2021

Parker County Hazard Mitigation Action Plan




North Central Texas Council of Governments

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Executive Summary

We cannot control when or where a tornado or other natural hazard will strike, but we can save lives and reduce property damage by understanding the risks and taking action to address those risks. In the process, we can increase resilience in our community, environment, and economy. Participating jurisdictions in the Parker County Hazard Mitigation Action Plan (HazMAP) are dedicated to the protection of local citizens and their property, and to the improvement of the quality of life for all residents.

Mitigation has been defined as "sustained action to reduce or eliminate long-term risk to human life and property from natural, human-caused, and technological hazards."[1] It is fundamentally a loss-prevention function characterized by planned, long-term alteration of the built environment to ensure resilience against natural and human-caused hazards. This loss-prevention function has been illustrated by the Multi-Hazard Mitigation Council study of the Federal Emergency Management Agency (FEMA) mitigation projects, which shows that for every dollar invested in mitigation, six dollars of disaster losses were avoided.[2]

Mitigation should form the foundation of every emergency management agency's plans and procedures. Emergency management agencies should adopt mitigation practices to reduce, minimize, or eliminate hazards in their community. The Parker County Hazard Mitigation Action Plan identifies the hazards faced by participating jurisdictions, vulnerabilities to these hazards, and mitigation strategies for the future. The plan fulfills the requirements of the Federal Disaster Mitigation Act as administered by the Texas Division of Emergency Management (TDEM) and the Federal Emergency Management Agency (FEMA).

This plan is not legally binding but, instead, is a tool for the jurisdictions to use to become more resilient to natural hazards. Mitigation actions will be implemented as capabilities and funding allow.

[1] State of Texas Mitigation Handbook, page 1-1.
[2] Natural Hazard Mitigation Saves: 2017 Interim Report, page 1.

Acronyms

EMC- Emergency Management Coordinator

EOC- Emergency Operations Center

FEMA- Federal Emergency Management Agency

HazMAP- Hazard Mitigation Action Plan

HMPT- Hazard Mitigation Planning Team

LPT- Local Planning Team

N/A- Not Applicable

NCEI- National Centers for Environmental Information

NCTCOG- North Central Texas Council of Governments

NFIP- National Flood Insurance Program

NFPA- National Fire Protection Association

NWS- National Weather Service

OWS- Outdoor Warning Siren

RLP- Repetitive Loss Properties

SRLP- Severe Repetitive Loss Properties

TDEM- Texas Division of Emergency Management

TFS- Texas A&M Forest Service

TPW- Texas Parks & Wildlife Department

TxDOT- Texas Department of Transportation

UTA- University of Texas at Arlington

WUI- Wildland-Urban Interface

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Chapter 1: Introduction

1.1 Overview

The Parker County Hazard Mitigation Action Plan (HazMAP) as written fulfills the requirements of the Disaster Mitigation Act of 2000 (DMA 2000), which is administered by the Federal Emergency Management Agency (FEMA). The Disaster Mitigation Act provides federal assistance to state and local emergency management entities to mitigate the effects of disasters. The HazMAP also encourages cooperation among various organizations across political subdivisions.

This HazMAP is an update of the 2015 FEMA-approved HazMAP. The title was changed from the Local Mitigation Action Plan to Hazard Mitigation Action Plan to clearly specify the intent of the document. With each update, new challenges are identified, new strategies proposed, and when incorporated, the updated plan grows in complexity, but not necessarily in utility.

This HazMAP is the result of two years of study, data collection, analysis, and community feedback. Representatives and citizens from participating jurisdictions attended public meetings to discuss the hazards their communities face and the vulnerabilities those hazards present.

All participants involved in this plan understand the benefits of developing and implementing mitigation plans and strategies. Elected officials, public safety organizations, planners, and many others have worked together to develop and implement this HazMAP, displaying that they have the vision to implement mitigation practices and therefore reduce the loss of life and property in their communities.

1.2 Authority

The Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), as amended by the Disaster Mitigation Act of 2000, provides the legal basis for state, tribal, and local governments to undertake risk-based approaches to reducing natural hazard risks through mitigation planning. Specifically, the Stafford Act requires state, tribal, and local governments to develop and adopt FEMA-approved hazard mitigation plans as a condition for receiving certain types of non-emergency disaster assistance.

The Stafford Act authorizes the following grant programs:

- Hazard Mitigation Grant Program (HMGP), which helps communities implement hazard mitigation measures following a Presidential major disaster declaration. This program also funds development and update of hazard mitigation plans.
- Pre-Disaster Mitigation Grant Program (PDM), which awards planning and project grants to assist states, territories, federally-recognized tribes, and local communities in implementing sustained pre-disaster natural hazard mitigation programs. Such efforts may include development or update of hazard mitigation plans.
- Public Assistance Grant Program (PA), which provides assistance to state, tribal, and local governments, and certain types of private nonprofit organizations so that communities can quickly respond to and recover from major disasters or emergencies declared by the President.

- Fire Management Assistance Grant Program (FMAG), which provides assistance to state, tribal, and local governments for the mitigation, management, and control of fires on publicly or privately-owned forests or grasslands that threaten such destruction as would constitute a major disaster.

Title 44, Chapter 1, Part 201 (44 CFR Part 201) of the Code of Federal Regulations (CFR) contains requirements and procedures to implement the hazard mitigation planning provisions of the Stafford Act.

The purpose of the Stafford Act, as amended by the Disaster Mitigation Act of 2000, is "to reduce the loss of life and property, human suffering, economic disruption, and disaster assistance costs resulting from natural disasters." Chapter 322 of the act specifically addresses mitigation planning and requires state and local governments to prepare multi-hazard mitigation plans as a precondition for receiving FEMA mitigation grants.

This Parker County Hazard Mitigation Action Plan was developed by the Parker County Hazard Mitigation Planning Team (HMPT) under the direction and guidance of the North Central Texas Council of Governments (NCTCOG) Emergency Preparedness Department. The plan represents collective efforts of citizens, elected and appointed government officials, business leaders, non-profit organizations, and other stakeholders. This plan, and updating the plan, and timely future updates of this plan, will allow Parker County and participating jurisdictions to comply with the Disaster Mitigation Act of 2000 and its implementation regulations, 44 CFR Part 201.6, thus resulting in eligibility to apply for federal aid for technical assistance and post-disaster hazard mitigation project funding. The update will also prioritize potential risks and vulnerabilities in an effort to minimize the effects of disasters in the participating communities.

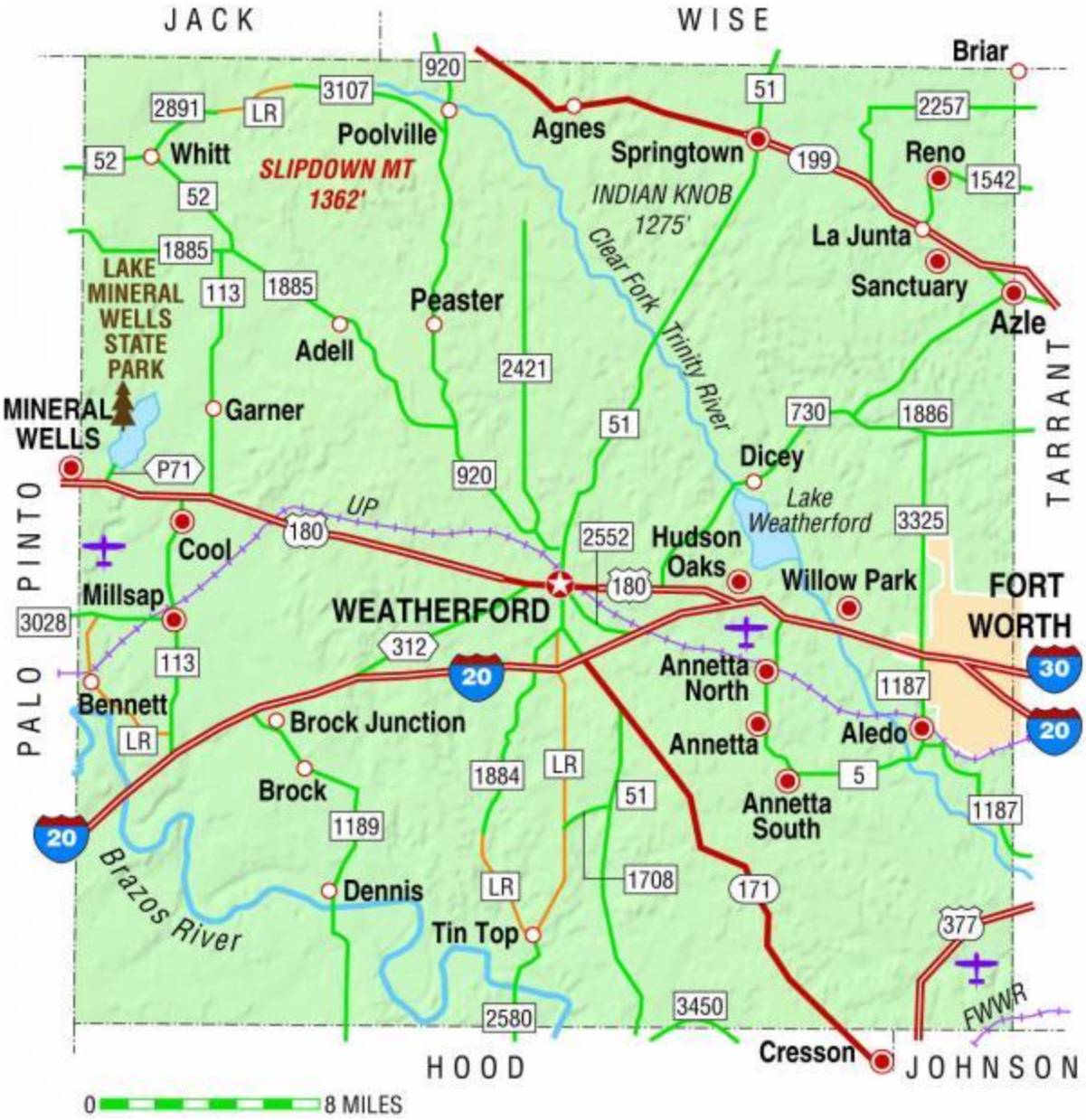
1.3 Scope

The scope of the Parker County HazMAP encompasses all participating entities in Parker County. This plan identifies natural and, for some jurisdictions, technological hazards that could threaten life and property in the communities. Assessing technological hazards is not a requirement for this hazard mitigation action plan but select jurisdictions have included these hazards in this plan. The scope of this plan includes both short and long-term mitigation strategies, implementation, strategies, and possible sources of project funding to mitigate identified hazards.

The planning area for this plan is for Parker County, Texas (marked in red on the Texas map) and includes the following jurisdictions:

- City of Aledo
- City of Hudson Oaks*
- City of Springtown*
- City of Weatherford
- City of Willow Park*
- Parker County Unincorporated

**Jurisdictions that did not participate in the 2015 Parker County HazMAP.*



Source: [Texas State Historical Association]

1.4 Purpose

This HazMAP is intended to enhance and complement federal and state recommendations for the mitigation of natural and technological hazards in the following ways:

- Substantially reduce the risk of loss of life, injuries, and hardship from the destruction of natural and technological disasters.
- Improve public awareness of the need for individual preparedness and building safer, more disaster resilient communities.
- Develop strategies for long-term community sustainability during community disasters.
- Develop governmental and business continuity plans that will continue essential private sector and governmental operations during disasters.

Parker County is susceptible to a number of different natural hazards that have potential to cause property loss, loss of life, economic hardship, and threats to public health and safety. Occurrence of natural disasters cannot be prevented; however, their impact on people and property can be lessened through hazard mitigation measures.

Mitigation planning is imperative to lessen the impact of disasters in Parker County. This plan is an excellent method by which to organize Parker County's mitigation strategies. The implementation of the plan and its components is vital to preparing a community that is resilient to the effects of a disaster. The implementation of this HazMAP can reduce loss of life and property and allow the participating communities to operate with minimal disruption of vital services to citizens. This HazMAP provides a risk assessment of the hazards Parker County is exposed to and puts forth several mitigation goals and objectives that are based on that risk assessment.

1.5 Mitigation Goals

The goals of the participants' mitigation strategy 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. These goals are the basis of this plan and summarize what the Parker County Hazard Mitigation Planning Team will accomplish by implementing this plan.

1.6 Plan Organization

This Parker County HazMAP is organized into five chapters which satisfy the mitigation requirements in 44 CFR Part 201.6, with four appendices providing the required supporting documentation.

Chapter 1: Introduction

Describes the purpose of the Parker County Hazard Mitigation Action Plan and introduces the mitigation planning process.

Chapter 2: Planning Process

Describes the planning process and organization for each participating jurisdiction, satisfying requirements 201.6(c)(1), 201.6(b)(2), 201.6(b)(1), 201.6(b)(3), 201.6(c)(4)(i), 201.6(c)(4)(ii), and 201.6(c)(4)(iii).

Chapter 3: Hazard Identification and Risk Assessment

Describes the hazards identified, location of hazards, previous events, and jurisdictional profiles, satisfying requirements 201.6(c)(2)(i) and 201.6(c)(2)(ii).

Chapter 4: Mitigation Strategy

Reflects on the mitigation actions previously identified and examines the ability of Parker County and participating jurisdictions to implement and manage a comprehensive mitigation strategy, satisfying requirements 201.6(c)(1), 201.6(c)(3)(i), 201.6(c)(3)(ii), 201.6(c)(3)(iii), 201.6(c)(3)(iv), 201.6(c)(4)(ii), and 201.6(b)(3).

Chapter 5: Conclusion

Appendix A: Maps & Tables

Appendix B: Capabilities Assessment

Appendix C: NCTCOG Programs

Appendix D: Public Documents

Appendix E: Local Planning Team Members

1.7 Parker County Hazard Mitigation Strategy Maintenance Process

The Parker County Hazard Mitigation Planning Team, consisting of a representative from each participating jurisdiction, will continue to collaborate as a planning group in coordination with Parker County Office of Emergency Management. Primary contact will be through emails and conference calls, with strategy meetings to occur at least annually. The points of contact for the county and jurisdictions will jointly lead the plan maintenance and update process by:

- Assisting jurisdictional Local Planning Teams in updating their individual contributions to the county Hazard Mitigation Action Plan.
- Assisting interested Local Planning Teams that would like to begin their mitigation planning process.
- Facilitating Parker County HazMAP meetings and disseminating information.
- Collaborating on data collections and record keeping.
- Requesting updates and status reports on planning mechanisms.
- Requesting updates and status reports on mitigation action projects.
- Assisting jurisdictions with mitigation grants.
- Assisting jurisdictions with implementing mitigation goals and action projects.
- Providing mitigation training opportunities.
- Maintaining documentation of local adoption resolutions for the Parker County Hazard Mitigation Action Plan.

1.8 Parker County Hazard Mitigation Action Plan Adoption

Once the Parker County Hazard Mitigation Action Plan has received FEMA “Approved Pending Local Adoption” each participating jurisdiction will take the Parker County HazMAP to their Commissioners Court or city councils for final public comment and local adoption. A copy of the resolution will be inserted into the Parker County HazMAP and held on file at the North Central Texas Council of Governments.

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Chapter 2: Planning Process

Requirement	
§201.6(b)	An open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include:
§201.6(b)(1)	An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;
§201.6(b)(2)	An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process; and
§201.6(b)(3)	Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.
§201.6(c)(1)	[The plan shall document] the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.
§201.6(c)(4)(i)	[The plan maintenance process shall include a] section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle
§201.6(c)(4)(iii)	[The plan maintenance process shall include a] discussion on how the community will continue public participation in the plan maintenance process.

2.1 Collaborative Process

A comprehensive county approach was taken in developing the plan. An open public involvement process was established for the public, neighboring communities, regional agencies, businesses, academia, etc. to provide opportunities for everyone to become involved in the planning process and to make their views known. The meetings were advertised with notices in public places and city websites and social media pages.

Each participating jurisdiction gathered their information using a Local Planning Team (LTP), comprised of local staff that could contribute to development of this mitigation plan. The leaders of each of these LPT's comprised the Parker County Hazard Mitigation Planning Team (HMPT) and other relevant agencies. The HMPT met regularly with the North Central Texas Council of Governments in order to submit individual assessments and data into one multi-jurisdictional mitigation plan.

Stakeholders were invited to participate, via email, by participating jurisdictions.

The North Central Texas Council of Governments was responsible for plan facilitation and coordination with Parker County HMPT members and stakeholders throughout the process.

2.1.1 Points of Contacts

The following are members of the Parker County Hazard Mitigation Planning Team (HMPT). These HMPT members were also the point(s) of contact for their respective jurisdiction during this plan update.

Parker County HMPT Members

Jurisdiction	Job Title	Role in the HMPT
City of Aledo	City Administrator	Jurisdictional information and LPT Lead
City of Hudson Oaks	Assistant to the City Administrator	Jurisdictional information and LPT Lead
City of Springtown	Police Chief	Jurisdictional information and LPT Lead
City of Weatherford	Emergency Management Coordinator	Jurisdictional information and LPT Lead
City of Willow Park	Fire Chief	Jurisdictional information and LPT Lead
Parker County Unincorporated	Emergency Management Officer	Jurisdictional information and LPT Lead

Each HMPT member led a Local Planning Team (LPT) in their respective jurisdictions. The LPT members are listed in Appendix E.

2.1.2 Stakeholders

Stakeholders were invited to participate in the planning process, via email, and included local and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development, and neighboring communities.

Stakeholders

Organization Represented	Position
Tarrant County	Emergency Management Coordinator
Denton County	Emergency Management Coordinator
Wise County	Emergency Management Coordinator
Palo Pinto County	Emergency Management Coordinator
Hood County	Emergency Management Coordinator
Johnson County	Emergency Management Coordinator
U.S. Army Corps of Engineers	Director – Civil Works
Dams in Participating Jurisdictions	Owners
Independent School Districts of Participating Jurisdictions	Superintendents
Texas Department of Transportation	Emergency Operations
Utility Providers	Emergency Operations
Local Emergency Planning Committee	Emergency Management Coordinator
Texas Division of Emergency Management	District Coordinator, Field Response
Texas Division of Emergency Management	Hazard Mitigation Planner

Organization Represented	Position
State Fire Marshal's Office	District 6, Inspector
National Weather Service – Fort Worth	Warning & Coordination Meteorologist
NCTCOG's Emergency Preparedness Planning Council	Chair
NCTCOG's Regional Emergency Preparedness Advisory Council	Chair
Local City Councils	Local elected officials
Brazos River Authority	Project Manager

2.1.3 Public Involvement

NCTCOG hosted a public meeting on behalf of jurisdictions on July 30, 2019 at the Parker County Emergency Operations Center. The jurisdictions who used this opportunity to reach the public were in attendance and advertised the meeting within their jurisdiction.

The supporting documentation, advertisements, and details of this meeting and other meetings or outreach strategies are documented within Appendix D of this HazMAP. There were no comments made at this meeting.

Public participation will remain an active component of this plan, even after adoption, to ensure citizens understand what the community is doing on their behalf, and to provide a chance for input on community vulnerabilities and mitigation activities that will inform the plan's content. Public involvement is also an opportunity to educate the public about hazards and risks in the community, types of activities to mitigate those risks, and how these activities impact them. Involvement will be sought in a multitude of ways, including but not limited to periodic presentations on the plan's progress to elected officials, schools, or other community groups; annual questionnaires or surveys; public meetings; and postings on social media and interactive websites.

2.2 Existing Data and Plans

Existing hazard mitigation information and other relevant Hazard Mitigation Action Plans were reviewed during the development of this plan. Data was gathered through numerous sources, including Geographic Information Systems (GIS). The intent of reviewing existing material was to identify existing data and information, shared objectives, and past and ongoing activities that can help inform the mitigation plan. It also helps identify the existing capabilities and planning mechanisms to implement the mitigation strategy. The table below outlines the sources used to collect data for the plan:

Data Source	Data Incorporation	Purpose
County appraisal data, census data, city land use data	Population and demographics	Population counts, parcel data, and land use data
National Centers for Environmental Information (NCEI)	Hazard occurrences	Previous event occurrences and mapping for hazards
Texas Forest Service/Texas Wildfire Risk Assessment	Wildfire threat and urban interface	Mapping and wildfire vulnerability

Data Source	Data Incorporation	Purpose
Summary Report		
U.S. Army Corps of Engineers National Dam Inventory	Dam information	Dam list
Federal Emergency Management Agency (FEMA) Digital Flood Insurance Rate Map (DFIRM) Flood Zones, National Flood Insurance Program (NFIP) studies	Flood zone maps and NFIP information	GIS mapping of flood zones and NFIP data
October 2017 NFIP Flood Insurance Manual Change Package	NFIP Information	Repetitive Loss Properties and Community Rating System (CRS) ratings
State of Texas Hazard Mitigation Plan, 2013 and 2018 editions	Hazards and mitigation strategy	Support the goals of the state
2015 Parker County HazMAP	All Chapters	This is an update of that plan
Hazard Mitigation: Integrating Best Practices into Planning	Planning process	Use proven techniques in developing the HazMAP
Environmental Protection Agency (EPA) Superfund National Priority List	Protected sites	Risk assessment- identify critical areas
National Register of Historic Places	Historic districts	Risk assessment
Texas Parks & Wildlife List of Rare Species	Endangered or protected species	Risk assessment
Texas Water Development Board	Lake information	Vulnerabilities
U.S. Department of Agriculture	Soil type	Expansive Soils description

2.3 Timeframe

The planning process for the update of the Parker County Hazard Mitigation Action Plan was approximately two years. The table below is the timeline followed.

Activity	Time Period
Kickoff meeting	November 2018
Created planning teams	November-December 2018
Capabilities assessment	January-March 2019
Hazard identification & risk assessment	January-March 2019
Public outreach	July-August 2019
Mitigation strategy (goals & action items)	July-August 2019
Review HazMAP draft	January 2020
Update plan as needed	January 2020
Final draft review	January 2020
Send HazMAP to TDEM/make revisions as needed	March 2020
Send to FEMA/ make revisions as needed	To be determined

Activity	Time Period
Adoption & signatures	Once “Approved Pending Adoption” designated received.

Activities were either led or monitored by the North Central Texas Council of Governments (NCTCOG) and public outreach strategies were conducted by the participating jurisdictions. The details of these activities are provided in the individual annexes of the jurisdictions.

2.4 Planning Meetings

During the planning process, the Hazard Mitigation Planning Team met to discuss relevant information from the jurisdiction and to review objectives and progress of the plan. The goals of these meetings were to gather information and to provide guidance for the jurisdictions throughout the planning stages.

The following meetings were hosted by the North Central Texas Council of Governments for the HazMAP participants and do not represent all the meetings that were conducted throughout the process by the Local Planning Teams.

Date	Meeting
November 14, 2018	HazMAP Kickoff Meeting
January 30, 2019	Hazard Identification, Risk Assessment, and Capabilities Assessment Conference Call
February 7, 2019	Hazard Identification, Risk Assessment, and Capabilities Assessment Conference Call
July 30, 2019	Public meeting and mitigation workshop

2.5 Plan Implementation

The Parker County Hazard Mitigation Action Planning process was overseen by the North Central Texas Council of Governments (NCTCOG). The plan was submitted to the Texas Division of Emergency Management (TDEM) and the Federal Emergency Management Agency (FEMA) for approval. It is expected that all participating jurisdictions will formally adopt the plan by resolution once the “Approved Pending Adoption” designation is received by FEMA, in accordance with the Disaster Mitigation Act of 2000.

Each jurisdiction participating in this plan is responsible for implementing specific mitigation actions as prescribed in the mitigation strategies. In each mitigation strategy, every proposed action is assigned to a specific local department or agency in order to assign responsibility and accountability and increase the likelihood of subsequent implementation. This approach enables individual jurisdictions to update their unique mitigation strategy as needed without altering the broader focus of the county-wide plan. The separate adoption of locally-specific actions also ensures that each jurisdiction is not held responsible for monitoring and implementing the actions of other jurisdictions involved in the planning process.

The Parker County Emergency Management Coordinator or their designee is the lead position for plan implementation and will work with the Parker County Hazard Mitigation Planning Team (HMPT) to ensure mitigation actions are implemented into jurisdictional planning procedures. Each participating jurisdiction will implement the plan and their individual mitigation actions in the timeframe appropriate for their planning processes. As necessary, the HMPT will seek outside funding sources to implement mitigation

projects in both the pre-disaster and post-disaster environments. When applicable, potential funding sources have been identified for proposed actions listed in the mitigation strategies.

2.6 Multijurisdictional Strategy and Considerations

The Parker County Office of Emergency Management will lead activities for mitigation planning county-wide. Although The Parker County Office of Emergency Management will be responsible for maintaining this plan, including the documentation of in-progress and completed action items, each participating jurisdiction is responsible for reporting hazards, their costs, and a status report on mitigation actions to the North Central Texas Council of Governments (NCTCOG) for recording in the plan.

Each jurisdiction is responsible for completing mitigation activities by providing the capabilities and authorities needed to carry out activities. Participating jurisdictions completed an analysis of their current legal, staffing, and fiscal capabilities as they relate to hazard mitigation planning. Jurisdictional capabilities and authorities identified to ensure successful mitigation planning are located within the jurisdictional annexes.

2.7 Plan Evaluation

All members of the Parker County Hazard Mitigation Planning Team (HMPT) will be responsible for ensuring that the Parker County Hazard Mitigation Action Plan (HazMAP) is evaluated as required. Specifically, the Parker County Emergency Management Coordinator, or their designee, will convene the HMPT and ensure an evaluation is conducted in a thorough manner. This evaluation will include analysis of current mitigation projects, evaluation of success, reevaluation of future mitigation needs, and prioritization based upon changes in needs and/or capabilities of Parker County.

The HMPT will reconvene annually to ensure that projects are on track and to reevaluate the mitigation goals, objectives, and action items. The mitigation plan shall be viewed as an evolving, dynamic document.

2.8 Plan Update

The Disaster Mitigation Act of 2000 requires that the Parker County Hazard Mitigation Action Plan be updated at least once every five years. During this process, all chapters of the plan will be updated with current information, and analyses and new and/or modified mitigation actions will be developed. The revised plan will be submitted for state and federal review and approval and presented for approval to the Parker County Commissioners Court and the respective councils of incorporated cities included in this HazMAP. Likewise, each participating jurisdiction will undergo the same process for reviewing, revising and updating their respective plans and submitting them for approval by state, federal, and the local jurisdiction's governing body. The plan will be updated every five years in accordance with federal requirements. Parker County's EMC or their designee will be responsible for ensuring that this requirement is met. Parker County and the Hazard Mitigation Planning Team will review the HazMAP annually for needed updates. The HMPT will be involved in this process to ensure all jurisdictions provide input into the planning process. The public will be invited to participate in this process through public hearings.

2.9 Plan Maintenance

It is the intention of all documented plan participants to formally adopt the Parker County Hazard Mitigation Action Plan after each maintenance revision. Once all participants adopt the changes, the revised HazMAP and proof of adoption will be submitted by the North Central Texas Council of Governments (NCTCOG) to the Texas Division of Emergency Management and the Federal Emergency Management Agency. The plan will be revised and maintained as required under the guidance of the HazMAP and formally adopted by Parker County and jurisdiction elected officials after each revision.

Following formal adoption by the Parker County's Commissioners Court and formal adoption of the plan by the governing council of each participating jurisdiction, the actions outlined in the HazMAP will be implemented by the county and participating jurisdictions as described throughout this document.

The Parker County EMC or their designee is responsible for ensuring the HazMAP and its components are monitored, evaluated, and reviewed semiannually by the responsible personnel. The EMC will use email to request the monitoring activities noted below be implemented and changes documented. The progress of action items will be tracked electronically as "in progress," "deferred," or "completed."

These and other changes affecting the plan will be documented within the Parker County HazMAP file and identified as updates. Updates will be shared between participants by email or in a meeting (if deemed appropriate) twice a year, and included in annual evaluations and reviews, and the five-year update of the plan.

Members of the Hazard Mitigation Planning Team (HMPT) are responsible for ensuring their mitigation strategy is monitored, evaluated, and reviewed on an annual basis. This will be accomplished by the Parker County EMC calling an annual meeting of the HMPT, whose members will assist in plan review, evaluation, updates, and monitoring. This meeting will be open to the public and public notices will encourage community participation.

During this annual meeting, the members will provide information and updates on the implementation status of each action item included in the plan. As part of the evaluation, the HMPT will assess whether goals address current and expected conditions, whether the nature and/or magnitude of the risks have changed, if current resources are appropriate for implementing the HazMAP, whether outcomes have occurred as expected, and if agencies and other partners participated as originally proposed. These activities will take place according to the following timetable:

Responsible Personnel	Activity	Update Schedule
Local Planning Team Point of Contact	Monitoring Plan: track implementation and action items, changes to risk assessment, changes to Local Planning Team (LPT), changes to capabilities, and plan integrations.	Twice a year
	Evaluate Plan: assess effectiveness by evaluating completed actions, implementation processes, responsible personnel, and lessons learned.	Annually
	Update Plan	Once every five years

At least once every five years, or more frequently if such a need is determined by the participants, the HazMAP will undergo a major update with NCTCOG. During this process, all chapters of the plan will be updated with current information and analyses and new and/or modified mitigation action plans will be developed. The revised plan will be submitted for review and approval to the Texas Division of Emergency Management and the Federal Emergency Management Agency and presented to the governing council for approval and adoption. The plan will be updated every five years in accordance with regulations.

2.10 Incorporation into Existing Planning Mechanisms

The primary means for integrating mitigation strategies into other local planning mechanisms will be through the revision, update, and implementation of each participating jurisdiction's individual plans that require specific planning and administrative tasks (for example, plan amendments, ordinance revisions, and capital improvement projects).

The members of the HMPT will remain charged with ensuring that the goals and strategies of new and updated local planning documents for their jurisdictions are consistent with the goals and actions of the Parker County HazMAP and will not contribute to increased hazard vulnerability in Parker County or its participating jurisdictions.

During the planning process for new and updated local planning documents, such as a comprehensive plan, capital improvement plan, or emergency management plan, Parker County and its participating jurisdictions will provide a copy of the Parker County HazMAP to the appropriate parties and recommend that all goals and strategies of new and updated local planning documents are consistent with and support the goals of the Parker County HazMAP and will not contribute to increased hazards in the affected jurisdiction(s).

The following steps will be taken in implementing this HazMAP into local plans:

1. Change is proposed by an elected official or other interested party.
2. Proposal is placed on the local agenda of the governing body.
3. Agenda is published 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 per the jurisdiction's legal guidelines. Examples include posting the agenda on the jurisdiction's website, in the jurisdiction's newsletter, or on a public bulletin board.
4. Proposal is discussed at the public meeting, including any comments by members of the public attendance.
5. Proposal is voted on by the governing body.
6. If the proposal is passed, the change is implemented by the appropriate local authority.

Chapter 3: Hazard Identification and Risk Assessment

Requirement	
§201.6(c)(2)(i)	[The risk assessment shall include a] description of the type, location and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.
§201.6(c)(2)(ii)	[The risk assessment shall include a] description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community. All plans approved after October 1, 2008 must also address NFIP [National Flood Insurance Program] insured structures that have been repetitively damaged by floods. The plan should describe vulnerability in terms of:
§201.6(c)(2)(ii)(A)	The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas;
§201.6(c)(2)(ii)(B)	An estimate of the potential dollar losses to vulnerable structures identified in this section and a description of the methodology used to prepare the estimate.
§201.6(c)(2)(ii)(C)	Providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.
§201.6(c)(2)(iii)	For multi-jurisdictional plans, the risk assessment section must assess each jurisdiction's risks where they vary from the risks facing the entire planning area.

3.1 Hazard Overview

Through an assessment of previous federally declared disasters in Texas, the State of Texas Hazard Mitigation Plan, historical and potential events in Parker County, and a review of available local mitigation action plans, it was determined that this Hazard Mitigation Action Plan (HazMAP) will address the risks associated with the following nine natural hazards:

- Drought
- Earthquakes
- Expansive Soils
- Extreme Heat
- Flooding
- Thunderstorms (including hail, wind, and lightning)
- Tornadoes
- Wildfires
- Winter Storms

3.2 Major Disaster Declarations since the 2015 HazMAP

The following table lists the recent major disaster declarations that have occurred in Texas since the approval of Parker County's 2015 HazMAP:

Disaster	Event	Incident Period	Declared
DR-4485	Texas Covid-19 Pandemic	January 20, 2020 and continuing	March 25, 2020
DR-4416	Severe Storms and Flooding	September 10, 2018-November 02, 2018	February 24, 2019
DR-4377	Severe Storms and Flooding	June 19,2018-July 13,2018	July 06, 2018
DR-4332	Hurricane Harvey	August 23, 2017-September 15, 2017	August 25, 2017
DR-4272	Severe Storms and Flooding	May 22, 2016-June 24, 2016	June 11, 2016
DR-4269	Severe Storms and Flooding	April 17, 2016-April 30, 2016	April 25, 2016
DR-4266	Severe Storms, Tornadoes, and Flooding	March 07, 2016-March 29, 2016	March 19, 2016
DR-4255	Severe Winter Storms, Tornadoes, Straight-line Winds, and Flooding	December 26, 2016-January 21, 2016	February 09, 2016
DR-4245	Severe Storms, Tornadoes, Straight-line Winds, and Flooding	October 22, 2015-October 31, 2015	November 25, 2015
DR-4223	Severe Storms, Tornadoes, Straight-line Winds, and Flooding	May 04, 2015-June 22, 2015	May 29, 2015
DR-4159	Severe Storms and Flooding	October 30, 2013-October 31, 2013	December 20, 2013
DR-4136	Explosion (West, TX Fertilizer)	April 17, 2013-April 20, 2013	August 02, 2013

Source: FEMA

Physical impacts of these declared disasters experienced by HazMAP participants in Parker County are listed below:

- **Aledo-** no physical impacts.
- **Hudson Oaks-** no physical impacts.
- **Springtown-** no physical impacts.
- **Weatherford**- DR-4269: April 20, 2016 storm damage to homes around Lake Weatherford. All damaged homes were insured.
- **Willow Park**- DR-4269: storm damage; multiple trees down.
- **Parker County Unincorporated**- DR-4266: storm damage.

3.3 Natural Hazard Profiles

Through an assessment of previous federally declared disasters in Texas, the State of Texas Hazard Mitigation Plan, historical and potential events in Parker County, and a review of available local mitigation action plans, it was determined that this Hazard Mitigation Action Plan (HazMAP) will address the risks associated with the following nine natural hazards:

- Drought
- Earthquakes
- Expansive Soils
- Extreme Heat
- Flooding (including dam failure flooding)
- Thunderstorms (including hail, wind, and lightning)
- Tornadoes
- Wildfires
- Winter Storms

Due to the low probability and history of occurrence of coastal erosion, land subsidence, and hurricane/tropical storm, they will not be profiled in this plan.

Since the adoption of the 2015 HazMAP, the definition of a thunderstorm now includes hail, high winds, and lightning. These individual hazards within a thunderstorm will not be listed nor categorized separately.

Around 2013, areas of North Central Texas began experiencing earthquakes. It is suspected that dormant fault lines have been disturbed. Earthquakes have been added to the list of natural hazards profiled in this update for jurisdictions that feel they could be potentially impacted by them.

For this HazMAP, dam failure is considered a technological hazard and will be addressed in the flooding portion of this HazMAP when applicable. Dam failure is an accidental or unintentional collapse, breach, or other failure of an impoundment structure that results in downstream flooding and is considered both a natural hazard and technological hazard.

The following natural hazard profiles are listed in alphabetical order.

3.3.1 Drought

Drought can be defined as a water shortage caused by the natural reduction in the amount of precipitation expected over an extended period of time, usually a season or more in length. It can be aggravated by other factors such as high temperatures, high winds, and low relative humidity. Drought can impact the economy, environment, and society by limiting food and drinking water, destroying habitat, and triggering health and safety problems due to poor water quality and increased wildfires.

The following chart describes the drought monitoring indices along with drought severity, return period, and a description of the possible impacts of the severity of drought.

Drought Severity	Return Period (years)	Description of Possible Impacts	Drought Monitoring Indices		
			Standardized Precipitation Index (SPI)	NDMC* Drought Category	Palmer Drought Index
Minor Drought	3 to 4	Going into drought; short-term dryness slowing growth of crops or pastures; fire risk above average. Coming out of drought; some lingering water deficits; pastures or crops not fully recovered.	-0.5 to -0.7	D0	-1.0 to -1.9
Moderate Drought	5 to 9	Some damage to crops or pastures; fire risk high; streams, reservoirs, or wells low, some water shortages developing or imminent, voluntary water use restrictions requested.	-0.8 to -1.2	D1	-2.0 to -2.9
Severe Drought	10 to 17	Crop or pasture losses likely; fire risk very high; water shortages common; water restrictions imposed.	-1.3 to -1.5	D2	-3.0 to -3.9
Extreme Drought	18 to 43	Major crop and pasture losses; extreme fire danger; widespread water shortages or restrictions.	-1.6 to -1.9	D3	-4.0 to -4.9
Exceptional Drought	44+	Exceptional and widespread crop and pasture losses; exceptional fire risk; shortages of water in reservoirs, streams, and wells creating water emergencies.	less than -2	D4	-5.0 or less

*NDMC - National Drought Mitigation Center

In Texas, local governments are empowered to take action on the behalf of those they serve. When drought conditions exist, a burn ban can be put in place by a county judge or county Commissioners Court prohibiting or restricting outdoor burning for public safety.[3] According to the county website, an ozone alert in place or a wind advisory can lead to a burn ban being put in place for a given day in Parker County. If the county is under ozone alert, wind advisory, or fire weather watch, no burning of any kind is allowed.[4]

3.3.2 Earthquake

An earthquake is a sudden motion or trembling of the earth, either caused by an abrupt release of accumulated strain on the tectonic plates that comprise the earth's crust or from human activities. Scientific studies have tied the quakes in North Central Texas to the disposal of wastewater from oil and gas production.

Magnitude and intensity measure different characteristics of earthquakes. Magnitude measures the energy released at the source of the earthquake. Magnitude is determined from measurements on seismographs. Intensity measures the strength of shaking produced by the earthquake at a certain location. Intensity is determined from effects on people, human structures, and the natural environment.

The following table gives intensities that are typically observed at locations near the epicenter of earthquakes of different magnitudes.

[3] Fire Danger: Texas Burn Bans. Texas A&M Forest Service. 2018.
<http://texasforestservice.tamu.edu/TexasBurnBans/>
[4] No Burning: (OZONE) Air Quality Alert. Parker County Texas.
< https://www.parkercountytx.com/231/Burn-Ban-Status-and-Burn-Notification-Fo>

Magnitude	Typical Maximum Modified Mercalli Intensity
1.0 - 3.0	**I**
3.0 - 3.9	**II - III**
4.0 - 4.9	**IV - V**
5.0 - 5.9	**VI - VII**
6.0 - 6.9	**VII - IX**
7.0 and higher	**VIII** or higher

Source: USGS Earthquake Hazards Program.

The Modified Mercalli Intensity Scale classifies earthquakes by the amount of damage inflicted. It quantifies a quake's effects on the land's surface, people, and structures involved.

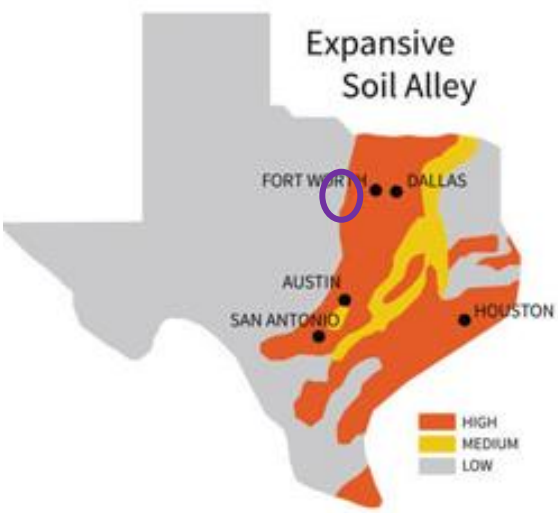
The following is an abbreviated description of the levels of Modified Mercalli intensity.

Intensity	Shaking	Description/Damage
I	Not felt	Not felt except by a very few under especially favorable conditions.
II	Weak	Felt only by a few persons at rest, especially on upper floors of buildings.
III	Weak	Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated.
IV	Light	Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.
V	Moderate	Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.
VI	Strong	Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.
VII	Very strong	Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.
VIII	Severe	Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.
IX	Violent	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
X	Extreme	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.

Source: USGS Earthquake Hazards Program.

3.3.3 Expansive Soils

Expansive soils are soils that contain large percentages of swelling clays that may experience volume changes of up to 40% in the absence or presence of water. Homes built on expanding smectite clays without due precautions will likely be structurally damaged as the clay takes up water. Cracks will appear in walls and floors. Damage can be minor, but it also can be severe enough for the home to be structurally unsafe. Expansive soil is considered one of the most common causes of pavement distresses in roadways. Depending upon the moisture level, expansive soils will experience changes in volume due to moisture fluctuations from seasonal variations.



Expansive soils is a condition that is native to Texas soil characteristics, and cannot be documented as a time-specific event, except when it leads to structural and infrastructure damage. The great increase in damages in Texas caused by problems with expansive soils can be traced to the rise in residential slab-on-grade construction which began to accelerate in the 1960s. Prior to that time, most residential construction in Texas was pier and beam, with wood siding or other non-masonry covering. Affected homes will be heavily influenced by their proximity to a large body of water, whereas older pier and beam foundations will behave in an entirely different manner.

Geographically, Parker County is located in the Western Cross Timbers land resource area. Some areas are sandy, some are clay, some are shallow and rocky, and others are pure caliche. Caliche is calcium carbonate that binds with gravel, sand, clay and silt to form a particularly difficult soil to penetrate. There are very few areas in the County that are considered fertile. The Weatherford series consists of deep, well drained, moderately permeable soils that formed in sandy and loamy residuum weathered from weakly cemented sandstone of the Cretaceous age. These very gently sloping to strongly sloping soils occur mainly on convex ridges on hills. Slope ranges from 1 to 12 percent. Mean annual precipitation is about 34 inches and the mean annual temperature is about 65 °F. [5]

A common procedure for evaluating and rating soil expansion potential is the Expansion Index (EI) test. The Expansion Index, EI, is used to measure a basic index property of soil and therefore, the EI is comparable to other indices such as the liquid limit, plastic limit, and plasticity index of soils.

Expansion Index (EI)	EI Potential Expansion
0-20	Very Low
21-50	Low
51-90	Medium
91-130	High
>130	Very High

Source: Expansion Index

[5] Weatherford Series. CRC: BJW: GLL. 2016.
< https://soilseries.sc.egov.usda.gov/OSD_Docs/W/WEATHERFORD.html>

3.3.4 Extreme Heat

Extreme heat is characterized by a combination of very high temperatures and exceptionally humid conditions. When persisting over a period of time, it is called a heat wave.

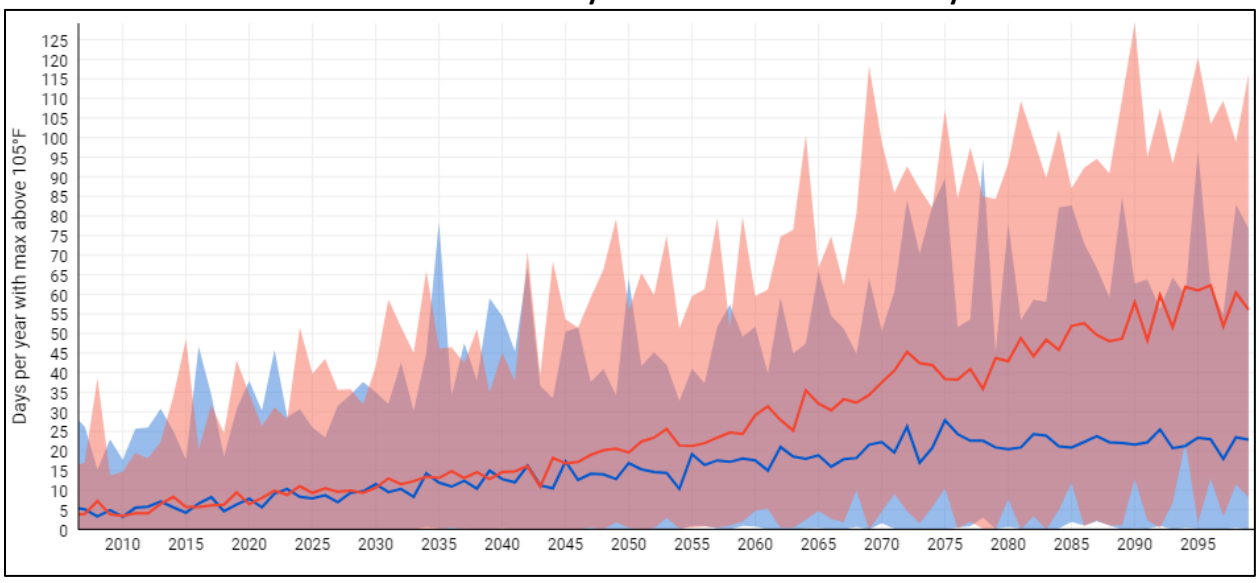
Extreme heat can be a factor that drastically impacts drought conditions, as high temperatures lead to an increased rate of evaporation. The total number of days per year with maximum temperature above various thresholds is an indicator of how often very hot conditions occur. Depending upon humidity, wind, and physical workload, people who work outdoors or don't have access to air conditioning may feel very uncomfortable or experience heat stress or illness on very hot days. Hot days also stress plants, animals, and human infrastructure such as roads, railroads, and electric lines. Increased demand for electricity to cool homes and buildings can place additional stress on energy infrastructure.

Below is a visual representation of the expected amount of days per year that are over 105°F in Parker County.

- The blue area shows the range of projections for a possible future in which global emissions of heat-trapping gases peak around 2040 and then decline.
- The red area shows the range of projections for a possible future in which global emissions of heat-trapping gases continue to increase through the 21st century. This scenario is called Representative Concentration Pathway (RCP) 8.5. For planning purposes, people who have a low tolerance for risk often focus on this scenario.
- Average lines, represented by the solid blue and red lines, show the weighted mean of all projections at each time step (projections are weighted based on model independence and skill). The lines aren't predictions of actual values; they merely highlight trends in the projections.

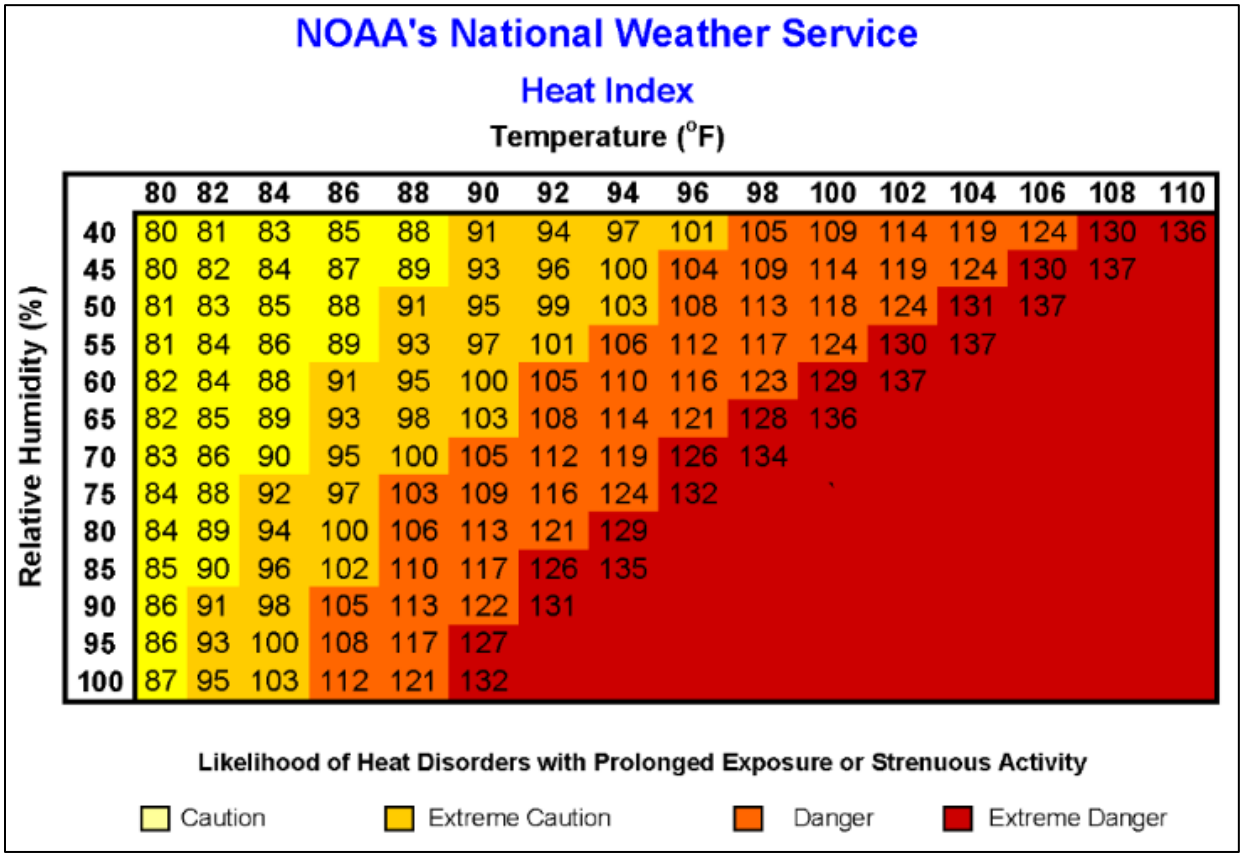
The trend shows how global emissions have a major role in climate variance and has an impact on extreme heat.

Predicted Number of Days Over 105°F in Parker County



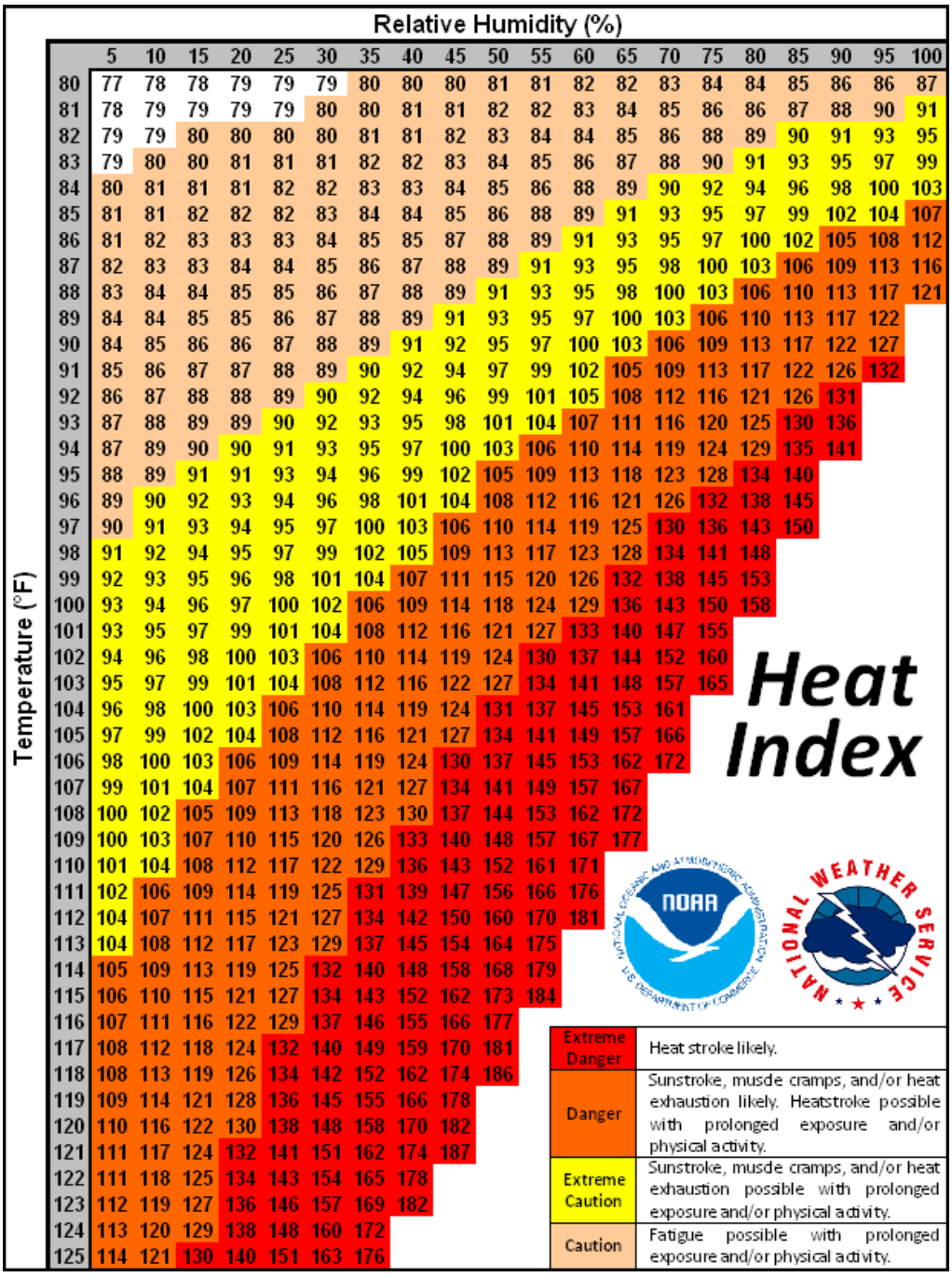
Source: U.S. Climate Resilience Toolkit

The following scale was used to determine the extent of extreme heat in Parker County and participating jurisdictions. The Heat Index is a measure of how hot it really feels when relative humidity is factored in with the actual air temperature. To find the Heat Index temperature, look at the Heat Index Chart below. As an example, if the air temperature is 96°F and the relative humidity is 65%, the heat index-how hot it feels-is 121°F. The red area without numbers indicates extreme danger. The National Weather Service (NWS) will initiate alert procedures when the Heat Index is expected to exceed 105°-110°F (depending on local climate) for at least 2 consecutive days.



Relative Humidity (%)	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
40	80	81	83	85	88	91	94	97	101	105	109	114	119	124	130	136
45	80	82	84	87	89	93	96	100	104	109	114	119	124	130	137	
50	81	83	85	88	91	95	99	103	108	113	118	124	131	137		
55	81	84	86	89	93	97	101	106	112	117	124	130	137			
60	82	84	88	91	95	100	105	110	116	123	129	137				
65	82	85	89	93	98	103	108	114	121	128	136					
70	83	86	90	95	100	105	112	119	126	134						
75	84	88	92	97	103	109	116	124	132							
80	84	89	94	100	106	113	121	129								
85	85	90	96	102	110	117	126	135								
90	86	91	98	105	113	122	131									
95	86	93	100	108	117	127										
100	87	95	103	112	121	132										

NWS also offers a Heat Index chart, below, for areas with high heat but low relative humidity. Since heat index values were devised for shady, light wind conditions, exposure to full sunshine can increase heat index values by up to 15°F. Also, strong winds, particularly with very hot, dry air, can be extremely hazardous.



Temperature (°F) \ Relative Humidity (%)	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
80	77	78	78	79	79	79	80	80	80	81	81	82	82	83	84	84	85	86	86	87
81	78	79	79	79	79	80	80	81	81	82	82	83	84	85	86	86	87	88	90	91
82	79	79	80	80	80	80	81	81	82	83	84	84	85	86	88	89	90	91	93	95
83	79	80	80	81	81	81	82	82	83	84	85	86	87	88	90	91	93	95	97	99
84	80	81	81	81	82	82	83	83	84	85	86	88	89	90	92	94	96	98	100	103
85	81	81	82	82	82	83	84	84	85	86	88	89	91	93	95	97	99	102	104	107
86	81	82	83	83	83	84	85	85	87	88	89	91	93	95	97	100	102	105	108	112
87	82	83	83	84	84	85	86	87	88	89	91	93	95	98	100	103	106	109	113	116
88	83	84	84	85	85	86	87	88	89	91	93	95	98	100	103	106	110	113	117	121
89	84	84	85	85	86	87	88	89	91	93	95	97	100	103	106	110	113	117	122	
90	84	85	86	86	87	88	89	91	92	95	97	100	103	106	109	113	117	122	127	
91	85	86	87	87	88	89	90	92	94	97	99	102	105	109	113	117	122	126	132	
92	86	87	88	88	89	90	92	94	96	99	101	105	108	112	116	121	126	131		
93	87	88	89	89	90	92	93	95	98	101	104	107	111	116	120	125	130	136		
94	87	89	90	90	91	93	95	97	100	103	106	110	114	119	124	129	135	141		
95	88	89	91	91	93	94	96	99	102	105	109	113	118	123	128	134	140			
96	89	90	92	93	94	96	98	101	104	108	112	116	121	126	132	138	145			
97	90	91	93	94	95	97	100	103	106	110	114	119	125	130	136	143	150			
98	91	92	94	95	97	99	102	105	109	113	117	123	128	134	141	148				
99	92	93	95	96	98	101	104	107	111	115	120	126	132	138	145	153				
100	93	94	96	97	100	102	106	109	114	118	124	129	136	143	150	158				
101	93	95	97	99	101	104	108	112	116	121	127	133	140	147	155					
102	94	96	98	100	103	106	110	114	119	124	130	137	144	152	160					
103	95	97	99	101	104	108	112	116	122	127	134	141	148	157	165					
104	96	98	100	103	106	110	114	119	124	131	137	145	153	161						
105	97	99	102	104	108	112	116	121	127	134	141	149	157	166						
106	98	100	103	106	109	114	119	124	130	137	145	153	162	172						
107	99	101	104	107	111	116	121	127	134	141	149	157	167							
108	100	102	105	109	113	118	123	130	137	144	153	162	172							
109	100	103	107	110	115	120	126	133	140	148	157	167	177							
110	101	104	108	112	117	122	129	136	143	152	161	171								
111	102	106	109	114	119	125	131	139	147	156	166	176								
112	104	107	111	115	121	127	134	142	150	160	170	181								
113	104	108	112	117	123	129	137	145	154	164	175									
114	105	109	113	119	125	132	140	148	158	168	179									
115	106	110	115	121	127	134	143	152	162	173	184									
116	107	111	116	122	129	137	146	155	166	177										
117	108	112	118	124	132	140	149	159	170	181										
118	108	113	119	126	134	142	152	162	174	186										
119	109	114	121	128	136	145	155	166	178											
120	110	116	122	130	138	148	158	170	182											
121	111	117	124	132	141	151	162	174	187											
122	111	118	125	134	143	154	165	178												
123	112	119	127	136	146	157	169	182												
124	113	120	129	138	148	160	172													
125	114	121	130	140	151	163	176													

Extreme Danger	Heat stroke likely.
Danger	Sunstroke, musde cramps, and/or heat exhaustion likely. Heatstroke possible with prolonged exposure and/or physical activity.
Extreme Caution	Sunstroke, musde cramps, and/or heat exhaustion possible with prolonged exposure and/or physical activity.
Caution	Fatigue possible with prolonged exposure and/or physical activity.

3.3.5 Flooding

Flooding is defined as the accumulation of water within a water body and the overflow of excess water onto adjacent floodplain lands. The floodplain (or flood zone) is the land adjoining the channel of a river, stream, ocean, lake, or other watercourse or water body that is susceptible to flooding. The statistical meaning of terms like "100-year flood" can be confusing. Simply stated, a floodplain can be located anywhere; it just depends on how large and how often a flood event occurs. Floodplains are those areas that are subject to inundation from flooding. Floods and the floodplains associated with them are often described in terms of the percent chance of a flood event happening in any given year. As a community management or planning term, "floodplain" or "flood zone" most often refers to an area that is subject to inundation by a flood that has a 1% chance of occurring in any given year (commonly referred to as the 100-year floodplain).

Flood Insurance Risk Zones means zone designations on Flood Hazard Boundary Map (FHBM) and Flood Insurance Rate Map (FIRM) that indicate the magnitude of the flood hazard in specific areas of a community. The zone categories are below:

High Risk Area	Description
In communities that participate in the NFIP, mandatory flood insurance purchase requirements apply to all of these zones.	
Zone A	Special flood hazard areas inundated by the 100-year flood; base flood elevations are not determined. Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas; no depths or base flood elevations are shown within these zones.
Zone AE	Special flood hazard areas inundated by the 100-year flood; base flood elevations are determined. The base floodplain where base flood elevations are provided. AE Zones are now used on new format FIRMs instead of A1-A30 Zones.
Zone A1-30	Special flood hazard areas inundated by the 100-year flood; base flood elevations are determined. These are known as numbered A Zones (e.g., A7 or A14). This is the base floodplain where the FIRM shows a BFE (old format).
Zone AO	Special flood hazard areas inundated by the 100-year flood; with flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. River or stream flood hazard areas, and areas with a 1% or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Average flood depths derived from detailed analyses are shown within these zones.
Zone AH	Special flood hazard areas inundated by the 100-year flood; flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations are determined. Areas with a 1% annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.

High Risk Area	Description
Zone A99	Special flood hazard areas inundated by the 100-year flood to be protected from the 100-year flood by a Federal flood protection system under construction; no base flood elevations are determined. Areas with a 1% annual chance of flooding that will be protected by a Federal flood control system where construction has reached specified legal requirements. No depths or base flood elevations are shown within these zones.
Moderate to Low Risk Area	**Description**
In communities that participate in the NFIP, flood insurance is available to all property owners and renters in these zones.	
Zone B and Zone X (shaded)	Areas of 500-year flood; areas subject to the 100-year flood with average depths of less than 1 foot or with contributing drainage area less than 1 square mile; and areas protected by levees from the base flood. Area of moderate flood hazard, usually the area between the limits of the 100-year and 500-year floods. B Zones are also used to designate base floodplains of lesser hazards, such as areas protected by levees from 100-year flood, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile.
Zone C and Zone X (un-shaded)	Areas determined to be outside the 500-year floodplain. Area of minimal flood hazard usually depicted on FIRMs as above the 500-year flood level. Zone C may have ponding and local drainage problems that don't warrant a detailed study or designation as base floodplain. Zone X is the area determined to be outside the 500-year flood and protected by levee from 100-year flood.
Undetermined Risk Area	**Description**
Zone D	Areas with possible but undetermined flood hazards. No flood hazard analysis has been conducted. Flood insurance rates are commensurate with the uncertainty of the flood risk.

Flash Flooding

A flash flood is a rapid flood that inundates low-lying areas in less than six hours. This is caused by intense rainfall from a thunderstorm or several thunderstorms. Flash floods can also occur from the collapse of a man-made structure or ice dam. Construction and development can change the natural drainage and create brand new flood risks as the concrete that comes with new buildings, parking lots, and roads create less land that can absorb excess precipitation from heavy rains. Flash floods are a high-risk hazard since they can tear out trees and destroy buildings and bridges.

Flooding from Dam Failure

Besides rains and river or lake overflow, dam breaks can also cause flooding. A dam is defined as a barrier constructed across a watercourse for the purpose of storage, control, or diversion of water. Dams typically are constructed of earth, rock, concrete, or mine tailings. A dam failure is an accidental or unintentional collapse, breach, or other failure of an impoundment structure that results in downstream flooding.

Dam failure will be profiled in this plan within the flooding hazard.

3.3.6 Thunderstorms

A thunderstorm is a storm that consists of rain-bearing clouds and has the potential to produce hail, high winds, and lightning.

Hail

Hail occurs when, at the outgrowth of a severe thunderstorm, balls or irregularly shaped lumps of ice greater than 19.05 mm (0.75 inches) in diameter fall with rain. Early in the developmental stages of a hailstorm, ice crystals form within a low-pressure front due to warm air rising rapidly into the upper atmosphere and the subsequent cooling of the air mass. Frozen droplets gradually accumulate on the ice crystals until, having developed sufficient weight, they fall as precipitation.

The Tornado and Storm Research Organization (TORRO) scale for hail extends from H0 to H10 with its increments of intensity or damage potential related to hail size (distribution and maximum), texture, fall speed, speed of storm translation, and strength of the accompanying wind.

An indication of equivalent hail kinetic energy ranges (in joules per square meter) has now been added to the first six increments on the scale, and this may be derived from radar reflectivity or from hail pads. The International Hailstorm Intensity Scale recognizes that hail size alone is insufficient to accurately categorize the intensity and damage potential of a hailstorm, especially towards the lower end of the scale. For example, without additional information, an event in which hail of up to walnut size is reported (hail size code 3: hail diameter of 21-30 mm) would be graded as a hailstorm with a minimum intensity of H2-H3. Additional information, such as the ground wind speed or the nature of the damage the hail caused, would help to clarify the intensity of the event. For instance, a fall of walnut-sized hail with little or no wind may scar fruit and sever the stems of crops but would not break vertical glass and so would be ranked H2-H3. However, if accompanied by strong winds, the same hail may smash many windows in a house and dent the bodywork of a car, and so be graded an intensity as high as H5.

However, evidence indicates maximum hailstone size is the most important parameter relating to structural damage, especially towards the more severe end of the scale. It must be noted that hailstone shapes are also an important feature, especially as the "effective" diameter of non-spheroidal specimens should ideally be an average of the coordinates. Spiked or jagged hail can also increase some aspects of damage. Below is the TORRO Hailstorm Intensity Scale (H0 to H10) in relation to typical damage and hail size codes.

TORRO Hailstorm Intensity Scale				
Size Code	**Intensity Category**	**Typical Hail Diameter (mm)***	**Probable Kinetic Energy, J-m²**	**Typical Damage Impacts**
H0	Hard Hail	5	0-20	No damage
H1	Potentially Damaging	5-**15**	>20	Slight general damage to plants, crops
H2	Significant	10-**20**	>100	Significant damage to fruit, crops, vegetation
H3	Severe	20-**30**	>300	Severe damage to fruit and crops, damage to glass and plastic structures, paint and wood scored
H4	Severe	25-**40**	>500	Widespread glass damage, vehicle bodywork damage
H5	Destructive	30-**50**	>800	Wholesale destruction of glass, damage to tiled roofs, significant risk of injuries
H6	Destructive	40-**60**		Bodywork of grounded aircraft dented, brick walls pitted
H7	Destructive	50-**75**		Severe roof damage, risk of serious injuries
H8	Destructive	60-**90**		Severe damage to aircraft bodywork
H9	Super Hailstorms	75-**100**		Extensive structural damage, risk of severe or even fatal injuries to persons caught in the open
H10	Super Hailstorms	>100		Extensive structural damage, risk of severe or even fatal injuries to persons caught in the open

** Approximate range (typical maximum size in bold), since other factors (e.g. number and density of hailstones, hail fall speed, and surface wind speeds) affect severity.*

Wind

Straight-line winds are often responsible for the wind damage associated with a thunderstorm. Downbursts or micro-bursts are examples of damaging straight-line winds. A downburst is a small area of rapidly descending rain and rain-cooled air beneath a thunderstorm that produces a violent, localized downdraft covering 2.5 miles or less. Wind speeds in some of the stronger downbursts can reach 100 to 150 miles per hour, which is similar to that of a strong tornado. The winds produced from a downburst often occur in one direction and the worst damage is usually on the forward side of the downburst.

The following Beaufort Wind Chart shows the description and scale used to classify the wind intensity in a thunderstorm. The scale is now rarely used by professional meteorologists, having been largely replaced by more objective methods of determining wind speeds—such as using anemometers, tracking wind echoes with Doppler radar, and monitoring the deflection of rising weather balloons and radiosondes from their points of release. Nevertheless, it is still useful in estimating the wind characteristics over a

large area, and it may be used to estimate the wind where there are no wind instruments. The Beaufort scale also can be used to measure and describe the effects of different wind velocities on objects on land or at sea.

The Beaufort Scale of Wind (Nautical)			
Beaufort Number	**Name of Wind**	**Wind Speed**	
		knots	**knots per hour**
0	Calm	<1	<1
1	Light air	1–3	1–5
2	Light breeze	4–6	6–11
3	Gentle breeze	7–10	12–19
4	Moderate breeze	11–16	20–28
5	Fresh breeze	17–21	29–38
6	Strong breeze	22–27	39–49
7	Moderate gale (or near gale)	28–33	50–61
8	Fresh gale (or gale)	34–40	62–74
9	Strong gale	41–47	75–88
10	Whole gale (or storm)	48–55	89–102
11	Storm (or violent storm)	56–63	103–114
12–17	Hurricane	64 and above	117 and above

Lightning

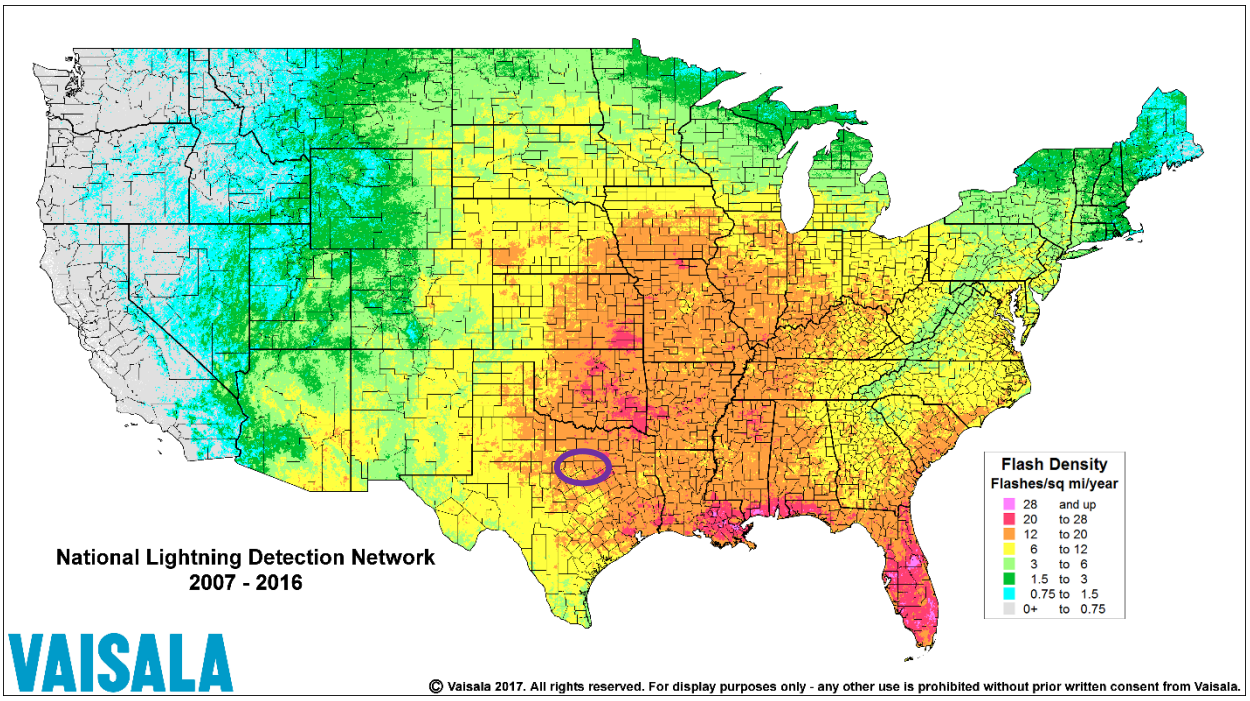
Lightning results from the buildup and discharge of electrical energy between positively and negatively charged areas within thunderstorms. A "bolt" or brilliant flash of light is created when the buildup becomes strong enough. These bolts of lightning can be seen in cloud-to-cloud or cloud-to-ground strikes. Bolts of lightning can reach temperatures approaching 50,000°F. While lightning is mostly affiliated with thunderstorms, lightning often strikes outside of these storms, as far as 10 miles away from any rainfall. FEMA states that an average of 300 people are injured and 80 people are killed in the United States each year by lighting. Direct strikes have the power to cause significant damage to buildings, critical facilities, infrastructure, and the ignition of wildfires which can result in widespread damages to property and persons. Lightning is the most significant natural contributor to fires affecting the built environment.

