City of Keller

Jurisdictional Annex to the
Tarrant County Hazard Mitigation Plan

2025

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Table of Contents

List of Figures

List of Tables

Chapter 1: Introduction

Planning Process Point of Contact

The Fire Chief/Emergency Management Coordinator was the point of contact during the Tarrant County Hazard Mitigation Action Plan (HazMAP) planning process for the City of Keller.

Annex Organization

This annex has five chapters that satisfy the mitigation requirements in 44 CFR Part 201:

- Chapter 1: Introduction
- Chapter 2: Planning Process
- Chapter 3: Hazard Identification and Risk Assessment
- Chapter 4: Capabilities Assessment
- Chapter 5: Mitigation Strategy

The information in this annex is for the City of Keller alone. All pertinent information that is not identified in this annex is identified in the other sections of this HazMAP or in the respective annexes.

Hazard Mitigation Action Plan (HazMAP) Adoption

Once the Tarrant County HazMAP has received the designation “Approved Pending Local Adoption” from the Federal Emergency Management Agency (FEMA), the City of Keller will take the HazMAP to City Council for final public comment and local adoption. A copy of the resolution will be inserted into the HazMAP and held on file at Tarrant County.

Supporting Maps

Figure 1 through Figure 4 show the following for the City of Keller:

- Major Thoroughfare Plan
- Future Land Use
- Zoning Districts
- FEMA Flood Hazard Areas

