

Kinney County Multi-Jurisdictional Hazard Mitigation



Prepared by
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In collaboration and partnership with
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City of Spofford, Emergency
Management Coordinator, Brackett
Independent School District, Fort Clark
Springs,
Fort Clark Springs Municipal Utility
District & United Medical Center

Under authority of:
The Honorable John Paul Schuster,
County Judge, Kinney County, Texas

Kinney County Commissioners Court of
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MISSION: Empowering Resilience Through
Proactive Planning: to create a prepared and adaptive
community that can withstand, respond to, and recover
from hazards while preserving our unique identity and
fostering a sense of unity.



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Introduction

Kinney County is at risk from a range of natural hazards, precipitated by weather events. Risks are likely to increase as weather patterns change, global temperatures rise, and population grows and impact social vulnerability and community resilience. Mitigating natural hazards involves a comprehensive set of strategies and actions aimed at reducing the impact of natural disasters on human life, property and the environment. Natural hazard are events that are triggered by natural forces and processes. While these events are often uncontrollable, their impacts can be mitigated through proactive measures.

Kinney County faces a growing risk of natural disasters. However, under the leadership of the Honorable County Judge, the Mayors of Brackettville and Spofford, and local officials are taking steps to protect people and property from disaster and a new vision for hazard mitigation is being realized as the leaders of the county work collaboratively.

This document, Kinney County Multi-jurisdictional Hazard Mitigation Plan for Kinney County, 2024 - 2029, was prepared by Asi' Grant Consultants in collaboration with Kinney County, the Cities of Brackettville and Spofford, United Medical Center, Emergency Management Coordinator, Brackett Independent School District, Fort Clark Municipal Utility District, and Fort Clark Springs. This plan is a five-year blueprint for the future, aimed at making the County and its communities more disaster-resistant by creating sustainable actions that reduce or eliminate long-term risk to people and property from the full range of future natural disasters. The plan is designed to help build more robust and sustainable communities that, when confronted by disasters, will sustain fewer losses, and recover more quickly. In addition, the Plan will serve as a basis for future funding that may become available through grant and technical assistance programs offered by the state or federal government.

This Plan identifies and assesses the potential impact of eleven natural hazards that threaten the County and sets forth mitigation actions and plans to reduce risk.

Natural hazards in order of Expected Annual Loss scores for Kinney County presented by FEMA National Risk Index, Figure 1.1, include:

- Tornado
- Heat Wave
- Riverine Flooding
- Lightning
- Hurricane
- Strong Wind
- Drought
- Winter Weather
- Hail
- Cold Wave
- Wildfire



- Landslide
- Earthquake
- Ice Storm

14 of 18 hazard types contribute to the expected annual loss for **Census tract 48271950100**.

Figure 1.1

Hazard Type	Expected Annual Loss Rating	EAL Value	Score
Tornado	Relatively Low	\$48,344	48.6
Heat Wave	Relatively High	\$40,699	82.1
Riverine Flooding	Relatively Moderate	\$39,075	74.6
Lightning	Very High	\$30,033	93.9
Hurricane	Relatively Low	\$29,943	49.7
Strong Wind	Relatively Moderate	\$28,687	75.7
Drought	Relatively Moderate	\$23,376	94.8
Winter Weather	Relatively High	\$16,379	92.6
Hail	Relatively Moderate	\$12,388	76.3
Cold Wave	Relatively Moderate	\$11,120	79.5
Wildfire	Relatively Low	\$8,092	83.3
Landslide	Relatively Low	\$603	58.3
Earthquake	Very Low	\$318	3.5
Ice Storm	Very Low	\$74	3.5



Figure 1.2

Census tract 48271950100, Kinney County, Texas

Summary

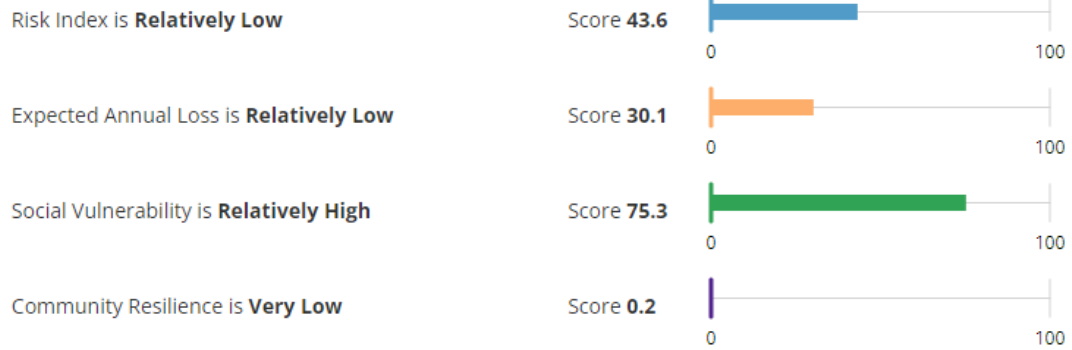


Figure 1.3
Social Vulnerability

Social groups in **Census tract 48271950100** have a **Relatively High** susceptibility to the adverse impacts of natural hazards when compared to the rest of the U.S.

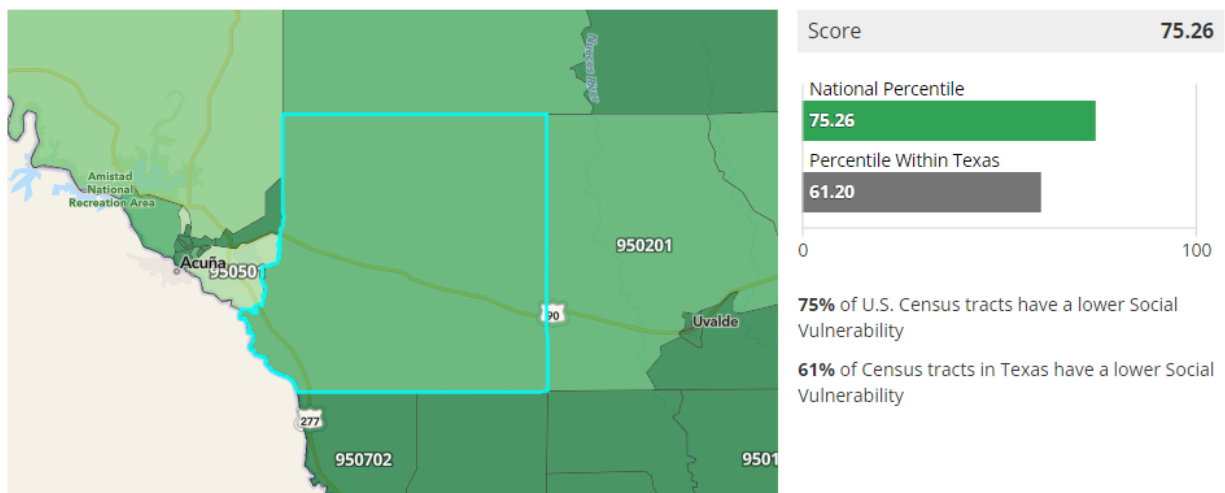
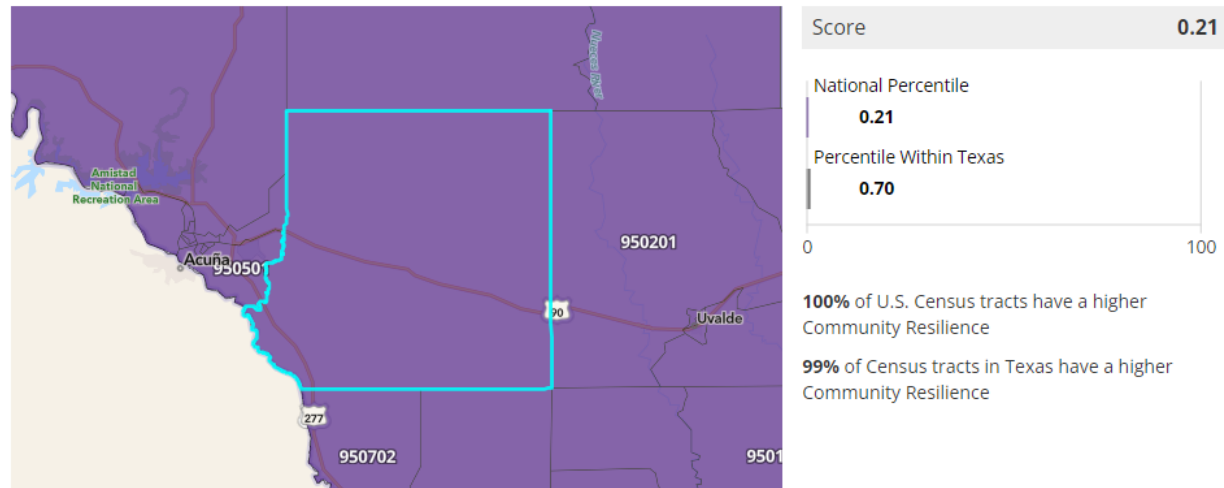


Figure 1.4 Community Resilience

Communities in **Census tract 48271950100** have a **Very Low** ability to prepare for anticipated natural hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions when compared to the rest of the U.S.



Chapter 1 addresses how the Plan was prepared and identifies the participants in the planning process. Chapter 2 articulates the vision, goals, and objectives that guided the development of the Plan. Chapter 3 profiles the County's geography, population, and economy. Chapter 4 identifies assets at risk. Chapter 5 provides an overview of the natural hazards that may affect the County and analyzes them in terms of the probability and consequences of their occurrence. Chapter 6 sets forth proposed mitigation action plans to reduce risks.

1. THE PLANNING PROCESS

1.1. Purpose

The purpose of this plan is to help make Kinney County more disaster-resistant by reducing or eliminating the long-term risk of loss of life and property from a range of natural disasters.

1.2. Participating jurisdictions

This plan covers Kinney County, the City of Brackettville, the City of Spofford, Fort Clark Springs, Fort Clark Springs Municipal District and the Brackett Independent School District. It was prepared by the participating jurisdictions under the leadership of Asi' Grant Consultants, Alma Gutierrez and Candy Hobbs, The Honorable County Judge and County Commissioners, the managers of Fort Clark Springs and Fort Clark Municipal Utility District, the participating Mayors of Brackettville and Spofford and the Superintendent of Schools for Brackett ISD provided leadership for the development of the plan. The Kinney County Emergency



Management Coordinator facilitated local coordination and provided access to the newly constructed fire station to hold all meetings. Technical support and consultation were provided by the Middle Rio Grande Development Council's Public Safety Director, Raul Diaz and Fernandez Perez, District Coordinator Texas Division of Emergency Management.

Hazard mitigation is any sustained action taken to reduce or eliminate long-term risk to people and property from natural hazards and their effects and is the responsibility of individuals, businesses, industries, and local governments.



The County's expired plan from 2017 was developed in accordance with the provisions of the Disaster Mitigation Act of 2000, as amended, and the Code of Federal Regulations (44 CFR 201.6). In April of 2012, Kinney County along with participating jurisdictions joined the Rio Grande Institute's nine-county regional Cover the Border: Hazard Mitigation Plan for the Middle Rio Grande Border. A draft was submitted to the State Division of Emergency Management on January 23, 2012. State comments were received on May 29, 2012, and the Plan was revised and submitted for FEMA review on August 20, 2012. Currently, the expired plan is being updated and will be submitted to the Texas Department of Emergency Management in December of 2023 for review and final submission will be to the Federal Emergency Management Agency (FEMA) in early 2024 for approval.

1.3 Planning Partners

The planning partners for the Kinney County Multi-jurisdictional Hazard Mitigation Plan (KCMHMP) included members from all of the entities to be included in the plan, Kinney County,



Brackett Independent School District, Fort Clark Springs, Fort Clark MUD, and the Cities of Brackettville and Spofford along with the Emergency Management Coordinator of Kinney County, United Medical Center Manager, a representative from the Sheriff's office, Texas Department of Transportation Manager of the Brackettville Station, Kinney County's Information officer, and members of the public. All meetings were open to the public.

1.4 The planning process

The process used to develop this plan was organized into five major steps. Each of those is addressed below. As you will note, many individuals participated in the planning process, each with unique roles. The Asi' Grant Consultants under the leadership of the Kinney County Judge, John Paul Schuster and the Kinney County Commissioners, managed the Hazard Mitigation Plan process; provided overall leadership and coordination with all participating jurisdictions; chaired meetings; provided technical support with the assistance of Kinney County's Emergency Management Team; coordinated with stakeholders and participating jurisdictions, and conducted outreach to the public by posting the plan on their website, sending out a survey through Brackett Independent School District, the Kinney County Post, and at the annual Kinney County Hunters' Roundup. Asi' Grant Consulting issued meeting invitations; hosted the kick-off meetings and mitigation workshops; coordinated public notices and newspaper announcements; ensured the active participation of community members; and provided critical data for maps.

Partnering in this project were: Kinney County, City of Brackettville, Fort Clark Springs/MUD officials, Brackett ISD, and the City of Spofford participated in all aspects of the planning process, attending, and actively contributing ideas at meetings. The Kinney County Emergency Management Coordinator along with Asi' Grant Consulting served as the liaison with the County Judge and Commissioners Court; worked with individual Commissioners on issues of concern in their areas; served as liaison to the participating cities; served as facilitator at all local Committee meetings; assisted with the County's open public meetings; created and shared the survey via QR code in the newspaper and shared with local families through school distribution; and assisted in posting the draft plan. Asi Grant Consulting partners served as the liaisons with the Mayors and City Councils; worked with individual Council members on issues of concern in their areas; served as liaison to the County; planned and executed City open public meetings; and posted the draft plan. Asi' Grant Consulting met with the managers of the



Fort Clark Spring, Fort Clark Springs MUD, and Brackett Independent School District to discuss concerns that affect their entity and work on plans of action. Together with other team members, the Emergency Management Coordinator profiled hazards, assisted in the risk assessment, developed mitigation actions and action plans, and reviewed drafts.