The lightning activity level (LAL) is a common parameter that is part of fire weather forecasts nationwide. LAL is a measure of the amount of lightning activity using values 1 to 6 where:

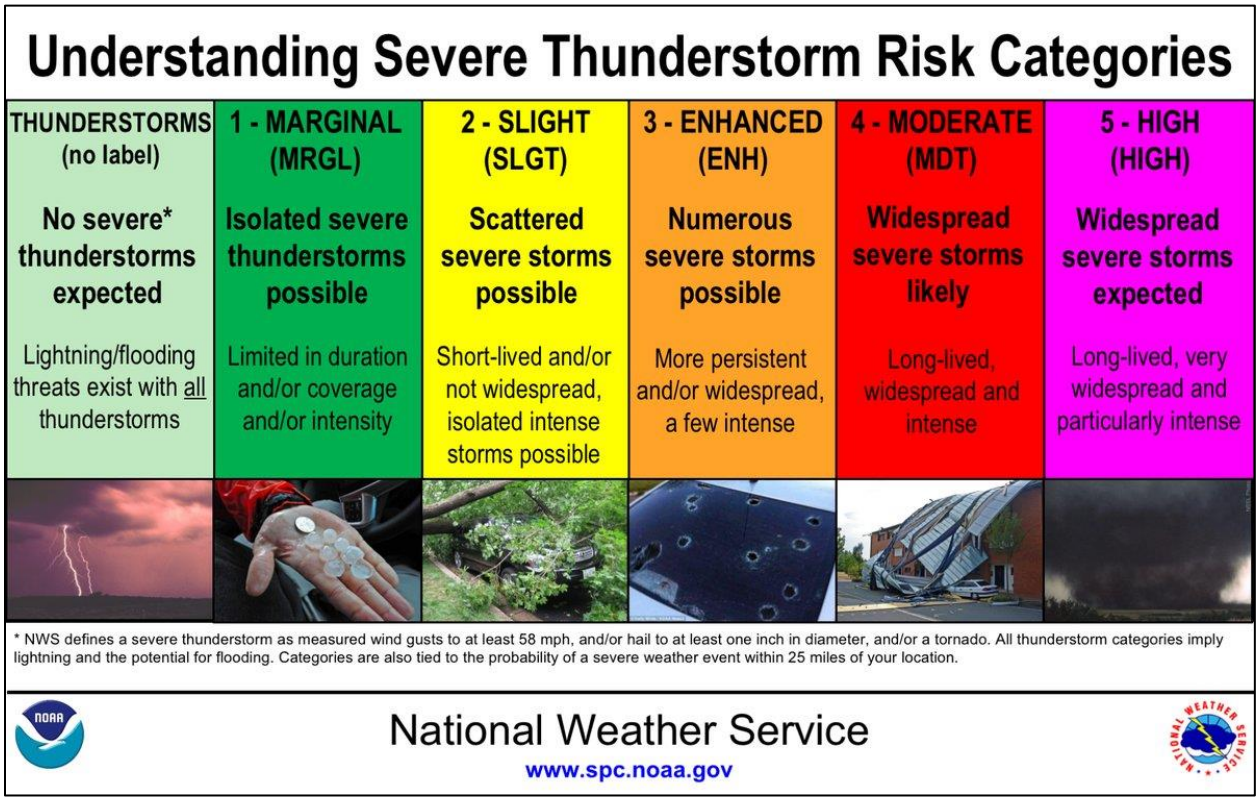
LAL	Cloud and Storm Development	Lightning Strikes Per 15 Minutes
1	No thunderstorms	-
2	Cumulus clouds are common but only a few reach the towering cumulus stage. A single thunderstorm must be confirmed in the observation area. The clouds produce mainly virga, but light rain will occasionally reach the ground. Lightning is very infrequent	1-8

LAL	Cloud and Storm Development	Lightning Strikes Per 15 Minutes
3	Towering cumulus covers less than two-tenths of the sky. Thunderstorms are few, but two to three must occur within the observation area. Light to moderate rain will reach the ground and lightning is infrequent	9-15
4	Towering cumulus covers two to three-tenths of the sky. Thunderstorms are scattered and more than three must occur within the observation area. Moderate rain is common and lightning is frequent	16-25
5	Towering cumulus and thunderstorms are numerous. They cover more than three-tenths and occasionally obscure the sky. Rain is moderate to heavy and lightning is frequent and intense	>25
6	Similar to LAL 3 except thunderstorms are dry	

According to the following map from the National Lightning Detection Network, jurisdictions in Parker County experience a flash density of 12-20 flashes per square mile, per year.



The National Weather Service uses the following Storm Prediction Center (SPC) activity levels to represent severe weather outlooks.



3.3.7 Tornadoes

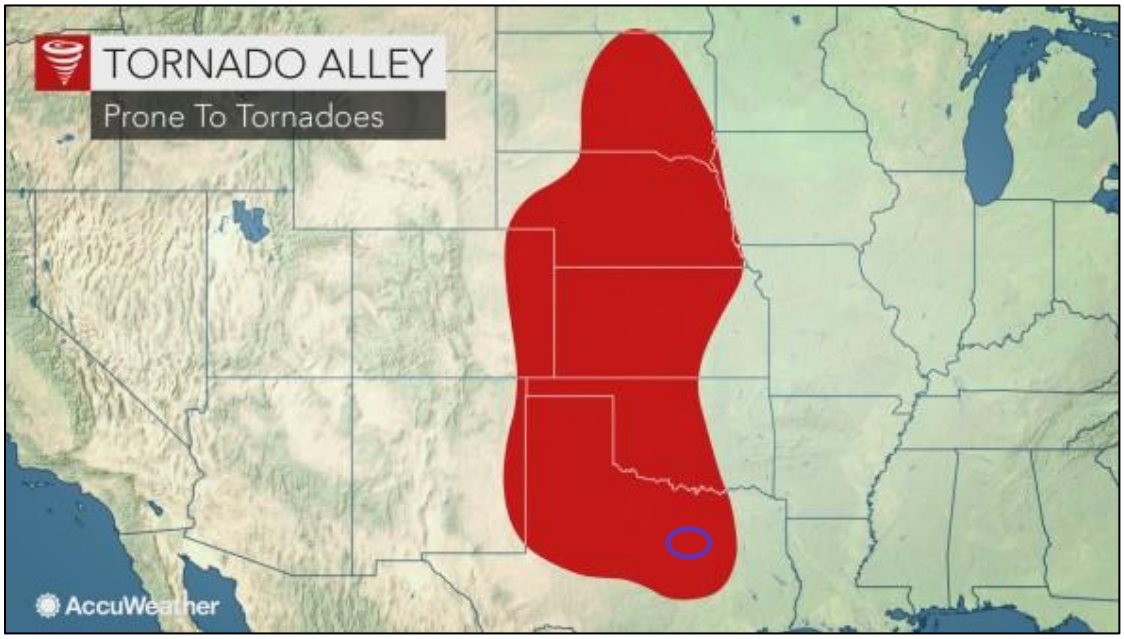
A tornado is a violently rotating column of air that comes in contact with the ground. A tornado can either be suspended from, or occur underneath, a cumuliform cloud. It is often, but not always, visible as a condensation funnel.

The Enhanced Fujita Scale, or EF Scale, is the scale for rating the strength of tornadoes during the observed time period via the damage they cause. Six categories from EF0 to EF5 represent increasing degrees of damage. The scale takes into account how most structures are designed and is thought to be an accurate representation of the surface wind speeds in the most violent tornadoes.

Enhanced Fujita Scale		
Enhanced Fujita Category	**Wind Speed in Miles Per Hour (MPH)**	**Potential Damage**
EF0	**65-85**	Light damage. Peels surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees pushed over.
EF1	**86-110**	Moderate damage. Roofs severely stripped; manufactured homes overturned or badly damaged; loss of exterior doors; windows and other glass broken.

Enhanced Fujita Scale		
Enhanced Fujita Category	**Wind Speed in Miles Per Hour (MPH)**	**Potential Damage**
EF2	**111-135**	Considerable damage. Roofs torn off well-constructed houses; foundations of frame homes shifted; manufactured homes completely destroyed; large trees snapped or uprooted; light object become projectiles; cars lifted off ground.
EF3	**136-165**	Severe damage. Entire stories of well-constructed houses destroyed; severe damage to large buildings such as shopping malls; trains overturned; trees debarked; heavy cars lifted off the ground and thrown; structures with weak foundations blown away some distance.
EF4	**166-200**	Devastating damage. Well-constructed houses and whole frame houses completely leveled; cars thrown, and small projectiles generated.
EF5	**>200**	Incredible damage. Strong frame houses leveled off foundations and swept away; automobile-sized projectiles fly through the air in excess of 300 feet.

Residents in Parker County are no strangers to tornadic events, as this area of Texas is a part of "Tornado Alley." Tornado Alley is an area of the U.S. where there is a high potential for tornado development. This area encompasses much of northern Texas northward through Oklahoma, Kansas, Nebraska and parts of New Mexico, South Dakota, Iowa, and eastern Colorado, as seen in the following picture.



3.3.8 Wildfire

Wildfire, or wildland fire, is any fire occurring on grassland, forest, or prairie, regardless of ignition source, damages, or benefits. Wildfires are fueled almost exclusively by natural vegetation. Interface or intermix fires are urban/wildland fires in which vegetation and the built environment provide fuel.

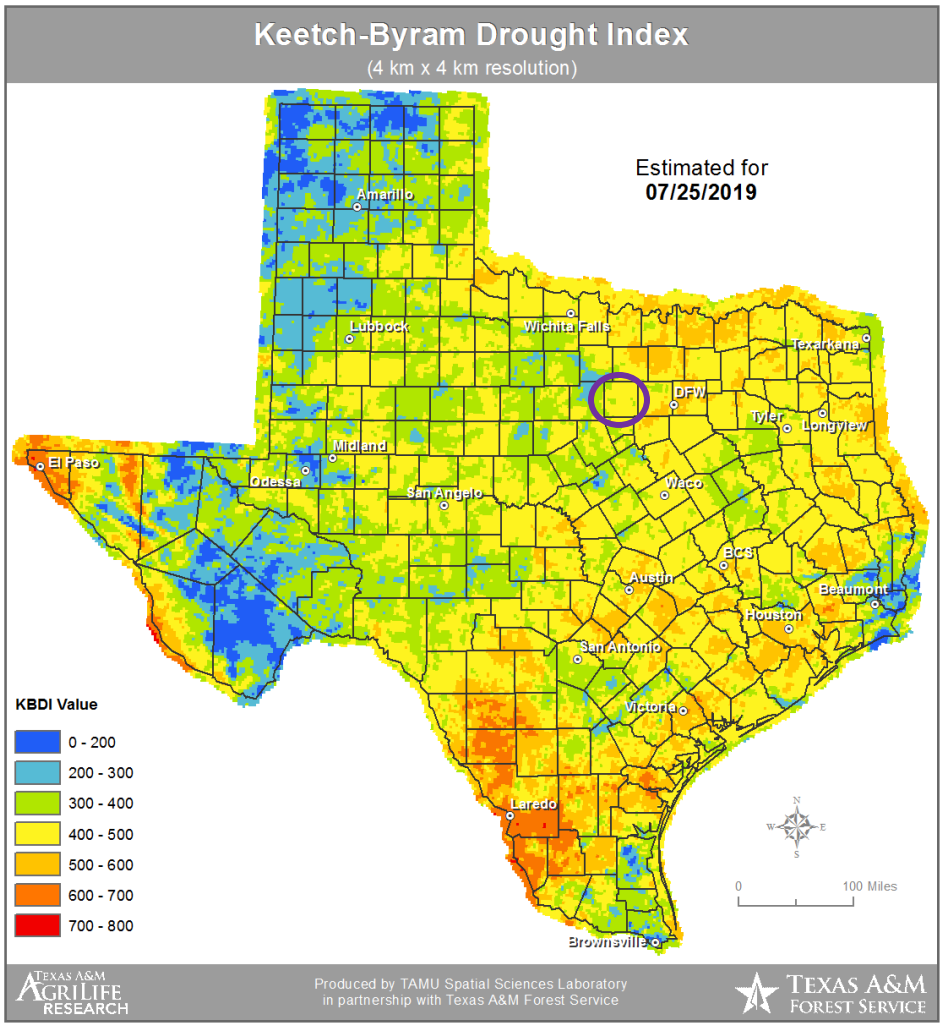
Texas A&M Forest Service (TFS) uses Keetch-Byram Drought Index (KBDI) for determination of drought conditions within the State of Texas. The KBDI is based on a daily water balance, where a drought factor is balanced with precipitation and soil moisture (assumed to have a maximum storage capacity of 8-inches) and is expressed in hundredths of an inch of soil moisture depletion.

The KBDI attempts to measure the amount of precipitation necessary to return the soil to full field capacity. It is a closed system ranging from 0 to 800, where 0 represents a saturated soil, and 800 an absolutely dry soil. At any point along the scale, the KBDI value indicates the amount of precipitation it would take to bring the moisture level back to zero, or saturation.

KBDI was developed to correlate the effects of drought on wildfire potential. This relationship is reflected in the following table:

Index Value (inches)	Color Label	Implications
0 – 200	Blue	Soil moisture and large class fuel moistures are high and do not contribute much to fire intensity. Typical of early spring following winter precipitation.
200 – 400	Blue -> Green	Fuels are beginning to dry and contribute to wildfire intensity. Heavier fuels will still not readily ignite and burn. This is often seen in late spring or early summer.
400 – 600	Yellow -> Orange	Lower litter and duff layers contribute to fire intensity and will burn actively. Wildfire intensity begins to increase significantly. Larger fuels could burn or smoulder for several days. This is often seen in late summer and early fall.
600 – 800	Reds	Often associated with more severe drought with increased wildfire occurrence. Intense, deep-burning fires with extreme intensities can be expected. Live fuels can also be expected to burn actively at these levels.

Below is an example of the KBDI in Texas:



For the purposes of this hazard analysis, wildfires are assessed under what is known as the wildland-urban interface (WUI). The WUI is an area of development that is susceptible to wildfires due to the amount of structures located in an area with vegetation that can act as fuel for a wildfire. The WUI creates an environment in which fire can move readily between structural and vegetation fuels. The expansion of these areas has increased the likelihood that wildfires will threaten structures and people.

Prioritized Fuel Reduction and Treatment of Structural Ignitability

The following chart shows the vegetation, and thus the amount of fuel sources, in Parker County. Grassland is the majority of vegetation in the county and can be used for grazing.

Class	Description	Acres	Percent
Open Water	All areas of open water, generally with < 25% cover of vegetation or soil	4,998	0.9 %
Developed Open Space	Impervious surfaces account for < 20% of total cover (i.e. golf courses, parks, etc.)	20,504	3.5 %

Class	Description	Acres	Percent
Developed Low Intensity	Impervious surfaces account for 20-49% of total cover	26,363	4.5 %
Developed Medium Intensity	Impervious surfaces account for 50-79% of total cover	2,259	0.4 %
Developed High Intensity	Impervious surfaces account for 80-100%of total cover	1,065	0.2 %
Barren Land (Rock/Sand/Clay)	Vegetation generally accounts for <15% of total cover	542	0.1 %
Cultivated Crops	Areas used for the production of annual crops, includes land being actively tilled	15,028	2.6 %
Pasture/Hay	Areas of grasses and/or legumes planted for livestock grazing or hay production	45,391	7.8 %
Grassland/Herbaceous	Areas dominated (> 80%) by grammanoid or herbaceous vegetation, can be grazed	336,451	58.0 %
Marsh	Low wet areas dominated (>80%) by herbaceous vegetation	8	0.0 %
Shrub/Scrub	Areas dominated by shrubs/trees < 5 meters tall, shrub canopy > than 20% of total vegetation	25,776	4.4 %
Floodplain Forest	> 20% tree cover, the soil is periodically covered or saturated with water	7,224	1.2 %
Deciduous Forest	> 20% tree cover, >75% of tree species shed leaves in response to seasonal change	68,157	11.7 %
Live Oak Forest	> 20% tree cover, live oak species represent >75% of the total tree cover	2,685	0.5 %
Live Oak/Deciduous Forest	> 20% tree cover, neither live oak or deciduous species represent >75% of the total tree cover	0	0.0 %
Juniper or Juniper/Live Oak Forest	> 20% tree cover, juniper or juniper/live oak species represent > 75% of the total tree cover	16,092	2.8 %
Juniper/Deciduous Forest	> 20% tree cover, neither juniper or deciduous species represent > 75% of the total tree cover	7,749	1.3 %
Pinyon/Juniper Forest	> 20% tree cover, pinyon or juniper species represent > 75% of the total tree cover	0	0.0 %
Eastern Redcedar Forest	> 20% tree cover, eastern redcedar represents > 75% of the total tree cover	0	0.0 %
Eastern Redcedar/Deciduous Forest	> 20% tree cover, neither eastern redcedar or deciduous species represent > 75% of the total tree cover	0	0.0 %
Pine Forest	> 20% tree cover, pine species represent > 75% of the total tree cover	0	0.0 %
Pine Regeneration	Areas of pine forest in an early successional or transitional stage	0	0.0 %
Pine/Deciduous Forest	> 20% tree cover, neither pine or deciduous species represent > 75% of the total tree cover	0	0.0 %
Pine/Deciduous Regeneration	Areas of pine or pine/deciduous forest in an early successional or transitional stage	0	0.0 %
Total		**580,292**	**100.0 %**

Source: Texas Wildfire Risk Assessment Portal Professional Viewer.

Common practices to minimize the spread of wildfire are fuel breaks and fire breaks. A **fuel break** is the thinning of vegetation, or fuels, over a specific area of land. They are most commonly used to surround a community and slow the spread of a wildfire. By decreasing the amount of vegetation that the fire has to travel through, the risk of extreme fire behavior greatly depreciates.

Types of fuel breaks include:

- **Mechanical Treatments**- A mechanical treatment removes fuels by cutting shrubs, small trees and ladder fuels that make up the understory of a forested area. Materials are either taken from the site or chipped into smaller pieces. Fuels are selected for removal based on how they would contribute to a wildfire. For example, a thick patch of cedar could readily ignite and release significant heat and embers. This fuel type contributes to the rapid spread of a wildfire and would need to be removed.

  The objective of mechanical treatment is to reduce the intensity of wildfire. If there is less fuel to burn the fire stays low to the ground giving firefighters a safer condition in which to work.

- **Mulching**- A mulching operation is intended to break fuels into smaller pieces and spread them within the fuel break. While the smaller pieces will still carry fire, they will significantly reduce the intensity of it. The goal is to reduce ladder fuels like tall brush that could carry a ground fire into the top of a tree.

  Mulching equipment is classified as either traditional mowers or mulchers that grind the material. Heavy duty mowers are useful when fuels are small enough to be pushed over. However, for sites with an established woody mid-story, or ladder fuels, other equipment may be needed.

- **Herbicide Treatment**- Herbicides are used to control invasive species of plants that will "take over" an area. Invasive plant species can also be reduced with mechanical thinning.

  The effectiveness of herbicide treatments depends on existing vegetation, topography, and other local restrictions. Thick underbrush may require mechanical treatments prior to the use of herbicides.

- **Grazing**- Removing fuels by grazing relies on the consumption of plants by animals. Various types of livestock are used in this way across the state, including Parker County.

- **Prescribed Burning**- Prescribed or controlled, burning is the most commonly used tool for managing hazardous fuel buildups because of its relatively low cost per acre. Prescribed fire improves natural habitats and reduces heavy fuels. It is important to use a certified prescribe burn manager to improve fire safety and reduce smoke management issues.

Fuel breaks are most effective when placed along a natural fire break like a road. Choosing a site along a road also allows easy access for equipment. Regular maintenance of breaks increases their effectiveness in preventing wildfires. To maintain a fuel break, the use of herbicides as a follow up treatment to mulching will help reduce the amount of weed sprouts. Grazing is also an option to maintain a fuel break.

When creating a fuel break, these tips should be used:

- Follow a natural fire break or contour lines.
- Prune large trees to 10 feet from ground.
- Remove ladder fuels such as tall brush and small trees.
- Thin trees to create a crown spacing of 25 to 30 feet.
- Break up thick areas of brush.
- Maintain a minimum width of 60 feet on flat land and 100 feet on slopes.

A **fire break** is a break in vegetation. In some cases, it may be a gravel road, a river, or a clearing made by a bulldozer. A 'green' fire break uses grasses with high moisture content, such as winter rye or winter wheat to provide a break in the continuity of the fuel. If wide enough, a fire break will stop the spread of direct flame. However, embers can still be lofted into the air and travel across the line.

Considering the various types of fuel and fire breaks, the participating jurisdictions who have identified wildfires as a threat have listed wildfire mitigation actions in Chapter 4, along with actions for all the other identified hazards.

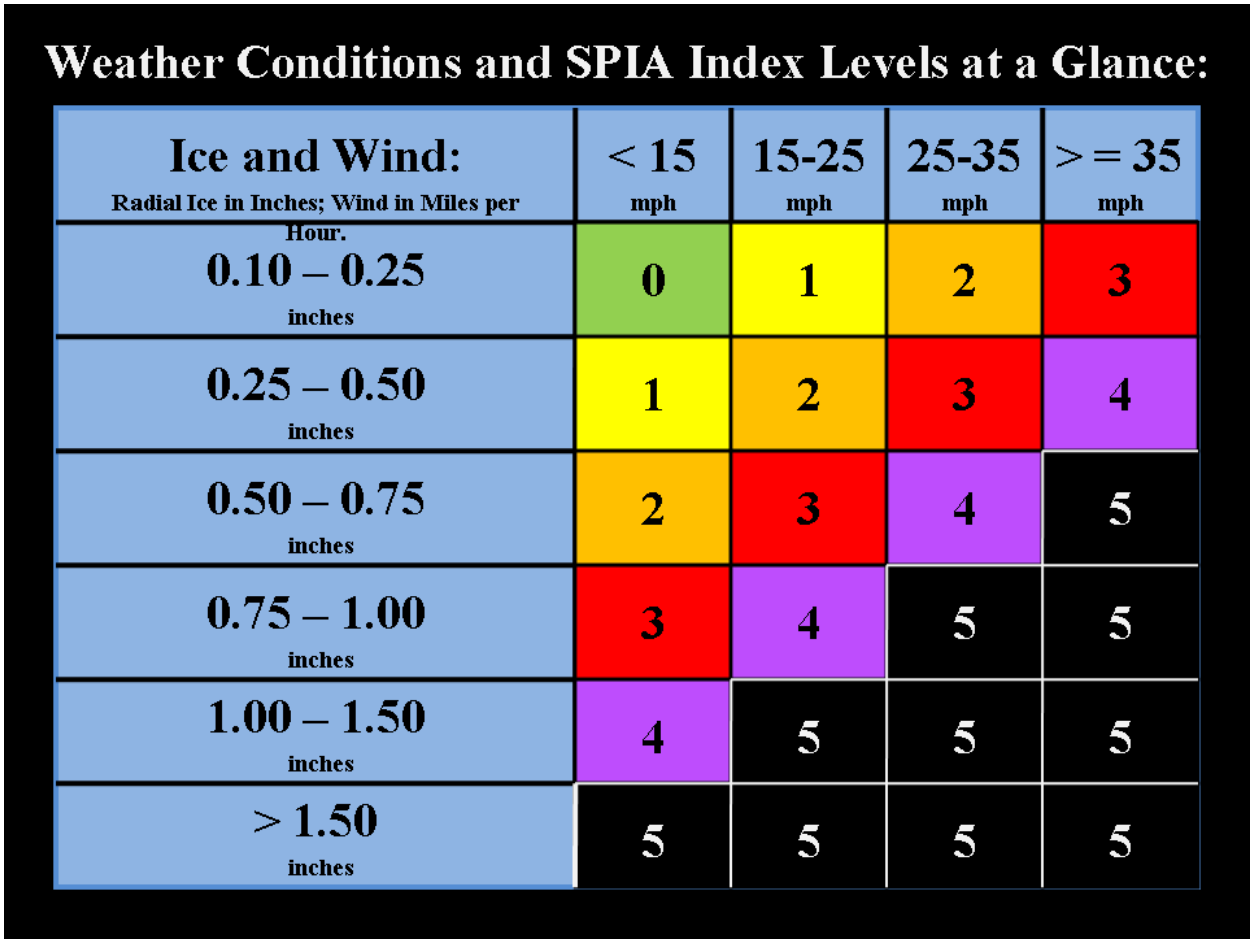
3.3.9 Winter Storms

Winter storms originate as mid-latitude depressions or cyclonic weather systems, sometimes following the path of the jet stream. A winter storm or blizzard combines heavy snowfall, high winds, extreme cold, and ice storms. Many winter depressions give rise to exceptionally heavy rain and widespread flooding and conditions worsen if the precipitation falls in the form of snow. The winter storm season varies widely, depending on latitude, altitude, and proximity to moderating influences. The time period of most winter weather is expected to be during the winter season, between November and March. Winter storms affect the entire planning area equally.

During periods of extreme cold and freezing temperatures, water pipes can freeze and crack, and ice can build up on power lines, causing them to break under the weight or causing tree limbs to fall on the lines. These events can disrupt electric service for long periods of time.

An economic impact may occur due to increased consumption of heating fuel, which can lead to energy shortages and higher prices. Schools often close when severe winter weather is forecasted, and it becomes a logistical burden for parents who then have to miss work or find alternative childcare. House fires and resulting deaths tend to occur more frequently from increased and improper use of alternate heating sources. Fires during winter storms also present a greater danger because water supplies may freeze and impede firefighting efforts.

The following Sperry-Piltz Ice Accumulation Index was used to determine the extent of winter conditions:



3.4 Vulnerabilities and Changes in Development since 2015 HazMAP

Vulnerabilities can be social, environmental, economic, or political in nature. These vulnerabilities in turn have various impacts.

We know that, by definition, disasters can cause death and injury. We also know that housing and schools may be destroyed. These particular losses may be considered to be social impacts, as they affect the ability of individuals and families to function.

With regard to negative environmental impacts, if a community contains important ecological sites (e.g., the site of a unique flora or fauna habitat), then these areas may be extremely vulnerable to almost any sort of disaster.

There is monetary loss, or negative economic impact, whenever buildings, non-structural property, or infrastructure is damaged or destroyed. These losses can also result in loss of jobs, loss of economic stability, and loss of services (e.g., power). The more vulnerable the community is to these types of losses, the greater the economic vulnerability to a disaster.

The ability of the community to influence policy makers to reduce vulnerabilities is critical. A disaster entails political impacts. After a disaster has struck, a community often turns to its politicians when looking for guidance. Vulnerabilities may be considered in terms of the individual, the location, the capacity to respond, and the time of day, week, or year.

According to FEMA, the definition of vulnerability is "the susceptibility of people, property, industry, resources, ecosystems, or historic buildings and artifacts to the negative impact of a disaster." The Parker County Hazard Mitigation Planning Team (HMPT) conducted a risk assessment to determine vulnerabilities in their jurisdictions. The following information is an overview of vulnerabilities within Parker County, including data about critical facilities/infrastructure, historic buildings, lakes, and natural environment. Overall, the vulnerability level of the participants has remained the same since the last mitigation plan.

3.4.1 Critical Facilities and Infrastructure

Critical facilities and infrastructure provide services and functions essential to a community, especially during and after a disaster. For a critical facility to function, building systems and equipment must remain operational. Furthermore, it must be supplied with essential utilities (typically power, water, waste disposal, and communications, but occasionally natural gas and steam). An inventory of critical facilities in each participating jurisdiction is located in the Appendix A, though a list of examples is provided below.

Critical Facility Examples

- Ambulance Services (Private)
- Banks
- Detention Centers- federal
- Detention Centers- county
- Detention Centers- local
- Fire Stations
- Fueling Stations
- Government Offices-federal
- Government Offices-county
- Government Offices-local
- Grocery Stores
- Historical Sites
- Hospitals
- Landfills
- Major Employers
- Medical Clinics
- Pharmacies
- Physicians
- Police Stations
- Radio Stations
- Research Labs/Facilities
- Sheriff's Office
- Veterinarian Offices
- Water Towers

Vulnerable Facility Examples

- Amusement Parks
- Apartment Complexes
- Childcare Facilities
- Churches
- Hotels/Motels
- Mobile Home/RV Parks
- Nursing Homes
- Properties Within the 100-year Floodplain
- Recreation Centers
- Retirement Communities
- Schools (Elementary/Middle School/High School)
- Sporting Arenas
- Colleges
- Montessori's/Nursery Schools/Kindergartens

This hazard mitigation action plan (HazMAP) provides enough information regarding critical facilities to enable the jurisdiction to identify and prioritize appropriate mitigation actions; however, some information may be deemed highly sensitive and should not be made available to the public. Information jurisdictions consider sensitive should be treated as an addendum to this mitigation plan so that it is still a part of the plan, but access can be controlled.

According to the Department of Homeland Security, there are 16 critical infrastructure sectors whose assets, systems, and networks, whether physical or virtual, are considered so vital to the United States that their incapacitation or destruction would have a debilitating effect on security, national economic security, national public health or safety, or any combination thereof. The following list identifies the 16 critical infrastructure sectors.

Critical Infrastructure Sectors

- Chemical Sector
- Commercial Facilities Sector
- Communication Sector
- Critical Manufacturing Sector
- Dams Sector
- Defense Industrial Base Sector
- Emergency Services Sector
- Energy Sector
- Financial Services Sector
- Food and Agriculture Sector
- Government Facilities Sector
- Healthcare and Public Health Sector
- Information Technology Sector
- Nuclear Reactors, Materials, and Waste Sector
- Transportation Sector
- Water and Wastewater Systems Sector

The age of this infrastructure ties into its level of vulnerability. The older the infrastructure, the more likely it is to fail due to the impacting hazards. Collapsed bridges, unsafe power grids, interrupted water supply- weak infrastructure can turn natural hazards into disasters. When critical infrastructure fails, it becomes nearly impossible to aid those who lack the means of evacuating on their own. This results in rescue operations that take longer to plan and execute and pose increased risks to first responders and residents due to the lack of information on the number of affected residents or the location of those who need additional assistance. Below is a list of examples for critical infrastructure.

Critical Infrastructure Examples

- Airports
- Bridges and Overpasses
- Cell Towers
- Dams/ Levees
- Wastewater Pump & Lift Stations
- Major Roadways
- Power Plant
- Railways
- Sewer Lines
- Solar Farms
- Superfund Sites
- Utility Lines
- Wastewater Treatment Facilities
- Water Lines
- Water Treatment Facilities
- Wind Farms

The following sections go into detail about some of these critical infrastructures.

Bridges

Bridges are *immensely* important to everyday travel. Bridges allow safe passage where previously it was not possible or much more difficult. Bridges allow people go to school, seek medical help, and go to work without having to negotiate a busy road, a dangerous railway line, or a fast-flowing river. Bridges are also extremely vulnerable to the impacts of natural hazards, specially earthquakes, flooding, and winter storms.

Below is a detailed list of the historic and notable bridges within the county. Of these 21 bridges, only 11 have not been removed or replaced. These bridges are extremely vulnerable to severe weather.

Name	Location	Status	Design	Year Built	Year Lost	Span Length (feet)	Total Length (feet)
Ash Creek Bridge	CR 1060 over Ash Creek	Replaced by new bridge	Pony truss	1926	1995	80.1	80.1
Bennett Road Brick Double Arch Bridge	Bennett Road over Branch of Rock Creek	Open to traffic	Brick arch	1942	--	10.0	20.0
Bennett Road Brick Single Arch Bridge	Bennett Road over Branch of Rock Creek	Open to traffic	Brick arch	1942	--	16.0	16.0
Big Grindstone Creek Bridge	Old Milsap Road over Big Grindstone Creek	No longer exists	Pony truss	1945	2002	60.0	62.0
Branch Brazos River Bridge	FM 1189 over Branch of Brazos River	Open to traffic	Stone culvert	1938	--	9.8	23.0
Branch Town Creek Bridge	Clear Lake Road over Branch of Town Creek	Closed to all traffic	Pony truss	1923	--	39.0	41.0
Browder Circle Bridge	Browder Circle over Trib. Walnut Creek	Removed but not replaced	Warren pony truss with alternating verticals	1928	--	39.0	39.0
Burgess Creek Bridge	Old Airport Road over Burgess Creek	Open to traffic	Warren pony truss with alternating verticals	1923	--	60.0	60.0
Clear Fork Trinity River Bridge	Old Anneta Road over Clear Fork Trinity River	Replaced by new bridge	Pony truss	1939	1992	50.9	82.0

Name	Location	Status	Design	Year Built	Year Lost	Span Length (feet)	Total Length (feet)
Coffee Creek Bridge	Greenwood Road over Coffee Creek	Open to traffic	Steel stringer	1938	--	20.0	21.0
Little Mary's Creek Bridge	CR 333 over Little Mary's Creek	Replaced by new bridge	Pony truss	1928	1996	42.0	43.0
Martin Branch Bridge	Baker Cut-off over Martin Branch	No longer exists	Pony truss	1924	2002	49.9	49.9
Mary's Creek Bridge	CR 1082 over Mary's Creek	Unknown status	Pony truss	1931	--	49.9	49.9
Pine Street Bridge	Pine Street over Grassy Branch	Open to traffic	Steel stringer	1939	--	16.0	16.0
Rock Creek Bridge	Grimes Road over Rock Creek	No longer exists	Pony truss	1938	2002	40.0	74.2
Rock Creek Bridge	Bennet Road over Rock Creek	Intact / Closed and Replaced by New Bridge	Pony/through plate girder	1945	--	54.1	168.0
Silver Creek Bridge	CR 1071 over Silver Creek	Replaced by new bridge	Pony truss	1924	2002	29.9	60.0
Town Creek Bridge	FM 51 over Town Creek	Open to traffic	Deck arch	1911	--	49.9	49.9
TX89 Brazos River Bridge	Interstate-20 North Frontage Road over Brazos River	Open to traffic	Parker through truss	1934	--	165.0	892.1

Name	Location	Status	Design	Year Built	Year Lost	Span Length (feet)	Total Length (feet)
Willow Creek Bridge	Bankhead Highway over Willow Creek	No longer exists	Pony truss	1928	2003	61.0	128.0
Woody Creek Bridge	CR 1056 over Woody Creek	Replaced by new bridge	Pony truss	1936	1999	60.0	78.1
Abbreviations:							
CR: County Road							
FM: Farm-to-Market							
Trib: Tributary							

Source: Bridgehunter.com

The Texas Department of Transportation (TxDOT) manages 167 on-system bridges and 161 off-system bridges within the county.

On-system bridges are located on the designated state highway system, are maintained by TxDOT, and are typically funded with a combination of federal and state or state-only funds.

Off-system bridges are not part of the designated state highway system and are under the direct jurisdiction of the local government such as a county, city, other political subdivision of the state, or special district with authority to finance a highway improvement project.

Roads

Below is a list of low water crossings in Parker County as of 2012. A low water crossing provides a bridge or overpass for vehicles to cross bodies of water when water flow is low. Under high-flow conditions, water runs over the roadway and impedes vehicular traffic. Texas leads the nation in flash flood deaths, and most are due to people crossing these low areas in times of flooding.

Road	Flooding Source	Low Water Crossing Type	Owner
Old Millsap Road	Grassy Branch	Bridge Class	Parker County
Buckner Road - Precinct 3	Kickapoo Creek	Bridge Class	Parker County
Smith Road	Walnut Creek	Vented Ford	*Data unavailable*
Garner Adell Road	Dry Creek, TRIB	Vented Ford	*Data unavailable*
Clary Road	Grindstone Creek, TRIB	Not Applicable	*Data unavailable*
York Lane	Rocky Run	Unvented Ford	*Data unavailable*
Southridge Drive	Hart Branch	Vented Ford	*Data unavailable*
Spring Creek Road	Spring Creek	Vented Ford	Parker County
Baker Road	Shaw Creek, TRIB	Vented Ford	*Data unavailable*
Bear Creek Road	Bear Creek	Vented Ford	*Data unavailable*
Baker Road	Long Creek	Not Applicable	*Data unavailable*

Road	Flooding Source	Low Water Crossing Type	Owner
Harmony Circle	East Sanchez Creek, TRIB	Unvented Ford	*Data unavailable*
Weiland Road	Patton Branch	Not Applicable	*Data unavailable*
White Settlement Road	Underwood Branch	Vented Ford	*Data unavailable*
Crown Lane	Clear Fork Trinity River, TRIB	Vented Ford	City of Willow Park
FM 730 (Azle Hwy)	Ash Creek	Bridge Class	TxDOT
Eureka Street	Black Warrior Branch	Vented Ford	City of Weatherford
SH 171	Black Warrior Branch	Vented Ford	TxDOT
SH 199	Browders Creek	Vented Ford	TxDOT
FM 920 (Peaster Hwy)	Pogue Branch	Vented Ford	TxDOT
Clear Lake Road	South Holland Lake Creek	Bridge Class	City of Willow Park
Santa Fe Drive	South Holland Lake Creek	Vented Ford	TxDOT
Clear Lake Road	Holland Lake Creek	Vented Ford	City of Willow Park
Ranch House Road	Stream CF (WP)-1	Vented Ford	City of Willow Park
Scenic Trail	Stream CF (WP)-1	Vented Ford	City of Willow Park
Pleasant Ridge Lane	Stream CF (WP)-1	Vented Ford	City of Willow Park
Surrey Lane	Stream CF (WP)-1	Vented Ford	City of Willow Park
Ranch House Road	Stream CF (WP)-1a	Vented Ford	City of Willow Park
SH 199	Stream WC (SP)-1	Vented Ford	TxDOT
FM 51	Walnut Creek	Bridge Class	TxDOT
1st Street	Walnut Creek	Bridge Class	TxDOT
Unnamed Street	Rock Creek	Vented Ford	TxDOT
Unnamed Street	Rock Creek	Vented Ford	TxDOT

Definitions
Hwy: Highway
TxDOT: Texas Department of Transportation
SH: State Highway
FM: Farm-to-Market
TRIB: Tributary
Low Water Crossing Types Defined: **Bridges** are open-bottom structures with elevated decks. They may be designed with one or several piers. Low-water bridges generally have greater capacity and can pass higher flows underneath the driving surface than most vented and unvented fords. **Vented fords** have a driving surface elevated some distance 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-bottom arches. In streams carrying large amounts of debris, the driving surface over the vent may be removable, permitting debris to be cleared after a large flow event.

Source: Texas Low Water Crossing Inventory_032312

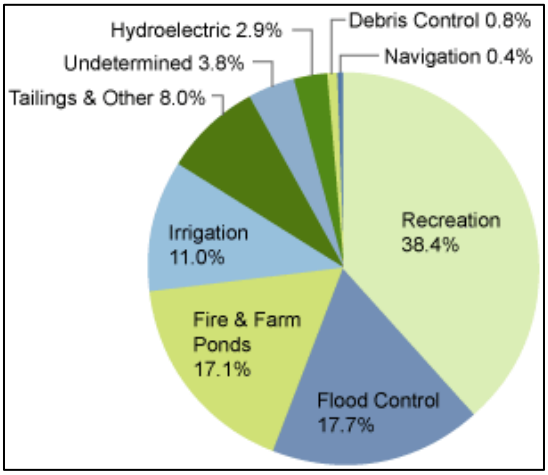
On December 26th, 2018, Parker County adopted a Master Thoroughfare Plan to assist in long-term project planning. The plan includes a map that provides the framework for existing and future transportation networks. In addition, the document provides an analysis of existing conditions, existing and potential issues, as well as classification for future transportation corridors.

This thoroughfare plan shows road networks through private rural land. Those future projects may take years to develop and the alignments are not yet determined. They are the initial planning effort for potential transportation connectivity and not necessarily an eminent project. The county will utilize the master thoroughfare plan for long-term planning and investment decisions for future projects.

Dams

Dams provide a range of economic, environmental, and social benefits, including recreation, flood control, water supply, hydroelectric power, waste management, river navigation, and wildlife habitat.

Below is a list of the dams in Parker County provided by the United States Army Corps of Engineers. Those without a city name can be presumed to be located in the unincorporated Parker County. The list reflects the most current 2018 National Inventory of Dams (NID) database. State and federal dam regulators provided their data from May to November 2018 for inclusion in the 2018 database.



Source: FEMA- Benefits of Dams

Please contact the respective state or federal regulatory authority for the most up-to-date information. The NID consists of dams meeting at least one of the following criteria, though to protect the sensitivity of the dams the criteria will not be identified for each dam:

1. High hazard potential classification - loss of human life is likely if the dam fails.
2. Significant hazard potential classification - no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or impact other concerns.
3. Height is equal to or exceeds 25 feet and storage exceeds 15 acre-feet.
4. Height exceeds 6 feet and storage is equal to or exceeds 50 acre-feet.

	Dam Name	Jurisdiction	Owner	EAP*
1	BRANSON LAKE DAM		H BRANSON	NR
2	MEEKER LAKE DAM	ALEDO	DEER CREEK PLANTATION NEIGHBORHOOD	N
3	CLEAR FORK TRINITY RIVER WS SCS SITE 23 DAM	WILLOW PARK	PARKER COUNTY SWCD; PARKER COUNTY	Y
4	CLEAR FORK TRINITY RIVER WS SCS SITE 31 DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	Y

	Dam Name	Jurisdiction	Owner	EAP*
5	CLEAR FORK TRINITY RIVER WS SCS SITE 32 DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	Y
6	CLEAR FORK TRINITY RIVER WS SCS SITE 33 DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	Y
7	LAKE MULLET DAM	FORT WORTH	MONTEX DRILLING COMPANY	Y
8	LAKE MONTEX DAM	FORT WORTH	MONTEX DRILLING COMPANY	Y
9	PRICE LAKE DAM		DAN PRICE	NR
10	TAYLORS BIG LAKE DAM		PANSY TAYLOR	NR
11	SUNSHINE DAM	WEATHERFORD	CITY OF WEATHERFORD	NR
12	REEVES LAKE DAM		WILLIAM REEVES	N
13	CLEAR FORK TRINITY RIVER WS SCS SITE 24 DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	NR
14	CLEAR FORK TRINITY RIVER WS SCS SITE 25 DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	NR
15	CLEAR FORK TRINITY RIVER WS SCS SITE 25A DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	Y
16	CLEAR FORK TRINITY RIVER WS SCS SITE 26 DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	NR
17	CLEAR FORK TRINITY RIVER WS SCS SITE 27 DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	NR
18	CLEAR FORK TRINITY RIVER WS SCS SITE 28 DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	NR
19	CLEAR FORK TRINITY RIVER WS SCS SITE 30 DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	Y
20	CLEAR FORK TRINITY RIVER WS SCS SITE 1 DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	NR
21	CLEAR FORK TRINITY RIVER WS SCS SITE 2 DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	NR

	Dam Name	Jurisdiction	Owner	EAP*
22	CLEAR FORK TRINITY RIVER WS SCS SITE 3 DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	NR
23	CLEAR FORK TRINITY RIVER WS SCS SITE 4 DAM	FORT WORTH	PARKER COUNTY SWCD; PARKER COUNTY	NR
24	CLEAR FORK TRINITY RIVER WS SCS SITE 5 DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	NR
25	CLEAR FORK TRINITY RIVER WS SCS SITE 6 DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	NR
26	CLEAR FORK TRINITY RIVER WS SCS SITE 7 DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	NR
27	CLEAR FORK TRINITY RIVER WS SCS SITE 8 DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	NR
28	CLEAR FORK TRINITY RIVER WS SCS SITE 9 DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	NR
29	CLEAR FORK TRINITY RIVER WS SCS SITE 10 DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	NR
30	CLEAR FORK TRINITY RIVER WS SCS SITE 11 DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	NR
31	CLEAR FORK TRINITY RIVER WS SCS SITE 12 DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	NR
32	CLEAR FORK TRINITY RIVER WS SCS SITE 13 DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	NR
33	CLEAR FORK TRINITY RIVER WS SCS SITE 14 DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	NR
34	CLEAR FORK TRINITY RIVER WS SCS SITE 15 DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	NR
35	CLEAR FORK TRINITY RIVER WS SCS SITE 16 DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	NR

	Dam Name	Jurisdiction	Owner	EAP*
36	CLEAR FORK TRINITY RIVER WS SCS SITE 16A DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	NR
37	CLEAR FORK TRINITY RIVER WS SCS SITE 17 DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	NR
38	CLEAR FORK TRINITY RIVER WS SCS SITE 18 DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	NR
39	CLEAR FORK TRINITY RIVER WS SCS SITE 19 DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	NR
40	CLEAR FORK TRINITY RIVER WS SCS SITE 21 DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	NR
41	CLEAR FORK TRINITY RIVER WS SCS SITE 22A DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	NR
42	LAKE WEATHERFORD DAM		CITY OF WEATHERFORD	Y
43	MOORE LAKE DAM		EVAN MOORE DDS	NR
44	MILLSAP LAKE DAM		VIC TINSLEY	Y
45	LAKE MINERAL WELLS DAM	BENNETT (LAKOTA)	CITY OF MINERAL WELLS	Y
46	CLEAR FORK TRINITY RIVER WS SCS SITE 29 DAM	NONE	PARKER COUNTY SWCD; PARKER COUNTY	NR
47	HORSESHOE LAKE DAM	GRANBURY	WESTERN LAKE ESTATES OWNERS ASSOCIATION	N
48	WESTERN LAKE DAM	GRANBURY	WESTERN LAKE ESTATES OWNERS ASSOCIATION	N
49	GRUB LAKE DAM		DAVID GRUB	NR
50	WALSH LAKE DAM		F WALSH	NR
51	MONCRIEF LAKE DAM		WA MONCRIEF JR	NR
52	CANYON LAKE DAM	ANNETTA SOUTH		N
53	PETITFILS LAKE DAM		MAURICE PETITFILS WOODLAND LAKE HOME OWNERS ASSOC	NR
54	LAKE MONCRIEF DAM	ANNETTA	MONTEX DRILLING COMPANY	Y
55	KING LAKE NO 1 DAM	GARNER	DELMAR KING; JEAN KING	NR

	Dam Name	Jurisdiction	Owner	EAP*
56	SANDPIT DAM	ALEDO	MATTHEW MORRIS ET AL	NR
57	EA PATTERSON GSS	ANNETA	E PATTERSON	NR
58	AC MCMILLIAN DAM	NONE	AC MCMILLIAN	NR
59	RAYMOND BLAIR DAM		CLARENCE MINKS	NR
60	PINTAIL DAM	WEATHERFORD	BILL ROSS; SUE ROSS; ANNA WATSON; CODI MITCHELL; JOHN MITCHELL	Y
61	TRES VISTAS ESTATES DAM	FORT WORTH		Y
62	LAMADERA LAKE DAM		BEAR VIEW PROPERTIES LP	N
63	SLOCUM RANCH TANK		SAUDER MANAGEMENT CO	NR
64	HOLLAND LAKE DAM UPPER	ANNETTA NORTH	CITY OF WEATHERFORD	Y

Source: National Inventory of Dams, https://nid-test.sec.usace.army.mil/ords/f?p=105:1

** An Emergency Action Plan (EAP) is a formal document that identifies potential emergency conditions at a dam and specifies actions to be followed to minimize loss of life and property damage. Under the EAP category, the following acronyms are used Y (Yes), N (No), or NR (Not Required)*

Environmental Protection Agency National Priorities List of Superfund Sites

Besides local critical facilities, some jurisdictions have national critical facilities that are monitored by the federal government, such as superfund sites. The Environmental Protection Agency's (EPA's) Superfund program is responsible for cleaning up some of the nation's most contaminated land and responding to environmental emergencies, oil spills, and natural disasters. To protect public health and the environment, the Superfund program focuses on making a visible and lasting difference in communities, ensuring that people can live and work in healthy, vibrant places.

The EPA National Priorities List (NPL) is the list of sites of national priority among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories. The NPL is intended primarily to guide the EPA in determining which sites warrant further investigation.[6]

According to the list, there is one superfund site in Parker County: Circle Court Ground Water Plume. The Circle Court Ground Water Plume site is a contaminated groundwater plume in the Paluxy aquifer in the cities of Willow Park and Hudson Oaks. The site boundaries are not defined since the full extent and nature of contamination has not been fully investigated. Sampling data from private water wells indicates an area at least a half-mile in length. Investigations have not determined the source of groundwater contamination. The site's remedial investigation and feasibility study (RI/FS) is ongoing.

[6] Superfund: National Priority List (NPL). United States Environmental Protection Agency. <https://www.epa.gov/superfund/superfund-national-priorities-list-npl>

Circle Court Ground Water Plume

Hazard Ranking System Score	50.00
Site EPA ID	TXN000606965 (PDF)
Region ID	6
City	Hudson Oak, Willow Park
State	Texas
County	Parker
Status	NPL Site
Latitude	32.744778
Longitude	-97.679763
Proposed	03/15/2012 (PDF)
Listing	09/18/2012 (PDF)
Site has had a Partial Deletion?	No

3.4.2 Historic Buildings and Districts

Historic landmarks and districts are important to consider when evaluating vulnerabilities to hazards. What is historic, and worth saving, varies with the beholder. "Historic" applies to a building that is part of a community's tangible past. Due to the advanced of these structures, they are highly susceptible to cracking, leaning, and total destruction caused by any of the hazards.

Historic buildings and structures, artwork, monuments, family heirlooms, and historic documents are often irreplaceable, and may be lost forever in a disaster if not considered in the mitigation planning process. The loss of these resources is all the more painful because of how often residents rely on their presence after a disaster, to reinforce connections with neighbors and the larger community, and to seek comfort in the aftermath of a disaster.

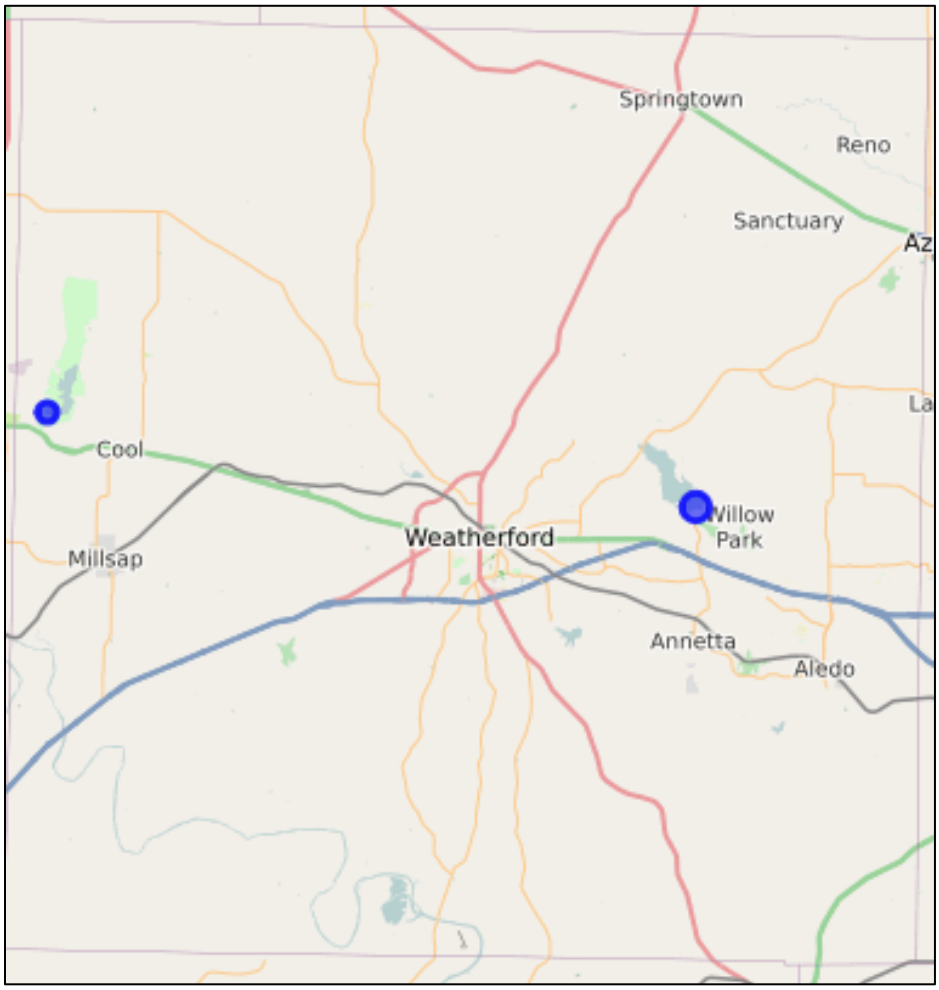
According to the Texas Historic Sites Atlas, there are 139 cemeteries, 4 museums, and 105 historical markers throughout Parker County. There are also 2 state antiquities landmarks, 5 national register properties, and 4 courthouses on the list.[7]

The Parker County Historical Commission and Parker County Historical Society are responsible for keeping the county's history alive.

[7] Texas Historical Sites Atlas. 2015. Texas Historical Commission. <https://atlas.thc.state.tx.us/>

3.4.3 Bodies of Water

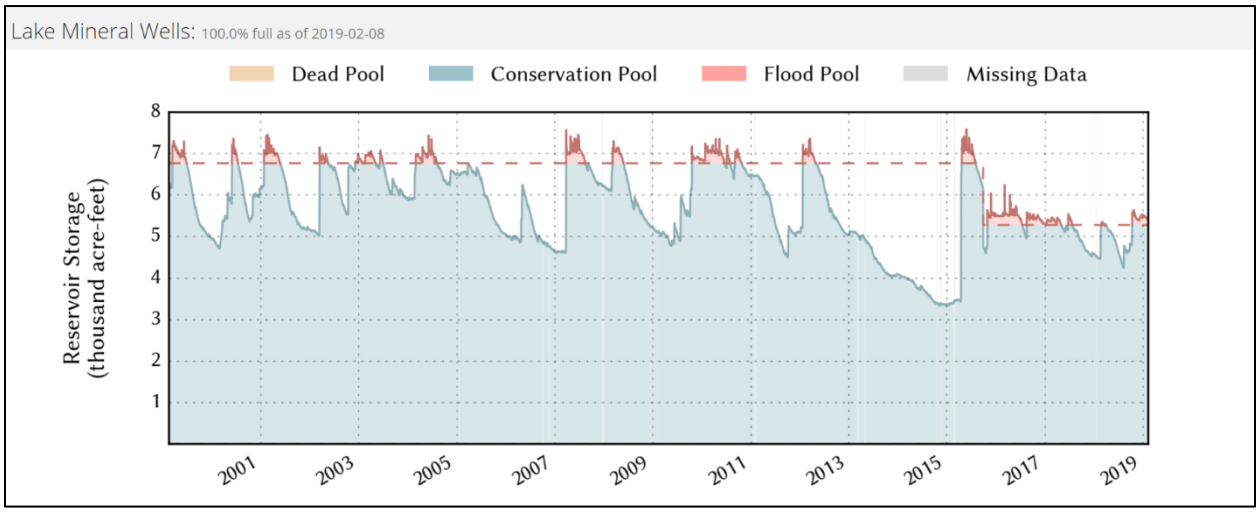
The level of local water sources has a dramatic effect on the impact of drought and flooding in the participating jurisdictions. Parker County has two major lakes that are used for surface water and recreation, Lake Mineral Wells and Lake Weatherford. Lake Mineral Wells is a part of the Brazos River Basin. One of the issues in the Brazos Basin is the increasing demand on surface water resources in the upper basin as groundwater supplies decline, particularly in the Ogallala Aquifer, which has historically supplied the majority of water there. Lake Weatherford is a part of the Trinity River Basin, where both the Dallas-Fort Worth metropolitan area and Houston area are located, and water supply demands are increasing. As a result, balancing environmental requirements with these demands is an important issue in the basin. The lakes are shown in the following map.



Currently, these lakes have recovered from previous drought periods and are close to or at capacity, as seen in the following table.

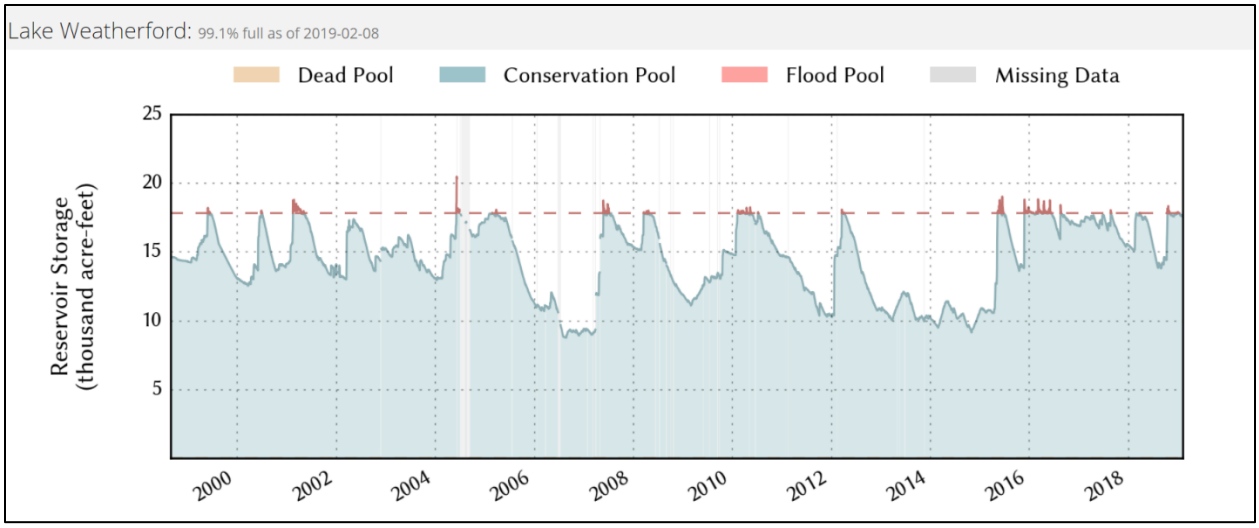
Recent Conditions of Lakes in Parker County, as of January 2019							
Lake	**Percent Full**	**Water Level (feet)**	**Height Above Conservation Pool (feet)**	**Reservoir Storage (acre-feet)**	**Conservation Storage (acre-feet)**	**Conservation Capacity (acre-feet)**	**Surface Area (acres)**
Lake Mineral Wells	100.0	863.35	0.35	5,438	5,273	5,273	476
Lake Weatherford	99.1	895.85	-0.15	17,649	17,649	17,812	1,085

Source: Water Data for Texas, https://waterdatafortexas.org/reservoirs/statewide.



Lake Mineral Wells is surrounded by a state park with miles of walking trails. This park creates a buffer between the lake and built environment when the lake floods. As seen above, there has been a history of flooding from this lake. Drought conditions also have a severe effect on the water levels of this lake.

According to the Texas Water Development Board (TWDB), Lake Mineral Wells is located about four miles east of Mineral Wells in western Parker County, on Rock Creek, a tributary of the Brazos River. It is owned and operated by the City of Mineral Wells for water supply purposes. Construction of the original dam began in 1918 and was completed in September 1920. Modifications were made to the original spillway beginning in 1943 and completed in January of 1944, which increased the lake level by 2 feet. The embankment was raised and a concrete wall constructed on the crest with top at elevation 876.1 feet above mean sea level. Additional rock riprap was placed over certain areas of the earthfill, and the roadway on top of the dam was raised to elevation 973.9 feet above mean sea level. The crest of uncontrolled spillway is at elevation of 863.4 feet above mean sea level. According to 2015 TWDB survey, the lake has a capacity of 5,461 acre-feet and encompasses a water surface of 477 acres at the normal elevation 863.4 feet above mean sea level. The dam controls a drainage area of about 63 square miles.



Lake Weatherford accommodates lake-front properties, putting inhabitants at risk to floods. As seen above, there has been mild flooding recorded in the past. Drought conditions also have a severe effect on the water levels of this lake.

According to the Texas Water Development Board (TWDB), Lake Weatherford is located seven miles east of the City of Weatherford in Parker County, on the Clear Fork Trinity River, a tributary of the Trinity River. Lake Weatherford is owned and operated by the City of Weatherford and serves primarily as a water supply source for municipal and industrial uses. Construction on Weatherford Dam began in June of 1956, with deliberate impoundment and the dam was completed in March of 1957. In 1993, the service spillway was modified to repair flood damages and increase the overall spillway capacity. The dam crest was raised 3 feet to an elevation of 917.0 feet above mean sea level. A new service spillway inlet consisting of a four-fingered radial labyrinth crest was constructed and connected to the existing 9-foot square discharge conduit. The crest of this service spillway is at elevation of 896 feet above mean sea level. The second stage emergency spillway channel at an elevation of 906 feet was widened to a total length of 1,400 feet. According to TWDB 2008 survey, at the top of conservation pool elevation, 896 feet above mean sea level, the lake has a surface area of 1,112 acres and contains 17,812 acre-feet of water. This reservoir controls a drainage area of about 109 square miles.

The following list identifies all the lakes and reservoirs in the participating jurisdictions.

Name	United States Geological Survey Topographic Map
Albert Smith Lake	Weatherford North
Lake Mineral Wells	Mineral Wells East
Lake Montex	Aledo
Lake Weatherford	Lake Weatherford
Millsap Lake	Mineral Wells East
Moore Lake	Lake Weatherford
Petitfils Lake	Aledo
Reservoir Number Eighteen	Lake Weatherford
Reservoir Number Nineteen	Lake Weatherford
Reservoir Number Seventeen	Lake Weatherford

Name	United States Geological Survey Topographic Map
Reservoir Number Sixteen	Lake Weatherford
Reservoir Number Thirty	Weatherford North
Reservoir Number Twentyeight	Weatherford North
Reservoir Number Twentyfive	Weatherford North
Reservoir Number Twentyfive A	Weatherford North
Reservoir Number Twentyfour	Weatherford North
Reservoir Number Twentynine	Weatherford North
Reservoir Number Twentyone	Lake Weatherford
Reservoir Number Twentyseven	Weatherford North
Reservoir Number Twentysix	Weatherford North
Reservoir Number Twentythree	Lake Weatherford
Reservoir Number Twentytwo A	Lake Weatherford
Soil Conservation Service Site 16a Reservoir	Lake Weatherford
Soil Conservation Service Site 24 Reservoir	Weatherford North
Soil Conservation Service Site 25a Reservoir	Weatherford North
Soil Conservation Service Site 29 Reservoir	Weatherford North
Sunshine Lake	Weatherford North
Walsh Lake	Springtown Southeast

Source: TX HomeTownLocator

3.4.4 Natural Environment and Federally Protected Species

The Texas Parks and Wildlife Department established a list of rare, threatened, and endangered species within Parker County. All species on the county list are tracked in the Texas Natural Diversity Database (TXNDD). Species include birds, fishes, mammals, mollusks, and reptiles.[8] The following species are listed as rare species living in Parker County:

- Amphibian- Strecker's chorus frog
- Amphibian- Woodhouse's toad
- Bird- bald eagle
- Bird- black rail
- Bird- black-capped vireo
- Bird- Franklin's gull
- Bird- golden-cheeked warbler
- Bird- interior least tern
- Bird- mountain plover
- Bird- piping plover
- Bird- western burrowing owl
- Bird- white-faced ibis
- Bird- whooping crane
- Fish- alligator gar
- Fish- American eel
- Fish- blue sucker
- Fish- chub shiner
- Fish- Guadalupe bass
- Fish- Red River pupfish
- Fish- sharpnose shiner
- Fish- silverband shiner
- Fish- smalleye shiner
- Insect- American bumblebee
- Insect- Comanche harvester ant
- Mammal- American badger
- Mammal- big brown bat
- Mammal- big free-tailed bat
- Mammal- eastern red bat

[8] Texas Parks and Wildlife Department, Wildlife Division, Diversity and Habitat Assessment Programs. TPWD County Lists of Protected Species and Species of Greatest Conservation Need. Parker County. 30 December 2016.

- Mammal- hoary bat
- Mammal- long-tailed weasel
- Mammal- Mexican free-tailed bat
- Mammal- mink
- Mammal- mountain lion
- Mammal- plains spotted skunk
- Mammal- swamp rabbit
- Mammal- thirteen-lined ground squirrel
- Mammal- tricolored bat
- Mammal- western hog-nosed skunk
- Mammal- woodland vole
- Mollusk- Texas fawnsfoot
- Reptile- American alligator
- Reptile- Brazos water snake
- Reptile- common garter snake
- Reptile- eastern box turtle
- Reptile- slender glass lizard
- Reptile- smooth softshell
- Reptile- Texas garter snake
- Reptile- Texas horned lizard
- Reptile- timber (canebrake) rattlesnake
- Reptile- western box turtle
- Reptile- western chicken turtle
- Reptile- western hognose snake
- Plant- Comanche Peak prairie clover
- Plant- earleaf false foxglove
- Plant- Engelmann's bladderpod
- Plant- Glen Rose yucca
- Plant- Hall's prairie clover
- Plant- Mohlenbrock's sedge
- Plant- Osage Plains false foxglove
- Plant- Reverchon's scurfpea
- Plant- Topeka purple-coneflower
- Plant- turnip-root scurfea

Currently, there are no regional plans related to the future of North Texas' natural assets of habitat, plants, animals, open space areas and corridors, tree canopy, or carbon footprint. There are studies of particular topics that have been conducted for other purposes. For example, the Environmental Impact Statement of an individual project considers the project's impact on endangered species. Also, there are studies underway on particular topics but for smaller areas within the North Texas region.[9]

Under Chapter 12.0011 of the Texas Parks and Wildlife Code, Texas Parks and Wildlife Department (TPWD) is charged with "providing recommendations that will protect fish and wildlife resources to local, state, and federal agencies that approve, permit, license, or construct developmental projects" and "providing information on fish and wildlife resources to any local, state, and federal agencies or private organizations that make decisions affecting those resources." Project types reviewed by TPWD include reservoirs, highway projects, pipelines, urban infrastructure, utility construction, renewable energy, and residential and commercial construction, as well as many others.

Each state in the U.S. has completed a Wildlife Action Plan or Comprehensive Wildlife Conservation Strategy to improve the stability and recovery of species which are in decline, already listed as threatened or endangered, and/or are representative of the diversity and health of the state's wildlife. To date, these plans have become important guides for natural resource management programs, conservation funding, partnership building, project development, and problem-solving at local and regional levels. TPWD is the steward of the Texas Conservation Action Plan, formerly called the Texas Comprehensive Wildlife Conservation Strategy 2005 - 2010 or Texas Wildlife Action Plan. This revised Texas plan (approved by the U.S. Fish and Wildlife Service in 2013) is a series of 11 regionally-specific Ecoregion handbooks, a Statewide/Multi-region handbook, and this Overview document. Collectively, they are now called the Texas Conservation Action Plan.

[9] North Texas to 2030: Extending the Trends. Vision North Texas.

While the Texas Conservation Action Plan is a conservation plan for species at most at risk, its primary purpose is to bring people together to realize conservation benefits, prevent species listings, and preserve our natural heritage for future generations. Handbooks contain information on Species of Greatest Conservation Need, regionally important habitats, local conservation goals and projects, regional and statewide activities, contact information for conservation partners, and maps. The activities in each handbook are starting points to engage landowners, land-use planners, natural resources professionals, and the public in regional and local community-based conservation.[10]

3.4.5 Factors that Increase Vulnerability

Climate Variability

A key factor to an increase in vulnerability is climate variability, also known as climate change. According to the United States Environmental Protection Agency (EPA),

> Texas's climate is changing. Most of the state has warmed between one-half and one-degree Fahrenheit (°F) in the past century. In the eastern two-thirds of the state, average annual rainfall is increasing, yet the soil is becoming drier. Rainstorms are becoming more intense, and floods are becoming more severe... In the coming decades, storms are likely to become more severe, deserts may expand, and summers are likely to become increasingly hot and dry, creating problems for agriculture and possibly human health. Our climate is changing because the earth is warming. People have increased the amount of carbon dioxide in the air by 40% since the late 1700s. Other heat-trapping greenhouse gases are also increasing. These gases have warmed the surface and lower atmosphere of our planet about one degree during the last 50 years. Evaporation increases as the atmosphere warms, which increases humidity, average rainfall, and the frequency of heavy rainstorms in many places—but contributes to drought in others…[11]

The following is an article from the Dallas Morning News that describes the effects of climate change specifically in North Central Texas:

> The United States has just come off a record year for weather and climate disasters and, by most accounts, it's only going to get worse.
>
> Last year hurricanes Harvey, Irma, and Maria; the wildfires and floods in California; and tornado outbreaks in the Midwest and the South delivered $306.2 billion in damages, more than any year in history when adjusted for inflation.
>
> Texas is particularly vulnerable to a changing climate. It has had more costly weather-related disasters than any other state, and those events will happen more often as air and ocean temperatures climb, scientists say.
>
> "Climate change is not just about polar bears," said Katharine Hayhoe, a climate scientist at Texas Tech University with an impressive YouTube following. "It will affect North Texas profoundly."

[10] Texas Conservation Action Plan. Texas Parks & Wildlife.
< https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/nongame/tcap/>

[11] What Climate Change Means for Texas. August 2016. EPA 430-F-16-045. United States Environmental Protection Agency.< https://archive.epa.gov/epa/sites/production/files/2016-09/documents/climate-change-tx.pdf>

Between 2041 and 2050, Dallas-Fort Worth may see August temperatures rise from a mean of 86 °F at the end of the 20th century to 94 °F, with extremes rising above 120, reports one study by scientists at the University of Texas at Arlington.

Longer droughts and more extreme rainstorms will pose a challenge for those who manage drinking water supplies, those who raise cattle, and those who oversee our roads and railways.

The changes may also have unexpected effects on people's daily lives, including jobs. Intense heat can imperil cars and airplanes, evaporate drinking water supplies, and halt outdoor labor such as farm work and construction.

Adam Smith, a scientist with the federal government's main climate agency, the National Oceanic and Atmospheric Administration, calls Texas "the disaster capital of the United States."

As Smith explains, Texas is susceptible to almost every kind of weather and climate hazard, from extreme cold to extreme heat, from severe drought and wildfires to torrential floods. Texas is also home to a booming population and critical infrastructure, including the petrochemical plants that were damaged in Hurricane Harvey.

"Texas is a hot-spot for a wide range of extreme natural events due to its geography," said Smith. "We expect many of these extremes to become more frequent and intense as time moves forward."

While uncertainty is built into climate models, scientists have a high degree of confidence in many of the changes they observe and predict.

The bigger, longer and more common an event is, the greater the accuracy with which scientists can project how climate change will impact it, said Hayhoe, a lead author of a November 2017 climate change report overseen by scientists at 13 federal agencies. Larger events have more data associated with them and can be easier to model.

Researchers are very confident that climate change will increase both average and extreme temperatures. They are also confident that climate change is likely to increase the risk of heavy precipitation in many areas and may bring stronger droughts to the south-central and southwestern parts of the U.S.