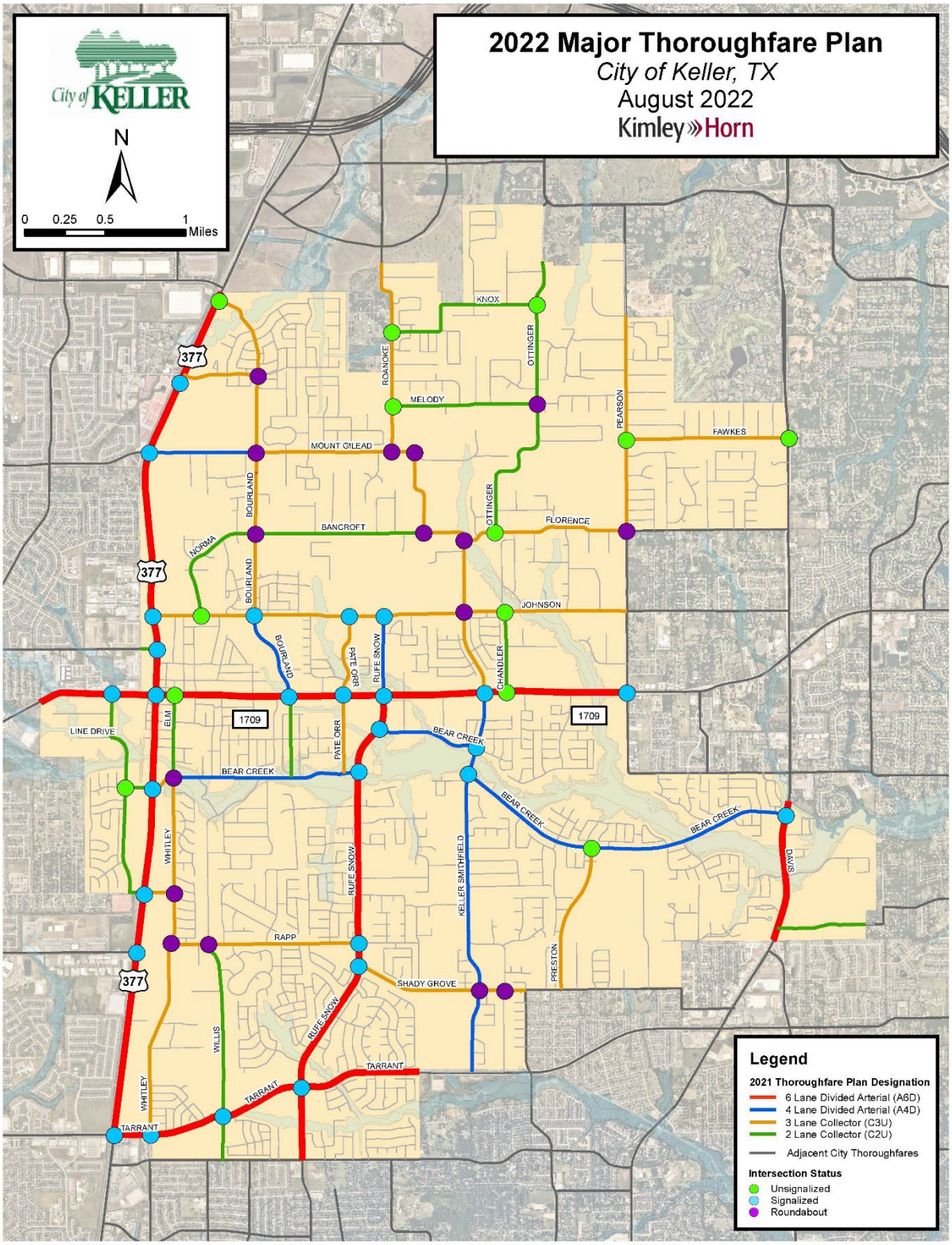

Figure 1: Major Thoroughfare Plan Designation for the City of Keller

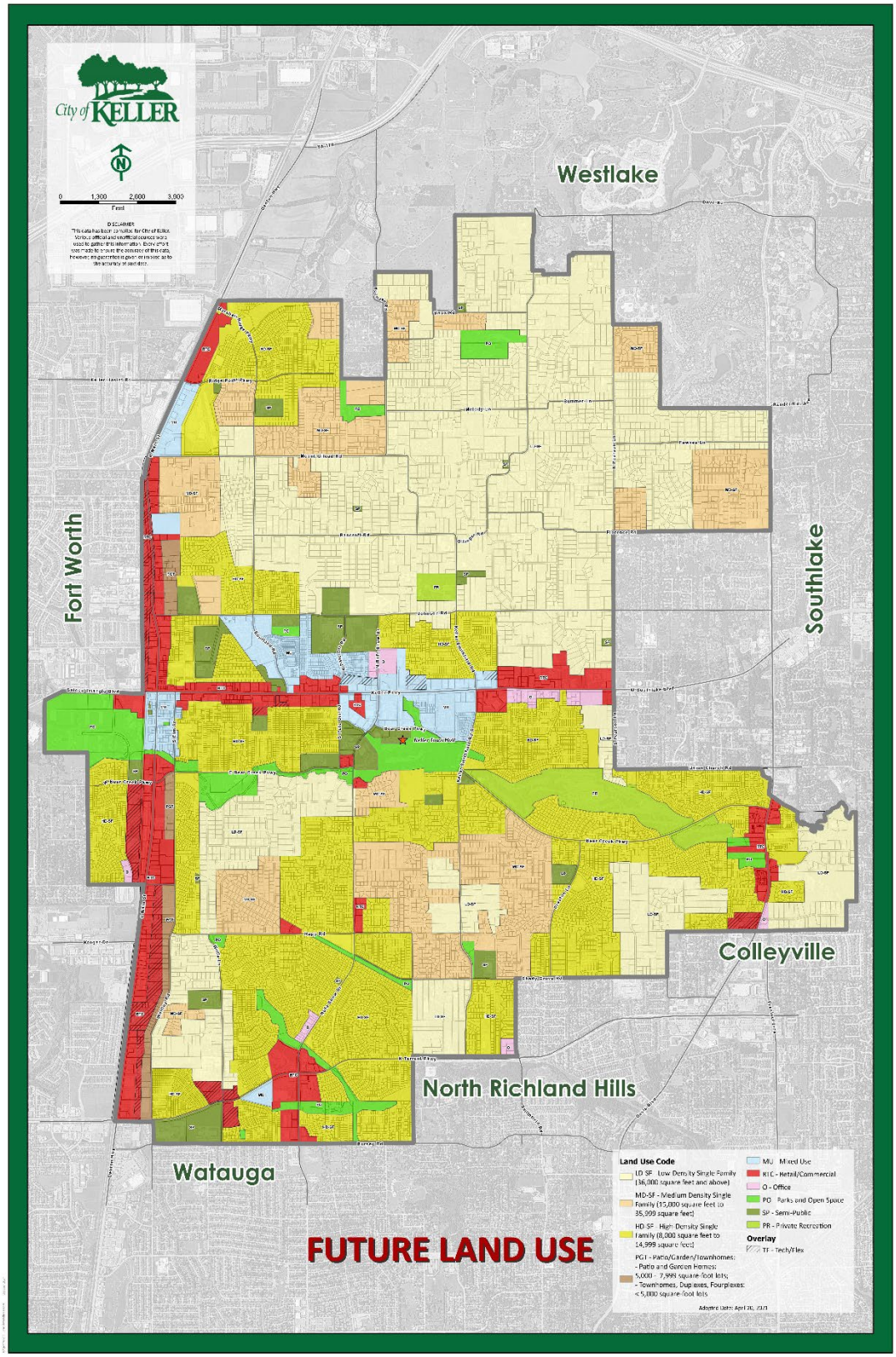

Figure 2: Future Land Use Map of the City of Keller

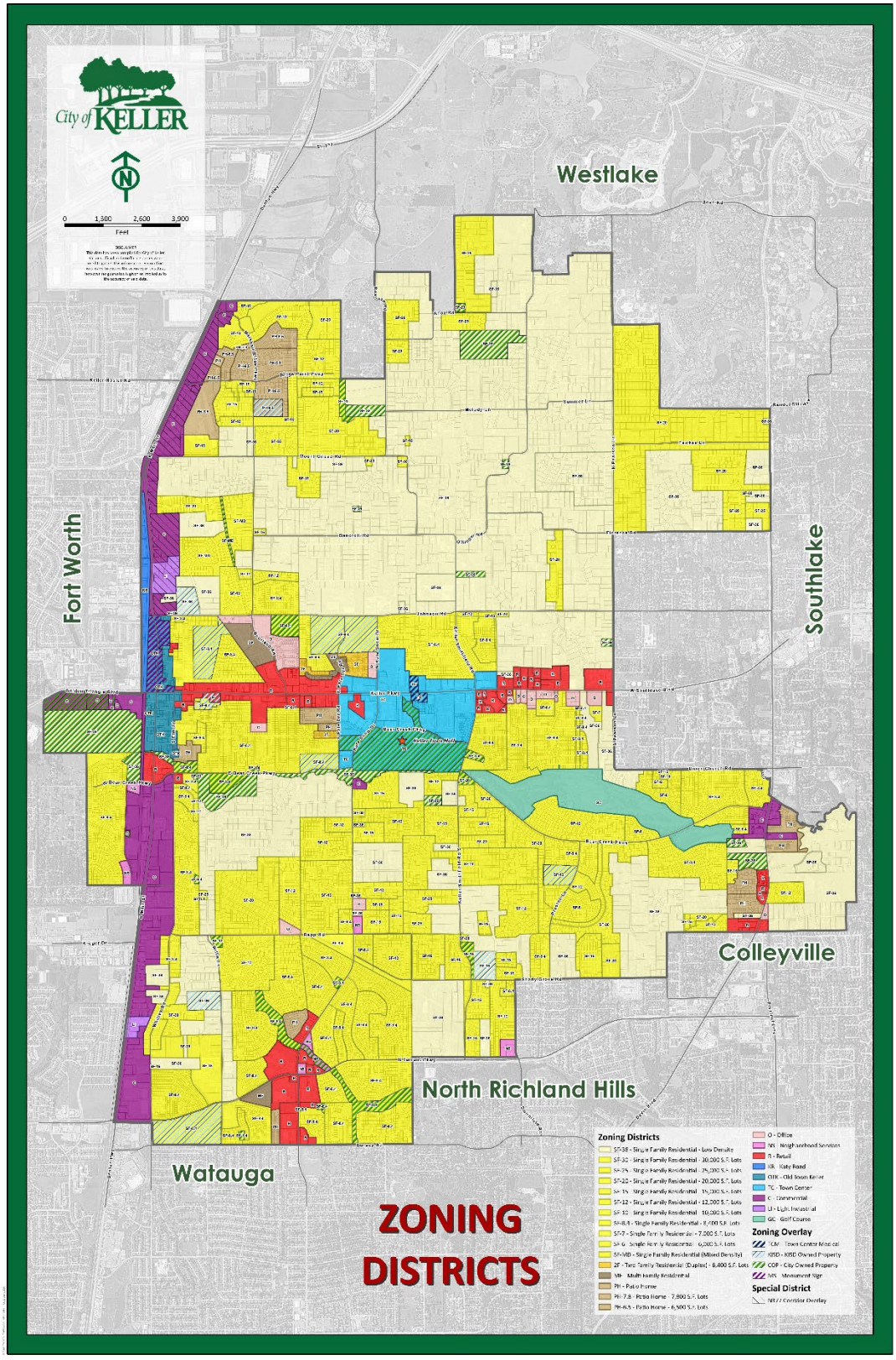

Figure 3: Zoning Districts in the City of Keller

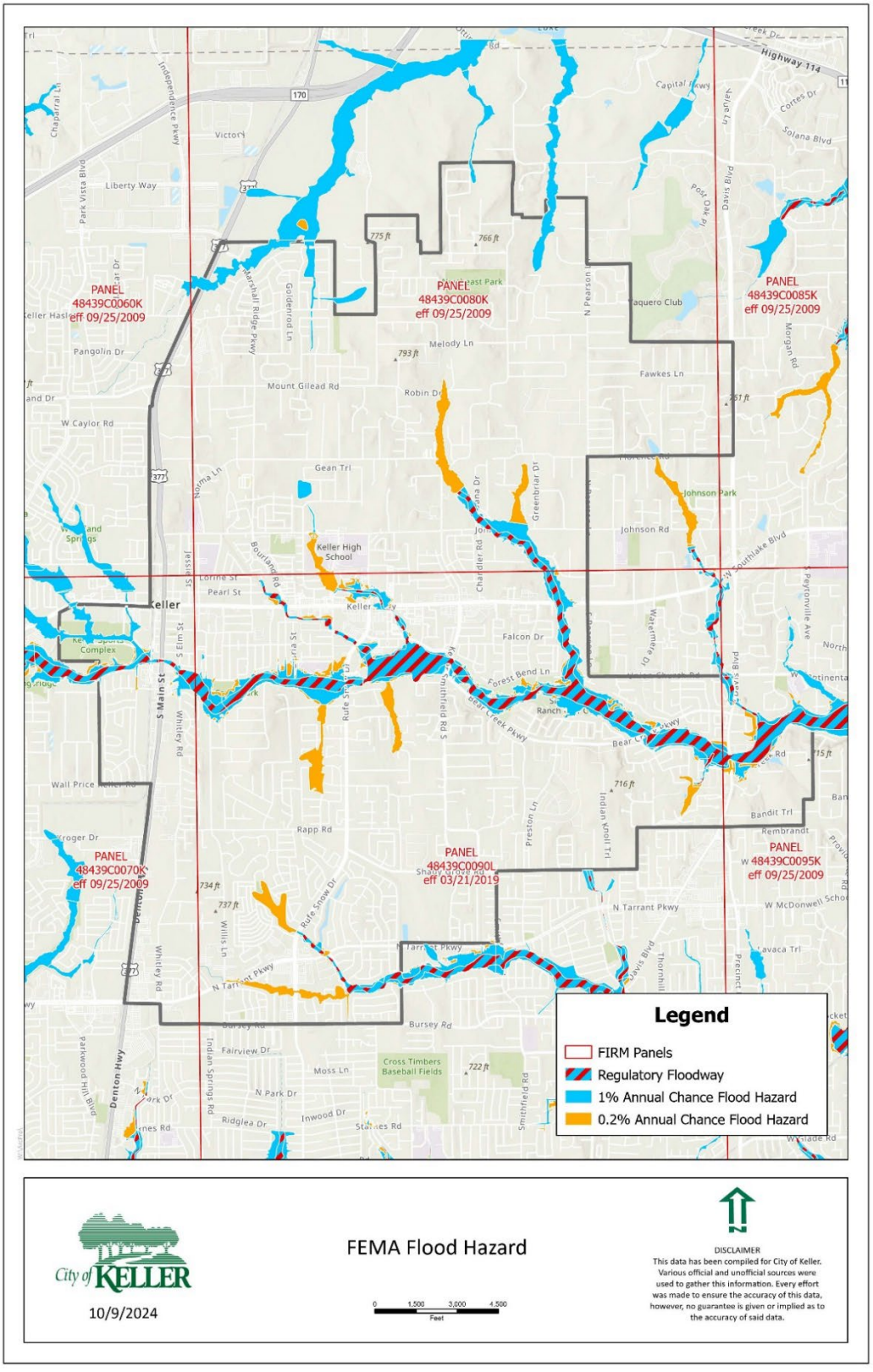

Figure 4: FEMA Flood Hazard Areas in the City of Keller

Chapter 2: Planning Process

(In compliance with 201.6(c)(1))

Development and Adoption Process

To apply for federal aid for technical assistance and post-disaster funding, local jurisdictions must comply with Part 201.3 of the Disaster Mitigation Act of 2000 (DMA 2000), implemented in the Code of Federal Regulations 44 CFR Part 201.6. Although the City of Keller has historically implemented measures to reduce vulnerability to some hazards, the passage of DMA 2000 helped City officials recognize the benefits of a long-term approach to hazard mitigation. This approach is achieved by gradually decreasing hazard-associated impacts by implementing a hazard mitigation action plan (HazMAP). The City's involvement in the Tarrant County HazMAP represents the collective efforts of the Hazard Mitigation Planning Team (HMPT), participating Local Planning Teams (LPTs), the public, and stakeholders.

The City developed this annex in accordance with Part 201.6(c)(5) of DMA 2000. The HazMAP and this annex identify hazards and mechanisms to minimize damage associated with these hazards.

Organizing the Planning Effort

A comprehensive approach was taken to develop the HazMAP. An open involvement process was established for the public and all stakeholders, allowing everyone to be involved in the planning process and express their views. The public meeting was advertised with notices in the local newsletter and on social media.

Two teams worked simultaneously on this Tarrant County HazMAP:

1. **Hazard Mitigation Planning Team (HMPT):** This team consisted of points of contact from each participating jurisdiction. The HMPT met to discuss county-wide topics, including hazards and mitigation strategies. The points of contact were the leads of their LPT.
2. **Local Planning Team (LPT):** Each jurisdiction had an LPT that consisted of the Emergency Management Coordinator for that jurisdiction and designated representatives from that jurisdiction. This team met to assess the jurisdiction's capabilities, hazards, and mitigation strategies.

Local Planning Team

This annex to the Tarrant County HazMAP was developed by the City of Keller's LPT. The efforts of the LPT were led by the City's Fire Chief/Emergency Management Coordinator. The LPT was assembled in 2020 with representatives from the City of Keller.

Table 1: City of Keller Local Planning Team Members for the 2025 HazMAP

Jurisdiction	Agency/Organization	Position	Role in the Local Planning Team
City of Keller	Office of Emergency Management	Fire Chief/ Emergency Management Coordinator	Coordination of planning process, plan development
City of Keller	Police Department	Police Chief	Hazard identification, provide jurisdiction local knowledge, identify potential mitigation projects
City of Keller	Public Information Office	Public Information Officer	Hazard identification, provide jurisdiction local knowledge, identify potential mitigation projects
City of Keller	Geographic Information Systems (GIS) Department	GIS Manager	Hazard identification, provide jurisdiction local knowledge, identify potential mitigation projects
City of Keller	Community Development Department	Chief Building Official	Hazard identification, provide jurisdiction local knowledge, identify potential mitigation projects
City of Keller	Communications Department	North East Tarrant County Communications (NETCOM) Manager	Hazard identification, provide jurisdiction local knowledge, identify potential mitigation projects
City of Keller	Community Development Department	Planning Manager	Assist in coordinating public education and public meetings
City of Keller	Community Services Department	Director	Hazard identification, provide jurisdiction local knowledge, identify potential mitigation projects
City of Keller	Public Works Department	Public Works Director	Hazard identification, provide jurisdiction local knowledge, identify potential mitigation projects

Chapter 3: Hazard Identification and Risk Assessment

(In compliance with 201.6(c)(2)(i), 201.6(c)(2)(ii), 201.6(c)(2)(ii)(A), 201.6(c)(2)(ii)(B), 201.6(c)(2)(ii)(C), 201.6(c)(2)(iii), and 201.6(c)(3)(ii))

The following information helped the City of Keller determine and prioritize mitigation action items to reduce losses from identified hazards.