From the outset, local officials were responsible for outreach to the public served by their entity. The public provided ideas and recommendations at public meetings and in writing. Asi' Grant Consulting partners, Alma Gutierrez and Candy Hobbs, compiled the plan based on the active and extensive input from participants; monitored email comments; survey responses, and developed proposed revisions based on comments received. Kinney County's Emergency Management Coordinator will have lead responsibility for implementing, monitoring, updating, and amending the Plan, working in close coordination with the partner entities to ensure the plan is updated annually or semi-annually.



Multi-jurisdictional representatives and members of the community in meetings.



1.4.1. Open public process (Step 1)

Planning Teams. The first step in developing the plan was to organize a planning team, establish an open public process. The hazard mitigation planning process was started in June of 2023, under the leadership of the Kinney County Commissioners' Court and Asi' Grant Consulting. Starting in June of 2023, at the newly constructed Kinney County Fire Station, a series of workshops to study from assessment of hazards to mitigation action plans have been held on the first and third Mondays of all subsequent months for all members of the Kinney County Multi-jurisdictional Hazard Mitigation Plan Committee. Each workshop was held at the county level and included members of each of the entities involved in the planning process and was open to any community member wanting to attend. The Kinney County Local Emergency Planning Committee was also actively involved starting in June of 2023. Appendix A contains a list of members of the Kinney County Hazard Mitigation Planning Committee.



Starting in June 2023 Kinney County, the City of Brackettville, Fort Clark Springs/MUD, Brackettville ISD, and the City of Spofford participated in planning for the renewal of the expired Kinney County Hazard Mitigation Plan. Discussion on funding for the project of updating the existing plan started at this point with the idea of gaining grant funding. Kinney County applied for grants without award. Kinney County commissioners decided to fund the project with local funds. The stakeholders' initial meeting agenda covered the objectives, scope of work, the planning process, roles and responsibilities and the timeline. In subsequent meetings, the committee identified and ranked hazards and developed mitigation action plans (**Table 1.1**). The Committee served as the principal mechanism to coordinate with neighboring communities, state and federal agencies,



businesses, non-profits, and other interested parties. Mitigation actions were finalized with each of the entities.

Type	Location	Date/Time
LEPC/HMP Meeting – Kickoff	Kinney County Fire Station	June 6, 2023/Noon
LEPC/HMP Meeting – Assessment	Kinney County Fire Station	June 20, 2023/Noon
LEPC/HMP Meeting – Planning	Kinney County Fire Station	July 3, 2023/Noon
LEPC/HMP Meeting – Drought	Kinney County Fire Station	July 17, 2023/Noon
LEPC/HMP Meeting – Flooding/Hurricane Fernando Perez – Texas Dept Emergency Mgt	Kinney County Fire Station	August 7, 2023/Noon
LEPC/HMP Meeting – Lightning Hail	Kinney County Fire Station	August 21, 2023/Noon
LEPC/HMP Meeting – Winter Weather/Cold Wave	Kinney County Fire Station	September 5, 2023/Noon
LEPC/HMP Meeting – Heat Wave/Wildfire Tim Ward – Fire Chief, Kinney County	Kinney County Fire Station	September 18, 2023 Noon
LEPC/HMP Meeting – Strong Winds/Tornados Lauren Bos – Tx Water Dev. Board – MesoNet	Kinney County Fire Station	October 2, 2023 Noon
LEPC/HMP Meeting – Landslide/Earthquake	Kinney County Fire Station	October 16, 2023 Noon
LEPC/HMP Meeting – Public Meeting 6:00 PM	Kinney County Fire Station	November 6, 2023 6:00 PM
LEPC/HMP Meeting – Review, finalize plan	Kinney County Fire Station	November 20, 2023 Noon
LEPC/HMP Meeting – Final work Action Items and Plan	Kinney County Fire Station	December 4, 2023 Noon
Texas Department of Emergency Management G-200 Training for elected officials	Kinney County Fire Station	December 14, 2023 9:00-12:00pm
LEPC/HMP Meeting – Final work Action Items and Plan	Kinney County Fire Station	December 18, 2023 Noon



LEPC/HMP Meeting – Update on feedback from TDEM	Kinney County Fire Station	January 30, 2024
LEPC/HMP Meeting – continue discussions on feedback from TDEM	Kinney County Fire Station	February 20, 2024
LEPC/HMP Meeting – update on HMP	Kinney County Fire Station	March 18, 2024
LEPC/HMP Meeting – update on HMP	Kinney County Fire Station	April 15, 2024

Stakeholders. The planning process included coordination with the stakeholders shown in **Table 1.2.** There were many opportunities for agencies, businesses, academia, non-profits, and other interested parties to be involved in the Kinney County planning process (**Table 1-2**). Through constant notices in the newspaper, meetings were open to the public and public meetings were held at the various jurisdictions. Second, some of the participating jurisdictions attended Mitigation Action Plan Workshops convened by the Middle Rio Grande Development Council for officials throughout the region. The training was held at the Middle Rio Grande Workforce Center in Uvalde, TX.

Table 1.2 KCMHMP Stakeholders
United States Federal Government Organizations
FEMA Region VI
U.S. Department of Agriculture
Laughlin Air Force Base
U.S. Army Corps of Engineers
State of Texas
Texas Department of Emergency Management
Texas Water Development Board
Texas Forest Service
Texas Commission on Environmental Quality
Texas Department of Transportation
Texas Game Wardens
Texas Parks and Wildlife
State of Texas - Regional Government
Middle Rio Grande Development Council
Nueces River Authority
Texas Department of Emergency Management
Local Government
City of Brackettville, Texas
City of Spofford, Texas
Fort Clark Springs
Fort Clark Spring Municipal Utility District
Brackett Independent School District



Kinney County

Public involvement. From the outset, the public was engaged in development of the plan. Public involvement has been ongoing. At open public meetings, the HMP Planning Committee sought public input. Citizens from Brackettville, Spofford and Fort Clark Springs participated and attended the meetings. Some of the concerns are noted in Table 1.3.1. The public's feedback was utilized during the development of specific projects per jurisdiction.

Table 1.3 shows the public meetings held at the various jurisdictions where additional time for public input was welcomed.

Sponsor	Location	Date
City of Spofford	City Hall in Spofford	12-11-23
City of Brackettville	City Hall in Brackettville	12-12-23
Kinney County	County Courthouse	12-11-23
Brackett ISD	BISD Central Office	12-11-23
MUD	MUD Office	12-20-23
Fort Clark Springs	Ft. Clark Office	12-14-23
Community Wide	Community Center	03-11-24
Fort Clark Springs	Ft. Clark Conference Room	03-16-24

The public was informed on how to obtain copies of the draft plan and was invited to make input into the draft. Formal adoption by the Governing Body of each participating jurisdiction is pending Federal Emergency Management Agency review of the plan; a copy of adoption resolution is at Attachment E.

Below are the concerns gathered from community members and the entities involved in the development of the Hazard Mitigation Plan. Access to a phone app where the public can share concerns or receive notification is planned for the continuation and updating of the Hazard Mitigation Plan.

Concern	Hazard
HMP helping to protect the Springs at Ft. Clark	Drought
Las Moras Creek & not being prepared for a flood	Flood
Properties on the Las Moras Creek	Flood
Flooding that happens on school campus during heavy rains	Flood
No water source in Spofford	Drought
No fire hydrants in Spofford	Fire
Acquisition of properties on Las Moras Creek	Flood



Stagnant Water on Las Moras Creek that leads to insects and smell	Flood
During rains, water gets up to residents' homes along the creek	Flood
Age of municipal buildings and not being protected from lightning storms	Lightning
Lack of communication/notification during a natural disaster	All Hazards
Lack of education and awareness	All Hazards
Families lack plans such as evacuation plans in case of a natural disaster	All Hazards
Distance from nearest town for access to electricity, food, shelter	Winter Weather
Lack of warming centers for elderly or children	Winter Weather
Lack of safe rooms in the event of a natural disaster	All Hazards
Lack of ability to comment/share concerns via social media or phone app	All Hazards

1.4.2. Hazard Identification (Step 2)

The hazard identification and risk assessment processes began in June 2023 and progressed through October 2023. The County and Cities used the following process to identify the eleven natural hazards addressed in this plan:

1. Developed Hazard Profile Worksheets.
2. Requested that stakeholders share existing hazard studies, plans, reports, data, and technical information during meetings with the different jurisdictions. These reports were reviewed and integrated into the plan. The Texas Water Development Board provided information on land and water bodies. The National Weather Service, U.S. Fire Administration. The Texas Forest Service, Texas Commission on Environmental Quality and the Texas Railroad Commission provided risk maps and incident data. The U.S. Army Corps of Engineers (USACE), the Federal Emergency Management Agency FEMA also provided data on participation in the National Flood Insurance Program. The Census Bureau provided economic and population data.
3. Reviewed the State Mitigation Plan dated October 04,2023, for information on State risks, strategies, and programs. The State Plan provided information on risk, especially that of flooding, and on various state and federal programs and funding sources that could be used to implement the mitigation actions.
4. Completed Hazard Mitigation Community Survey, shared with residents at the Kinney County Hunters Roundup, sent home with students at Brackett ISD to share with their parents, sent to all Kinney County employees. See survey results in Appendix C.
5. Profiled and ranked hazards based upon previous occurrences and probability of future events; spatial impact; and impact on people and property.

1.4.3. Risk assessment (Step 3)



The following process was previously used to assess risks. The risk assessment process is described further in Chapter 5.1.3.

6. Developed a description of general vulnerability of the region to the hazard events.
7. Reviewed flood maps.
8. Performed risk assessments for hazards using the FEMA National Risk Assessment Data that included Historical rates.

Based on the results of the hazard identification and risk assessment, fourteen hazards were identified as priorities for mitigation action. These are discussed in detail in Chapters 5.2 through 5.9.

1.4.4. Mitigation strategies (Step 4)

(Table 1-1). An inclusive and structured process was used to develop and prioritize mitigation actions, including:

9. Formulated mitigation goals and objectives to reduce or eliminate the long-term risk to human life and property.
10. Considered the benefits that would result from the mitigation actions versus the cost of those projects. Detailed cost-benefit analysis was beyond the scope of this plan. However, an economic evaluation was one factor that was used to select mitigation actions. Each mitigation action in Chapter 6 summarizes the benefit/cost considerations.
11. Prioritized mitigation actions taking into consideration social, technical, administrative, legal, economic, and environmental criteria. The priority of each action is identified in Chapter 6. Criteria for evaluation and prioritizing actions included the following factors:
 - Social - community acceptance.
 - Technical - technical feasibility and effectiveness in reducing losses over the long terms.
 - Administrative - whether the jurisdictions have adequate staffing and funding to execute and maintain the project.
 - Mitigation actions within local entities
 - Legal - whether any of the jurisdictions, who may lack zoning authority, can implement the actions.
 - Economic - comparison of the costs and benefits of the actions, and the state of the Jurisdictions' budget and need to maximize outside funding; and
 - Environmental - impact on the environment.



12. Developed action plans identifying proposed actions, estimated costs and benefits, the responsible organization(s), implementation schedule, potential funding sources and ideas for integration.
13. Each entity in the Multi-Jurisdictional Hazard Mitigation Plan possesses an Emergency Operation Plan that will become part of the Kinney County Emergency Operations Plan. Each Emergency Operations plan describes the existing capabilities per Jurisdiction that is available to support our mitigation efforts.
14. Table 1.4.1 illustrates each jurisdiction, their existing authorities, policies, and resources that would enable them to expand and improve existing capabilities to achieve mitigation.

Jurisdiction	Authorities	Policies	Resources
Kinney County	Commissioner Court, Judge, Emergency Management Coordinator, Public Facilities Corporation, Sheriff's Department	They have the ability to adopt, implement or expand on current policies and procedures to achieve mitigation of hazards.	TAC Emergency Operation Plan LEPC Critical Facilities Stored Fuel Generators Local Funds Personnel
City of Brackettville	Council, Mayor, City Administrator, Compliance Officer, Public Work Supervisor	They have the ability to adopt, implement or expand on current policies and procedures to achieve mitigation of hazards.	Emergency Operation Plan LEPC Stored Fuel Critical Facilities Utilities Control Generators Local Funds Personnel
City of Spofford	Council, Mayor, City Administrator	They have the ability to adopt, implement or expand on current policies and procedures to achieve mitigation of hazards.	Emergency Operation Plan LEPC Local Funds



Brackett ISD	Board of Directors, Superintendent, Operations Supervisor, Principals, Business Manager	They have the ability to adopt, implement or expand on current policies and procedures to achieve mitigation of hazards.	TEA Emergency Operations Plan Region 20 LEPC Critical Facility Cafeteria Transportation Local Funds Personnel
Fort Clark Springs MUD	Board of Directors, Manager, Maintenance Supervisor, Business Manager	They have the ability to adopt, implement or expand on current policies and procedures to achieve mitigation of hazards.	Emergency Operations Plan Critical Facility Local Funds Personnel

1.4.5. Implementation and Monitoring (Step 5)

A formal process is in place to ensure that the plan is implemented and remains an active and relevant document. The Kinney County Emergency Management Coordinator will be responsible for overseeing implementation, monitoring, updating, and evaluation of the Plan on an annual basis.

Implementation

Each jurisdiction will be responsible for further developing and/or implementing the mitigation action plans contained in Chapter 6. Each action has been assigned to a specific organization within the County. The potential funding sources listed for each identified action may be used when the jurisdiction begins to seek funds to implement actions. An implementation time or a specific implementation date also has been assigned to each action as an incentive for seeing the action through to completion and to gauge whether actions are implemented in a timely manner.