Projected impacts on smaller-scale events like tornadoes and hailstorms are less well understood.

One area of consensus is the cause of climate change. "It is extremely likely that human activities, especially emissions of greenhouse gases, are the dominant cause of the observed warming since the mid-20th century," note the authors of the Fourth National Climate Assessment, a Congressionally mandated review that scientists conduct every four years. They add that there are no convincing alternative explanations.

Below is how these changes will affect our area, the evidence behind the projections, and how confident scientists are in each of these findings.

Heat

More record-setting heat in North Texas is a virtual certainty. Already, we are living through the warmest period in the history of modern civilization, the federal report found, and that warming will accelerate.

Climate science contrarians often attack the models on which climate projections are based. Myron Ebell, who led President Donald Trump's transition team at the Environmental Protection Agency, accepts that humans are most likely responsible for warming, but he says models have exaggerated the outcome. Ebell is director of the Center for Energy and Environment at the Competitive Enterprise Institute, a libertarian advocacy group based in Washington, D.C. He acknowledges that he is not a scientist.

In fact, researchers have used models to predict global temperature changes for more than 50 years, and the models' projections have been fairly accurate over the long term. In the early 21st century, a discrepancy appeared between observed and modeled temperatures-a period dubbed the "global warming slowdown" or "hiatus."

Scientists have published scores of studies on the mismatch and tied it to several factors that contributed to lower-than-expected observed temperatures. Those factors include a series of small volcanic eruptions, the cooling effects of which scientists had underestimated, and lower than expected solar output.

Findings from those studies are helping to improve climate model simulations and helping scientists better understand why there are differences between simulations and observations in the early 21stcentury, said Ben Santer, a climate scientist at the Lawrence Livermore National Laboratory.

Global average temperatures increased about 1.8 degrees Fahrenheit in the last 115 years. In Dallas, they climbed from about 65 °F during the early part of the 20th century to 68 °F during the most recent decade. If nothing is done to reduce emissions of carbon dioxide and other greenhouse gases, average temperatures in the city may reach the low 70s by 2050 and surpass 75°F by the end of the century.

Earlier this year, Amir Jina and colleagues published a study in the journal *Science* that estimated economic damage from climate change in each county of the United States.

Once temperatures reach the high 90s, equal to or above body temperature, fatality rates go up.

Besides people, heat also affects roads. A 2015 study by the University of Texas at Arlington (UTA) that focused on the impact of climate change on transportation predicted "an increase in wildfires along paved highways, heat-induced stress on bridges and railroads, air-conditioning problems in public transport vehicles and heat-related accidents by failure of individual vehicles and heat-related stress."

The study concluded, "These impacts can be translated into substantial mobility and economic loss."

Drought

Along with heat will come stronger drought, which "has profound economic impacts," said Hayhoe.

The prediction that North Texas will have longer and more severe droughts is based on multiple factors, including the relationship between high temperatures and soil dryness and the presence of more frequent and longer lasting high-pressure systems in summer that suppress rainfall and deflect storms away from our area.

Hayhoe points to Texas' 2010-2013 drought as a probable sign of things to come. Although this drought occurred naturally, as a result of a strong La Niña event that typically brings dry conditions to our area, it was exacerbated by extreme heat. That event created severe hay shortages for cattle farmers and led some ranchers to prematurely slaughter their herds or export them out of state.

"Cotton can be drought-resistant, but not cattle," said Hayhoe.

The 2015 UTA study predicts a reduction in soil moisture of 10% to 15% in all seasons by 2050, which can also lead to cracked pavement and the premature loss of roads, railways, and other infrastructure.

Heat and drought also pose a problem for drinking water supplies, which North Texas sources from surface reservoirs that will be increasingly prone to evaporation. Hayhoe says some water managers are considering pumping the reservoirs underground during exceptionally hot and dry conditions, or covering them with polymer "blankets."

The blankets are an invisible layer of organic molecules that can help reduce evaporation.

Floods

While it's not likely that annual precipitation totals will change in North Texas, rainfall patterns likely will. Hayhoe and Nielsen-Gammon both say we will likely see enhanced "feast or famine" cycles with torrential rainstorms in the spring followed by longer than usual dry periods.

These predictions carry a high degree of certainty, because climatologists have already recorded this trend playing out.

"Rainfall becoming more extreme is something we expect because we've observed this not just in North Texas but throughout the United States, and models consistently predict it will continue to happen," said Nielsen-Gammon.

Severe rainstorms, the UTA scientists predict, will have the capacity to flood highway exit and service roads in the Federal Emergency Management Agency (FEMA) 100-year floodplain.

"While the state highway system was built above flooding levels, the connector roads may be easily flooded," said Arne Winguth, a climate scientist at UTA who co-authored the report.

Tornadoes and hail

Two events climate scientists cannot reliably project are hailstorms and tornadoes. "A lot of the things we care about are too small-scale to predict with more confidence," said Nielsen-Gammon. "The historical record is not large enough for longer-term forecasts."

There is some evidence that tornadoes, like rainstorms, are becoming more concentrated on fewer days and that their season has become less predictable.

The same is true with hail. "One thing we expect to happen with a warming climate is that the average humidity in the lower atmosphere may decrease, and if that happens it's easier for hail to stay frozen," said Nielsen-Gammon. "That factor might increase hailstorms, but that's just one of many factors that do affect hail."

Economy

Jina of the University of Chicago predicted in his study that climate change would decrease Dallas County's annual income by 10% to 20% in the coming decades unless emissions are reduced. "North Texas is one of the worst-affected places in the country," he said. Much of the loss comes from higher mortality rates, soaring air-conditioning costs, and reduced labor productivity.

To track labor productivity, Jina and his colleagues examined national time-use surveys, diaries kept by thousands of volunteers across the country, and compared them with local weather data. He found that on extremely hot days, people tended to stop working about 30 minutes early.

"There's direct evidence that people concentrate less well, make more mistakes and their brain just functions less efficiently if it's too hot," he said. Heat also disrupts sleep. "The general lack of productivity leads to them saying, 'No more work today.'"

The good news is that many climate-change effects are manageable. They do require local and federal authorities to plan ahead and take action, said Smith of the National Oceanic and Atmospheric Administration.

"It is important," he said, "to address where we build, how we build and also to build protections for populations already exposed in vulnerable areas."[12]

All participating jurisdictions are experiencing the effects of climate variability.

Population Increase and Demographics

The entire planning areas of the participating jurisdictions, including their populations, are vulnerable to the damaging effects of most of the natural hazards identified. The 2030 population projections produced by the North Central Texas Council of Governments (NCTCOG) use the year 2000 as a base year and project population and employment in five-year increments to 2030. Over the 30-year horizon, the 16-county North Texas region is anticipated to add 1.6 million households with a corresponding 4.1 million people and 2.3 million non-construction jobs. This represents an average annual population growth rate of 2.6% for these 30 years, a magnitude of growth never before experienced in the North Central Texas region. NCTCOG forecasts reflect only one set of growth assumptions. If circumstances change, real growth outcomes might be considerably different.[13]

Population growth and distribution, especially increased population density and urbanization, increases vulnerability to disasters.[14] The elderly, very young, those without air conditioning or heating, and outdoor laborers are most at risk to the effects of extreme heat and winter storms. Residents living in a floodplain are most at risk to flooding and residents living in the Wildland-Urban Interface (WUI) are most at risk to wildfires. Those living in poverty and in homes not built using enhanced building codes are most susceptible to the damages of these hazards.

[12] Climate change to bring North Texas longer droughts, heavy rains, 120-degree temps within 25 years. Kuchment, Anna. 2018, February 15. <https://www.dallasnews.com/news/climate-change-1/2018/02/15/climate-change-to-bring-texas-longer-droughts-heavy-rains-120-temps-august-within-25-years>

[13] North Texas to 2030: Extending the Trends. Vision North Texas.

[14] Ben Wisner et al., At Risk: Natural Hazards, People's Vulnerability, and Disasters, 2d ed. (London: Routledge, 2004).

The following table reflects the **estimated** changes in participating jurisdictions' demographics, gathered by the North Central Texas Council of Governments, since the adoption of the 2015 HazMAP. Population estimates for Parker County refers to the entire county, not just the unincorporated portion.

Jurisdiction	2012 Population Estimate	2015 Population Estimate	2018 Population Estimate
Aledo	3,240	3,210	4,240
Hudson Oaks	1,720	1,940	2,120
Springtown	2,660	2,660	2,720
Weatherford	25,440	26,600	27,900
Willow Park	4,030	4,590	4,800
Parker County	119,320	124,630	131,210

Source: North Central Texas Regional Data Center.

In the context of emergencies, vulnerable groups may include individuals with disabilities, pregnant women, children, elderly persons, prisoners, certain members of ethnic minorities, people with language barriers, and the impoverished. For these populations, emergency response failures can have catastrophic consequences, including loss of the ability to work or live independently, permanent injury, and death. Without appropriate preparation, vulnerable individuals may not be able to evacuate as instructed, reach points of distribution for medical countermeasures, understand written or verbal communications during an emergency, or find suitable housing if their residences are destroyed during a disaster.

The community profiles of the participating jurisdictions are identified in the following table. Note jurisdictions with less than 5,000 residents do not have data for every topic. The Parker County column of numbers includes all cities (not just participating cities) and the unincorporated portion of the county.

Community Profile						
Topic	**Aledo**	**Hudson Oaks**	**Springtown**	**Weatherford**	**Willow Park**	**Parker County**
Population Estimates (V2017/2018)	4,232	2,335	2,911	30,654	5,340	138,371
Persons under 5 years (%)	Unavailable	Unavailable	Unavailable	8.2%	6.1%	6.2%
Persons 65 years and over (%)	Unavailable	Unavailable	Unavailable	16.5%	16.0%	15.3%
Language other than English spoken at home (%)	Unavailable	Unavailable	Unavailable	10.4%	3.9%	8.6%
With a disability, under age 65 (%)	Unavailable	Unavailable	Unavailable	8.9%	7.3%	8.4%
Persons without health insurance, under age 65 (%)	5.8 %	9.4%	18.2 %	16.9%	14.1%	15.7%
Persons in poverty (%)	6.4 %	3.8%	21.1 %	10.5%	2.2%	8.0%

Community Profile						
Topic	**Aledo**	**Hudson Oaks**	**Springtown**	**Weatherford**	**Willow Park**	**Parker County**
Median household income	$ 102,917	$105,882	$ 45,114	$60,739	$96,051	$70,608
Total housing units	1,117	875	1,184	10,590	1,802	48,857
Median housing value	$ 189,100	$255,400	$ 129,400	$153,400	$206,200	$180,900
Percent of households with a broadband Internet subscription	93.3%	89.2%	40.0%	84.2%	94.8%	81.2%

Source: US Census Bureau Quick Facts, www.census.gov.

New technologies that provide 9-1-1 and public safety officials with the ability to proactively engage the community have had a dramatic effect on mortality rates during these increasing amount and strength of natural disasters. Identifying at risk populations and providing them with information and assistance when they most need it can make a significant difference, especially in the event of an evacuation or seeking shelter. One measure of the strength of a community's response and recovery system is its attentiveness to its most vulnerable citizens. It is a cruel fact: disasters discriminate.

Repetitive Loss Properties

Among the National Flood Insurance Policy (NFIP) policyholders are thousands whose properties have flooded multiple times. Called "repetitive loss properties," these are buildings and/or contents for which the NFIP has paid at least two claims of more than $1,000 in any 10-year period since 1978. "Severe repetitive loss properties" are those for which the program has either made at least four payments for buildings and/or contents of more than $5,000 or at least two building-only payments that exceeded the value of the property.

These two kinds of properties are the biggest draw on the NFIP Fund. They not only increase the NFIP's annual losses and the need for borrowing; but they drain funds needed to prepare for catastrophic events. Community leaders and residents should also be concerned with the Repetitive Loss problem because residents' lives are disrupted and may be threatened by the continual flooding.

The primary objective of identifying these properties is to eliminate or reduce the damage to property and the disruption to life caused by repeated flooding of the same properties.

The following table reflects the loss statistics for repetitive loss properties in participating jurisdictions.

Loss Statistics: from January 1, 1978 through report as of September 30, 2018					
Jurisdiction	**Total Losses**	**Closed Losses**	**Open Losses**	**Closed Without Payment (CWOP) Losses**	**Total Payments**
Aledo	2	2	0	0	$131,033
Hudson Oaks	0	0	0	0	$0
Springtown	37	28	0	0	$311,156.15
Weatherford	49	41	0	8	$809,306.67

Loss Statistics: from January 1, 1978 through report as of September 30, 2018					
Jurisdiction	**Total Losses**	**Closed Losses**	**Open Losses**	**Closed Without Payment (CWOP) Losses**	**Total Payments**
Willow Park	1	1	0	0	$4,361.50
Parker County Unincorporated	137	114	0	23	$1,599,745.68
Total losses: All losses submitted regardless of the status.					
Closed losses: Losses that have been paid.					
Open losses: Losses that have not been paid in full.					
CWOP losses: Losses that have been closed without payment.					
Total Payments: Total amount paid on losses.					

Source: Claim Information by State, https://bsa.nfipstat.fema.gov/reports/1040.htm#48.

The tables below provide information about the repetitive loss and severe repetitive loss properties within the participating jurisdictions as of March 2019, as provided by the Federal Emergency Management Agency. More details about the properties are not available to the public.

Property Details									
Community Number	**Mitigated?**	**Insured?**	**City**	**Occupancy**	**Flood Zone**	**Total Building Payment**	**Total Contents Payment**	**Losses**	**Total Paid**
480520	No	No	Weatherford	Single Family	AE	$32,217.74	$955.78	3	$33,173.52
480520	No	Yes	Weatherford	Single Family	AE	$19,015.75	$2,693.52	2	$21,709.27
480520	No	Yes	Weatherford	Single Family	AE	$78,275.75	$10,185.55	2	$88,461.30
480520	No	No	Weatherford	Single Family	A	$14,678.72	$27.28	2	$14,706.00
480520	No	No	Weatherford	Single Family	A	$5,375.99	$1,365.80	2	$6,741.79
480520	No	Yes	Weatherford	Single Family	AE	$57,389.43	$10,932.45	5	$68,321.88
480520	No	No	Weatherford	Single Family	AE	$55,663.26	$5,499.09	3	$61,162.35
480520	No	No	Weatherford	Single Family	AE	$81,583.58	$10,500.00	3	$92,083.58
480520	No	No	Weatherford	Single Family	A	$14,650.00	$1,606.69	2	$16,256.69
480520	No	SDF	Weatherford	Single Family	AE	$41,394.24	$7,273.78	7	$48,668.02
480520	No	Yes	Weatherford	Single Family	AE	$34,111.37	$9,731.56	3	$43,842.93

Property Details									
Community Number	Mitigated?	Insured?	City	Occupancy	Flood Zone	Total Building Payment	Total Contents Payment	Losses	Total Paid
480520	No	SDF	Weatherford	Single Family	AE	$207,617.66	$51,540.74	8	$259,158.40
480520	No	Yes	Weatherford	Single Family	AE	$34,192.27	$-	2	$34,192.27
480520	Yes	No	Springtown	Single Family	EMG	$59,826.36	$9,702.00	3	$69,528.36
480520	Yes	No	Weatherford	Single Family		$17,831.84	$4,400.00	2	$22,231.84
480520	Yes	No	Weatherford	Single Family	EMG	$10,568.00	$870.00	2	$11,438.00
480521	Yes	No	Springtown	Single Family	EMG	$5,382.02	$-	2	$5,382.02
480521	Yes	No	Springtown	Single Family	EMG	$9,573.78	$-	2	$9,573.78
480521	Yes	No	Springtown	Single Family	EMG	$25,825.38	$-	3	$25,825.38
480521	Yes	No	Springtown	Single Family	EMG	$16,907.15	$-	3	$16,907.15
480522	No	No	Weatherford	Single Family	EMG	$14,219.66	$-	3	$14,219.66
480522	No	No	Weatherford	Single Family	A	$16,742.78	$10,774.61	2	$27,517.39

New Development

Unsustainable development is one of the major factors in the rising costs of natural disasters. Many mitigation design strategies and technologies serve double duty, by not only preventing or reducing disaster losses but serving the broader goal of long-term community sustainability. For example, land use regulations prohibiting development in flood-prone areas may also help preserve the natural and beneficial functions of floodplains. New development in hazard-prone areas increases the risk of damage and injury from that hazard. The following are new developments in hazard-prone areas of the participating jurisdictions.

- **Aledo-** No new development in a hazard-prone area has been recorded.
- **Hudson Oaks-** The major development includes the H-E-B supermarket company development. It is not necessarily in a hazard-prone area but is vulnerable to all the identified hazards and the new development could impact water runoff and increase flood potential in surrounding areas.
- **Springtown-** The city has not had any significant development since 2008. Prior to then a development was built in an area that has drainage issues and the city has built spillways and drains to move water more efficiently. The existing aqueduct was built in the 1930's and will need

to be updated and improved. In the extraterritorial jurisdiction, houses are being built on former open agricultural land. This building will displace stormwater into Walnut Creek, which flows through the city and may affect stormwater runoff.

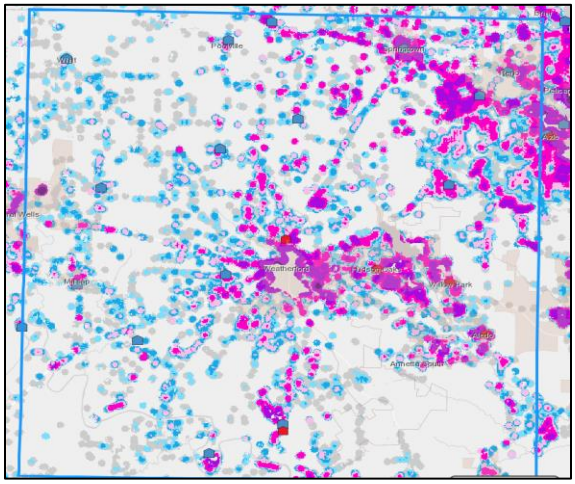
- **Weatherford-** There has been residential development in flood prone areas and along steep slopes.
- **Willow Park-** No new development in a hazard-prone area that has been recorded. There are major developments that includes walking trails, amphitheater, and two new sports complexes. That are not necessarily in a hazard-prone area but are vulnerable to all the identified hazards and the new developments in the city could impact water runoff and increase flood potential in surrounding areas.
- **Parker County Unincorporated-** No new development in a hazard-prone area has been recorded. A permit is required for any development within a floodplain.

Wildland-Urban Interface

The Wildland-Urban Interface (WUI) layer of a map reflects housing density depicting where humans and their structures meet or intermix with wildland fuels. Wildfires can cause significant damage to property and threatens the lives of people who are unable to evacuate WUI areas. All improved property, critical facilities, and critical structures and infrastructure located in these wildfire-prone areas are considered vulnerable and can be exposed to this hazard.

WUI housing density is categorized based on the standard Federal Register and United States Forest Service (USFS) Silvis data set categories. The number of housing density categories is extended to provide a better gradation of housing distribution to meet specific requirements of the states for their fire protection planning activities. While units of the data set are in houses per square kilometer, which is consistent with other data such as USFS SILVIS, the data is presented as the number of houses per acre to aid with interpretation and use in Texas. The following map reflects the WUI areas in Parker County, with the locations of fire stations. The paid fire departments are marked in red and volunteer fire departments are marked in blue.

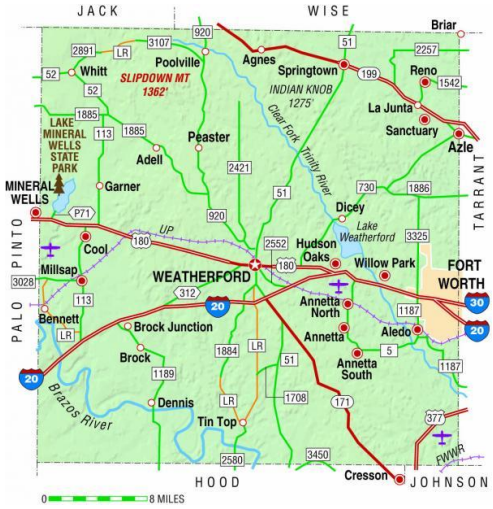
WUI Density Map



	No Data
	1-LT 1 hs/40 ac
	2-1 hs/40 to 1 hs/20 ac
	3-1 hs/20 to 1 hs/10 ac
	4-1 hs/10 to 1 hs/5 ac
	5-1 hs/5 to 1 hs/2 ac
	6-1 hs/2 to 3 hs/ac
	7-GT 3 hs/ac
*hs- house *ac- acre	

Source: Texas Wildfire Risk Assessment Portal

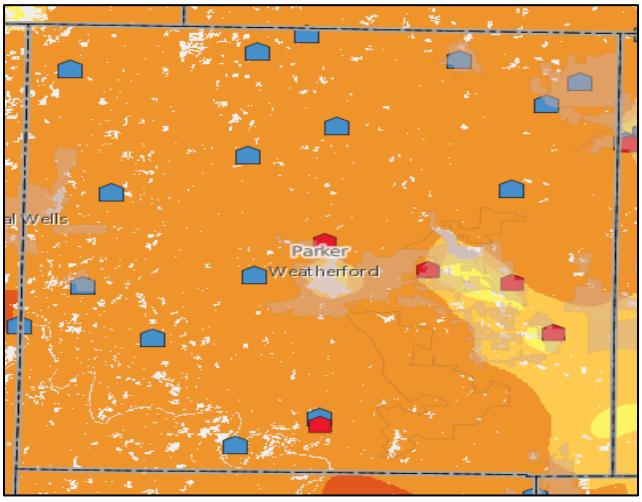
Map for Reference



Wildfire Threat is the likelihood of a wildfire occurring or burning into an area. Threat is derived by combining a number of landscape characteristics including surface and canopy fuels, resultant fire behavior, historical fire occurrence, percentile weather derived from historical weather observations, and terrain conditions. These inputs are combined using analysis techniques based on established fire science.

The measure of wildfire threat used in the Texas Wildfire Risk Assessment (TWRA) is based on the Wildland Fire Susceptibility Index (WFSI). WFSI combines the probability of an acre igniting (Wildfire Ignition Density), and the expected final fire size based on rate of spread in four percentile weather categories. WFSI is defined as the likelihood of an acre burning. The following map shows the threat level of wildfires in Parker County, with the locations of fire stations. The paid fire departments are marked in red and volunteer fire departments are marked in blue.

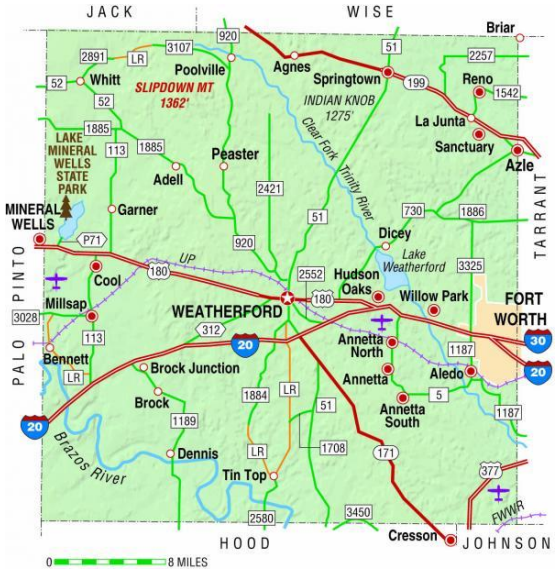
Wildfire Threat Map



	No Data
	1-Low
	2
	3-Moderate
	4
	5-High
	6
	7-Very High

Source: Texas Wildfire Risk Assessment Portal Professional Viewer.

Map for Reference



3.4.6 Factors that Decrease Vulnerability

Local Mitigation Activities

Factors that decrease vulnerability to hazards include the mitigation actions that have previously been implemented, the adoption of new codes and policies, and the participation in regional projects sponsored by the North Central Texas Council of Governments (NCTCOG) and other governing agencies.

The participating jurisdictions have implemented a variety of mitigation actions to protect their communities from damaging disasters. These previous mitigation actions are described in detail in Chapter 4.

National Policy

On October 5, 2018, President Trump signed the Disaster Recovery Reform Act of 2018 (DRRA) into law as part of the Federal Aviation Administration Reauthorization Act of 2018. These reforms acknowledge the shared responsibility of disaster response and recovery, aim to reduce the complexity of FEMA and build the nation's capacity for the next catastrophic event.

The law contains more than 50 provisions that require FEMA policy or regulation changes for full implementation, as they amend the Robert T. Stafford Disaster Relief and Emergency Assistance Act. It has yet to be seen how the DRRA will be implemented and how it will impact state and local agencies, but highlights from the DRRA include:

Highlights from the DRRA include:

- **Greater investment in mitigation, before a disaster:** Authorizing the National Public Infrastructure Pre-Disaster Hazard Mitigation Grant Program, which will be funded through the Disaster Relief Fund as a six percent set aside from disaster expenses.
    - This program will focus on funding public infrastructure projects that increase community resilience before a disaster occurs.

- Previously, funding for pre-disaster mitigation grants relied on congressional appropriations which varied from year to year. Now, with a reliable stream of sufficient funding, communities will be able to plan and execute mitigation programs to reduce disaster risk nationwide.

- According to a 2017 National Institute of Building Sciences report, the nation saves six dollars in future disaster costs for every one dollar invested in mitigation activities.

- **Reducing risk from future disasters after fire:** Providing hazard mitigation grant funding in areas that received Fire Management Assistance Grants as a result of wildfire. Adding fourteen new mitigation project types associated with wildfires and windstorms.

- **Increasing state capacity to manage disaster recovery:** Allowing for higher rates of reimbursement to state, local and tribal partners for their administrative costs when implementing public assistance (12 percent) and hazard mitigation projects (15 percent). Additionally, the legislation provides flexibility for states and tribes to administer their own post-disaster housing missions, while encouraging the development of disaster housing strategies.

    - States, tribes, territories and local governments bear significant administrative costs implementing disaster recovery programs. Often these costs can be high and substantially burdensome for the impacted entity to meet. Increasing the funding for administrative costs will enable faster, more effective delivery of vital recovery programs to communities.

    - State and tribal officials have the best understanding of the temporary housing needs for survivors in their communities. This provision incentivizes innovation, cost containment and prudent management by providing general eligibility requirements while allowing them the flexibility to design their own programs.

- **Providing greater flexibility to survivors with disabilities:** Increasing the amount of assistance available to individuals and households affected by disasters, including allowing accessibility repairs for people with disabilities, without counting those repairs against their maximum disaster assistance grant award.

- **Retaining skilled response and recovery personnel:** Authorizing FEMA to appoint certain types of temporary employees who have been with the agency for three continuous years to full time positions in the same manner as federal employees with competitive status. This allows the agency to retain and promote talented, experienced emergency managers.

National Flood Insurance Program

The National Flood Insurance Program (NFIP) aims to reduce the impact of flooding on private and public structures. It does so by providing affordable insurance to property owners, renters and businesses and by encouraging communities to adopt and enforce floodplain management regulations. These efforts help mitigate the effects of flooding on new and improved structures. Overall, the program reduces the socio-economic impact of disasters by promoting the purchase and retention of general risk insurance, but also of flood insurance, specifically. When a community participates in the NFIP, it participates in one of two phases: the Emergency Program or the Regular Program.

Emergency Program: Entry-level participation phase.

- Limited coverage
- Flat rates
- Basic Flood Hazard Boundary Map (FHBM)*

*Initial flood hazard identification

Regular Program: Most participating communities are in this phase.

- Full participation
- Detailed Flood Insurance Rate Map (FIRM)
- NFIP's full limits of insurance

The following table includes the NFIP status of the participating jurisdictions.

Community Name	CID	County	Initial FHBM Identified	Initial FIRM Identified	Current Effective Map Date	Reg-Emer Date	Tribal
Aledo	481659#	Parker	Data unavailable	01/03/97	09/26/08	01/29/97	No
Hudson Oaks	480147B	Parker	Data unavailable	09/26/08	NSFHA	09/18/09	No
Springtown	480521#	Parker	05/24/74	12/18/85	09/26/08	12/18/85	No
Weatherford	480522B	Parker	03/08/74	08/05/86	04/05/19	08/05/86	No
Willow Park	481164B	Parker	11/12/76	03/18/87	04/05/19	03/18/87	No
Parker County Unincorporated	480520B	Parker	12/27/77	09/27/91	04/05/19	09/27/91	No
CID: A different community identification number is assigned for the incorporated city versus the unincorporated county.							
Community Name: The incorporated city or unincorporated county, parish, or borough.							
County: This column should match the relative incorporated city, township, village, or other entity.							
Init FHBM Identified: This date tells when the Flood Hazard Boundary Map was created. This map is only a factor in communities that do not have a Flood Insurance Rate Map.							
Init FIRM Identified: This date represents the community's first Flood Insurance Rate Map, and it is important because it represents the dividing line between two building categories called Pre-FIRM and Post-FIRM.							
Current Effective Map Date: This is the date of the map currently in effect.							
Reg-Emer Date: The date the community first joined the NFIP. An "E" next to the date indicates that the community is in the Emergency Program and subject to limited coverage. If there is no "E" next to the date, then the community participates in the Regular Program.							
Tribal: A "yes" in this column indicates that the participating community is a tribal nation.							
NSFHA: A 'Non-Special Flood Hazard Area' is an area that is in a moderate-to-low risk flood zone (Zones B, C, X Pre- and Post-FIRM)							

Source: FEMA Community Status Book Report, http://www.fema.gov/cis/TX.html.

Jurisdictions participating in the NFIP are required to regulate any development in designated flood prone areas. In Parker County, all work within a Federal Emergency Management Agency (FEMA) designated floodplain requires a floodplain permit.

A property owner is required to obtain a floodplain permit prior to performing any type of work in the floodplain, including the placement of fill. For example, the following documentation is necessary to apply for a Development Permit in the Parker County Floodplain in the unincorporated portion of the county:

- Site Plan: Must be drawn to scale showing the existing and proposed structures, surface improvements, property lines, streets, slope of land, floodway and floodplain boundaries, and any watercourses.
- Elevation Data: May be in the form of topographic contour lines or spot elevations on the site plan or the base flood elevation and proposed lowest floor elevation on the building design plans.
- No-Rise Certificate: Is required for any development within a floodway. This document must be completed by a registered professional engineer and be based upon hydraulic and hydrologic studies.
- Flood-proofing Certificate: In the case of a non-residential structure that is to be flood-proofed; pre and post-construction certification from a registered professional engineer or architect that the flood-proofing method meets NFIP criteria.
- Complete the Development Permit Application.
- Pay the applicable fee.

A permit will only be issued after it is determined that the proposed work will not have an adverse impact on adjacent property owners, will not decrease the flood carrying capacity of the watercourse, and will not create a situation that is dangerous during flooding events.[15]

The NFIP offers three Standard Flood Insurance Policy forms: Dwelling, General Property, and Residential Condominium Building Association. These forms provide policyholders with a description of their coverage and other important coverage information. Below is a table of the local policy statistics.

Policy Statistics as of 09/30/2018			
Jurisdiction	**Policies In-force**	**Insurance In-force (whole $)**	**Written Premium In-force**
Aledo	8	$2,415,000	$2,814
Hudson Oaks	3	$1,050,000	$1,119
Springtown	23	$4,779,600	$24,864
Weatherford	96	$22,512,700	$83,509
Willow Park	12	$3,341,500	$5,006
Parker County Unincorporated	361	$80,040,400	$297,529

Source: FEMA Policy Statistics Country-Wide, https://bsa.nfipstat.fema.gov/reports/1011.htm.

[15] Floodplain Development Requirements. Parker County Texas.
< https://parkercountytx.com/131/Floodplain-Development-Requirements>

Community Rating System

The Community Rating System (CRS) is a voluntary program for communities that participate in the National Flood Insurance Program (NFIP). The goals of the CRS are to reduce flood damages to insurable property, strengthen and support the insurance aspects of the NFIP, and encourage a comprehensive approach to floodplain management. The CRS has been developed to provide incentives in the form of premium discounts for communities to go beyond the minimum floodplain management requirements to develop extra measures to provide protection from flooding. For a community to be eligible, it must be in full compliance with the NFIP.

All communities start out with a Class 10 rating, which provides no discount. There are 10 CRS classes: Class 1 requires the most credit points and gives the greatest premium discount; Class 10 identifies a community that does not apply for the CRS or does not obtain a minimum number of credit points and receives no discount. There are 18 activities recognized as measures for eliminating exposure to floods. Credit points are assigned to each activity. The activities are organized under 4 main categories:

- Public Information
- Mapping and Regulation
- Flood Damage Reduction
- Flood Preparedness

Premium discounts ranging from 5% to a maximum of 45% are applied to eligible policies written in a community as recognition of the floodplain management activities instituted.

All CRS communities must maintain completed FEMA elevation and floodproofing certificates for all new and substantially improved construction in the Special Flood Hazard Area (SFHA) after the date of application for CRS classification. These certificates must be available upon request. Therefore, in writing a policy, an agent/producer should be able to get these certificates from any CRS community. In addition, some CRS communities receive credit for having completed certificates for Post-Flood Insurance Rate Map (FIRM) buildings constructed prior to the CRS application date. If they do receive this credit, these certificates should also be available to agents/producers writing flood insurance.

According to the April 2018 NFIP Flood Insurance Manual, there are no CRS communities amongst the Hazard Mitigation Action Plan participants in Parker County.

The following table describes NFIP compliance within the participating jurisdictions.

NFIP Topic	Source of Information
How many structures are exposed to flood risk within the community?	Community Floodplain Administrator (FPA)
Aledo- There are approximately 17 residential structures located within the 100-year floodplain. There is one critical facility (WWTP, Wastewater Treatment Plant) within the 100-year floodplain. Several of the structures have a minimum finish floor elevation. The WWTP was designed to discharge during the 100-year flood.	
Hudson Oaks- Data unknown.	
Springtown- Data unknown.	
Weatherford- 489 structures located with Zone A or AE SFHA including 405 around Lake Weatherford.	
Willow Park- At least 4 structures are in the 100-year floodplain, 2 of those being nursing homes.	

Parker County Unincorporated- 629 (number based on total floodplain development permits)	
Describe any areas of flood risk with limited NFIP policy coverage	Community FPA and FEMA Insurance Specialist
Aledo- Data unavailable.	
Hudson Oaks- Data unknown.	
Springtown- Data unknown.	
Weatherford- Data unavailable.	
Willow Park- Data unavailable.	
Parker County Unincorporated- Older structures in Horseshoe Bend.	
NFIP Topic	**Source of Information**
Is the Community FPA or NFIP Coordinator certified?	Community FPA
Aledo- Yes	
Hudson Oaks- No	
Springtown- Yes	
Weatherford- No	
Willow Park- No	
Parker County Unincorporated- Yes	
Is floodplain management an auxiliary function?	Community FPA
Aledo- Yes	
Hudson Oaks- No	
Springtown- Yes	
Weatherford- Yes	
Willow Park- No	
Parker County Unincorporated- Yes	
Provide an explanation of NFIP administration services (e.g. permit review, GIS, education or outreach, inspections, engineering capability)	Community FPA
Aledo- The community's role in administering the NFIP is of paramount importance. The community enacts and implements the floodplain regulations required for participation in the NFIP. The community's measures must meet regulations set by the state, as well as NFIP criteria. As a NFIP participant, the community commits itself to: • Issuing or denying floodplain development/building permits. • Inspecting all development to assure compliance with the local ordinance. • Maintaining records of floodplain development. • Assisting in the preparation and revision of floodplain maps. • Helping residents obtain information on flood hazards, floodplain map data, flood insurance, and proper construction measures.	
Hudson Oaks- Data unknown.	
Springtown- Permit Review; Engineering Plan Review	
Weatherford- Permit review, GIS, and engineering capabilities.	
Willow Park- There are no services available.	
Parker County Unincorporated- Permit review, public education, and subdivision review.	

What are the barriers to running an effective NFIP program in the community, if any?	Community FPA
Aledo- Lack of staff; budget constraints; and ensuring that all permit records are well kept, organized, and complete.	
Hudson Oaks- Data unknown.	
Springtown- Funding sources available for personnel.	
Weatherford- Outdated flood studies and maps.	
Willow Park- N/A	
Parker County Unincorporated- There is only one staff member to enforce the programs across the county.	
NFIP Topic	**Source of Information**
Is the community in good standing with the NFIP?	State NFIP Coordinator, FEMA NFIP Specialist, community records
Aledo- Yes	
Hudson Oaks- Yes	
Springtown- Yes	
Weatherford- Yes	
Willow Park- Yes	
Parker County Unincorporated- Yes	
Are there any outstanding compliance issues (i.e. current violations)?	State NFIP Coordinator, FEMA NFIP Specialist, community records
Aledo- No	
Hudson Oaks- No	
Springtown- No	
Weatherford- No	
Willow Park- No	
Parker County Unincorporated- No	
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	State NFIP Coordinator, FEMA NFIP Specialist, community records
Aledo- Data unavailable.	
Hudson Oaks- Data unavailable.	
Springtown- Data unavailable.	
Weatherford- 2014	
Willow Park- Data unavailable.	
Parker County Unincorporated- February 2019	
Is a CAV or CAC scheduled or needed?	State NFIP Coordinator, FEMA NFIP Specialist, community records
Aledo- No	
Hudson Oaks- No	
Springtown- Yes	
Weatherford- No	
Willow Park- Yes	
Parker County Unincorporated- No	

When did the community enter the NFIP?	Community Status Book (Reg-Emer Date) https://www.fema.gov/national-flood-insurance-program-community-status-book
Aledo- 1/29/97; Flood Damage Prevention Ordinance adopted in November 21, 1996.	
Hudson Oaks- 09/18/09	
Springtown- 12/18/85	
Weatherford- 08/05/86	
Willow Park- 03/18/87	
Parker County Unincorporated- 09/27/91	
Are the FIRMs digital or paper?	Community FPA
Aledo- Paper	
Hudson Oaks- Digital	
Springtown- Digital	
Weatherford- Both	
Willow Park- Digital	
Parker County Unincorporated- Both	
Do floodplain development regulations meet or exceed FEMA or state minimum requirements? If so, in what ways?	Community FPA
Aledo- Yes: Flood Damage Prevention Ordinance meets all minimum state requirements and exceeds the freeboard requirement.	
Hudson Oaks- Yes	
Springtown- Yes	
Weatherford- Yes: Finished floors must be higher than two-feet above Base Flood Elevation (BFE)	
Willow Park- Unknown.	
Parker County Unincorporated- Exceed: 2-foot board above BFE (instead of 1-foot)	
Provide an explanation of the permitting process.	Community FPA, State, FEMA NFIP
Aledo- Flood Damage Prevention Ordinance, Sec. 30-41 – Permit Procedures	
Hudson Oaks- Permits are submitted and reviewed using the 2015 Unified Building Code standards.	
Springtown- Ordinance in effect for floodplain areas; Engineering Plan Review; H&H required	
Weatherford- Applicant submits plans to Permitting office. Staff reviews permits documents for compliance with City and FEMA requirements and offers comments/approval as necessary.	
Willow Park- N/A	
Parker County Unincorporated- Application, approval/denial, elevation/floodproofing certificated turned in, and inspection.	

3.4.7 Greatest Vulnerabilities

Below is a list of the participating jurisdictions greatest vulnerabilities in relation to natural hazards.

Aledo	• A major disaster in our community would quickly overwhelm local resources. • The wastewater facility is located within the 100-year floodplain. • There is a railroad that runs through part of the city and should a derailment happen it would potentially impact business and residents.

	• Thunderstorms could damage our communications and utility infrastructure due to the lack of lightning prediction and protection devices such as lightning arrestors and lightning rods to protect the communications and utility infrastructure. • Due to the recent growth and development within the city, more impervious surfaces have been added throughout Aledo resulting in increased runoff and potential threat of flooding. The Bailey Ranch encompasses a large portion of Aledo, north of the Union Pacific Railroad, as shown in Exhibit 1, Location Map in Appendix A. While a portion of the Bailey Ranch has been developed by the Aledo Independent School District (A.I.S.D.), the Parks of Aledo residential subdivision, and other developments, a large portion of the ranch remains undeveloped. Development within the Bailey Ranch basin has resulted in the construction of a regional detention facility to receive the stormwater from the surge of growth experienced in that area. • There are no known active geological faults within Aledo and there is no historical data of earthquakes in the City of Aledo. However, due to recent increase in earthquakes in the county and the lack of data, a data deficiency has been noted for this hazard. This hazard will need to be researched and studied in order to obtain data to address mitigation strategies and activities. • The likelihood of a wildfire occurring or burning into an area within our community is moderate to high. A wildfire vulnerability assessment, using the Texas Wildfire Risk Assessment Tool (TxWRAP) developed by the Texas A&M Forest Service, revealed that the wildfire threat for the City of Aledo ranges from Moderate to High.
Hudson Oaks	• The commercial corridor north of Interstate 20 (I-20), residential section of the city south of I-20, police station, and city hall are vulnerable to all the weather hazards that impact the community.
Springtown	• In the case of a natural disaster the city is vulnerable in the loss of power. The police department and fire department have backup generators. City hall, the court, and public works do not. If the power was out, there would be no electricity in those buildings. The phones for the city and city email are reliant on power to city hall. The water plant and wastewater plant are also reliant on power. • City buildings are vulnerable to tornadoes due to their age and construction. The servers in the police department and city hall could be destroyed, losing data and disabling phones and email. The city hall has city records that could be lost. The police department has records that could be lost. All functions of the city may struggle with continuity of services and recovery if the police department, fire department, public works, or city hall are damaged or destroyed. • Several locations in the city are vulnerable to flooding. Main Street, East Highway 199, Lake Street, and Pojo Road may become impassable, cutting

	off response to certain areas of the city for first responders. Floating debris could damage water and gas lines that cross the creeks. • Citizens are vulnerable to approaching incidents because there is no siren system. The city does use Blackboard Connect to notify citizens who are on the water bill and who sign up for the service; however, there are not many people on the system right now.
Weatherford	• The electrical distribution system and roadways are vulnerable to all hazards and their loss could greatly impact emergency response at critical times.
Willow Park	• A major disaster in the community would quickly overwhelm local resources. • Communication systems would be overwhelmed during a major disaster. • Tornadoes have caused severe damage in the past, and the city has not retrofitted a majority of the critical facilities to withstand this hazard. • There is a large geriatric population that lives in nursing facilities that may not receive advanced warnings. • There are multiple outdoor venues that are susceptible to various weather conditions and are left unprotected from quickly approaching storms. • The city Infrastructure is aging and is not prepared for impacts or stresses due to adverse weather. • The extremely high volume of traffic that travels along the Interstate 20 corridor could be impacted by the various weather conditions.
Parker County Unincorporated	• Flooding in and along the Brazos River, especially in Horseshoe Bend, impacts many people and damages residences. Repetitive loss properties; no money for buy-outs. • Flooding at low water crossings prevent ingress and egress with cascading consequences on life safety and property losses. • Drought has significant economic and financial impacts on crops and roadways. • Thunderstorms knock out critical communications towers and power grids putting life safety at risk.

3.5 Historical Events

This section shows historical events and damage for the following natural hazards in Parker County since the 2015 HazMAP:

- Drought
- Earthquakes
- Expansive Soils
- Extreme Heat
- Flooding (including dam failure)
- Thunderstorms (including hail, wind, and lightning)

- Tornadoes
- Wildfires
- Winter Storms

Weather Events

The following tables identify the weather events (drought, extreme heat, flooding, thunderstorms, tornadoes, and winter storms), captured by the National Weather Service (NWS), that have occurred from 2012-2018 in the participating jurisdictions or the Parker County Zone. Damages are recorded in $US. The National Centers for Environmental Information (NCEI) receives storm data from the NWS. The NWS receives their information from a variety of sources, which include but are not limited to: county, state and federal emergency management officials, local law enforcement officials, SkyWarn spotters, NWS damage surveys, newspaper clipping services, the insurance industry, and the general public, among others. NWS Storm Data are geographically categorized by county or by NWS Forecast Zone. More localized events such as a tornado, thunderstorm winds, flash floods and hail are categorized using the Parker Co. (County) designation. More widespread events that can impact the entire county equally, such as heat, cold, drought, flood, and winter weather, are categorized using the Parker (Zone). **There have been no NWS reports of extreme heat or flooding within the participating jurisdictions.** Flooding and flash flooding have been reported by NWS in neighboring jurisdictions within Parker County, causing $328,000 in property damage, but there have been no NWS reports within the participating jurisdictions. **Although flooding has not been recorded by the National Weather Service, vast areas of Parker County and participating jurisdictions experience flooding on an annual basis.**

Column definitions for all weather tables:
'Mag': Magnitude, 'Dth': Deaths, 'Inj': Injuries, 'PrD': Property Damage ($), 'CrD': Crop Damage ($)

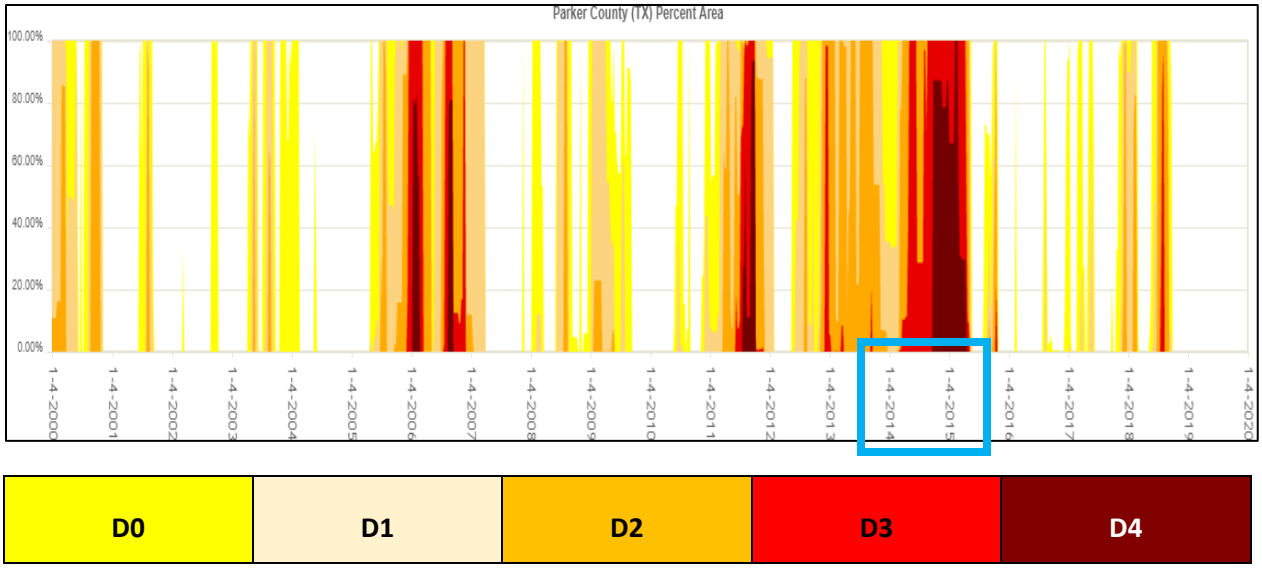
Drought

Location	County/Zone	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
PARKER (ZONE)	PARKER (ZONE)	08/07/2012	00:00	Drought		0	0	0.00K	0.00K
PARKER (ZONE)	PARKER (ZONE)	11/20/2012	00:00	Drought		0	0	0.00K	2.00K
PARKER (ZONE)	PARKER (ZONE)	12/01/2012	00:00	Drought		0	0	0.00K	2.00K
PARKER (ZONE)	PARKER (ZONE)	01/01/2013	00:00	Drought		0	0	0.00K	2.00K
PARKER (ZONE)	PARKER (ZONE)	02/01/2013	00:00	Drought		0	0	0.00K	2.00K
PARKER (ZONE)	PARKER (ZONE)	03/01/2013	00:00	Drought		0	0	2.00K	0.00K
PARKER (ZONE)	PARKER (ZONE)	04/01/2013	00:00	Drought		0	0	0.00K	3.00K
PARKER (ZONE)	PARKER (ZONE)	05/01/2013	00:00	Drought		0	0	0.00K	5.00K
PARKER (ZONE)	PARKER (ZONE)	05/01/2013	00:00	Drought		0	0	0.00K	5.00K
PARKER (ZONE)	PARKER (ZONE)	06/01/2013	00:00	Drought		0	0	0.00K	2.00K
PARKER (ZONE)	PARKER (ZONE)	07/09/2013	00:00	Drought		0	0	0.00K	1.00K
PARKER (ZONE)	PARKER (ZONE)	08/01/2013	00:00	Drought		0	0	0.00K	3.00K
PARKER (ZONE)	PARKER (ZONE)	09/01/2013	00:00	Drought		0	0	0.00K	3.00K

Drought									
Location	County/Zone	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
PARKER (ZONE)	PARKER (ZONE)	10/01/2013	00:00	Drought		0	0	0.00K	2.00K
PARKER (ZONE)	PARKER (ZONE)	11/01/2013	00:00	Drought		0	0	0.00K	2.00K
PARKER (ZONE)	PARKER (ZONE)	03/11/2014	00:00	Drought		0	0	0.00K	3.00K
PARKER (ZONE)	PARKER (ZONE)	04/01/2014	00:00	Drought		0	0	0.00K	3.00K
PARKER (ZONE)	PARKER (ZONE)	05/01/2014	00:00	Drought		0	0	0.00K	3.00K
PARKER (ZONE)	PARKER (ZONE)	06/01/2014	00:00	Drought		0	0	0.00K	2.00K
PARKER (ZONE)	PARKER (ZONE)	07/01/2014	00:00	Drought		0	0	0.00K	5.00K
PARKER (ZONE)	PARKER (ZONE)	08/01/2014	00:00	Drought		0	0	0.00K	3.00K
PARKER (ZONE)	PARKER (ZONE)	09/01/2014	00:00	Drought		0	0	7.00K	0.00K
PARKER (ZONE)	PARKER (ZONE)	10/01/2014	00:00	Drought		0	0	0.00K	5.00K
PARKER (ZONE)	PARKER (ZONE)	11/01/2014	00:00	Drought		0	0	0.00K	3.00K
PARKER (ZONE)	PARKER (ZONE)	12/01/2014	00:00	Drought		0	0	0.00K	10.00K
PARKER (ZONE)	PARKER (ZONE)	01/01/2015	00:00	Drought		0	0	0.00K	3.00K
PARKER (ZONE)	PARKER (ZONE)	02/01/2015	00:00	Drought		0	0	0.00K	2.00K
PARKER (ZONE)	PARKER (ZONE)	03/01/2015	00:00	Drought		0	0	0.00K	5.00K
PARKER (ZONE)	PARKER (ZONE)	04/01/2015	00:00	Drought		0	0	0.00K	3.00K
PARKER (ZONE)	PARKER (ZONE)	10/01/2015	00:00	Drought		0	0	2.00K	0.00K
PARKER (ZONE)	PARKER (ZONE)	12/01/2017	00:00	Drought		0	0	0.00K	1.00K
PARKER (ZONE)	PARKER (ZONE)	02/01/2018	00:00	Drought		0	0	0.00K	0.00K
PARKER (ZONE)	PARKER (ZONE)	07/01/2018	00:00	Drought		0	0	0.00K	5.00K
PARKER (ZONE)	PARKER (ZONE)	08/01/2018	00:00	Drought		0	0	0.00K	2.00K
PARKER (ZONE)	PARKER (ZONE)	09/01/2018	00:00	Drought		0	0	0.00K	0.00K
PARKER (ZONE)	PARKER (ZONE)	10/01/2019	00:00	Drought		0	0	0.00K	0.00K
Totals:						0	0	11.00K	92.00K

Source: NOAA National Centers for Environmental Information

Farmers in Parker County have experienced damage to peach, hay, watermelon, and pecan crops, creating a critical economic impact. The value of cattle decreased dramatically due to low cattle weight caused by drought impact on feed lots. Cattle had to be shipped to Oklahoma and farmers had to buy hay to feed cattle instead of growing it themselves. Water levels are a critical concern during this time. The following chart reflects the annual changes in drought conditions.



Source: United States Drought Monitor.

As shown in the Percent Area graph above, the time period from 2014-2015 had the greatest severity and longest time period of D3-D4 drought conditions. Besides major crop damage, these extreme drought conditions have the potential to put Parker County in extreme fire danger and could cause widespread water shortage and restrictions, creating a water emergency.

Thunderstorm

Location	County/Zone	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
ALEDO	PARKER CO.	08/08/2012	18:13	Thunderstorm Wind	52 kts. EG	0	0	0.00K	0.00K
ALEDO	PARKER CO.	08/06/2017	17:45	Thunderstorm Wind	56 kts. EG	0	0	0.00K	0.00K
ALEDO	PARKER CO.	08/06/2017	17:48	Thunderstorm Wind	55 kts. EG	0	0	5.00K	0.00K
ALEDO	PARKER CO.	04/03/2012	12:05	Hail	1.00 in.	0	0	1.00K	0.00K
ALEDO	PARKER CO.	08/08/2012	18:13	Hail	0.88 in.	0	0	0.00K	0.00K
ALEDO	PARKER CO.	08/08/2012	18:20	Hail	1.00 in.	0	0	0.00K	0.00K
ALEDO	PARKER CO.	05/27/2015	18:12	Hail	0.75 in.	0	0	0.00K	0.00K
ALEDO	PARKER CO.	03/17/2016	03:00	Hail	1.00 in.	0	0	1.00K	0.00K
ALEDO	PARKER CO.	03/23/2016	21:05	Hail	1.00 in.	0	0	0.00K	0.00K
ALEDO	PARKER CO.	04/21/2017	20:00	Hail	1.00 in.	0	0	5.00K	0.00K
ALEDO	PARKER CO.	04/23/2019	20:12	Hail	1.00 in.	0	0	0.00K	0.00K
ALEDO	PARKER CO.	04/28/2020	23:43	Hail	1.25 in.	0	0	0.00K	0.00K
ALEDO	PARKER CO.	05/07/2020	21:30	Hail	1.00 in.	0	0	0.00K	0.00K

Thunderstorm									
Location	County/Zone	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
SPRINGTOWN	PARKER CO.	05/29/2012	22:00	Thunderstorm Wind	52 kts. EG	0	0	3.00K	0.00K
SPRINGTOWN	PARKER CO.	07/20/2012	16:35	Thunderstorm Wind	56 kts. MG	0	0	0.00K	0.00K
SPRINGTOWN	PARKER CO.	05/12/2014	12:44	Hail	0.75 in.	0	0	0.00K	0.00K
SPRINGTOWN	PARKER CO.	04/06/2018	16:24	Hail	0.88 in.	0	0	0.00K	0.00K
SPRINGTOWN	PARKER CO	10/20/2019	18:12	Hail	1.50 in.	0	0	1.00K	0.00K
SPRINGTOWN	PARKER CO.	10/20/2019	18:18	Hail	2.00 in.	0	0	50.00K	0.00k
SPRINGTOWN	PARKER CO.	10/20/2019	18:30	Hail	1.75 in.	0	0	10.00K	0.00k
SPRINGTOWN	PARKER CO.	03/09/2016	18:00	Heavy Rain		0	0	18.00K	0.00K
WEATHERFORD	PARKER CO.	05/28/2012	21:00	Thunderstorm Wind	50 kts. EG	0	0	3.00K	0.00K
WEATHERFORD	PARKER CO.	05/30/2012	04:37	Thunderstorm Wind	52 kts. EG	0	0	2.00K	0.00K
WEATHERFORD	PARKER CO.	02/10/2013	01:48	Thunderstorm Wind	52 kts. EG	0	0	3.00K	0.00K
WEATHERFORD	PARKER CO.	05/27/2014	16:00	Thunderstorm Wind	56 kts. EG	0	0	15.00K	0.00K
WEATHERFORD	PARKER CO.	03/30/2016	15:07	Thunderstorm Wind	52 kts. EG	0	0	2.00K	0.00K
WEATHERFORD	PARKER CO.	04/20/2016	00:35	Thunderstorm Wind	52 kts. EG	0	0	40.00K	0.00K
WEATHERFORD	PARKER CO.	05/10/2016	17:42	Thunderstorm Wind	56 kts. EG	0	0	0.00K	0.00K
WEATHERFORD	PARKER CO.	07/04/2016	22:28	Thunderstorm Wind	60 kts. EG	0	0	0.00K	0.00K
WEATHERFORD	PARKER CO.	08/06/2017	18:44	Thunderstorm Wind	55 kts. EG	0	0	5.00K	0.00K
WEATHERFORD	PARKER CO.	05/03/2018	08:48	Thunderstorm Wind	43 kts. EG	0	0	0.50K	0.00K
WEATHERFORD	PARKER CO.	05/04/2012	18:15	Hail	1.00 in.	0	0	0.00K	0.00K
WEATHERFORD	PARKER CO.	05/30/2012	04:35	Hail	1.00 in.	0	0	0.00K	0.00K
WEATHERFORD	PARKER CO.	05/15/2013	18:06	Hail	1.75 in.	0	0	2.00K	0.00K

Thunderstorm

Location	County/Zone	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
WEATHERFORD	PARKER CO.	05/15/2013	18:35	Hail	1.75 in.	0	0	10.00K	5.00K
WEATHERFORD	PARKER CO.	05/12/2014	12:50	Hail	0.75 in.	0	0	0.00K	0.00K
WEATHERFORD	PARKER CO.	05/12/2014	13:00	Hail	0.88 in.	0	0	0.00K	0.00K
WEATHERFORD	PARKER CO.	04/01/2015	18:18	Hail	1.00 in.	0	0	0.00K	0.00K
WEATHERFORD	PARKER CO.	03/23/2016	20:15	Hail	0.88 in.	0	0	0.00K	0.00K
WEATHERFORD	PARKER CO.	03/23/2016	20:40	Hail	1.00 in.	0	0	0.00K	0.00K
WEATHERFORD	PARKER CO.	03/30/2016	14:45	Hail	1.00 in.	0	0	0.00K	0.00K
WEATHERFORD	PARKER CO.	03/30/2016	14:45	Hail	0.88 in.	0	0	0.00K	0.00K
WEATHERFORD	PARKER CO.	03/30/2016	15:07	Hail	0.75 in.	0	0	0.00K	0.00K
WEATHERFORD	PARKER CO.	05/10/2016	17:44	Hail	0.88 in.	0	0	0.00K	0.00K
WEATHERFORD	PARKER CO.	05/10/2016	17:44	Hail	0.88 in.	0	0	0.00K	0.00K
WEATHERFORD	PARKER CO.	05/10/2016	17:45	Hail	1.00 in.	0	0	0.00K	0.00K
WEATHERFORD	PARKER CO.	05/10/2016	17:50	Hail	1.50 in.	0	0	0.00K	0.00K
WEATHERFORD	PARKER CO.	05/07/2020	21:11	Hail	1.00 in.	0	0	0.00K	0.00K
WEATHERFORD	PARKER CO.	05/07/2020	21:13	Hail	1.00 in.	0	0	0.00K	0.00K
Totals:						0	0	1.176.5M	5.00K

In.: Inch

Kts.: knots

EG: Estimated Gusts

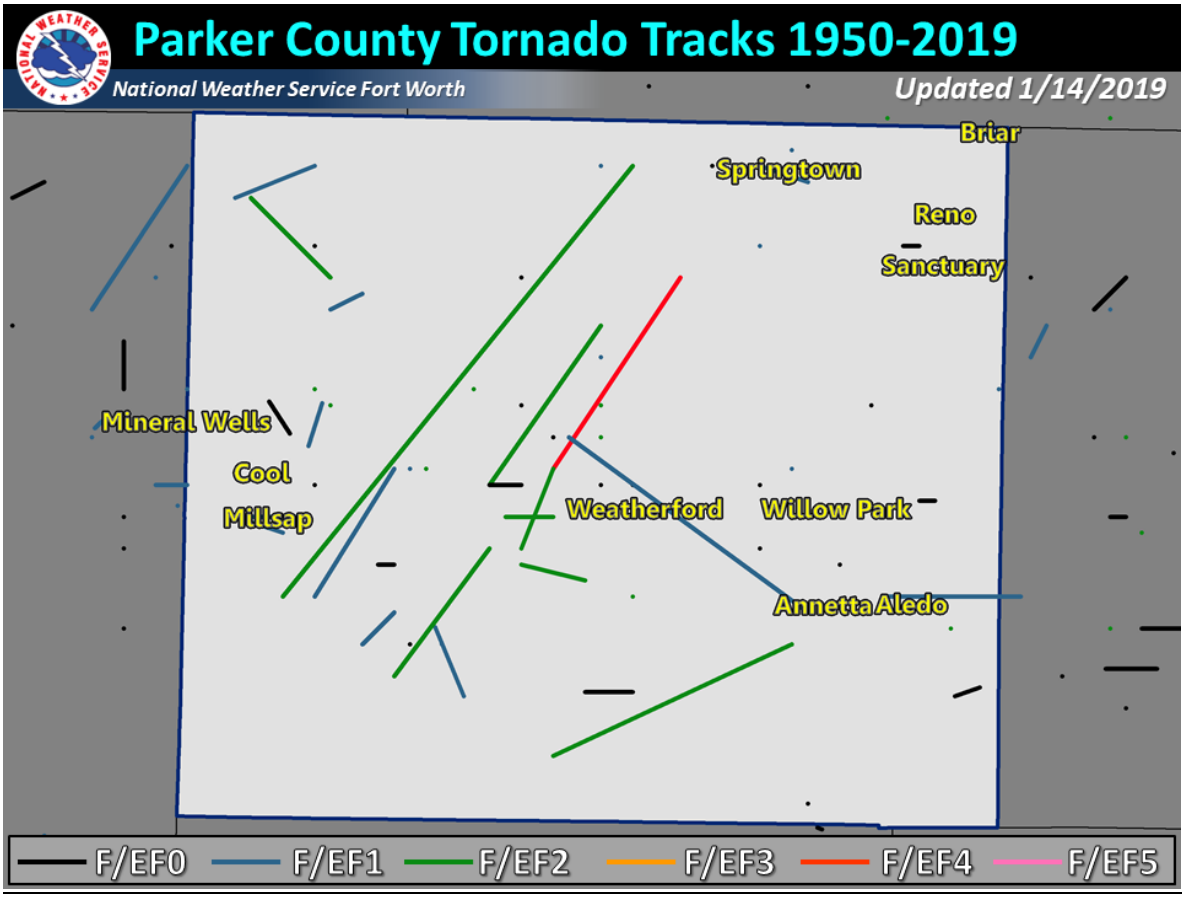
Source: NOAA National Centers for Environmental Information

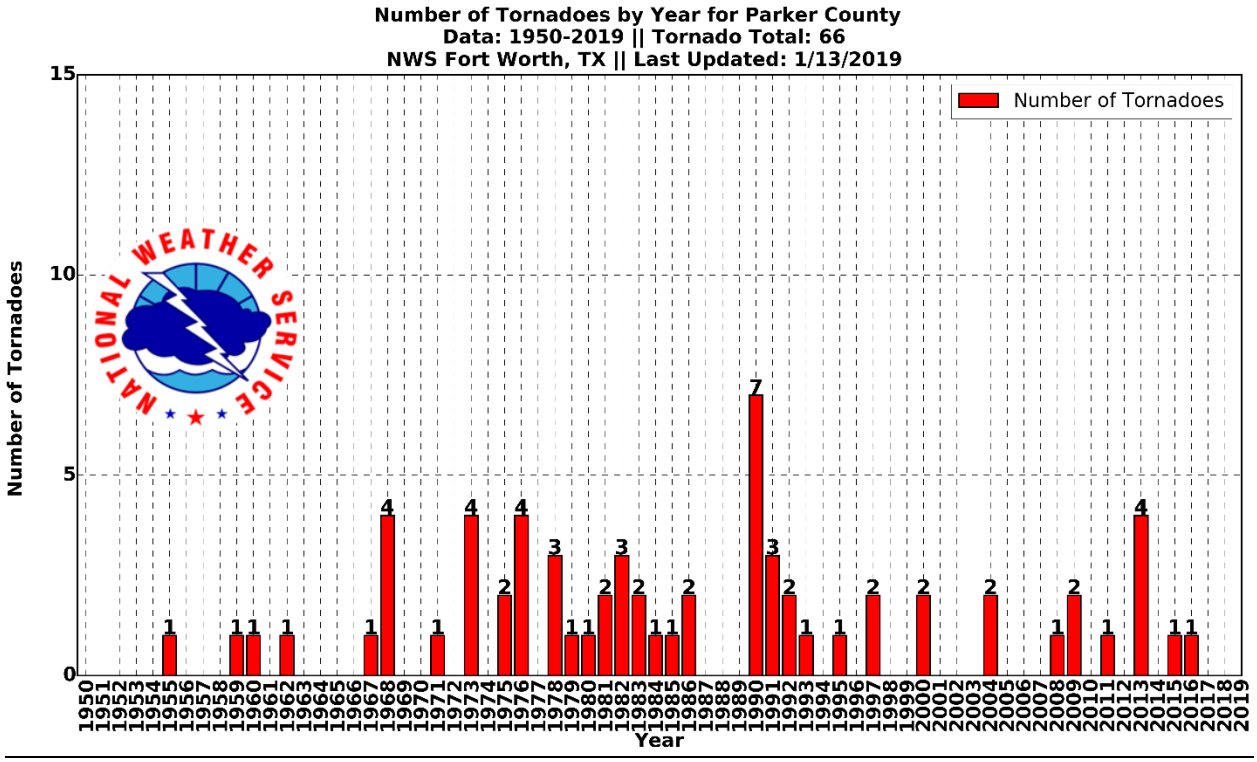
Property was damaged by wind and hail. The most costly, single incident resulted from thunderstorm wind, when a tree limb fell on an apartment complex in Weatherford. The limb damaged the roof, causing an evacuation of 14 residents from the complex. The apartment also suffered water damage as a result. In 2016 lightning struck the Springtown water tower antenna and disabled police communications.

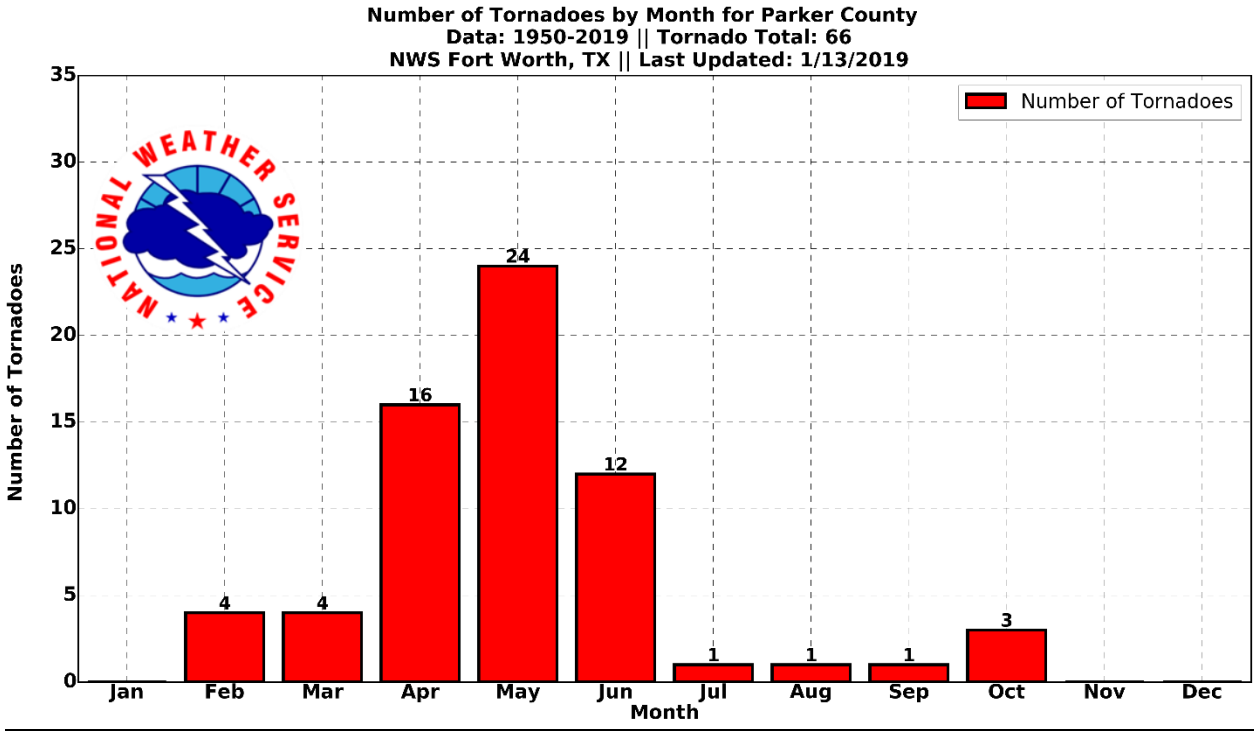
Tornado

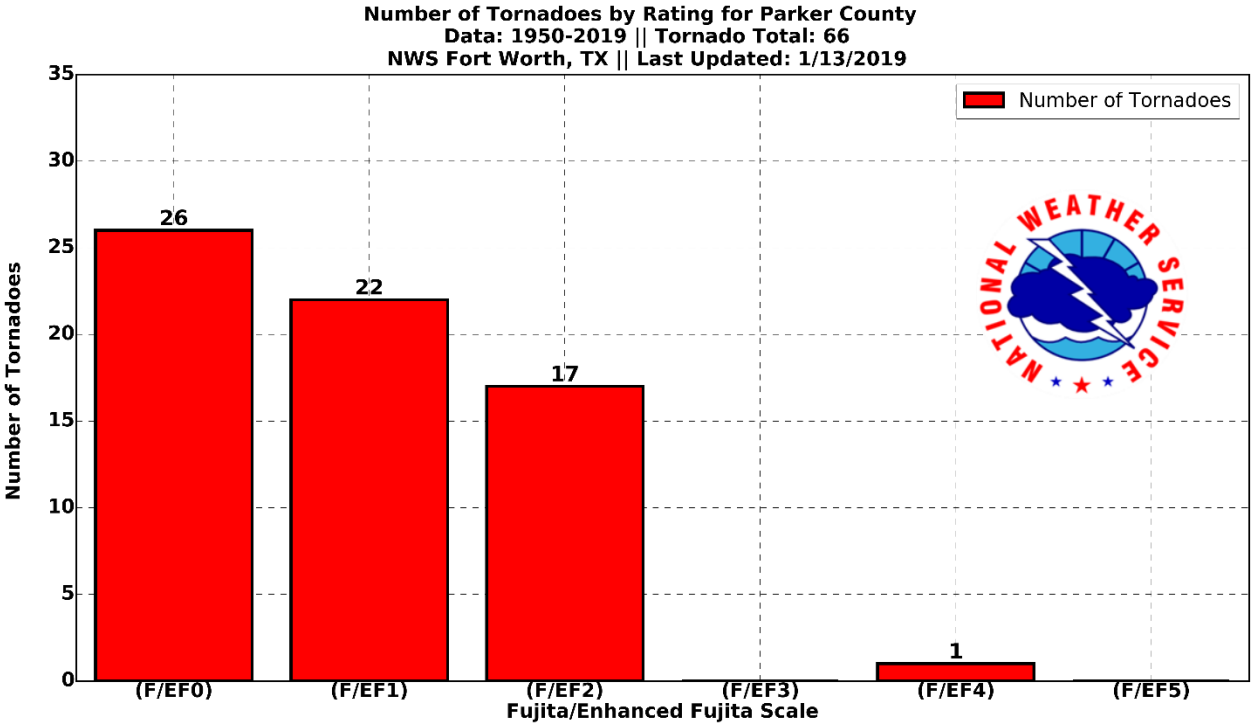
Location	County/Zone	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
ALEDO	PARKER CO.	05/15/2013	19:05	Tornado	EF0	0	0	20.00K	0.00K
ALEDO	PARKER CO.	04/24/2015	17:13	Tornado	EF0	0	0	1.00K	0.00K
Totals:						0	0	21.00K	0.00K

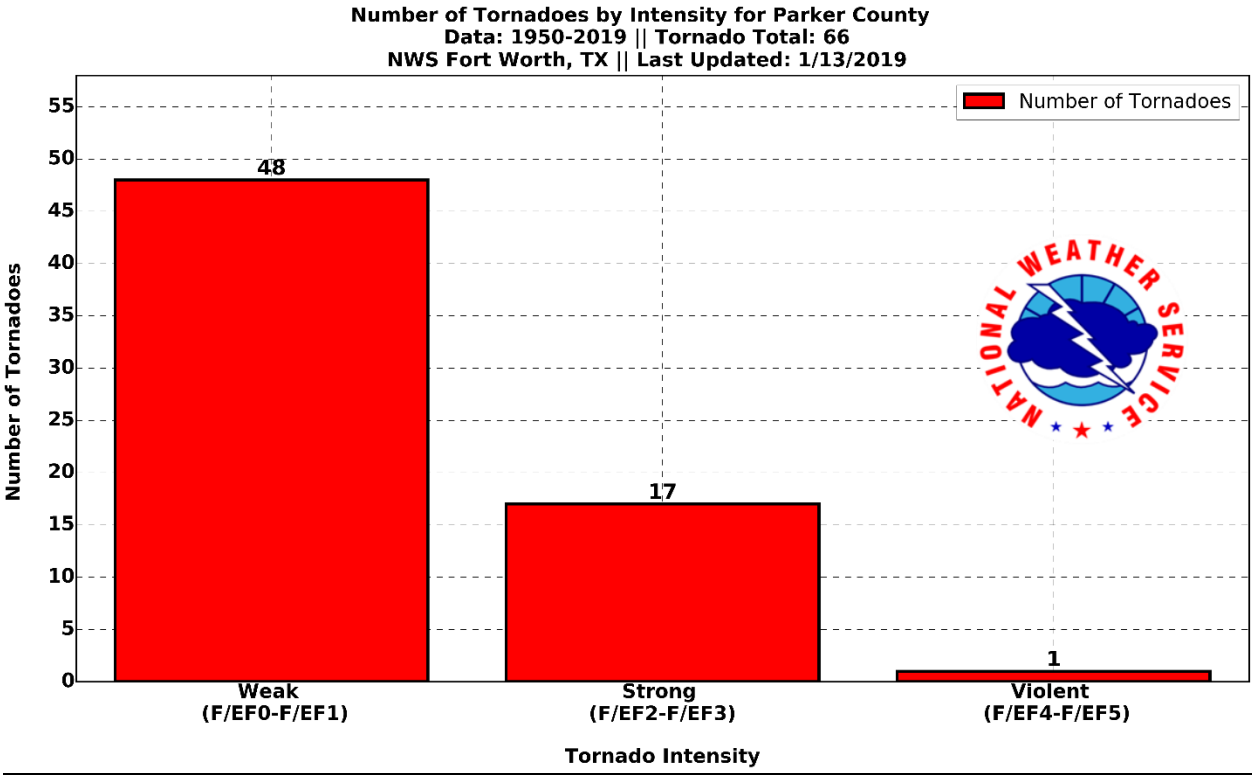
Property damage included damage to trees, power lines, and a few homes. The following map and charts are from the National Weather Service (NWS) Fort Worth Parker County Climatology Page, 1950-2019. They reflect historical data related to tornadoes in Parker County.