Changes in Development since 2020

(In compliance with 201.6(d)(3))

Increasing Vulnerability
New development in hazard-prone areas: • There has been no development in hazard-prone areas since 2020.
Decreasing Vulnerability
Mitigation actions implemented to reduce risk or adopted codes to protect future development: • There have been no changes in the mitigation actions completed since 2020.

Community Profile

The following sections present the community profile, vulnerable facilities in the jurisdiction, and the critical facilities and infrastructure that are exposed to the identified hazards and can be impacted. This information was gathered from the 2020 United States Census and the City of Keller.

Table 2: Community Profile of the City of Keller[1]

Metric	Information
Population	45,776
Persons 65 years and over	15.3%
Median Household Income	$162,094
Persons in Poverty	3.1%
Disabled Population	7.9%
Persons without health insurance coverage	4.4%

[1] Quick Facts from the 2020 U.S. Census Bureau.

Critical Infrastructure

Critical infrastructure is the assets that a community considers vital to public health and safety. Due to their sensitivity, certain assets in the City of Keller are restricted to public viewing. The City of Keller has identified 24 critical and vulnerable facilities, which are listed in Table 3. Some or all of these facilities are in the hazard areas identified in the City of Keller.

Table 3: Critical Assets in the City of Keller

Facility/Asset Name or Description and Address	Type of Assets	Capacity	Square Feet	Structure Value	Content Value
City Hall/ Fire Administration 1100 Bear Creek Parkway	Administration Fire/Rescue	150 people	55,000	$12,500,000	$1,900,000
Municipal Service Center 151 Bear Creek Parkway West	Public Works Fueling Center	30 people	35,071	$3,500,000	$585,000
Police Department Regional Jail Regional Communications Center 330 Rufe Snow Drive	Law Enforcement Communication	30 people	11,700	$7,300,000	$1,300,000
Fire Station #2 737 Keller Smithfield Road	Fire/Rescue	10 people	4,800	$600,000	$400,000
Fire Station #3 1500 Rufe Snow Drive	Fire/Rescue	10 people	4,800	$600,000	$400,000
Fire Station #4 455 Keller Smithfield Road South	Fire/Rescue	10 people	7,516	$2,000,000	$400,000
Public Library 640 Johnson Road	Education	100 people	15,700	$2,200,000	Unknown
Sports Park 265 Golden Triangle Boulevard	Recreation	600+ people	109 acres	Unknown	Unknown
Senior Activities Center 660 Johnson Road	Recreation	50 people	4,698	Unknown	Unknown
The Keller Pointe Recreation Center 405 Rufe Snow Drive	Recreation	300 people	43,296	$18,000,000	$500,000
Keller High School 601 North Pate-Orr Road	Education	2,860 people	367,000	$13,900,000	Unknown

Facility/Asset Name or Description and Address	Type of Assets	Capacity	Square Feet	Structure Value	Content Value
Keller Independent School District (KISD) Athletic Complex 500 North Pate-Orr Road	Public Assembly Sports Stadium	8,000 people	270,000	$21,300,000	Unknown
Indian Springs Middle School 305 Bursey Road	Education	1,000 people	112,995	$4,200,000	Unknown
Keller Middle School 300 N. College	Education	1,005 people	196,407	$3,500,000	Unknown
Bear Creek Intermediate School 801 Bear Creek Parkway	Education	900 people	154,360	$2,700,000	Unknown
South Keller Intermediate School 201 Bursey Road	Education	890 people	119,850	$4,200,000	Unknown
Hidden Lakes Elementary School 900 Preston Lane	Education	590 people	77,634	$6,100,000	Unknown
Keller-Harvel Elementary School 635 Normal Lane	Education	520 people	141,050	$1,500,000	Unknown
Ridgeview Elementary School 1601 Marshall Ridge Parkway	Education	565 people	82,414	$15,400,00	Unknown
Shady Grove Elementary School 1400 Sarah Brooks Drive	Education	565 people	74,555	$2,200,000	Unknown
Willis Lane Elementary School 1620 Willis Lane	Education	610 people	149,350	$4,200,000	Unknown
KISD Learning Center 250 College Street	Education	407 people	30,816	$2,200,000	Unknown
KISD Education Center 350 Keller Parkway	Administration	95 people	120,330	$2,700,000	Unknown
KISD Natatorium 1000 Bear Creek Parkway	Public Assembly Aquatic Center	755 people	31,460	Unknown	Unknown

Profiles of Natural Hazards

The City of Keller's LPT ranked potential hazards in order of risk, with Tornadoes being the highest (see Table 4). Risk, for the purposes of hazard mitigation planning, is the potential for damage or loss created by the interaction of natural hazards with community assets. If a natural hazard could not impact the City of Keller, not applicable (N/A) is used as its rank and its reasoning is noted in the hazard profile section of this chapter.

Table 4: Ranking of Hazards for the City of Keller

Rank of Risk	Score	Geographic Area Affected	Probability of Future Occurrence	Maximum Probable Extent
Tornado	1	Extensive	Likely	Major
Thunderstorm	2	Extensive	Highly Likely	Major
Flooding	4	Significant	Likely	Minor
Winter Storm	3	Extensive	Likely	Medium
Extreme Heat	7	Extensive	Highly Likely	Medium
Wildfire	6	Significant	Occasional	Minor
Drought	8	Extensive	Occasional	Minor
Expansive Soils	5	Extensive	Likely	Minor
Earthquake	9	Extensive	Unlikely	Minor

The following terms are used to describe the geographic area affected, the probability of future occurrence, and the maximum probable extent.

Geographic Area Affected

- **Negligible**: Less than 10 percent of the planning area (the entire the City of Keller).
- **Limited:** 10 to 25 percent of the planning area.
- **Significant:** 25 to 75 percent of the planning area.
- **Extensive:** 75 to 100 percent of the planning area.

Probability of Future Occurrence

- **Unlikely:** Event possible in the next 10 years.
- **Occasional:** Event possible in the next 5 years.
- **Likely:** Event probable in the next 3 years.
- **Highly Likely:** Event probable in the next year.

MAXIMUM PROBABLE EXTENT

(Magnitude/Strength of Hazard using the extent scale in Table 5)

- **Minor:** Limited classification on scientific scale, slow speed of onset, or short duration of event.
- **Medium:** Moderate classification on scientific scale, moderate speed of onset, or moderate duration of event.
- **Major**: Severe classification on scientific scale, fast speed of/immediate onset or long duration of event.

Table 5: Extent Scale for Natural Hazards

Hazard	Minor	Medium	Major
Drought	Presence-Sensing Device Initiation (PDSI) -1.99 to 1.99+	PDSI -2.00 to -2.99	PDSI -3.00 to -5.00
Earthquake	Mercalli Scale: I–V; Richter Scale: 0–4.8	Mercalli Scale: VI–VII; Richter Scale: 4.9–6.1	Mercalli Scale: VIII–XII; Richter Scale: 6.2–8.1+
Expansive Soils	EI Expansion Potential: 21–50 (Low); 0–21(Very Low)	EI Expansion Potential: 51–90 (Medium)	EI Expansion Potential: 91–130 (High) >130 (Very High)
Flooding	Outside of 100-yr and 500-yr flood zones, Zone A, AE, X	500-yr flood zone, Zone X	100-yr flood zone, Zone AE
Extreme Heat	Heat Index: 80°F–105°F	Heat Index: 105°F–129°F	Heat Index: >130°F
Thunderstorm	Hail: H0–H4, 5–40mm; Wind Force: 0–3; Knots: <1–10 lightning activity level (LAL): 1–2	Hail: H5–H6, 30–60mm; Wind Force: 4–6; Knots: 11–27; LAL: 3–4	Hail: H7–H10, 50–>100mm; Wind Force: 8–12; Knots: 28–64+ LAL: 5–6;
Tornado	EF0	EF1–EF2	EF3–EF5
Wildfire	Keetch-Byram Drought Index (KBDI): 0–200	KBDI: 200–400	KBDI: 600–800
Winter Storms	Temperature: 40°F to 35°F Wind chill 36°F to 17°F	Temperature: 30°F to 45°F; Wind chill 25°F to -4°F	Temperature: 15°F to -20°F; Wind chill 7°F to -98°F

The full description of each of these hazards is in Section 3 of this HazMAP.

LOCATION

Drought, earthquakes, expansive soils, extreme heat, thunderstorms, tornadoes, and winter storms do not have geographic boundaries and can impact the entire county, including all participating jurisdictions. Wildfires can threaten rural and urban jurisdictions with undeveloped land. Flooding is a severe threat to jurisdictions containing 100-year floodplains or bodies of water.

The following hazards are listed in alphabetical order and describe the location and extent of each hazard, details of previous occurrences, probability data on future events, and vulnerability to each hazard.

Drought

Overview

The City of Keller receives its water supply from Fort Worth/Tarrant Regional Water District. Local water storage capacity is 10 million gallons; pumping capacity is 21.7 million gallons. As a wholesale water customer of the City of Fort Worth, the City of Keller has adopted water conservation efforts by ordinance. Stage 1 allows twice-weekly outdoor watering. Stage 2 reduces watering to once-weekly and Stage 3 restricts watering to hand, soaker, or drip-line only.

Table 6: Drought Hazard Profile for the City of Keller

Category	Response
Risk Ranking	8
Geographic Area Affected	Extensive
Probability of Future Occurrence	Occasional
Maximum Probable Extent	Minor
Potential Impact	• Property damage • Loss of water supply • Increase in grassfire potential and intensity • Negative impact on citizens, including water restrictions and lack of drinkable water supply • Impact on car washes, parks, and pools
Vulnerabilities	There are no historical data for drought damage in the city. All populations, economy, structures, improved property, critical facilities and infrastructure, and the natural environment are exposed to this hazard. Rises in water costs would affect the population living below the poverty line.