Within one year of adoption, the County will review and, as appropriate, integrate implementation of their mitigation action plans with existing internal jurisdiction plans and policies relating to capital improvements, land use, and design as well as construction and emergency management. Examples include but are not limited to:

- Decisions related to future development and capital improvements.
- Kinney County Ground Water Conservation District Rules
- Kinney County Emergency Management Plan - 2021



- County and City Floodplain management ordinances
- Floodplain identification and projects that will decrease flooding risks
- Colonia’s Comprehensive Plan, Texas Department of Rural Affairs, Texas Community Development Program

The County and Cities will ensure that the actions in the mitigation action plans are integrated in other planning efforts. These other efforts will be used to advance the mitigation strategies of participating jurisdictions. Although the County lacks zoning authority, the findings from this plan will be used to help guide decisions it makes about growth and development.

This Hazard Mitigation Plan will also become an ESF to the Emergency Management Plan for Kinney County and participating entities. Copies of this plan will also be provided to State, Federal officials for their information and use in updating the following plans:

- State Mitigation Plan, Texas Division of Emergency Management
- Strategic Plan for the Middle Rio Grande Development Council
- Colonia’s Comprehensive Plan, Texas Department of Rural Affairs, Texas Community Development Program

Finally, copies of this plan will be provided to all entities included in the plan for utilization and support of all current plans. Entities will post the plans on their website and keep an up to date copy of the plan in the main office for public review when requested.

Evaluation and Update

Periodic revisions and updates of the Plan are required to ensure that the goals, objectives, and mitigation action plans are kept current. More important, revisions may be necessary to ensure that the Plan is in full compliance with Federal regulations and State statutes. The Emergency Management Coordinator of the County is responsible for continual monitoring of those components of the hazard mitigation plan that pertain to their jurisdictions. The Emergency Management Coordinator will first develop specific, written criteria to determine if the goals and objectives have changed, whether there are any changes in risk, the plan is on schedule and identify any changes needed.

The Emergency Management Coordinator will assess any changes in risk; determine whether implementation of mitigation actions is on schedule or if there are any implementation problems; and identify needed changes in the plan. Based on these discussions, the Emergency Management Coordinator will review the plan annually to report any changes in personnel and to include any mitigation action items, which will serve as the basis for revision of the plan. The first report will be prepared within one year of plan adoption and annually or semi-annually thereafter.

The Multi-Jurisdictional Hazard Mitigation Plan will be formally reviewed annually to determine whether significant changes may have occurred that could affect the Plan. Increased development, increased exposure to certain hazards, the development of new mitigation



capabilities or techniques, and revisions to federal or state legislation are examples of changes that may affect the currency of the plan. Criteria to be included in the evaluation will include, at a minimum, whether:

- The goals and objectives address current and expected conditions.
- The nature, magnitude, and/or type of risks have changed.
- There have been changes in land development; and
- The current resources are appropriate for implementing the plan.

The Plan also will be revised to reflect lessons learned from any disasters or changing conditions resulting from disaster events.

The annual review and update will begin in October and be concluded by the following 31st day of December. During the annual review, Jurisdictions will ensure strategies from the Multi-jurisdictional Hazard Mitigation Plan items that pertain to each Jurisdiction are integrated into their Emergency Operations Plan and any long range planning mechanisms they utilize. Each Jurisdiction will follow their identified process to integrate information from their mitigation strategies into their identified plans. Jurisdictions will be asked to review each goal and objective to determine its continued relevance; determine if the risk assessment should be updated or modified; report on the status of each mitigation action; and assess whether the mitigation actions should be revised. The results will be summarized in a formal report issued by each jurisdiction. The plan will be kept up to date to be ready for TDEM and FEMA review at the end of the 5th year.

Amendments

At any time, minor technical changes may be made to the plan to keep it up to date. However, any material changes to the mitigation actions or major changes in the overall direction of the plan or the policies contained within it must be subject to formal adoption by the Governing Bodies of participating jurisdictions. Any amendment to the plan must undergo an open public process. Participating jurisdictions will seek public input on any material change to the plan during a formal review and comment period of not less than 30 days.

At the end of the comment period, the proposed amendment and all comments will be forwarded to the Governing Bodies of each participating jurisdiction. If no comments are received from the reviewing parties within the specified review period, this will also be noted. The Governing Bodies will then review the proposed amendment and comments received and vote to accept, reject, or amend the proposed change. Upon ratification, the amendment will be transmitted to the Texas Division of Emergency Management. In determining whether to recommend approval or denial of a plan amendment request, the following factors will be considered:

- Errors or omissions made in the plan.
- New issues or needs that were not adequately addressed in the Plan; and



- Changes in information, data, or assumptions on which the Plan was based.

Continued Public Involvement

Input from the public was an integral part of the preparation of this plan and will continue to be essential as the plan evolves over time. As noted above, a significant change to this plan will require an opportunity for the public to make its views known.

Copies of the Plan will be kept for public review at each participating jurisdiction. Members of the public will be encouraged to comment on the plan and recommend changes. To make the public aware of the plan and the evaluation, update and amendment process, notices will be placed in the newspapers and on each entities' website. Copies will be maintained at the following locations:

Kinney County Judge's Office, County Courthouse
 City Administrator, City of Brackettville
 City Council Office, City of Spofford
 Brackettville Independent School District
 Fort Clark Springs Municipal Utility District, MUD Office

Once a year after adoption, the Commissioners Court and the City Council will be notified in an open public session that the plan is posted for public review and comments are welcome.

2. GOALS

The overall goal of this Multi-Jurisdictional Hazard Mitigation Plan is to reduce or eliminate the long-term risk of loss of life and property damage from the full range of disasters. The mitigation vision of a safe, secure, and sustainable area includes:

- Buildings located outside of hazardous areas and built to withstand the hazards that threaten them.
- An effective and sustainable public infrastructure.
- Informed citizens and active volunteers protecting their families, homes, workplaces, communities, and livelihoods from the effects of disasters.
- Mitigation actions tailored to the cultural and economic diversity in Kinney County.
- Partnership among local, State and U.S. Federal governments, nonprofit agencies, business, and individuals focused on reducing the loss of life and property from disasters.

The goals and objective of this plan include:

GOAL 1



Heighten public awareness.

Objective 1.1 Heighten public awareness of hazards and actions that can be taken to reduce the loss of life or property.

Objective 1.2 Publicize and encourage appropriate hazard mitigation measures.

GOAL 2

Protect public health and safety.

Objective 2.1 Ensure that an adequate infrastructure is in place to protect public health and safety.

Objective 2.2 Establish a warning system.

Objective 2.3 Protect critical facilities and services.

GOAL 3

Protect existing and new properties.

Objective 3.1 Reduce repetitive losses.

Objective 3.2 Ensure that development will not put people in harm's way or increase threats to existing properties.

Objective 3.3. Acquire flood prone structures when economically feasible and encourage open space development.

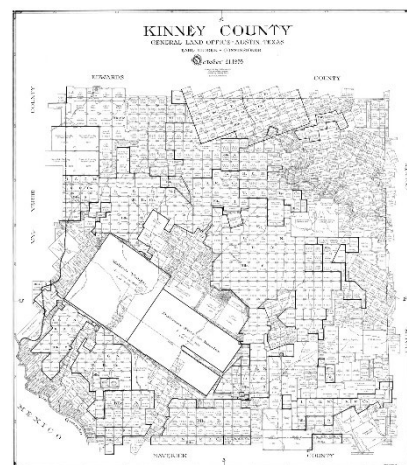
GOAL 4

Maximize insurance coverage to provide financial protection against hazard events.

Objective 4.1 Identify the Flood born Areas.



Kinney County Courthouse
Source: TexasCourthouses.com



3. DESCRIPTION OF KINNEY COUNTY

The special characteristics of Kinney County's natural features, population and the economy offer unique challenges for mitigation planning and will be an important part of this mitigation plan. Kinney County is west of San Antonio on U.S. Highway 90 in the Rio Grande Plain region. Roughly square in shape, it is bordered by Edwards County in the north, Uvalde County on the east, Maverick County on the south, and Val Verde County and Mexico on the west. The center of the county lies at 29°21' north latitude and 100°25' west longitude. The county seat and largest town is Brackettville.

Kinney County has a major highway (U.S. 90) that passes between the City of Brackettville and Fort Clark Springs and a major railroad line through the City of Spofford as well as being located near portions of Fort Clark Springs. Laughlin AFB, one of the nation's major Air Force jet training facilities, is located 25 miles from Brackettville and has a major training facility four miles South of Spofford. In addition to U.S. Highway 90, the county is served by State Highway 131 and Farm roads 334, 674, 693, 1572, 1908, 2804, 2523, 3008, and 3348. The county's transportation needs are also served by the Union Pacific Railroad. The county embraces 1,359 square miles, partly on the Edwards Plateau and partly on the plain of the Rio Grande River, which forms the southwestern boundary. The northeastern corner of the county is drained by the West Nueces River.

3.1 History

Despite the region's sparse population, the state legislature authorized the formation of the county from Bexar County in 1850 and named it for early settler and adventurer Henry Lawrence Kinney. By 1874 the population was large enough for the county to be formally organized, and by 1875 the first county government was in place. In 1876 Brackettville was designated as the county seat after the final boundaries of the county were set by the legislature. Much of the county's economy in the early postwar period was dependent on cattle ranching. Sheep ranching, however, gradually replaced cattle ranching during the 1870s and Kinney County became an important source of wool. The onset of the Great Depression brought a marked downturn in prices for wool and mohair. The population of the county increased to 4,533 in 1940 but fell



markedly after Fort Clark was closed in 1946; by 1950 the number of residents had declined to 2,648. During the 1960s and early 1970s the number of residents continued to drop to 2,006 in 1970. Subsequently, however, came slow but steady growth. Kinney County nonetheless remains one of the most sparsely populated counties in the state.¹

3.2 Watersheds

The three Kinney County watersheds are in the Texas Gulf Region, Nueces-Southwestern Sub-Region and the Rio Grande Region, Rio Grande-Falcon Sub-Region. The river basins are shown below followed by the three watersheds.

Figure 1.5



¹ The preceding sections were excerpted from "The Handbook of Texas Online," Texas State Historical Association <http://www.tshaonline.org/handbook/online/articles/KK/hck9.html>



Figure 1.6

Rio Grande Region – Rio Grande – Falcon Sub Region



Texas-Gulf Region; Nueces Southwestern Texas Coastal Sub Region

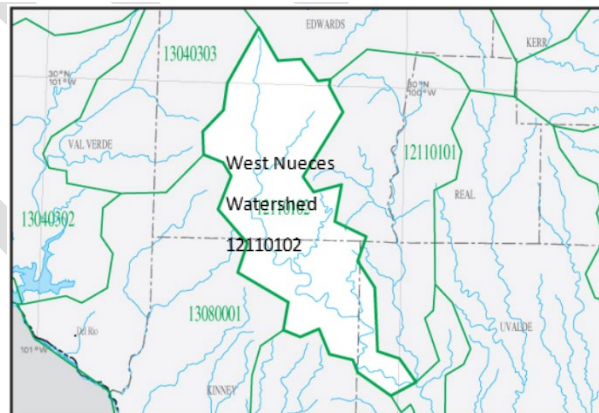
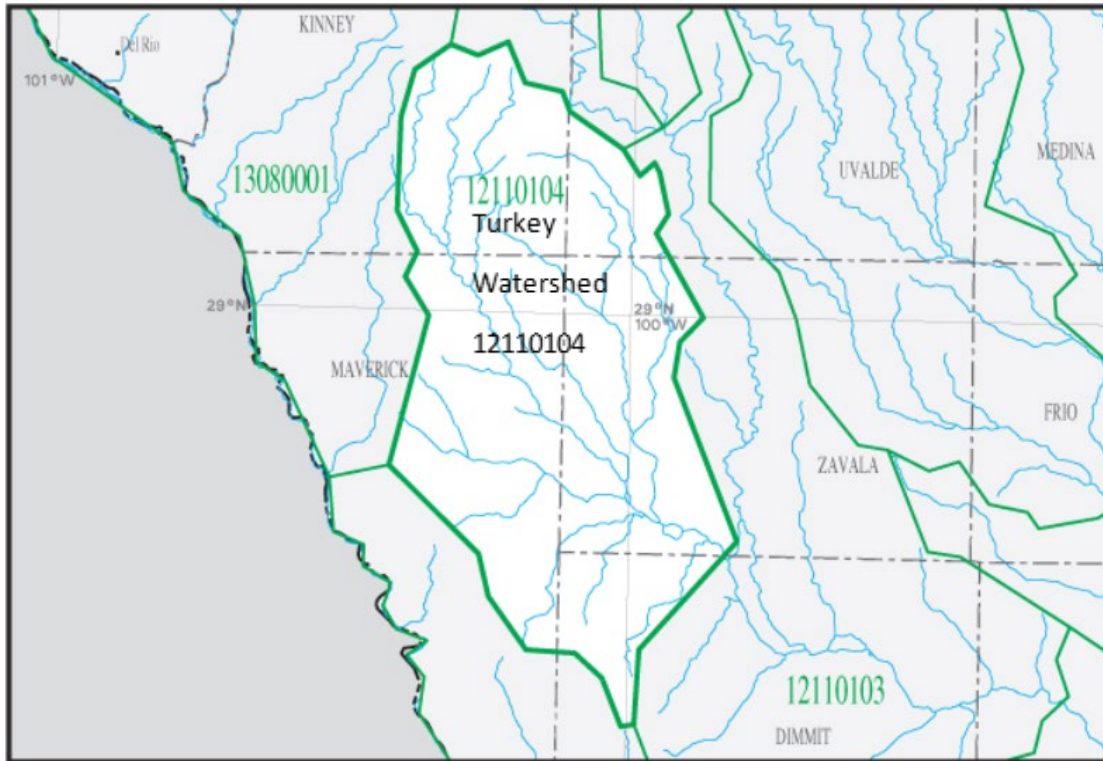


Figure 1.7

Figure 1.8





Source: US Geological Survey [Science in Your Watershed: Locate Your Stream Site by 4-digit HUC in 1308 Rio Grande-Falcon \(usgs.gov\)](https://science.inyourwatershed.gov/locate-your-stream-site-by-4-digit-huc-in-1308-rio-grande-falcon)

3.3 Topography

The land is level to rolling in the south and rugged in the north along the Balcones Escarpment and the breaks of the Nueces River. The Anacacho Mountains are in the southeast. The altitude ranges from 1,000 to 2,000 feet. The northern half of the county is rocky and mountainous with some loamy soils. In the northeastern corner are areas with dark, loamy soils over limestone. The vegetation in the northern portion of the county is characteristic of the Edwards Plateau region, with short grasses, mesquite, and cacti predominating. The southern half of the county has gray to black, cracking, clay soils over limestone with light-colored loamy soils in some areas. The vegetation in this area, typical of the South Texas plains, includes short to mid-height grasses, thorny shrubs, cacti, and mesquite. Minerals include brick clay and metallic ores. Less than 1 percent of the land in the county is considered prime farmland.