Number of Tornadoes by Year for Parker County
Data: 1950-2019 || Tornado Total: 66
NWS Fort Worth, TX || Last Updated: 1/13/2019
Number of Tornadoes
Year


Number of Tornadoes by Month for Parker County
Data: 1950-2019 || Tornado Total: 66
NWS Fort Worth, TX || Last Updated: 1/13/2019
Number of Tornadoes
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month


Number of Tornadoes by Rating for Parker County
Data: 1950-2019 || Tornado Total: 66
NWS Fort Worth, TX || Last Updated: 1/13/2019
Number of Tornadoes
Number of Tornadoes
26
22
17
1
0
5
10
15
20
25
30
35
(F/EF0)
(F/EF1)
(F/EF2)
(F/EF3)
(F/EF4)
(F/EF5)
Fujita/Enhanced Fujita Scale


Number of Tornadoes by Intensity for Parker County
Data: 1950-2019 || Tornado Total: 66
NWS Fort Worth, TX || Last Updated: 1/13/2019
Number of Tornadoes
Number of Tornadoes
48
17
1
0
5
10
15
20
25
30
35
40
45
50
55
Weak
(F/EF0-F/EF1)
Strong
(F/EF2-F/EF3)
Violent
(F/EF4-F/EF5)
Tornado Intensity

Winter Storm									
Location	County/Zone	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
PARKER (ZONE)	PARKER (ZONE)	03/04/2015	20:00	Ice Storm		0	0	20.00K	0.00K
PARKER (ZONE)	PARKER (ZONE)	02/21/2018	11:00	Ice Storm		0	0	0.00K	0.00K
PARKER (ZONE)	PARKER (ZONE)	02/27/2015	06:45	Heavy Snow		0	0	20.00K	0.00K
Totals:						0	0	40.00K	0.00K

Source: NOAA National Centers for Environmental Information

The following article highlights the severe impacts of winter weather in North Central Texas and Parker County. Although this article describes a 2013 storm, it also describes what Parker County could experience again.

National Weather Service: North Texas Snowfall Events

December 5-6, 2013

A winter storm affected much of North and Central Texas for an extended period from December 5th through the 10th. A combination of freezing rain, sleet, and a little snow began falling during the day on the 5th and continued through the morning hours of the 6th. As the ice and sleet settled on the 6th, a thick layer of ice paralyzed most of the area north of a line from Goldthwaite to Cleburne to Ennis to Sulphur Springs. In this area, accumulations of sleet and ice measured up to 5" with the highest amounts from Denton to Sherman to Bonham.

NBC 5 News captured "cobblestone ice" on North Texas roads

Temperatures remained below freezing until the 9th and 10th resulting in a prolonged winter event. Most residents were forced to remain at home for several days. A new term, coined "cobblestone ice," was used to describe the condition of the ice on the interstates and highways due to the compaction of ice and sleet.

South of this area, lighter amounts of icing occurred producing mainly icy bridges, overpasses, and elevated surfaces. As a result of the ice storm, significant tree damage occurred with thousands of tree branches falling under the weight of the ice. Power lines were also brought down, and at the peak of the storm, 275,000 customers were without power in the North Texas region. Most schools, especially in the hardest hit areas, were closed for several days. Some businesses were forced to close for a day or two also. Hundreds of injuries were reported due to falls on the ice but exact numbers were not available. Seven fatalities occurred during this event; 4 in vehicles, 2 from exposure, and 1 from a fall on the ice. Early estimates from the insurance council estimated $30 million in residential insured loses. The estimate did not include damage to vehicles or roads. Many roads and bridges were damaged from the ice and/or from attempts by Texas Department of Transportation to remove the ice using plows and graders. Hundreds of people and semi-trucks were stranded for long periods on many of the main highways and interstates including I-35 from Fort Worth to the Oklahoma border

and Interstate 20 from Fort Worth going west. The clean-up from this event took weeks and even a few months is some places.[16]

Though there has not been a major winter event recorded since this 2013 example, a severe winter storm happening in the next five years cannot be ruled out, as weather patterns have been evolving along with the change in climate, as mentioned earlier.

Not all events have been reported to NWS, as some participants have experienced damage from various hazard events not listed above. Based on the information in the chart above, participating jurisdictions in Parker County can expect a similar occurrence of events and level of damage over the next five years.

Geographic Events

The following data reflects past geographic events that have occurred within the participating jurisdictions. **According to the best information available, there is no history of dam failure in Parker County and the participating jurisdictions. Expansive soils damage has not been formally documented, though damage has slowly occurred over time.**

Earthquake Events

The number of earthquake events in Parker County varies by source of information. A website developed and run in 2017 by the University of Texas at Austin's Bureau of Economic Geology provides the most precise near real-time information available about earthquakes across Texas. From the earthquakes recorded below, a few cracks were reported in buildings, but no major damage occurred. Based on this information, the chances of a future earthquake are low.

Date	Magnitude	Location
12-14-2017	2.1	near Aledo
10-16-2017	1.7	near Aledo
10-15-2017	1.6	near Aledo
06-21-2017	3.0	near Reno

Source: TexNet Earthquake Catalog

The following information is a dataset from the United States Geological Survey (USGS) of earthquakes greater than +2.0 magnitude in Parker County since 2012. Abbreviations under the 'Location' category represent cardinal direction.

Date and Time	Depth	Magnitude	Location
2017-06-21T22:52:05.320Z	2.89	2.8	2km SW of Reno, Texas
2014-01-28T17:54:44.300Z	5	2.5	3km NNW of Pelican Bay, Texas
2014-01-13T17:40:21.580Z	5	3.1	2km ESE of Reno, Texas
2013-12-23T13:11:34.040Z	6.39	3.3	1km S of Reno, Texas
2013-12-22T17:31:54.990Z	5	3.3	2km NE of Reno, Texas
2013-12-17T20:09:04.870Z	5	2.1	2km ENE of Reno, Texas
2013-12-15T04:54:16.010Z	5.05	2.9	4km W of Reno, Texas
2013-12-10T15:39:49.450Z	5	2.7	0km E of Azle, Texas

[16] North Texas Snowfall Events 2013-1879, National Weather Service. <https://www.weather.gov/fwd/snowevents>

Date and Time	Depth	Magnitude	Location
2013-12-08T06:10:04.010Z	4.99	3.6	3km WNW of Azle, Texas
2013-12-03T15:44:32.210Z	5	2.7	2km ESE of Reno, Texas
2013-11-26T20:03:28.540Z	2.27	2.8	4km WNW of Reno, Texas
2013-11-26T14:24:03.850Z	5	2.7	1km NW of Azle, Texas
2013-11-26T01:55:21.460Z	5	2.8	3km E of Reno, Texas
2013-11-25T07:43:02.950Z	5	3.4	4km SW of Reno, Texas
2013-11-23T09:43:32.440Z	5	2.9	3km SSW of Reno, Texas
2013-11-21T05:53:57.040Z	5	2.1	2km S of Reno, Texas
2013-11-20T00:40:34.950Z	5	3.6	1km NNW of Azle, Texas
2013-11-19T18:03:37.000Z	5	2.8	4km WNW of Azle, Texas
2013-11-19T17:57:18.940Z	5	2.5	2km W of Reno, Texas
2013-11-11T08:30:54.280Z	5	2.8	0km SSW of Briar, Texas
2013-11-09T19:54:31.820Z	5	3	5km SSE of Springtown, Texas
2013-11-09T03:34:07.100Z	5	2.3	6km W of Azle, Texas
2013-11-08T04:32:56.870Z	5	2.8	1km SE of Springtown, Texas
2013-11-06T17:05:47.700Z	5	2.6	8km S of Springtown, Texas

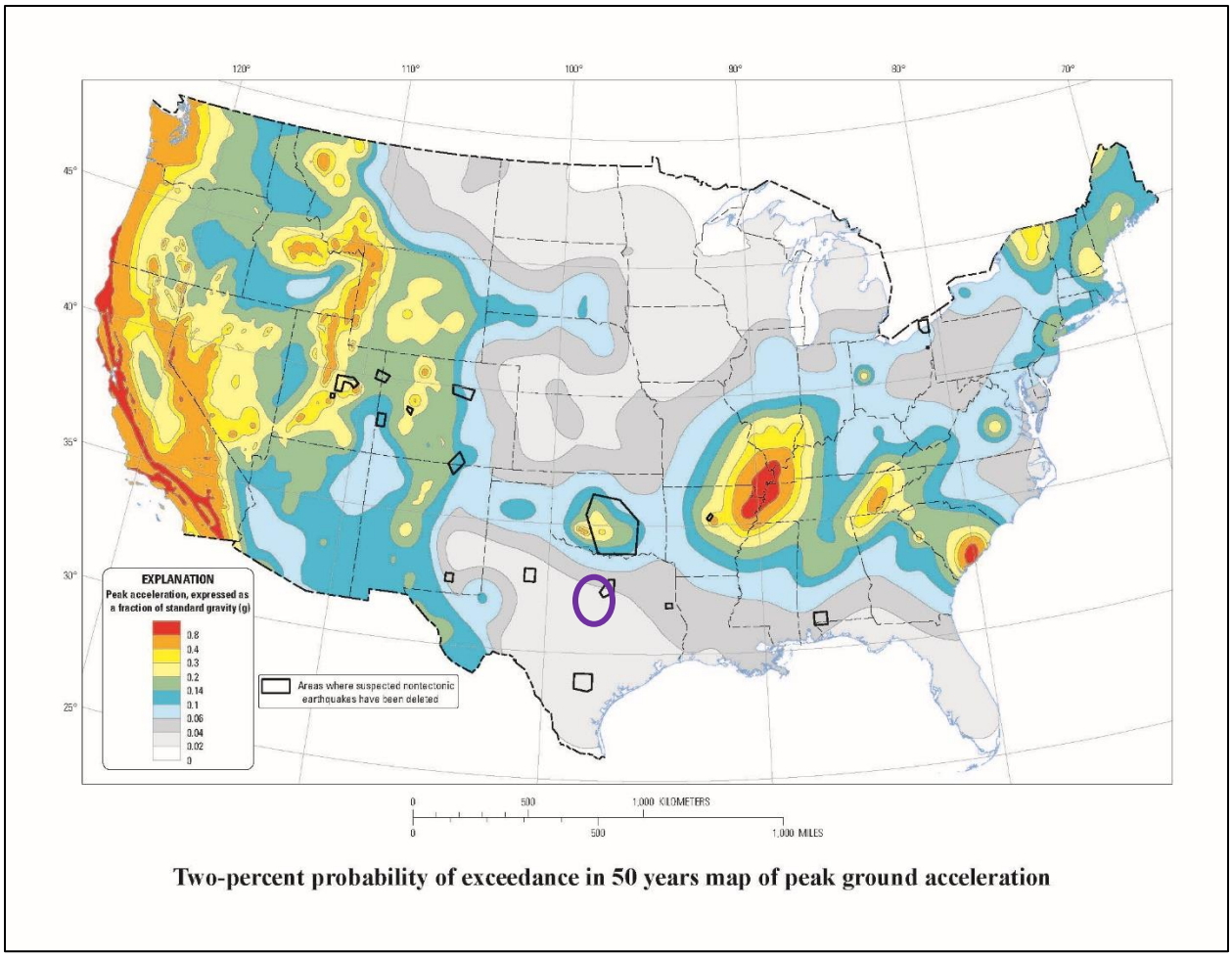
Source: USGS

The following map is a visual of the USGS dataset. The map area is of Parker County.

Source: USGS

According to the dataset, there has been 24 +2.0 magnitude earthquakes in the county since 2012, though there has been no damage reported.

Parker County has a very low risk to future earthquakes, as shown in the following map.



Two-percent probability of exceedance in 50 years map of peak ground acceleration

Source: USGS

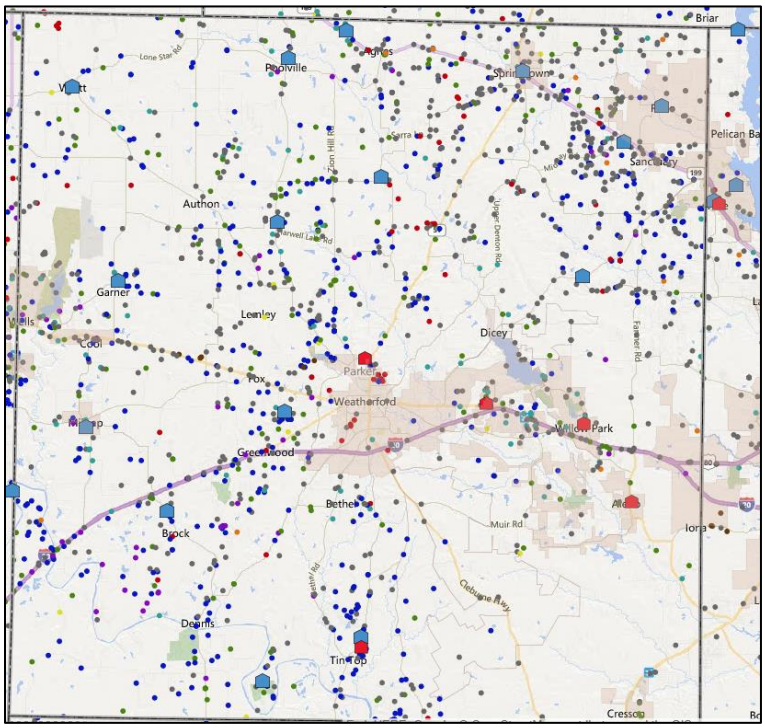
Wildfire Events

There have been two incidents of wildfire in the Springtown area since the 2015 HazMAP data collection. $350K in property damage and $50K in crop damage. Both incidents have been in large hayfields outside of the city limits. In Parker County Unincorporated, there was a fire in Walsh Ranch, where two barns, 400 round haybales, and grazing grasslands were lost. In 2018, a wildfire in Weatherford started between Bankhead Highway and Interstate 20, causing damage to croplands, sheds and homes. In 2017, a 2,300-acre grass fire occurred in Willow Park that threatened multiple homes and schools. Below is a list of wildfire damage across Parker County, according to Texas A&M Forest Service records.

Year	County	Agency	Fires	Acres
2012	Parker	Fire Departments	226	541
2013	Parker	Fire Departments	133	292
2014	Parker	Fire Departments	39	141
2015	Parker	Fire Departments	38	35
2016	Parker	TX A&M Forest Service	1	20
2016	Parker	Fire Departments	40	80

Year	County	Agency	Fires	Acres
2017	Parker	TX A&M Forest Service	1	188
2017	Parker	Fire Departments	68	203
2018	Parker	TX A&M Forest Service	8	2,392
2018	Parker	Fire Departments	74	2,909

The following Wildfire Ignitions dataset from the Texas A&M Forest Service (TFS) shows the point location of all fires in Parker County from 2005 – 2015. The date range is set by TFS. The fires are symbolized by the cause of the fire. The wildfire occurrence database was obtained from state and local fire department report data sources for the years 2005 to 2015. The local category includes fires reported via Texas A&M Forest Service online fire department reporting system. It is a voluntary reporting system that includes fires reported by both paid and volunteer fire departments since 2005. The compiled fire occurrence database was cleaned to remove duplicate records and to correct inaccurate locations. More detailed maps, per jurisdiction, are located in Appendix A.



Source: [Texas A&M Forest Service]

Wildfire Ignitions

Cause	Cause
Incendiary	Railroads
Lightning	Power Lines
Campfire	Children
Smoking	Debris Burning
Fireworks	Structure
Equipment User	Miscellaneous

3.6 Hazard Summary

Each participating jurisdiction described the location, probability of a future event, and the maximum probable extent of each hazard. The following terms were used to describe the categories:

Location: Location is the geographic area within the planning area that is affected by the hazard. The entire planning area may be uniformly affected by some hazards, such as drought or winter storm, while only portions of the planning area may be affected by geographic events, like wildfires. Planning area refers to the size of the participating jurisdiction providing the description.

- **Negligible**- Less than 10% of planning area would be impacted by a single event.
- **Limited**- 10 to 25% of planning area would be impacted by a single event.
- **Significant**- 26 to 89% of planning area would be impacted by a single event.
- **Extensive**- More than 90% of planning area would be impacted by a single event.

Probability of Future Events: This information was based on historic events and changing climate.

- **Unlikely**- Less than 1% annual probability.
- **Possible**- Between 1 and 10% annual probability.
- **Likely**- Between 10 and 100% annual probability.
- **Highly Likely**- 100% annual probability.

Level of Possible Damage: Based on historic events and future probability.

- **Minor**- Only minor property damage and minimal disruption of life. Temporary shutdown of critical facilities. Very few injuries, if any.
- **Limited**- More than 10% of property in affected area damaged/destroyed. Complete shutdown of critical facilities for more than one day. Minor injuries possible.
- **Critical**- More than 25% of property in affected area damaged/destroyed. Complete shutdown of critical facilities for more than one week. Multiple deaths/injuries.
- **Catastrophic**- More than 50% of property in affected area damaged/destroyed. Complete shutdown of critical facilities for 30 days or more. High number of deaths/injuries possible.

Maximum Probable Extent/Strength: Based on historic events and future probability.

- **Minor**- Minor classification on the scientific scale.
- **Medium**- Medium classification on the scientific scale.
- **Major**- Major classification on the scientific scale.

Extent Scale			
Hazard	**Classification**		
	Minor	**Medium**	**Major**
Drought	PDSI -1.99 to +1.99 D0	PDSI -2.00 to -2.99 D1	PDSI -3.00 to -5.00 D2-D4
Earthquake	Magnitude < 4.9	Magnitude 5.0-6.9	Magnitude > 7.0
Expansive Soils	EI Expansion Potential: 21-50 (Low) EI Expansion Potential: 0-21 (Very Low)	EI Expansion Potential: 51-90 (Medium)	EI Expansion Potential: 91-130 (High) EI Expansion Potential: >130 (Very High)

Extent Scale			
Hazard	**Classification**		
	Minor	**Medium**	**Major**
Extreme Heat	Heat Index 80F°-96F° with 40% humidity	Heat Index 97F°-104F° with 40% humidity	Heat Index >105F° with 40% humidity
Flooding	Within 100yr Flood Zone, Zone AE, A < 10 feet of water	Within 500yr Flood Zone, Zone X 10-25 feet of water	Extending Beyond 100yr and 500yr Flood Zones, Zone A, AE, X > 25 feet of water
Flooding from Dam Failure	< 20% of critical facilities in the inundation zone; Dam Storage capacity less than 10,000 acre-feet	20-50% of critical facilities in the inundation zone; Dam Storage capacity between 10,000 and 100,000 acre- feet	> 50% of critical facilities in the inundation zone; Dam Storage capacity 100,000 acre-feet or more
Thunderstorm	Hail 0”-1.6” Wind Knots <1-10 LAL: 1-2	Hail 1.6”-2.4” Wind Knots 11-27 LAL: 3-4	Hail 2.4”->4” Wind Knots 28-64+ LAL: 5-6
Tornado	EF0	EF1-EF2	EF3-EF5
Wildfire	KBDI 0-300	KBDI 300-500	KBDI 500-800
Winter Storms	Temperatures 40F° to 35F° Wind Speed <25 MPH Ice Accumulation <.50 inches	Temperatures 30F° to 20F° Wind Speed 25-35 MPH Ice Accumulation .10-1.00 inches	Temperatures 15F° to -45F° Wind Speed >35 MPH Ice Accumulation >.25 inches
Abbreviations:			
PDSI: Palmer Drought (Severity) Index			
EI: Expansion Index test			
LAL: Lightning Activity Level			
EF: Enhanced Fujita scale			
KBDI: Keetch-Byram Drought Index			

Below are the hazard summaries, in alphabetical order, for each participating jurisdiction.

Drought				
Jurisdiction	**Location**	**Probability of Future Events**	**Level of Possible Damage**	**Maximum Probable Extent/Strength**
Aledo	Extensive	Highly Likely	Minor	Medium
Hudson Oaks	Extensive	Likely	Limited	Medium
Springtown	Extensive	Likely	Minor	Medium
Weatherford	Extensive	Highly Likely	Minor	Major
Willow Park	Extensive	Highly Likely	Minor	Minor
Parker County Unincorporated	Extensive	Likely	Critical	Medium

Potential impacts from drought include:

- Property damage
- Loss of water supply
- Increases grassfire potential and intensity
- Negative impact on citizens, to include water restrictions and lack of drinkable water supply
- Impact on car washes, parks, and pools
- Impact on crops, livestock, and natural vegetation
- Increase in food prices
- Dust storms, leading to transportation accidents
- Natural environments damage, to include protected species and critical habitats

Source of groundwater or surface-supply:
Aledo- Fort Worth water supply and local well systems. **Hudson Oaks-** Upper Trinity Groundwater Conservation District. **Springtown-** Private wells and Mountain Lake. **Weatherford-** Lake Weatherford (primary) and Sunshine Lake & Lake Benbrook (secondary). **Willow Park-** Fort Worth water supply and local well systems. Groundwater with surface water coming in the year 2021. **Parker County Unincorporated**- Palo Pinto Lake, Parker County Co-op, Walnut Creek Water Supply, and private wells.
Describe the type of water restrictions the jurisdiction enforces, either year-round or during a drought:
Aledo- The city follows the guidelines established by the City of Fort Worth Water Department. **Hudson Oaks-** City implements sprinkler times via ordinances. Effective March 2016, the City of Hudson Oaks moved to Stage 1 of the water conservation plan. Stage 1 requests a mandatory reduction in outdoor irrigation to two days per week. **Springtown-** The city could impose watering restrictions in the case of a water shortage. The city has not done that in the past. **Weatherford-** The city enforces 2x/week irrigation limits (year-round) and 3 stages of drought restrictions that further limit water use. **Willow Park-** The city follows the guidelines established by the City of Fort Worth Water Department. **Parker County Unincorporated**- Parker County does not restrict water supplies, but Walnut Creek Water Supply will restrict as needed.

Earthquake				
Jurisdiction	**Location**	**Probability of Future Events**	**Level of Possible Damage**	**Maximum Probable Extent/Strength**
Aledo	Extensive	Unlikely	Limited	Minor
Hudson Oaks	N/A	N/A	N/A	N/A
Springtown	Extensive	Possible	Minor	Minor
Weatherford	Extensive	Unlikely	Minor	Minor
Willow Park	Extensive	Unlikely	Minor	Minor

Parker County Unincorporated	Limited*	Possible	Minor	Minor

*Location in Parker County Unincorporated is limited to the area nearest the earthquake's epicenter. See historical map in Chapter 3.5.

Potential impacts from earthquakes include:

- Injury or death
- Property and infrastructure damage
- Water contamination or loss via broken pipes
- Transportation and communication disruption or damage
- Increase in traffic accidents
- Building collapse
- Natural gas leak
- Misplaced residents
- Power outages
- Natural environments damage, to include protected species and critical habitats

Does your jurisdiction require a permit for foundation repairs? Reviewing permits can help a jurisdiction determine the amount of damage in the community.
Aledo- No **Hudson Oaks-** No **Springtown-** Yes **Weatherford-** No **Willow Park-** No **Parker County Unincorporated**- No

Expansive Soils				
Jurisdiction	**Location**	**Probability of Future Events**	**Level of Possible Damage**	**Maximum Probable Extent/Strength**
Aledo	Extensive	Possible	Minor	Minor
Hudson Oaks	Extensive	Likely	Limited	Medium
Springtown	Extensive	Possible	Minor	Minor
Weatherford	Extensive	Highly Likely	Minor	Minor
Willow Park	Extensive	Possible	Minor	Minor
Parker County Unincorporated	Extensive	Likely	Critical	Medium

Potential impacts from expansive soils include:

- Property damage due to foundation damage
- Water contamination or loss via broken pipes
- Building and infrastructure damage
- Road damage
- Transportation delays due to road condition

- Damage to utility lines
- Damage to crops and livestock

Extreme Heat				
Jurisdiction	**Location**	**Probability of Future Events**	**Level of Possible Damage**	**Maximum Probable Extent/Strength**
Aledo	Extensive	Highly Likely	Minor	Major
Hudson Oaks	Extensive	Highly Likely	Limited	Major
Springtown	Extensive	Possible	Minor	Major
Weatherford	Extensive	Highly Likely	Minor	Major
Willow Park	Extensive	Highly Likely	Minor	Major
Parker County Unincorporated	Extensive	Highly Likely	Limited	Major

Potential impacts from extreme heat include:

- Heatstroke or death. 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 and train track buckling
- Disruption in critical infrastructure operations
- Vehicle engine failure
- Damage to crops

What special events or sporting events are held outside during the summer?
Aledo- The only event held outside is the First Friday event which occurs in June. Weather may or may not be hot enough to cause issues as this event is held at night. **Hudson Oaks-** There are three city sponsored events. **Springtown-** Mayfest and Memorial Day festival in May, Fourth of July celebration, Labor Day festival in August, and Wild West Fest in September. **Weatherford-** Peach Fest in July. **Willow Park-** There are numerous outdoor venues at multiple locations within the city. Willow Park also has several more outdoor venues being built including a sports complex and an outdoor amphitheater. **Parker County Unincorporated**- Parker County Sheriff's Posse Rodeo and numerous school sporting events.
How many extreme heat exposures have been reported since 2012 at these events?
Aledo- There have been no reports of extreme heat exposures since the previous HazMAP. **Hudson Oaks-** None **Springtown-** None reported officially. In 2018 the extreme heat required the city to open city hall as a cooling station for people without air conditioning. **Weatherford-** Between 70 to 100 exposures have been reported from seven annual Peach Fests. **Willow Park-** Data is collected by the Emergency Medical Service (EMS).

Parker County Unincorporated- Fewer than 10 people.

Flooding				
Jurisdiction	**Location***	**Probability of Future Events**	**Level of Possible Damage**	**Maximum Probable Extent/Strength**
Aledo	Limited	Likely	Limited	Minor
Hudson Oaks	Limited	Possible	Minor	Minor
Springtown	Limited	Possible	Minor	Minor
Weatherford	Limited	Likely	Minor	Major
Willow Park	Significant	Likely	Limited	Major
Parker County Unincorporated	Significant	Likely	Critical	Medium

*Details of the location are provided in the following questions. A FEMA flood map can be found here.

Potential impacts from flooding include:

- Loss of electricity
- Loss of, or contamination of, water supply
- Loss of property
- Structure and infrastructure damage – flooded structures and eroded roads
- Misplaced residents
- Snakes migrate and number of 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 to the economy
- Natural environment damage, to include protected species and critical habitats

Common flooding hazards within the planning area include flood hazards from flash flooding and new development. Flooding from dam failure have never occurred nor is it predicted to occur in the next 5 years. Floodwater can disguise many dangerous obstacles, like uncovered manholes or debris that can cause someone to fall over. Standing water, or water that isn't flowing, can also become a breeding ground for insects that can make people very ill. Another risk can be downed power lines which may still be live.

Considering population, economy, existing and future structures, improved property, critical facilities, critical infrastructure, and protected species, what is specifically vulnerable to flooding in your jurisdiction?
Aledo- A couple of areas in Aledo are susceptible to flooding including Hidden Valley, Fairview Addition and Stone Bluff. Flooding in these areas can occur without warning. **Hudson Oaks-**The city is at low risk to flooding; thus, the main concern is flash flooding on roads. **Springtown-** Major state roads of FM 51 and HWY 199 will be closed at bridge areas. Water and gas lines crossing Walnut Creek are susceptible to damage by floating debris. First Responders have difficulty responding to certain areas of the city**.**

Weatherford- There are existing houses and structures that may be subject to flooding in creek and lake areas and as a result of localized flooding due to inadequate infrastructure.
Willow Park- There are multiple areas of the city that are susceptible to flooding and flash flooding that could have multiple consequences.
Parker County Unincorporated- Residents along the Brazos River and in Horseshoe Bay are most vulnerable to flooding.

Describe future development that may be at risk to flooding based on current zoning maps.

Aledo- Construction of any future development that may be at risk to flooding will be regulated to be protected against flood damage at the time of initial construction. A floodplain development permit is required to ensure conformance with the City's Flood Damage Prevention Ordinance. The degree of flood protection required by this ordinance is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. On rare occasions, greater floods can and will occur and flood heights may be increased by manmade or natural causes. This ordinance does not imply that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages.
Hudson Oaks- No development is allowed in the floodplain.
Springtown- Based on the current maps, expansion and development to the east along Walnut creek could be at risk if not properly zoned. Expansion to the west along Walnut Creek could also be at risk. In the north end of the city there is a strip of land that follows a creek northwest to south east that is within the special flood hazard area. This area is currently in the ETJ.
Weatherford- N/A. The city restricts development that would be subject to or cause flooding.
Willow Park- There are several large developments being built in close proximity to the floodplain and it is undetermined how these will be affected.
Parker County Unincorporated- There is no known future development scheduled in/near a floodplain.

What rivers, creeks, and/or lakes are in your jurisdiction?

Aledo- Clear Fork Trinity River, Clear Fork Tributary No. 1 and Unnamed Tributary to Clear Fork Tributary No. 1.
Hudson Oaks- There are no bodies of water within the city, but Lake Weatherford is nearby.
Springtown- Walnut Creek, Browders Creek, Goshen Creek, and Woody Creek.
Weatherford- Willow Creek, Clear Fork of the Trinity River, Town Creek, Black Warrior Creek, Holland Lake Creek, Old Dicey Creek, 3 Mile Branch, Sanchez Creek, East Sanchez Creek, Pogue Branch, Underwood Branch, several other unnamed tributaries, Lake Weatherford, Sunshine Lake, and Holland Lake.
Willow Park- Mary's Creek, Squaw Creek, Trinity River, Lake Weatherford, Moore lake and several small feeder creeks. If Reservoir Number Twentythree were to fail there are 118 homes that would be flooded with approximately 12 inches of water within minutes. There would also be impacts to the commercial district and areas downstream.
Parker County Unincorporated- Brazos River, Weatherford Lake, West Fork of the Southern Fork of the Trinity, and multiple creeks (e.g. Sanchez Creek, Willow Creek, Walnut Creek).

Which of these water sources have a history of flooding?

Aledo- Clear Fork Trinity River flooded around the year 2004.
Hudson Oaks- N/A
Springtown-Walnut Creek

Weatherford- Town Creek, Black Warrior Creek, Holland Lake Creek, Lake Weatherford, and Old Dicey Creek.
Willow Park- Squaw creek, Trinity River, Site 23, Moore lake, and Lake Weatherford.
Parker County Unincorporated- All the identified water sources have a history of flooding.

Name any streets or intersections that experience flooding or flash flooding:

Aledo- Underwood Road at the railroad bridge, which is located within the city limits. The Lasater Addition bar ditches and culverts are not designed to convey runoff from a 100-year flood event and streets could be susceptible to flooding.
Hudson Oaks- N/A
Springtown- 100 block of South Main Street; 1500 block of North Main Street; 400-500 block of East Highway 199; 300 block of Avenue B; and Lake Street Bridge.
Weatherford- Old Dicey, West Lake Drive, and Vine Street.
Willow Park- Ranch House Road at Canyon, Chuckwagon Trail at Interstate 20 North Service Road, and 200-block Crown Pointe Boulevard.
Parker County Unincorporated- Numerous streets experience flash flooding.

Identify low water crossings and whether they are bridges or vented/unvented fords:

A full list is provided in Chapter 3.4.1.
Aledo- There are no bridges within the city limits of Aledo. There are numerous undersized culverts and several low water crossings within Aledo's city limits and extraterritorial jurisdiction. Inadequately designed culverts often fail to accommodate high water flows which results in washouts, erosion, and flow blockage by debris buildup. Low water crossings (vented ford and unvented ford) present a danger to traffic during high flow periods. These include low water crossings at an unnamed stream at Mockingbird Lane, Clear Fork Tributary No.1 at UPRR/Underwood Road, Clear Fork Tributary No.1 at Bailey Ranch Crossing, and Clear Fork at Hidden Valley Road.
Hudson Oaks- There are low water crossings in residential areas.
Springtown- 100 Block South Main Street (bridge); Lake Street Bridge; 500 block East HWY 199 (bridge) 300 block Williams Ward (bridge); 200 block West HWY 199 (bridge); 200 block West 1st (bridge); 400 block of North Pojo Road (bridge); 700 block of Old Springtown Road (bridge); 700 block Dove Trail (vented ford); Robin Court and Meadowlark Trail (vented ford); 700 block of Quail Lane (vented ford); 500 Block North Ash Terrace (vented ford); 500 block North Main (vented ford); East 5th and Avenue A (vented ford); East 3rd and Avenue B (vented ford); East 2nd and Avenue C (vented ford); East 1st and Avenue C (vented ford).
Weatherford- Old Dicey, West Lake Drive, and Vine Street.
Willow Park- There are low water crossings in residential areas.
Parker County Unincorporated-View Appendix A.

What critical facilities or infrastructure (airports, dams, water treatment facilities, wastewater treatment facilities, schools, hospitals, fire stations, and police stations) are located in the 100-year floodplain?

Aledo- Aledo's Wastewater Treatment Plant is located in the 100-year floodplain. Approximately 30% of the existing usable land is within the 100-year floodplain. Design of the new facilities required appropriate hydraulic consideration to ensure that the plant is operational during a flood event. The plant was designed to discharge during the 100-year flood event and the facilities that were sited within the floodplain received authorization from the active floodplain administrator to be constructed.

Hudson Oaks- N/A **Springtown-** Wastewater plant in partially within the special hazard flood area (SHFA). Animal Control office and part of Public Works yard is in SHFA. **Weatherford-** N/A **Willow Park-** Two nursing home and an apartment complex are located near the floodplain. **Parker County Unincorporated**- There are no critical facilities located in the floodplain.
In the event of a wildfire, will flooding and erosion be an issue in restoring destroyed forested slopes?
Aledo- N/A **Hudson Oaks-** Yes, along Interstate-20. **Springtown-** No **Weatherford-** No **Willow Park-** Yes **Parker County Unincorporated**- N/A

Only the cities of Springtown and Weatherford had existing data for the following table:

Jurisdiction	Source	Residential Parcels Located in 100-year Floodplain	Percentage of Total Residential Parcels Located in 100-year Floodplain	Commercial and Industrial Parcels in 100-year Floodplain	Percentage of Commercial and Industrial Parcels in 100-year Floodplain
Springtown	*Parker County Geographic Information System (GIS) Property Appraiser.*	35	3.5%	19	15.5%
Weatherford	*City of Weatherford GIS.*	489	4%	10	1%

Flooding from Dam Failure				
Jurisdiction	**Location***	**Probability of Future Events**	**Level of Possible Damage**	**Maximum Probable Extent/Strength**
Aledo	Negligible	Unlikely	Minor	Minor
Hudson Oaks	Negligible	Unlikely	Minor	Minor
Springtown	N/A	N/A	N/A	N/A
Weatherford	Negligible	Unlikely	Minor	Minor
Willow Park	Negligible	Unlikely	Minor	Minor
Parker County Unincorporated	Negligible	Unlikely	Minor	Minor

Potential impacts from dam failure include:

- Property and crop damage

- Transportation delays
- Injury or death
- Train derailment

The hazard extent rating scale for dam failure is based on the amount of potential damage that can be caused by a failure. For the purposes of this hazard analysis, damage from dam failure only takes into account areas where developed property is affected.

Although dam failures have the potential to cause extensive damage, there has been no recorded failures in Parker County, as a wide array of measures, including maintenance, are taken to ensure structural integrity. The United States Corps of Engineers (USACE) and the Texas Commission on Environmental Quality (TCEQ) have conducted extensive dam failure training for jurisdictional staff, reducing the impact of flooding from a dam failure to the jurisdictions. Jurisdictions have also worked with the private owners to ensure maintenance is enforced and regulated.

What dams are in your jurisdiction and what would be negatively affected if they failed (both within and outside your jurisdiction)?
Aledo- There are two privately-owned dams within the city limits. Overflow from the Lake Weatherford Dam would adversely affect the city of Aledo. **Hudson Oaks-** There are no dams within the city limits. Overflow from Lake Weatherford Dam would adversely affect the city. **Springtown-** N/A **Weatherford-** Holland Lake Dam- In town, on the south east 2000 Santa Fe, Holland Lake Park. Lake Weatherford Dam- Owned by Weatherford. **Willow Park-** Willow Park narrowly misses the inundation zone from Lake Weatherford Dam. Clear Fork Trinity River WS SCS Site 23 Dam could impact some vulnerable populations. **Parker County Unincorporated**- There are numerous dams and reservoirs throughout the county that could impact the unincorporated areas. Please view the critical infrastructure list in Chapter 3. The biggest threat to Parker County is the Morris Sheppard Dam on Possum Kingdom Lake Reservoir, located in the northwest corner of Palo Pinto County and largely due to its storage capacity. The dam controls a drainage area of about 22,550 square miles, of which 9,240 are noncontributing. If it should fail, it would flood hundreds of acres of land and could possibly cut off traffic along Interstate 20, U.S. Hwy 180 and the Union Pacific railroad.

The hazard classification of dams is not available to the public, per Homeland Security regulations. If specific information is needed, please contact the dam owner or the Dam Safety Section of the TCEQ.

According to USACE, there are 64 total dams within Parker County: 78% of the dams are regulated by a state agency and 0% are regulated by a federal agency. The average age of the 64 dams is 58 years old.

The following chart identifies the recorded discharge of the 4 dams that were identified by the participants as a potential threat to their communities.

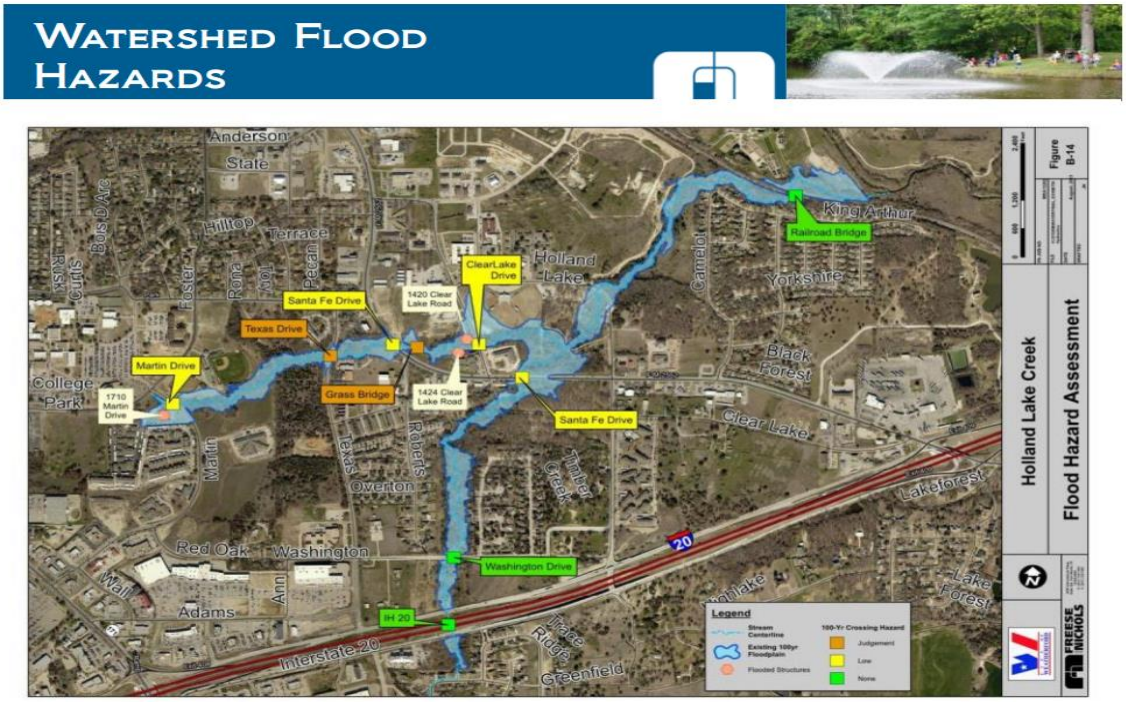
DAM_NAME	DAM_ LENGTH	DAM_ HEIGHT	MAX_ DISCHARGE	MAX_ STORAGE	DRAINAGE_ AREA
CLEAR FORK TRINITY RIVER WS SCS SITE 23 DAM	1650	66	2	4146	7
HOLLAND LAKE DAM UPPER	430	19.5	5551	46.7	1.38
LAKE WEATHERFORD DAM	3050	69	226584	37520	109
MORRIS SHEPPARD DAM (Palo Pinto County)	2740	187	507762	1365000	14030

For dams with a maximum storage capacity of 100,000 acre-feet or more, all census blocks within five miles were considered to be at risk to potential dam failure hazards. For dams with a maximum storage capacity between 10,000 and 100,000 acre-feet, all census blocks within three miles were considered at risk to potential dam failure hazards. For dams with a maximum storage capacity of less than 10,000 acre-feet, all census blocks within one mile were considered to be at risk to potential dam failure hazards. Exact dam inundation maps are not available to the public- thus the following information is merely as estimation. For specific information, please contact the dam owners.

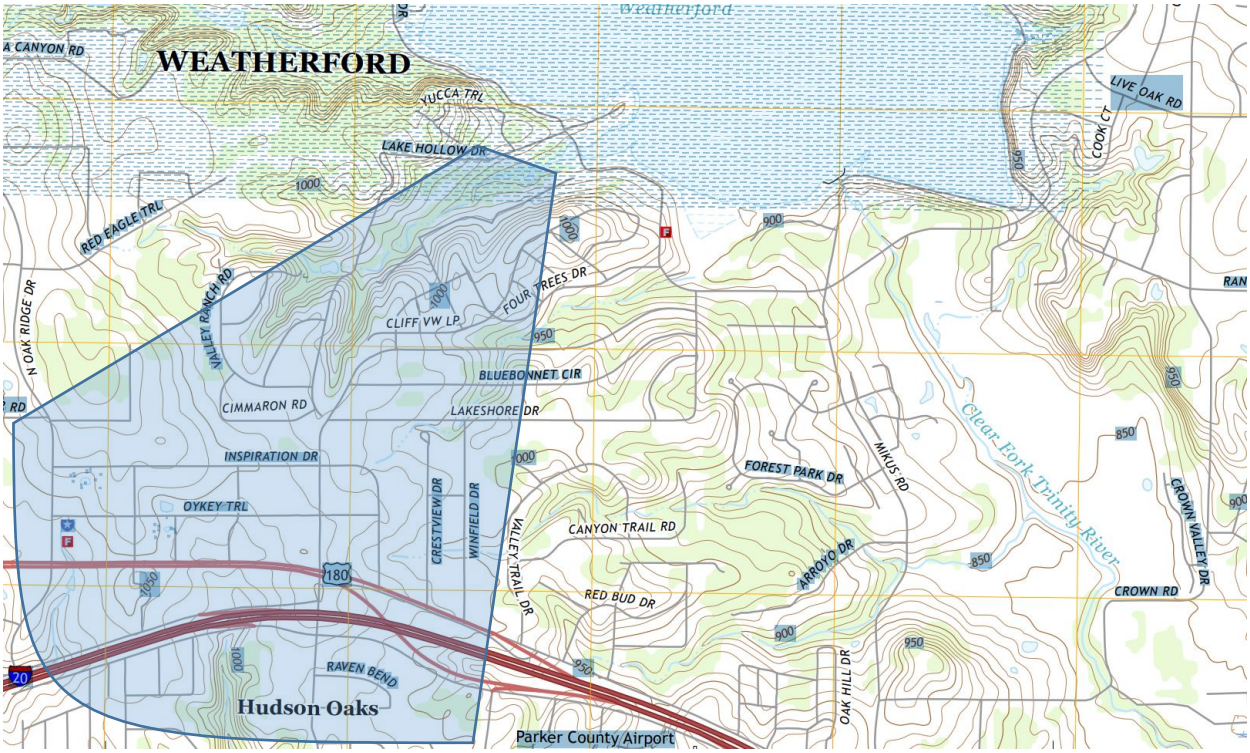
Below are maps of **estimated** inundation zones for the four (4) dams the jurisdictions identified as the most impactful to their communities.

CLEAR FORK TRINITY RIVER WS SCS SITE 23 DAM

Holland Lake Dam



Lake Weatherford Dam



Morris Sheppard Dam

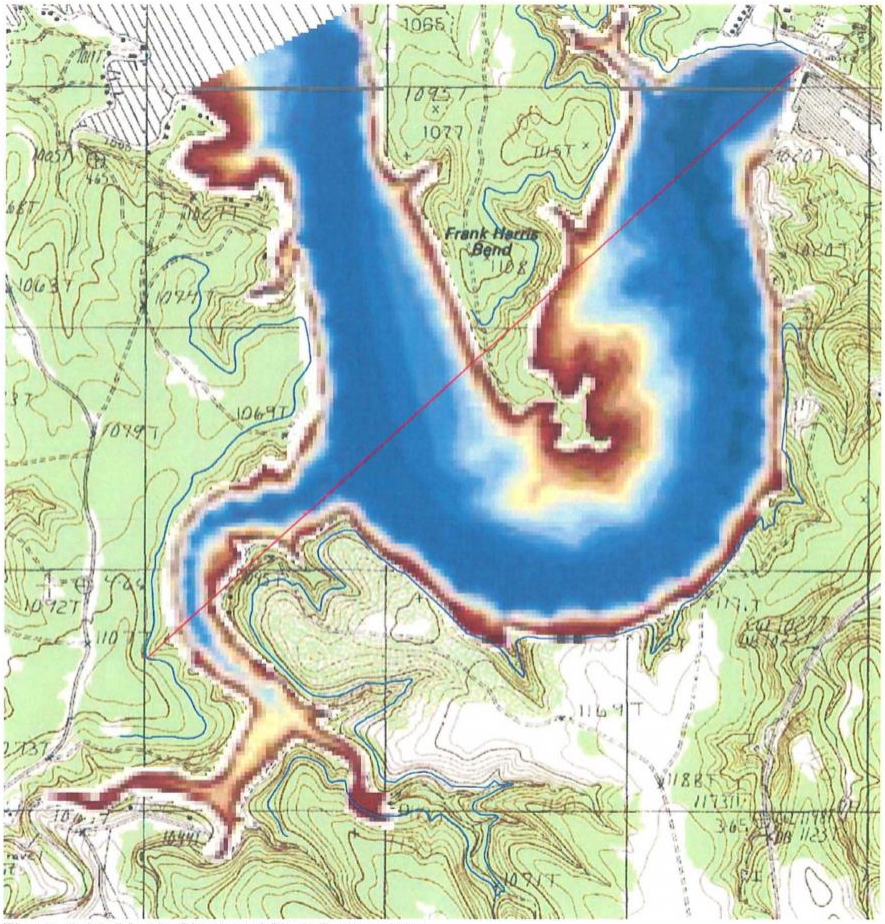


Figure 7-40. Morris Sheppard Dam Bathymetry

It is each dam owner's responsibility to ensure that their dam is in compliance with the Texas Commission on Environmental Quality's [17](TCEQ) regulations regarding emergency action plans. Additionally, each dam owner required to have an emergency action plan must know and be prepared to take the actions outlined in their emergency action plan, should their dam begin to fail.

Local emergency management is only responsible for the impact of flooding from dam failure on surrounding areas. The responsibility for maintaining a safe dam rests with its owner. Dam owners are also responsible for maintaining safety *at* and *around* their dam. Dam owners are the only ones who can directly maintain the dams and implement mitigation and safety measures on the structures.[18]

Responsible Parties	Dam Related Safety Activities
Dam Owners/Operators	• Identification of emergency at dam • Initial notifications • Implementation of repairs • Security and technical assistance on site

[17] https://www.tceq.texas.gov/compliance/investigation/damsafetyprog.html For the most up-to-date information, contact TCEQ directly.

[18] https://damsafety-prod.s3.amazonaws.com/s3fs-public/files/All%20-%20Dam%20Owner%20Fact%20Sheets%202019.pdf Dam Ownership Fact Sheet. 2018.

Responsible Parties	Dam Related Safety Activities
Local Emergency Management and Local Responders	• Public warning • Possible evacuation • Shelter plan activated • Rescue and recovery • State of Emergency declaration • Termination of emergency status
State Emergency Management	• Aid affected area when requested • Coordinate specialized assistance • Notify appropriate state agencies • Determine who does what in an emergency

Thunderstorm				
Jurisdiction	**Location**	**Probability of Future Events**	**Level of Possible Damage**	**Maximum Probable Extent/Strength**
Aledo	Extensive	Highly Likely	Limited	Medium
Hudson Oaks	Extensive	Highly Likely	Limited	Medium
Springtown	Extensive	Highly Likely	Limited	Medium
Weatherford	Extensive	Highly Likely	Limited	Major
Willow Park	Extensive	Highly Likely	Limited	Major
Parker County Unincorporated	Extensive	Highly Likely	Limited	Medium

Potential impacts from thunderstorms include:

- Property damage to fences, vehicles, equipment, and roofs
- Transportation delays
- Injury or death
- Electrical grid problems
- Power outage
- Communication problems – phone and internet lines down
- Natural environment damage, to include protected species and critical habitats
- Property damage
- Crop damage
- Fire- caused by lightning
- Blocked roadways from trees and damaged property

Although most new homes and buildings in the participating jurisdictions are built to resist the effects of all but the strongest thunderstorms, several mobile and manufactured home parks and vehicles remain vulnerable. Thousands of homes and vehicles can be damaged by high winds, hail, and lightning in a single storm, causing millions of dollars in damages.[19]

[19] State of Texas Mitigation Plan. 2013, page 72.

Tornado				
Jurisdiction	**Location**	**Probability of Future Events**	**Level of Possible Damage**	**Maximum Probable Extent/Strength**
Aledo	Extensive	Likely	Catastrophic	Medium
Hudson Oaks	Extensive	Possible	Limited	Medium
Springtown	Extensive	Possible	Critical	Medium
Weatherford	Extensive	Likely	Limited	Medium
Willow Park	Extensive	Likely	Catastrophic	Medium
Parker County Unincorporated	Extensive	Likely	Critical	Major

Potential impacts from tornadoes include:

- Injury or death
- Power outage
- Blocked roadways from trees and damaged property
- Natural gas pipeline breaks – fire injuries, possible deaths
- Transportation disruption
- Rerouting traffic
- Loss of property
- Structure and infrastructure damage
- Misplaced residents
- Natural environment damage, to include protected species and critical habitats

Are there any community safe rooms in your jurisdiction?
Aledo- No **Hudson Oaks-** No **Springtown-** No **Weatherford-** No **Willow Park-** No **Parker County Unincorporated**-No

Wildfire				
Jurisdiction	**Location**	**Probability of Future Events**	**Level of Possible Damage**	**Maximum Probable Extent/Strength**
Aledo	Limited	Possible	Limited	Minor
Hudson Oaks	Significant	Likely	Limited	Medium
Springtown	Extensive	Possible	Minor	Medium
Weatherford	Significant	Likely	Limited	Medium
Willow Park	Significant	Highly Likely	Limited	Medium
Parker County Unincorporated	Significant	Highly Likely	Critical	Major

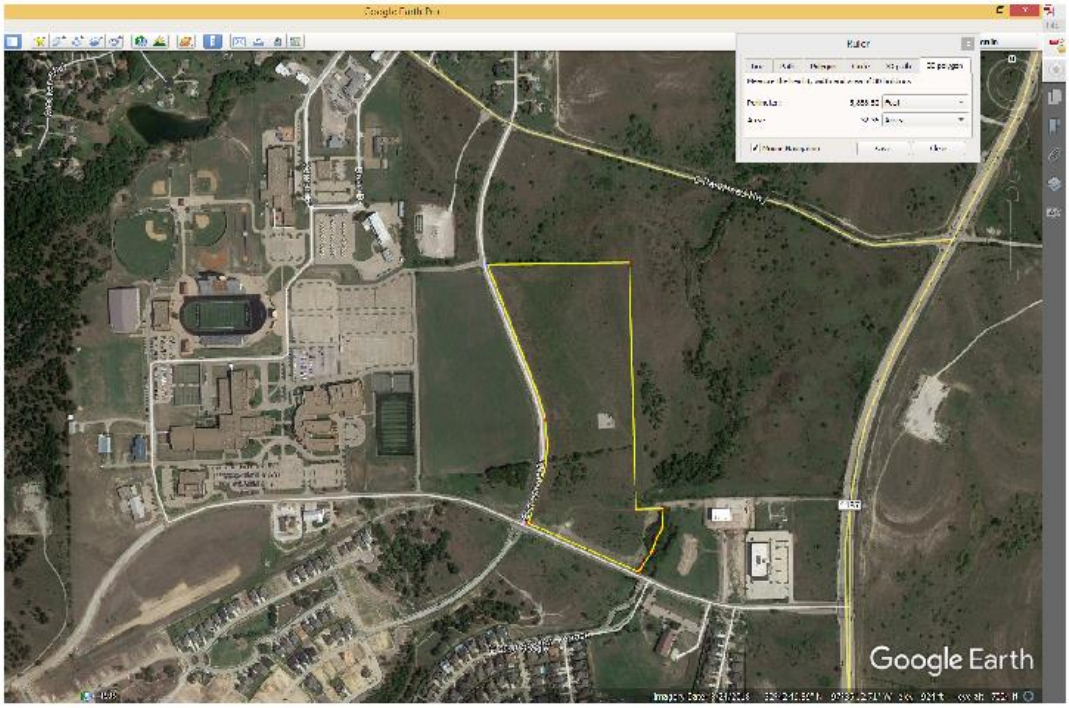
Potential impacts from wildfires include:

- Injury or death
- Property and fence damage
- Road closure
- Loss of power – burning utility poles
- Loss of property
- Loss of crops and livestock
- Structure and infrastructure damage
- Misplaced residents
- Loss of resources
- Natural environments damage, to include protected species and critical habitats

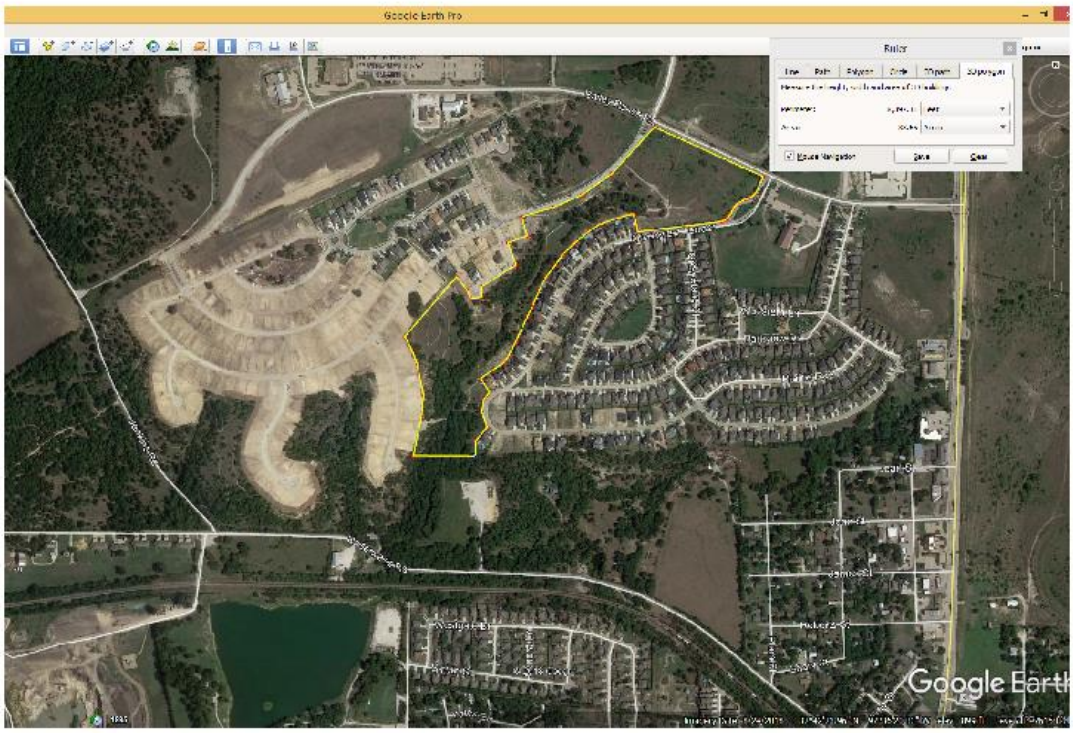
Considering population, economy, existing and future structures, improved property, critical facilities, critical infrastructure, and protected species, what is specifically vulnerable to wildfires in your jurisdiction?
Aledo- According to the Texas Wildfire Risk Assessment portal the City of Aledo is at a low to moderate risk for wildfires; however, should one occur to the south of the city where there is open land and move toward the city, populations and homes would definitely be affected. There are several large subdivisions in that area along with a high school, which depending on the time of day would affect a larger amount of the population along with structures. **Hudson Oaks-** Properties located in the Wildland Urban Interface. **Springtown-** A wildfire outside of the city limits could affect the wastewater plant and the water plant. The schools on Pojo Road could be affected by wildfire because they are situated near open hay fields. Traffic coming into the city from all directions could be affected by wildfires. Any major power lines running in areas where there are fires could be disabled. **Weatherford-** Several homes, businesses, and schools are vulnerable to wildfires in the City of Weatherford. **Willow Park-** There are several medical and nursing facilities that would be highly impacted from the smoke caused by a wildfire. The Interstate 20 corridor that could be impacted. There are also multiple residential and commercial areas that back up to open land as well as a school that is near a large open area that caught fire in 2017. **Parker County Unincorporated**- Walsh Ranch is extremely vulnerable to wildfire, as it has a history of two barns and 400 rounds of hay being burned, causing an economic impact to the ranch.
Where are sources of open space, greater than 25 acres, in your jurisdiction?
Aledo- Refer to following aerial maps. 1- Light industrial area east of Champions Drive (approximately 32 acres) 2- Parks of Aledo Subdivision open space area (approximately 34 acres) 3- Residential area east of Jenkins (approximately 33 acres) 4- Point Vista Subdivision open space area (approximately 31 acres) 5- Residential area east of Queen Street (approximately 38 acres) 6- Property north of Brookhollow Subdivision (approximately 27 acres) 7- Agricultural area west of Taylor Court (approximately 31 acres) 8- Light industrial area north of Farm-to-Market 1187 (approximately 65 acres) 9- Residential area south of Taylor Court (approximately 31 acres)

Hudson Oaks- N/A
Springtown- Within the city limits there are no areas of land larger than 25 acres. There are several parcels of land that border the city limits that are larger than 25 acres. If a fire started in these areas and the wind conditions were correct, property in the city could be affected.
Weatherford- Pythian Home for Children has a lot of open space around it.
Willow Park- North and East of the city limits.
Parker County Unincorporated-Except for a subdivision, there is open space in every precinct.