Summary

The entire the City of Keller is vulnerable to drought. Considering its historical frequency, there is a significant chance of droughts occurring each year. Drought can affect people's health and safety. Examples of drought impacts on society include anxiety or depression about economic losses, conflicts when there is not enough water, reduced incomes, fewer recreational activities, higher incidents of heat stroke, and even loss of human life. Drought conditions can also provide a substantial increase in wildfire risk. As plants and trees wither and die from a lack of precipitation, increased insect infestations, and diseases—all associated with drought—they become fuel for wildfires.

Earthquake

Overview

The City of Keller has experienced zero earthquakes in the past 20 years. However, there is still a risk, and it would be catastrophic for all populations and assets in the community.

Table 7: Earthquake Hazard Profile for the City of Keller

Category	Response
Risk Ranking	9
Geographic Area Affected	Extensive
Probability of Future Occurrence	Unlikely
Maximum Probable Extent	Minor
Potential Impact	• Injury or death • Property and infrastructure damage • Water contamination or loss from broken pipes • Transportation and communication disruption or damage • Increase in traffic accidents • Building collapse • Natural gas leak Displaced residents • Power outages • Damage to the natural environment, including protected species and critical habitats
Vulnerabilities	All populations, economy, structures, improved property, critical facilities and infrastructure, and the natural environment are exposed to this hazard, though impacts are undetermined due the lack of historical data.

Summary

The City of Keller could be subject to an earthquake, but none has been reported. A significant earthquake event would cause a substantial loss of life and billions of dollars in damage to critical infrastructure.

Expansive Soils

Overview

All the roadways in the City of Keller are subject to damage from expansive soils. The Department of Public Works does not track damage caused by expansive soils, so it is not clear how many repairs are due to damage from expansive soils.

Table 8: Expansive Soils Hazard Profile for the City of Keller

Category	Response
Risk Ranking	8
Geographic Area Affected	Extensive
Probability of Future Occurrence	Likely
Maximum Probable Extent	Minor
Potential Impact	• Property damage from foundation damage • Water contamination or loss from broken pipes • Building and infrastructure damage • Road damage • Transportation delays due to road condition • Damage to utility lines
Vulnerabilities	Because of the manner in which data for expansive soils are collected, the exact amount of damage in the city was unavailable, as only road data are available. Expansive soils are a major consideration for all existing and future structures. All populations, economy, structures, improved property, critical facilities and infrastructure, and the natural environment are exposed to this hazard.

Summary

The nature of expansive soils makes it difficult to predict the locations and the impacts that they might have. The City has seen impacts on public infrastructure critical assets.

Extreme Heat

Overview

Approximately 15.3% of the population of the City of Keller is 65 years old or older, and approximately 3.1% lives below the poverty line. Individuals in vulnerable or underserved populations are not only more likely to experience the effects of extreme temperatures, but they also are likely to be impacted to a higher degree than their counterparts. In addition, various City facilities have experienced heat-related power failure, making critical facilities vulnerable.

Table 9: Extreme Heat Hazard Profile for the City of Keller

Category	Response
Risk Ranking	7
Geographic Area Affected	Extensive
Probability of Future Occurrence	Highly Likely
Maximum Probable Extent	Medium
Potential Impact	• Heatstroke or death. › People should stay indoors to prevent heatstroke; elderly people who cannot afford air-conditioning are at greatest risk. • Property damage • Loss of water supply • Increases grassfire potential and intensity • Impact on logistics • Power outages • Road buckling • Disruption in critical infrastructure operations • Vehicle engine failure
Vulnerabilities	Although extreme heat poses a serious threat to any population, issues with housing and mobility could make it difficult for the elderly to seek shelter in response to such a threat. The elderly, homeless, and outdoor laborers need to take proper precautions. People should stay indoors to prevent heatstroke; elderly people who cannot afford air-conditioning are at greatest risk. The elderly, very young people, and people with poor health are most at risk from extreme heat.

Summary

The City of Keller is vulnerable to extreme temperatures, which can affect people's health and safety. Therefore, it is essential to have proper measures in place to prevent critical structures from being vulnerable to utility failure during extreme temperatures.

Flooding

Overview

Since 2019, there have been multiple flash flooding and flooding events recorded by NOAA, causing over $50,000 in property damage from only one storm in October 2023. Flooding events are a concern for the city due to public safety and transportation issues.

Table 10: Flooding Hazard Profile for the City of Keller

Category	Response
Risk Ranking	4
Geographic Area Affected	Significant
Probability of Future Occurrence	Likely
Maximum Probable Extent	Minor
Potential Impact	• Loss of electricity • Loss of, or contamination of, water supply Loss of property • Structure and infrastructure damage – flooded structures and eroded roads • Displaced residents • Snakes migrate and mosquitoes increase • Fire – as a result of loss of water supply • Debris in transportation paths • Emergency response delays • Disruption of traffic can lead to impacts on the economy. • Damage to the natural environment, including protected species and critical habitats
Vulnerabilities	Based on historical data, flooding has caused zero injuries and fatalities per year and is expected to have the same results in the future. Commuters and any buildings in a floodplain are the most at risk. All future development in the floodplain may be at risk. An increase in population will likely increase the number of buildings and infrastructure. New development in unincorporated areas could occur in areas prone to flooding and increase vulnerabilities and potential losses. However, most land use regulations require the consideration of flooding during the development process.

- **Names of creeks or rivers that flood:** Big Bear Creek, Little Bear Creek and Marshal Creek tributary.
- **Intersections or traffic routes impacted by flooding:** Low water crossings, one intersection, and two portions of Main Street (State Highway 377) can be impacted by flooding. The intersection is Bear Creek Parkway and Elm Street. The two portions of US 377 include the 1400 block of North Main Street (State Highway 377) and the 600 block of South Main Street (State Highway 377).

- **Low-Water Crossings:** A low-water crossing provides a type of bridge when water flow is low. Under high-flow conditions, water runs over the roadway and precludes vehicular and pedestrian traffic. These crossings can be dangerous when flooded.

Table 11: City of Keller Priority Potential Flood Locations

Priority Potential Flood Locations – Streets
E. Bear Creek Parkway (East of Pate Orr to Whitley/S. Elm St.)
600 Block of Shady Lane North (East of Roy Lane)
Bear Creek Park Road
600 Block of Chisholm Trail (North of MSC)
N. Main/Hwy. 377 (from Ridgepoint Pkwy. to City of Westlake)
1300 Block Mount Gilead Road
1500 Block Nightingale Circle

Table 12: City of Keller Secondary Potential Flood Locations

Secondary Potential Flood Locations – Streets/Parcels
Summer Lane and Summer Breeze Ct. Intersection
Marshall Ridge Pkwy. and Silver Chase Dr. Intersection
Penny Lane at Mt. Gilead Road
923 Keller Smithfield Road
1011 Ottinger Road
1500 Nightingale Circle
605 Keller Smithfield Road (at Johnson Road)
601 Rhonda Road
609 Dana Drive
1534 Chase Oaks Drive
1870 Rufe Snow Drive (at N. Tarrant Pkwy.)
2014 Kelsey Drive
2111 Alma Drive

Table 13: Land Cover Type and Area

Land Cover Type	Total Area in Jurisdiction (Acres)	Total Area in the 100-Year Floodplain (Acres)	Percentage (%) of Area in the 100-Year Floodplain
Commercial	2,057	158.52	7.71%
Industrial	407	10.9	2.68%
Residential	9,330	314.5	3.37%
Total	**11,794**	**483.92**	**4.10%**

Source: City of Keller Geographic Information Systems (GIS) Department.

LOW-WATER CROSSING TYPES DEFINED

- **Bridges** are open-bottomed structures with elevated decks. They may be designed with one or several piers. Low-water bridges generally have greater capacity and are able to pass higher flows underneath the driving surface than most vented and unvented fords.
- **Vented fords** have a driving surface elevated above the streambed, with culverts (vents) that enable low flows to pass beneath the roadbed. The vents can be one or more pipes, box culverts, or open-bottomed arches. In streams carrying large amounts of debris, the driving surface over the vent may be removable, permitting the debris to be cleared after a large flow event.

Compliance with the National Flood Insurance Program

Participation in the National Flood Insurance Program (NFIP) is based on a voluntary agreement between a community and the Federal Emergency Management Agency (FEMA). For communities that adopt a floodplain management ordinance to reduce flood risks to new construction, federally backed flood insurance is made available to property owners in the community. Compliance with the NFIP. However, extends beyond mere participation in the program. The NFIP has three basic components: 1) floodplain identification and mapping risk, 2) responsible floodplain management, and 3) flood insurance. The City of Keller participates in the NFIP and provides details about the community and its participation below. The following information was requested:

Table 14: Data for the City of Keller for the National Flood Insurance Program[2]

Category	Response
Community Identification Number	480602#
Community Name	City of Keller
County	Tarrant County
Initial Flood Hazard Boundary Map Identified	11/19/76
Initial Flood Insurance Rate Map Identified	09/30/82
Current Effective Map Date	03/21/19
Regular-Emergency Date	09/30/82

The National Flood Insurance Program (NFIP) questions in Table 15 were answered to the best of the City of Keller's ability.

[2] http://www.fema.gov/cis/TX.html.