3.4 Climate

The climate is subtropical, with dry and mild winters and hot summers. Temperatures range in January from an average low of 36° F to an average high of 63°, and in July from 74° to 96°. The average annual rainfall is twenty-two inches; the average relative humidity is 76 percent at 6 A.M. and 42 percent at 6 P.M. Snow is rare. The growing season averages 272 days per year, with the last freeze in early March and the first in late November.²

3.5 Population

According to the office of the Texas Comptroller, the 2020 population of Kinney County was 3,129, down 13 percent from 2010. The largest town was Brackettville, population in 2023 is 1,397 down from 1,767 in 2010. The population in Kinney County at the 2020 Census was 3,129 in 1,105 households with 64.3 percent White, 1.5 percent Black, 2.0 percent other and 80.2 percent Hispanic. Residents under 20 years of age constituted 20.1 percent of the total as compared to 25 percent who were 65 years old and over. Enrollment in public education was 532 in three schools with no institutions of higher education.³ The Texas State Demographer mid-range population projections show a slight decline in population totals with declines in all races in the population projections.

YEAR	TOTAL	WHITE	BLACK	HISPANIC	OTHER
2010	3598	1496	39	2014	59
2020	3129	969	100	1955	105
2030	2736	848	56	1779	54
2040	2266	703	45	1473	45
2060	2104	652	41	1368	43

The 2020 census documented several key characteristics of the county's population.³

- Residents born in the United States--- 67.7 percent
- Residents who speak English only at home – 52.8 percent
- Residents who speak another language at home who speak English less than “very well,” – 66.8 percent
- Residents 25 years of age and older who have less than 9th grade education – 21.8 percent
- Residents 21 to 64 years of age with a disability – 8.6 percent

² The Handbook of Texas Online

³ <https://datausa.io/profile/geo/kinney-county-tx>



- Residents 16 years of age and older in the labor force – 63.0 percent
- Residents below poverty threshold under 18 years – 47.8 percent
- Residents below poverty threshold 18 to 64 years – 31.3 percent
- Residents below poverty threshold 65 years and over – 17.6 percent
- Housing structures lacking complete plumbing facilities – 0.5 percent

Table 3.2 shows the six Colonias located in Kinney County, the City of Spofford is now an incorporated city participating in this plan.

Table 3.2 Kinney County Colonia's

County Name	ID	Community Name
Kinney	M1360001	Spofford
Kinney	M1360002	Brackettville
Kinney	M1360003	Kinney County Ranch Estates
Kinney	M1360004	Leona Ranch
Kinney	M1360005	Macy Ranch
Kinney	M1360006	N-Bar Ranch

Source: Kinney County Officials

4. ASSETS AT RISK

4.1 Study area definition

Hazard identification consists of (1) defining the study area in terms of scale and coverage; (2) describing the inventory of people and property assets located within that area; and (3) collecting and compiling a list of prevalent hazards in the study area to help narrow the focus of the analysis.

Figure 4-1. illustrates the extent of the study area for Kinney County and participating cities, as well as the population density distribution (based on Census 2020). **Table 4.1** provides a numeric breakdown of the population by jurisdiction, including those with potential special needs.



Table 4.1. Population Distribution by Jurisdiction

Jurisdiction	Total Population (2020)	Special Needs Population	
		Elderly (Over 65)	Low Income (<= \$25k)
Kinney County	3,129	773	2,231
Brackettville	1,341	306	1,297
Spofford	41	10	11
Fort Clark Springs	1,338	466	133
Brackett ISD	0	0	0
Fort Clark MUD	0	0	0

Source: Census Bureau; Fort Clark Springs, Texas Population 2023
(worldpopulationreview.com)

The known and recognized Colonias in Kinney County are listed in the table below (Table 4.2). Spofford, Texas has been designated as a Colonia but has since become an incorporated city participating in this plan. In some counties, Colonia's are often located in isolated and/or marginal areas lacking basic services and with a significant exposure to flooding and other natural hazards, consistently lagging behind the rest of the County and State economically. The rate of health insurance is extremely low. Engaging Colonia's residents in mitigation is a special challenge. Kinney County is participating as the Anchor County (Orange Group) for the Texas Department of Agriculture's Colonia Assessment Grant. Through this grant, all Colonias will be assessed to review facts and statistics on needs relating to water, wastewater, and roads. The necessary assessments have been completed on the Colonias listed below. Results and recommendations should be shared with each county during 2024.

Table 4.2. Population of Kinney County Colonia

ID	Community Name	Population
M1360001	Spofford	41
M1360002	Brackettville	1,341
M1360003	Kinney County Ranch Estates	11
M1360004	Leona Ranch	5
M1360005	Macie Ranch	9
M1360006	N-Bar Ranch	30



Source: Kinney County Surveys completed for the Texas Department of Agriculture Grant Application and Census Bureau

4.2 Assets at risk

The demographic and building stock inventory data derived from FEMA National Risk Index. **Table 4.3** provides building values, population equivalence, population counts and agriculture values. A total estimated dollar exposure is included.

Table 4.3

Hazards	Total	Building Value	Population Equivalence	Population	Agriculture Value
Flooding	\$201,754,907	\$9,066,356	\$191,955,389	16.55	\$733,162

4.3. Critical facilities and infrastructure

Table 4.4 provides a list of the critical facilities that were included in the risk assessment. Geographic coordinates (i.e., latitude and longitude) were used to determine the location of each critical facility within each jurisdiction. **Figures 4-2** and **4-3** illustrate the location of critical facilities in Kinney County, Spofford, Brackettville, Fort Clark Springs, and Brackett ISD respectively.

Table 4.4. Critical Facilities in Kinney County

Jurisdiction	Name	Type	Replacement Value
Kinney County	Kinney County Sheriff Department	Sheriff's Station	\$1,987,200
Brackettville	Brackettville City Hall	Chief Administrative Building	\$597,350
Brackettville	Brackettville City Annex	Conference Bldg	\$1,600,800
Brackett ISD	Brackett High School	School	\$5,242,900
Brackett ISD	Jones Elementary	School	\$5,850,000
Brackett ISD	Brackett Junior High	School	\$3,250,000
Brackett ISD	Brackett ISD - DAEP	School	\$960,000



Brackett ISD	Main Gymnasium	School – Critical Facility	\$3,900,000
Kinney County	Kinney County Detention Center	Prison	\$40,000,000
Kinney County	Kinney County Fire Department	Fire Station	\$2,880,000
Kinney County	Kinney County Community Building	Community Center	\$6,006,000
Fort Clark MUD	Fort Clark Municipal Utility District	Municipal Utility District	\$601,250
Spofford	City of Spofford City Hall	Chief Administrative Building	\$156,000
Fort Clark Springs	Fort Clark Springs Administrative Building & NCO Club	Chief Administrative Building	\$3,698,175
Kinney County	Kinney County EMS Building	EMS HQ	\$435,000
Kinney County	Kinney County Nutrition Center	Nutrition HQ	\$959,320
Total			\$78,123,995

5. RISK ASSESSMENT

5.1 Introduction

5.1.1. Hazards addressed in the plan

Kinney County is subject to frequent disasters. Heat Wave is the primary hazard followed by Flooding, as measured through a combination of analyzed factors. Other weather-related hazards such as drought, lightning, wildland fire, ice storms, and tornadoes are frequent occurrences. Because of its proximity to the border with Mexico, Kinney County is also subject to transboundary risks that threaten lives, property, and the natural environment across the border in either direction. These include natural disasters which may pose a threat on either side of the border or that may affect a border jurisdiction to the extent that assistance is necessary.

The Multi-Jurisdictional Hazard Mitigation Planning Team used a formal process to identify the potential to impact the participating jurisdictions. The processes and hazards addressed in the plan are included below:



- Heat Wave
- Flooding
- Drought
- Lightning/Hail
- Wildland Fire
- Cold Wave/Winter Weather/Ice Storm
- Tornadoes/Strong Winds

5.1.2. Disaster Declarations

Of the 200 major disaster declarations in the State of Texas from January 3, 2000 thru December 17, 2023 Kinney County has been included in ten disaster declarations of which three were hurricanes, two were fire related, two were biological, two were severe ice storms and one was for flooding.

Between 2018 and 2023, Kinney County experienced approximately eight natural disasters severe enough to receive a Major Presidential Disaster Declaration and three Emergency Declarations (Table 5.1). The county has also experienced additional emergencies and disasters that were not severe enough to require federal disaster relief through a presidential declaration. In addition, the U.S. Department of Agriculture recently announced that emergency loans would be made to farmers and ranchers in Texas counties, including this county, that have suffered "losses caused by drought, excessive heat, high winds, wildfire, extreme winter conditions, and entities affected by the pandemic."

Table 5.1 Disaster Declarations for Kinney County 2018-2023

Event	Declaration Date	Declaration Number
TX Severe Winter Storm	4/21/23	4705
TX Severe Winter Storm	2/19/21	4586
Hurricane Laura	12/9/20	4572
Pandemic	3/25/20	4485
Imelda	10/4/19	4466
TX Severe Storms & Flooding	7/17/19	4454
TX Severe Storms & Flooding	2/25/19	4416



TX Severe Storms & Flooding	7/6/18	4437
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<https://www.fema.gov/data-visualization/disaster-declarations-states-and-counties>

A careful examination of hazard event profiles relevant to the Kinney County area serves to define historic hazard trends and provides a reference point for understanding the potential impacts from future predicted events. Reviewing historic data assists in evaluating hazard event profiles, which focus on answering the following questions: What? Where? How often? How bad?

The Planning Committee considered the Presidential Disaster Declarations and decided to address the effects of such dying tropical storms and hurricanes under Section 5.3., flooding. Because Kinney County is so far inland, it does not generally experience direct hits from tropical storms or hurricanes. Many downgraded storms over the years have caused massive rainfall that filled rivers and streams and drainage systems that resulted in flooding in Kinney and nearby counties.

The remainder of this section includes a review of potential hazard exposure, historical frequency of occurrence and/or loss or damage estimates for Kinney County and its incorporated jurisdictions, including graphical illustrations and tables.

5.1.3. Risk Assessment process

Identification of hazards. Risk is the probability of occurrence multiplied by the consequences. The eleven natural hazards addressed in this plan were selected using the multi-step process described below. The initial risk assessment process was started in June of 2023 by the Kinney County Hazard Mitigation Planning Committee and culminated into the development of a Multi-Hazard Risk Assessment that identifies the prevalent natural hazards that will be covered in the Kinney County Multi-Jurisdictional Hazard Mitigation Plan. The risk assessment process is described below followed by the results of the analyses.

The Committee first identified prevalent natural hazards of concern. To complete the list with surety of inclusion of the most disastrous hazards the committee reviewed:

- Kinney County Hazard Mitigation Plan – expired in 2016
- History of Presidential Disaster Declarations.
- Existing studies, plans, reports, and technical information from FEMA National Risk Index, Drought.gov, Texas Forest Service, the International Boundary and Water Commission, the U.S. Army Corps of Engineers, U.S. Fire Administration, National Oceanic and Atmospheric Administration, Texas Water Development Board, United



States Geological Survey, the Texas Commission on Environmental Quality, and the Texas Geographic Society for data on potential hazards and information to aid in the risk assessment; and,

- The State Hazard Mitigation Plan (October 4, 2023), which provides an overview of hazards of concern to the state, assesses risk, and establishes state priorities for mitigation actions to be undertaken.
- The FEMA National Risk Index that includes Hazard type with risk index score, expected annual loss values, exposure values, annualized frequency values, historic loss ratios, expected annual loss rates, social vulnerability score, and a community resiliency score.

Risk assessment

To assess risks, the Team:

1. Screened a full range of natural hazards that could affect the County.
2. Profiled hazard events, providing information on previous occurrences and probability of future hazard events; extent of spatial impact; and magnitude of impact on people and property.
3. Developed a description of general vulnerability of county hazard events.
4. Conducted an inventory of assets at risk in terms of buildings and critical facilities, lifelines and infrastructure utilizing data.
5. Performed risk assessments for selected hazards using FEMA's National Risk Index application. [Community Report - Kinney County, Texas | National Risk Index \(fema.gov\)](https://www.fema.gov/national-risk-index)
6. Ranked the hazards in terms of previous events and exposure, estimated annualized losses (EAL), future probability, and community resiliency data included in the FEMA Nation Risk Index.

5.1.4. Loss estimates

Loss estimates included total value, population value, population equivalence value, population, and agricultural value.

Risk assessment. Risks associated with hazards were analyzed using the FEMA National Risk Index that includes loss estimates. Historical data for each hazard were used.



The annualized loss ratio gauges the relationship between average annualized loss and replacement value. This ratio can be used as a measure of vulnerability in the county.

5.1.5. Hazard profiles

The eleven natural hazards addressed in this plan differ in important ways, such as in their predictability, length of warning time, speed of onset, magnitude, scope, duration of impact, and possibilities of secondary impacts. At the Mitigation Workshops, local officials assessed the probability of future occurrence, spatial impact, and severity of impact of each hazard. The information helped identify hazards to be addressed and determine which mitigation measures should be adopted. Definitions are:

Probability of Future Events. The probability of future occurrence, or chance of occurrence, is defined using four rankings, as shown in **Table 5.2** below.