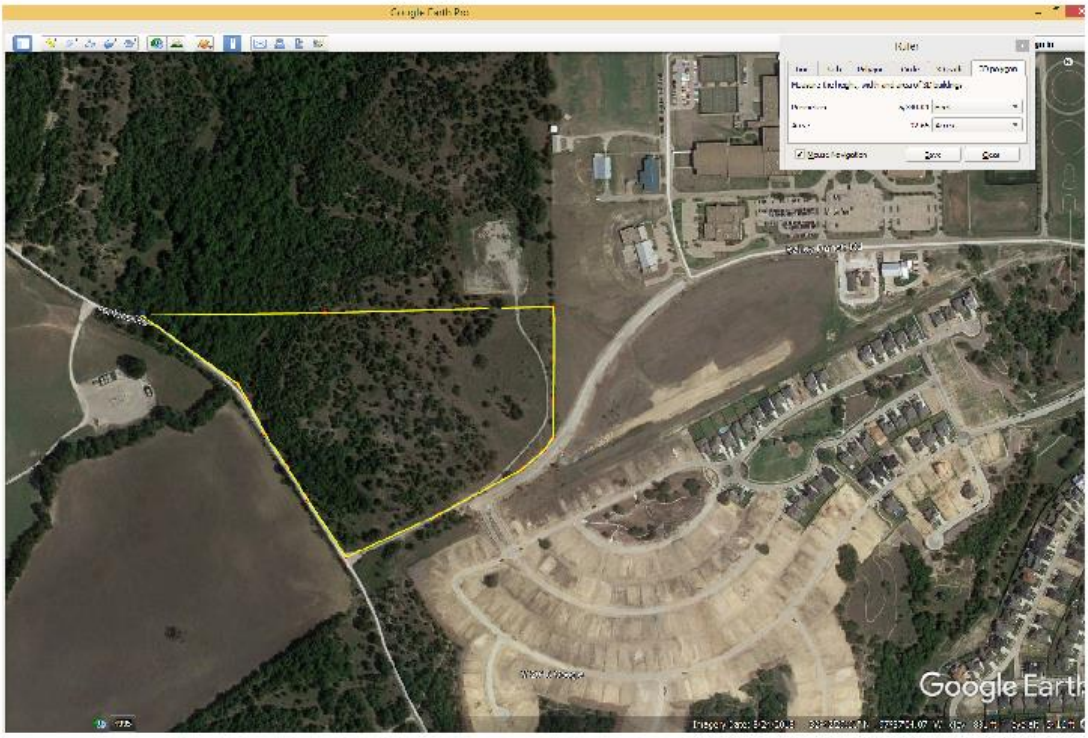
Aledo Map 1- Light industrial area east of Champions Drive (approximately 32 acres)



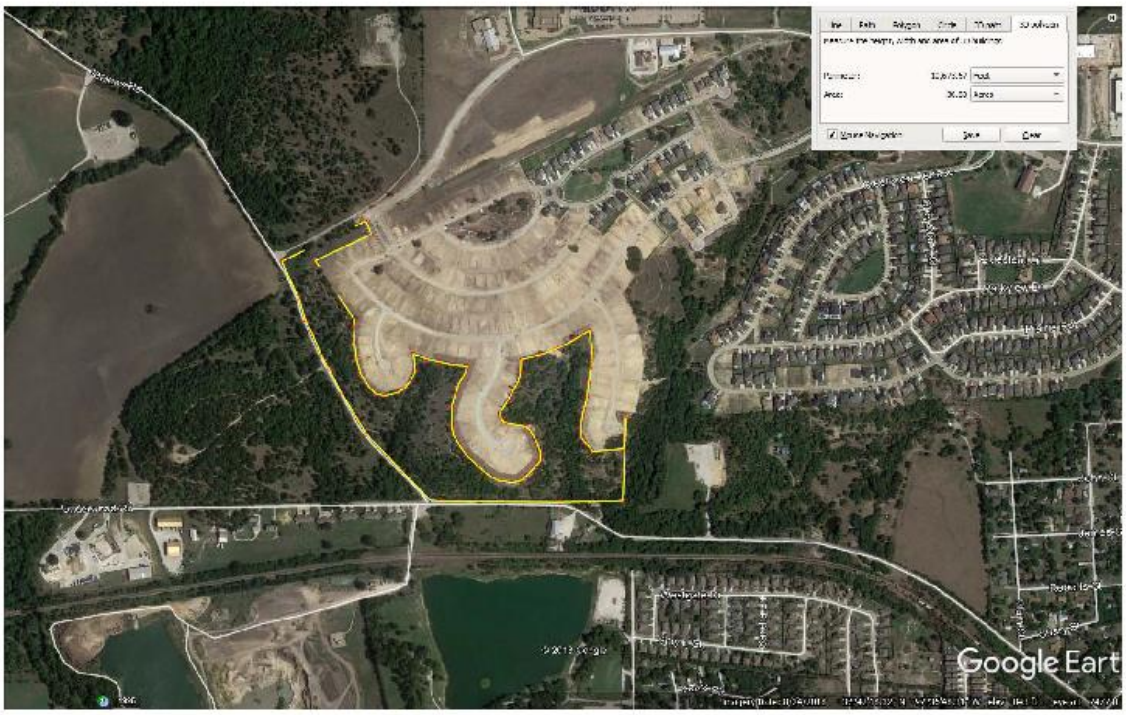
Aledo Map 2- Parks of Aledo Subdivision open space area (approximately 34 acres)



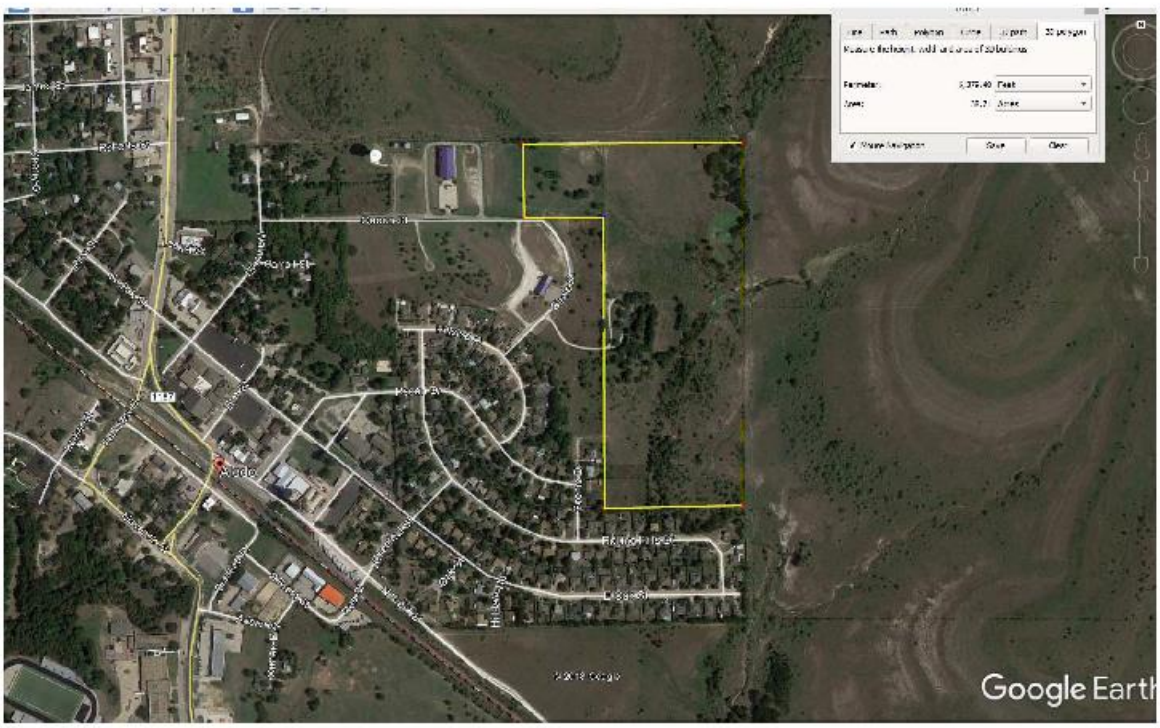
Aledo Map 3- Residential area east of Jenkins (approximately 33 acres)



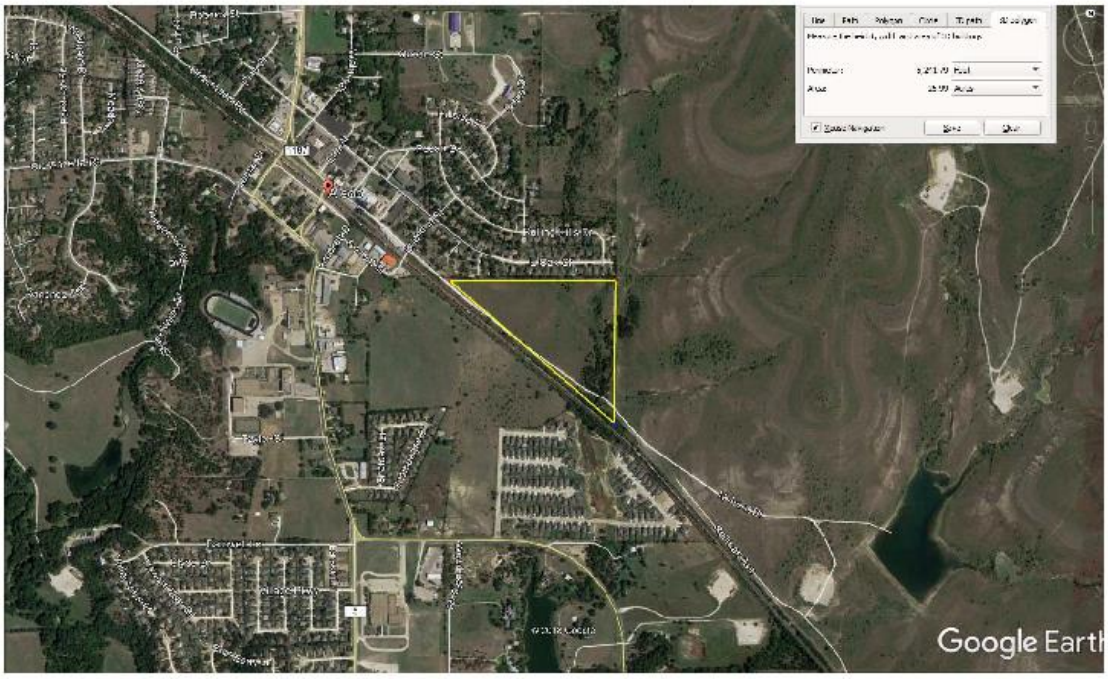
Aledo Map 4- Point Vista Subdivision open space area (approximately 31 acres)



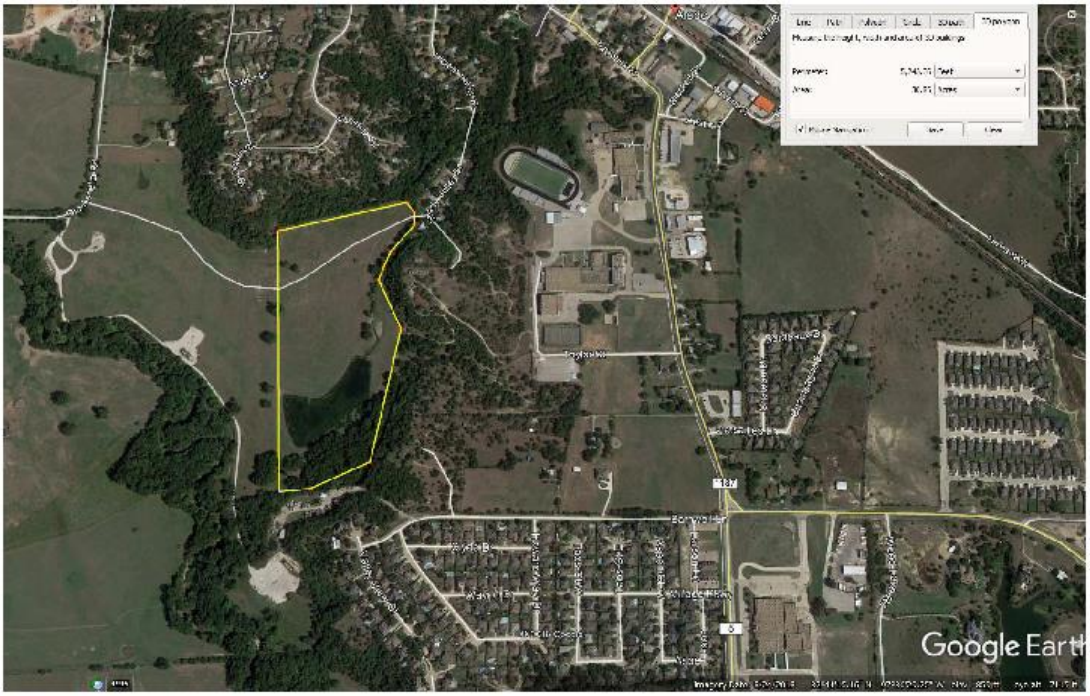
Aledo Map 5- Residential area east of Queen Street (approximately 38 acres)



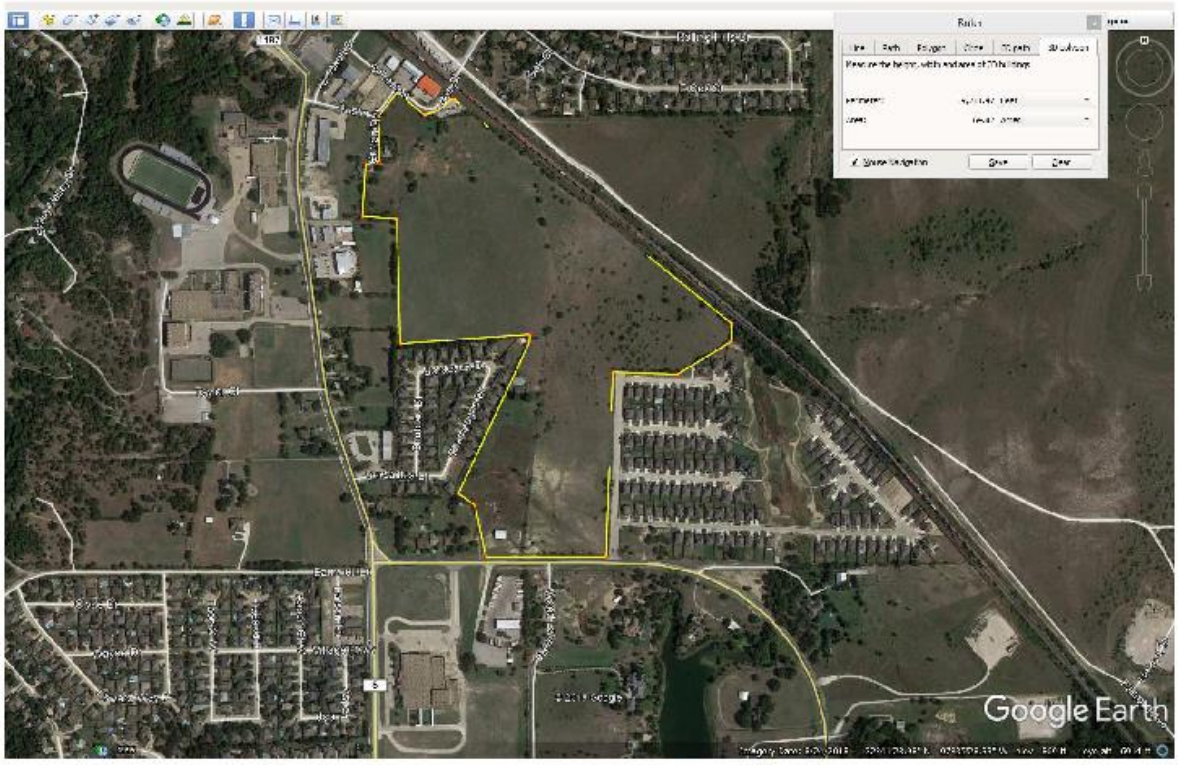
Aledo Map 6- Property north of Brookhollow Subdivision (approximately 27 acres)



Aledo Map 7- Agricultural area west of Taylor Court (approximately 31 acres)



Aledo Map 8- Light industrial area north of Farm-to-Market 1187 (approximately 65 acres)



Does your jurisdiction participate in prescribed burns? *A controlled or prescribed burn, also known as hazard reduction burning, backfire, swailing, or a burn-off, is a wildfire set intentionally for purposes of forest management, farming, prairie restoration or greenhouse gas abatement.*
Aledo- No **Hudson Oaks-** No **Springtown-** No **Weatherford-** Yes **Willow Park-** No **Parker County Unincorporated**-Yes

The City of Springtown was the only participant to have the following information:

Springtown					
Residential		**Commercial**		**Industrial**	
Residential Parcels Within WUI	**Percentage (%) Within WUI**	**Commercial Parcels Within WUI**	**Percentage (%) Within WUI**	**Industrial Parcels Within WUI**	**Percentage (%) Within WUI**
982	100%	122	100%	0	0
WUI: Wildland Urban Interface					

Source: Texas Wildfire Risk Assessment Portal

Winter Storm				
Jurisdiction	**Location**	**Probability of Future Events**	**Level of Possible Damage**	**Maximum Probable Extent/Strength**
Aledo	Extensive	Likely	Limited	Medium
Hudson Oaks	Extensive	Likely	Minor	Medium
Springtown	Extensive	Likely	Minor	Medium
Weatherford	Extensive	Occasional	Limited	Medium
Willow Park	Extensive	Likely	Limited	Medium
Parker County Unincorporated	Extensive	Likely	Limited	Medium

Potential impacts from winter storms include:

- Structure and infrastructure damage
- Injury 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 create fuel load for fire hazard
- Delayed emergency response time
- Frozen/ busted pipes leading to loss of water
- Disruption of traffic
- Impacts to the economy
- Communication capabilities decrease

List bridges and overpasses that could be impacted by a winter storm:
Bridges throughout the county are identified in Chapter 3.4.1. **Aledo-** None **Hudson Oaks-** Hudson Oaks Drive **Springtown-** 100 block of South Main Street, 500 block of East Highway 199, 400 Block of North Pojo Road, 200 Block of West Highway 199, Lake Street Bridge, and Williams Ward Bridge. **Weatherford-** There are numerous bridges and overpasses along Interstate 20, Highway 180 and Highway 51. **Willow Park-** Interstate 20 has two overpasses: one at Ranch House Road and one at Mikus Road. There are two bridges over the Trinity River. There are also various smaller bridges throughout the city that could be impacted. **Parker County Unincorporated**-There are numerous bridges and overpasses throughout the unincorporated county.

3.7 Hazard Ranking

Due to the frequency of occurrence and high impact of hazards during this planning period, the ranking order of these hazards has changed since the 2015 plan. After assessing the vulnerabilities, capabilities, and risks, the participating jurisdictions considered the possible effects on population, economy, existing and future structures, improved property, critical facilities and infrastructure, and the natural environment when ranking each hazard.

The following table reflects the rankings of each hazard, per jurisdiction.

Jurisdiction	Drought	Earthquake	Expansive Soils	Extreme Heat	Flooding	Dam Failure Flooding	Thunderstorms	Tornadoes	Wildfires	Winter Storms
Aledo	**1**	9	8	2	4	10	3	5	7	6
Hudson Oaks	**1**	N/A	6	4	8	9	3	2	5	7
Springtown	5	6	9	7	8	N/A	**1**	2	4	3
Weatherford	4	9	8	3	7	10	**1**	5	6	2
Willow Park	7	9	8	6	3	10	2	**1**	4	5
Parker County Unincorporated	3	9	6	7	**1**	10	2	5	4	8

Hudson Oaks did not claim earthquakes as a hazard because there is no history of earthquakes and no threat to their facilities.

Springtown is impacted by dam failure flooding because there are no dams within their city.

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Chapter 4: Mitigation Strategy

Requirement	
§201.6(c)(3)	[The plan shall include the following:] A mitigation strategy that provides the jurisdiction's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs, and resources, and its ability to expand on and improve these existing tools.
§201.6(c)(3)(i)	[The hazard mitigation strategy shall include a] description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.
§201.6(c)(3)(iii)	[The hazard mitigation strategy shall include a] section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure. All plans approved by FEMA [Federal Emergency Management Agency] after October 1, 2008, must also address the jurisdiction's participation in the NFIP [National Flood Insurance Program], and continued compliance with NFIP requirements, as appropriate.
§201.6(c)(3)(iv)	[The hazard mitigation strategy shall include an] action plan, describing how the action identified in paragraph (c)(3)(ii) of this section will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.
§201.6(c)(4)(ii)	For multi-jurisdictional plans, there must be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan. [The plan shall include a] process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvements, when appropriate.

4.1 Mitigation Goals

The Parker County Hazard Mitigation Planning Team reviewed the previous Parker County mitigation goals and unanimously agreed to forego these goals and adopt the following hazard mitigation goals:

"Our 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."

4.2 Mitigation Strategy

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

Each participating jurisdiction recommended strategies and actions that would support the mitigation goals, then went through a ranking process to determine which actions they would prioritize for completion. The jurisdictions conducted a cost benefit analysis to determine which strategies would most benefit their community. All project cost estimations are based on agency expertise by those submitting mitigation actions as well as previous project costs; however, many projects provided have not yet undergone the official benefit-cost analysis provided by FEMA. In these cases, jurisdictions derived the benefit cost per project based on a study conducted by the National Institute of Building Science. This study estimates that past 23 years of federally funded natural hazard mitigation has prevented approximately one million nonfatal injuries, 600 deaths, and 4,000 cases of post-traumatic stress disorder (PTSD), a total cost savings of $68 billion. The key findings of the report included that $1 spent on mitigation saves society an average of $6, with positive benefit-cost ratios for all hazard types studied.[20] Therefore, to reflect the benefits of future projects, each estimated project was multiplied by 6 to represent the benefit of each mitigation strategy. Utilizing this information, in addition to their jurisdiction's priorities, jurisdictions ranked their mitigation strategies and submitted them to the HMPT.

4.3 Funding Priorities

As necessary, Parker County and participating jurisdictions will seek outside funding sources to implement mitigation projects in both the pre-disaster and post-disaster environments. When applicable, potential funding sources have been identified for proposed actions listed in the mitigation strategies.

Priority will go towards projects will the highest positive impact on community resilience.

4.4 Status of Previous Mitigation Action Items

The action items in the 2015 Parker County HazMAP were determined by the 2015 Local Planning Team (LPT) in each jurisdiction. Below are the action items from each participating jurisdiction from the 2015 plan and the status of each action. Actions deleted are no longer a priority and actions deferred are deferred to this HazMAP. The cities of Hudson Oaks, Springtown, and Willow Parker are new participants; thus, they do not have previous action to identify.

City of Aledo	
Status	**2015 Mitigation Actions**
Deleted	Develop and implement a comprehensive public education based on the hazards identified in this plan.
Completed	Mitigate the effects of severe weather to citizens through early warning systems.
Completed	Develop and implement program of trimming of tree limbs next to high voltage power lines.
Completed	Implement codes for underground high voltage power lines for new developments.
Deferred	Make drainage improvements to low water crossing at Clear Fork Tributary No.1 @ UPRR/Underwood Road.
Deferred	Make drainage improvements to low water crossing at Unnamed stream at Mockingbird Lane.

[20] Multihazard Mitigation Council (2017) Natural Hazard Mitigation Saves 2017 Interim Report: An Independent Study. Principal Investigator Porter, K.; Co-Principal Investigators Scawthorn, C.; Dash, N.; Santos, J.; Investigators: Eguchi, M., Ghosh., S., Huyck, C., Isteita, M., Mickey, K., Rashed, T.; P. Schneider, Director, MMC. National Institute of Building Sciences, Washington.

City of Aledo	
Status	**2015 Mitigation Actions**
Deferred	Make drainage improvements to detention pond channel at Unnamed stream @ Cedar Bluff Court.
Deferred	Make drainage improvements to low water crossing at Clear Fork Tributary No.1 @ Bailey Ranch Crossing.
Completed	Increase conservation of water by developing and implementing drought contingency plan.
Completed	Establish a code enforcement program to enforce high weeds/grass and debris management.
Deferred	Make drainage improvements to low water crossing at Clear Fork @ Hidden Valley Road.
Completed	Make drainage improvements to shallow bar ditches at Lasater Addition.
Deferred	City Wide Storm Water Drainage Master Plan with hydrology and hydraulic modeling of the identified drainage basins to avoid impacts to USACE jurisdictional water of the United States.
Completed	Establish construction building codes.
Deferred	Retrofit critical facilities with hail resistant and energy-efficient roofing.
Deleted	Purchase and install CASA WX Radar.

City of Weatherford	
Status	**2015 Mitigation Actions**
Completed	Purchase and install an early warning system.
In-progress	Implement the Texas Tornado Safe Room Rebate Program.
In-progress	Develop and implement a comprehensive public education program based on the hazards identified.
Deleted	Implement upgrade projects on Lake Weatherford Dam, Sunshine Lake Dam, and Holland Lake Dam.
Deleted	Establish a redundant water supply with Lake Palo Pinto.
In-progress	Implement quarterly program for and trimming of tree limbs next to high voltage power lines.
Deleted	Adopt and enforce new ordinances for City of Weatherford water restriction.
Deleted	Conduct a study to determine the potential cause, vulnerability, and severity of an earthquake in Weatherford.

Parker County Unincorporated	
Status	**2015 Mitigation Actions**
Deferred	Purchase and distributing NOAA All Hazard Radios to each household and business in the county.
Completed	Implement the Texas Individual Tornado Safe Room Rebate Program.
In-progress	Develop a public education program for presentation to various civic groups.
Deferred	Retrofit critical facilities with hail resistant roofing and hail resistant window coverings.
In-progress	Develop and implement a tree-trimming program to minimize amount of debris generated during severe weather events.

Parker County Unincorporated	
Status	**2015 Mitigation Actions**
Deferred	Develop a public awareness campaign to educate county residents about safety during an earthquake event.
In-progress	Promote education concerning HAZUS.
Deferred	Initiate a targeted fuel load reduction campaign to reduce the potential for wildland-urban interface fires.
Deferred	Develop a Community Wildfire Protection Plan.
In-progress	Release public information/education to remind citizens to be aware of potential loss of life to wildland fires and the impact that early warning/recognition will bring them.
In-progress	Create a Stormwater Management Program to analyze historical and current conditions contributing to flooding.
In-progress	Update Parker County flood maps.
Deferred	Develop a buyout program for repetitive flood loss areas within the county.
In-progress	Correct low water crossing drainage issues and culvert replacement on identified areas.
Deferred	Hire a consultant to complete a dam safety study and inundation studies on all dams in Parker County.
Deferred	Retrofit existing dams in danger of failing.
Deferred	Collect fans and other donations that could be distributed to the elderly, families with young children to reduce the risks associated with extreme heat.
In-progress	Distribute information to for citizens to retrofit their home to become more energy efficient.
In-progress	Distribute information to citizens regarding droughts to have them lower their water use during drought periods.
Deferred	Mandate additional means of access into single-entry neighborhoods during subdivision development.
In-progress	Develop an emergency plan for drought.
In-progress	Educate residents on how to select and maintain the appropriate type of fire extinguishers for all homes and businesses.
Deferred	Purchase and install CASA WX Radar.

4.5 New Mitigation Action Items

New action items were determined by each participating jurisdiction's Local Planning Team for the 2021 Hazard Mitigation Action Plan (HazMAP). These actions include mitigation actions that qualify for mitigation funding as well as enforcement, maintenance, and response actions that the jurisdictions have identified as opportunities to increase their resiliency 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 of loss of life per hazard. To determine the estimated benefit of each action item, data from the 2017 Interim Report was used to develop a cost-benefit analysis [*Estimated Cost x 6 = Estimated Benefit*], as it reports that $1 spent in mitigation saves a community an average of $6 in recovery[21].

Remaining consistent with previous plans, **priority** will go towards projects with the highest positive impact on community resilience, including life safety and property protection.

Below are the new action items for this HazMAP.

City of Aledo Mitigation Action Items

Hazard(s) Addressed	**Earthquakes, Thunderstorms, Tornadoes**
Action: Install a safe room as a working office within the construction of the new city hall.	
Participating Jurisdiction:	City of Aledo
Priority:	1
Estimated Cost:	$18,000
Estimated Benefit:	$108,000
Potential Funding Source(s):	CO Bonds, General Fund, grants
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	24 months
Hazard(s) Addressed	**Drought, Earthquakes, Extreme Heat, Expansive Soils, Flooding, Thunderstorms, Tornadoes, Wildfires, Winter Storms**
Action: Conduct an annual "weather fair" for the public for education on all hazards with presentations regarding weather causes, effects and suggested safety measures that affect the city.	
Participating Jurisdiction:	City of Aledo
Priority:	2
Estimated Cost:	$10,000
Estimated Benefit:	$60,000
Potential Funding Source(s):	General Fund, grants
Lead Agency/Department Responsible:	Event Coordinator, Public Works Department
Implementation Schedule:	24 months

[21] Natural Hazard Mitigation Saves: 2017 Interim Report. National Institute of Building Science. < https://www.nibs.org/page/mitigationsaves>

Hazard(s) Addressed	Earthquakes, Flooding, Thunderstorms, Tornadoes, Wildfires, Winter Storms
Action: Develop alternate routes for first responders with regards to crossing the railroad tracks in the city.	
Participating Jurisdiction:	City of Aledo
Priority:	3
Estimated Cost:	$10,000
Estimated Benefit:	$60,000
Potential Funding Source(s):	General Funds, grants
Lead Agency/Department Responsible:	Public Works Department, City Administration
Implementation Schedule:	24 months
Hazard(s) Addressed	**Wildfires**
Action: Implement a plan of prevention by educating residents on proper plant locations within property area.	
Participating Jurisdiction:	City of Aledo
Priority:	4
Estimated Cost:	$10,000
Estimated Benefit:	$60,000
Potential Funding Source(s):	General Fund, grants
Lead Agency/Department Responsible:	Parks Department, Master Gardeners
Implementation Schedule:	24 months
Hazard(s) Addressed	**Earthquakes, Extreme Heat, Flooding, Thunderstorms, Tornadoes, Wildfires, Winter Storms**
Action: Purchase *NOAA Weather Radio All Hazards* to be used in city offices and for elderly residents.	
Participating Jurisdiction:	City of Aledo
Priority:	5
Estimated Cost:	$10,000
Estimated Benefit:	$60,000
Potential Funding Source(s):	General Funds, grants
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	12 months

Hazard(s) Addressed	Extreme Heat
Action: Mitigate severe heat within the city by stockpiling cooling fans and window units to give to elderly and needy residents who are at risk.	
Participating Jurisdiction:	City of Aledo
Priority:	6
Estimated Cost:	$10,000
Estimated Benefit:	$60,000
Potential Funding Source(s):	General Funds, grants
Lead Agency/Department Responsible:	Public Works Department, Event Planner
Implementation Schedule:	24months
Hazard(s) Addressed	**Extreme Heat**
Action: Incorporate "heat island" countermeasures, such as cooling paint for buildings and roadways.	
Participating Jurisdiction:	City of Aledo
Priority:	7
Estimated Cost:	$10,000
Estimated Benefit:	$60,000
Potential Funding Source(s):	General Funds, grants
Lead Agency/Department Responsible:	Public Works Department, Building Official
Implementation Schedule:	36 months
Hazard(s) Addressed	**Drought**
Action: Develop a public education program to educate the public about the dangers of drought, including how to conserve water.	
Participating Jurisdiction:	City of Aledo
Priority:	8
Estimated Cost:	$5,000
Estimated Benefit:	$30,000
Potential Funding Source(s):	General Funds, grants
Lead Agency/Department Responsible:	Public Works Department
Implementation Schedule:	18 months

Hazard(s) Addressed	Wildfires
Action: Collaborate with homeowner's associations and forest service to develop a comprehensive Community Wildfire Protection Plan to include public education, fuels reduction, residential mitigation, and response recommendations.	
Participating Jurisdiction:	City of Aledo
Priority:	9
Estimated Cost:	$75,000
Estimated Benefit:	$450,000
Potential Funding Source(s):	General Fund, grants
Lead Agency/Department Responsible:	Parks Department, Master Gardeners
Implementation Schedule:	24 months
Hazard(s) Addressed	**Expansive Soils**
Action: Educate construction contractors, homeowners and business owners about mitigation techniques for expansive soils.	
Participating Jurisdiction:	City of Aledo
Priority:	10
Estimated Cost:	$4,000
Estimated Benefit:	$24,000
Potential Funding Source(s):	General Funds, grants
Lead Agency/Department Responsible:	Building Official
Implementation Schedule:	24 months
Hazard(s) Addressed	**Drought**
Action: Develop and send targeted messaging during drought events.	
Participating Jurisdiction:	City of Aledo
Priority:	11
Estimated Cost:	$10,000
Estimated Benefit:	$60,000
Potential Funding Source(s):	General Funds, grants
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	18 months

Hazard(s) Addressed	Wildfires
Action: Increase public education on how to reduce the risks from wildfires (construction, landscaping, etc.).	
Participating Jurisdiction:	City of Aledo
Priority:	12
Estimated Cost:	$10,000
Estimated Benefit:	$60,000
Potential Funding Source(s):	General Funds, grants
Lead Agency/Department Responsible:	ESD #1 (local fire department)
Implementation Schedule:	24 months
Hazard(s) Addressed	**Drought**
Action: Develop a contingency plan to identify potential impacts of drought to include utilities such as power generation and drinking water; health & safety; and emergency response such as fire suppression operations.	
Participating Jurisdiction:	City of Aledo
Priority:	13
Estimated Cost:	$10,000
Estimated Benefit:	$60,000
Potential Funding Source(s):	General Funds, grants
Lead Agency/Department Responsible:	Public Works Department
Implementation Schedule:	24 months
Hazard(s) Addressed	**Winter Storms**
Action: Purchase additional street sanding capacity equipment to prevent ice accumulation on critical roadways.	
Participating Jurisdiction:	City of Aledo
Priority:	14
Estimated Cost:	$10,000
Estimated Benefit:	$60,000
Potential Funding Source(s):	General Funds, grants
Lead Agency/Department Responsible:	Public Works Department
Implementation Schedule:	24 months

Hazard(s) Addressed	Extreme Heat, Thunderstorms
Action: Install gazebos at public parks and possible covered seating areas.	
Participating Jurisdiction:	City of Aledo
Priority:	15
Estimated Cost:	$20,000
Estimated Benefit:	$120,000
Potential Funding Source(s):	General Fund, HMPG
Lead Agency/Department Responsible:	Parks Department, Public Works Department
Implementation Schedule:	24 months
Hazard(s) Addressed	**Earthquakes, Extreme Heat, Thunderstorms, Tornadoes, Winter Storms**
Action: When applicable, install covered walkways and parking to protect people and critical vehicles from severe weather within the area of the new city hall.	
Participating Jurisdiction:	City of Aledo
Priority:	16
Estimated Cost:	$25,000
Estimated Benefit:	$150,000
Potential Funding Source(s):	General Funds, grants
Lead Agency/Department Responsible:	City Administration, Building Official
Implementation Schedule:	24 months
Hazard(s) Addressed	**Earthquakes, Tornadoes, Thunderstorms**
Action: When applicable, replace existing facilities and the new city hall with impact resistant doors, windows, and roofing.	
Participating Jurisdiction:	City of Aledo
Priority:	17
Estimated Cost:	$50,000
Estimated Benefit:	$300,000
Potential Funding Source(s):	General Funds, grants
Lead Agency/Department Responsible:	City Administration, Building Official
Implementation Schedule:	24 months

Hazard(s) Addressed	Earthquakes, Flooding, Dam Failure Flooding, Thunderstorms, Tornadoes
Action: Develop a plan for replacing existing portable, outside furniture in public parks with permanent, anchored furniture that will not create debris during severe weather.	
Participating Jurisdiction:	City of Aledo
Priority:	18
Estimated Cost:	$20,000
Estimated Benefit:	$120,000
Potential Funding Source(s):	General Budget, grants
Lead Agency/Department Responsible:	Public Works Department
Implementation Schedule:	24 months
Hazard(s) Addressed	**Flooding**
Action: Participate in the NFIP Community Rating System.	
Participating Jurisdiction:	City of Aledo
Priority:	19
Estimated Cost:	$1,000
Estimated Benefit:	$6,000
Potential Funding Source(s):	General Budget, grants
Lead Agency/Department Responsible:	Public Works Department
Implementation Schedule:	24 months
Hazard(s) Addressed	**Dam Failure Flooding**
Action: Ensure high hazard dam owners are members of a dam safety program.	
Participating Jurisdiction:	City of Aledo
Priority:	20
Estimated Cost:	$500
Estimated Benefit:	$3,000
Potential Funding Source(s):	General Budget, grants
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	24 months

City of Hudson Oaks Mitigation Action Items

Hazard(s) Addressed	**Drought**
Action: Develop and implement a water monitoring strategy and ensure water conservation plans are being followed.	
Participating Jurisdiction:	City of Hudson Oaks
Priority:	1
Estimated Cost:	$250,000 per overhaul (Via SCADA)
Estimated Benefit:	$1,500,000
Potential Funding Source(s):	Capital Projects Fund, grants
Lead Agency/Department Responsible:	Water Department
Implementation Schedule:	24 months
Hazard(s) Addressed	**Thunderstorms, Tornadoes, Wildfires, Winter Storms**
Action: Provide outdoor warning siren information through the city website and install sirens in areas that need coverage.	
Participating Jurisdiction:	City of Hudson Oaks
Priority:	2
Estimated Cost:	$250,000
Estimated Benefit:	$1,500,000
Potential Funding Source(s):	General fund, grants
Lead Agency/Department Responsible:	City Administration, Public Works Department
Implementation Schedule:	12 months
Hazard(s) Addressed	**Drought, Expansive Soils, Extreme Heat, Flooding, Thunderstorms, Wildfires, Winter Storms**
Action: Require the use of porous pavement, rain gardens, Smartscape, vegetation buffers, and/or trees during new development in and around buildings, roads, public rights-of-way, parking lots, and easements.	
Participating Jurisdiction:	City of Hudson Oaks
Priority:	3
Estimated Cost:	$20,000
Estimated Benefit:	$120,000
Potential Funding Source(s):	Capital Project Fund, Company Construction Expense, grants
Lead Agency/Department Responsible:	Planning Department, Economic Development Department
Implementation Schedule:	24 months

Hazard(s) Addressed	Extreme Heat, Flooding
Action: Plant more trees in the city to provide shade and absorb water.	
Participating Jurisdiction:	City of Hudson Oaks
Priority:	4
Estimated Cost:	$4,000
Estimated Benefit:	$24,000
Potential Funding Source(s):	General fund, grants
Lead Agency/Department Responsible:	City Administration, Public Works Department
Implementation Schedule:	24 months
Hazard(s) Addressed	**Tornadoes**
Action: Require anchors for mobile homes and portable building, including accessory buildings.	
Participating Jurisdiction:	City of Hudson Oaks
Priority:	5
Estimated Cost:	$0
Estimated Benefit:	$0
Potential Funding Source(s):	No funding needed
Lead Agency/Department Responsible:	Planning Department, Permit Department
Implementation Schedule:	36 months
Hazard(s) Addressed	**Wildfires**
Action: Install additional fire hydrants in wildland-urban interface.	
Participating Jurisdiction:	City of Hudson Oaks
Priority:	6
Estimated Cost:	$3,000 per hydrant
Estimated Benefit:	$18,000 per hydrant
Potential Funding Source(s):	Project Fund, grants
Lead Agency/Department Responsible:	Planning Department, Water Department
Implementation Schedule:	24 months

Hazard(s) Addressed	Expansive Soils, Flooding
Action: Install flexible pipelines to retrofit new and existing infrastructure.	
Participating Jurisdiction:	City of Hudson Oaks
Priority:	7
Estimated Cost:	$60 per foot per 8” line
Estimated Benefit:	$100,000
Potential Funding Source(s):	Capital Project Fund, grants
Lead Agency/Department Responsible:	Planning Department, Public Works Department
Implementation Schedule:	24 months
Hazard(s) Addressed	**Flooding**
Action: Provide NFIP brochures in city facility sitting area for residents.	
Participating Jurisdiction:	City of Hudson Oaks
Priority:	8
Estimated Cost:	$100
Estimated Benefit:	$600
Potential Funding Source(s):	General fund, grants
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	1 month
Hazard(s) Addressed	**Drought, Earthquakes, Extreme Heat, Expansive Soils, Flooding, Thunderstorms, Tornadoes, Wildfires, Winter Storms**
Action: Develop and implement a public awareness campaign to educate residents about hazard risks and personal mitigation actions.	
Participating Jurisdiction:	City of Hudson Oaks
Priority:	9
Estimated Cost:	$5,000
Estimated Benefit:	$30,000
Potential Funding Source(s):	General fund, grants
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	24 month

City of Springtown Mitigation Action Items

Hazard(s) Addressed	**Drought, Earthquakes, Extreme Heat, Expansive Soils, Flooding, Thunderstorms, Tornadoes, Wildfires, Winter Storms**
Action: Update all the required city building codes from the 2012 International Codes to a more recent code, such as 2018 or 2019.	
Participating Jurisdiction:	City of Springtown
Priority:	1
Estimated Cost:	$10,000
Estimated Benefit:	$60,000
Potential Funding Source(s):	General fund, grants
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	12 months
Hazard(s) Addressed	**Thunderstorms, Tornadoes, Wildfires**
Action: Purchase three outdoor warning sirens to be placed in strategic locations to warn citizens of severe weather.	
Participating Jurisdiction:	City of Springtown
Priority:	2
Estimated Cost:	$75,000
Estimated Benefit:	$450,000
Potential Funding Source(s):	Grants, Capital Improvement fund
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	24 months
Hazard(s) Addressed	**Drought, Earthquakes, Extreme Heat, Expansive Soils, Flooding, Thunderstorms, Tornadoes, Wildfires, Winter Storms**
Action: Purchase and set up of a city back-up server for all city records and data to be backed-up in a secure location. Includes the purchase of back-up generators for all city buildings.	
Participating Jurisdiction:	City of Springtown
Priority:	3
Estimated Cost:	$10,000
Estimated Benefit:	$60,000
Potential Funding Source(s):	General fund, grants
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	24 months

Hazard(s) Addressed	Flooding
Action: Replace current drainage system known as the "Aqueduct" in the city. Includes creating underground drainage along North Main Street.	
Participating Jurisdiction:	City of Springtown
Priority:	10
Estimated Cost:	$100,000
Estimated Benefit:	$600,000
Potential Funding Source(s):	Capital Improvement Fund, grants, partnership with government entities
Lead Agency/Department Responsible:	City Administration, Public Works Department
Implementation Schedule:	24 months
Hazard(s) Addressed	**Drought, Extreme Heat**
Action: Stockpile of drinking water for city residents.	
Participating Jurisdiction:	City of Springtown
Priority:	4
Estimated Cost:	$2,000
Estimated Benefit:	$12,000
Potential Funding Source(s):	General Fund
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	3 months
Hazard(s) Addressed	**Thunderstorms**
Action: Public education on how to protect property from thunderstorm damage.	
Participating Jurisdiction:	City of Springtown
Priority:	5
Estimated Cost:	$1,000
Estimated Benefit:	$6,000
Potential Funding Source(s):	General fund, grants
Lead Agency/Department Responsible:	Office of Emergency Management
Implementation Schedule:	24 months

Hazard(s) Addressed	Tornadoes
Action: Provide free property inspections and public education on tornado mitigation activities.	
Participating Jurisdiction:	City of Springtown
Priority:	6
Estimated Cost:	$1,000
Estimated Benefit:	$6,000
Potential Funding Source(s):	General fund, grants
Lead Agency/Department Responsible:	Office of Emergency Management
Implementation Schedule:	24 months
Hazard(s) Addressed	**Winter Storms**
Action: Purchase brine/sand for city roads and chains for city vehicles to de-ice city roads.	
Participating Jurisdiction:	City of Springtown
Priority:	7
Estimated Cost:	$1,000
Estimated Benefit:	$6,000
Potential Funding Source(s):	General fund, grants
Lead Agency/Department Responsible:	Public Works Department
Implementation Schedule:	12 months
Hazard(s) Addressed	**Wildfires**
Action: Public education on tree and brush trimming, bulk pick-up of brush.	
Participating Jurisdiction:	City of Springtown
Priority:	8
Estimated Cost:	$1,000
Estimated Benefit:	$6,000
Potential Funding Source(s):	General fund, grants
Lead Agency/Department Responsible:	Public Works Department
Implementation Schedule:	24 months

Hazard(s) Addressed	Drought, Extreme Heat, Expansive Soils, Flooding
Action: Require the use of Smartscape, vegetation buffers, trees, bushes in new developments.	
Participating Jurisdiction:	City of Springtown
Priority:	9
Estimated Cost:	$15,000
Estimated Benefit:	$90,000
Potential Funding Source(s):	General funds, Impact fees, grants
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	24 months
Hazard(s) Addressed	**Flooding**
Action: Provide *National Flood Insurance Program* material at public facilities.	
Participating Jurisdiction:	City of Springtown
Priority:	10
Estimated Cost:	$1,000
Estimated Benefit:	$6,000
Potential Funding Source(s):	General funds, grants
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	24 months

City of Weatherford Mitigation Action Items

Hazard(s) Addressed	Drought, Expansive Soils, Extreme Heat, Thunderstorms, Tornadoes, Winter Storms
Action: Purchase a mobile power generator to power water pumping and lift stations in power outages.	
Participating Jurisdiction:	City of Weatherford
Priority:	1
Estimated Cost:	$225,000
Estimated Benefit:	$1,350,000
Potential Funding Source(s):	Utility funds, mitigation grants
Lead Agency/Department Responsible:	Water Department
Implementation Schedule:	24 months

Hazard(s) Addressed	Thunderstorms
Action: Purchase a mobile lightning detection unit for use at outdoor events.	
Participating Jurisdiction:	City of Weatherford
Priority:	2
Estimated Cost:	$14,500
Estimated Benefit:	$87,000
Potential Funding Source(s):	General funds, mitigation grants
Lead Agency/Department Responsible:	Parks Department
Implementation Schedule:	12 months
Hazard(s) Addressed:	**Drought, Earthquakes, Extreme Heat, Expansive Soils, Flooding, Thunderstorms, Tornadoes, Wildfires, Winter Storms**
Action: Create a mobile animal shelter and disaster relief trailer.	
Participating Jurisdiction:	City of Weatherford
Priority:	3
Estimated Cost:	$265,000
Estimated Benefit:	$1,590,000
Potential Funding Source(s):	City General funds, mitigation grants
Lead Agency/Department Responsible:	Municipal and Community Services/Animal Services Department
Implementation Schedule:	18 months
Hazard(s) Addressed	**Drought, Earthquakes, Extreme Heat, Expansive Soils, Flooding, Dam Failure Flooding, Thunderstorms, Tornadoes, Wildfires, Winter Storms**
Action: Enhance public education to include the risks and mitigation actions for the identified hazards using social media, city website, and local newspapers.	
Participating Jurisdiction:	City of Weatherford
Priority:	4
Estimated Cost:	$15,000
Estimated Benefit:	$90,000
Potential Funding Source(s):	General funds, mitigation grants
Lead Agency/Department Responsible:	Office of Emergency Management
Implementation Schedule:	24 months

Hazard(s) Addressed	Drought, Earthquakes, Extreme Heat, Expansive Soils, Flooding, Thunderstorms, Tornadoes, Wildfires, Winter Storms
Action: Replace aging generator at City Hall.	
Participating Jurisdiction:	City of Weatherford
Priority:	5
Estimated Cost:	$230,667
Estimated Benefit:	$1,384,002
Potential Funding Source(s):	General funds, mitigation grants
Lead Agency/Department Responsible:	Office of Emergency Management
Implementation Schedule:	24 months
Hazard(s) Addressed	**Extreme Heat, Thunderstorms, Tornadoes, Winter Storms**
Action: Construct covered parking and storage buildings for emergency vehicles and equipment throughout city.	
Participating Jurisdiction:	City of Weatherford
Priority:	6
Estimated Cost:	$100,000
Estimated Benefit:	$600,000
Potential Funding Source(s):	General funds, mitigation grants
Lead Agency/Department Responsible:	Office of Emergency Management
Implementation Schedule:	24 months
Hazard(s) Addressed	**Extreme Heat, Thunderstorms, Tornadoes, Winter Storms**
Action: Construct covered parking and walkways at City Hall to protect citizens, staff, and their vehicles.	
Participating Jurisdiction:	City of Weatherford
Priority:	7
Estimated Cost:	$100,000
Estimated Benefit:	$600,000
Potential Funding Source(s):	General funds, mitigation grants
Lead Agency/Department Responsible:	Office of Emergency Management
Implementation Schedule:	24 months

Hazard(s) Addressed	Wildfires
Action: Create and implement a Community Wildfire Protection Plan.	
Participating Jurisdiction:	City of Weatherford
Priority:	8
Estimated Cost:	$15,000
Estimated Benefit:	$90,000
Potential Funding Source(s):	General funds, mitigation grants
Lead Agency/Department Responsible:	Fire Department
Implementation Schedule:	24 months
Hazard(s) Addressed	**Drought, Earthquakes, Extreme Heat, Expansive Soils, Flooding, Thunderstorms, Tornadoes, Wildfires, Winter Storms**
Action: Replace aging generator at the police station.	
Participating Jurisdiction:	City of Weatherford
Priority:	9
Estimated Cost:	$100,000
Estimated Benefit:	$600,000
Potential Funding Source(s):	General funds, mitigation grants
Lead Agency/Department Responsible:	Police Department
Implementation Schedule:	24 months
Hazard(s) Addressed	**Drought, Earthquakes, Extreme Heat, Expansive Soils, Flooding, Thunderstorms, Tornadoes, Wildfires, Winter Storms**
Action: Replace aging generator at Fire Station 1.	
Participating Jurisdiction:	City of Weatherford
Priority:	10
Estimated Cost:	$200,000
Estimated Benefit:	$1,200,000
Potential Funding Source(s):	General funds, mitigation grants
Lead Agency/Department Responsible:	Fire Department
Implementation Schedule:	24 months

Hazard(s) Addressed	Drought, Earthquakes, Extreme Heat, Expansive Soils, Flooding, Thunderstorms, Tornadoes, Wildfires, Winter Storms
Action: Create an alternative Emergency Operations Center at the new or existing police station.	
Participating Jurisdiction:	City of Weatherford
Priority:	11
Estimated Cost:	$500,000
Estimated Benefit:	$3,000,000
Potential Funding Source(s):	General funds, mitigation grants
Lead Agency/Department Responsible:	Office of Emergency Management
Implementation Schedule:	24 months
Hazard(s) Addressed	**Flooding, Dam Failure Flooding**
Action: Create and implement a community-wide educational campaign to educate residents about the NFIP and dam safety.	
Participating Jurisdiction:	City of Weatherford
Priority:	12
Estimated Cost:	$5,000
Estimated Benefit:	$30,000
Potential Funding Source(s):	General funds, mitigation grants
Lead Agency/Department Responsible:	Water Department
Implementation Schedule:	24 months
Hazard(s) Addressed	**Dam Failure Flooding**
Action: Create and implement a biannual inspection program to inspect the city-owned dams to help prevent dam failure.	
Participating Jurisdiction:	City of Weatherford
Priority:	13
Estimated Cost:	$50,000
Estimated Benefit:	$300,000
Potential Funding Source(s):	General funds, mitigation grants
Lead Agency/Department Responsible:	Water Department
Implementation Schedule:	24 months

Hazard(s) Addressed	Drought, Extreme Heat, Expansive Soils, Flooding
Action: Require the use of Smartscape, vegetation buffers, and native plants in new developments.	
Participating Jurisdiction:	City of Weatherford
Priority:	14
Estimated Cost:	$15,000
Estimated Benefit:	$90,000
Potential Funding Source(s):	General funds, Impact fees, grants
Lead Agency/Department Responsible:	City Administration
Implementation Schedule:	24 months

City of Willow Park Mitigation Action Items

Hazard(s) Addressed	Drought, Earthquakes, Expansive Soils, Extreme Heat, Flooding, Dam Failure Flooding, Thunderstorms, Tornadoes, Wildfires, Winter Storms
Action: Enhance the public education program to include mitigation strategies for the identified natural hazards.	
Participating Jurisdiction:	City of Willow Park
Priority:	1
Estimated Cost:	$3,000
Estimated Benefit:	$18,000
Potential Funding Source(s):	hazard mitigation grants, public education grant, general fund
Lead Agency/Department Responsible:	Fire Department
Implementation Schedule:	24 months
Hazard(s) Addressed	**Drought, Earthquakes, Expansive Soils, Extreme Heat, Flooding, Dam Failure Flooding, Thunderstorms, Tornadoes, Wildfires, Winter Storms**
Action: Harden existing and future critical facilities in ways that include, but are not limited to, the use of impact resistant and energy efficient materials.	
Participating Jurisdiction:	City of Willow Park
Priority:	2
Estimated Cost:	$500,000
Estimated Benefit:	$3,000,000
Potential Funding Source(s):	Hazard mitigation grants, general fund, USDA grant
Lead Agency/Department Responsible:	Fire Department, Public Works Department
Implementation Schedule:	24 months

Hazard(s) Addressed	Earthquakes, Extreme Heat, Flooding, Thunderstorms, Tornadoes, Wildfires, Winter Storms
Action: Install a mass notification system to alert the public of impending hazards.	
Participating Jurisdiction:	City of Willow Park
Priority:	3
Estimated Cost:	$4,000
Estimated Benefit:	$24,000
Potential Funding Source(s):	Hazard mitigation grants, general fund, USDA grant
Lead Agency/Department Responsible:	Fire Department
Implementation Schedule:	18 months
Hazard(s) Addressed	**Flooding, Dam Failure Flooding**
Action: Improve drainage in flood prone areas through flood studies and new drainage.	
Participating Jurisdiction:	City of Willow Park
Priority:	4
Estimated Cost:	$1,000,000
Estimated Benefit:	$6,000,000
Potential Funding Source(s):	Hazard mitigation grants, general fund, USDA grant
Lead Agency/Department Responsible:	Public Works Department, Fire Department, City Engineer
Implementation Schedule:	24 months
Hazard(s) Addressed	**Dam Failure Flooding**
Action: Conduct a dam inundation study.	
Participating Jurisdiction:	City of Willow Park
Priority:	5
Estimated Cost:	$100,000
Estimated Benefit:	$600,000
Potential Funding Source(s):	Hazard mitigation grants, TCEQ Grants, USDA Grants
Lead Agency/Department Responsible:	Fire Department, Natural Resources Conservation Service
Implementation Schedule:	24 months

Hazard(s) Addressed	Flooding
Action: Become a National Flood Insurance Program Community Rating System (CRS) community.	
Participating Jurisdiction:	City of Willow Park
Priority:	6
Estimated Cost:	$100,000
Estimated Benefit:	$600,000
Potential Funding Source(s):	Hazard mitigation grants, USDA grants, general fund
Lead Agency/Department Responsible:	Fire Department, City Administration
Implementation Schedule:	24 months

Parker County Unincorporated Mitigation Action Items

Hazard(s) Addressed	Flooding
Action: Increase the capacity of the storm drainage system at low water crossings and other areas where water collects by installing larger culverts and adding drainage points along vulnerable or critical roads.	
Participating Jurisdiction:	Parker County Unincorporated
Priority:	1
Estimated Cost:	$100,000
Estimated Benefit:	$600,000
Potential Funding Source(s):	County budget, grants
Lead Agency/Department Responsible:	County Commissioners
Implementation Schedule:	24 months
Hazard(s) Addressed	**Drought, Extreme Heat, Thunderstorms, Wildfires**
Action: Develop a Wildland-Urban Interface Code. This code can also assist with drought resistant vegetation, and tree/brush pruning for thunderstorms.	
Participating Jurisdiction:	Parker County Unincorporated
Priority:	2
Estimated Cost:	$5,000
Estimated Benefit:	$30,000
Potential Funding Source(s):	County budget, Firewise Program, grants
Lead Agency/Department Responsible:	Emergency Services
Implementation Schedule:	24 months

Hazard(s) Addressed	Drought, Earthquake, Expansive Soils, Extreme Heat, Flooding, Dam Failure Flooding, Thunderstorms, Tornadoes, Wildfires, Winter Storms
Action: Develop and implement a public awareness campaign to educate residents about hazard risks and personal mitigation actions. using social media, county website, and local newspapers.	
Participating Jurisdiction:	Parker County Unincorporated
Priority:	3
Estimated Cost:	$25,000
Estimated Benefit:	$150,000
Potential Funding Source(s):	County budget, grants
Lead Agency/Department Responsible:	Emergency Services
Implementation Schedule:	24 months
Hazard(s) Addressed	**Drought, Expansive Soils, Extreme Heat, Flooding, Dam Failure Flooding, Tornadoes, Thunderstorms, Wildfires, Winter Storms**
Action: Implement the use of porous pavement, pavers, bio swales, rain gardens, tree trenches, Smartscape, vegetative buffers, trees, and islands in and around large parking areas, roads, buildings, and public rights-or-way and easements.	
Participating Jurisdiction:	Parker County Unincorporated
Priority:	4
Estimated Cost:	$25,000
Estimated Benefit:	$150,000
Potential Funding Source(s):	General fund, grants
Lead Agency/Department Responsible:	Permitting Department
Implementation Schedule:	24 months
Hazard(s) Addressed	**Flooding**
Action: Become a NFIP Community Rating System (CRS) participant.	
Participating Jurisdiction:	Parker County Unincorporated
Priority:	5
Estimated Cost:	$50,000
Estimated Benefit:	$300,000
Potential Funding Source(s):	County budget, grants
Lead Agency/Department Responsible:	Floodplain Manager
Implementation Schedule:	24 months

Hazard(s) Addressed	Drought, Earthquake, Expansive Soils, Extreme Heat, Flooding, Dam Failure Flooding, Thunderstorms, Tornadoes, Wildfires, Winter Storms
Action: Harden existing and future critical facilities to withstand the various hazards within the County.	
Participating Jurisdiction:	Parker County Unincorporated
Priority:	6
Estimated Cost:	$500,000
Estimated Benefit:	$3,000,000
Potential Funding Source(s):	County budget, grants
Lead Agency/Department Responsible:	County Commissioners
Implementation Schedule:	24 months
Hazard(s) Addressed	**Dam Failure Flooding**
Action: Conduct an inundation study of all dams within the county, starting with high-hazard dams.	
Participating Jurisdiction:	Parker County Unincorporated
Priority:	7
Estimated Cost:	$500,000
Estimated Benefit:	$3,000,000
Potential Funding Source(s):	County budget, grants
Lead Agency/Department Responsible:	County Commissioners
Implementation Schedule:	24 months

4.6 Incorporation into Existing Planning Mechanisms

Based on Requirement 201.6(c)(4(ii) and the State of Texas Mitigation Plan, the vulnerability and capabilities assessment for the town were carefully reviewed and considered when developing the mitigation actions for this plan. The Local Planning Team (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. At this time, the HazMAP has not been formally integrated into existing planning mechanisms.

Once the plan is adopted, the LPT will coordinate implementation with the responsible parties in the town, as well as external stakeholders as needed.

The following steps will be taken in implementing this HazMAP into local plans:

1. Change is proposed by an elected official or other interested party.
2. Proposal is placed on the local agenda of the governing body.
3. 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.

4. Proposal is discussed at the planning meeting, including any comments by members of the public attendance.
5. Proposal is voted on by the governing body.
6. If the proposal is passed, the change is implemented by the appropriate party.

Planning mechanisms in which the HazMAP will be integrated are listed below.

Jurisdiction	Type of Plan or Activity	Department Responsible	Update Schedule	Actions to be Integrated
Aledo	Capital Improvement Plan	City Administration	Every 5 years	Reference this HazMAP when developing the plan.
Aledo	Strategic Plan	City Administration, Planning & Zoning Department, Public Works Departments	Every 10 years	Reference this HazMAP when developing the plans for critical infrastructure and resources.
Aledo	Wastewater System Impact Fee Capital Improvement Plan	Public Works Department	Every 5 years	Reference this HazMAP when developing the plan.
Aledo	Water System Impact Fee Capital Improvement Plan	Public Works Department	Every 5 years	Reference this HazMAP when developing the plan.
Aledo	Thoroughfare Plan	Public Works Department	Every 10 years	Reference this HazMAP when developing the plan.
Aledo	Future Drainage Master Plan	Public Works Department	Every 10 years	Reference this HazMAP when developing the plan.
Hudson Oaks	Capital Improvement Plan	City Administration	Every 5 years	Reference this HazMAP when developing the plan.
Springtown	Land Use Plan	Planning and Zoning Board, City Administrations, and Public Works Department	Every 5 years	Reference this HazMAP when developing and reviewing plans for land use within the city,
Springtown	Emergency Operations Plan	Police Department, City Administration, Public Works Department	Annual	Reference this HazMAP when developing and reviewing the plan.
Weatherford	General Plan	Planning, Zoning, and Public Works Departments	Every 2 years	Reference this HazMAP when developing the plans for critical

Jurisdiction	Type of Plan or Activity	Department Responsible	Update Schedule	Actions to be Integrated
				infrastructure and resources.
Willow Park	Capital Improvement Plan	City Administration	Every 10 years	Reference this HazMAP when developing the plan.
Willow Park	Comprehensive Plan	Planning, Zoning, and Public Works Departments	Every 5 years	Reference this HazMAP when developing the plans for critical infrastructure and resources.
Parker County Unincorporated	Strategic Plan	Commissioners Court	Every 5 years	Reference this HazMAP when developing the plan.
Parker County Unincorporated	Stormwater Management Plan	Permitting Department	Every 5 years	Reference this HazMAP when developing the plan.

Although it is recognized that there are many possible benefits to integrating components of this Hazard Mitigation Action Plan (HazMAP) into other planning mechanisms, the participating jurisdictions consider this HazMAP, including development and maintenance, to be the primary vehicle to ensure implementation of local hazard mitigation actions.

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Chapter 5: Conclusion

Through the development of this plan, Parker County has developed a thorough hazard history, an inventory of critical facilities, and an assessment of their current capabilities. This data, when used in conjunction with the updated information about hazard threats and vulnerabilities, will prove to be invaluable to Parker County and its participating jurisdictions.

Natural hazards have been identified county-wide and technological hazards have been listed for selected jurisdictions that opted to include these hazards. Mitigation projects that could reduce the risk of lives and property due to the identified threats have been compiled and prioritized.

The creation of the Parker County Hazard Mitigation Planning Team (HMPT) brought together stakeholders from communities and organizations onto one planning team. This group has been able to work together effectively and efficiently to produce this document and establish a greater awareness of risks and mitigation strategies.

In addition to the HMPT, the creation of the Local Planning Team (LPT) in each jurisdiction brought together stakeholders and departments within the jurisdiction onto one planning team. This group was able to work together effectively and efficiently to produce jurisdictional data for this document and establish a greater awareness of risks and mitigation strategies.

This plan will continue to evolve as necessary to properly represent the threats and vulnerabilities affecting Parker County. Continued public participation is encouraged and will continue through the ongoing multijurisdictional hazard mitigation process. The plan, in its entirety (not limited to but including development, public participation, hazard identification, and mitigation actions), will continue to be monitored and evaluated.

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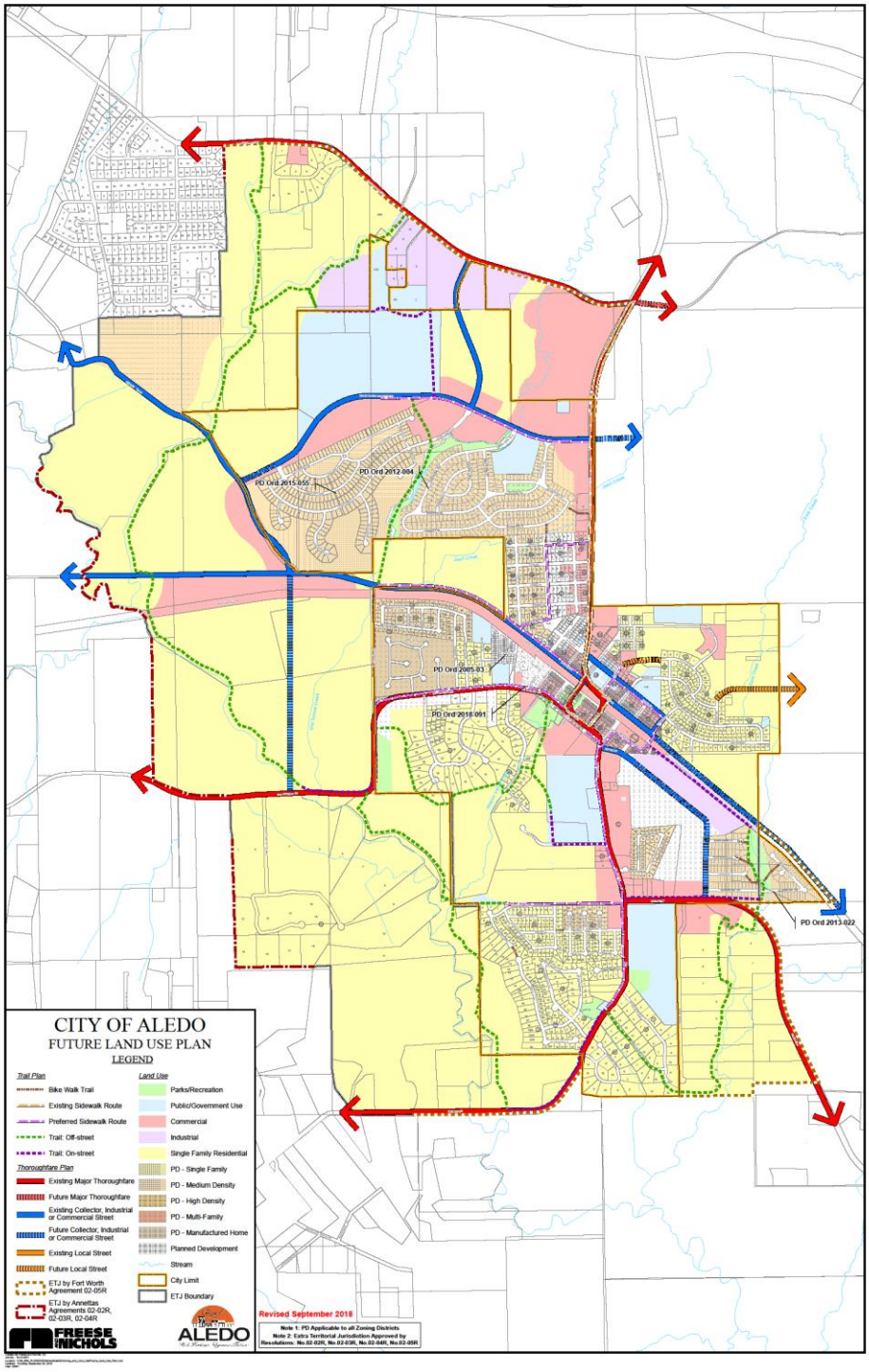
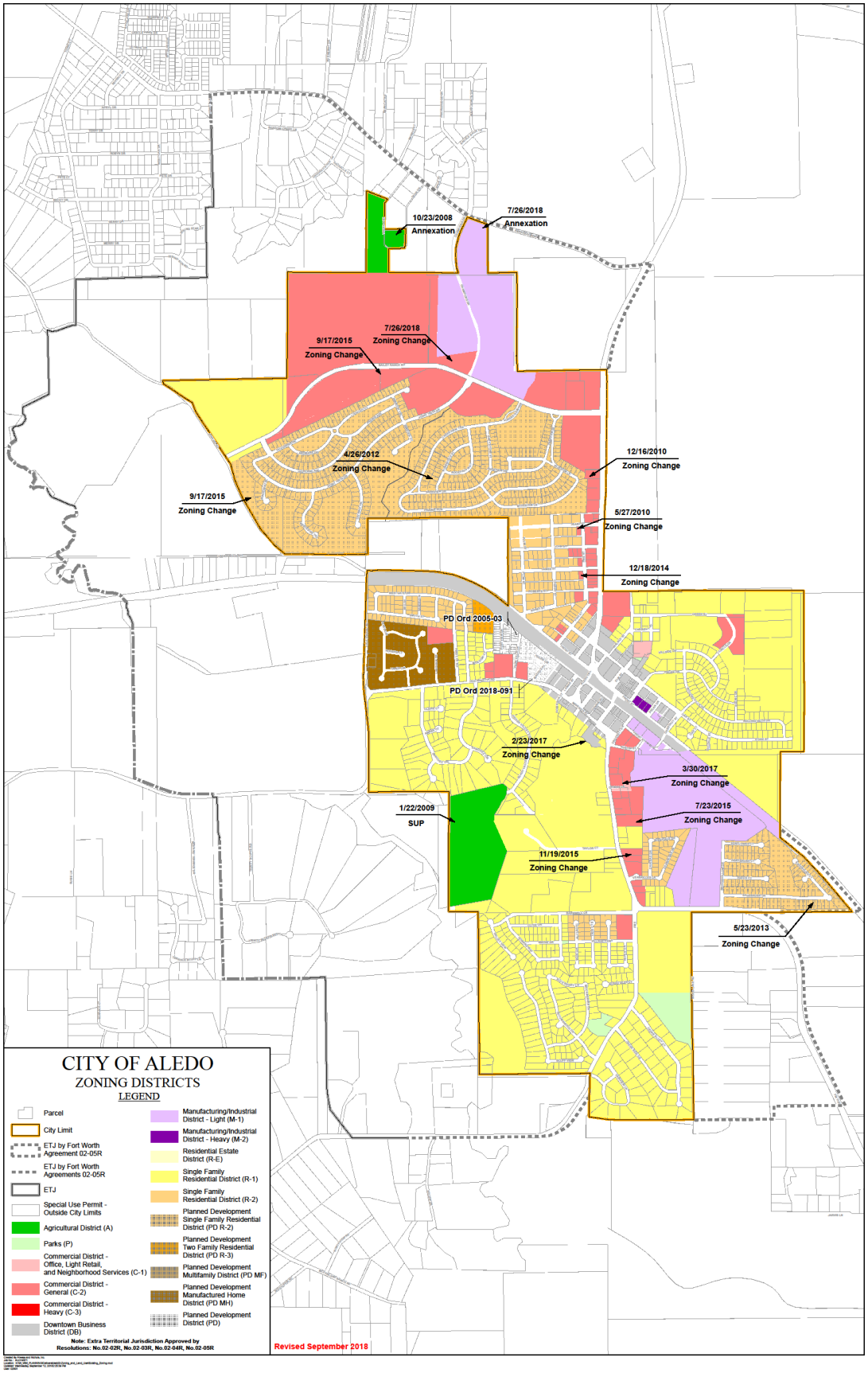
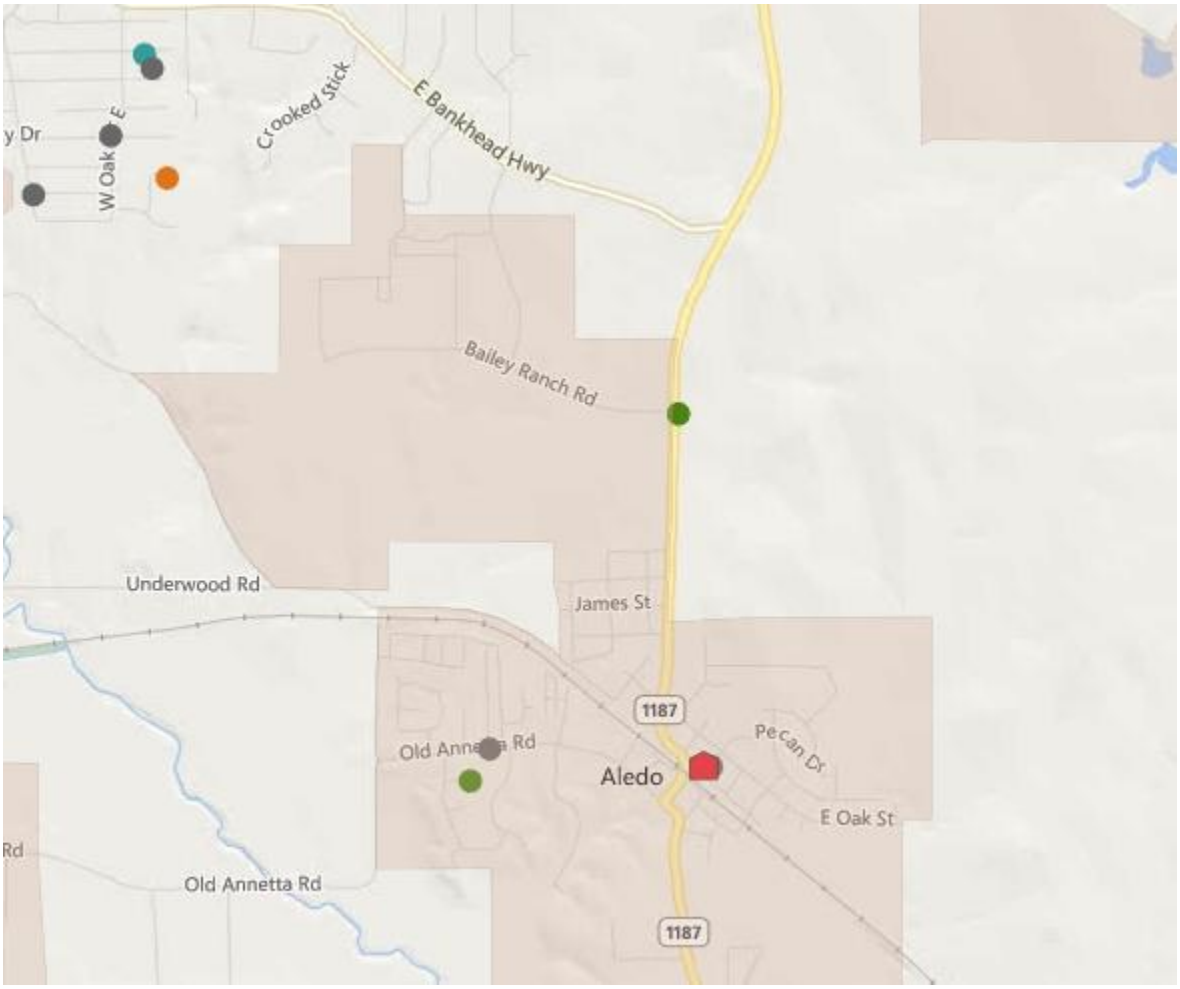
Appendix A: Maps & Tables

City of Aledo




10/23/2008
Annexation
7/26/2018
Annexation
9/17/2015
Zoning Change
7/26/2018
Zoning Change
4/26/2012
Zoning Change
12/16/2010
Zoning Change
9/17/2015
Zoning Change
5/27/2010
Zoning Change
12/18/2014
Zoning Change
PD Ord 2005-03
PD Ord 2018-091
2/23/2017
Zoning Change
3/30/2017
Zoning Change
1/22/2009
SUP
7/23/2015
Zoning Change
11/19/2015
Zoning Change
5/23/2013
Zoning Change
CITY OF ALEDO
ZONING DISTRICTS
LEGEND
Parcel
City Limit
ETJ by Fort Worth Agreement 02-05R
ETJ by Fort Worth Agreements 02-05R
ETJ
Special Use Permit - Outside City Limits
Agricultural District (A)
Parks (P)
Commercial District - Office, Light Retail, and Neighborhood Services (C-1)
Commercial District - General (C-2)
Commercial District - Heavy (C-3)
Downtown Business District (DB)
Manufacturing/Industrial District - Light (M-1)
Manufacturing/Industrial District - Heavy (M-2)
Residential Estate District (R-E)
Single Family Residential District (R-1)
Single Family Residential District (R-2)
Planned Development Single Family Residential District (PD R-2)
Planned Development Two Family Residential District (PD R-3)
Planned Development Multifamily District (PD MF)
Planned Development Manufactured Home District (PD MH)
Planned Development District (PD)
Note: Extra Territorial Jurisdiction Approved by Resolutions: No.02-02R, No.02-03R, No.02-04R, No.02-05R
Revised September 2018

Wildfire Ignitions, 2005-2015

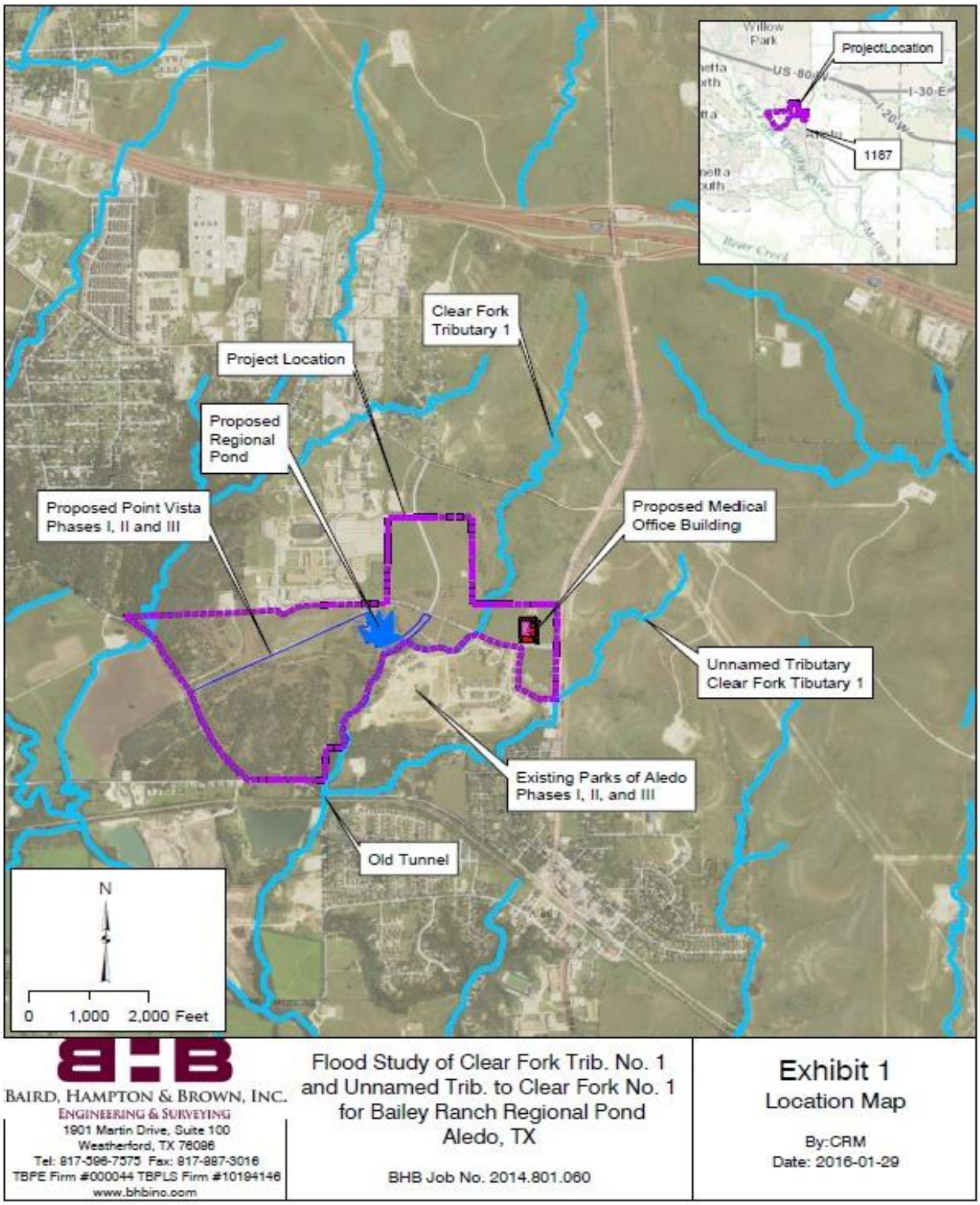


Wildfire Ignitions

Cause	Cause
Incendiary	Railroads
Lightning	Power Lines
Campfire	Children
Smoking	Debris Burning
Fireworks	Structure
Equipment User	Miscellaneous

Source: Texas A&M Forest Service

Bailey Ranch Regional Pond- Exhibit 1, Location Map (to support vulnerability statement in Chapter 3.4.7)