Table 15: NFIP Floodplain Management Capabilities and Compliance

Floodplain Management	
Who is the Floodplain Manager? Is this their primary or secondary role?	Public Works Director – secondary
Does the Floodplain Manager have adequate training and capacity or their role? If not, what else is needed?	Yes
How does the community enforce its floodplain rules? Does enforcement include monitoring compliance and acting to correct violations?	Ordinances and permitting process. Enforcement of the floodplain requirements includes correcting violations.
When was the community's most recent Community Assistance Visit (CAV)?	Not since 2017. If a visit was conducted, it was before 2017.
Were any violations noted on the community's most recent CAV?	n/a
Is there an upcoming CAV? If no, is one needed?	No and No.
When was the most recent floodplain management ordinance adopted?	2015
Does your community participate in the Community Rating System (CRS)? If so, describe the steps the community has taken to achieve the CRS goals.	Yes
Does the community's floodplain management ordinance include any higher standards? If so, please list.	Yes. Keller requires all finished floor elevations to be 24" above the Base flood Elevation where FEMA only requires 6".
Who is responsible for permitting?	Community Development, Building Official and Public Works Director
How does the community issue development permits in the special flood hazard area (SFHA)?	Floodplain Development Permit and the development application process.
Does the community maintain elevation certificates?	Yes
Does the community track the number of buildings in the special flood hazard area (SFHA)? If yes, are there any trends?	Yes, and no identified trends
How many repetitive loss (RL) structures does the community have? (List number and type of structure)	8/Residential
How many severe repetitive loss (SRL) structures does the community have? (List number and type of structure)	1/Residential
Have any RL/SRL properties been mitigated since the last plan update?	n/a
Who is responsible for making substantial damage/substantial improvement determinations?	Chief Building Official and Public Works Director

Floodplain Management	
How does the substantial damage/substantial improvement process work in your community?	Substantial damage: cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before damage occurred. Substantial improvement: reconstruction, rehabilitation, addition, or other improvement of a structure, the cumulative cost over a 5-year period which equals or exceeds 50 percent of the market value of the structure before "start of construction of the improvement.
Is there sufficient staff and training to make substantial damage/substantial improvement determinations?	Yes
How are substantial damage/substantial improvement requirements messaged to the public before and after an event?	When a building permit comes and is in the floodplain, there is a summary on the permit request reviewed to determine SD/SI. If applicable, we will discuss this with the applicant.
Have any substantially damaged/substantially improved structures been mitigated since the last plan update?	No.
How will the community remain in compliance with the NFIP moving forward? (Simply stating "the community will continue to comply with the NFIP" will not meet FEMA's planning requirements.)	By maintaining our city ordinances, continuing to inform the public, maintaining and analyze records, require permits for all construction/reconstruction, conduct the necessary drainage studies for all work in the floodplain, require mitigation for all impacts of the floodplain, notify affected residents of updated/pending flood maps, maintain an accessible copy/version of the FEMA flood maps.
How many structures are exposed to flood risk in the community?	45

Floodplain Mapping	
How does the community support map change requests? This could be requests during the Risk MAP process or through Letters of Map Amendment or Revision.	For developments: we play an active role in reviewing flood studies and ultimately sign the Community Acknowledgement Form before it is sent to FEMA. For a resident inquiring, we help educate on the process they would need to take and forms they need to fill out. For City Projects: We contract with consultants and are actively involved in reviewing plans/flood studies.
When did the latest Flood Insurance Rate Map (FIRM) become effective?	03/21/19
When was the latest FIRM adopted?	03/21/19

Floodplain Mapping	
Is the FIRM and Flood Insurance Study (FIS) report in an accessible location? How would the public get access to their flood map information?	Located on FEMA's website and is reflected as a live link in the city's GIS platform. Residents could see if their property is in the floodplain by using the city's GIS platform or by directly accessing the FEMA website or by reviewing hard copy maps maintained by Public Works.
Does the community use any Risk MAP products? If so, describe.	The community may use Risk MAP for situational awareness
Does the community collect updated floodplain data or modeling? Is this shared with partners and with FEMA?	Yes and yes.

Flood Insurance and Outreach	
How does the community educate the public on floodplain management and the availability of flood insurance, in and out of the floodplain?	All outreach channels, newsletter, social media, water bills. Direct contact is made with properties affected by any map changes.
How does the community engage with insurance agents on flood insurance?	Community engages directly with insurance agents on flood insurance.
Does the community (or state) have flood hazard disclosure laws?	Texas has a number of laws that require flood hazard disclosures for sellers, landlords, and renters.
How familiar is the public with their flood insurance options?	Unknown
Are there any areas where flood insurance is lacking?	Unknown, this is left to be worked out between the property owner and the lending agency.
How many NFIP policies are in the community? What is the total premium and coverage?	Policies in force: 142 Insurance in force: $47,226,000 Written premium in force: $96,352

Summary

Residential, commercial, and public buildings and critical infrastructure, such as transportation, water, energy, and communication systems, may be damaged or destroyed by flood waters. During a flood event, chemicals and other hazardous substances may contaminate local bodies of water. Flooding kills animals and, in general, disrupts the ecosystem.

Thunderstorm

Overview

In the City of Keller, damage from thunderstorms, and specifically hail, has caused approximately $10,000,000 in damage

Table 16: Thunderstorm Hazard Profile for the City of Keller

Category	Response
Risk Ranking	1
Geographic Area Affected	Extensive
Probability of Future Occurrence	Likely
Maximum Probable Extent	Medium
Potential Impact	• Property damage to fences, vehicles, equipment, and roofs • Transportation delays • Injuries and deaths • Debris from trees and damaged property • Electrical grid problems • Communication problems – phone and internet lines down • Damage to the natural environment, including protected species and critical habitats
Vulnerabilities	Given the dynamic nature of thunderstorms, all populations, economy, structures, improved property, critical facilities and infrastructure, and the natural environment are exposed to this hazard. Although thunderstorms pose a serious threat to any population, issues with mobility could make it difficult for the elderly to evacuate ahead of such a threat or relocate after a damaging hailstorm has occurred. In addition, power failures could affect medical equipment needed by the elderly or populations with functional and access needs.

Summary

The City of Keller is subject to severe weather hazards, including thunderstorms, wind, lightning, and hail. Associated damage includes impacts on utilities, residential and commercial buildings/property, and agricultural losses. High wind can cause trees to fall and cause injuries or death; lightning can lead to house fires and serious injuries. Hail can cause injury and severe damage to homes and automobiles.

Tornado

Overview

In the City of Keller, there has been one report of a tornado since 2019. The tornado began along Inspiration Lane in Keller. Then it moved northeast and produced widespread tree damage through a neighborhood just southwest of Jacksboro Highway. Some EF1 tornado damage was found on Hillside Drive and Circle Ridge Drive where multiple tree trunks were snapped and/or uprooted. As the tornado crossed Jacksboro Highway, it caused additional EF0 damage between 18th Street and 22nd Street between Menefee Avenue and Long Avenue. Maximum estimated winds were 100 mph.

Table 17 Tornado Hazard Profile for the City of Keller

Category	Response
Risk Ranking	2
Geographic Area Affected	Extensive
Probability of Future Occurrence	Occasional
Maximum Probable Extent	Major
Potential Impact	• Injury or death • Power outages • Blocked roadways from trees • Rerouting traffic • Damaged or destroyed property and infrastructure • Natural gas pipeline breaks – fire injuries, possible deaths • Transportation disruption • Displaced residents • Damage to the natural environment, including protected species and critical habitats
Vulnerabilities	Tornadoes have the potential to impact the entire City of Keller. All existing and future buildings, emergency facilities, critical facilities, critical infrastructure, improved property, and the entire population of the City is exposed to this hazard.

Summary

The entire population, all critical facilities, buildings (commercial and residential), and infrastructure are vulnerable to tornadoes. Although all assets are considered at risk from this hazard, a tornado would only cause damage along its specific track. The weakest tornadoes, EF0, can cause minor roof damage, and stronger tornadoes can destroy frame buildings and badly damage steel-reinforced concrete structures. Given the strength of the wind impact and construction techniques, buildings are vulnerable to direct impact, including potential destruction, from tornadoes and wind debris that tornadoes turn into missiles. Structures constructed of light materials, such as mobile homes, are most susceptible to damage.

Wildfire

Overview

The most vulnerable locations are green space in the city and properties in the wildland–urban interface are the most vulnerable to wildfires. Keller has approximately 70% of undeveloped land that is primarily grazing pasture. The areas of most concern are the fields throughout the city that are along the roadways and have the greatest chance of being in contact with an ignition source.

Table 18: Wildfire Hazard Profile for the City of Keller

Category	Response
Risk Ranking	5
Geographic Area Affected	Negligible
Probability of Future Occurrence	Unlikely
Maximum Probable Extent	Minor
Potential Impact	• Injury or death • Property and fence damage • Road closure • Traffic accidents • Loss of power – burning utility poles • Loss of property • Structure and infrastructure damage • Displaced residents • Loss of resources • Damage to the natural environment, including protected species and critical habitats
Vulnerabilities	• Given the dynamic nature of wildfires, all populations, economy, structures, improved property, critical facilities and infrastructure, and the natural environment in the City are exposed to this hazard. • There are approximately 20 homes along the edge of Camp Carter and a barn that is valued at around $200,000.

Summary

The areas of most concern for wildfire are Camp Carter, on the north side of the city, which has over 350 acres of open space. There are approximately 20 homes and a barn near the camp that would be most vulnerable to a fire, though there have been no cases of a wildfire in the past.

Winter Storm

Overview

Bridges and overpasses can be impacted by winter storms. Though not in Keller, State Highway 183 overpass in Westworth Village at the West Fork of the Trinity River would restrict residents from crossing the river if the city were impacted by a winter storm. Vehicle crashes are likely in these areas and there might be traffic issues because drivers must slow down to navigate iced-over bridges. There would be delays in emergency response and an increase in life-safety concerns.

Table 19: Winter Storm Hazard Profile for the City of Keller

Category	Response
Risk Ranking	4
Geographic Area Affected	Extensive
Probability of Future Occurrence	Likely
Maximum Probable Extent	Medium
Potential Impact	• Structural damage • Injuries or death • Power outages • Loss of ability to use roads for driving Increased traffic accidents • Loss of heat • Stranded travelers/motels at full capacity • Tree debris creates fuel load for fire hazard • Delayed emergency response time • Frozen/burst pipes leading to loss of water • Disruption of traffic • Impacts on the economy • Reduced communications capabilities
Vulnerabilities	Given the dynamic nature of winter storms, all populations, economy, structures, improved property, critical facilities and infrastructure, and the natural environment in the City are exposed to this hazard.