Table 5.2 Probability of Future Events

Highly likely	An event probable in next year
Likely	An event probable in next 2-3 years
Possible	An event possible in next 4-5 years
Unlikely	An event is unlikely in the next 10 years

Spatial Extent. The spatial extent of the hazard is defined using four rankings, as shown in **Table 5.3** below.

Table 5.3 Spatial Extent

Large	Expected to affect more than 50% of people and/or property
Moderate	Expected to affect 25% to 50% of people and/or property
Limited	Expected to affect 10% to 25% of people and/or property
Minimal	Expected to affect less than 10% of people and/or property

Severity of Impact. The severity of impact is defined using four rankings, as shown in **Table 5.4** below.



	Deaths/Injuries	Shutdown of Facilities	Percent Property Destroyed
Catastrophic	High number of injuries and deaths	Complete shutdown for 30 days or more	More than 50% damaged or destroyed
Critical	Multiple deaths or injuries	Complete shutdown for a week to 30 days	25% to 50% of property damaged or destroyed
Limited	Minor injuries only	Complete shutdown of facilities for 1 day to 1 week	10% to 25% of property damaged or destroyed
Minor	Few if any injuries	Shutdown of facilities only temporary	Less than 10% of property damaged or destroyed

The results of the analysis are shown in **Table 5.5** below. These profiles were based on experience and perception of risk provided by local officials during the Kickoff and Mitigation Workshops in June thru October of 2023, respectively.

High winds are addressed as a component of Tornadoes. After discussions of survey results in Appendix B, local officials determined that some hazards could be combined and that some hazards would not be addressed in this plan. While all of the relevant hazards exist and are possible to happen, some are considered routine climatic events in the County and the population adjusts as a normal condition of the area.

Hazard	Probability of Occurrence	Spatial Extent	Severity of Impact
Heat Wave	Highly likely	Large	Limited
Flooding	Highly likely	Large	Limited
Winter Weather/Cold Wave/Ice Storm	Highly likely	Large	Limited
Wildland fire	Highly likely	Limited	Minor
Drought	Highly likely	Large	Limited
Tornadoes/Strong Winds	Possible	Minimal	Limited
Hail/Lightning	Highly likely	Moderate	Limited

Note: For purposes of this table and subsequent risk assessment, the term “possible” refers to an event possible in the next 4 – 5 years.”



5.2. SEVERE THUNDERSTORMS/ LIGHTNING / HAIL

5.2.1. Description of the hazard

Severe thunderstorms, accompanied by high winds, hail and lightning, are probable hazards to impact Kinney County, although the impact is expected to be limited to minor damage. According to the National Weather Service (NWS), thunderstorms form when clouds develop sufficient upward motion and are cold enough to generate and separate electrical charges within a cloud, most typically a cumulonimbus cloud.

Hail often accompanies thunderstorms. 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 size of hailstones is a direct function of the severity and size of the storm.

Lightning is another threat that often accompanies thunderstorms. Lightning is generated by the buildup of charged ions in a thundercloud, and the discharge of a lightning bolt interacts with the best conducting object or surface on the ground. The air channel of a lightning strike reaches temperatures higher than 50,000 degrees Fahrenheit. The rapid heating and cooling of the air near the channel causes a shock wave, which produces thunder.

5.2.2 Measurement

There is no single measurement for thunderstorms. The National Weather Service classifies a thunderstorm as severe if it contains hail of three-quarter inches or larger, and/or wind gusts of 58 mph or higher, and/or a tornado. Wind damage is measured on the Beaufort scale; hailstorms are classified according to the combine National Oceanic and Atmospheric Administration/TORRO Hailstorm Intensity Scales.

5.2.3 Previous occurrences

Thunderstorms occur frequently in Kinney County. Although they can occur year-round, the peak season is in the late spring and early summer. Most thunderstorms in Kinney County occur in the afternoon and early evening as the ground warms from the sun. Thunderstorms may be associated with lightening, hail, tornadic activity, torrential rains, and flash flooding conditions. They are also capable of producing straight-line winds and micro-bursts of extreme power.



According to the National Oceanic and Atmospheric Administration, there were reports of twelve occasions between July 1967 and February 2016 in which thunderstorms resulted in winds of at least 50 knots in Kinney County, although other events may not have been reported. (Table 5.6).

**TABLE 5.6
THUNDERSTORM
WINDS OF AT
LEAST 50 KNOTS**

**JULY 1967 -
FEBRUARY 2016**

KINNEY COUNTY

Location	Date	Magnitude
Kinney	7/2/1967	62 Knots (kts.)
Kinney	6/25/1968	71 kts.
Kinney	4/11/1969	50 kts.
Kinney	6/26/1970	54 kts.
Kinney	7/8/1973	51 kts.
Kinney	4/7/1984	51 kts.
Kinney	3/23/1987	52 kts.
Kinney	10/27/1989	50 kts.
Brackettville	6/12/1997	60 kts.
Brackettville	5/26/2001	84 kts.
Brackettville	7/23/2003	60 kts.
Brackettville	4/28/2006	60 kts.
Brackettville	6/1/2016	52 kts.

Hail ranges in size from very small particles to baseball size. Its shape can be spherical, conical, or irregular in shape. The violence of the storm cell governs the size and shape of the hailstones; the lift and falling of the freezing pellet within the storm cell increases the size of the stone until it is ejected from the cloud.

Hail over 3.0 inches in diameter was reported in Kinney County on four occasions between 1950 and 2010 (Table 5.7). The hazard from hail is primarily to crops and property. Hail tends to fall in paths which may be from 10 to over a hundred miles in length and up to 30 miles wide. A hail swath is not a continuous path but consists of a series of strikes produced by individual storm cells traversing the same general area. A typical hail strike will cover about a 2.5 square mile area.



TABLE 5.7 HISTORICAL EVENTS OF HAIL OF AT LEAST 1.5 INCHES DIAMETER KINNEY COUNTY 1950-2021				
NUMBER OF EVENTS	SIZE OF HAIL			
	1.5 IN. TO 2.0 IN.	>2.0 IN. TO 2.5 IN.	>2.5 IN. TO 3.0 IN.	>3.0 IN.
	23	1	3	4

Although there are no official records of lightning events in Kinney County, lightning is frequently associated with thunderstorms. Lightning is the effect from the friction of air masses moving across each other. Lightning damage results from four effects of the lightning strike: electrocution of humans and animals; vaporization of materials along the path of the strike; fire caused by the high temperature of the strike; and a sudden increase in current in the associated power grid damaging electrical and electronic equipment. Although property damage is the principal hazard associated with lightning strikes, lightning kills more people each year in the United States than either tornadoes or hurricanes.

5.2.4 Geographic area affected

It cannot be predicted where a severe thunderstorm will occur. All the population, buildings, critical facilities, infrastructure and lifelines, and hazardous materials facilities in Kinney County are considered equally exposed to the hazard and could potentially be impacted.

5.2.5 Probability of future disasters

A severe thunderstorm is highly likely, with an event probable in the next year. In light of previous occurrences, hail in excess of 2.0 inches may be expected. Expected wind speeds are 60 knots.

5.2.6 Vulnerability

A severe thunderstorm is expected to cover a geographic area and is expected to affect 10-25% of property with minor damage.

5.2.7 Potential impact

The spatial extent of a thunderstorm (i.e., how large an area is affected) is expected to be limited, affecting 10 – 25% of people and/or property. Severity of impact (i.e., severity of damage within the affected area), is expected to be minimal with less than 10 % of property affected.



No estimate is available of the economic damages to Kinney County from severe thunderstorms. Winds more than 58 miles per hour can break or uproot trees, damage roofs and cause considerable structural damage. Hail of .75 inches in diameter is too small to cause personal injury or serious property damage, except to crops. However, extreme hailstones can total cars, ruin roofs, break windows, damage shutters, kill animals and seriously hurt or kill humans. There may be a temporary shutdown of facilities.

Lightning damage can result in electrocution of humans and animals; vaporization of materials along the path of the strike; fire caused by the high temperature produced by the strike, and a sudden power surge that can damage electrical and electronic equipment, including on electric utility substations and distribution lines. While property damage is the major hazard associated with lightning, it should be noted that lightning strikes kill nearly 100 people each year in the United States. Wildfires can be started by lightning strikes.

5.3. FLOODING

5.3.1 Description of the hazard

Although flooding is the third in line for Estimated Annual Loss behind Tornado and Heat Wave, it is one of the top-rated hazards of concern for Kinney County's local leaders. Floods have caused greater loss of life and property and disrupted more families and communities. Development in the floodplain continues, putting more and more people at risk. Among the principal causes of flooding in the County are mild gradients of streambeds and poorly defined or inadequate channels. Floods affect the water supplies, contaminating wells, and may damage historic buildings, some of which are on the National or State Historic Register.

One such example of flooding occurred in August 1998, Kinney County received more than a foot of rain in a weekend as the result of Tropical Storm Charlie. Twenty-four homes in Brackettville sustained severe damage, ninety people were forced to evacuate their homes, natural gas was cut off for 24-hours, and Highway 90 was closed. This closure caused delays to truck traffic, and Brackettville streets sustained \$10,000 - \$15,000 in damage.

The heavy rains generally associated with thunderstorms and slow moving systems often cause widespread flash flooding within Kinney County. Due to the nature of the terrain, flash flooding renders roads impassable at low water crossings and stream crossings. Flash flooding events at times cause waters to rise to the point of impacting homes and businesses. It is not uncommon to receive a large amount of fast-moving water, especially along the watercourses and near stream beds. Two retention dams were built in 1962 north of Brackettville that help retain 80 percent of the run-off in the Las Moras Creek basin.



Flooding ranges from flash flooding, degraded tropical systems or hurricanes that can overflow streams and tributaries, and localized flooding due to inadequate drainage systems and overflow of shallow floodplains. Hurricanes and tropical storms are not a direct threat to the County and therefore not addressed as a separate hazard in this Plan. However, flooding may be due to torrential rainfall associated with the remnants of degraded hurricanes or tropical storms which may stall and threaten flooding in inland areas. Flooding may also be due to severe local thunderstorms of short duration or more routine storms lasting several days. These events sometimes cause heavy run-off from the surrounding terrain resulting in severe flooding along local waterways.

Flooding can be dangerous to vehicle drivers and pedestrians, who may be swept away as they try to cross flooded areas. Flooding can cause severe damage to buildings and disrupt transportation systems, critical utilities (water, sanitary sewers, electricity, data networks, and communications), commerce, and emergency services. Flooding-related health hazards include exposure to raw sewage, bacteria, mold, and viruses. The capital damages to buildings and their contents can be significant, in addition to lost revenue, decreased productivity, delays, and drains on resources due to clean-up, and expenses to rebuild. Adverse impacts can result from utility outages and damage to critical facilities. Types of flooding affecting the County are:

Riverine Flooding. Riverine flooding is the overbank flooding of rivers, tributaries, and streams. Both natural and inevitable, such flooding typically results from large-scale weather systems that generate prolonged rainfall over a wide geographic area.

Flooding from degraded tropical systems. Kinney County is far enough inland not to be affected by the brunt of hurricane force winds. However, the torrential rains and tornadoes they bring can affect the area and fill streams and tributaries. Tropical storms that may bring rain to the County are the remnants of degraded Gulf Coast hurricanes that have made landfall on the coast and have been downgraded. These storms have generally made landfall somewhere between the Matagorda Bay area and just south of the Corpus Christi area. As the warm Gulf air of the tropical event meets the cooler air of the region, torrential rain may result. Storms may also stall in the mountains of Mexico and cause flooding in Kinney County.

Flash Flooding. Most flash flooding is caused by slow-moving thunderstorms, by thunderstorms repeatedly moving over the same area, or by heavy rains from hurricanes and tropical storms. Flash floods can occur within a few minutes or after hours of excessive rainfall, often with minimal warning. Flash flooding can pose a deadly danger to residents of the County. A few roads run through low-lying areas that are prone to sudden and frequent flooding during heavy rain. Motorists often attempt to drive through barricaded or flooded roadways.

Only 18-to-24-inches of water moving across a roadway is enough to carry away most vehicles. Floating cars easily get swept downstream, making rescues difficult and dangerous.



Local Drainage. Flooding occurs when land loses its ability to absorb rainfall after being developed into roads, buildings, or parking lots. Urbanization changes the natural hydrologic systems of a basin, increasing runoff two to six times over what would occur on natural terrain. During periods of urban flooding, streets can become swift moving rivers, while highway underpasses can become death traps as they fill with water.

Kinney County has a lack of proper drainage. Flooded sidewalks and streets can make pedestrian and other travel unsafe. Street drainage is a major challenge to be addressed.

Las Moras Creek runs through the City of Brackettville as well as through Fort Clark Springs. Flooding occurs frequently in an area that is bordered by Ann Street (Hwy. 674) on the East, Veltman Street on the North, Beaumont Street on the West, and Highway 90 on the South. It is one of the most heavily populated areas of Brackettville and contains many mobile homes, thus creating the potential for loss of life as well as substantial property damage. Portions of our downtown area, including several historical buildings, lie within this area as well. Many of the families located in this area are economically disadvantaged and therefore less able to participate in any flood insurance program, creating post-incident issues regarding reconstruction. A large portion of Brackettville's senior citizens reside in this area also. Although the retention dams constructed North of Brackettville in the 1960's have somewhat slowed the frequency of flooding incidents in this area, they have not completely eliminated the problem. Part of the problem is an inadequate drainage system in that area of town. Drainage ditches are excavated but tend to be overgrown with weeds and filled with debris a good portion of the time. Due to limited city personnel resources, other maintenance issues tend to override the necessity for keeping these channels free and clear of debris and undergrowth.

