitive loss property made claims in 1999 and 2000 for $5,798, and the other claimant made one claim in 1984 for $350.

**Field Surveys and Site Visits**

Site visits were conducted during the study, primarily to confirm foundation type and view local on-site overland flow drainage patterns.

**Review Drainage Patterns.**

The Project Team examined aerial topography maps, master drainage plans, storm sewer plans, City Customer Care Center complaints and comments, and conducted field checks to determine area drainage patterns and identify flooding problem areas. The results of the research and analysis are described in the following paragraphs and summarized in the table below.

**Structures**

The Project Team made a number of visits to RLA #47 to determine the situation and condition of the structures. Visual analysis was verified by queries of Tulsa County Assessor data.

**Structure Type.**

The structures in RLA #47 are comprised of four single-family residences on six property lots.

**Foundation Type.**

The type of foundation was determined by field investigation and query of Tulsa County Assessor records. Two structures are slab-on-grade, and two are built on crawl spaces.

**Condition of Structures.**

The condition of the structures in the RLA was determined by field investigation and a search of the County Assessor’s records. The structures are in Fair+ to Average condition. These findings are summarized in the following table.

### Properties in the RLA

<table>
<thead>
<tr>
<th>Address</th>
<th>Structure Type</th>
<th>Foundation Type</th>
<th>Year Built</th>
<th>Building Condition</th>
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<tbody>
<tr>
<td>Property 1</td>
<td>SF Residence</td>
<td>Crawl Space</td>
<td>1956</td>
<td>Fair+</td>
</tr>
<tr>
<td>Property 2</td>
<td>SF Residence</td>
<td>Crawl Space</td>
<td>1984</td>
<td>Average</td>
</tr>
<tr>
<td>Property 3</td>
<td>Vacant</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Property 4</td>
<td>SF Residence</td>
<td>SOG</td>
<td>1984</td>
<td>Fair+</td>
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Annual Floodplain Notification. Each year, in March, the City of Tulsa notifies all property owners and occupants within a 100-year floodplain that their properties are subject to flooding and informs them of what steps they can take to protect their buildings, contents and employees, including the purchase of flood insurance.

Annual Repetitive Loss Area Notification. Property owners and occupants in Repetitive Loss Area #47 are notified annually that their structures are located in a Repetitive Loss Area, and are potentially subject to flood damage from overland flow.

Property Owners/Residents Notification. Property owners and occupants were advised of the Repetitive Loss Area study and analysis by letter, were sent a questionnaire soliciting information and input, and asked to contact the City for more information or a copy of the completed RLA Plan.

Public Participation and Involvement. City Staff/Consultants interviewed homeowners to brief them on the Repetitive Loss Area Analysis Study/Plan, receive their input, and discuss possible mitigation measures.

Property Owner Response to Notifications. There have been two comments concerning flooding by property owners in RLA #47. The owner of a residence next door to the most frequently flooded repetitive loss property said his property floods every year when the bar ditch in front of the house is overwhelmed. Another owner said his property has not flooded since purchase in 2015.

Conclusions
RLA #47 has experienced flood damage from overbank flooding along the south tributary to Cooley Creek. All of the single-family residences in the RLA are within FEMA’s and the City of Tulsa’s 100-year flood hazard zone, and two are touched by the floodway. Of the four properties in the RLA, two are slab-on-grade and two are built on crawl spaces. The RLA’s one repetitive loss property is slab-on-grade. Originally, this property had a lower floor with a garage and the second story was considered the structure’s “first finished floor.” The owner subsequently converted the lower floor into living space, against the City’s advice. Attempts have been made by the City to purchase the structure and clear the property, but the owner has been unwilling to sell.