Summary

The City of Keller is subject to extreme winter weather which can cause traffic issues when drivers must slow down to navigate iced-over roads causing potential traffic accidents. Travel can be delayed and cause longer responses for first responders.

Historical Events

Table 20 lists the natural hazard events that occurred in the City of Keller between 2019 and 2024 as recorded by the National Centers for Environmental Information. It does not include all the damage and events that the City has collected from the fire department. The material is organized by location and date.

Table 20: Historical Events in the City of Keller since 2019

Location	Date	Event Type	Death	Injuries	Property Damage	Crop Damage
City of Keller	3/24/2019	Hail	0	0	$0	$0
City of Keller	6/16/2019	Thunderstorm Wind	0	0	$2,000	$0
City of Keller	6/29/2019	Hail	0	0	$0	$0
City of Keller	7/10/2019	Thunderstorm Wind	0	0	$1,000	$0
City of Keller	3/19/2020	Hail	0	0	$0	$0
City of Keller	5/4/2020	Hail	0	0	$0	$0
City of Keller	3/24/2021	Hail	0	0	$0	$0
City of Keller	3/24/2021	Hail	0	0	$0	$0
City of Keller	4/28/2021	Hail	0	0	$40M	$0
City of Keller	4/28/2021	Hail	0	0	$40M	$0
City of Keller	4/28/2021	Hail	0	0	$40M	$0
City of Keller	4/28/2021	Hail	0	0	$40M	$0
City of Keller	6/7/2021	Flood	0	0	$0	$0
City of Keller	3/21/2022	Hail	0	0	$0	$0
City of Keller	3/21/2022	Hail	0	0	$0	$0
City of Keller	4/12/2022	Hail	0	0	$0	$0
City of Keller	8/22/2022	Flood	0	0	$0	$0
City of Keller	10/26/2023	Flash Flood	0	0	$50,000	$0
City of Keller	3/7/2024	Flash Flood	0	0	$0	$0
City of Keller	3/14/2024	Hail	0	0	$0	$0
City of Keller	3/14/2024	Hail	0	0	$0	$0
City of Keller	3/14/2024	Hail	0	0	$0	$0
City of Keller	4/20/2024	Flood	0	0	$0	$0
Keller Alta Vista Airport	3/9/2019	Hail	0	0	$0	$0
Keller Alta Vista Airport	5/18/2019	Hail	0	0	$0	$0

Location	Date	Event Type	Death	Injuries	Property Damage	Crop Damage
Keller Alta Vista Airport	5/29/2019	Thunderstorm Wind	0	0	$0	$0
Keller Alta Vista Airport	5/29/2019	Tornado	0	0	$100,000	$0
Keller Alta Vista Airport	6/16/2019	Tornado	0	0	$150,000	$0
Keller Alta Vista Airport	6/16/2019	Thunderstorm Wind	0	0	$500	$0
Keller Alta Vista Airport	6/16/2019	Thunderstorm Wind	0	0	$5,000	$0
Keller Alta Vista Airport	5/16/2020	Flash Flood	0	0	$0	$0
Keller Alta Vista Airport	8/29/2020	Thunderstorm Wind	0	0	$25,000	$0
Keller Alta Vista Airport	4/28/2021	Hail	0	0	$18M	$0
Keller Alta Vista Airport	4/28/2021	Thunderstorm Wind	0	0	$0	$0
Keller Alta Vista Airport	4/28/2021	Hail	0	0	$18M	$0
Keller Alta Vista Airport	4/28/2021	Hail	0	0	$40M	$0
Keller Alta Vista Airport	4/28/2021	Hail	0	0	$18M	$0
Keller Alta Vista Airport	4/28/2021	Hail	0	0	$40M	$0
Keller Alta Vista Airport	8/1/2021	Lightning	0	0	$10,000	$0
Keller Alta Vista Airport	3/21/2022	Hail	0	0	$0	$0
Keller Alta Vista Airport	9/4/2022	Hail	0	0	$0	$0
Keller Alta Vista Airport	9/4/2022	Thunderstorm Wind	0	0	$5,000	$0
Keller Alta Vista Airport	3/2/2023	Thunderstorm Wind	0	0	$30,000	$0
Keller Alta Vista Airport	5/19/2023	Hail	0	0	$0	$0
Keller Alta Vista Airport	6/13/2023	Hail	0	0	$0	$0

Location	Date	Event Type	Death	Injuries	Property Damage	Crop Damage
Keller Alta Vista Airport	4/8/2024	Hail	0	0	$0	$0
Keller Goode Airport	3/24/2019	Hail	0	0	$0	$0
Keller Goode Airport	11/10/2021	Hail	0	0	$0	$0

Source: The National Center for Environmental Information

Overall Vulnerability

The City of Keller identified the following as its greatest vulnerabilities and concerns:

- Large gatherings at schools during severe weather events and evacuations.
- Widespread electrical outages at assisted living community centers.

Chapter 4: Capabilities Assessment

(In compliance with 201.6(c)(3))

This capability assessment examines the City's ability to implement and manage a comprehensive mitigation strategy. The jurisdiction's strengths, weaknesses, and resources are identified to develop an effective HazMAP. The capabilities identified in this assessment were evaluated collectively to develop feasible recommendations to support the implementation of effective mitigation activities.

To initiate this assessment, a questionnaire was distributed to the City of Keller's LPT. It included questions regarding existing plans, policies, and regulations that contribute to or hinder the ability to implement hazard mitigation activities, including the following: planning and regulatory capabilities, administrative and technical capabilities, financial capabilities, and education and outreach capabilities.

Planning and Regulatory

Planning and regulatory capabilities are the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards.

Table 21: Assessment of Planning and Regulatory Capabilities of the City of Keller

Plan	Does it address hazards? (Y/N)	How can the plan be used to implement mitigation actions?	When was it last updated? When will it be updated next?
Capital Improvement Plan	Y	Can help reduce risk and build community resilience by incorporating hazard mitigation principles into the CIP projects.	Annually
Economic Development Plan	N	Communication with local businesses, providing them resources and guidance.	
Local Emergency Operations Plan	Y	Identifies capabilities and resources available to implement actions.	Part of the County Plan
Stormwater Management Plan	Y	Can reduce risk of flooding.	Annually as part of the CIP

Table 22: Assessment of the Regulations and Ordinances Capabilities of the City of Keller

Regulations and Ordinances	Does this regulation/ordinance effectively reduce hazard impacts?	Is it adequately administered and enforced?	When was it last updated? When will it be updated next?
Building Code	Y	Y	2021
Flood Insurance Rate Maps	Y	Y	2019
Floodplain Ordinance	Y	Y	2015
Subdivision Ordinance	Y	Y	2015
Zoning Ordinance	Y	Y	Revised annually
Acquisition of Land for Open Space and Public Recreation Use	N	N	N/A
Fire Department ISO	Rating – 1	Y	
Building Code Effectiveness Grading Schedule (BGEGS) Score	Y	Y	Score 5 for 1–2 family; 4 for commercial
Site Plan Review Requirements	Y	Y	Expansion requires approval from city council

Administrative and Technical

Administrative and technical capabilities include staff and their skills. They also include tools that can help you carry out mitigation actions. If you do not have local staff, consider how state and regional partners can help.

Table 23: Assessment of the Administrative Capabilities of the City of Keller

Administrative Capability	In Place? (Y/N)	Is staffing adequate?	Is staff trained on hazards and mitigation?	Is coordination between agencies and staff effective?
Chief Building Official	Y	Y	Y	Y
Civil Engineer	Y	Y	Y	Y
Community Planner	Y	Y	Y	Y
Emergency Manager	Y	Y	Y	Y
Floodplain Administrator	Y	Y	Y	Y

Administrative Capability	In Place? (Y/N)	Is staffing adequate?	Is staff trained on hazards and mitigation?	Is coordination between agencies and staff effective?
Geographic Information System (GIS) Coordinator	Y	Y	Y	Y
Planning Commission	Y	Y	Y	Y
CERT (Community Emergency Response Team)	Y	Y	Y	Y
Active VOAD (Voluntary Agencies Active in Disasters)	N	N	N	N

Table 24: Assessment of the Technical Capabilities of the City of Keller

Technical Capability	In Place? (Y/N)	How has the capability been used to assess/mitigate risk in the past? (Answer or N/A)	How can the capability be used to assess/mitigate risk in the future?
Mitigation Grant Writing	Y	Funding source	Funding source
Hazard Data and Information	Y	Hazard priority determination	Hazard priority determination
GIS	Y	Hazard determination	Hazard priority determination
Warning Systems/ Services (e.g., Reverse 911, outdoor warning signals)	Y	Y	Outdoor warning system, Siren GPS

Financial

Financial capabilities are the resources to fund mitigation actions. Talking about funding and financial capabilities is important to determine what kinds of projects are feasible given their cost. Mitigation actions, such as outreach programs have lower costs and often use staff time and existing budgets. Other actions, such as earthquake retrofits, could require substantial funding from local, state, and federal partners. Partnerships, including those willing to donate land, supplies, cash, or in-kind matches, can be included.

Table 25: Assessment of the Financial Capabilities of the City of Keller

Funding Resource	In Place? (Y/N)	Has this funding resource been used in the past and for what types of activities?	Could this resource be used to fund future mitigation actions?	Can this be used as the local cost match for a federal grant?
Capital Improvement Project Funding	Y	Y – CIP projects across departments	Y	Y
General Funds	Y	Y	Y	Y
Hazard Mitigation Grant Program (HMGP/404)	Y	Y	Y	N
Building Resilient Infrastructure & Communities (BRIC)	This is available through the state	N	Y	N
Flood Mitigation Assistance (FMA)	This is available through the state	N	Y	N
Public Assistance Mitigation (PA Mitigation/406)	Available only after federally declared disaster in our county	N	Y	N
Community Development Block Grant (CDBG)	Y	N	Y	N
U.S. Army Corps (USACE) Programs	N	N	N	N
Property, Sales, Income, or Special Purpose Taxes	Y	N	Y	Y
Stormwater Utility Fee	Y	N	Y	N
Fees for Water, Sewer, Gas, or Electric Services	Y	N	Y	N
Impact Fees from New Development and Redevelopment	Y	Y	Y	Y
General Obligation or Special Purpose Bonds	Y	Y	Y	N

Education and Outreach

Education and outreach capabilities are programs and methods that could communicate about and encourage risk reduction. A participant or a community-based partner may run these programs. Partners, especially those who work with underserved communities, can help identify additional education and outreach capabilities.