One of the most serious issues involved in controlling flood waters in this low-lying area of the City of Brackettville is the fact that the Kinney County Sheriff's Office, a critical facility, is located within a low-lying area. Since the Sheriff's office controls the warning system for Kinney County and would also be one of the obvious choices for a Command Center during an emergency, this could be a very serious potential crisis area. Clearing debris and other obstructions from the channel below the retention dams is also a critical need. There is an inordinate amount of weed and plant growth that has clogged drainage canals, creeks, rivers and may create a wildfire hazard throughout the county during the summer months should the county be hit with another extended drought and heat wave. Many ranchers have been clearing excess trees, especially cedar, and undergrowth from their land to conserve the remaining water supply and eliminate wildfire hazards.

A second low-lying area in the City of Brackettville that poses serious issues during flooding are in the area bordered by Ann Street on the West, Henderson Street on the North, Fort Street on the East, and Spring Street on the South. This area is vital because it contains several critical facilities;



the EMS Station, a projected Command Center in an emergency, is in this area. This area also contains the Kinney County Community Center, the largest facility in town and one which would be ideal for receiving supplies from The American Red Cross, Salvation Army, or other such entity in an emergency. The Community Center has recently been updated to serve as a critical facility. The remodel includes a new up-to-date kitchen, new restrooms that include showers, updates to A/C and heat to accommodate for extended weather events. The Community Center is a 2-story building with garage doors on each end and a large parking lot which would facilitate the storing and disbursement of donated supplies quickly and efficiently. The large parking area would also accommodate a helicopter should the need arise. Several historical buildings are also located in this low-lying area.

Ninety percent of Kinney County is rangeland. Las Moras Creek, the Nueces River and multiple streams and creeks run throughout the county, and all are overflow channels for excess water from other major rivers in the counties that lie to the north. The major hazard during peak rainfall seasons is the lack of low water crossings in rural areas of our county. Although there are not heavily populated areas affected, there are families at risk when these roads wash out. Should emergency vehicles be needed, they are unable to respond effectively. Several permanent low water crossings have been built in the past, but there is a need for more. As grant monies are obtained, we will continue to install these permanent low water crossings on a priority basis. The control and thinning of noxious brush such as cedar on our rangeland is an ongoing process. This process needs to be accelerated to better manage the watershed.

5.3.2 Measurement

Flood risk is measured using engineering analyses presented on the Federal Emergency Management Agency Flood Insurance Rate Maps. The maps identify Special Flood Hazard Areas showing the “100- year” or Base Floodplain, which have a 1-percent chance of a flood in any one year. For purposes of this plan, a 25-year or greater flood would constitute a disaster. As Kinney County continues their work on floodplain management, zones for the 25-year, 50-year, and 75-year floodplains will be added to the mapping from the engineer.

5.3.3 Previous occurrences

Using data from the National Centers for Environmental Information for Kinney County, City of Brackettville, City of Spofford, and Fort Clark Springs Municipal Utility District (M.U.D.) have recorded 48 events of flooding or flashing flooding from 01/01/2001 and 12/30/2020 with an estimated property damage of \$206,000.00. Although these events sometimes cause heavy runoff from the mountainous terrain in the northern and northeastern part of the county, resulting in severe flooding, along local inland waterways, fortunately, no deaths or injuries were reported.



Summary Info:

Number of County/Zone areas affected:	2
Number of Days with Event:	38
Number of Days with Event and Death:	0
Number of Days with Event and Death or Injury:	0
Number of Days with Event and Property Damage:	6
Number of Days with Event and Crop Damage:	0
Number of Event Types reported:	2

DRAFT



Table 5.8

Location	County/Zone	St.	Date	Time	TZ	Type	Mag	Dth	Inj	PrD	CrD
Totals:								0	0	206.00K	0.00K
WEST PORTION	KINNEY CO.	TX	05/04/2001	17:30	CST	Flash Flood		0	0	10.00K	0.00K
COUNTYWIDE	KINNEY CO.	TX	11/15/2001	10:15	CST	Flash Flood		0	0	3.00K	0.00K
KINNEY (ZONE)	KINNEY (ZONE)	TX	11/15/2001	15:45	CST	Flood		0	0	0.00K	0.00K
COUNTYWIDE	KINNEY CO.	TX	10/08/2002	00:30	CST	Flash Flood		0	0	50.00K	0.00K
COUNTYWIDE	KINNEY CO.	TX	10/24/2002	03:30	CST	Flash Flood		0	0	40.00K	0.00K
COUNTYWIDE	KINNEY CO.	TX	10/11/2003	17:00	CST	Flash Flood		0	0	3.00K	0.00K
SOUTH PORTION	KINNEY CO.	TX	04/04/2004	11:00	CST	Flash Flood		0	0	0.00K	0.00K
NORTH PORTION	KINNEY CO.	TX	06/28/2004	05:00	CST	Flash Flood		0	0	0.00K	0.00K
BRACKETTVILLE	KINNEY CO.	TX	06/28/2004	14:30	CST	Flash Flood		0	0	0.00K	0.00K
COUNTYWIDE	KINNEY CO.	TX	06/28/2004	22:30	CST	Flash Flood		0	0	0.00K	0.00K
COUNTYWIDE	KINNEY CO.	TX	09/27/2004	17:00	CST	Flash Flood		0	0	0.00K	0.00K
COUNTYWIDE	KINNEY CO.	TX	10/05/2004	04:00	CST	Flash Flood		0	0	0.00K	0.00K
COUNTYWIDE	KINNEY CO.	TX	11/16/2004	17:00	CST	Flash Flood		0	0	0.00K	0.00K
COUNTYWIDE	KINNEY CO.	TX	08/05/2005	12:30	CST	Flash Flood		0	0	0.00K	0.00K
NORTHWEST PORTION	KINNEY CO.	TX	08/06/2005	06:30	CST	Flash Flood		0	0	0.00K	0.00K
SOUTHEAST PORTION	KINNEY CO.	TX	08/09/2005	20:30	CST	Flash Flood		0	0	0.00K	0.00K
SOUTHWEST PORTION	KINNEY CO.	TX	08/10/2005	13:00	CST	Flash Flood		0	0	0.00K	0.00K
BRACKETTVILLE	KINNEY CO.	TX	10/13/2005	11:30	CST	Flash Flood		0	0	0.00K	0.00K
SPOFFORD	KINNEY CO.	TX	10/13/2005	12:30	CST	Flash Flood		0	0	0.00K	0.00K
BRACKETTVILLE	KINNEY CO.	TX	03/26/2007	05:00	CST-6	Flash Flood		0	0	0.00K	0.00K
BRACKETTVILLE	KINNEY CO.	TX	05/07/2007	08:00	CST-6	Flash Flood		0	0	0.00K	0.00K
SPOFFORD	KINNEY CO.	TX	05/25/2007	03:30	CST-6	Flash Flood		0	0	0.00K	0.00K
BRACKETTVILLE	KINNEY CO.	TX	07/03/2007	16:00	CST-6	Flash Flood		0	0	0.00K	0.00K
BRACKETTVILLE	KINNEY CO.	TX	07/21/2007	09:30	CST-6	Flash Flood		0	0	0.00K	0.00K
SPOFFORD	KINNEY CO.	TX	07/21/2007	20:00	CST-6	Flash Flood		0	0	0.00K	0.00K
BRACKETTVILLE	KINNEY CO.	TX	07/24/2007	13:30	CST-6	Flash Flood		0	0	0.00K	0.00K
BRACKETTVILLE	KINNEY CO.	TX	07/28/2007	15:00	CST-6	Flash Flood		0	0	0.00K	0.00K
BRACKETTVILLE	KINNEY CO.	TX	07/29/2007	12:00	CST-6	Flash Flood		0	0	0.00K	0.00K
BRACKETTVILLE	KINNEY CO.	TX	07/30/2007	07:30	CST-6	Flash Flood		0	0	0.00K	0.00K
BRACKETTVILLE	KINNEY CO.	TX	09/04/2007	08:30	CST-6	Flash Flood		0	0	0.00K	0.00K
BRACKETTVILLE	KINNEY CO.	TX	05/10/2012	15:16	CST-6	Flash Flood		0	0	0.00K	0.00K
SPOFFORD	KINNEY CO.	TX	06/14/2013	11:10	CST-6	Flash Flood		0	0	0.00K	0.00K
BRACKETTVILLE	KINNEY CO.	TX	06/19/2014	23:45	CST-6	Flash Flood		0	0	0.00K	0.00K
BRACKETTVILLE	KINNEY CO.	TX	06/20/2014	03:00	CST-6	Flash Flood		0	0	100.00K	0.00K
BRACKETTVILLE ARPT	KINNEY CO.	TX	09/12/2014	20:38	CST-6	Flash Flood		0	0	0.00K	0.00K
BRACKETTVILLE	KINNEY CO.	TX	05/30/2015	16:17	CST-6	Flash Flood		0	0	0.00K	0.00K
STANDART	KINNEY CO.	TX	10/08/2015	20:05	CST-6	Flash Flood		0	0	0.00K	0.00K
BRACKETTVILLE	KINNEY CO.	TX	10/08/2015	22:45	CST-6	Flash Flood		0	0	0.00K	0.00K
BRACKETTVILLE	KINNEY CO.	TX	04/18/2016	05:45	CST-6	Flash Flood		0	0	0.00K	0.00K
BRACKETTVILLE	KINNEY CO.	TX	06/01/2016	23:30	CST-6	Flash Flood		0	0	0.00K	0.00K
BRACKETTVILLE	KINNEY CO.	TX	08/20/2016	05:10	CST-6	Flash Flood		0	0	0.00K	0.00K
BRACKETTVILLE	KINNEY CO.	TX	08/20/2016	06:22	CST-6	Flash Flood		0	0	0.00K	0.00K
SPOFFORD	KINNEY CO.	TX	08/20/2016	06:22	CST-6	Flash Flood		0	0	0.00K	0.00K
BRACKETTVILLE	KINNEY CO.	TX	09/25/2016	13:15	CST-6	Flash Flood		0	0	0.00K	0.00K
STANDART	KINNEY CO.	TX	09/25/2016	14:41	CST-6	Flash Flood		0	0	0.00K	0.00K
STANDART	KINNEY CO.	TX	04/02/2017	08:30	CST-6	Flash Flood		0	0	0.00K	0.00K
BRACKETTVILLE	KINNEY CO.	TX	04/02/2017	08:30	CST-6	Flash Flood		0	0	0.00K	0.00K
STANDART	KINNEY CO.	TX	06/04/2019	08:11	CST-6	Flash Flood		0	0	0.00K	0.00K
Totals:								0	0	206.00K	0.00K

Source: [National Centers for Environmental Information - Kinney County from 2001 thru 2020](#)



5.3.4 Geographic areas affected

With any natural disaster it is impossible to predict with 100% certainty the effects it will have on a community as the location and severity will differ with each occurrence. The Kinney County Hazard Mitigation Planning Team decided to use previously compiled information to assess flood risk; flood hazard areas were delineated using FEMA's HAZUS-MH software and a 30-meter Digital Elevation Model (DEM) as downloaded from the U.S. Geological Survey website, with a 10- square mile drainage area. No County-wide digital Flood Insurance Rate Map is currently available for Kinney County. **Table 5.9** shows the estimated number of buildings and people that are at risk of flooding by jurisdiction.

Table 5.9. Potential Affected Exposure from Flooding

Jurisdiction	Potential Residential Building Exposure at Risk		Potential Commercial Building Exposure at Risk		Number of People at Risk
	Number	Value	Number	Value	
Kinney County	742	\$47,852,000	6	\$3,219,000	695
Brackettville	223	\$9,152,000	16	\$3,948,000	310



In **Figures 5-1 through 5-3** depict the flood areas where there is potential for damage to property and loss of life in Kinney County, Brackettville, Spofford, Fort Clark Springs, and Brackett ISD, respectively. Spofford does not participate in the National Flood Insurance Program due to their lack of risk from flood hazards. Brackett ISD does not have residents and does not participate.