Aledo Critical and Vulnerable Facility & Infrastructure Table

At Risk To: (Y or N)								**Aledo Critical and Vulnerable Facility and Infrastructure Inventory**					
Drought	Expansive Soils	Extreme Heat	Flooding	Thunderstorms	Tornadoes	Wildfires	Winter Storms	**Facility Name or Description**	**Address**	**Capacity**	**Square Feet**	**Structure Value**	**Content Value**
Y	N	Y	N	Y	Y	N	Y	Aledo City Hall	200 Old Annetta Road	50	Unknown	$425,633	$175,000
Y	N	Y	N	Y	Y	N	Y	Aledo Community Center	104 Robinson Court	202	4000	$318,841	$50,000
Y	N	Y	N	Y	Y	N	Y	The Chiropractic Place	301 Elm Street	1500		$350,000	$150,000
Y	N	Y	N	Y	Y	N	Y	Bryant Grain Co	300 North Front Street	100	30,000	$5,000,000	$5,000,000
Y	N	Y	N	Y	Y	N	Y	Aledo Feed & Supply	215 Mesquite	10	5,040	$400,00	$100,000
Y	N	Y	N	Y	Y	N	Y	Edward Jones	313 FM 1187 North	3	1200	$300,000	$50,000
Y	N	Y	N	Y	Y	N	Y	Two Sisters Teahouse	209 North Front Street	25	836	$116,700	$50,000
Y	N	Y	N	Y	Y	N	Y	Living Real Estate Group	116 FM 1187 South		300	$600,000	$50,000
Y	N	Y	N	Y	Y	N	Y	Your Personal Chef	213 East Oak Street	50	900	$200,000	$100,000
Y	N	Y	N	Y	Y	N	Y	Water Well #7	212 Meadow Lane Drive	Unknown	Unknown	$157,378	$5,500
Y	N	Y	N	Y	Y	N	Y	Water Well #2	400 Rolling Hills Drive	Unknown	Unknown	$168,125	$3,000
Y	N	Y	N	Y	Y	N	Y	Water Well #4	600 Rolling Hills Drive South	Unknown	Unknown	$152,164	$3,000
Y	N	Y	N	Y	Y	N	Y	Water Well #1	Chestnut & Front	Unknown	Unknown	$152,164	$3,000
Y	N	Y	N	Y	Y	N	Y	Water Well #8	801 North FM 1187	Unknown	Unknown	$228,46	$4,0000
Y	N	Y	N	Y	Y	N	Y	Water Well #6	220 South FM 5	Unknown	Unknown	$248,676	$3,000
Y	N	Y	N	Y	Y	N	Y	Lift Station	500 Creekside Court	Unknown	Unknown	$21,282	Unknown
Y	N	Y	N	Y	Y	N	Y	Lift Station	552 East Oak Street	Unknown	Unknown	$26,602	Unknown
Y	N	Y	N	Y	Y	N	Y	Lift Station	300 Old Tunnel Road	Unknown	Unknown	$26,602	Unknown
Y	N	Y	N	Y	Y	N	Y	Lift Station	99 Mockingbird Ln	Unknown	Unknown	$26,602	Unknown
Y	N	Y	N	Y	Y	N	Y	Wastewater Treatment	600 Barnwell Road	Unknown	104,108	$6,679,137	Unknown

At Risk To: (Y or N)								**Aledo Critical and Vulnerable Facility and Infrastructure Inventory**					
Drought	Expansive Soils	Extreme Heat	Flooding	Thunderstorms	Tornadoes	Wildfires	Winter Storms	**Facility Name or Description**	**Address**	**Capacity**	**Square Feet**	**Structure Value**	**Content Value**
Y	N	Y	N	Y	Y	N	Y	Elevated Water Tank 750k	Queen Street	Unknown	Unknown	$1,901,621	Unknown
Y	N	Y	N	Y	Y	N	Y	Pump Station	1100 FM 1187	Unknown	Unknown	$955,333	Unknown
Y	N	Y	N	Y	Y	N	Y	Lift Station	Versailles Lane	Unknown	Unknown	$21,282	Unknown
Y	N	Y	N	Y	Y	N	Y	Little Plum Blossom Pediatrics	311 South FM 1187 Suite 300	35	1400	$1,000,000	$250,000
Y	N	Y	N	Y	Y	N	Y	Bobby J Rigues State Farm Insurance	411 North FM 1187	20	1700	$200,000	$5,700
Y	N	Y	N	Y	Y	N	Y	Aledo Church of Christ	201 FM 1187 South	400	16,740	$1,519,200.00	$222,600
Y	N	Y	N	Y	Y	N	Y	Sports Rehab& Physical Therapy	519 Pine Street		2000	$500,000	$100,000
Y	N	Y	N	Y	Y	N	Y	Tri-County Electric Cooperative, Inc.	200 Bailey Ranch Road	432	43,171.43	$10,400,000	$50,000
Y	N	Y	N	Y	Y	N	Y	Myer Orthodontics	311 South FM 1187 Suite D	27	2,775	Unknown	$80,000
Y	N	Y	N	Y	Y	N	Y	Fort Worth Custom Pools	709 FM 1187 North Suite 800	Unknown	Unknown	Unknown	Unknown
Y	N	Y	N	Y	Y	N	Y	The Summit	111 Maverick Street	250	7000	$700,000	$120,000
Y	N	Y	N	Y	Y	N	Y	The Summit	117 Robinson Court	50	117	$700,000	$120,000
Y	N	Y	N	Y	Y	N	Y	First Financial Bank N.A	505 FM 1187 North	50	4,875	$950,000	$450,000
Y	N	Y	N	Y	Y	N	Y	The Flower Shop	205 East Oak Street	20	1,200	Unknown	$100,000
Y	N	Y	N	Y	Y	N	Y	R.E. Auto Maintenance (built in 1965)	121 East FM 1187	Unknown	2,952	$150,000	$150,000
Y	N	Y	N	Y	Y	N	Y	East Parker County Library	201 FM 1187 North	50	2,976	$225,000	$250,000
Y	N	Y	N	Y	Y	N	Y	Aledo Cornerstone Church	241 North Front Street	100	5,500	$750,000	$25,000

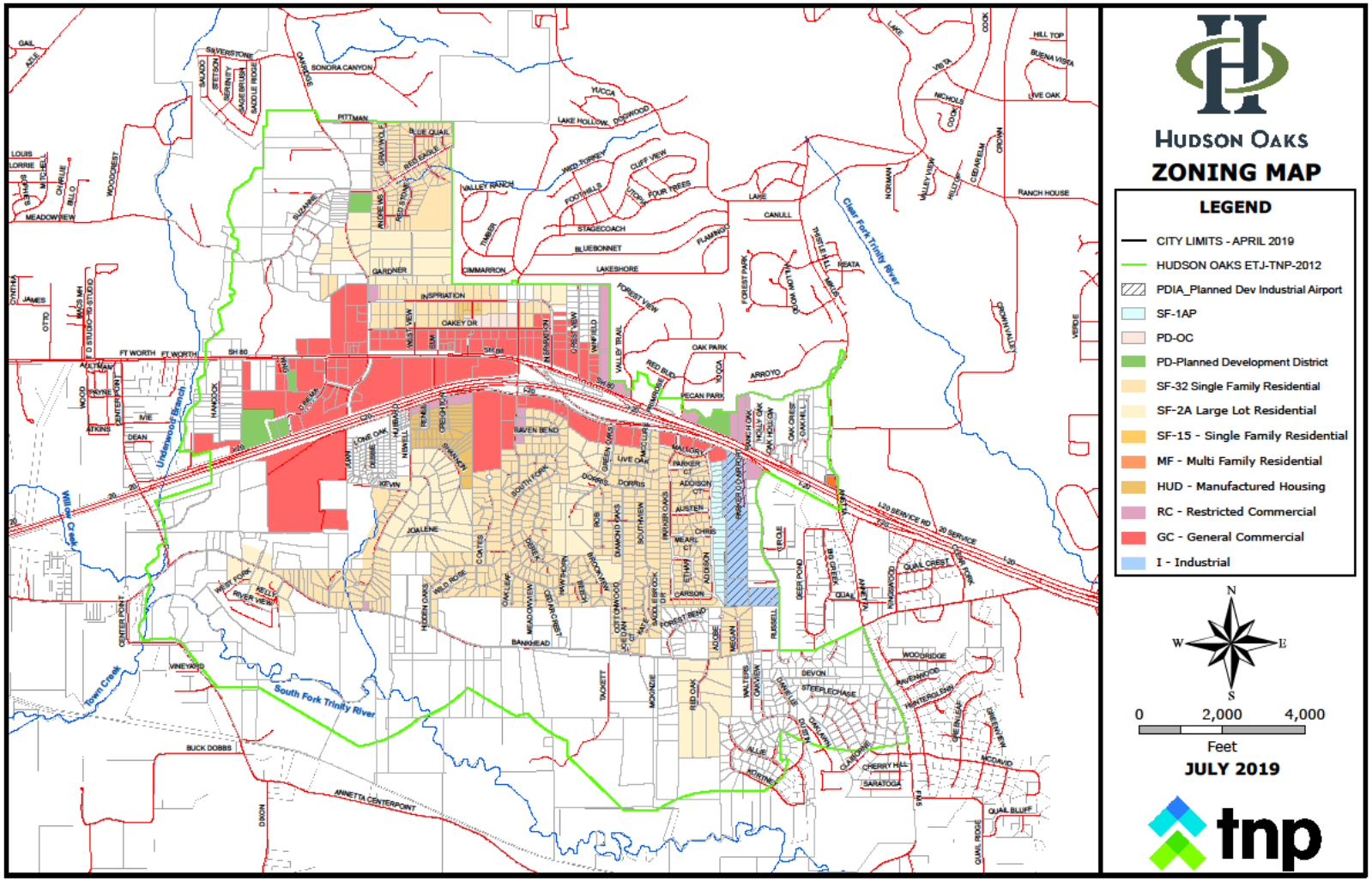
At Risk To: (Y or N)								Aledo Critical and Vulnerable Facility and Infrastructure Inventory					
Drought	Expansive Soils	Extreme Heat	Flooding	Thunderstorms	Tornadoes	Wildfires	Winter Storms	**Facility Name or Description**	**Address**	**Capacity**	**Square Feet**	**Structure Value**	**Content Value**
Y	N	Y	N	Y	Y	N	Y	Church at the Crossing	128 Elm Street	Unknown	32,770	$4,392,000	$600,000
Y	N	Y	N	Y	Y	N	Y	Church at the Crossing	120 Elm Street	Unknown	14,019	$1,332,000	$250,000
Y	N	Y	N	Y	Y	N	Y	Church at the Crossing	124 E Oak Street	Unknown	11,808	$949,000	$165,000
Y	N	Y	N	Y	Y	N	Y	Church at the Crossing	116 E Oak Street	Unknown	13,296	$1,185,000	$200,000
Y	N	Y	N	Y	Y	N	Y	Fido & Friends Incorporated	519 Pine Street Suite 100 and 101	Unknown	1,450	Unknown	$150,000

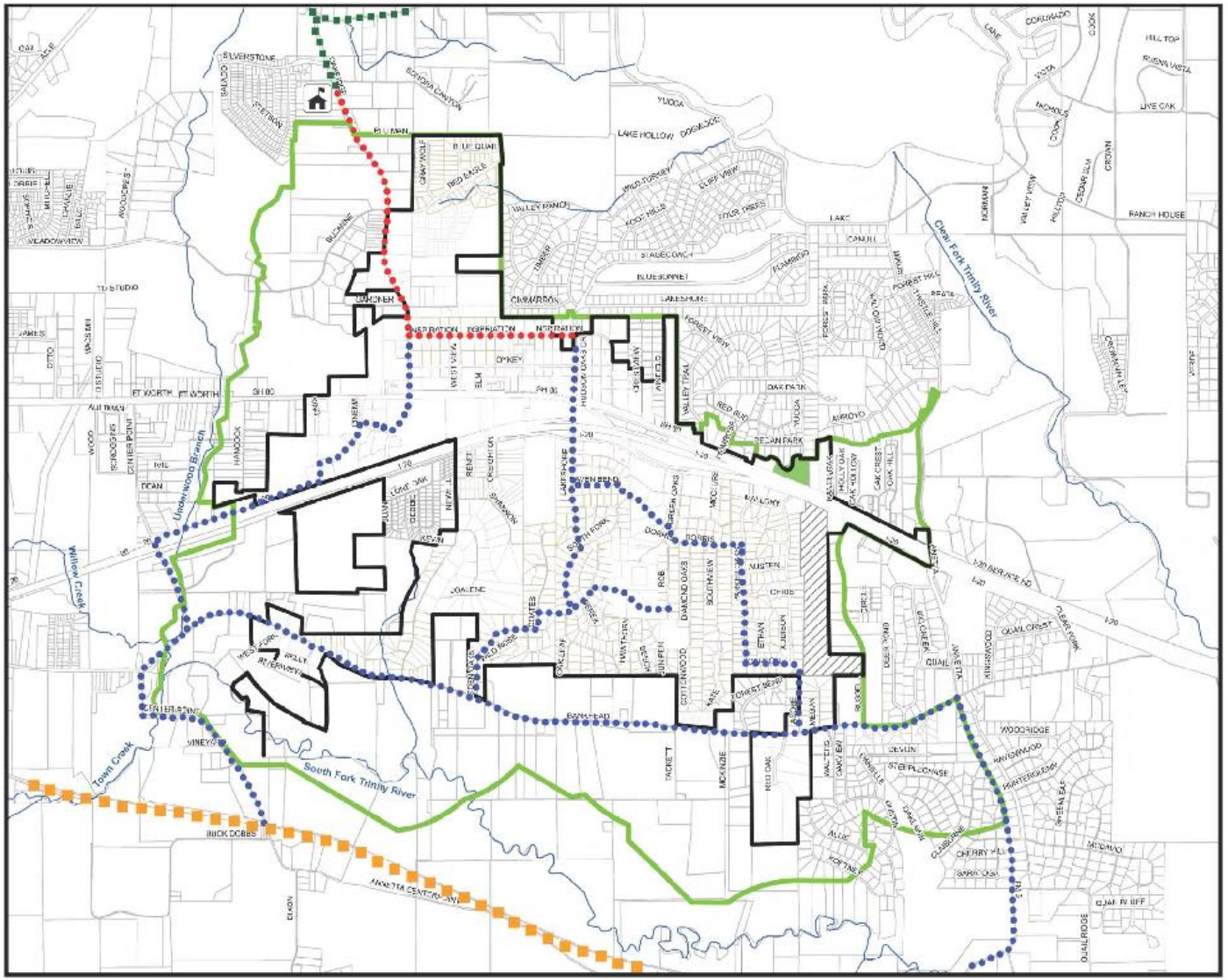
Aledo Independent School District								
Listing of Facility Locations and Square Footage								
Facility Name	**Facility Address**				**Total Square Footage**	**Component Square Footage**	**Year Built**	**Addition/ Renovation Year**
Vandagriff Elementary School	408 FM 1187 South	Aledo	TX	76008	64,780	Unknown	Unknown	N/A
Vandagriff Elementary Main Building						46,373	1964-1965	1995-1996
Vandagriff Elementary Annex						9,808	1955	N/A
Vandagriff Elementary Rock Gym						6,630	1937	1996 & 1999
Vandagriff Elementary Portable Building						1,969	Unknown	N/A
Aledo Middle School	416 FM 1187 South	Aledo	TX	76008	155,344	Unknown	Unknown	N/A
Aledo Middle School Original Building						76,659	1967	1978 & 1985

Aledo Independent School District								
Listing of Facility Locations and Square Footage								
Facility Name	**Facility Address**				**Total Square Footage**	**Component Square Footage**	**Year Built**	**Addition/ Renovation Year**
Aledo Middle School Agriculture Building						3,609	1967	N/A
Aledo Middle School Multi-Purpose Center (MPC)						33,964	1985	N/A
Aledo Middle School New Building						29,655	2002	N/A
Aledo Middle School Field House						8,250	Unknown	N/A
Aledo Middle School Stadium Concession Stand & Restrooms						3,207	Unknown	N/A
Aledo ISD Record Retention Building	416 FM 1187 South	Aledo	TX	76008	1,040	1,040	1967	N/A
Coder Elementary School	12 Vernon Road	Aledo	TX	76008	75,939	75,939	1988	2006 & 2016
McAnally Intermediate School	151 FM 5 South	Aledo	TX	76008	94,154	94,154	1995	
Stuard Elementary School	200 Thunderhead Lane	Aledo	TX	76008	76,498	76,498	1999	2006
Aledo High School	1000 Bailey Ranch Road	Aledo	TX	76008	362,106	Unknown	Unknown	N/A
Aledo High School Main Building						256,769	2000	N/A
Aledo High School Agriculture Building						10,984	2000	N/A
Aledo High School Agriculture Barn						6,028	2002	N/A
Aledo High School Field House						20,660	2000	N/A
Aledo High School Stadium (All Buildings)						18,785	2006	N/A

Aledo Independent School District								
Listing of Facility Locations and Square Footage								
Facility Name	**Facility Address**				**Total Square Footage**	**Component Square Footage**	**Year Built**	**Addition/ Renovation Year**
Aledo High School Indoor Practice Facility						48,880	2011	N/A
Aledo ISD Administration Building	1008 Bailey Ranch Road	Aledo	TX	76008	27,377	27,377	2000	2009
Aledo ISD Learning Center	1016 Bailey Ranch Road	Aledo	TX	76008	18,952	18,952	2005	2014
McCall Elementary School	400 Scenic Trail	Willow Park	TX	76087	89,645	89,645	2008	N/A
Technology & Security Building	117 Vernon Road	Aledo	TX	76008	9,938	9,938	2008	N/A
Daniel Ninth Grade Campus	990 Bailey Ranch Road	Aledo	TX	76008	159,666	159,666	2011	N/A
Walsh Elementary School	14113 Walsh Avenue	Fort Worth	TX	76008	100,132	100,132	2017	N/A
Auxiliary Services/North Transportation Building	1 Dean Road	Aledo	TX	76008	20,530	20,530	Unknown	N/A
South Transportation Buildings	126 FM 1187 East	Aledo	TX	76008	7,768	7,768	Unknown	N/A
Maintenance Auxiliary Buildings	17 Vernon Road	Aledo	TX	76008	8,394	8,394	Unknown	N/A
Total Square Footage					**1,272,263**	**1,272,263**		

City of Hudson Oaks





HUDSON OAKS

TRAIL MASTER PLAN

LEGEND

- HUDSON OAKS CITY LIMITS 2016
- HUDSON OAKS ETJ - 2016
- MULTI-MODAL TRAIL PHASE ONE
- MULTI-MODAL TRAIL FUTURE PHASE
- VELO WEB
- CITY OF WEATHERFORD TRAIL SYSTEM
- MARY MARTIN ELEMENTARY

Pacheco Koch

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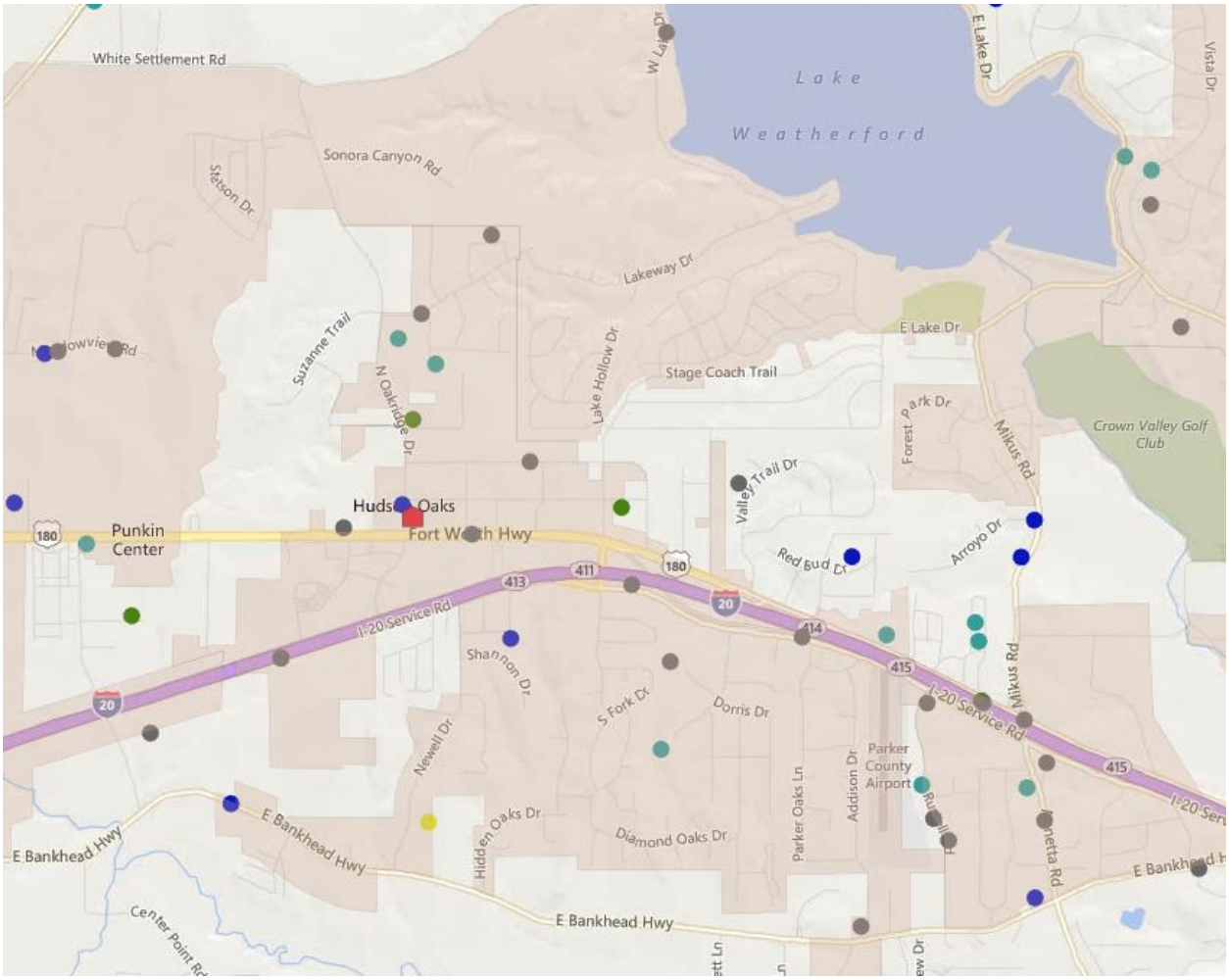
Feet

MAY 2017

Wildfire Ignitions, 2005-2015



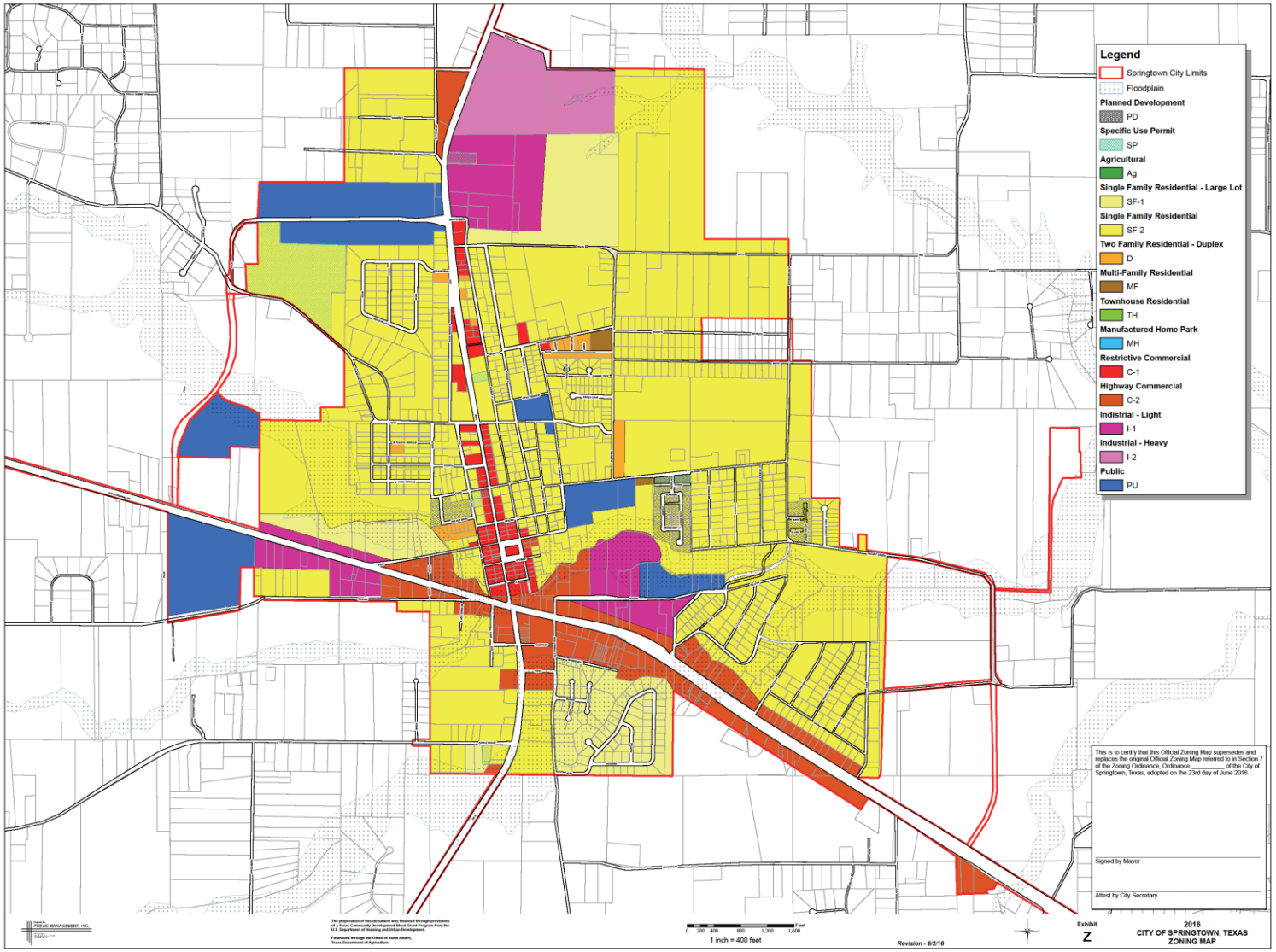
Source: [Texas A&M Forest Service]

Hudson Oaks Critical and Vulnerable Facility & Infrastructure Table

At Risk To: (Y or N)								**Hudson Oaks Critical and Vulnerable Facility and Infrastructure Inventory**						
Drought	Expansive Soils	Extreme Heat	Flooding	Thunderstorms	Tornadoes	Wildfires	Winter Storms	**Facility Name**	**Address**	**Type of Asset**	**Capacity**	**Square Feet**	**Structure Value**	**Content Value**
Y	Y	Y	Y	Y	Y	Y	Y	City Hall	210 Hudson Oaks Drive	Facility	Unknown	Unknown	$1,728,770	Unknown
Y	Y	Y	Y	Y	Y	Y	Y	Public Safety Building	150 North Oakridge Drive	Facility	Unknown	Unknown	$1,349,040	Unknown
Y	Y	Y	Y	Y	Y	Y	Y	Walmart	2801 East I-20 Oakridge	Facility	Unknown	Unknown	Unknown	Unknown
Y	Y	Y	Y	Y	Y	Y	Y	HEB Supermarket	Hudson Oaks Drive	Facility	Unknown	Unknown	Unknown	Unknown
Y	Y	Y	Y	Y	Y	Y	Y	Walgreens pharmacy	130 North Oakridge Drive	Facility	Unknown	Unknown	Unknown	Unknown
Y	Y	Y	Y	Y	Y	Y	Y	NextLink	95 Parker Oaks Lane	Facility	Unknown	Unknown	Unknown	Unknown
Y	Y	Y	Y	Y	Y	Y	Y	Splash Kingdom	1001 Cinema Drive Weatherford, TX	Facility	Unknown	Unknown	Unknown	Unknown
Y	Y	Y	Y	Y	Y	Y	Y	New River Fellowship Church	3252 Interstate 20 Frontage Road	Data unknown	Unknown	Unknown	Unknown	Unknown
Y	Y	Y	Y	Y	Y	Y	Y	Jerry's Chevrolet	3118 Fort Worth Hwy	Data unknown	Unknown	Unknown	Unknown	Unknown
Y	Y	Y	Y	Y	Y	Y	Y	Store House Storage Center	3761 Fort Worth Hwy	Data unknown	Unknown	Unknown	Unknown	Unknown
Y	Y	Y	Y	Y	Y	Y	Y	Water lines	N/A	N/A	N/A	N/A	N/A	N/A
Y	Y	Y	Y	Y	Y	Y	Y	Utility lines	N/A	N/A	N/A	N/A	N/A	N/A
Y	Y	Y	Y	Y	Y	Y	Y	Sewer lines	N/A	N/A	N/A	N/A	N/A	N/A

At Risk To: (Y or N)								**Hudson Oaks Critical and Vulnerable Facility and Infrastructure Inventory**						
Drought	Expansive Soils	Extreme Heat	Flooding	Thunderstorms	Tornadoes	Wildfires	Winter Storms	**Facility Name**	**Address**	**Type of Asset**	**Capacity**	**Square Feet**	**Structure Value**	**Content Value**
Y	Y	Y	Y	Y	Y	Y	Y	Parker County Airport	3816 East Interstate Hwy 20, Weatherford, TX	Unknown	Unknown	Unknown	Unknown	Unknown
Y	Y	Y	Y	Y	Y	Y	Y	Cell towers	N/A	N/A	N/A	N/A	N/A	N/A
Y	Y	Y	Y	Y	Y	Y	Y	Fiberoptic lines	N/A	N/A	N/A	N/A	N/A	N/A
Y	Y	Y	Y	Y	Y	Y	Y	I-20	N/A	N/A	N/A	N/A	N/A	N/A
Y	Y	Y	Y	Y	Y	Y	Y	State Hwy 180	N/A	N/A	N/A	N/A	N/A	N/A
Y	Y	Y	Y	Y	Y	Y	Y	Hudson Oaks bridge I-20	N/A	N/A	N/A	N/A	N/A	N/A
Y	Y	Y	Y	Y	Y	Y	Y	Winfield Drive	N/A	N/A	N/A	N/A	N/A	N/A
Y	Y	Y	Y	Y	Y	Y	Y	Red Eagle Trail	N/A	N/A	N/A	N/A	N/A	N/A
Y	Y	Y	Y	Y	Y	Y	Y	9 water plants	-	N/A	N/A	N/A	N/A	N/A
Y	Y	Y	Y	Y	Y	Y	Y	Water Treatment Facility	20 Crow Road	N/A	N/A	N/A	N/A	N/A

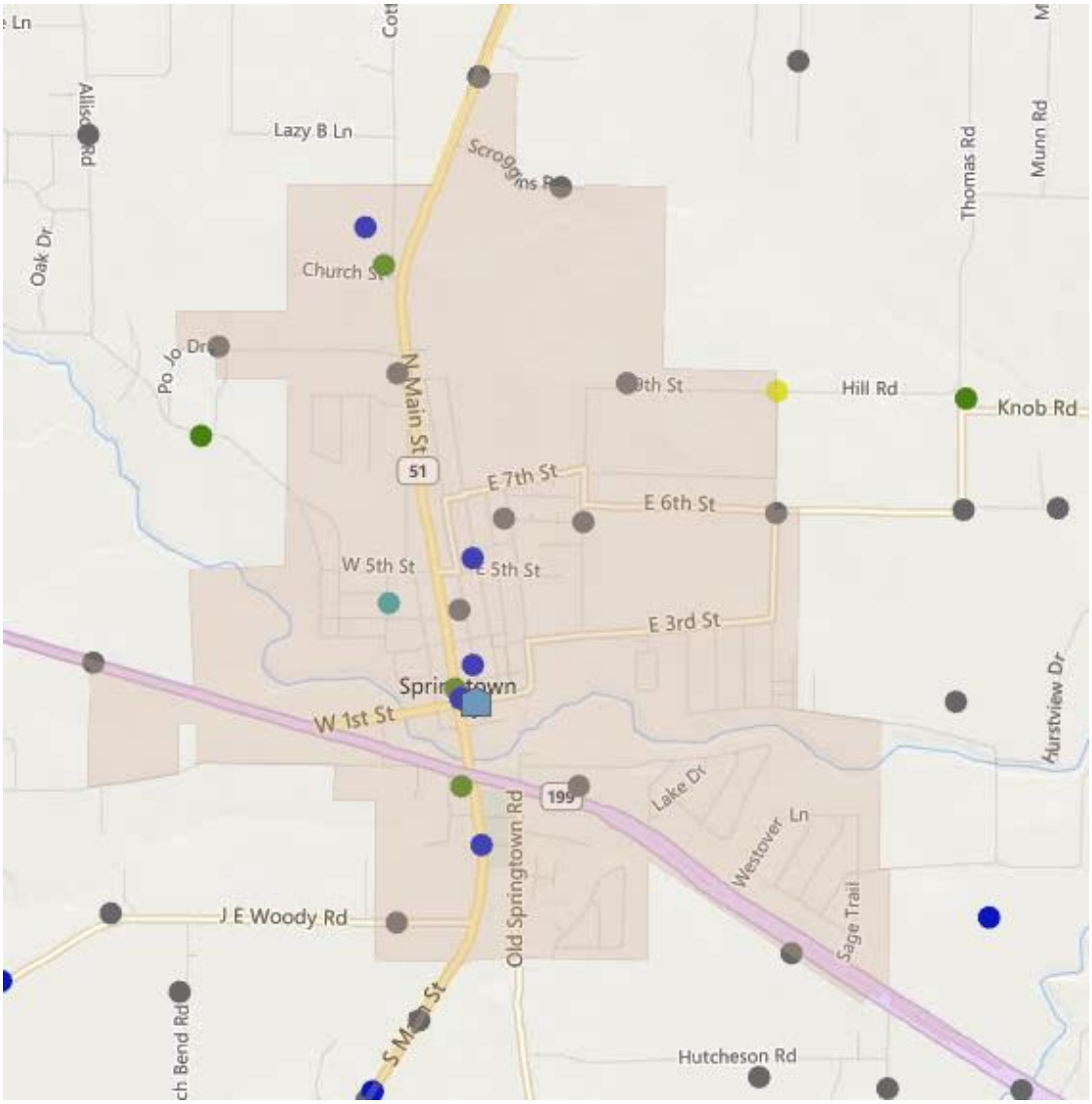
City of Springtown



Low Water Crossings

= low water crossing

Wildfire Ignitions, 2005-2015

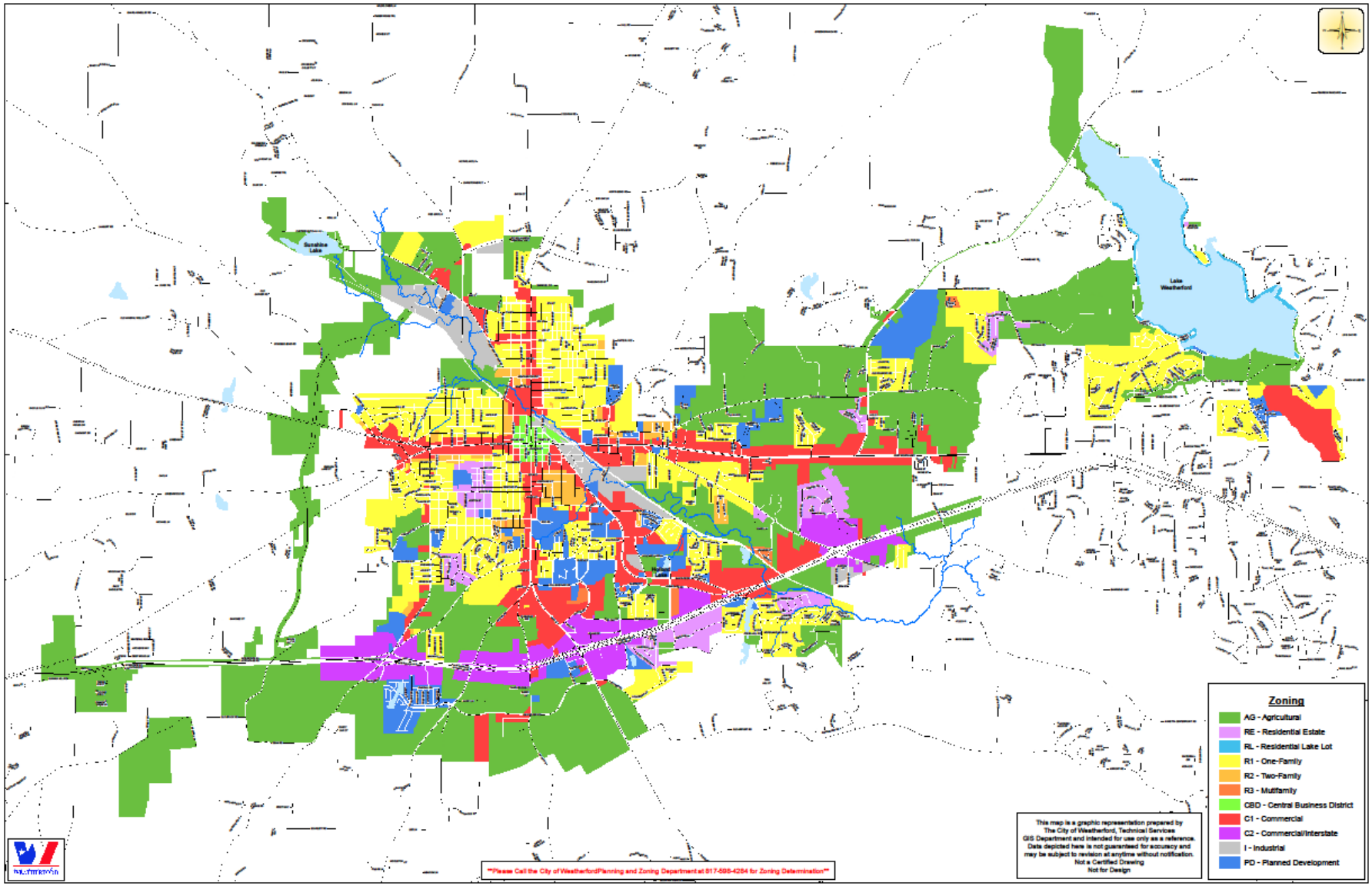


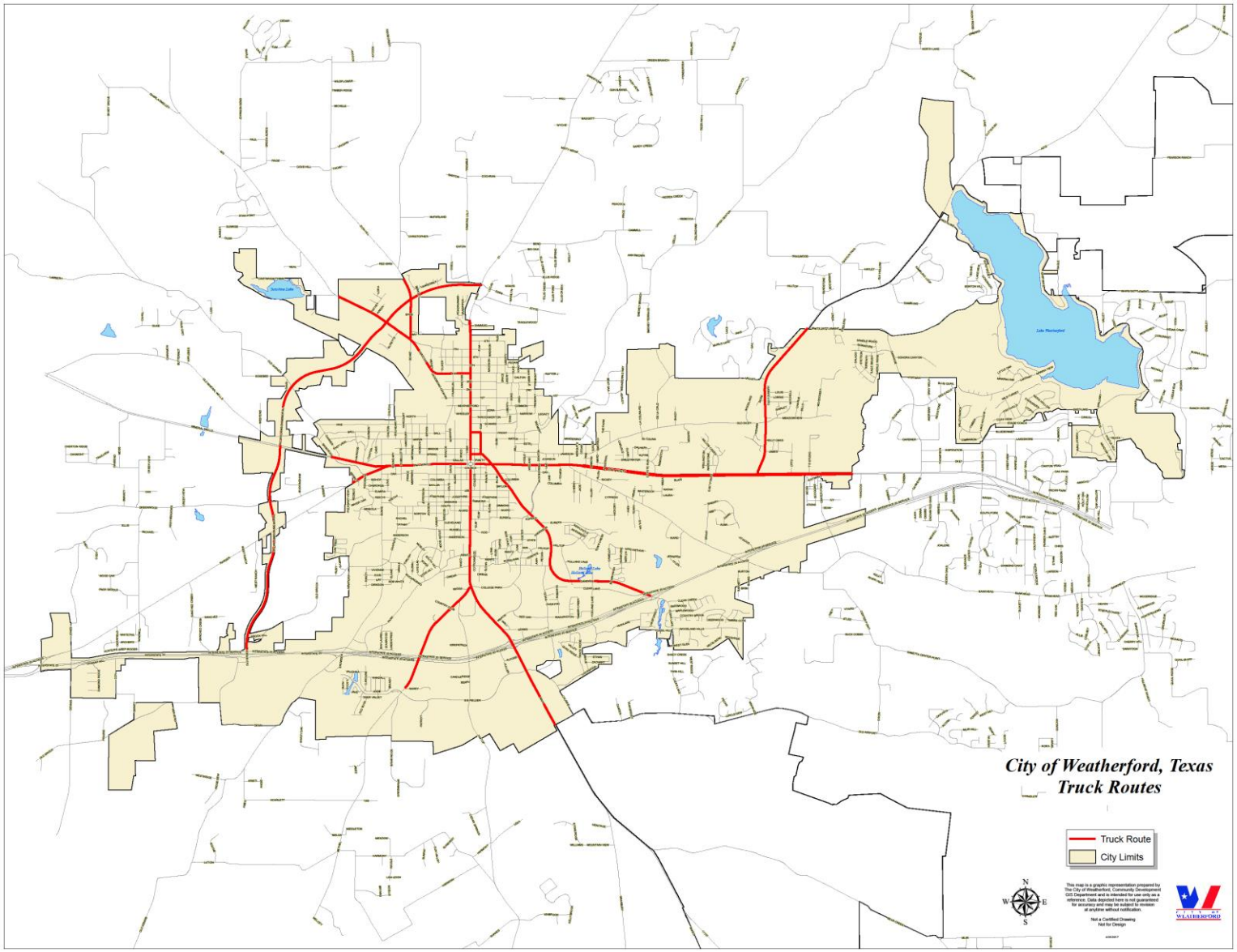
Source: [Texas A&M Forest Service]

Springtown Critical and Vulnerable Facility & Infrastructure Table

At Risk To: (Y or N)								**Springtown Critical and Vulnerable Facility and Infrastructure Inventory**					
Drought	Expansive Soils	Extreme Heat	Flooding	Thunderstorms	Tornadoes	Wildfires	Winter Storms	**Facility Name or Description**	**Address**	**Capacity**	**Square Feet**	**Structure Value**	**Content Value**
N	N	N	N	Y	Y	N	Y	City Hall	102 East 2nd Street	Unknown	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	Y	Municipal Court	200 North Main Street	Unknown	Unknown	Unknown	Unknown
N	N	N	Y	Y	Y	N	Y	Public Works Department	102 East 2nd Street	Unknown	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	Y	Police Department	220 Hilltop Drive	Unknown	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	Y	Fire Department	215 Goshen Road	Unknown	Unknown	Unknown	Unknown
N	N	N	Y	Y	Y	N	Y	Animal Control Building	505 Martin Avenue	Unknown	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	Y	Public Library	626 North Main Street	Unknown	Unknown	Unknown	Unknown
N	N	N	Y	Y	Y	N	Y	Wastewater Treatment Plant	Unknown	Unknown	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	Y	Water Treatment Plant	Unknown	Unknown	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	Y	Water Tower	Unknown	Unknown	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	Y	Water Storage Tanks	Unknown	Unknown	Unknown	Unknown	Unknown
N	N	N	Y	Y	Y	N	Y	Groundwater intake site (Eagle Mountain Lake)	Unknown	Unknown	Unknown	Unknown	Unknown

City of Weatherford




City of Weatherford, Texas
Truck Routes
Truck Route
City Limits
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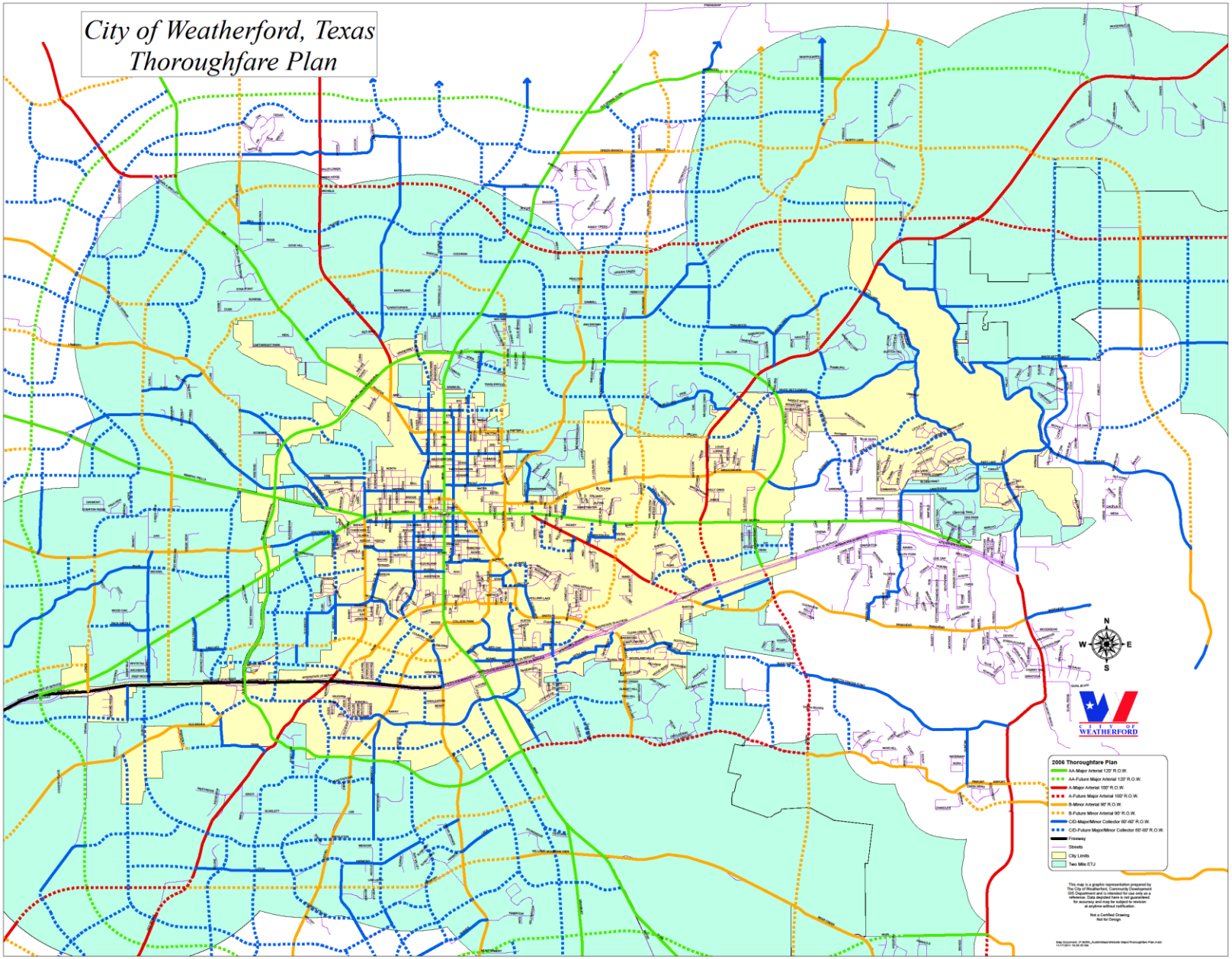
City of Weatherford, Texas
Thoroughfare Plan
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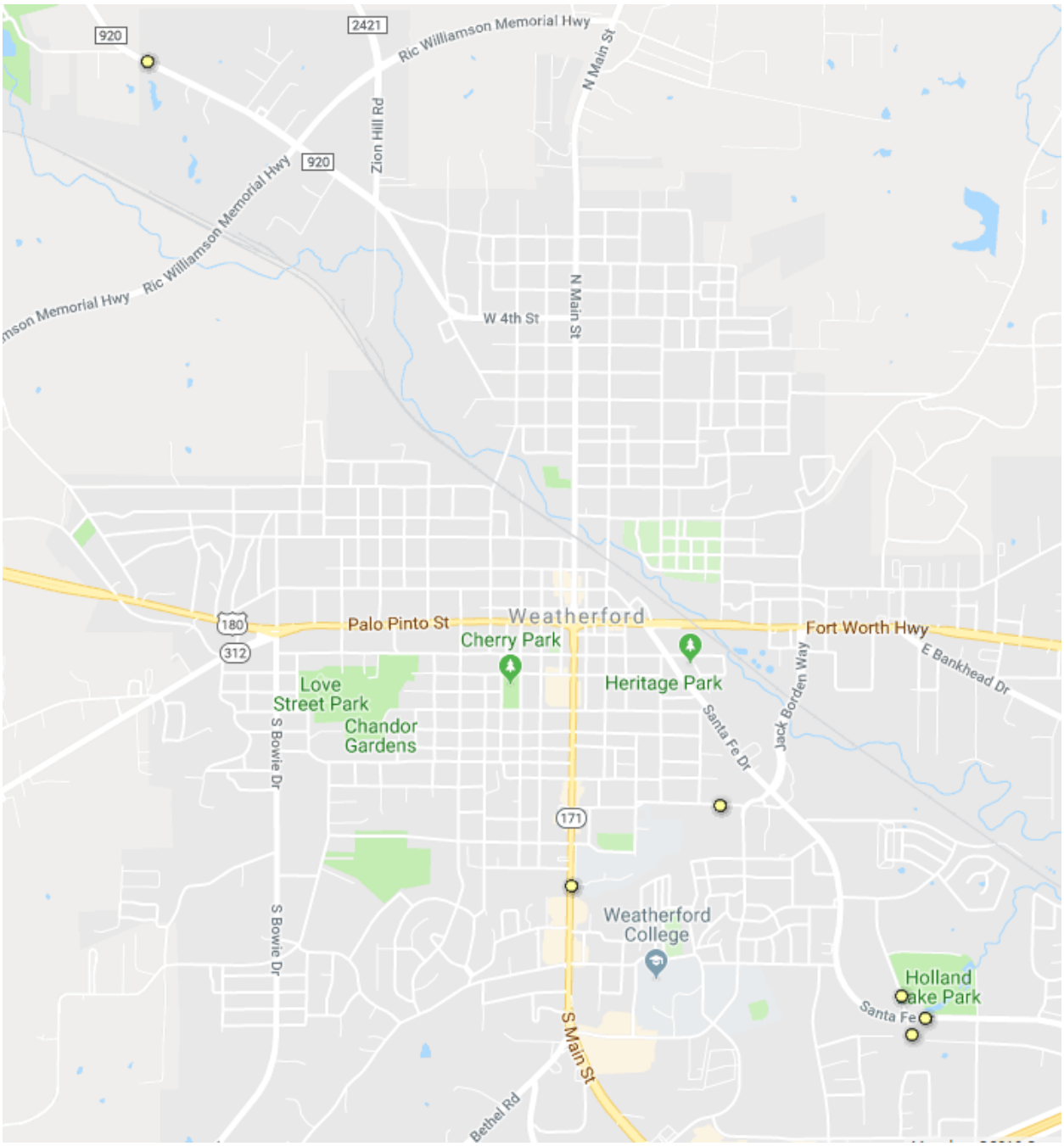
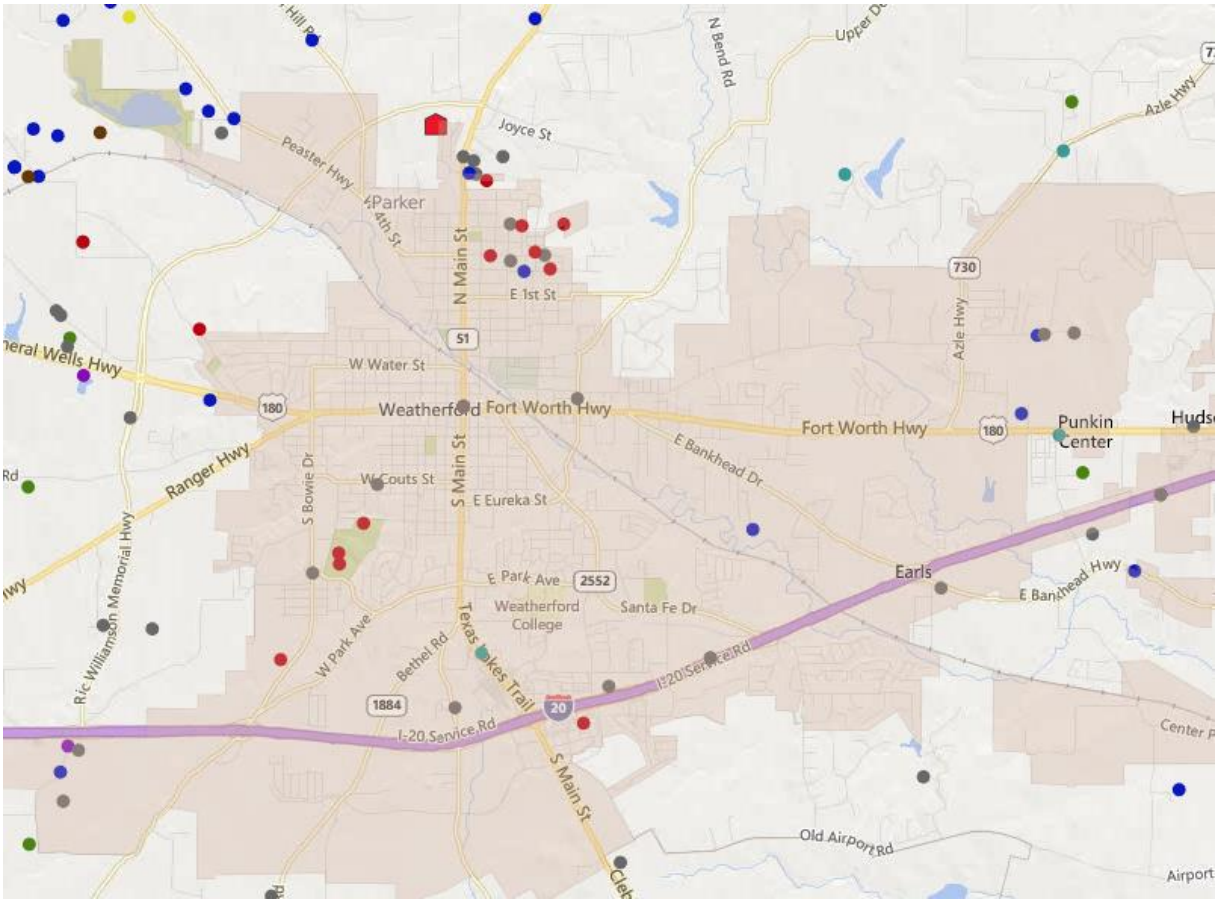
CITY OF WEATHERFORD
2006 Thoroughfare Plan
AA-Major Arterial 120' R.O.W.
AA-Future Major Arterial 120' R.O.W.
A-Major Arterial 100' R.O.W.
A-Future Major Arterial 100' R.O.W.
B-Minor Arterial 90' R.O.W.
B-Future Minor Arterial 90' R.O.W.
C/D-Major/Minor Collector 60'-80' R.O.W.
C/D-Future Major/Minor Collector 60'-80' R.O.W.
Freeway
Streets
City Limits
Two Mile ETJ
This map is a graphic representation prepared by The City of Weatherford, Community Development Services Department for general planning and reference. Data depicted here is not guaranteed for accuracy and may be subject to revision at anytime without notification.
Not a Certified Drawing
Not for Design

Low Water Crossings



= low water crossing

Wildfire Ignitions, 2005-2015



Source: [Texas A&M Forest Service]

Weatherford Critical and Vulnerable Facility & Infrastructure Table

At Risk To: (Y or N)								**Weatherford Critical and Vulnerable Facility and Infrastructure Inventory**					
Drought	Expansive Soils	Extreme Heat	Flooding	Thunderstorms	Tornadoes	Wildfires	Winter Storms	**Facility Name or Description**	**Address**	**Capacity**	**Square Feet**	**Structure Value**	**Content Value**
N	N	N	N	Y	Y	N	Y	City Hall	303 Palo Pinto	430	16,000	$2,822,478	$350,000
N	N	N	N	Y	Y	N	Y	Old City Hall	119 Palo Pinto	120	12,000	$1,317,121	$117,949
N	N	N	N	Y	Y	N	Y	Library	1014 Charles Street	230	23,000	$2,543,603	$2,700,000
N	N	N	N	Y	Y	N	Y	Transportation Public Works	802 East Oak	86	8,600	$1,299,244	$195,000
N	N	N	N	Y	Y	N	Y	Chamber of Commerce	401 Fort Worth Hwy	22	2,200	$305,924	Unknown
N	N	N	N	Y	Y	N	Y	Police Department	801 Santa Fe Drive	150	15,000	$1,899,919	$1,044,209
N	N	N	N	Y	Y	N	Y	Service Center	917 Eureka Street	220	22,000	$3,472,526	$1,600,000
N	N	N	N	Y	Y	N	Y	Fire Station 1	122 South Alamo Street	110	11,000	$1,231,994	$125,000
N	N	N	N	Y	Y	N	Y	Fire Station 3	122 Atwood Court	50	5,000	$690,270	$75,000
N	N	N	N	Y	Y	N	Y	Fire Station 4	905 West Park Street	100	10,000	$1,468,114	$145,000
N	N	N	N	Y	Y	N	Y	Chandor Gardens	711 West Lee Street	85	8,500	$1,215821	$99,000
N	N	N	N	Y	Y	N	Y	Animal Shelter	403 Hickory Lane	163	16,355	$874,844	$69,000
N	N	N	N	Y	Y	N	Y	Water Plant Main Building	118 West Lake Drive	200	20,000	$11,704,904	$1,000,000
N	N	N	N	Y	Y	N	Y	Wastewater Plant Office	1311 Eureka Street	60	6,000	$4,015,220	$1,575,523

At Risk To: (Y or N)								Weatherford Critical and Vulnerable Facility and Infrastructure Inventory					
Drought	Expansive Soils	Extreme Heat	Flooding	Thunderstorms	Tornadoes	Wildfires	Winter Storms	**Facility Name or Description**	**Address**	**Capacity**	**Square Feet**	**Structure Value**	**Content Value**
N	N	N	N	Y	Y	N	Y	Heritage Park	315 Santa Fe	40	4,000	$289,962	$10,000
N	N	N	N	Y	Y	N	Y	Farm and Ranch Barn	518 East Columbia	40	4,000	$88,276	Unknown
N	N	N	N	Y	Y	N	Y	Wright House	202 West Oak Street	40	4,000	$538,745	$50,000
N	N	N	N	Y	Y	N	Y	Cherry Park Community Center	313 Davis Street	45	4,500	$392,433	$5,000
N	N	N	N	Y	Y	N	Y	Harberger Hill Community Center	701 Narrow Street	346	5,200	$476,922	$20,000
N	N	N	N	Y	Y	N	Y	Mt. Pleasant Community Center	200 Raymond George Way	146	2,200	$224,482	Unknown
N	N	N	N	Y	Y	N	Y	Parks Maintenance Shop	191 Cartwright Park Road	30	3,000	$119,603	$28,000
N	N	N	N	Y	Y	N	Y	Farmers Market	217 Fort Worth Hwy	200	20,000	$956,290	Unknown
N	N	N	N	Y	Y	N	Y	Pool House	302 West Lee Street	25	2,500	$206,538	$5,000
N	N	N	N	Y	Y	N	Y	Power Plant	612 Fort Worth Hwy	70	7,000	$1,064,082	$346,600
N	N	N	N	Y	Y	N	Y	City Garage	612 A Fort Worth Hwy	70	7,000	$360,617	$31,500
N	N	N	N	Y	Y	N	Y	Sign Shop/ Facilities Shop	612 Fort Worth Hwy	60	6,000	$34,583	$15,000
N	N	N	N	Y	Y	N	Y	Streets/ Solid Waste Barn	612 Fort Worth Hwy	78	7,800	$611,624	$105,000

At Risk To: (Y or N)								Weatherford Critical and Vulnerable Facility and Infrastructure Inventory					
Drought	Expansive Soils	Extreme Heat	Flooding	Thunderstorms	Tornadoes	Wildfires	Winter Storms	**Facility Name or Description**	**Address**	**Capacity**	**Square Feet**	**Structure Value**	**Content Value**
N	N	N	N	Y	Y	N	Y	Fire Training	612 Fort Worth Hwy	50	5,000	$50,625	$10,000
N	N	N	N	Y	Y	N	Y	Holland Lake Sports Complex	1486 Holland Lake Drive	266	4,000	$289,962	$5,000
N	N	N	N	Y	Y	N	Y	Holland Lake Pavilion	1419 Holland Lake Drive	100	1,500	$118,432	$5,000
N	N	N	N	Y	Y	N	Y	Soldier Springs Concession Stands	1011 Charles Street	50	5,000	$377,536	Unknown
N	N	Y	N	Y	Y	N	Y	City of Weatherford – North Weatherford Substation	1730 Springtown Hwy	Unknown	Unknown	Unknown	Unknown
N	N	Y	N	Y	Y	N	Y	City of Weatherford – Live Oak Substation	1820 Tin Top Road	Unknown	Unknown	Unknown	Unknown
N	N	Y	N	Y	Y	N	Y	City of Weatherford – Lake Weatherford Substation	2995 White Settlement Road	Unknown	Unknown	Unknown	Unknown
N	N	Y	N	Y	Y	N	Y	City of Weatherford – Railroad Substation	325 Jennifer Court	Unknown	Unknown	Unknown	Unknown
N	N	Y	N	Y	Y	N	Y	City of Weatherford – West Loop Substation	2301 Ric Williamson Memorial Hwy	Unknown	Unknown	Unknown	Unknown
Y	Y	Y	Y	N	Y	N	Y	30.91 miles Arterial Streets	City	Unknown	6,690,749	$32,851,577	Unknown
Y	Y	Y	Y	N	Y	N	Y	37.42 miles Collector Streets	City	Unknown	8,099,755	$39,769,797	Unknown

At Risk To: (Y or N)								Weatherford Critical and Vulnerable Facility and Infrastructure Inventory					
Drought	Expansive Soils	Extreme Heat	Flooding	Thunderstorms	Tornadoes	Wildfires	Winter Storms	**Facility Name or Description**	**Address**	**Capacity**	**Square Feet**	**Structure Value**	**Content Value**
N	Y	N	N	Y	Y	N	N	Utilities Service Center	917 Eureka Street	N/A	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	Clearwell Ground Storage Tank	118 West Lake Drive	1 MG	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	College Ground Storage Tank	Unknown	2 MG	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	Dubellette Ground Storage Tank	212 South Dubellette Street	2 MG	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	Harberger Hill Ground Storage Tank	707 North Mill Street	1 MG	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	Dubellette Elevated Storage Tank	212 South Dubellette Street	0.25 MG	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	West Park Elevated Storage Tank	903 West Park Avenue	0.5 MG	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	Miller Elevated Storage Tank	1501 West Ball Street	0.25 MG	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	Franklin Elevated Storage Tank	1700 Franklin Street	0.25 MG	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	Standpipe Ground Storage Tank	2722 White Settlement Road	0.1 MG	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	Oakridge Elevated Storage Tank	720 Saddle Ridge Trail	0.25 MG	Unknown	Unknown	Unknown
N	Y	N	N	Y	Y	N	N	Utilities Service Center	917 Eureka Street	N/A	Unknown	Unknown	Unknown

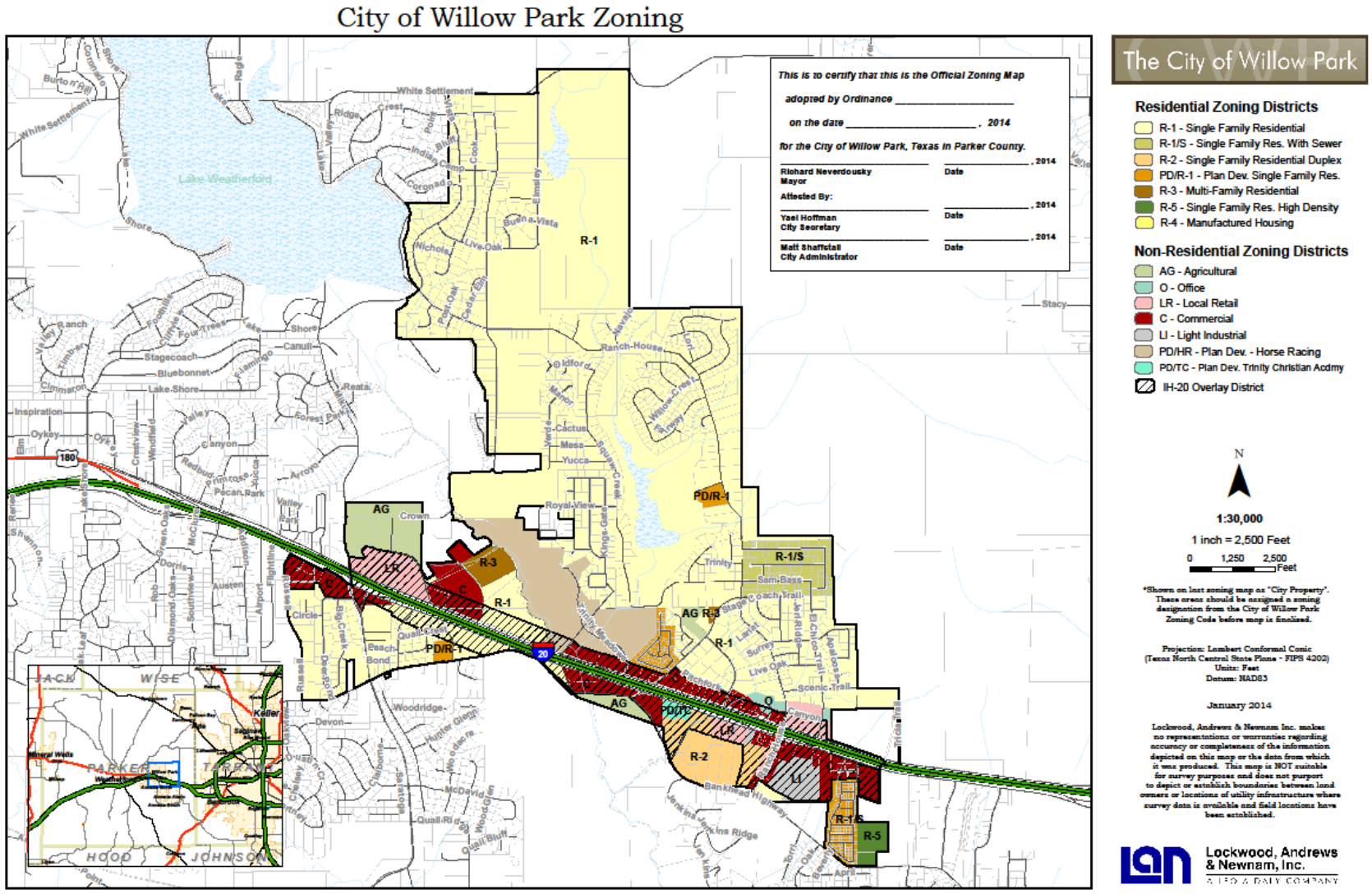
At Risk To: (Y or N)								Weatherford Critical and Vulnerable Facility and Infrastructure Inventory					
Drought	Expansive Soils	Extreme Heat	Flooding	Thunderstorms	Tornadoes	Wildfires	Winter Storms	**Facility Name or Description**	**Address**	**Capacity**	**Square Feet**	**Structure Value**	**Content Value**
N	N	N	N	Y	Y	N	N	Clearwell Ground Storage Tank	118 West Lake Drive	1 MG	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	College Ground Storage Tank	Unknown	2 MG	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	Dubellette Ground Storage Tank	212 South Dubellette Street	2 MG	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	Harberger Hill Ground Storage Tank	707 North Mill Street	1 MG	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	Dubellette Elevated Storage Tank	212 South Dubellette Street	0.25 MG	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	West Park Elevated Storage Tank	903 West Park Avenue	0.5 MG	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	Miller Elevated Storage Tank	1501 West Ball Street	0.25 MG	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	Franklin Elevated Storage Tank	1700 Franklin Street	0.25 MG	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	Standpipe Ground Storage Tank	2722 White Settlement Road	0.1 MG	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	Oakridge Elevated Storage Tank	720 Saddle Ridge Trail	0.25 MG	Unknown	Unknown	Unknown
N	Y	N	N	Y	Y	N	N	Utilities Service Center	917 Eureka Street	N/A	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	Clearwell Ground Storage Tank	118 West Lake Drive	1 MG	Unknown	Unknown	Unknown

At Risk To: (Y or N)								Weatherford Critical and Vulnerable Facility and Infrastructure Inventory					
Drought	Expansive Soils	Extreme Heat	Flooding	Thunderstorms	Tornadoes	Wildfires	Winter Storms	**Facility Name or Description**	**Address**	**Capacity**	**Square Feet**	**Structure Value**	**Content Value**
N	N	N	N	Y	Y	N	N	College Ground Storage Tank	Unknown	2 MG	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	Dubellette Ground Storage Tank	212 South Dubellette Street	2 MG	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	Harberger Hill Ground Storage Tank	707 North Mill Street	1 MG	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	Dubellette Elevated Storage Tank	212 South Dubellette Street	0.25 MG	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	West Park Elevated Storage Tank	903 West Park Avenue	0.5 MG	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	Miller Elevated Storage Tank	1501 West Ball Street	0.25 MG	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	Franklin Elevated Storage Tank	1700 Franklin Street	0.25 MG	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	Standpipe Ground Storage Tank	2722 White Settlement Road	0.1 MG	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	Parker County EOC	215 Trinity Street	Unknown	6000	Unknown	Unknown
N	N	N	N	Y	Y	N	N	Medical City Weatherford	713 East Anderson Street	Unknown	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	Parker County Sheriff Office	129 Hogle Street	Unknown	353,446	Unknown	Unknown
N	N	N	N	Y	Y	N	N	Weatherford ISD buildings and campus:					
N	N	N	N	Y	Y	N	N	*Austin*	1776 Texas Drive	Unknown	61,732	Unknown	Unknown