Table 26: Assessment of the Education and Outreach Capabilities of the City of Keller

Education and Outreach Capability	In Place? (Y/N)	Does this resource currently incorporate hazard mitigation?	Notes
Hazard Awareness Campaigns (such as Firewise, Storm Ready, Severe Weather Awareness Week, School Programs)	Y	Y	Annual school program, Storm Ready Program
Public Meetings/Events (Please Describe)	N	N	N/A
Emergency Management Listserv	N	N	N/A
Local News	Y	Y	Website
Distributing Hard Copies of Notices	Y	Y	Public libraries, door-to-door outreach
Insurance Disclosures/Outreach	Y	Y	Flood insurance
Organizations that Represent, advocate for, or Interact with Underserved and Vulnerable Communities	Y	Y	American Red Cross, Salvation Army, Rotary Club, Lions Club
Social Media (Please Describe)	Y	Y	Facebook, Next Door

Opportunities to Expand and/or Improve Capabilities

Actions that can expand and improve existing authorities, plans, policies, and resources for mitigation include budgeting for mitigation actions, passing policies and procedures for mitigation actions, adopting and implementing stricter mitigation regulations, approving mitigation updates, and making additions to existing plans as new needs are recognized.

Table 27: Capabilities that the City of Keller Could Expand or Improve

Capability	Opportunity to Expand and/or Improve?
Planning and Regulations	Continue to identify areas for improvement in ordinances
Administrative and Technical	Our ability to achieve our capabilities would be enhanced with additional staff, more training, and additional equipment.
Financial	Additional capacity-building would require additional revenue, grant funding, or free training.
Education and Outreach	Increase awareness of the flood insurance program and ensure that we are using all the tools we have to reach all populations (such as social media, newsletters, water bills, handouts at City facilities, public speaking events) on all hazards, and create consistency in messaging by holding ourselves accountable; increase accountability through regular monthly meetings of EM and Communications to touch base. They will be getting a community connect app to better outreach to the community.

Chapter 5: Mitigation Strategy

(In compliance with 201.6(c)(3)(i), 201.6(c)(3)(i), 201.6(c)(3)(ii), 201.6(c)(3)(iv), 201.6(c)(3)(iii), and 201.6(c)(4)(ii))

The mitigation strategy serves as the long-term blueprint for reducing the potential losses identified in the risk assessment. The Stafford Act directs local mitigation plans to describe hazard mitigation actions and establish a strategy to implement those actions. Therefore, all other requirements for a local mitigation plan (or hazard mitigation action plan) lead to and support the mitigation strategy.

Mitigation Goals

The Tarrant County HMPT collectively reviewed the extensive list of mitigation goals of the 2020 HazMAP and unanimously chose to streamline the mitigation goals for this update. Therefore, the new goals are to protect life and reduce bodily harm from natural hazards, and to lessen the impacts of natural hazards on property and the community through hazard mitigation.

2020 Action Items

The City of Keller's action items in the 2020 Tarrant County HazMAP were determined by the 2020 LPT. Table 28 lists the action items from the 2020 plan and the status of each action.

Table 28: Status of Actions in the 2020 Plan of the City of Keller

Hazard(s) Addressed	Flooding
Conduct a hydrologic study to determine threat, risk, and potential impacts of flooding from levee failure along the West Fork of the Trinity River.	
Participating Jurisdiction:	City of Keller
Priority:	1
Estimated Cost:	$1,400,000
Estimated Benefit:	$8,400,000
Potential Funding Source(s):	City budget, Hazard Mitigation Grant Program (HMGP)
Lead Agency/Department Responsible:	Office of Emergency Management, Public Works Department
Implementation Schedule:	24 months
Status:	Ongoing, carry forward

Hazard(s) Addressed	Earthquakes, Expansive Soils, Extreme Heat, Flooding, Thunderstorms, Tornadoes, Winter Storms
Eliminate potential loss of power to municipal buildings from these identified hazards with the installation of backup generators for electrical power in municipal buildings.	
Participating Jurisdiction:	City of Keller
Priority:	2
Estimated Cost:	$225,000
Estimated Benefit:	$1,350,000
Potential Funding Source(s):	City budget, HMGP
Lead Agency/Department Responsible:	Office of Emergency Management, Public Works Department
Implementation Schedule:	24 months
Status:	20% complete, carry forward.

Hazard(s) Addressed	Thunderstorms, Tornadoes
Retrofit city buildings with impact-resistant roofing and building material.	
Participating Jurisdiction:	City of Keller
Priority:	3
Estimated Cost:	$30,000
Estimated Benefit:	$180,000
Potential Funding Source(s):	City budget, HMGP
Lead Agency/Department Responsible:	Building Official
Implementation Schedule:	12 months
Status:	Completed, roof has been replaced.

Hazard(s) Addressed	Drought, Earthquakes, Expansive Soils, Extreme Heat, Flooding, Thunderstorms, Tornadoes, Wildfire, Winter Storms
Enhance the citywide notification system for phone, text, and email by implementing a system such as Code Red or Everbridge.	
Participating Jurisdiction:	City of Keller
Priority:	4
Estimated Cost:	$10,000
Estimated Benefit:	$60,000
Potential Funding Source(s):	City budget, HMGP
Lead Agency/Department Responsible:	Office of Emergency Management
Implementation Schedule:	12 months
Status:	Completed, purchased Everbridge.

Hazard(s) Addressed	Drought, Earthquakes, Expansive Soils, Extreme Heat, Flooding, Thunderstorms, Tornadoes, Wildfire, Winter Storms
Develop and implement a comprehensive public education program that includes recommended activities to mitigate the impact of each identified hazard.	
Participating Jurisdiction/s	City of Keller
Priority:	5
Estimated Cost:	$5,000
Estimated Benefit:	$30,000
Potential Funding Source(s):	City budget, HMGP, city funding for staff time
Lead Agency/Department Responsible:	Office of Emergency Management,
Implementation Schedule:	12 months
Status:	Ongoing, carry forward.

Hazard(s) Addressed	Thunderstorms
Provide flood risk mapping materials for property owners in floodplains and include mitigation techniques.	
Participating Jurisdiction:	City of Keller
Priority:	6
Estimated Cost:	$6,500
Estimated Benefit:	$39,000
Potential Funding Source(s):	City budget, HMGP, city funding for staff time
Lead Agency/Department Responsible:	Office of Emergency Management
Implementation Schedule:	12 months
Status:	Carry forward, not completed.

Hazard(s) Addressed	Drought
Create and implement a water conservation program for public and residential property.	
Participating Jurisdiction:	City of Keller
Priority:	7
Estimated Cost:	$2,500
Estimated Benefit:	$15,000
Potential Funding Source(s):	City budget, HMGP, private companies
Lead Agency/Department Responsible:	Public Works Department – Water Division
Implementation Schedule:	18 months
Status:	Completed.

Hazard(s) Addressed	Drought, Earthquakes, Expansive Soils, Extreme Heat, Flooding, Thunderstorms, Tornadoes, Wildfire, Winter Storms
Educate city employees on the most "at-risk" populations in the city and how to mitigate the risks to these populations.	
Participating Jurisdiction:	City of Keller
Priority:	8
Estimated Cost:	$10,000
Estimated Benefit:	$60,000
Potential Funding Source(s):	City budget, HMGP
Lead Agency/Department Responsible:	Public Works Department
Implementation Schedule:	18 months
Status:	Ongoing and carry forward.

Hazard(s) Addressed	Drought
Create and implement a drought contingency plan for city facilities and property.	
Participating Jurisdiction:	City of Keller
Priority:	9
Estimated Cost:	$5,000
Estimated Benefit:	$30,000
Potential Funding Source(s):	City budget, HMGP, water suppliers
Lead Agency/Department Responsible:	Public Works Department
Implementation Schedule:	18 months
Status:	Completed.

Hazard(s) Addressed	Drought, Earthquakes, Expansive Soils, Extreme Heat, Flooding, Thunderstorms, Tornadoes, Wildfire, Winter Storms
Adopt and implement most current ICC building codes for new and existing buildings to mitigate the damage from these identified hazards.	
Participating Jurisdiction:	City of Keller
Priority:	10
Estimated Cost:	$1,500
Estimated Benefit:	$9,000
Potential Funding Source(s):	City budget, HMGP, permit fees
Lead Agency/Department Responsible:	Building Inspector
Implementation Schedule:	18 months
Status:	Completed.

Hazard(s) Addressed	Flooding
Require that the floodplain administrator be certified.	
Participating Jurisdiction:	City of Keller
Priority:	11
Estimated Cost:	$2,000
Estimated Benefit:	$12,000
Potential Funding Source(s):	City general fund, hazard mitigation grants
Lead Agency/Department Responsible:	Public Works Department
Implementation Schedule:	24 months
Status:	Completed.