Figure 5-1. Flood Hazard Areas in Kinney County

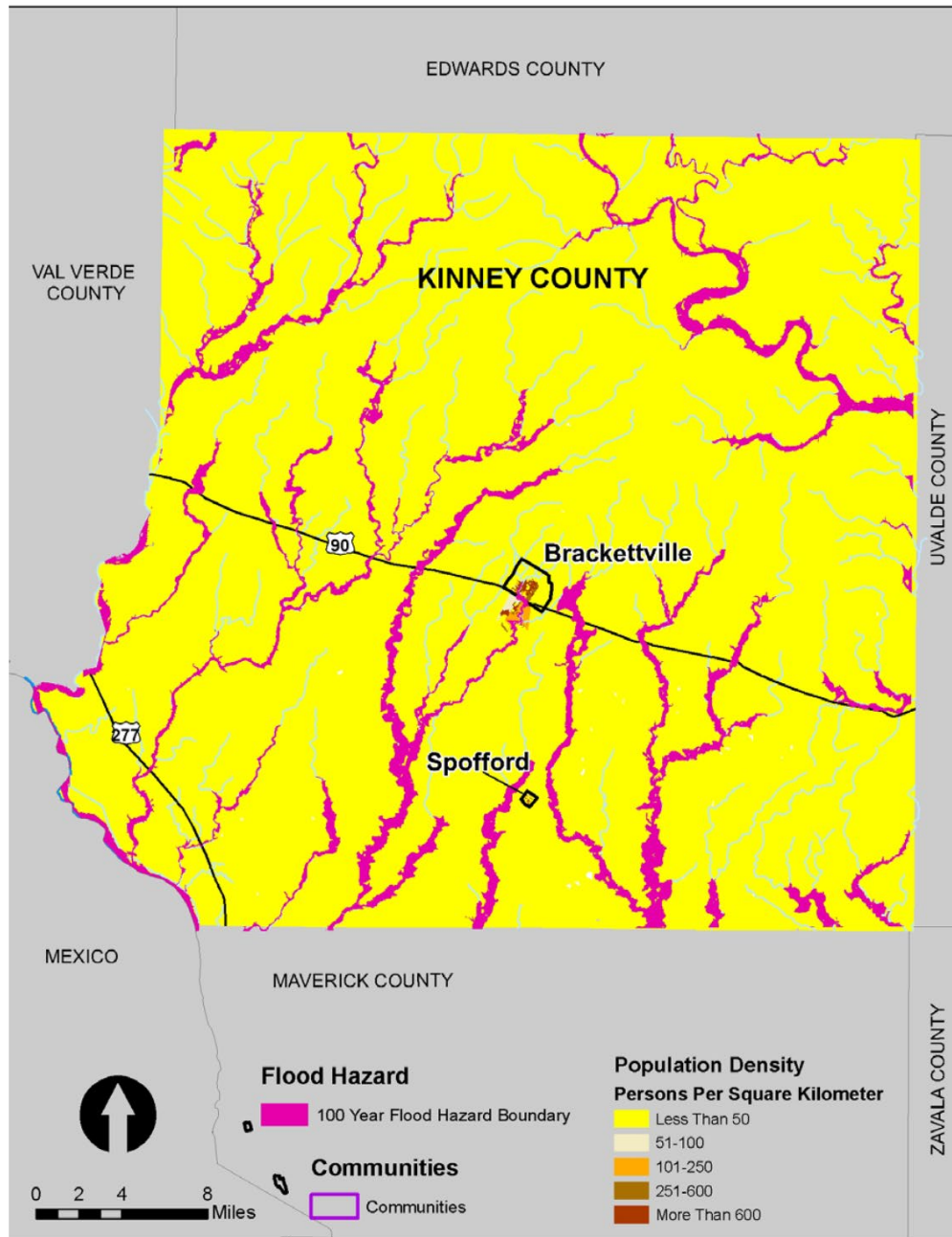


Figure 5-2. Flood Hazard Areas in Bracketville

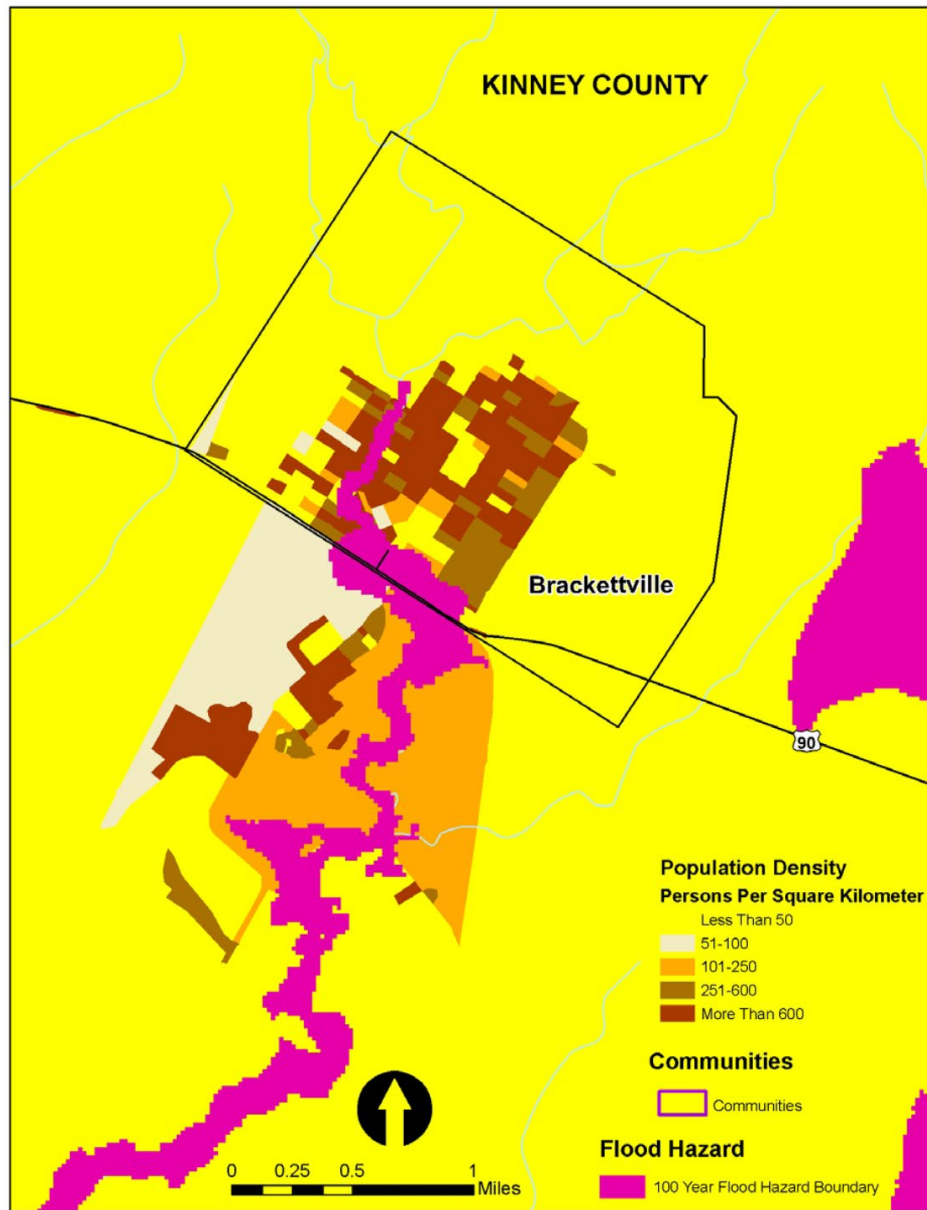
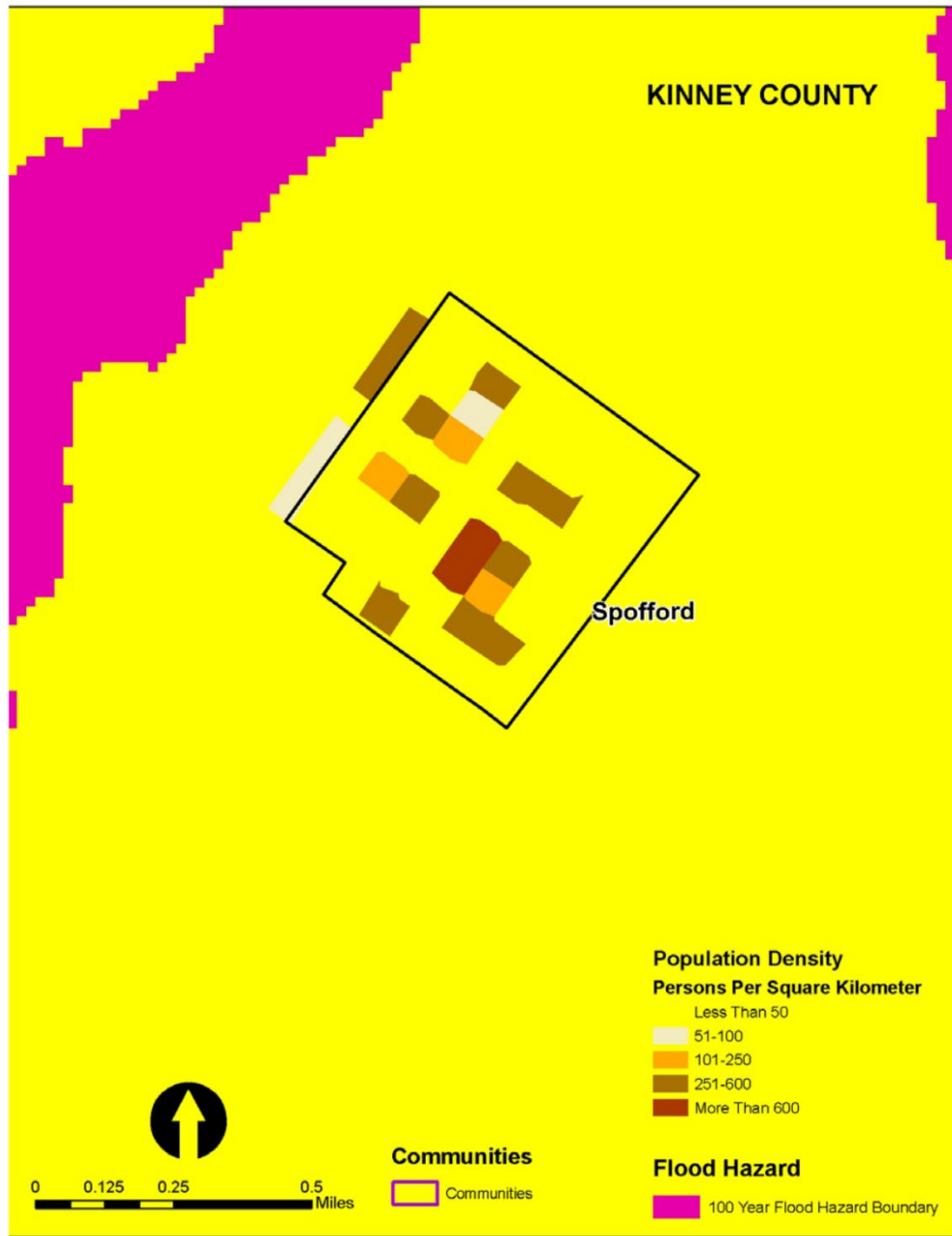


Figure 5-3. Flood Hazard Areas in Spofford



The Kinney County Commissioners’ Court entered into a contract with Dirksen Engineering on October 12, 2021, to complete surveying and engineering services for the outline of Las Moras Creek through the City of Brackettville and Fort Clark Springs as well as to delineate the ownership and rights of way along Las Moras Creek. Subsequently, Hydrolink, LLC was hired to complete the civil engineering work in the contract.



The scope of the surveying work is to include:

- Survey outfalls of flood control dams north of Brackettville
- Map of Las Moras Creek through the City of Brackettville with boundary and ownership of lots within 100 feet of the creek centerline.
- Cross sections of roads and alleys crossing Las Moras Creek that will be used in determining floodplains.
- Map of drainage easement through Fort Clark Springs and including subdivisions in Fort Clark Springs.
- Cross sections of bridge and road crossings of Las Moras Creek that will be used in determining floodplains.

The scope of the Civil Engineering for floodplains will include:

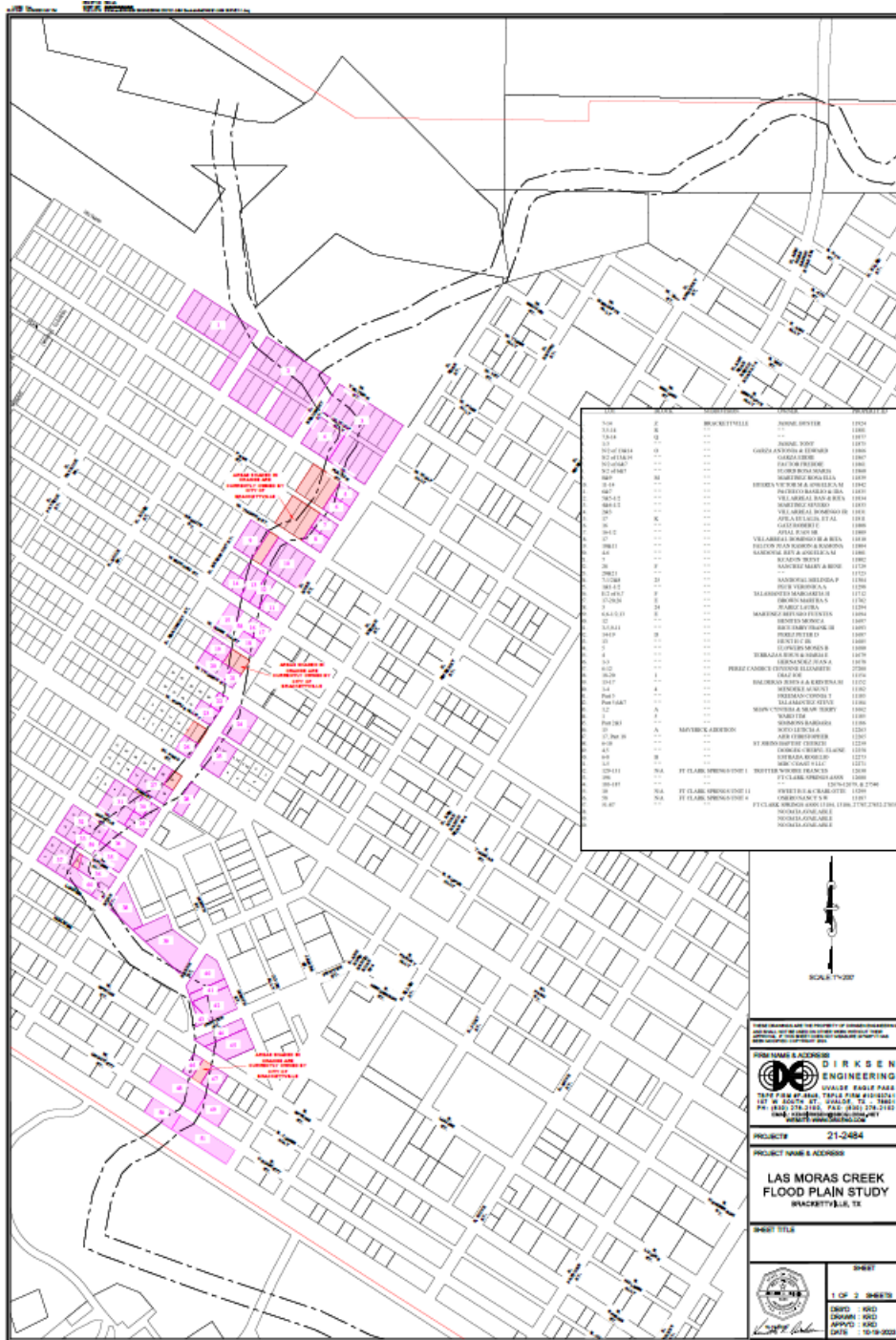
- Hydrologic calculations of floods through the City of Brackettville and Fort Clark Springs.
- Hydraulic modeling of ground conditions of Las Moras Creek through the City of Brackettville and Fort Clark Springs.
- Calculate 10-, 50-, 100- and 500-year floodplains for existing conditions through the City of Brackettville and Fort Clark Springs.