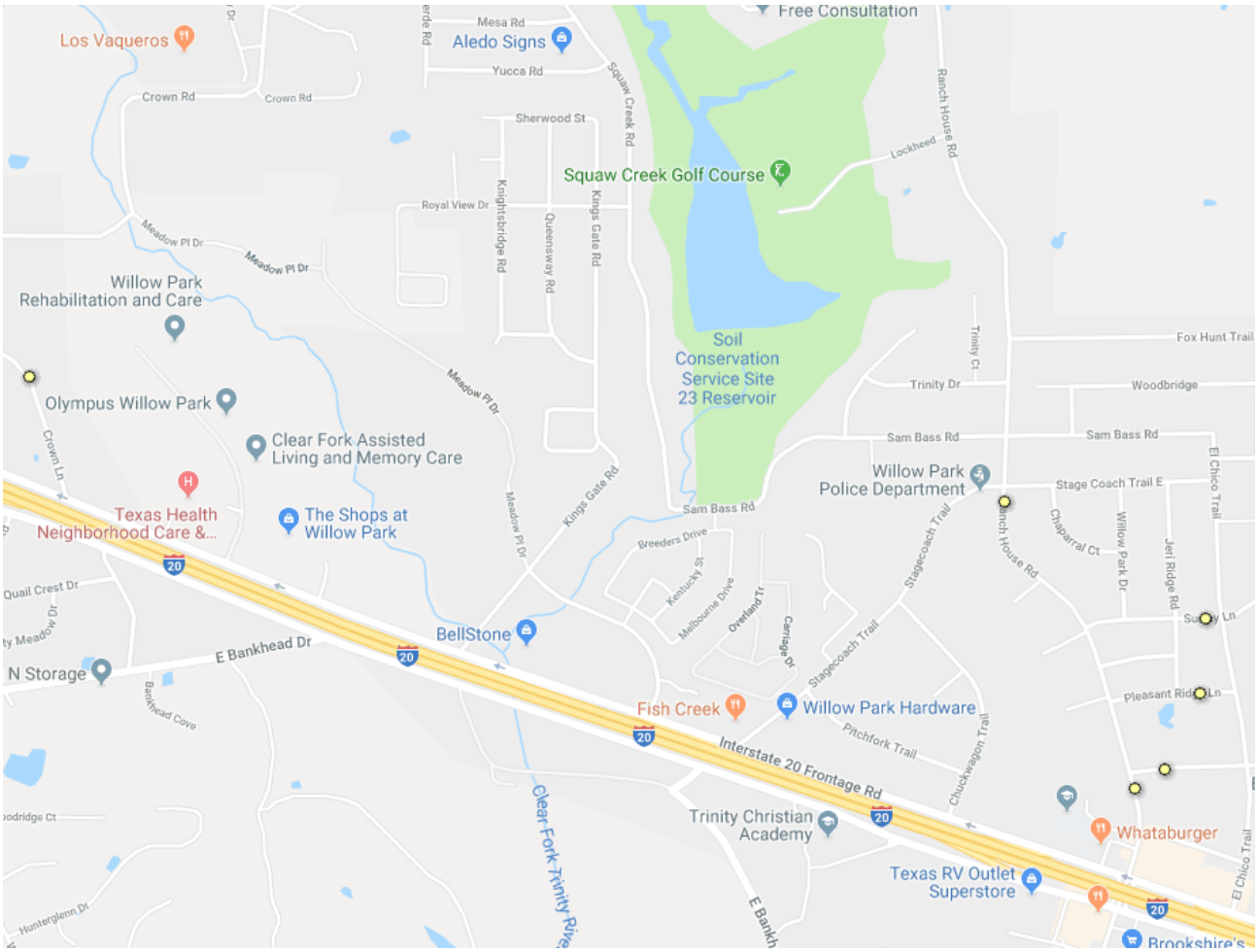
At Risk To: (Y or N)								Weatherford Critical and Vulnerable Facility and Infrastructure Inventory					
Drought	Expansive Soils	Extreme Heat	Flooding	Thunderstorms	Tornadoes	Wildfires	Winter Storms	**Facility Name or Description**	**Address**	**Capacity**	**Square Feet**	**Structure Value**	**Content Value**
N	N	N	N	Y	Y	N	N	*Bowie*	900 North Elm Street	Unknown	28,770	Unknown	Unknown
N	N	N	N	Y	Y	N	N	*Crockett*	1015 Jameson Street	Unknown	72,267	Unknown	Unknown
N	N	N	N	Y	Y	N	N	*Curtis*	501 West Russell	Unknown	78,800	Unknown	Unknown
N	N	N	N	Y	Y	N	N	*DSB*	1100 Longhorn Drive	Unknown	18,725	Unknown	Unknown
N	N	N	N	Y	Y	N	N	*Hall*	823 South Bowie Drive	Unknown	158,634	Unknown	Unknown
N	N	N	N	Y	Y	N	N	*Ikard*	100 Ikard Lane	Unknown	82,917	Unknown	Unknown
N	N	N	N	Y	Y	N	N	*Maintenance*	907 South Elm Street	Unknown	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	*Martin*	719 North Oakridge Drive	Unknown	66,222	Unknown	Unknown
N	N	N	N	Y	Y	N	N	*NGC*	1007 South Main	Unknown	298,458	Unknown	Unknown
N	N	N	N	Y	Y	N	N	*Stadium*	250 Eureka	Unknown	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	*Support Services*	999 Sloan Street	Unknown	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	*Technology*	910 Charles Street	Unknown	5,600	Unknown	Unknown
N	N	N	N	Y	Y	N	N	*Tison*	102 Meadowview Drive	Unknown	Unknown	Unknown	Unknown
N	N	N	N	Y	Y	N	N	*Travis*	602 West Water Street	Unknown	22,000	Unknown	Unknown
N	N	N	N	Y	Y	N	N	*Transportation*	1009 Slon Street	Unknown	Unknown	Unknown	Unknown

At Risk To: (Y or N)								**Weatherford Critical and Vulnerable Facility and Infrastructure Inventory**					
Drought	Expansive Soils	Extreme Heat	Flooding	Thunderstorms	Tornadoes	Wildfires	Winter Storms	**Facility Name or Description**	**Address**	**Capacity**	**Square Feet**	**Structure Value**	**Content Value**
N	N	N	N	Y	Y	N	N	*Weatherford High School*	2121 Bethel Road	Unknown	349,833	Unknown	Unknown
N	N	N	N	Y	Y	N	N	*Wright*	1309 West Charles Street	Unknown	58,800	Unknown	Unknown

City of Willow Park

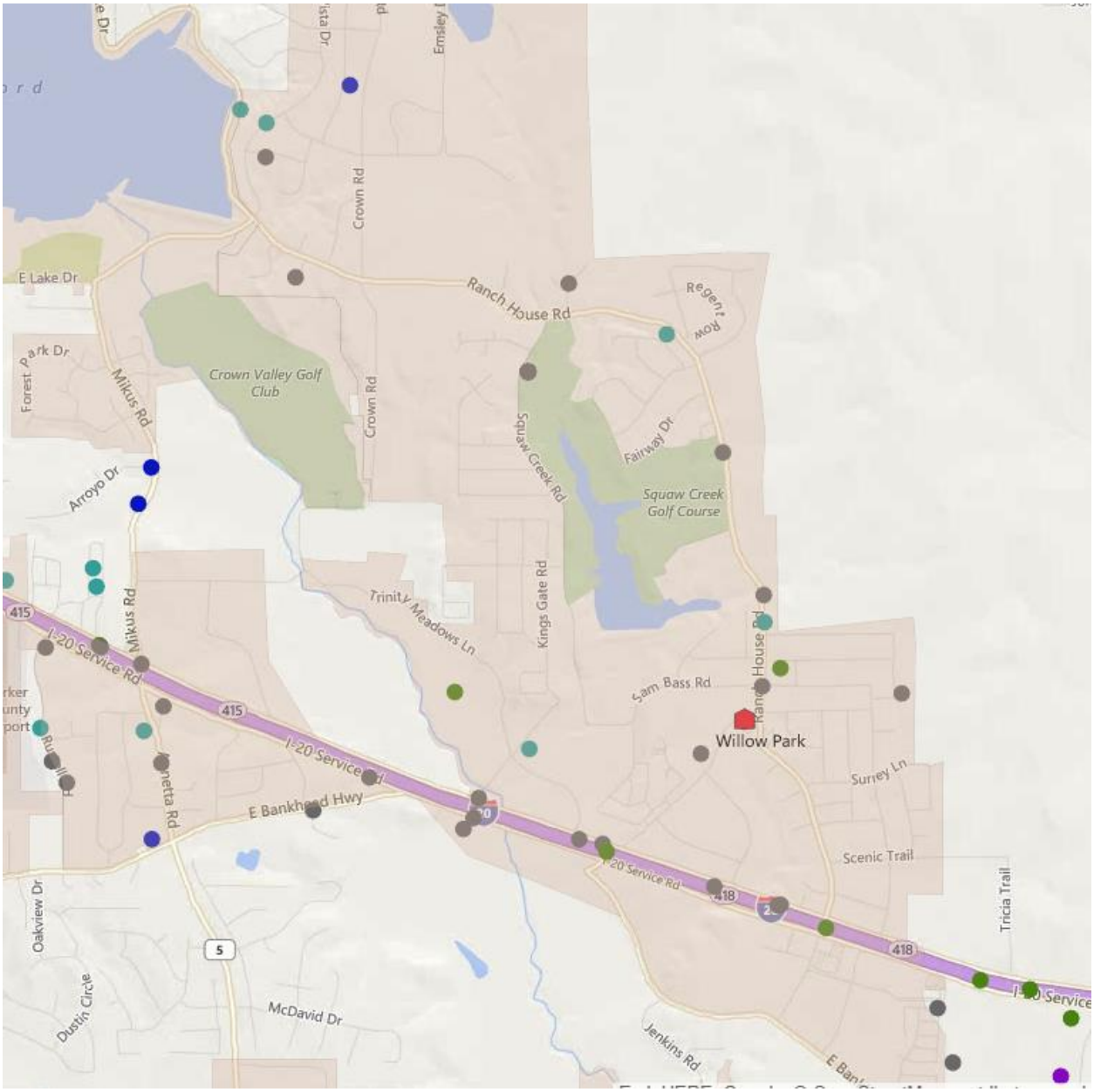


Low Water Crossings



= low water crossing

Wildfire Ignitions, 2005-2015



Wildfire Ignitions

Cause	Cause
Incendiary	Railroads
Lightning	Power Lines
Campfire	Children
Smoking	Debris Burning
Fireworks	Structure
Equipment User	Miscellaneous

Source: [Texas A&M Forest Service]

Willow Park Critical and Vulnerable Facility & Infrastructure Table

At Risk To: (Y or N)					**Willow Park Critical and Vulnerable Facility and Infrastructure Inventory**								
Drought	Expansive Soils	Extreme Heat	Flooding	Thunderstorms	Tornadoes	Wildfires	Winter Storms	**Facility Name or Description**	**Address**	**Capacity**	**Square Feet**	**Structure Value**	**Content Value**
Y	N	Y	Y	Y	Y	Y	Y	BBVA Compass Bank	5171 East Interstate 20 Service Road	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Edward Jones	126 South Ranch House Road	Unknown	Unknown	$6,900	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Edward Jones Gregg Davis	108 South Ranch House Road	Unknown	Unknown	$6,900	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Faith Bridge Property Company	108 South Ranch House Road	Unknown	Unknown	$2,500	Unknown
Y	N	Y	Y	Y	Y	Y	Y	First Financial Bank	4100 East Interstate 20 Service South Road	Unknown	Unknown	$295,580	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Nationwide Insurance	4050 East Interstate 20 Hwy	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Plains Capital Bank	126 South Ranch House Road	Unknown	Unknown	$88,350	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Plains Capitol	100 Crown Pointe Boulevard	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	City of Willow Park Public Works Department	3500 Indian Camp Road	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Exxon Tiger Mart	101 North Ranch House Road	Unknown	Unknown	$61,800	Unknown

At Risk To: (Y or N)					**Willow Park Critical and Vulnerable Facility and Infrastructure Inventory**								
Drought	Expansive Soils	Extreme Heat	Flooding	Thunderstorms	Tornadoes	Wildfires	Winter Storms	**Facility Name or Description**	**Address**	**Capacity**	**Square Feet**	**Structure Value**	**Content Value**
Y	N	Y	Y	Y	Y	Y	Y	City of Willow Park Fire Station #2	3508 Indian Camp Road	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	City of Willow Park Public Safety Building	101 West Stagecoach Trail	Unknown	Unknown	$4,800,00	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Lifecare Station 3	100 Scenic Trail	Unknown	69,696	$376.060	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Texas Health Resources Willow Park Behavioral Clinic	101 Crown Pointe Boulevard	Unknown	2,714	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	City of Willow Park Public Works Dept.	3500 Indian Camp Road	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Brookshires	5118 East Interstate 20 South Hwy	Unknown	Unknown	$2,219,560	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Texas Health Resources Willow Park	101 Crown Pointe Boulevard	Unknown	169,981	$12,735,550	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Railhead Smokehouse	120 South Ranch House Road	Unknown	Unknown	$110,980	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Drakes Yoke	225 Shops Boulevard	Unknown	Unknown	$101,290	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Texas First Rental	4500 East Interstate 20 Service Road South	48	7,986	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	The Hive	3910 East Interstate 20	Unknown	3,549	$800,000	Unknown

At Risk To: (Y or N)					**Willow Park Critical and Vulnerable Facility and Infrastructure Inventory**								
Drought	Expansive Soils	Extreme Heat	Flooding	Thunderstorms	Tornadoes	Wildfires	Winter Storms	**Facility Name or Description**	**Address**	**Capacity**	**Square Feet**	**Structure Value**	**Content Value**
Y	N	Y	Y	Y	Y	Y	Y	WPBC Recreational area	777 Crown Pointe Boulevard	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Aledo Family Eye Care	126 South Ranch House Road	Unknown	Unknown	$21,500	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Barrel of Monkeys	325 Pitchfork Trail	Unknown	Unknown	Unknown	Unknown
Y	N	Y	N	Y	Y	Y	N	Christ Chapel Bible Church	311 Russell Road	Unknown	109,466	$494,570	Unknown
Y	N	Y	N	Y	Y	Y	N	Christ Chapel Children's Ministries	3910 East Interstate 20 Service South Road	Unknown	149,803	$96,290	Unknown
Y	N	Y	Y	Y	Y	Y	Y	City of Willow Park City Hall	516 North Ranch House Road	100	6,840	$179,000	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Clear Fork Assisted Living	178 Crown Pointe Boulevard	Unknown	147,233	$5,060,330	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Cook Children's Pediatric	136 El Chico Trail	Unknown	UNK	$5,000	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Crown Pointe Dentistry	220 Shops Boulevard	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Family Dentistry	126 South Ranch House Road	Unknown	Unknown	Unknown	Unknown
Y	N	N	N	Y	Y	N	N	First Baptist Church of Willow Park	601 North Ranch House Road	Unknown	22,989	$582,920	Unknown

At Risk To: (Y or N)					**Willow Park Critical and Vulnerable Facility and Infrastructure Inventory**								
Drought	Expansive Soils	Extreme Heat	Flooding	Thunderstorms	Tornadoes	Wildfires	Winter Storms	**Facility Name or Description**	**Address**	**Capacity**	**Square Feet**	**Structure Value**	**Content Value**
Y	N	N	N	Y	Y	N	N	J.M. White O.D.	4088 East Interstate 20 Hwy	Unknown	Unknown	Unknown	Unknown
Y	N	N	N	Y	Y	N	N	John Struble D.D.S	209 Canyon Court	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Lone Star Medical	5700 East Interstate 20 Service South Road	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	McCall Elementary/Aledo Independent School District	400 Scenic Trail	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Medical Associates of Willow Park	260 Willow Bend Drive	Unknown	26,122	$1,542,130	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Millwood Incorporated	136 El Chico Trail	Unknown	Unknown	Unknown	Unknown
Y	N	N	N	Y	Y	N	N	Myser Orthodontics for Children and Adult	134 El Chico Trail	Unknown	Unknown	$25,630	Unknown
Y	N	N	N	Y	Y	N	N	Oakridge Church of Christ	4895 East Interstate 20 Service North Road	Unknown	Unknown	Unknown	Unknown
Y	N	N	N	Y	Y	N	N	Orthopedic & Sports Medicine Institute (OSMI) Physical Therapy	260 Willow Bend Drive	Unknown	Unknown	Unknown	Unknown

At Risk To: (Y or N)					**Willow Park Critical and Vulnerable Facility and Infrastructure Inventory**								
Drought	Expansive Soils	Extreme Heat	Flooding	Thunderstorms	Tornadoes	Wildfires	Winter Storms	**Facility Name or Description**	**Address**	**Capacity**	**Square Feet**	**Structure Value**	**Content Value**
Y	N	N	N	Y	Y	N	N	Pediatric and Adolescent Dentistry	134 El Chico Trail	Unknown	Unknown	$25,120	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Pro-Frac	333 Shops Boulevard	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Quality Inn	5080 East Interstate 20 South Road	Unknown	46,255	$399,275	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Sprouts Academy	132 El Chico Trail	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Squaw Creek Golf Course	1605 North Ranch House Road	Unknown	Unknown	Unknown	Unknown
Y	N	N	N	Y	Y	N	N	Texas Grins	136 El Chico Trail	Unknown	Unknown	$114,380	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Texas Health Care P.L.L.C.	134 El Chico Trail	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Texas Health Resources Willow Park	101 Crown Pointe Boulevard	Unknown	169,981	$12,735,550	Unknown
Y	N	Y	Y	Y	Y	Y	Y	The Village of Willow Park	Willow Bend Road	Unknown	Unknown	Unknown	Unknown
Y	N	N	N	Y	Y	N	N	Tree of Life Wellness Center	229 Shops Boulevard	Unknown	Unknown	$3,450	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Tri-Cities Urgent Care	123 South Ranch House Road	Unknown	5,365	$809,160	Unknown
Y	N	N	Y	Y	Y	N	N	Trinity Bible Church	4936 East Interstate 20 Service South Road	Unknown	50,231	$2,571,010	Unknown

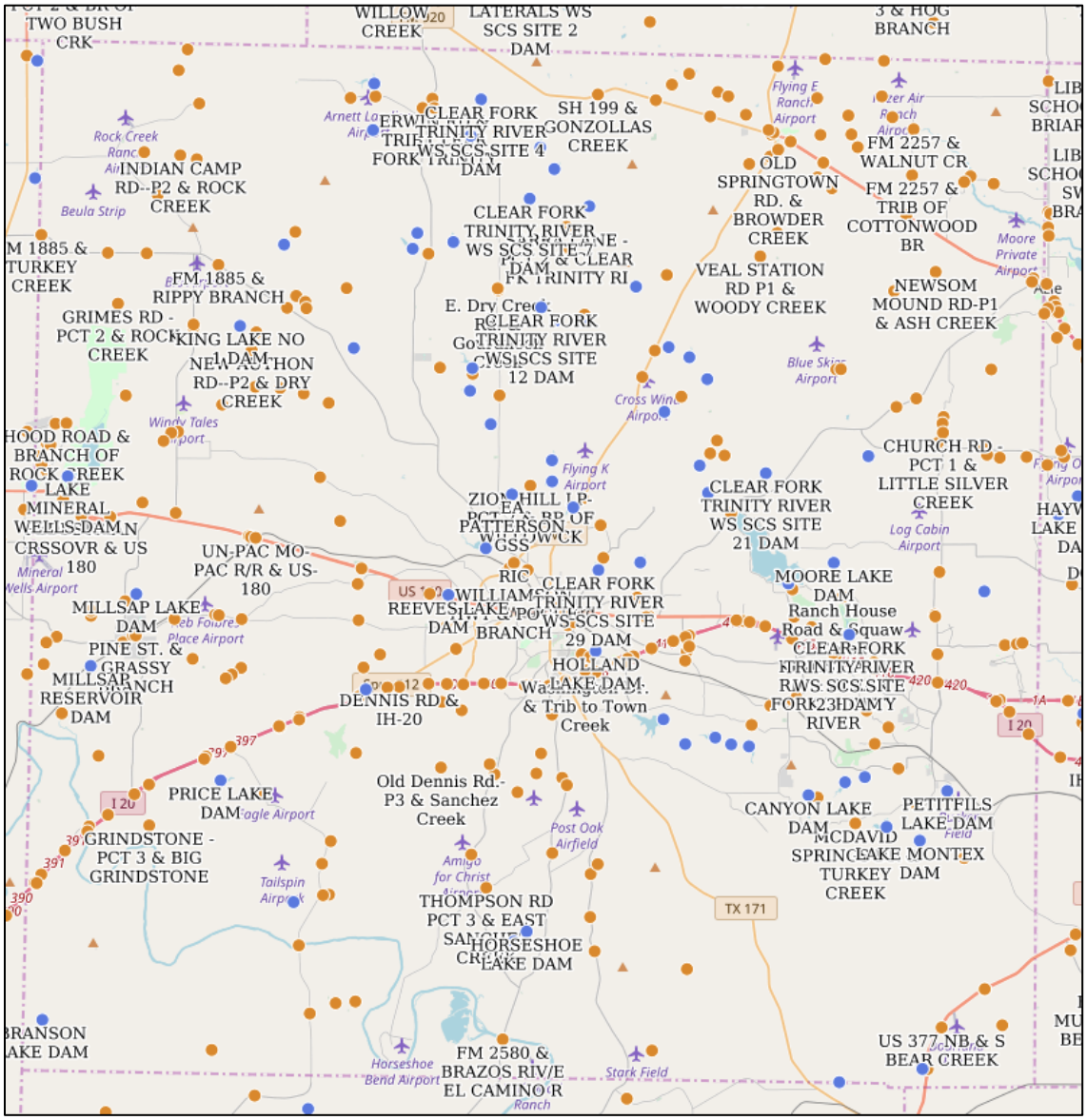
At Risk To: (Y or N)					**Willow Park Critical and Vulnerable Facility and Infrastructure Inventory**								
Drought	Expansive Soils	Extreme Heat	Flooding	Thunderstorms	Tornadoes	Wildfires	Winter Storms	**Facility Name or Description**	**Address**	**Capacity**	**Square Feet**	**Structure Value**	**Content Value**
Y	N	Y	Y	Y	Y	Y	Y	Trinity Christian Academy	4954 East Interstate 20 Service South Road	Unknown	73,602	$3,662,550	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Future Veranda Village of Willow Park	To Be Determined	Unknown	58,000	Unknown	Unknown
Y	N	N	N	Y	Y	N	N	Willow Park Baptist Church	129 South Ranch House Road	Unknown	31,366	$2,115,540	Unknown
Y	N	N	N	Y	Y	N	N	Willow Park Church of Christ	721 North Ranch House Road	Unknown	7,493	$470,390	Unknown
Y	N	N	N	Y	Y	Y	Y	Willow Park Primary Care	136 El Chico Trail	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Willow Park Rehab	300 Crown Pointe Boulevard	Unknown	57,105	$5,465,020	Unknown
Y	N	Y	Y	Y	Y	Y	Y	The Academy in Willow Park	201 Canyon Court	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Springhill Suits by Marriott	500 Shops Boulevard	Unknown	63,522	$5,255,450	Unknown
Y	N	N	Y	Y	Y	Y	N	Site 23 Dam	1605 North Ranch House Road	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Interstate 20	Interstate 20	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Beavers Creek Lift Station	5015 East Interstate Hwy	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Fox Hunt Well Site #16P, #16T and Storage	1109 Fox Hunt Trail	Unknown	Unknown	Unknown	Unknown

At Risk To: (Y or N)					**Willow Park Critical and Vulnerable Facility and Infrastructure Inventory**								
Drought	Expansive Soils	Extreme Heat	Flooding	Thunderstorms	Tornadoes	Wildfires	Winter Storms	**Facility Name or Description**	**Address**	**Capacity**	**Square Feet**	**Structure Value**	**Content Value**
Y	N	Y	Y	Y	Y	Y	Y	Ground Storage / Public Works Facility	3500 Indian Camp Road	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Kingsgate Lift Station	100 Kingsgate Road	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Sewer Plant	30 Crown Road	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Well Site # 11	613 Squaw Creek Road	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Well site # 2	922 East Lake Drive	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Well Site # 8 and Storage	100 Valley View Court	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Well Site # 9 and Storage	2901 North Ranch House Road	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Well Site #1, #3, #4, #5	3885 Indian Camp Road	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Well Site #10P, #10T and Storage	312 Surrey Lane	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Well Site #6P, #6T	3500 Ridge Road	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Well Site #7	3900 White Settlement Road	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Willow Park Village Lift Station	9505 East Bankhead Hwy	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Willow Springs Oaks Well and Storage	117 Circle Drive	Unknown	Unknown	Unknown	Unknown

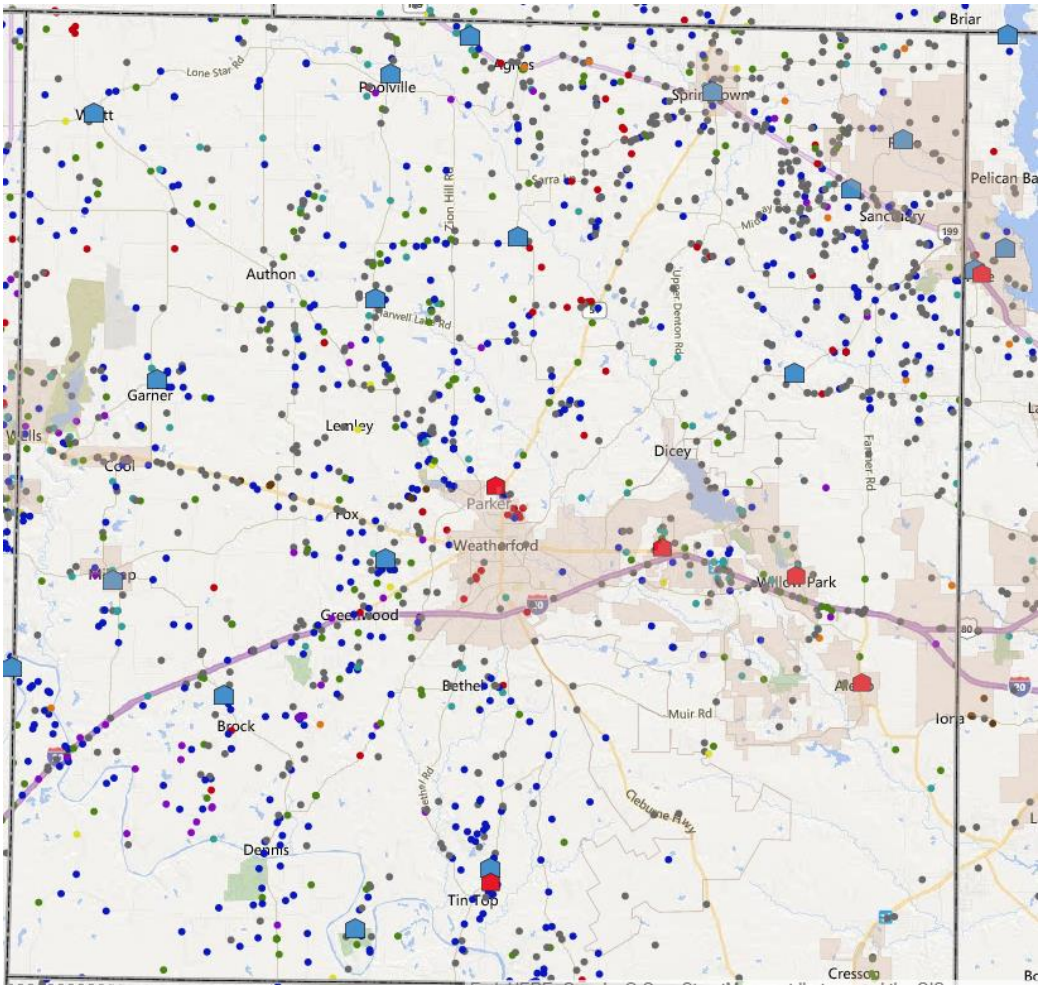
At Risk To: (Y or N)					**Willow Park Critical and Vulnerable Facility and Infrastructure Inventory**								
Drought	Expansive Soils	Extreme Heat	Flooding	Thunderstorms	Tornadoes	Wildfires	Winter Storms	**Facility Name or Description**	**Address**	**Capacity**	**Square Feet**	**Structure Value**	**Content Value**
Y	N	Y	Y	Y	Y	Y	Y	Willow Springs Well and Storage	4821 Quail Crest Road	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Willow Wood Water Plant	3323 Forest Circle	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Willow Wood Well North	3329 Forest Circle	Unknown	Unknown	Unknown	Unknown
Y	N	Y	Y	Y	Y	Y	Y	Willow Wood Well South	3329 Royal View Drive	Unknown	Unknown	Unknown	Unknown

Parker County Unincorporated

Dams and Bridges



Wildfire Ignitions, 2005-2015



Wildfire Ignitions

Cause	Cause
Incendiary	Railroads
Lightning	Power Lines
Campfire	Children
Smoking	Debris Burning
Fireworks	Structure
Equipment User	Miscellaneous

Source: Texas A&M Forest Service

Low Water Crossings

Low Water Crossing	Tanglewood Road
	Ox Mill Road
	Baker Road
	Doss Road
	Clary Road
	Cougar Road
	Gilbert Pit Road
	South Ridge Drive
	Norris Circle
Water over road in heavy rain	Horseshoe Drive
	Chavez Trail
	Hopi Trail
	Cherokee Trail
	Horseshoe Bend Trail
	Huron Trail
	Chippewa Trail
	Cortez Trail
	Lipan Trail
	River Trail
	Horseshoe Bend Court
	East El Camino Real
	Lazy Bend
	Constellation Road
	Combs Bend
	Bennett Road
	Goen Road

Parker County Unincorporated Critical and Vulnerable Facility & Infrastructure Table

At Risk To: (Y or N)								**Parker County Critical and Vulnerable Facility and Infrastructure Inventory**			
Drought	Expansive Soils	Extreme Heat	Flooding	Thunderstorms	Tornadoes	Wildfires	Winter Storms	**Facility Name or Description**	**Address**	**Capacity**	**Square Feet**
				Y	Y		Y	Parker County Jail/Detention Ctr	612 Jameson Street, Weatherford	421	35,000
				Y	Y		Y	Parker County Courthouse	1 Courthouse Square	300	Unknown
				Y	Y		Y	Parker County Attorney Ofc	118 W. Columbia St, Weatherford	10	Unknown
				Y	Y		Y	JP Precinct 1 Office	1020 E Hwy 199, Springtown	20	Unknown
				Y	Y		Y	JP Precinct 2 Office	303 FM1885, Weatherford	20	Unknown
				Y	Y		Y	JP Precinct 3 Office	1111 FM1189, Weatherford	20	Unknown
				Y	Y		Y	JP Precinct 4 Office	1320 Airport Road, Annetta	20	Unknown
				Y	Y		Y	JP Precinct 1 Barn		Varies	4,000-5,000
				Y	Y		Y	JP Precinct 2 Barn		Varies	4,000-5,000
				Y	Y		Y	JP Precinct 3 Barn		Varies	4,000-5,000
				Y	Y		Y	JP Precinct 4 Barn		Varies	4,000-5,000
				Y	Y		Y	Parker County Annex	1112 Santa Fe Drive, Weatherford	Unknown	Unknown
				Y	Y		Y	District Court Building	117 Fort Worth Hwy # 105, Weatherford	Unknown	Unknown
				Y	Y		Y	Texas AM AgriLife Extension Service (TEEX) Offices	604 North Main Street Suite 200, Weatherford	Unknown	Unknown

At Risk To: (Y or N)								**Parker County Critical and Vulnerable Facility and Infrastructure Inventory**			
Drought	Expansive Soils	Extreme Heat	Flooding	Thunderstorms	Tornadoes	Wildfires	Winter Storms	**Facility Name or Description**	**Address**	**Capacity**	**Square Feet**
				Y	Y		Y	Dollar General Stores	Unknown	Unknown	Unknown
				Y	Y		Y	Vulcan Materials	1111 Gilbert Pit Road, Millsap	Unknown	Unknown
				Y	Y		Y	GEODynamics	10400 I-20, Millsap	Unknown	Unknown
				Y	Y		Y	Parker County Sheriff Office	129 Hogle Street, Weatherford	Unknown	Unknown
				Y	Y		Y	Sheriff Substation 1	Unknown	Unknown	Unknown
				Y	Y		Y	Sheriff Annex	Unknown	Unknown	Unknown
				Y	Y		Y	Walnut Creek Water Tower	Walnut Creek	100,000 gallons	Unknown
				Y	Y		Y	Highland Road Water Tower	Highland Road	100,000 gallons	Unknown
				Y	Y		Y	113 North of Cool Water Tower	113 North of Cool	100,000 gallons	Unknown
				Y	Y		Y	Newsome Mound Road Water Tower	Newsome Mound Road	100,000 gallons	Unknown
				Y	Y		Y	Parker County Airport	3816 East Interstate Hwy 20, Weatherford	Unknown	Unknown
				Y	Y		Y	Cell Towers	N/A	N/A	N/A
				Y	Y		Y	Radio Towers (5)	N/A	N/A	N/A
	Y	Y	Y	Y	Y		Y	Major Roadways: I-20, 1187, 113, 180, 1189, 920, 51, 171, 199, 377, 730 (others)	N/A	N/A	N/A
		Y		Y	Y		Y	Power Substations (12)	N/A	N/A	N/A
	Y	Y		Y	Y		Y	Burlington Northern/Santa Fe Railroad	N/A	N/A	N/A
	Y		Y	Y	Y		Y	Sewer Lines	N/A	N/A	N/A

At Risk To: (Y or N)								Parker County Critical and Vulnerable Facility and Infrastructure Inventory			
Drought	Expansive Soils	Extreme Heat	Flooding	Thunderstorms	Tornadoes	Wildfires	Winter Storms	**Facility Name or Description**	**Address**	**Capacity**	**Square Feet**
Y	Y	Y	Y	Y	Y	Y	Y	Power Lines	N/A	N/A	N/A

Appendix B: Capabilities Assessment

The following capability assessments examine the ability of the jurisdictions to implement and manage a comprehensive mitigation strategy. Strengths, weaknesses, and resources of the jurisdictions are identified as a means to develop an effective Hazard Mitigation Action Plan (HazMAP). The capabilities identified in these assessments were evaluated collectively to develop feasible recommendations, which support the implementation of effective mitigation activities.

The assessments include questions regarding existing plans, policies, and regulations that contribute to or hinder the ability to implement hazard mitigation activities, including legal and regulatory capabilities; administrative and technical capabilities; and fiscal capabilities.

City of Aledo

Planning and Regulatory Assessment

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

Type of Plans	Have capability?	Level	If Yes…		
Comprehensive or Master Plan	☒ Yes ☐ No ☐ N/A	☒ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐ Yes ☒ No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐ Yes ☒ No	**Comments:**
			Can the plan be used to implement mitigation actions?	☐ Yes ☒ No	**Comments:**
Capital Improvement Plan (CIP)	☒ Yes ☐ No ☐ N/A	☒ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐ Yes ☒ No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☒ Yes ☐ No	**Comments:**
			Can the plan be used to implement	☒ Yes ☐ No	**Comments:**

Type of Plans	Have capability?	Level	If Yes…		
			mitigation actions?		
Economic Development Plan	☒Yes ☐No ☐N/A	☒ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐Yes ☒No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☒No	**Comments:**
			Can the plan be used to implement mitigation actions?	☐Yes ☒No	**Comments:**
Local Emergency Operations Plan	☒Yes ☐No ☐N/A	☐ Local ☒ County ☐ Region	**Does the plan address natural hazards?**	☒Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☒Yes ☐No	**Comments:**
			Can the plan be used to implement mitigation actions?	☒Yes ☐No	**Comments:**
Continuity of Operations Plan	☐Yes ☒No ☐N/A	☐ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☐No	**Comments:**
			Can the plan be used to implement mitigation actions?	☐Yes ☐No	**Comments:**

Type of Plans	Have capability?	Level	If Yes…		
Transportation Plan	☒ Yes ☐ No ☐ N/A	☒ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐ Yes ☒ No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☒ Yes ☐ No	**Comments:**
			Can the plan be used to implement mitigation actions?	☒ Yes ☐ No	**Comments:**
Stormwater Management Plan	☐ Yes ☒ No ☐ N/A	☐ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐ Yes ☐ No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐ Yes ☐ No	**Comments:**
			Can the plan be used to implement mitigation actions?	☐ Yes ☐ No	**Comments:**
Community Wildfire Protection Plan	☐ Yes ☒ No ☐ N/A	☐ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐ Yes ☐ No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐ Yes ☐ No	**Comments:**
			Can the plan be used to implement mitigation actions?	☐ Yes ☐ No	**Comments:**

Type of Plans	Have capability?	Level	If Yes…		
Green Infrastructure Plan	☐Yes ☒No ☐N/A	☐ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☐No	**Comments:**
			Can the plan be used to implement mitigation actions?	☐Yes ☐No	**Comments:**
Parks or Open Space Plan	☒Yes ☐No ☐N/A	☒ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐Yes ☒No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☒Yes ☐No	**Comments:**
			Can the plan be used to implement mitigation actions?	☒Yes ☐No	**Comments:**
Hazard Mitigation Plan	☒Yes ☐No ☐N/A	☐ Local ☒ County ☐ Region	**Does the plan address natural hazards?**	☒Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☒Yes ☐No	**Comments:**
			Can the plan be used to implement mitigation actions?	☒Yes ☐No	**Comments:**

Land Use Planning and Ordinances	Have capability?	If Yes…		
Zoning Ordinance	☒Yes ☐No ☐N/A	**Is the ordinance an effective measure for reducing hazard impacts?**	☒Yes ☐No	**Comments:**
		Is the ordinance adequately administered and enforced?	☒Yes ☐No	**Comments:**
Subdivision Ordinance	☒Yes ☐No ☐N/A	**Is the ordinance an effective measure for reducing hazard impacts?**	☒Yes ☐No	**Comments:**
		Is the ordinance adequately administered and enforced?	☒Yes ☐No	**Comments:**
Floodplain Ordinance	☒Yes ☐No ☐N/A	**Is the ordinance an effective measure for reducing hazard impacts?**	☒Yes ☐No	**Comments:**
		Is the ordinance adequately administered and enforced?	☒Yes ☐No	**Comments:**
Flood Insurance Rate Maps (FIRM)	☒Yes ☐No ☐N/A	**Is the FIRM an effective measure for reducing hazard impacts?**	☒Yes ☐No	**Comments:**
		Is the FIRM adequately administered and enforced?	☒Yes ☐No	**Comments:**
Natural Hazard Specific Ordinance (e.g., stormwater, wildfire)	☐Yes ☒No ☐N/A	**Is the ordinance an effective measure for reducing hazard impacts?**	☐Yes ☐No	**Comments:**
		Is the ordinance adequately administered and enforced?	☐Yes ☐No	**Comments:**

Land Use Planning and Ordinances	Have capability?	If Yes…		
Acquisition of land for open space and public recreation uses	☒Yes ☐No ☐N/A	**Is the ordinance an effective measure for reducing hazard impacts?**	☐Yes ☒No	**Comments:**
		Is the ordinance adequately administered and enforced?	☒Yes ☐No	**Comments:**

Building Code, Permitting, and Inspections	Have capability?	
Building Code	☒Yes ☐No ☐N/A	**Version/Year: 2015**
Building Code Effectiveness Grading Schedule (BGEGS) Score	☒Yes ☐No ☐N/A	**Score: Unknown**
Fire Department ISO Rating	☒Yes ☐No ☐N/A	**Rating: 2**
Site Plan Review Requirements	☒Yes ☐No ☐N/A	**Review method:** Site plans are reviewed to ensure the 2015 international building codes are followed and the site meets the requirements of the subdivision and zoning ordinances.

Administrative and Technical Assessment

Administrative and technical capabilities include staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions.

Administration	Have capability?	If Yes…
Planning Commission	☒Yes	**Describe capability: :** Formulates and recommends to the City Council for its adoption a comprehensive plan for the orderly growth and development of the City, formulates a

	☐No ☐N/A	zoning plan, holds public hearings and makes recommendations relating to the creation, amendment, and implementation of zoning regulations and districts, exercises all powers of a commission as to recommendation to City Council of approval or disapproval of plans, plats, or replats, and initiates proposals for the opening, vacating, or closing of public-rights-of-way.
Mitigation Planning Committee	☒Yes	**Describe capability:** Identifies hazards, conducts a risk and vulnerability assessment, and creates and monitors mitigation actions.
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems)	☒Yes ☐No ☐N/A	**Describe capability:** The City of Aledo reduces the risk by contracting these maintenance type tasks after receiving customer complaints or identifying risks during routine right-of-way maintenance.
Mutual Aid Agreements	☐Yes ☒No ☐N/A	**Describe capability:**

Staff	**Have capability? FT/PT***	**If Yes…**	
***Full-time (FT) or part-time (PT) position**			
Chief Building Official	☐Yes-FT ☒Yes- PT ☐No ☐N/A	**Is staffing adequate to enforce regulations?**	☒Yes ☐No
		Is staff trained on natural hazards and mitigation?	☐Yes ☒No
Floodplain Administrator	☒Yes-FT ☐Yes- PT ☐No ☐N/A	**Is staffing adequate to enforce regulations?**	☒Yes ☐No
		Is staff trained on natural hazards and mitigation?	☐Yes ☒No
Emergency Manager	☐Yes-FT ☒Yes- PT	**Is staffing adequate to enforce regulations?**	☒Yes ☐No

Staff	Have capability? FT/PT*	If Yes…	
	☐ No ☐ N/A	**Is staff trained on natural hazards and mitigation?**	☒ Yes ☐ No
Community Planner	☒ Yes-FT ☐ Yes- PT ☐ No ☐ N/A	**Is staffing adequate to enforce regulations?**	☒ Yes ☐ No
		Is staff trained on natural hazards and mitigation?	☐ Yes ☒ No
Civil Engineer	☐ Yes-FT ☒ Yes- PT ☐ No ☐ N/A	**Is staffing adequate to enforce regulations?**	☒ Yes ☐ No
		Is staff trained on natural hazards and mitigation?	☐ Yes ☒ No
GIS Coordinator	☐ Yes-FT ☐ Yes- PT ☒ No ☐ N/A	**Is staffing adequate to enforce regulations?**	☐ Yes ☐ No
		Is staff trained on natural hazards and mitigation?	☐ Yes ☐ No
Public Works Director	☒ Yes-FT ☐ Yes- PT ☐ No ☐ N/A	**Is staffing adequate to enforce regulations?**	☒ Yes ☐ No
		Is staff trained on natural hazards and mitigation?	☐ Yes ☒ No
Fire Chief	☒ Yes-FT ☐ Yes- PT ☐ No ☐ N/A	**Is staffing adequate to enforce regulations?**	☒ Yes ☐ No
		Is staff trained on natural hazards and mitigation?	☒ Yes ☐ No
Environmental Director	☒ Yes-FT ☐ Yes- PT	**Is staffing adequate to enforce regulations?**	☒ Yes ☐ No

Staff	Have capability? FT/PT*	If Yes…	
	☐ No ☐ N/A	**Is staff trained on natural hazards and mitigation?**	☐ Yes ☒ No

Technical	Have capability?	If Yes…	
Warning Systems/Services (e.g., Reverse 911, outdoor warning signals)	☒ Yes ☐ No ☐ N/A	**Describe capability. Public notice**	
		Has capability been used to assess or mitigate risk in the past?	☒ Yes ☐ No
		If yes, for what type of event? Severe weather warning	
Hazard data and information	☒ Yes ☐ No ☐ N/A	**Describe capability:** Used to provide insight into past events	
		Has capability been used to assess or mitigate risk in the past?	☒ Yes ☐ No
		If yes, for what type of event? Planning purposes	
Grant writing	☒ Yes ☐ No ☐ N/A	**Describe capability:** Write appropriate grants for the city	
		Has capability been used to assess or mitigate risk in the past?	☒ Yes ☐ No
		If yes, for what type of event? Sewer repair, sidewalk grant, Outdoor Warning Systems	
HaZUS analysis or GIS software	☐ Yes ☒ No ☐ N/A	**Describe capability:**	
		Has capability been used to assess or mitigate risk in the past?	☐ Yes ☐ No
		If yes, for what type of event?	

Education and Outreach Assessment

Education and outreach programs and methods can be used to implement mitigation activities and communicate hazard-related information.

Program or Organization	Have capability?	If Yes…	
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	☒Yes ☐No ☐N/A	**Could the program or organization help implement future mitigation activities?**	☒ Yes ☐ No
		Describe program or organization and how it relates to disaster resilience and mitigation: Mayor sends out quarterly newsletter with information related to disaster preparation and Mayor has breakfast meetings with businesses and discussions on disaster preparation	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	☒Yes ☐No ☐N/A	**Could the program or organization help implement future mitigation activities?**	☒ Yes ☐ No
		Describe program or organization and how it relates to disaster resilience and mitigation: Mayor meets with local business and has discussions regarding disaster preparation and need for emergency planning. Local fire department holds fire safety programs within the school system yearly. Information is presented at local public events when available.	
Natural disaster or safety related school programs	☒Yes ☐No ☐N/A	**Could the program or organization help implement future mitigation activities?**	☒ Yes ☐ No
		Describe program or organization and how it relates to disaster resilience and mitigation: Fire department does yearly school fire safety presentations and staff training with the school district.	
Public/private partnership initiatives addressing disaster-related issues	☐Yes ☒No ☐N/A	**Could the program or organization help implement future mitigation activities?**	☐ Yes ☐ No

Program or Organization	Have capability?	If Yes…
		Describe program or organization and how it relates to disaster resilience and mitigation:
StormReady certification	☐Yes ☒No ☐N/A	
Firewise Communities Certification	☐Yes ☒No ☐N/A	

Financial Assessment

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resources	Have capability?	If Yes…	
Capital Improvements Project funding	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No
		Has the funding resource been used in past?	☐Yes ☒No
		If yes, for what type of mitigation activities?	
Authority to levy taxes for specific purposes	☐Yes ☐No ☒N/A	**Could the resource be used to fund future mitigation actions?**	☐Yes ☐No
		Has the funding resource been used in past?	☐Yes ☐No
		If yes, for what type of mitigation activities?	
Fees for water, sewer, gas, and/or electric services	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No
		Has the funding resource been used in past?	☐Yes ☒No
		If yes, for what type of mitigation activities?	
Impact fees for new development	☒Yes ☐No	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No

Funding Resources	Have capability?	If Yes…	
	☐N/A	**Has the funding resource been used in past?**	☒Yes ☐No
		If yes, for what type of mitigation activities?	
Stormwater utility fee	☐Yes ☐No ☒N/A	**Could the resource be used to fund future mitigation actions?**	☐Yes ☐No
		Has the funding resource been used in past?	☐Yes ☐No
		If yes, for what type of mitigation activities?	
Incurrence of debt through general obligation bonds and/or special tax bonds	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No
		Has the funding resource been used in past?	☐Yes ☒No
		If yes, for what type of mitigation activities?	
Incur debt through private activities	☐Yes ☐No ☒N/A	**Could the resource be used to fund future mitigation actions?**	☐Yes ☐No
		Has the funding resource been used in past?	☐Yes ☐No
		If yes, for what type of mitigation activities?	
Community Development Block Grant	☐Yes ☐No ☒N/A	**Could the resource be used to fund future mitigation actions?**	☐Yes ☐No
		Has the funding resource been used in past?	☐Yes ☐No
		If yes, for what type of mitigation activities?	
Other federal funding programs (e.g. FEMA mitigation grants)	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No
		Has the funding resource been used in past?	☒Yes ☐No
		If yes, for what type of mitigation activities? FEMA HMGP and PDM grants	
State funding programs	☐Yes	**Could the resource be used to fund future mitigation actions?**	☐Yes

Funding Resources	Have capability?	If Yes…	
	☒No ☐N/A		☐No
		Has the funding resource been used in past?	☐Yes ☐No
		If yes, for what type of mitigation activities?	

City of Hudson Oaks

Planning and Regulatory Assessment

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

Type of Plans	Have capability?	Level	If Yes…		
Comprehensive or Master Plan	☒ Yes ☐ No ☐ N/A	☐ Local ☒ County ☐ Region	**Does the plan address natural hazards?**	☒ Yes ☐ No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☒ Yes ☐ No	**Comments: Does not identify specific projects**
			Can the plan be used to implement mitigation actions?	☒ Yes ☐ No	**Comments:**
Capital Improvement Plan (CIP)	☐ Yes ☒ No ☐ N/A	☐ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐ Yes ☐ No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐ Yes ☐ No	**Comments:**
			Can the plan be used to implement mitigation actions?	☐ Yes ☐ No	**Comments:**
Economic Development Plan	☐ Yes ☒ No ☐ N/A	☐ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐ Yes ☐ No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐ Yes ☐ No	**Comments:**
			Can the plan be used to	☐ Yes	**Comments:**

Type of Plans	Have capability?	Level	If Yes…		
			implement mitigation actions?	☐No	
Local Emergency Operations Plan	☒Yes ☐No ☐N/A	☐ Local ☒ County ☐ Region	**Does the plan address natural hazards?**	☒Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☒No	**Comments:** **No specific projects**
			Can the plan be used to implement mitigation actions?	☒Yes ☐No	**Comments:**
Continuity of Operations Plan	☒Yes ☐No ☐N/A	☐ Local ☒ County ☐ Region	**Does the plan address natural hazards?**	☒Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☒No	**Comments:**
			Can the plan be used to implement mitigation actions?	☒Yes ☐No	**Comments:**
Transportation Plan	☒Yes ☐No ☐N/A	☐ Local ☒ County ☐ Region	**Does the plan address natural hazards?**	☒Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☒No	**Comments:**
			Can the plan be used to implement	☒Yes ☐No	**Comments:**

Type of Plans	Have capability?	Level	If Yes…		
			mitigation actions?		
Stormwater Management Plan	☐Yes ☒No ☐N/A	☐ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☐No	**Comments:**
			Can the plan be used to implement mitigation actions?	☐Yes ☐No	**Comments:**
Community Wildfire Protection Plan	☒Yes ☐No ☐N/A	☐ Local ☒ County ☐ Region	**Does the plan address natural hazards?**	☒Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☒No	**Comments:**
			Can the plan be used to implement mitigation actions?	☒Yes ☐No	**Comments:**
Green Infrastructure Plan	☐Yes ☒No ☐N/A	☒ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐Yes ☒No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☒No	**Comments:**
			Can the plan be used to implement mitigation actions?	☐Yes ☒No	**Comments:**

Type of Plans	Have capability?	Level	If Yes…		
Parks or Open Space Plan	☐Yes ☒No ☐N/A	☒ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐Yes ☒No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☒No	**Comments:**
			Can the plan be used to implement mitigation actions?	☐Yes ☒No	**Comments:**
Hazard Mitigation Plan	☒Yes ☐No ☐N/A	☐ Local ☒ County ☐ Region	**Does the plan address natural hazards?**	☒Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☒No	**Comments:**
			Can the plan be used to implement mitigation actions?	☒Yes ☐No	**Comments:**

Land Use Planning and Ordinances	Have capability?	If Yes…		
Zoning Ordinance	☒Yes ☐No ☐N/A	**Is the ordinance an effective measure for reducing hazard impacts?**	☒Yes ☐No	**Comments:**
		Is the ordinance adequately administered and enforced?	☒Yes ☐No	**Comments:**
Subdivision Ordinance	☒Yes ☐No	**Is the ordinance an effective measure for**	☒Yes ☐No	**Comments:**

Land Use Planning and Ordinances	Have capability?	If Yes…		
	☐N/A	**reducing hazard impacts?**		
		Is the ordinance adequately administered and enforced?	☒Yes ☐No	**Comments:**
Floodplain Ordinance	☒Yes ☐No ☐N/A	**Is the ordinance an effective measure for reducing hazard impacts?**	☒Yes ☐No	**Comments:**
		Is the ordinance adequately administered and enforced?	☒Yes ☐No	**Comments:**
Flood Insurance Rate Maps (FIRM)	☐Yes ☐No ☒N/A	**Is the FIRM an effective measure for reducing hazard impacts?**	☐Yes ☐No	**Comments:**
		Is the FIRM adequately administered and enforced?	☐Yes ☐No	**Comments:**
Natural Hazard Specific Ordinance (e.g., stormwater, wildfire)	☐Yes ☒No ☐N/A	**Is the ordinance an effective measure for reducing hazard impacts?**	☐Yes ☐No	**Comments:**
		Is the ordinance adequately administered and enforced?	☐Yes ☐No	**Comments:**
Acquisition of land for open space and public recreation uses	☐Yes ☒No ☐N/A	**Is the ordinance an effective measure for reducing hazard impacts?**	☐Yes ☐No	**Comments:**
		Is the ordinance adequately administered and enforced?	☐Yes ☐No	**Comments:**

Building Code, Permitting, and Inspections	Have capability?	
Building Code	☒Yes ☐No ☐N/A	**Version/Year:** 2015 International Code
Building Code Effectiveness Grading Schedule (BGEGS) Score	☐Yes ☒No ☐N/A	**Score:**
Fire Department ISO Rating	☒Yes ☐No ☐N/A	**Rating:**
Site Plan Review Requirements	☒Yes ☐No ☐N/A	**Review method:** Reviewed in house

Administrative and Technical Assessment

Administrative and technical capabilities include staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions.

Administration	Have capability?	If Yes…
Planning Commission	☐Yes ☒No ☐N/A	**Describe capability:**
Mitigation Planning Committee	☒Yes	**Describe capability:** Identifies hazards, conducts a risk and vulnerability assessment, and creates and monitors mitigation actions.
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems)	☒Yes ☐No ☐N/A	**Describe capability:**
Mutual Aid Agreements	☐Yes ☒No	**Describe capability:**

	☐N/A	

Staff	Have capability? FT/PT*	If Yes…	
***Full-time (FT) or part-time (PT) position**			
Chief Building Official	☒Yes-FT ☐Yes- PT ☐No ☐N/A	**Is staffing adequate to enforce regulations?**	☒Yes ☐No
		Is staff trained on natural hazards and mitigation?	☐Yes ☒No
Floodplain Administrator	☒Yes-FT ☐Yes- PT ☐No ☐N/A	**Is staffing adequate to enforce regulations?**	☒Yes ☐No
		Is staff trained on natural hazards and mitigation?	☒Yes ☐No
Emergency Manager	☐Yes-FT ☐Yes- PT ☒No ☐N/A	**Is staffing adequate to enforce regulations?**	☐Yes ☐No
		Is staff trained on natural hazards and mitigation?	☐Yes ☐No
Community Planner	☐Yes-FT ☐Yes- PT ☒No ☐N/A	**Is staffing adequate to enforce regulations?**	☐Yes ☐No
		Is staff trained on natural hazards and mitigation?	☐Yes ☐No
Civil Engineer	☐Yes-FT ☒Yes- PT ☐No ☐N/A	**Is staffing adequate to enforce regulations?**	☒Yes ☐No
		Is staff trained on natural hazards and mitigation?	☒Yes ☐No
GIS Coordinator	☐Yes-FT ☐Yes- PT ☒No ☐N/A	**Is staffing adequate to enforce regulations?**	☐Yes ☐No
		Is staff trained on natural hazards and mitigation?	☐Yes ☐No

Staff	Have capability? FT/PT*	If Yes…	
***Full-time (FT) or part-time (PT) position**			
Public Works Director	☒Yes-FT ☐Yes- PT ☐No ☐N/A	**Is staffing adequate to enforce regulations?**	☒Yes ☐No
		Is staff trained on natural hazards and mitigation?	☒Yes ☐No
Fire Chief	☐Yes-FT ☐Yes- PT ☐No ☒N/A	**Is staffing adequate to enforce regulations?**	☐Yes ☐No
		Is staff trained on natural hazards and mitigation?	☐Yes ☐No
Environmental Director	☐Yes-FT ☐Yes- PT ☐No ☒N/A	**Is staffing adequate to enforce regulations?**	☐Yes ☐No
		Is staff trained on natural hazards and mitigation?	☐Yes ☐No

Technical	Have capability?	If Yes…	
Warning Systems/Services (e.g., Reverse 911, outdoor warning signals)	☒Yes ☐No ☐N/A	**Describe capability.**	
		Has capability been used to assess or mitigate risk in the past?	☒ Yes ☐ No
		If yes, for what type of event? Severe weather warnings	
Hazard data and information	☐Yes ☒No ☐N/A	**Describe capability:**	
		Has capability been used to assess or mitigate risk in the past?	☐ Yes ☐ No

Technical	Have capability?	If Yes…	
		If yes, for what type of event?	
Grant writing	☒ Yes ☐ No ☐ N/A	**Describe capability.**	
		Has capability been used to assess or mitigate risk in the past?	☒ Yes ☐ No
		If yes, for what type of event?	
HaZUS analysis or GIS software	☐ Yes ☒ No ☐ N/A	**Describe capability:**	
		Has capability been used to assess or mitigate risk in the past?	☐ Yes ☐ No
		If yes, for what type of event?	

Education and Outreach Assessment

Education and outreach programs and methods can be used to implement mitigation activities and communicate hazard-related information.

Program or Organization	Have capability?	If Yes…	
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	☐ Yes ☒ No ☐ N/A	**Could the program or organization help implement future mitigation activities?**	☐ Yes ☐ No
		Describe program or organization and how it relates to disaster resilience and mitigation:	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	☐ Yes ☒ No ☐ N/A	**Could the program or organization help implement future mitigation activities?**	☐ Yes ☐ No
		Describe program or organization and how it relates to disaster resilience and mitigation:	

Program or Organization	Have capability?	If Yes…	
Natural disaster or safety related school programs	☐Yes ☐No ☒N/A	**Could the program or organization help implement future mitigation activities?**	☐ Yes ☐ No
		Describe program or organization and how it relates to disaster resilience and mitigation:	
Public/private partnership initiatives addressing disaster-related issues	☐Yes ☒No ☐N/A	**Could the program or organization help implement future mitigation activities?**	☐ Yes ☐ No
		Describe program or organization and how it relates to disaster resilience and mitigation:	
StormReady certification	☐Yes ☒No ☐N/A		
Firewise Communities Certification	☐Yes ☐No ☒N/A		

Financial Assessment

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resources	Have capability?	If Yes…	
Capital Improvements Project funding	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☐Yes ☒No
		Has the funding resource been used in past?	☐Yes ☒No
		If yes, for what type of activities?	
Authority to levy taxes for specific purposes	☒Yes ☐No	**Could the resource be used to fund future mitigation actions?**	☐Yes ☒No

Funding Resources	Have capability?	If Yes…	
	☐N/A	**Has the funding resource been used in past?**	☐Yes ☒No
		If yes, for what type of activities?	
Fees for water, sewer, gas, and/or electric services	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No
		Has the funding resource been used in past?	☐Yes ☒No
		If yes, for what type of activities?	
Impact fees for new development	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No
		Has the funding resource been used in past?	☐Yes ☒No
		If yes, for what type of activities?	
Stormwater utility fee	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No
		Has the funding resource been used in past?	☐Yes ☒No
		If yes, for what type of activities?	
Incurrence of debt through general obligation bonds and/or special tax bonds	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☐Yes ☒No
		Has the funding resource been used in past?	☐Yes ☒No
		If yes, for what type of activities?	
Incur debt through private activities	☐Yes ☒No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☐Yes ☐No
		Has the funding resource been used in past?	☐Yes ☐No
		If yes, for what type of activities?	
Community Development Block Grant	☐Yes ☒No	**Could the resource be used to fund future mitigation actions?**	☐Yes ☐No

Funding Resources	Have capability?	If Yes…	
	☐N/A	**Has the funding resource been used in past?**	☐Yes ☐No
		If yes, for what type of activities?	
Other federal funding programs (e.g. FEMA mitigation grants)	☐Yes ☒No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☐Yes ☐No
		Has the funding resource been used in past?	☐Yes ☐No
		If yes, for what type of activities?	
State funding programs	☐Yes ☒No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☐Yes ☐No
		Has the funding resource been used in past?	☐Yes ☐No
		If yes, for what type of activities?	

How can these capabilities be expanded and improved to reduce risk?
Actions that can expand and improve existing authorities, plans, policies, and resources for mitigation include budgeting and passing policies and procedures for mitigation actions, adopting and implementing stricter mitigation regulations, approving the hiring and training of staff for mitigation activities, and approving mitigation updates to existing plans as new needs are recognized.

City of Springtown

Planning and Regulatory Assessment

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

Type of Plans	Have capability?	Level	If Yes…		
Comprehensive or Master Plan	☒ Yes ☐ No ☐ N/A	☒ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☒ Yes ☐ No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐ Yes ☒ No	**Comments:**
			Can the plan be used to implement mitigation actions?	☐ Yes ☒ No	**Comments:**
Capital Improvement Plan (CIP)	☐ Yes ☒ No ☐ N/A	☐ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐ Yes ☐ No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐ Yes ☐ No	**Comments:**
			Can the plan be used to implement mitigation actions?	☐ Yes ☐ No	**Comments:**
Economic Development Plan	☒ Yes ☐ No ☐ N/A	☒ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐ Yes ☒ No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐ Yes ☒ No	**Comments:**
			Can the plan be used to	☐ Yes	**Comments:**

Type of Plans	Have capability?	Level	If Yes…		
			implement mitigation actions?	☒No	
Local Emergency Operations Plan	☒Yes ☐No ☐N/A	☒ Local ☒ County ☐ Region	**Does the plan address natural hazards?**	☒Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☒No	**Comments:**
			Can the plan be used to implement mitigation actions?	☐Yes ☒No	**Comments:**
Continuity of Operations Plan	☒Yes ☐No ☐N/A	☒ Local ☒ County ☐ Region	**Does the plan address natural hazards?**	☒Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☒No	**Comments:**
			Can the plan be used to implement mitigation actions?	☐Yes ☒No	**Comments:**
Transportation Plan	☐Yes ☐No ☐N/A	☐ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☐No	**Comments:**
			Can the plan be used to implement	☐Yes ☐No	**Comments:**

Type of Plans	Have capability?	Level	If Yes…		
			mitigation actions?		
Stormwater Management Plan	☒Yes ☐No ☐N/A	☒ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☒Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☒No	**Comments:**
			Can the plan be used to implement mitigation actions?	☐Yes ☒No	**Comments:**
Community Wildfire Protection Plan	☐Yes ☒No ☐N/A	☐ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☐No	**Comments:**
			Can the plan be used to implement mitigation actions?	☐Yes ☐No	**Comments:**
Green Infrastructure Plan	☐Yes ☒No ☐N/A	☐ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☐No	**Comments:**
			Can the plan be used to implement mitigation actions?	☐Yes ☐No	**Comments:**

Type of Plans	Have capability?	Level	If Yes…		
Parks or Open Space Plan	☐Yes ☒No ☐N/A	☐ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☐No	**Comments:**
			Can the plan be used to implement mitigation actions?	☐Yes ☐No	**Comments:**
Hazard Mitigation Plan	☒Yes ☐No ☐N/A	☐ Local ☒ County ☐ Region	**Does the plan address natural hazards?**	☒Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☒Yes ☐No	**Comments:**
			Can the plan be used to implement mitigation actions?	☒Yes ☐No	**Comments:**

Land Use Planning and Ordinances	Have capability?	If Yes…		
Zoning Ordinance	☒Yes ☐No ☐N/A	**Is the ordinance an effective measure for reducing hazard impacts?**	☒Yes ☐No	**Comments:**
		Is the ordinance adequately administered and enforced?	☒Yes ☐No	**Comments:**
Subdivision Ordinance	☒Yes ☐No	**Is the ordinance an effective measure for reducing hazard impacts?**	☒Yes ☐No	**Comments:**

Land Use Planning and Ordinances	Have capability?	If Yes…		
	☐N/A	**Is the ordinance adequately administered and enforced?**	☒Yes ☐No	**Comments:**
Floodplain Ordinance	☒Yes ☐No ☐N/A	**Is the ordinance an effective measure for reducing hazard impacts?**	☒Yes ☐No	**Comments:**
		Is the ordinance adequately administered and enforced?	☒Yes ☐No	**Comments:**
Flood Insurance Rate Maps (FIRM)	☒Yes ☐No ☐N/A	**Is the FIRM an effective measure for reducing hazard impacts?**	☒Yes ☐No	**Comments:**
		Is the FIRM adequately administered and enforced?	☒Yes ☐No	**Comments:**
Natural Hazard Specific Ordinance (e.g., stormwater, wildfire)	☐Yes ☒No ☐N/A	**Is the ordinance an effective measure for reducing hazard impacts?**	☐Yes ☐No	**Comments:**
		Is the ordinance adequately administered and enforced?	☐Yes ☐No	**Comments:**
Acquisition of land for open space and public recreation uses	☒Yes ☐No ☐N/A	**Is the ordinance an effective measure for reducing hazard impacts?**	☒Yes ☐No	**Comments:**
		Is the ordinance adequately administered and enforced?	☒Yes ☐No	**Comments:**

Building Code, Permitting, and Inspections	Have capability?	
Building Code	☒Yes ☐No ☐N/A	**Version/Year: IBC 2012**
Building Code Effectiveness Grading Schedule (BGEGS) Score	☐Yes ☒No ☐N/A	**Score:**
Fire Department ISO Rating	☐Yes ☒No ☐N/A	**Rating:**
Site Plan Review Requirements	☒Yes ☐No ☐N/A	**Review method: Engineer/P and Z board**

Administrative and Technical Assessment

Administrative and technical capabilities include staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions.

Administration	Have capability?	If Yes…
Planning Commission	☒Yes ☐No ☐N/A	**Describe capability:** Board reviews plans and compatibility with zoning ordinances. Makes recommendation to City Council.
Mitigation Planning Committee	☒Yes	**Describe capability:** Identifies hazards, conducts a risk and vulnerability assessment, and creates and monitors mitigation actions.
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems)	☒Yes ☐No ☐N/A	**Describe capability:** Public works division, primarily reactive. Less than 10 employees.
Mutual Aid Agreements	☒Yes ☐No ☐N/A	**Describe capability:** Automatic Aid in Fire. Verbal agreements only with police. Paramedics employed by Hospital district. Emergency Management is mutual Aid agreement.

Staff	Have capability? FT/PT*	If Yes…	
***Full-time (FT) or part-time (PT) position**			
Chief Building Official	☒ Yes-FT ☐ Yes- PT ☐ No ☐ N/A	**Is staffing adequate to enforce regulations?**	☒ Yes ☐ No
		Is staff trained on natural hazards and mitigation?	☐ Yes ☒ No
Floodplain Administrator	☐ Yes-FT ☐ Yes- PT ☒ No ☐ N/A	**Is staffing adequate to enforce regulations?**	☐ Yes ☐ No
		Is staff trained on natural hazards and mitigation?	☐ Yes ☐ No
Emergency Manager	☐ Yes-FT ☒ Yes- PT ☐ No ☐ N/A	**Is staffing adequate to enforce regulations?**	☒ Yes ☐ No
		Is staff trained on natural hazards and mitigation?	☒ Yes ☐ No
Community Planner	☐ Yes-FT ☐ Yes- PT ☒ No ☐ N/A	**Is staffing adequate to enforce regulations?**	☐ Yes ☐ No
		Is staff trained on natural hazards and mitigation?	☐ Yes ☐ No
Civil Engineer	☐ Yes-FT ☒ Yes- PT ☐ No ☐ N/A	**Is staffing adequate to enforce regulations?**	☒ Yes ☐ No
		Is staff trained on natural hazards and mitigation?	☒ Yes ☐ No

Staff	Have capability? FT/PT*	If Yes…	
***Full-time (FT) or part-time (PT) position**			
GIS Coordinator	☐ Yes-FT ☐ Yes- PT ☒ No ☐ N/A	**Is staffing adequate to enforce regulations?**	☐ Yes ☐ No
		Is staff trained on natural hazards and mitigation?	☐ Yes ☐ No
Public Works Director	☒ Yes-FT ☐ Yes- PT ☐ No ☐ N/A	**Is staffing adequate to enforce regulations?**	☒ Yes ☐ No
		Is staff trained on natural hazards and mitigation?	☐ Yes ☒ No
Fire Chief	☐ Yes-FT ☐ Yes- PT ☒ No ☐ N/A	**Is staffing adequate to enforce regulations?**	☐ Yes ☐ No
		Is staff trained on natural hazards and mitigation?	☐ Yes ☐ No
Environmental Director	☐ Yes-FT ☐ Yes- PT ☒ No ☐ N/A	**Is staffing adequate to enforce regulations?**	☐ Yes ☐ No
		Is staff trained on natural hazards and mitigation?	☐ Yes ☐ No

Technical	Have capability?	If Yes…	
Warning Systems/Services (e.g., Reverse 911, outdoor warning signals)	☐Yes ☒No ☐N/A	**Describe capability.**	
		Has capability been used to assess or mitigate risk in the past?	☐ Yes ☐ No
		If yes, for what type of event?	
Hazard data and information	☒Yes ☐No ☐N/A	**Describe capability:**	
		Has capability been used to assess or mitigate risk in the past?	☒ Yes ☐ No
		If yes, for what type of event? Response planning for emergency response plan.	
Grant writing	☐Yes ☒No ☐N/A	**Describe capability.**	
		Has capability been used to assess or mitigate risk in the past?	☐ Yes ☐ No
		If yes, for what type of event?	
HaZUS analysis or GIS software	☐Yes ☒No ☐N/A	**Describe capability:**	
		Has capability been used to assess or mitigate risk in the past?	☐ Yes ☐ No
		If yes, for what type of event?	

Education and Outreach Assessment

Education and outreach programs and methods can be used to implement mitigation activities and communicate hazard-related information.

Program or Organization	Have capability?	If Yes…	
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	☐Yes ☒No ☐N/A	**Could the program or organization help implement future mitigation activities?**	☐ Yes ☐ No
		Describe program or organization and how it relates to disaster resilience and mitigation:	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	☐Yes ☒No ☐N/A	**Could the program or organization help implement future mitigation activities?**	☐ Yes ☐ No
		Describe program or organization and how it relates to disaster resilience and mitigation:	
Natural disaster or safety related school programs	☐Yes ☒No ☐N/A	**Could the program or organization help implement future mitigation activities?**	☐ Yes ☐ No
		Describe program or organization and how it relates to disaster resilience and mitigation:	
Public/private partnership initiatives addressing disaster-related issues	☐Yes ☒No ☐N/A	**Could the program or organization help implement future mitigation activities?**	☐ Yes ☐ No
		Describe program or organization and how it relates to disaster resilience and mitigation:	
StormReady certification	☐Yes ☒No ☐N/A	Answer will be pre-filled.	
Firewise Communities Certification	☐Yes ☒No ☐N/A	Answer will be pre-filled.	

Financial Assessment

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resources	Have capability?	If Yes…	
Capital Improvements Project funding	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No
		Has the funding resource been used in past?	☒Yes ☐No
		If yes, for what type of mitigation activities?	
Authority to levy taxes for specific purposes	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No
		Has the funding resource been used in past?	☐Yes ☒No
		If yes, for what type of mitigation activities?	
Fees for water, sewer, gas, and/or electric services	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☐Yes ☒No
		Has the funding resource been used in past?	☐Yes ☒No
		If yes, for what type of mitigation activities?	
Impact fees for new development	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☐Yes ☒No
		Has the funding resource been used in past?	☐Yes ☒No
		If yes, for what type of mitigation activities?	
Stormwater utility fee	☐Yes ☒No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☐Yes ☐No
		Has the funding resource been used in past?	☐Yes ☐No
		If yes, for what type of mitigation activities?	
Incurrence of debt through general obligation	☒Yes ☐No	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No

Funding Resources	Have capability?	If Yes…	
bonds and/or special tax bonds	☐N/A	**Has the funding resource been used in past?**	☐Yes ☒No
		If yes, for what type of mitigation activities?	
Incur debt through private activities	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No
		Has the funding resource been used in past?	☐Yes ☒No
		If yes, for what type of mitigation activities?	
Community Development Block Grant	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No
		Has the funding resource been used in past?	☐Yes ☒No
		If yes, for what type of mitigation activities?	
Other federal funding programs (e.g. FEMA mitigation grants)	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No
		Has the funding resource been used in past?	☒Yes ☐No
		If yes, for what type of mitigation activities? Flood Mitigation to create a park in flood plain	
State funding programs	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☐Yes ☐No
		Has the funding resource been used in past?	☐Yes ☐No
		If yes, for what type of mitigation activities?	
		Has the funding resource been used in past?	☐Yes ☐No
		If yes, for what type of mitigation activities?	

How can these capabilities be expanded and improved to reduce risk?