V. Mitigation Measures

Overview
The massive Mingo Creek Project undertaken by the City of Tulsa and the US Army Corps of Engineers in the wake of the devastating flood of May 27, 1984 has largely eliminated overbank and backup flooding along Mingo Creek and Cooley Creek and its tributaries. These measures included the replacement of undersized conduits beneath E. 4th Pl., about 1,000 feet downstream of the RLA. Nevertheless, the four single-family residences of RLA #47 remain within the floodway and 100-year flood hazard zone of Cooley’s south tributary. Minor overbank flooding of back yards continues to be a yearly nuisance. While enormous progress has been made in reducing or eliminating flooding on Cooley Creek and its tributaries, the properties in the RLA remain at risk to overbank flooding during storms of greater than 100-year magnitude.
**Individual Flood Protection Measures**

Individual property protection actions are usually undertaken by property owners on a lot-by-lot, building-by-building basis, and include private floodproofing, moving mechanical equipment above flood levels, installing French drains, minor site grading to move local drainage to the street, sanitary sewer backup protection, installing detention ponds and pump systems and flood insurance.

The City of Tulsa is willing to have a stormwater engineer do a site visit to assist you in analyzing your specific drainage problems and discuss potential solutions. Contact the Customer Care Center at (918) 596-7777, or go online to www.cityoftulsa.org/connect/contact-the-city.

**Know and Understand Your Flood Risk.** As stated above, being located in a Repetitive Loss Area does *not* mean a property will flood. Nevertheless, it is important that property owners in flood hazard areas know and understand their flood risk and take what steps they can to protect their buildings, furnishings and equipment. City staff is available to explain the local flood risk, interpret floodplain maps, and determine if an area or property has drainage problems or a history of prior flooding. Staff can also discuss the ways a specific property can be protected from flooding. An Elevation Certificate can help define a property’s flood risk under various rainfall scenarios (e.g., in a 10-year, 50-year, 100-year, or 300-year storm). To receive a free flood zone determination by mail, property owners and occupants can contact the Customer Care Center at (918) 596-2100 with the correct address or legal description of the property.

**Make a Disaster Preparedness Plan.** It is always a good idea for people in flood hazard zones to have a disaster preparedness and response plan that addresses all the steps and details that will demand attention once a flood watch or warning is issued. A Building Permit is required to install a safe room in a flood-prone area.

**Create Berms, Swales or Redirected Drainage.** Flood waters can be diverted away from structures using berms, brick planter boxes and swales—as is already being done by some property owners in the RLA, but these may not be done in ways that cause damage to other properties. Owners and occupants can request a meeting with a City Engineer to discuss the best ways to solve existing drainage problems, and whether a Building Permit will be required. This may be the most feasible solution for areas with flooding due to overland flow, such as RLA #47.

**Install Local, Property-Specific Paving, Plantings and Catchment Basins.** City Engineering staff can explain the natural functions of floodplains and how they act to slow and purify urban runoff and reduce flooding. Staff can also suggest low-impact development projects which imitate natural
floodplain functions by slowing runoff and filtering out impurities. These include such things as rain gardens, catchment basins and pervious paving materials.

**Acquisition.** The City of Tulsa has a repetitive loss acquisition program to purchase repeatedly flooded properties. This voluntary program offers owners who are in this situation with a way out. The City applies to FEMA for funds using the Hazard Mitigation Grant Program. Once the grant is awarded, the property is appraised as if it were not a flooded property, and the offer for the property is based on this appraisal. In addition to getting the best possible price, the owner receives moving expenses, a $1,000 stipend for purchasing a home outside the floodplain, and a 30-day rent free period after closing in which to move. All closing costs and other fees are paid by the City. Once the owner has moved out, the home is demolished and restored as open space to protect the natural and beneficial function of the floodplain. Acquisition is a possible recommended solution for the repetitive loss property in RLA #47. To get more information about this program, contact the Customer Care Center at (918) 596-7777.

**Elevate Your Structure.** Elevating the structure is only suitable for areas of shallow flooding, and is usually not feasible or cost-effective for masonry structures built on concrete slabs. It can sometimes be cost-effective for wood frame buildings on crawlspaces. Two structures in RLA #47 may be candidates for elevation.

**Dry Floodproof Your Structure.** This can include actions that seal a structure and prevent floodwaters from entering. This method is best in areas where flood depths are no more than two or three feet. Buildings can be made watertight by sealing the walls with waterproof coatings, impermeable membranes, or additional layers of masonry or concrete. Doors, windows, and other openings below the base flood elevation must also be equipped with permanent or removable shields, and backflow valves must be installed in sanitary sewer lines and drains. Dry floodproofing needs to be designed by an engineer to ensure the structure can resist the force of the water.