Hazard(s) Addressed	Flooding
Adopt enhanced floodplain ordinances.	
Participating Jurisdiction:	City of Keller
Priority:	12
Estimated Cost:	$5,000
Estimated Benefit:	$30,000
Potential Funding Source(s):	City general fund, hazard mitigation grants
Lead Agency/Department Responsible:	Public Works Department
Implementation Schedule:	24 months
Status:	Ongoing, carry forward

Hazard(s) Addressed	Flooding
Conduct NFIP community workshops to provide information and incentives for property owners to acquire flood insurance.	
Participating Jurisdiction:	City of Keller
Priority:	13
Estimated Cost:	$500
Estimated Benefit:	$3,000
Potential Funding Source(s):	City general fund, hazard mitigation grants
Lead Agency/Department Responsible:	Office of Emergency Management, Public Works Department
Implementation Schedule:	24 months
Status:	Ongoing, carry forward

Hazard(s) Addressed	Flooding
Remove existing structures from flood-prone areas to minimize future flood losses by acquiring and demolishing or relocating structures from voluntary property owners and preserving land subject to repetitive flooding.	
Participating Jurisdiction:	City of Keller
Priority:	14
Estimated Cost:	$1,000,000
Estimated Benefit:	$6,000,000
Potential Funding Source(s):	City general fund, hazard mitigation grants
Lead Agency/Department Responsible:	Office of Emergency Management, Public Works Department
Implementation Schedule:	24 months
Status:	Ongoing, carry forward

Hazard(s) Addressed	Flooding
Use bioengineered bank stabilization techniques and revetments to protect against flooding along streams, creeks, rivers, and lakes.	
Participating Jurisdiction:	City of Keller
Priority:	15
Estimated Cost:	$1,000,000
Estimated Benefit:	$6,000,000
Potential Funding Source(s):	City general fund, hazard mitigation grants
Lead Agency/Department Responsible:	Office of Emergency Management, Public Works Department
Implementation Schedule:	24 months
Status:	No longer needed. Delete.

Hazard(s) Addressed	Earthquakes, Thunderstorms, Tornadoes
Require construction of safe rooms in new schools, daycares, and nursing homes.	
Participating Jurisdiction:	City of Keller
Priority:	16
Estimated Cost:	$1,000,000
Estimated Benefit:	$6,000,000
Potential Funding Source(s):	City general fund, hazard mitigation grants
Lead Agency/Department Responsible:	Office of Emergency Management, Community Development Department
Implementation Schedule:	24 months
Status:	Delete, hard to enforce.

Hazard(s) Addressed	Wildfires
Promote conservation of open space or wildland–urban interface zones to separate developed areas from high-hazard areas.	
Participating Jurisdiction:	City of Keller
Priority:	17
Estimated Cost:	$100
Estimated Benefit:	$600
Potential Funding Source(s):	City general fund, hazard mitigation grants
Lead Agency/Department Responsible:	Office of Emergency Management
Implementation Schedule:	24 months
Status:	Ongoing, carry forward.

Hazard(s) Addressed	Flooding, Thunderstorms, Tornadoes, Wildfires, Winter Storms
To protect power lines, bury overhead power lines, ensure ordinances for proper vegetation management practices, replace wood poles with steel or composite ones, and/or reinforce utility poles with guy wires.	
Participating Jurisdiction:	City of Keller
Priority:	18
Estimated Cost:	$300,000,000
Estimated Benefit:	$1,200,000,000
Potential Funding Source(s):	City general fund, hazard mitigation grants
Lead Agency/Department Responsible:	Office of Emergency Management
Implementation Schedule:	24 months
Status:	Ongoing and carry forward.

New Mitigation Action Items

The City of Keller's action items were determined by the LPT for the 2025 HazMAP. These include mitigation actions that qualify for mitigation funding and enforcement, maintenance, and response actions that the City has identified as opportunities to increase its resilience to hazards.

During the capabilities assessment and hazard analysis, previously impacted assets and populations were analyzed to determine the highest probability of damage and potential loss of life per hazard. As $1 spent in mitigation saves a community an average of $6 in recovery,[3] the LPT used these data to develop a cost–benefit analysis: Estimated Cost × 6 = Estimated Benefit.

[3] National Institute of Building Sciences, "Natural Hazard Mitigation Saves 2019 Report," https://www.nibs.org/files/pdfs/NIBS_MMC_MitigationSaves_2019.pdf

Priority will be assigned to projects with the greatest positive impact on community resilience, including life safety and property protection. Table 29 lists the action items for this HazMAP.

Table 29: 2025 Mitigation Actions for the City of Keller

2025 Mitigation Action	Hazard Addressed	Priority	Timeline	Agency or Department Responsible	Estimated Cost	Estimated Benefit	Funding Source
Conduct a hydrologic study to determine threat, risk, and potential impacts of flooding from levee failure along the West Fork of the Trinity River.	Flooding	1	24 months	Office of Emergency Management, Public Works Department	$1.4 million	$8.4 million	City Budget, Hazard Mitigation Grant Program (HMGP)
Eliminate potential loss of power to municipal buildings from these identified hazards with the installation of backup generators for electrical power in municipal buildings.	All Hazards	2	24 months	Office of Emergency Management, Public Works Department	$225k	$1.35 million	City Budget, HMGP
Develop and implement a comprehensive public education program that includes recommended activities to mitigate the impact of each identified hazard.	All Hazards	3	12 months	Office of Emergency Management	$5k	$30k	City Budget, HMGP
Provide flood risk mapping materials for property owners in floodplains and include mitigation techniques.	Thunderstorms	4	12 months	Office of Emergency Management	$6.5k	$39k	City budget, HMGP, city funding for staff time
Educate city employees on the most “at-risk” populations in the city and how to mitigate the risks to these populations.	All Hazards	5	18 months	Public Works Department	$10k	$60k	City Budget, HMGP

2025 Mitigation Action	Hazard Addressed	Priority	Timeline	Agency or Department Responsible	Estimated Cost	Estimated Benefit	Funding Source
Adopt enhanced floodplain ordinances.	Flooding	6	24 months	Public Works Department	$5k	$30k	City Budget, HMGP
Conduct NFIP community workshops to provide information and incentives for property owners to acquire flood insurance.	Flooding	7	24 months	Office of Emergency Management	$500	$3k	City Budget, HMGP
Remove existing structures from flood-prone areas to minimize future flood losses by acquiring and demolishing or relocating structures from voluntary property owners and preserving land subject to repetitive flooding.	Flooding	8	24 months	Office of Emergency Management	$1.0 million	$6.0 million	City Budget, HMGP
Promote conservation of open space or wildland–urban interface zones to separate developed areas from high-hazard areas.	Wildfire	9	24 months	Office of Emergency Management	$100	$600	City Budget, HMGP
To protect power lines, bury overhead power lines, ensure ordinances for proper vegetation management practices, replace wood poles with steel or composite ones, and/or reinforce utility poles with guy wires.	All Hazards	10	24 months	Office of Emergency Management	$300 million	$1.2 billion	City Budget, HMGP

Incorporating the Plan into Existing Planning Mechanisms

Based on Requirement 201.6(c)(4(ii) and the State of Texas Mitigation Plan, the vulnerability and capabilities assessments for the City were carefully reviewed and considered when developing the mitigation actions for this plan. The LPT will establish a process in which the mitigation strategy, goals, objectives, and actions outlined in this plan will be incorporated into the existing local planning strategies. Once the plan is adopted, the LPT will coordinate implementation with the responsible parties in the city and external stakeholders as needed.

Steps for Implementing This HazMAP into Local Plans

- Change is proposed by an elected official or other interested party.
- The proposal is placed on the local agenda of the governing body.
- The agenda is published at least 10 days in advance of the meeting at which it will be discussed, so members of the public have an opportunity to attend the discussion meeting. Publication may be made by posting the agenda on the City's website, in the City newsletter, or on a public bulletin board.
- The proposal is discussed at the public meeting, including any comments by members of the public attendance.
- The proposal is voted on by the governing body.
- If the proposal is passed, the change is implemented by the appropriate local authority.

Integration into Local Planning Mechanisms

Incorporating the underlying principles of the HazMAP and its recommendations into other plans is a highly effective and low-cost way to expand their influence. All plan participants will use existing methods and programs to implement hazard mitigation actions where possible. As previously stated, mitigation is most successful when it is incorporated into the day-to-day functions and priorities of government and public service. This plan builds on the momentum developed through previous and related planning efforts and mitigation programs, and it recommends implementing actions, where possible, through these other program mechanisms. These existing mechanisms include:

- Regularity Capabilities
- Administrative Capabilities
- Fiscal Capabilities

The respective planning authorities will conduct implementation and incorporation into existing planning mechanisms through the routine actions of:

- Monitoring other planning/program agendas;
- Attending other planning/program meetings;

- Participating in other planning processes; and
- Monitoring community budget meetings for other community program opportunities.

The successful implementation of this mitigation strategy will require constant and vigilant review of existing plans and programs for coordination and multi-objective opportunities that promote a safe, sustainable community. Regular efforts should be made to monitor the progress of mitigation actions implemented through other planning mechanisms. Where appropriate, priority actions should be incorporated into HazMAP updates. Existing planning mechanisms in which the HazMAP will be integrated are listed in Table 30.

Table 30: Types of Plans That the City of Keller Can Use for Mitigation Actions

Type of Plan	Department Responsible	Integration Method
Capital Improvement Plan	Public Works	Annual Priorities

Although there are many possible benefits to integrating components of this HazMAP into other planning mechanisms, the LPT considers this HazMAP, including development and maintenance, to be the primary vehicle to ensure that the implementation of local hazard mitigation actions. The successful implementation of this mitigation strategy will require constant and vigilant review of existing plans and programs for coordination and multi-objective opportunities that promote a safe, sustainable community. Efforts should continuously be made to monitor the progress of mitigation actions implemented through other planning mechanisms. Where appropriate, priority actions should be incorporated into Hazard Mitigation Plan updates.

Continued Public Involvement

Continued public involvement is imperative to the overall success of the plan's implementation. The update process provides an opportunity to solicit participation from new and existing stakeholders, publicize mitigation success stories, and seek additional public comment. The plan maintenance and update process will include continued public and stakeholder involvement and input through attendance at designated committee meetings, web postings, press releases to local media, and public hearings.

PUBLIC INVOLVEMENT PROCESS FOR ANNUAL REVIEWS

The public will be notified using the City website or any other publicly accessible social platform (e.g., local newspaper, Facebook, Twitter) well in advance of any public meetings or comment periods.

PUBLIC INVOLVEMENT IN FIVE-YEAR UPDATES

When the LPT reconvenes for the five-year update, it will coordinate with all stakeholders participating in the planning process—including those who joined the committee since the planning process began—to update and revise the plan. In reconvening, the LPT will develop a plan for public involvement and will be responsible for disseminating information through various media channels detailing the plan update

process. As part of this effort, public meetings will be held, and public comments will be solicited on the plan update draft.

This completes the annex for the City of Keller. For additional information, see Appendices A and B.

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