Currently in Springtown the majority of our emergency operations plans are response driven. We have locally identified a master plan in our zoning, but it is for planning growth and is not focused on hazard and threat mitigation. We are currently working with the other cities and Parker County to develop a countywide Master plan. Our building codes are the IBC 2012 version. The city decided not to upgrade to a more recent code because of the cost to our builders and residents to bring existing structures to the new code. Our site plan reviews are done with a part time engineer and a planning and zoning committee (P and Z). The P and Z are not trained in hazard mitigation and it is lower on the list of priorities. The city council serves as the zoning board of adjusters. Their focus on hazard mitigation has an opportunity for improvement. This could be improved upon by mandatory training in hazard and threat identification and mitigation for all members.

The city has a small budget and does not have the finances to hire a full-time emergency manager nor other positions that would focus on the mitigation of hazards and threats. The emergency manager for the city by charter is the Mayor, an elected position that does not have a salary. The Emergency Management Coordinator is an ancillary duty of the Chief of Police. The current emergency management plan is primarily focused on response to hazards and continuation of services during and after an incident. There is an opportunity for improvement in the Recovery phase of an incident as well.

In the financing for mitigation the city would currently be reliant predominantly on grants and inter-local agreements with other entities. The city is currently in need of repairing infrastructure such as roadways and improving the water and sewer systems in the city and has issued debt to fix these issues.

City of Weatherford

Planning and Regulatory Assessment

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

Type of Plans	Have capability?	Level	If Yes…		
Comprehensive or Master Plan	☒ Yes ☐ No ☐ N/A	☒ Local ☐ County ☒ Region	**Does the plan address natural hazards?**	☒ Yes ☐ No	**Comments:** Mainly Chapter 3 some (Stormwater)
			Does the plan identify projects to include in the mitigation strategy?	☐ Yes ☐ No	**Comments:**
			Can the plan be used to implement mitigation actions?	☒ Yes ☐ No	**Comments:**
Capital Improvement Plan (CIP)	☒ Yes ☐ No ☐ N/A	☐ Local ☐ County ☒ Region	**Does the plan address natural hazards?**	☐ Yes ☐ No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐ Yes ☐ No	**Comments:**
			Can the plan be used to implement mitigation actions?	☐ Yes ☐ No	**Comments:**
Economic Development Plan	☐ Yes ☒ No ☐ N/A	☐ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐ Yes ☐ No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐ Yes ☐ No	**Comments:**
			Can the plan be used to	☐ Yes	**Comments:**

Type of Plans	Have capability?	Level	If Yes…		
			implement mitigation actions?	☐No	
Local Emergency Operations Plan	☒Yes ☐No ☐N/A	☐ Local ☒ County ☐ Region	**Does the plan address natural hazards?**	☐Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☐No	**Comments:**
			Can the plan be used to implement mitigation actions?	☐Yes ☐No	**Comments:**
Continuity of Operations Plan	☒Yes ☐No ☐N/A	☒ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☒No	**Comments:**
			Can the plan be used to implement mitigation actions?	☒Yes ☐No	**Comments:**
Transportation Plan	☒Yes ☐No ☐N/A	☐ Local ☐ County ☒ Region	**Does the plan address natural hazards?**	☐Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☐No	**Comments:**
			Can the plan be used to implement	☐Yes ☐No	**Comments:**

Type of Plans	Have capability?	Level	If Yes…		
			mitigation actions?		
Stormwater Management Plan	☒Yes ☐No ☐N/A	☒ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☒Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☒Yes ☐No	**Comments:**
			Can the plan be used to implement mitigation actions?	☒Yes ☐No	**Comments:**
Community Wildfire Protection Plan	☐Yes ☒No ☐N/A	☐ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☐No	**Comments:**
			Can the plan be used to implement mitigation actions?	☐Yes ☐No	**Comments:**
Green Infrastructure Plan	☐Yes ☒No ☐N/A	☐ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☐No	**Comments:**
			Can the plan be used to implement mitigation actions?	☐Yes ☐No	**Comments:**

Type of Plans	Have capability?	Level	If Yes…		
Parks or Open Space Plan	☒Yes ☐No ☐N/A	☒ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☐No	**Comments:**
			Can the plan be used to implement mitigation actions?	☐Yes ☐No	**Comments:**
Hazard Mitigation Plan	☒Yes ☐No ☐N/A	☐ Local ☒ County ☐ Region	**Does the plan address natural hazards?**	☒Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☒Yes ☐No	**Comments:**
			Can the plan be used to implement mitigation actions?	☒Yes ☐No	**Comments:**

Land Use Planning and Ordinances	Have capability?	If Yes…		
Zoning Ordinance	☒Yes ☐No ☐N/A	**Is the ordinance an effective measure for reducing hazard impacts?**	☒Yes ☐No	**Comments:**
		Is the ordinance adequately administered and enforced?	☒Yes ☐No	**Comments:**
Subdivision Ordinance	☒Yes ☐No	**Is the ordinance an effective measure for reducing hazard impacts?**	☒Yes ☐No	**Comments:**

Land Use Planning and Ordinances	Have capability?	If Yes…		
	☐N/A	**Is the ordinance adequately administered and enforced?**	☒Yes ☐No	**Comments:**
Floodplain Ordinance	☒Yes ☐No ☐N/A	**Is the ordinance an effective measure for reducing hazard impacts?**	☒Yes ☐No	**Comments:**
		Is the ordinance adequately administered and enforced?	☒Yes ☐No	**Comments:**
Flood Insurance Rate Maps (FIRM)	☒Yes ☐No ☐N/A	**Is the FIRM an effective measure for reducing hazard impacts?**	☒Yes ☐No	**Comments:**
		Is the FIRM adequately administered and enforced?	☒Yes ☐No	**Comments:**
Natural Hazard Specific Ordinance (e.g., stormwater, wildfire)	☒Yes ☐No ☐N/A	**Is the ordinance an effective measure for reducing hazard impacts?**	☒Yes ☐No	**Comments:**
		Is the ordinance adequately administered and enforced?	☐Yes ☒No	**Comments:**
Acquisition of land for open space and public recreation uses	☒Yes ☐No ☐N/A	**Is the ordinance an effective measure for reducing hazard impacts?**	☒Yes ☐No	**Comments:**
		Is the ordinance adequately administered and enforced?	☒Yes ☐No	**Comments:**

Building Code, Permitting, and Inspections	Have capability?	
Building Code	☒Yes ☐No ☐N/A	**Version/Year:** 2009 International Building Code
Building Code Effectiveness Grading Schedule (BGEGS) Score	☒Yes ☐No ☐N/A	**Score:** 9 – Commercial 9 - Residential
Fire Department ISO Rating	☒Yes ☐No ☐N/A	**Rating:** 2/2Y inside the city is 2 outside the city
Site Plan Review Requirements	☒Yes ☐No ☐N/A	**Review method:** Reviewed by officials

Administrative and Technical Assessment

Administrative and technical capabilities include staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions.

Administration	Have capability?	If Yes…
Planning Commission	☒Yes ☐No ☐N/A	**Describe capability:** Seven members: Review General Plan and zoning/subdivision cases
Mitigation Planning Committee	☒Yes	**Describe capability:** Identifies hazards, conducts a risk and vulnerability assessment, and creates and monitors mitigation actions.
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems)	☒Yes ☐No ☐N/A	**Describe capability:** Tree trimming, Brush removal
Mutual Aid Agreements	☒Yes ☐No ☐N/A	**Describe capability:** Public Works Emergency Response Team (PWERT), various Fire and Police agreements, American Public Power Association –

		electric utility mutual aid agreement, Building Officials Association of Texas (BOAT)

Staff	Have capability? FT/PT*	If Yes…	
***Full-time (FT) or part-time (PT) position**			
Chief Building Official	☒Yes-FT ☐Yes- PT ☐No ☐N/A	**Is staffing adequate to enforce regulations?**	☐ Yes ☒No
		Is staff trained on natural hazards and mitigation?	☐ Yes ☐No
Floodplain Administrator	☒Yes-FT ☐Yes- PT ☐No ☐N/A	**Is staffing adequate to enforce regulations?**	☐ Yes ☐No
		Is staff trained on natural hazards and mitigation?	☐ Yes ☐No
Emergency Manager	☒Yes-FT ☐Yes- PT ☐No ☐N/A	**Is staffing adequate to enforce regulations?**	☒ Yes ☐No
		Is staff trained on natural hazards and mitigation?	☒ Yes ☐No
Community Planner	☒Yes-FT ☐Yes- PT ☐No ☐N/A	**Is staffing adequate to enforce regulations?**	☒ Yes ☐No
		Is staff trained on natural hazards and mitigation?	☒ Yes ☐No
Civil Engineer	☒Yes-FT ☐Yes- PT	**Is staffing adequate to enforce regulations?**	☐ Yes ☐No

Staff	Have capability? FT/PT*	If Yes…	
***Full-time (FT) or part-time (PT) position**			
	☐ No ☐ N/A	**Is staff trained on natural hazards and mitigation?**	☐ Yes ☐ No
GIS Coordinator	☒ Yes-FT ☐ Yes- PT ☐ No ☐ N/A	**Is staffing adequate to enforce regulations?**	☐ Yes ☒ No
		Is staff trained on natural hazards and mitigation?	☐ Yes ☒ No
Public Works Director	☒ Yes-FT ☐ Yes- PT ☐ No ☐ N/A	**Is staffing adequate to enforce regulations?**	☒ Yes ☐ No
		Is staff trained on natural hazards and mitigation?	☐ Yes ☒ No
Fire Chief	☒ Yes-FT ☐ Yes- PT ☐ No ☐ N/A	**Is staffing adequate to enforce regulations?**	☐ Yes ☐ No
		Is staff trained on natural hazards and mitigation?	☒ Yes ☐ No
Environmental Director	☒ Yes-FT ☐ Yes- PT ☐ No ☐ N/A	**Is staffing adequate to enforce regulations?**	☐ Yes ☒ No
		Is staff trained on natural hazards and mitigation?	☒ Yes ☐ No

Technical	Have capability?	If Yes…	
Warning Systems/Services (e.g., Reverse 911, outdoor warning signals)	☒Yes ☐No ☐N/A	**Describe capability:** Blackboard Connect, and outdoor warning system will be installed in May 2019	
		Has capability been used to assess or mitigate risk in the past?	☒Yes ☐No
		If yes, for what type of event? Blackboard has been used to give warning to citizens during severe weather, gas leaks, and other emergency situations.	
Hazard data and information	☐Yes ☐No ☒N/A	**Describe capability:**	
		Has capability been used to assess or mitigate risk in the past?	☐Yes ☐No
		If yes, for what type of event?	
Grant writing	☒Yes ☐No ☐N/A	**Describe capability. EM, Fire, PD, and PW have successfully written various grant applications**	
		Has capability been used to assess or mitigate risk in the past?	☒Yes ☐No
		If yes, for what type of event?	
HaZUS analysis or GIS software	☒Yes ☐No ☐N/A	**Describe capability:**	
		Has capability been used to assess or mitigate risk in the past?	☒Yes ☐No
		If yes, for what type of event? Tornado	

Education and Outreach Assessment

Education and outreach programs and methods can be used to implement mitigation activities and communicate hazard-related information.

Program or Organization	Have capability?	If Yes…	
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness,	☒Yes ☐No	**Could the program or organization help implement future mitigation activities?**	☒ Yes ☐No

Program or Organization	Have capability?	If Yes…	
access and functional needs populations, etc.	☐N/A	**Describe program or organization and how it relates to disaster resilience and mitigation:** Citizens Police Academy and Citizens Fire Academy helps citizens learn how to prepare for emergencies and assist local responders.	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	☒Yes ☐No ☐N/A	**Could the program or organization help implement future mitigation activities?**	☒ Yes ☐No
		Describe program or organization and how it relates to disaster resilience and mitigation: Various emergency management outreach meetings.	
Natural disaster or safety related school programs	☒Yes ☐No ☐N/A	**Could the program or organization help implement future mitigation activities?**	☒ Yes ☐No
		Describe program or organization and how it relates to disaster resilience and mitigation: Various Police and Fire safety programs. There have been discussions to add an emergency management element to the programs.	
Public/private partnership initiatives addressing disaster-related issues	☒Yes ☐No ☐N/A	**Could the program or organization help implement future mitigation activities?**	☒ Yes ☐No
		Describe program or organization and how it relates to disaster resilience and mitigation:	
StormReady certification	☒Yes ☐No ☐N/A	**Describe program or organization and how it relates to disaster resilience and mitigation:** StormReady communities are better prepared to save lives from the onslaught of severe weather through advanced planning, education and awareness. To be officially StormReady, a community must: • Establish a 24-hour warning point and emergency operations center • Have more than one way to receive severe weather warnings and forecasts and to alert the public • Create a system that monitors weather conditions locally	

Program or Organization	Have capability?	If Yes…
		• Promote the importance of public readiness through community seminars • Develop a formal hazardous weather plan, which includes training severe weather spotters and holding emergency exercises.
Firewise Communities Certification	☐Yes ☒No ☐N/A	Answer will be pre-filled.

Financial Assessment

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resources	Have capability?	If Yes…	
Capital Improvements Project funding	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No
		Has the funding resource been used in past?	☒Yes ☐No
		If yes, for what type of activities? Various projects	
Authority to levy taxes for specific purposes	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No
		Has the funding resource been used in past?	☐Yes ☒No
		If yes, for what type of activities?	
Fees for water, sewer, gas, and/or electric services	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No
		Has the funding resource been used in past?	☒Yes ☐No
		If yes, for what type of activities? If yes, for what type of mitigation activities? • Relocating electric lines and equipment • Hardening overhead electric lines • Placing overhead electric lines underground • Hardening electric substations	

Funding Resources	Have capability?	If Yes…	
		• Tree trimming/removal around overhead electric lines	
Impact fees for new development	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No
		Has the funding resource been used in past?	☐Yes ☒No
		If yes, for what type of activities?	
Stormwater utility fee	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No
		Has the funding resource been used in past?	☒Yes ☐No
		If yes, for what type of activities? Improving stormwater drainage, and fixing creek bed erosion.	
Incurrence of debt through general obligation bonds and/or special tax bonds	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No
		Has the funding resource been used in past?	☒Yes ☐No
		If yes, for what type of activities? Improving transportation issues, stormwater issues, and improving interoperable communications.	
Incur debt through private activities	☐Yes ☐No ☒N/A	**Could the resource be used to fund future mitigation actions?**	☐Yes ☐No
		Has the funding resource been used in past?	☐Yes ☐No
		If yes, for what type of activities?	
Community Development Block Grant	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No
		Has the funding resource been used in past?	☐Yes ☒No
		If yes, for what type of activities?	

Funding Resources	Have capability?	If Yes…	
Other federal funding programs (e.g. FEMA mitigation grants)	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No
		Has the funding resource been used in past?	☒Yes ☐No
		If yes, for what type of activities? Various grants received for fire, police, and public works.	
State funding programs	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No
		Has the funding resource been used in past?	☒Yes ☐No
		If yes, for what type of activities? Various fire, police, and public works activities	

How can these capabilities be expanded and improved to reduce risk?
Actions that can expand and improve existing authorities, plans, policies, and resources for mitigation include budgeting and passing policies and procedures for mitigation actions, adopting and implementing stricter mitigation regulations, approving the hiring and training of staff for mitigation activities, and approving mitigation updates to existing plans as new needs are recognized.

City of Willow Park

Planning and Regulatory Assessment

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

Type of Plans	Have capability?	Level	If Yes…		
Comprehensive or Master Plan	☒ Yes ☐ No ☐ N/A	☒ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐ Yes ☒ No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐ Yes ☒ No	**Comments:**
			Can the plan be used to implement mitigation actions?	☒ Yes ☐ No	**Comments:**
Capital Improvement Plan (CIP)	☒ Yes ☐ No ☐ N/A	☒ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐ Yes ☒ No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐ Yes ☒ No	**Comments:**
			Can the plan be used to implement mitigation actions?	☒ Yes ☐ No	**Comments:**
Economic Development Plan	☒ Yes ☐ No ☐ N/A	☒ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐ Yes ☒ No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐ Yes ☒ No	**Comments:**
			Can the plan be used to	☒ Yes	**Comments:**

Type of Plans	Have capability?	Level	If Yes…		
			implement mitigation actions?	☐No	
Local Emergency Operations Plan	☒Yes ☐No ☐N/A	☐ Local ☒ County ☐ Region	**Does the plan address natural hazards?**	☐Yes ☒No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☒No	**Comments:**
			Can the plan be used to implement mitigation actions?	☒Yes ☐No	**Comments:**
Continuity of Operations Plan	☒Yes ☐No ☐N/A	☐ Local ☒ County ☐ Region	**Does the plan address natural hazards?**	☐Yes ☒No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☒No	**Comments:**
			Can the plan be used to implement mitigation actions?	☒Yes ☐No	**Comments:**
Transportation Plan	☒Yes ☐No ☐N/A	☐ Local ☒ County ☐ Region	**Does the plan address natural hazards?**	☐Yes ☒No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☒No	**Comments:**
			Can the plan be used to implement	☒Yes ☐No	**Comments:**

Type of Plans	Have capability?	Level	If Yes…		
			mitigation actions?		
Stormwater Management Plan	☐Yes ☒No ☐N/A	☐ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☐No	**Comments:**
			Can the plan be used to implement mitigation actions?	☐Yes ☐No	**Comments:**
Community Wildfire Protection Plan	☐Yes ☒No ☐N/A	☐ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☐No	**Comments:**
			Can the plan be used to implement mitigation actions?	☐Yes ☐No	**Comments:**
Green Infrastructure Plan	☐Yes ☒No ☐N/A	☐ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☐No	**Comments:**
			Can the plan be used to implement mitigation actions?	☐Yes ☐No	**Comments:**

Type of Plans	Have capability?	Level	If Yes…		
Parks or Open Space Plan	☒Yes ☐No ☐N/A	☒ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐Yes ☒No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☒No	**Comments:**
			Can the plan be used to implement mitigation actions?	☒Yes ☐No	**Comments:**
Hazard Mitigation Plan	☐Yes ☒No ☐N/A	☐ Local ☐ County ☐ Region	**Does the plan address natural hazards?**	☐Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☐No	**Comments:**
			Can the plan be used to implement mitigation actions?	☐Yes ☐No	**Comments:**

Land Use Planning and Ordinances	Have capability?	If Yes…		
Zoning Ordinance	☒Yes ☐No ☐N/A	**Is the ordinance an effective measure for reducing hazard impacts?**	☒Yes ☐No	**Comments:**
		Is the ordinance adequately administered and enforced?	☒Yes ☐No	**Comments:**
Subdivision Ordinance	☒Yes ☐No	**Is the ordinance an effective measure for reducing hazard impacts?**	☒Yes ☐No	**Comments:**

Land Use Planning and Ordinances	Have capability?	If Yes…		
	☐N/A	**Is the ordinance adequately administered and enforced?**	☒Yes ☐No	**Comments:**
Floodplain Ordinance	☒Yes ☐No ☐N/A	**Is the ordinance an effective measure for reducing hazard impacts?**	☒Yes ☐No	**Comments:**
		Is the ordinance adequately administered and enforced?	☒Yes ☐No	**Comments:**
Flood Insurance Rate Maps (FIRM)	☒Yes ☐No ☐N/A	**Is the FIRM an effective measure for reducing hazard impacts?**	☒Yes ☐No	**Comments:**
		Is the FIRM adequately administered and enforced?	☒Yes ☐No	**Comments:**
Natural Hazard Specific Ordinance (e.g., stormwater, wildfire)	☐Yes ☒No ☐N/A	**Is the ordinance an effective measure for reducing hazard impacts?**	☐Yes ☐No	**Comments:**
		Is the ordinance adequately administered and enforced?	☐Yes ☐No	**Comments:**
Acquisition of land for open space and public recreation uses	☒Yes ☐No ☐N/A	**Is the ordinance an effective measure for reducing hazard impacts?**	☒Yes ☐No	**Comments:**
		Is the ordinance adequately administered and enforced?	☒Yes ☐No	**Comments:**

Building Code, Permitting, and Inspections	Have capability?	
Building Code	☒Yes	**Version/Year:** 2012/IBC 2012/NCTCOG amendments

	☐ No ☐ N/A	
Building Code Effectiveness Grading Schedule (BGEGS) Score	☒ Yes ☐ No ☐ N/A	**Score:** 4
Fire Department ISO Rating	☒ Yes ☐ No ☐ N/A	**Rating:** 3
Site Plan Review Requirements	☒ Yes ☐ No ☐ N/A	**Review method:** Plans are reviewed by a board to ensure site follows International Building Code

Administrative and Technical Assessment

Administrative and technical capabilities include staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions.

Administration	**Have capability?**	**If Yes…**
Planning Commission	☒ Yes ☐ No ☐ N/A	**Describe capability:** Determines if plans submitted to the city are within planning and zoning requirements.
Mitigation Planning Committee	☒ Yes	**Describe capability:** Identifies hazards, conducts a risk and vulnerability assessment, and creates and monitors mitigation actions.
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems)	☒ Yes ☐ No ☐ N/A	**Describe capability:** Done by city public works department as needed or requested.
Mutual Aid Agreements	☒ Yes ☐ No ☐ N/A	**Describe capability:** Fire and police use for coverage and manpower.

Staff	Have capability? FT/PT*	If Yes…	
***Full-time (FT) or part-time (PT) position**			
Chief Building Official	☒Yes-FT ☐Yes- PT ☐No ☐N/A	**Is staffing adequate to enforce regulations?**	☒ Yes ☐No
		Is staff trained on natural hazards and mitigation?	☐ Yes ☒No
Floodplain Administrator	☐Yes-FT ☐Yes- PT ☒No ☐N/A	**Is staffing adequate to enforce regulations?**	☐ Yes ☐No
		Is staff trained on natural hazards and mitigation?	☐ Yes ☐No
Emergency Manager	☐Yes-FT ☐Yes- PT ☒No ☐N/A	**Is staffing adequate to enforce regulations?**	☐ Yes ☐No
		Is staff trained on natural hazards and mitigation?	☐ Yes ☐No
Community Planner	☒Yes-FT ☐Yes- PT ☐No ☐N/A	**Is staffing adequate to enforce regulations?**	☒ Yes ☐No
		Is staff trained on natural hazards and mitigation?	☐ Yes ☒No
Civil Engineer	☐Yes-FT ☒Yes- PT ☐No ☐N/A	**Is staffing adequate to enforce regulations?**	☒ Yes ☐No
		Is staff trained on natural hazards and mitigation?	☐ Yes ☒No
GIS Coordinator	☐Yes-FT ☐Yes- PT	**Is staffing adequate to enforce regulations?**	☐ Yes ☐No

Staff	Have capability? FT/PT*	If Yes…	
***Full-time (FT) or part-time (PT) position**			
	☒No ☐N/A	**Is staff trained on natural hazards and mitigation?**	☐ Yes ☐No
Public Works Director	☒Yes-FT ☐Yes- PT ☐No ☐N/A	**Is staffing adequate to enforce regulations?**	☒ Yes ☐No
		Is staff trained on natural hazards and mitigation?	☒ Yes ☐No
Fire Chief	☒Yes-FT ☐Yes- PT ☐No ☐N/A	**Is staffing adequate to enforce regulations?**	☒ Yes ☐No
		Is staff trained on natural hazards and mitigation?	☒ Yes ☐No
Environmental Director	☐Yes-FT ☐Yes- PT ☒No ☐N/A	**Is staffing adequate to enforce regulations?**	☐ Yes ☐No
		Is staff trained on natural hazards and mitigation?	☐ Yes ☐No

Technical	Have capability?	If Yes…	
Warning Systems/Services (e.g., Reverse 911, outdoor warning signals)	☒Yes ☐No ☐N/A	**Describe capability:** Reverse 911	
		Has capability been used to assess or mitigate risk in the past?	☒ Yes ☐ No
		If yes, for what type of event? Grass fire evacuations in 2018.	
Hazard data and information	☐Yes	**Describe capability:**	

Technical	Have capability?	If Yes…	
	☒No ☐N/A	**Has capability been used to assess or mitigate risk in the past?**	☐ Yes ☐ No
		If yes, for what type of event?	
Grant writing	☐Yes ☒No ☐N/A	**Describe capability.**	
		Has capability been used to assess or mitigate risk in the past?	☐ Yes ☐ No
		If yes, for what type of event?	
HaZUS analysis or GIS software	☐Yes ☒No ☐N/A	**Describe capability:**	
		Has capability been used to assess or mitigate risk in the past?	☐ Yes ☐ No
		If yes, for what type of event?	

Education and Outreach Assessment

Education and outreach programs and methods can be used to implement mitigation activities and communicate hazard-related information.

Program or Organization	Have capability?	If Yes…	
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	☐Yes ☒No ☐N/A	**Could the program or organization help implement future mitigation activities?**	☐ Yes ☐ No
		Describe program or organization and how it relates to disaster resilience and mitigation:	
Ongoing public education or information program (e.g.,	☒Yes	**Could the program or organization help implement future mitigation activities?**	☒ Yes

Program or Organization	Have capability?	If Yes…	
responsible water use, fire safety, household preparedness, environmental education)	☐No ☐N/A		☐ No
		Describe program or organization and how it relates to disaster resilience and mitigation: Fire Department does annual fire safety programs that could include information of water safety, weather safety, and household preparedness.	
Natural disaster or safety related school programs	☐Yes ☒No ☐N/A	**Could the program or organization help implement future mitigation activities?**	☐ Yes ☐ No
		Describe program or organization and how it relates to disaster resilience and mitigation:	
Public/private partnership initiatives addressing disaster-related issues	☒Yes ☐No ☐N/A	**Could the program or organization help implement future mitigation activities?**	☒ Yes ☐ No
		Describe program or organization and how it relates to disaster resilience and mitigation: Fire department has partnered with several local churches and businesses in the event of a disaster.	
StormReady certification	☐Yes ☒No ☐N/A	Answer will be pre-filled.	
Firewise Communities Certification	☐Yes ☒No ☐N/A	Answer will be pre-filled.	

Financial Assessment

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resources	Have capability?	If Yes…	
Capital Improvements Project funding	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No
		Has the funding resource been used in past?	☐Yes ☒No
		If yes, for what type of mitigation activities?	
Authority to levy taxes for specific purposes	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No
		Has the funding resource been used in past?	☐Yes ☒No
		If yes, for what type of mitigation activities?	
Fees for water, sewer, gas, and/or electric services	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No
		Has the funding resource been used in past?	☐Yes ☒No
		If yes, for what type of mitigation activities?	
Impact fees for new development	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No
		Has the funding resource been used in past?	☐Yes ☒No
		If yes, for what type of mitigation activities?	
Stormwater utility fee	☐Yes ☒No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☐Yes ☐No
		Has the funding resource been used in past?	☐Yes ☐No
		If yes, for what type of mitigation activities?	
Incurrence of debt through general obligation bonds and/or special tax bonds	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No
		Has the funding resource been used in past?	☐Yes ☒No
		If yes, for what type of mitigation activities?	

Funding Resources	Have capability?	If Yes…	
Incur debt through private activities	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No
		Has the funding resource been used in past?	☐Yes ☒No
		If yes, for what type of mitigation activities?	
Community Development Block Grant	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No
		Has the funding resource been used in past?	☐Yes ☒No
		If yes, for what type of mitigation activities?	
Other federal funding programs (e.g. FEMA mitigation grants)	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No
		Has the funding resource been used in past?	☐Yes ☒No
		If yes, for what type of mitigation activities?	
State funding programs	☒Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☒Yes ☐No
		Has the funding resource been used in past?	☐Yes ☒No
		If yes, for what type of mitigation activities?	

How can these capabilities be expanded and improved to reduce risk?
Actions that can expand and improve existing authorities, plans, policies, and resources for mitigation include budgeting and passing policies and procedures for mitigation actions, adopting and implementing stricter mitigation regulations, approving the hiring and training of staff for mitigation activities, and approving mitigation updates to existing plans as new needs are recognized.

Parker County Unincorporated

Planning and Regulatory Assessment

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

Type of Plans	Have capability?	Level	If Yes…		
Comprehensive or Master Plan	X Yes ☐ No ☐ N/A	☐ Local X County ☐ Region	**Does the plan address natural hazards?**	X Yes ☐ No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	X Yes ☐ No	**Comments:**
			Can the plan be used to implement mitigation actions?	X Yes ☐ No	**Comments:**
Capital Improvement Plan (CIP)	X Yes ☐ No ☐ N/A	☐ Local X County ☐ Region	**Does the plan address natural hazards?**	☐ Yes X No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	X Yes ☐ No	**Comments: Access better transportation routes**
			Can the plan be used to implement mitigation actions?	X Yes ☐ No	**Comments:**
Economic Development Plan	☐ Yes X No ☐ N/A	☐ Local X County ☐ Region	**Does the plan address natural hazards?**	☐ Yes X No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐ Yes X No	**Comments:**
			Can the plan be used to	☐ Yes	**Comments:**

Type of Plans	Have capability?	Level	If Yes…		
			implement mitigation actions?	X No	
Local Emergency Operations Plan	X Yes ☐No ☐N/A	☐ Local X County ☐ Region	**Does the plan address natural hazards?**	X Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	X Yes ☐No	**Comments:**
			Can the plan be used to implement mitigation actions?	X Yes ☐No	**Comments:**
Continuity of Operations Plan	X Yes ☐No ☐N/A	☐ Local X County ☐ Region	**Does the plan address natural hazards?**	X Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	X Yes ☐No	**Comments:**
			Can the plan be used to implement mitigation actions?	X Yes ☐No	**Comments:**
Transportation Plan	X Yes ☐No ☐N/A	☐ Local X County ☐ Region	**Does the plan address natural hazards?**	☐Yes X No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes X No	**Comments:**
			Can the plan be used to implement	☐Yes X No	**Comments:**

Type of Plans	Have capability?	Level	If Yes…		
			mitigation actions?		
Stormwater Management Plan	X Yes ☐No ☐N/A	☐ Local X County ☐ Region	**Does the plan address natural hazards?**	X Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	X Yes ☐No	**Comments:**
			Can the plan be used to implement mitigation actions?	X Yes ☐No	**Comments:**
Community Wildfire Protection Plan	☐Yes X No ☐N/A	☐ Local X County ☐ Region	**Does the plan address natural hazards?**	☐Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☐No	**Comments:**
			Can the plan be used to implement mitigation actions?	☐Yes ☐No	**Comments:**
Green Infrastructure Plan	☐Yes X No ☐N/A	☐ Local X County ☐ Region	**Does the plan address natural hazards?**	☐Yes ☐No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐Yes ☐No	**Comments:**
			Can the plan be used to implement mitigation actions?	☐Yes ☐No	**Comments:**

Type of Plans	Have capability?	Level	If Yes…		
Parks or Open Space Plan	☐ Yes X No ☐ N/A	☐ Local X County ☐ Region	**Does the plan address natural hazards?**	☐ Yes ☐ No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	☐ Yes ☐ No	**Comments:**
			Can the plan be used to implement mitigation actions?	☐ Yes ☐ No	**Comments:**
Hazard Mitigation Plan	X Yes ☐ No ☐ N/A	☐ Local X County ☐ Region	**Does the plan address natural hazards?**	X Yes ☐ No	**Comments:**
			Does the plan identify projects to include in the mitigation strategy?	X Yes ☐ No	**Comments:**
			Can the plan be used to implement mitigation actions?	X Yes ☐ No	**Comments:**

Land Use Planning and Ordinances	Have capability?	If Yes…		
Zoning Ordinance	☐ Yes X No ☐ N/A	**Is the ordinance an effective measure for reducing hazard impacts?**	☐ Yes ☐ No	**Comments:**
		Is the ordinance adequately administered and enforced?	☐ Yes ☐ No	**Comments:**
Subdivision Ordinance	X Yes ☐ No	**Is the ordinance an effective measure for reducing hazard impacts?**	☐ Yes X No	**Comments:**

Land Use Planning and Ordinances	Have capability?	If Yes…		
	☐N/A	**Is the ordinance adequately administered and enforced?**	X Yes ☐No	**Comments**: County Commissioners
Floodplain Ordinance	X Yes ☐No ☐N/A	**Is the ordinance an effective measure for reducing hazard impacts?**	X Yes ☐No	**Comments:**
		Is the ordinance adequately administered and enforced?	X Yes ☐No	**Comments:**
Flood Insurance Rate Maps (FIRM)	X Yes ☐No ☐N/A	**Is the FIRM an effective measure for reducing hazard impacts?**	X Yes ☐No	**Comments:**
		Is the FIRM adequately administered and enforced?	X Yes ☐No	**Comments:**
Natural Hazard Specific Ordinance (e.g., stormwater, wildfire)	☐Yes X No ☐N/A	**Is the ordinance an effective measure for reducing hazard impacts?**	☐Yes ☐No	**Comments:**
		Is the ordinance adequately administered and enforced?	☐Yes ☐No	**Comments:**
Acquisition of land for open space and public recreation uses	☐Yes X No ☐N/A	**Is the ordinance an effective measure for reducing hazard impacts?**	☐Yes ☐No	**Comments:**
		Is the ordinance adequately administered and enforced?	☐Yes ☐No	**Comments:**

Building Code, Permitting, and Inspections	Have capability?	
Building Code	☐ Yes X No ☐ N/A	**Version/Year:**
Building Code Effectiveness Grading Schedule (BGEGS) Score	☐ Yes X No ☐ N/A	**Score:**
Fire Department ISO Rating	X Yes ☐ No ☐ N/A	**Rating:** 8B in unincorporated areas
Site Plan Review Requirements	☐ Yes X No ☐ N/A	**Review method:**

Administrative and Technical Assessment

Administrative and technical capabilities include staff and their skills and tools that can be used for mitigation planning and to implement specific mitigation actions.

Administration	Have capability?	If Yes…
Planning Commission	X Yes ☐ No ☐ N/A	**Describe capability:** Platt reviews and Road systems maintenance
Mitigation Planning Committee	X Yes	**Describe capability:** Identifies hazards, conducts a risk and vulnerability assessment, and creates and monitors mitigation actions.
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems)	X Yes ☐ No ☐ N/A	**Describe capability:** County precincts manage maintenance programs.
Mutual Aid Agreements	X Yes ☐ No ☐ N/A	**Describe capability:** Agreements with Red Cross. Fire Departments have them with each other but not with the county.

Staff	Have capability? FT/PT*	If Yes…	
***Full-time (FT) or part-time (PT) position**			
Chief Building Official	☐ Yes-FT ☐ Yes- PT ☐ No X N/A	Is staffing adequate to enforce regulations?	☐ Yes ☐ No
		Is staff trained on natural hazards and mitigation?	☐ Yes ☐ No
Floodplain Administrator	X Yes-FT ☐ Yes- PT ☐ No ☐ N/A	**Is staffing adequate to enforce regulations?**	X Yes ☐ No
		Is staff trained on natural hazards and mitigation?	X Yes ☐ No
Emergency Manager	☐ Yes-FT X Yes- PT ☐ No ☐ N/A	**Is staffing adequate to enforce regulations?**	☐ Yes X No
		Is staff trained on natural hazards and mitigation?	X Yes ☐ No
Community Planner	☐ Yes-FT ☐ Yes- PT X No ☐ N/A	Is staffing adequate to enforce regulations?	☐ Yes ☐ No
		Is staff trained on natural hazards and mitigation?	☐ Yes ☐ No
Civil Engineer	☐ Yes-FT ☐ Yes- PT X No ☐ N/A	Is staffing adequate to enforce regulations?	☐ Yes ☐ No
		Is staff trained on natural hazards and mitigation?	☐ Yes ☐ No

Staff	Have capability? FT/PT*	If Yes…	
***Full-time (FT) or part-time (PT) position**			
GIS Coordinator	☐ Yes-FT ☐ Yes- PT X No ☐ N/A	Is staffing adequate to enforce regulations?	☐ Yes ☐ No
		Is staff trained on natural hazards and mitigation?	☐ Yes ☐ No
Public Works Director	X Yes-FT ☐ Yes- PT ☐ No ☐ N/A	**Is staffing adequate to enforce regulations?**	X Yes ☐ No
		Is staff trained on natural hazards and mitigation?	X Yes ☐ No
Fire Chief	☐ Yes-FT ☐ Yes- PT X No ☐ N/A	**Is staffing adequate to enforce regulations?**	☐ Yes ☐ No
		Is staff trained on natural hazards and mitigation?	☐ Yes ☐ No
Environmental Director	X Yes-FT ☐ Yes- PT ☐ No ☐ N/A	**Is staffing adequate to enforce regulations?**	Yes ☐ No
		Is staff trained on natural hazards and mitigation?	X Yes ☐ No

Technical	Have capability?	If Yes…	
Warning Systems/Services (e.g., Reverse 911, outdoor warning signals)	X Yes ☐ No ☐ N/A	**Describe capability:** Mass notification and warning	
		Has capability been used to assess or mitigate risk in the past?	X Yes ☐ No

Technical	Have capability?	If Yes…	
		If yes, for what type of event? Severe weather	
Hazard data and information	X Yes ☐ No ☐ N/A	**Describe capability:** Floodplain management	
		Has capability been used to assess or mitigate risk in the past?	X Yes ☐ No
		If yes, for what type of event? flooding	
Grant writing	X Yes ☐ No ☐ N/A	**Describe capability:** Obtaining plans, equipment	
		Has capability been used to assess or mitigate risk in the past?	X Yes ☐ No
		If yes, for what type of event? Terrorism, safety, EOC enhancement	
HaZUS analysis or GIS software	X Yes ☐ No ☐ N/A	**Describe capability: Hazmat analysis**	
		Has capability been used to assess or mitigate risk in the past?	☐ Yes X No
		If yes, for what type of event?	

Education and Outreach Assessment

Education and outreach programs and methods can be used to implement mitigation activities and communicate hazard-related information.

Program or Organization	Have capability?	If Yes…	
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	X Yes ☐ No ☐ N/A	**Could the program or organization help implement future mitigation activities?**	X Yes ☐ No
		Describe program or organization and how it relates to disaster resilience and mitigation: Public education and CERT; fire risk reduction through education	
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	X Yes ☐ No ☐ N/A	**Could the program or organization help implement future mitigation activities?**	X Yes ☐ No
		Describe program or organization and how it relates to disaster resilience and mitigation: CERT training, master gardeners, fire service	
Natural disaster or safety related school programs	X Yes ☐ No ☐ N/A	**Could the program or organization help implement future mitigation activities?**	X Yes ☐ No
		Describe program or organization and how it relates to disaster resilience and mitigation: Fire departments and fire safety programs, TEEN CERT	
Public/private partnership initiatives addressing disaster-related issues	☐ Yes X No ☐ N/A	**Could the program or organization help implement future mitigation activities?**	☐ Yes ☐ No
		Describe program or organization and how it relates to disaster resilience and mitigation:	
StormReady certification	☐ Yes X No ☐ N/A	Answer will be pre-filled.	
Firewise Communities Certification	☐ Yes	Answer will be pre-filled.	

Program or Organization	Have capability?	If Yes…
	X No ☐N/A	

Financial Assessment

Identify whether your jurisdiction has access to or is eligible to use the following funding resources for hazard mitigation.

Funding Resources	Have capability?	If Yes…	
Capital Improvements Project funding	X Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	X Yes ☐No
		Has the funding resource been used in past?	X Yes ☐No
		If yes, for what type of mitigation activities? Building Bridges	
Authority to levy taxes for specific purposes	X Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	X Yes ☐No
		Has the funding resource been used in past?	X Yes ☐No
		If yes, for what type of mitigation activities? Road and Bridge tax	
Fees for water, sewer, gas, and/or electric services	☐Yes X No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☐Yes ☐No
		Has the funding resource been used in past?	☐Yes ☐No
		If yes, for what type of mitigation activities?	
Impact fees for new development	☐Yes X No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☐Yes ☐No
		Has the funding resource been used in past?	☐Yes ☐No
		If yes, for what type of mitigation activities?	
Stormwater utility fee	☐Yes X No	**Could the resource be used to fund future mitigation actions?**	☐Yes ☐No

Funding Resources	Have capability?	If Yes…	
	☐N/A	**Has the funding resource been used in past?**	☐Yes ☐No
		If yes, for what type of mitigation activities?	
Incurrence of debt through general obligation bonds and/or special tax bonds	X Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	X Yes ☐No
		Has the funding resource been used in past?	X Yes ☐No
		If yes, for what type of mitigation activities? Roads and Bridges	
Incur debt through private activities	☐Yes X No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☐Yes ☐No
		Has the funding resource been used in past?	☐Yes ☐No
		If yes, for what type of mitigation activities?	
Community Development Block Grant	X Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	X Yes ☐No
		Has the funding resource been used in past?	☐Yes X No
		If yes, for what type of mitigation activities?	
Other federal funding programs (e.g. FEMA mitigation grants)	X Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	X Yes ☐No
		Has the funding resource been used in past?	X Yes ☐No
		If yes, for what type of mitigation activities? planning, reduction of repetitive losses	
State funding programs	X Yes ☐No ☐N/A	**Could the resource be used to fund future mitigation actions?**	☐Yes X No
		Has the funding resource been used in past?	☐Yes X No
		If yes, for what type of mitigation activities?	

How can these capabilities be expanded and improved to reduce risk?
Actions that can expand and improve existing authorities, plans, policies, and resources for mitigation include budgeting and passing policies and procedures for mitigation actions, adopting and implementing stricter mitigation regulations, approving the hiring and training of staff for mitigation activities, and approving mitigation updates to existing plans as new needs are recognized.

Appendix C: NCTCOG Programs

The North Central Texas Council of Governments (NCTCOG) is a voluntary association of, by and for local governments, established to assist in regional planning. NCTCOG's purpose is to strengthen both the individual and collective power of local governments and to help them recognize regional opportunities, eliminate unnecessary duplication, and make joint decisions. NCTCOG consists of many departments that implement programs and projects that address the mitigation goals of the participating jurisdictions.

The Environment & Development Department at NCTCOG plays a major role in regional coordination and management of reports and projects that improve regional resilience to natural hazards through the following programs:

- **The Corridor Development Certificate (CDC)** – The CDC process aims to stabilize flood risk along the Trinity River. The CDC process does not prohibit floodplain development but ensures that any development that does occur in the floodplain will not raise flood water levels or reduce flood storage capacity. A CDC permit is required to develop land within a specific area of the Trinity floodplain called the Regulatory Zone, which is similar to the 100-year floodplain.
    - Under the CDC process, local governments retain ultimate control over floodplain permitting decisions, but other communities along the Trinity River Corridor are given the opportunity to review and comment on projects in their neighbor's jurisdiction. As the Metroplex economy continues to grow and develop, the CDC process will prevent increased flood risks
- **NCTCOG-OneRain Contrail Flood Warning Software**- Contrail software that delivers automated real-time data collection, processing, validation, analysis, archiving and visualization of hydrometeorological and environmental sensor data.
- **The *integrated* Stormwater Management (iSWM) Program**- The iSWM™ Program for Construction and Development is a cooperative initiative that assists cities and counties to achieve their goals of water quality protection, streambank protection, and flood mitigation, while also helping communities meet their construction and post-construction obligations under state stormwater permits.
    - Development and redevelopment by their nature increase the amount of imperviousness in our surrounding environment. This increased imperviousness translates into loss of natural areas, more sources for pollution in runoff, and heightened flooding risks. To help mitigate these impacts, more than 60 local governments are cooperating to proactively create sound stormwater management guidance for the region through the *integrated* Stormwater Management (iSWM) Program.
- **16-County Watershed Management Initiative**- Communities from across the region come together to collaborate on how to reduce the risks of flooding in their communities.
- **Texas Smartscape**- Texas SmartScape™ is a landscape program crafted to be "smart" for North Central Texas. Based on water-efficient landscape principles, it promotes the use of plants suited to our region's soil, climate, and precipitation that don't require much—if any—additional irrigation, pesticides, fertilizer, or herbicides to thrive.
    - The two main goals of the program are to:
        - Improve stormwater runoff quality
        - Conserve local water supplies

- The Transportation Department promotes the following programs:
- **Bicycle-Pedestrian-** The passage of the 1991 Intermodal Surface Transportation Efficiency Act prompted NCTCOG to include non-motorized transportation network improvements in regional planning efforts. NCTCOG established the Bicycle and Pedestrian program in 1992 to address the various activities related to implementing bicycle and pedestrian facilities as an alternative mode of regional transportation.
- **Sustainable Development**- As land uses influence regional travel patterns and demand on the transportation system, and transportation connects land uses and provides access to developments, both need to be planned in conjunction with one another. NCTCOG supports Sustainable Development: mixed-use, infill, and transit-oriented developments that reduce vehicle miles traveled, enable the use of alternative modes of transportation, promote economic development, and improve air quality.

Appendix D: Public Meeting Documents

The participants advertised public meetings to discuss the development of this Hazard Mitigation Action Plan, including the co-hosted meeting on July 30, 2019 at the Parker County Emergency Operations Center. The announcements of the public meetings are below.

City of Aledo

PERMITS

COMMUNITY EVENTS

ALEDO PARKS & RECREATION

ALEDO COMMUNITY CENTER - RENTALS

SHOP LOCAL!

HELPFUL NUMBERS & LINKS

MAPS

SITE MAP

COMMON QUESTIONS

Mayor Kit Marshall

mayorkit@aledo-texas.com

City of ALEDO
Rich Heritage, Dynamic Future

News & Announcements

Public Meeting to discuss the Parker County Hazard Mitigation Action Plan (click photo for details)

Public Meeting to discuss Parker County Hazard Mitigation Action Plan

City of Aledo - Request for Proposal - Audit Services
Monday, July 22, 2019

City of Aledo - Request for Bid - Mowing & Lawn Care Maintenance
Monday, July 22, 2019

2018 CCR Annual Report

Veterans Plaza-Donation Opportunities are available

Holiday Hours

Outdoor Warning Siren Guidelines

Emergency Contact - After Hours

Black Board Connect

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28	29
4	5
11	12
18	19
25	26

< Jul

read m

ADDRESS: 200 OLD ANNETTA RD. P. O. BOX 1 ALEDO, TX 76008 PHONE: (817) 441-7016 FAX: (817) 441-7520 HOUR

City Of Aledo
July 22 at 4:34 PM ·

North Central Texas Council of Governments

Contact Alayna Payne
Telephone 817-704-5682
Email apayne@nctcog.org

Alternate Contact: Local Emergency Manager

FOR IMMEDIATE RELEASE
July 24, 2019

PUBLIC MEETING SCHEDULED TO DISCUSS THE PARKER COUNTY HAZARD MIGIATION ACTION PLAN

July 24, 2019– A public meeting to discuss the Parker County Hazard Mitigation Action Plan (HazMAP) is scheduled for Tuesday, July 30 in the Parker County Emergency Operations Center located at 215 Trinity Avenue, Weatherford TC 76086, according to the Parker County Hazard Mitigation Planning Team.

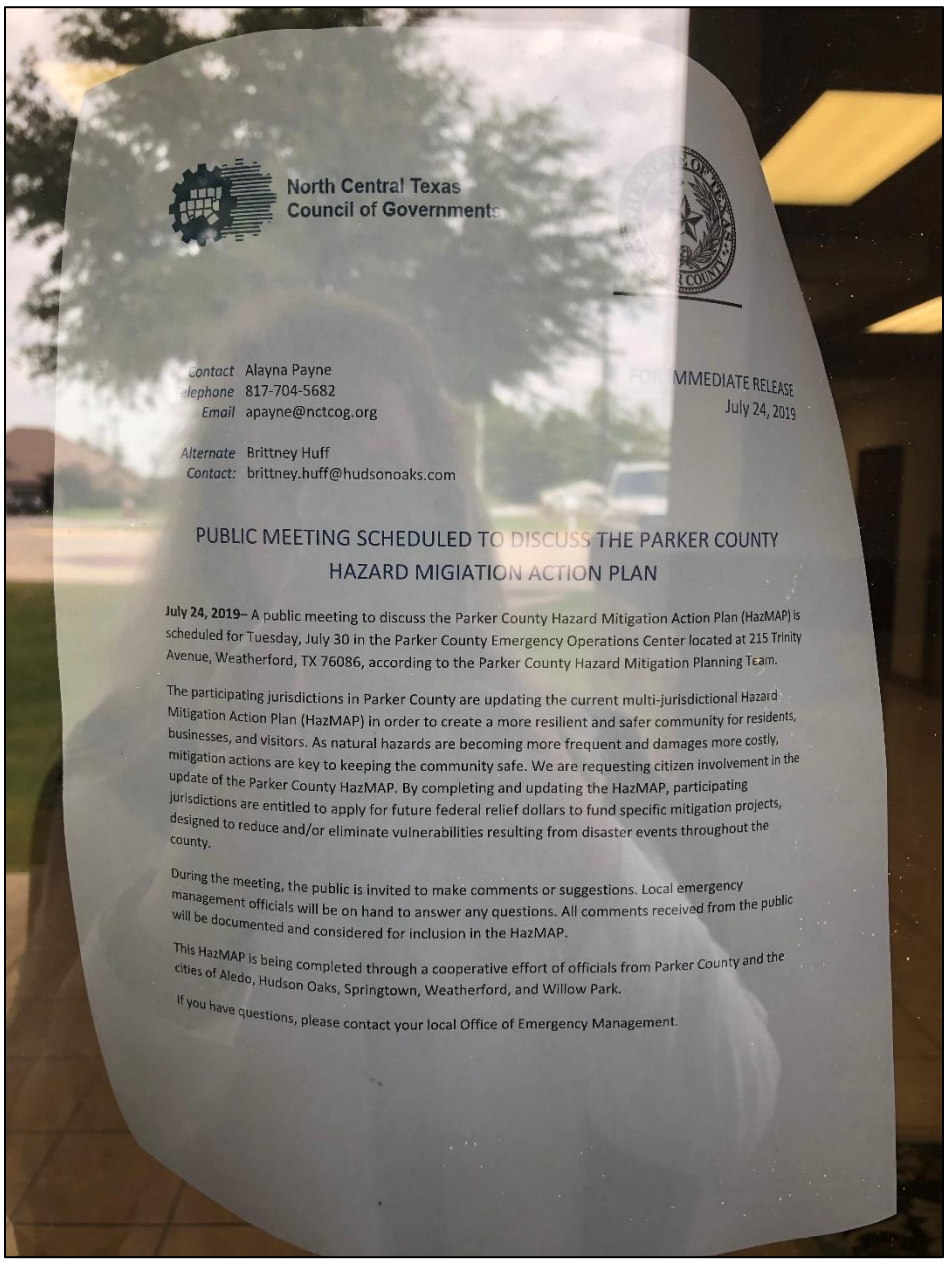
The participating jurisdictions in Parker County are updating the current multi-jurisdictional Hazard Mitigation Action Plan (HazMAP) in order to create a more resilient and safer community for residents, businesses, and visitors. As natural hazards are becoming more frequent and damages more costly, mitigation actions are key to keeping the community safe. We are requesting citizen involvement in the update of the Parker County HazMAP. By completing and updating the HazMAP, participating jurisdictions are entitled to apply for future federal relief dollars to fund specific mitigation projects, designed to reduce and/or eliminate vulnerabilities resulting from disaster events throughout the county.

During the meeting, the public is invited to make comments or suggestions. Local emergency management officials will be on hand to answer any questions. All comments received from the public will be documented and considered for inclusion in the HazMAP.

This HazMAP is being completed through a cooperative effort of officials from Parker County and the cities of Aledo, Hudson Oaks, Springtown, Weatherford, and Willow Park.

If you have questions, please contact your local Office of Emergency Management.

City of Hudson Oaks



North Central Texas
Council of Governments

Contact Alayna Payne
elephone 817-704-5682
Email apayne@nctcog.org

Alternate Brittney Huff
Contact: brittney.huff@hudsonoaks.com

MMEDIATE RELEASE
July 24, 2019

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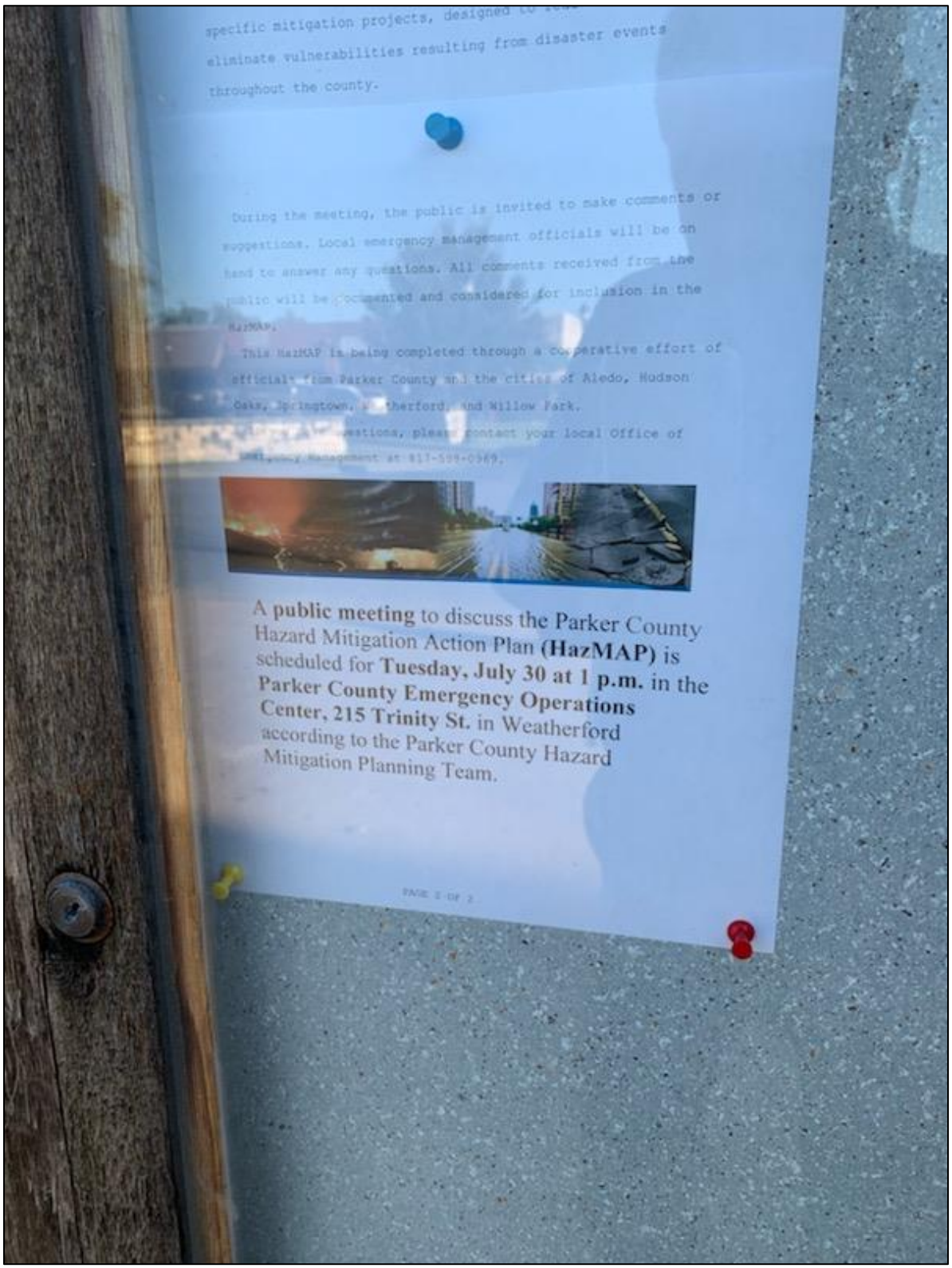
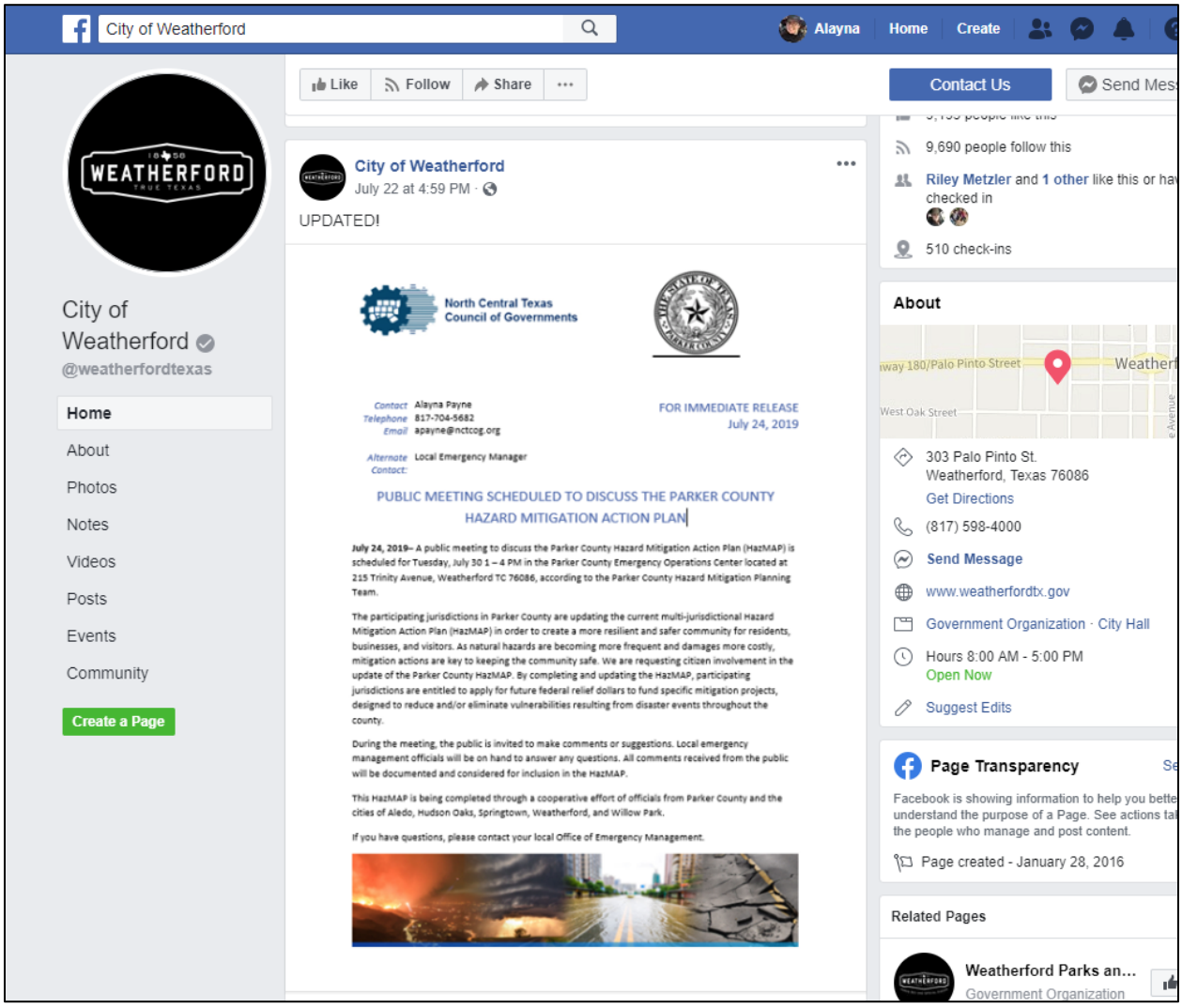
City of Springtown



City of Weatherford



North Central Texas Council of Governments

RECEIVED
JUL 24 2019
10:22 am
City Secretary's Office

POSTED
M. Nowell

Contact Alayna Payne
Telephone 817-704-5682
Email apayne@nctcog.org

Alternate Contact: Local Emergency Manager

FOR IMMEDIATE RELEASE
July 22, 2019

PUBLIC MEETING SCHEDULED TO DISCUSS THE PARKER COUNTY HAZARD MITIGATION ACTION PLAN

July 22, 2019– A public meeting to discuss the Parker County Hazard Mitigation Action Plan (HazMAP) is scheduled for Tuesday, July 30, 2019 from 1:00 p.m. to 4:00 p.m. in the Parker County Emergency Operations Center located at 215 Trinity Avenue, Weatherford TX 76086, according to the Parker County Hazard Mitigation Planning Team.

The participating jurisdictions in Parker County are updating the current multi-jurisdictional Hazard Mitigation Action Plan (HazMAP) in order to create a more resilient and safer community for residents, businesses, and visitors. As natural hazards are becoming more frequent and damages more costly, mitigation actions are key to keeping the community safe. We are requesting citizen involvement in the update of the Parker County HazMAP. By completing and updating the HazMAP, participating jurisdictions are entitled to apply for future federal relief dollars to fund specific mitigation projects, designed to reduce and/or eliminate vulnerabilities resulting from disaster events throughout the county.

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If you have questions, please contact your local Office of Emergency Management.

Regular Agenda Items

1. Presentation by Chief Mike LeNoir and Engineer Jared Junker on the Hazard Mitigation Plan.

    a. Public Hearing on the Hazard Mitigation Plan

2. Discussion/ Action: To consider and act on a Final Plat of a Replat of Lot 6R, 7R, 8R1, 8R2, 9R1, 10R, 11R1, 11 R2, 13, Block B, Crown Pointe Addition, being 22. 75 acres, Wesley Franklin Survey, Abstract No. 468 and Isaac Headley Survey, Abstract No. 619, City of Willow Park, Parker County, Texas, located on Shops Blvd.

3. Discussion/ Action: To consider and act on a Preliminary Plat of Block E, F, G, Crown Pointe Addition Phase IV being a 19.80-acre tract of land Wesley Franklin Survey, Abstract No. 468, and McKinney and Williams Survey Abstract No. 954, City of Willow Park, Parker County, Texas, located in 4200 Block of 1-20 Service Road N.

4. Discussion/ Action: To consider and act on adopting a revised Zoning Map.

5. Presentation: Briefing of Master Park Plan.

6. Presentation: Debt Discussion with Hilltop Securities.

7. Discussion/ Action: To consider and act to finance the costs of paying contractual obligations to be incurred (i) for acquiring, constructing, improving and maintaining streets, thoroughfares, bridges, alleyways and sidewalks within the City, including related storm drainage improvements, traffic signalization and signage, streetscaping and median improvements, and utility relocations and the acquisition of land and rights of way therefor, (ii) acquiring [playground] equipment for the City's Parks and Recreation Department, and (iii) to pay professional services rendered in relation to such projects and the financing thereof.

8. Discussion/ Action: To consider and act on awarding bid on Ranch House Road from Fox Hunt Trail to Scenic Trail.

9. Discussion/ Action: To consider and act to award water line replacement contract on Chuckwagon Trail.

City of Willow Park, TX
July 23 at 1:51 PM ·

North Central Texas Council of Governments

Contact Alayna Payne
Telephone 817-704-5682
Email apayne@nctcog.org

Alternate Contact: Local Emergency Manager

FOR IMMEDIATE RELEASE
July 24, 2019

PUBLIC MEETING SCHEDULED TO DISCUSS THE PARKER COUNTY HAZARD MITIGATION ACTION PLAN

July 24, 2019– A public meeting to discuss the Parker County Hazard Mitigation Action Plan (HazMAP) is scheduled for Tuesday, July 30 1 – 4 PM in the Parker County Emergency Operations Center located at 215 Trinity Avenue, Weatherford TC 76086, according to the Parker County Hazard Mitigation Planning Team.

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If you have questions, please contact your local Office of Emergency Management.

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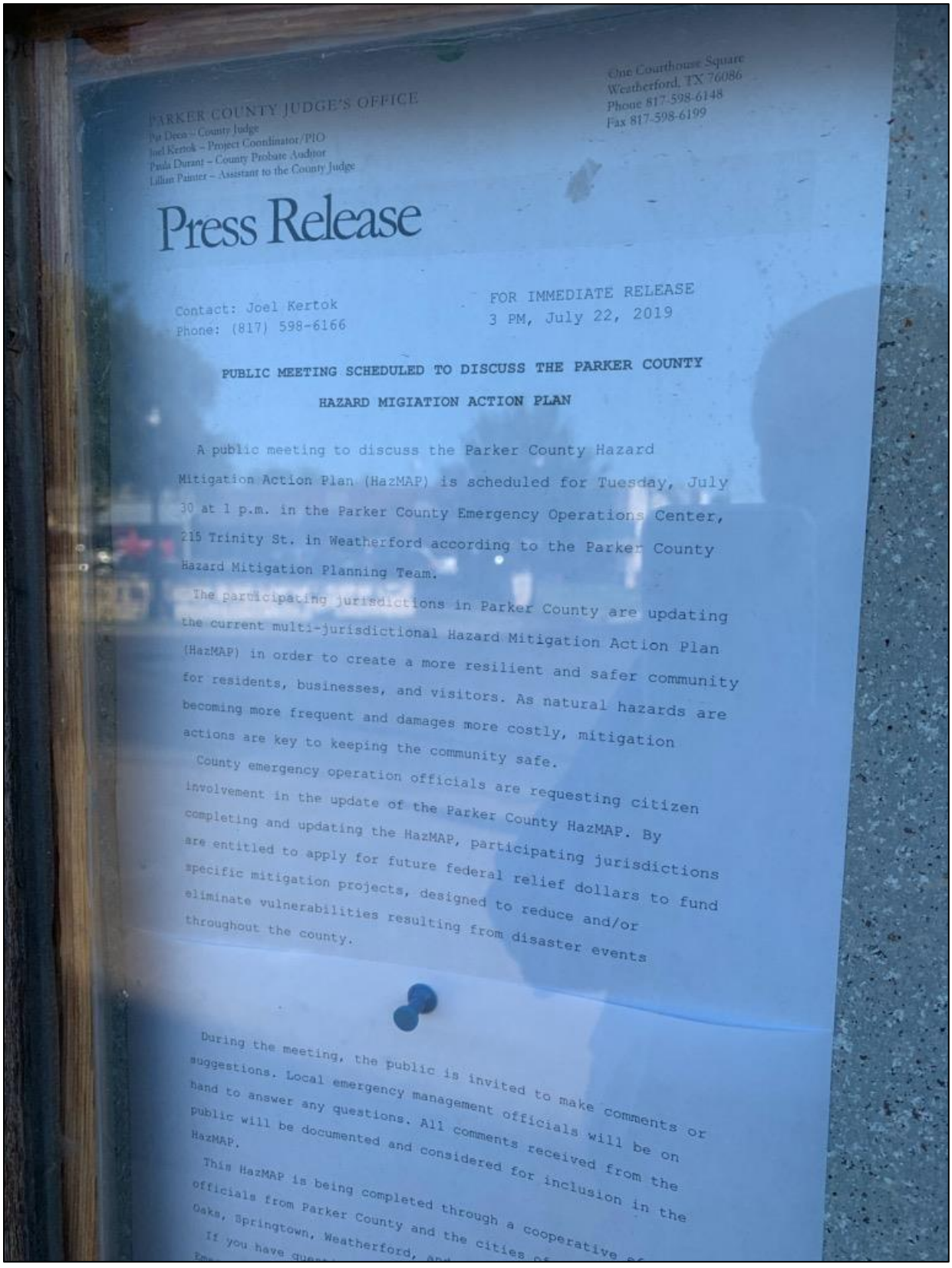
Parker County Unincorporated



PARKER COUNTY JUDGE'S OFFICE
Pat Deen – County Judge
Joel Kertok – Project Coordinator/PIO
Paula Durant – County Probate Auditor
Lillian Painter – Assistant to the County Judge

One Courthouse Square
Weatherford, TX 76086
Phone 817-598-6148
Fax 817-598-6199

Press Release

Contact: Joel Kertok
Phone: (817) 598-6166

FOR IMMEDIATE RELEASE
3 PM, July 22, 2019

PUBLIC MEETING SCHEDULED TO DISCUSS THE PARKER COUNTY HAZARD MIGIATION ACTION PLAN

A public meeting to discuss the Parker County Hazard Mitigation Action Plan (HazMAP) is scheduled for Tuesday, July 30 at 1 p.m. in the Parker County Emergency Operations Center, 215 Trinity St. in Weatherford according to the Parker County Hazard Mitigation Planning Team.

The participating jurisdictions in Parker County are updating the current multi-jurisdictional Hazard Mitigation Action Plan (HazMAP) in order to create a more resilient and safer community for residents, businesses, and visitors. As natural hazards are becoming more frequent and damages more costly, mitigation actions are key to keeping the community safe.

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This HazMAP is being completed through a cooperative e
officials from Parker County and the cities of
Oaks, Springtown, Weatherford, and
If you have ques

Appendix E: Local Planning Teams

The following tables identify the members of the Local Planning Team (LPT) from each participating jurisdiction.

City of Aledo		
Agency/Organization	**Position**	**Role in LPT**
Administration	City Administrator	General oversight and plan development
City Official	Mayor	General oversight, hazard identification, and plan development
Public Works Department	Director	Hazard identification and plan development
Public Works Department	Public Works/Utilities Superintendent	Hazard identification and plan development
Building Inspections/Public Works Department	Administrative Assistant/Permits Coordinator	Hazard identification and plan development
City of Hudson Oaks		
Agency/Organization	**Position**	**Role in LPT**
Administration	Assistant to the City Administrator	General oversight and plan development
Public Works Department	Director	Hazard identification
City of Springtown		
Agency/Organization	**Position**	**Role in LPT**
Police Department	Police Chief	General oversight, hazard identification, and plan development
Administration	City Administrator	Hazard identification and plan development
Administration	Finance Director	Hazard Identification and plan development
Public Works Department	Public Works Director	Hazard Identification and plan development
Public Works Department	City Engineer	Hazard Identification and plan development
Fire Dept/ESD 1	Fire Captain	Hazard Identification and plan development
City of Weatherford		
Agency/Organization	**Position**	**Role in LPT**
Office of Emergency Management	Emergency Management Coordinator	General oversight, hazard identification, and plan development
Public Works Department	Director	Hazard identification and plan development
Police Department	Police Chief	Hazard identification and plan development

City of Weatherford		
Agency/Organization	**Position**	**Role in LPT**
Fire Department	Fire Chief	Hazard identification and plan development
Parks and Recreation Department	Parks Director	Hazard identification and plan development
Public Library	Director	Hazard identification and plan development
Electric Utilities	Director	Hazard identification and plan development
Water Utilities	Director and Civil Engineer	Hazard identification and plan development
Municipal and Community Service Department	Director	Hazard identification and plan development
IT	GIS Specialist	Hazard identification and plan development
Development & Neighborhood Services	City Planner and Building Official	Hazard identification and plan development
City Administration	City Manager	Hazard identification and plan development
City Administration	Deputy City Manager	Hazard identification and plan development
City Administration	Assistant City Manager	Hazard identification and plan development
City of Willow Park		
Agency/Organization	**Position**	**Role in LPT**
Fire Department	Fire Chief	General oversight, hazard identification, and plan development
Fire Department	Firefighter	Hazard identification and plan development
Fire Department	Fire Captain	Hazard identification and plan development
Fire Department	Fire Lieutenant	Hazard identification and plan development
Public Works Department	Public Works Director	Hazard identification and plan development
Public Works Department	Civil Engineer	Hazard identification and plan development
Police Department	Sergeant	Hazard identification and plan development
Parker County Unincorporated		
Agency/Organization	**Position**	**Role in LPT**
Office of Emergency Management	Emergency Management Coordinator/Assistant Fire Marshal	Hazard identification and plan development

Parker County Unincorporated		
Agency/Organization	**Position**	**Role in LPT**
Office of Emergency Management	Emergency Management Officer	General oversight, hazard identification, and plan development
County Commissioner, PCT 3	Foreman/Lead Operator	Hazard identification and plan development
Permitting Department	Director	Hazard identification and plan development
Fire Marshal's Office	Fire Marshal	Hazard identification and plan development
County Commissioner, PCT 1	Lead Operator	Hazard identification and plan development