**Wet Floodproof Your Building.** Wet floodproofing allows water to enter a structure, while removing, protecting or elevating items that can be damaged, such as air conditioning equipment. This is often used on structures with crawl spaces and shallow flood depths. The City does not allow basements in flood-prone areas, or the wet floodproofing of basements.

**Wet Floodproof Your Garage.** The garage, with its slab-on-grade construction, is one of the most vulnerable areas of your home to overland flow flooding. Remove, relocate, elevate, or otherwise protect items that can be damaged from flooding.

**Elevate Damage-Prone Components.** Critical items such as furnace or air conditioning units, should be elevated to avoid flood damage. This should be done for components that are in the wet-floodproofed area of the building as well as for units that are outside of the structure but subject to shallow flooding.

**Maintain Nearby Streams, Ditches, and Storm Drains.** Local flooding can often be caused by brush and other debris blocking drainage ways and culverts. Conduit blocking at E. 4th Pl. by limbs, grass cuttings and other debris could contribute to future flooding in RLA #47. Residents and property owners should do their part to keep Cooley Creek’s south tributary clear of brush and debris. Do not attempt to clear debris during a flood event.
Correct Sewer Backup Problems. Sewer backup can be a problem in low-lying, flood-prone areas like RLA #47. The installation of backflow prevention valves in sewer lines is recommended.

Purchase and Maintain Flood Insurance. Flood Insurance is available and recommended for the structure and contents for all properties in Tulsa. A large percentage of all flood insurance claims are for properties that are outside the FEMA floodplain. Because of the City of Tulsa’s sustained efforts to reduce flooding, you are entitled to a discount on your flood insurance. A property does not have to be in a floodplain to qualify for flood insurance.

Repetitive Loss Area Mitigation Measures: What the City Can Do
The City of Tulsa is actively committed to the following floodplain management activities:

- Preventative activities to keep flood problems from getting worse.
- Natural resource protection activities to preserve or restore natural areas or the natural functions of floodplain and watershed areas.
- Emergency services measures taken during an emergency to minimize its impact.
- Structural projects to keep flood waters away from properties.
- Public information activities to advise property owners, potential property owners, and visitors about flood hazards, ways to protect people and property from the hazards, and the natural and beneficial functions of local floodplains.

As funding becomes available for this Repetitive Loss Area, the City will undertake a more detailed Mini-Master Drainage Plan to identify alternative solutions to the flooding problems and recommend a public works project. The actual construction of any public works project may require the acquisition of properties and/or drainage easements. The City will continue to fulfill its maintenance responsibility for channels, drainageways, and storm sewer inlets and pipes. At this time, the City has identified the following actions which are appropriate for RLA #47.

- Acquire flood prone properties on a voluntary basis.
- Improve conveyance of Creek to mitigate overbank flooding.
- Construct upstream detention to reduce storm water runoff into the RLA.
VI. Funding
Due to the nature of the flooding problems and the localized damages involved in RLA #47, the funding of needed improvements will have to be borne by the individual property owner.

VII. Conclusions and Recommendations
Repetitive Loss Area #47 is comprised of four single-family residences on six property lots in the Meadowbrook Heights addition. The properties are along the right bank of Cooley Creek’s south tributary and built upon generally level terrain at between 686 and 690 feet elevation, in a stretch of the creek where the 100-year floodplain reaches from 685-ft. at E. 5th St. to 692 feet at E. 7th St. All structures are within FEMA’s and the City’s 100-year floodplains, and all property lots are touched by the creek’s floodway. Overbank flooding generated three claims between 1984 and 2000 totaling $6,148. Although flooding was reported in 2001, there have been no damage claims since 2000.

Homeowners are encouraged to maintain flood insurance. The City of Tulsa is a Community Rating System (CRS) Class II Community, and all homeowners qualify for up to a 40% discount on their flood insurance premiums. Homeowners are also encouraged to undertake individual mitigation measures to reduce their risk of overland flooding. The City of Tulsa is ready to assist in this effort with advice.