At this time, much of the work has been completed and presented to the Kinney County Commissioners for their review. Workshops are being held that include representatives from the City of Brackettville and Fort Clark Springs to review the reports completed, entity support for projects, and finalize a prioritization list for project planning. Maps created from the surveying work and civil engineering are contained below in Figures 5.4 – 5.7.

Property Owners Along Las Moras Creek in City of Brackettville with potential for flooding

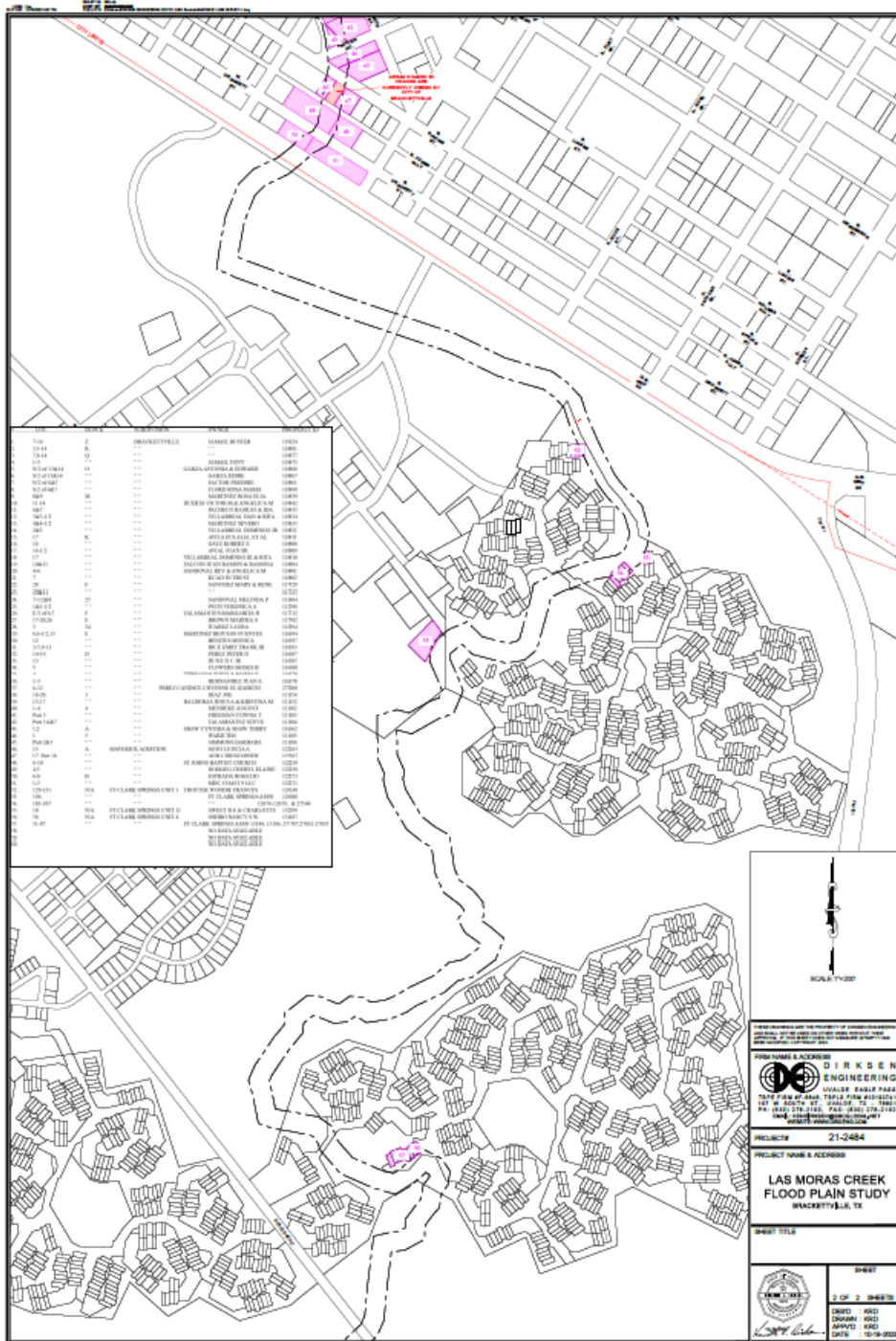
Figure 5.4





Property Owners Along Las Moras Creek in Fort Clark Springs with potential for flooding
Figure 5.5





Mapping of Brackettville & Fort Clark Springs by Hydrologist Figure 5.6



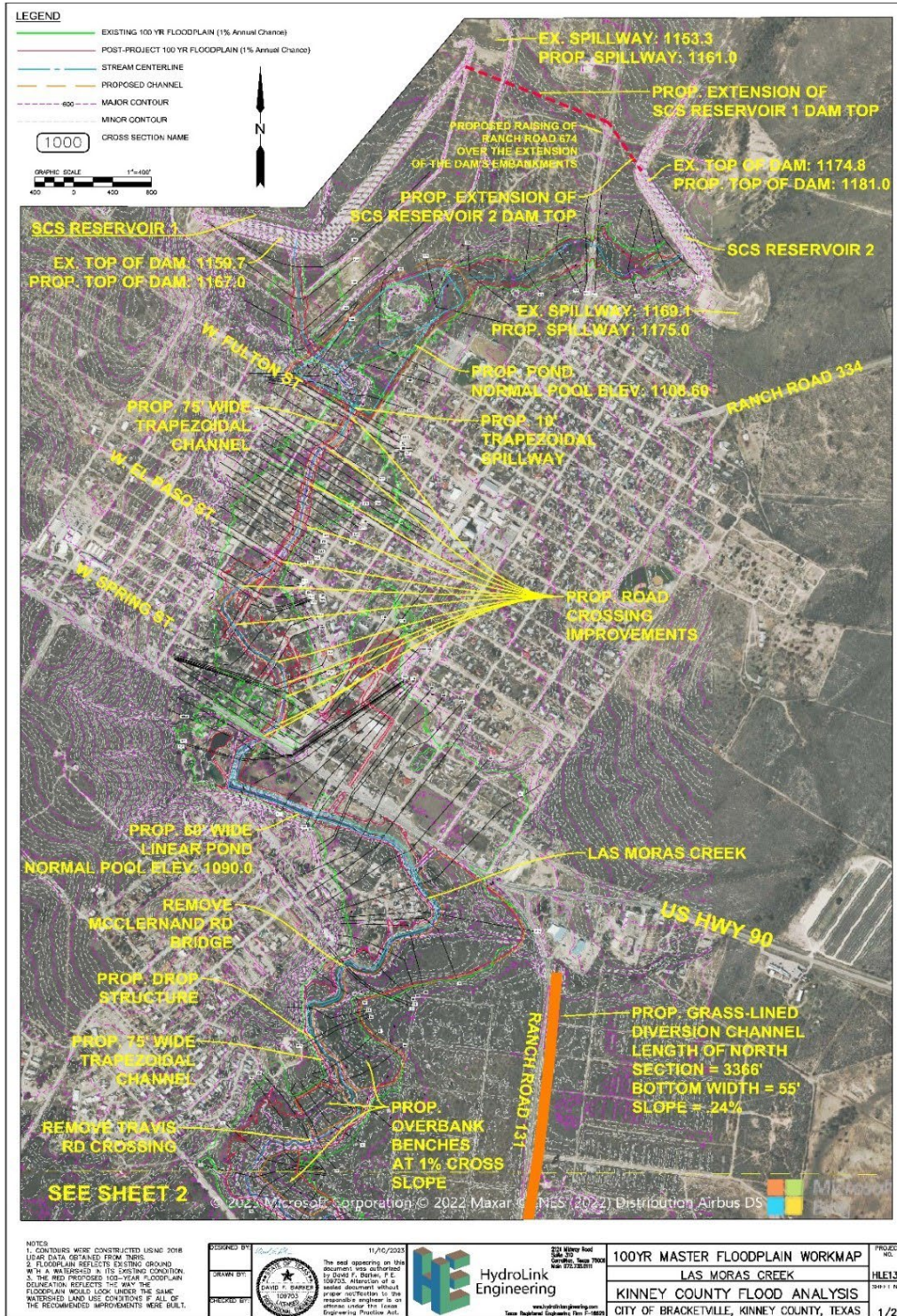
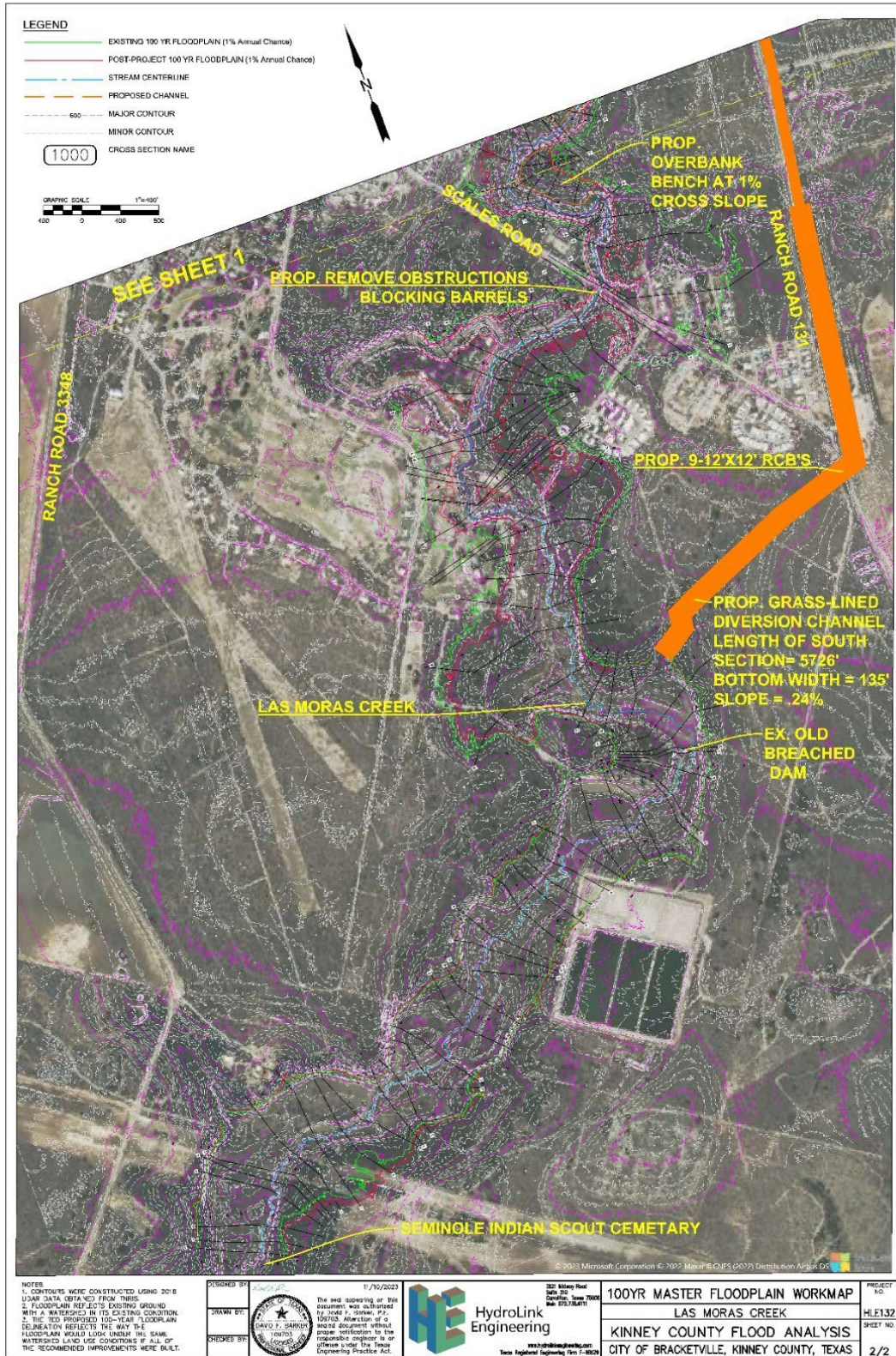


Figure 5.7



5.3.5. Probability of future disasters

Based on the lack of previous occurrences, the consensus of the planning team on probability was no history or data to support information for the PROBABILITY OF FUTURE EVENTS. The planning team, realizing that floods are random and variable events, have used the Hydrologist's characterization of the 100-year floodplain as their data set to follow. For example, a "100-year flood" is a flood has a one-percent chance of being equaled or exceeded in any given year. A "10-year flood" is a flood that has a 10-percent chance of being equaled in any given year.

5.3.6 Vulnerability

The vulnerability of the jurisdiction within Kinney County to flooding hazards is influenced by a combination of physical, social, economic, and environmental factors. Contributing factors can include infrastructure vulnerability, building construction and design, population density, socio-economic factors, community awareness, and institutional capacity. Assessing and understanding these vulnerabilities is crucial for effective flood risk management and the development of resilient communities. Areas within communities with extensive impervious surfaces (concrete, asphalt) may experience increased runoff, leading to flash flooding. Poor land-use planning and inadequate stormwater management contribute to vulnerability. The vulnerability of critical infrastructure, including transportation networks, utilities, and buildings, can significantly impact a community's ability to cope with and recover from flooding events. The construction and design of buildings play a crucial role in vulnerability. Structures that are not elevated, lack proper foundations, or are constructed in flood-prone areas are more susceptible to damage. Communities with lower socioeconomic status may have fewer resources to prepare for, respond to, and recover from flooding. Lack of insurance coverage, limited access to healthcare, and financial constraints can exacerbate vulnerability.

The level of awareness and preparedness within a community can influence its ability to respond effectively to flood hazards. Education, early warning systems, and evacuation plans contribute to resilience. The effectiveness of local government agencies, emergency services, and community organizations in responding to and managing flood events contributes to community resilience. Assessing and addressing these factors through comprehensive risk assessments, land-use planning, infrastructure improvements, and community engagement can enhance a community's resilience to flooding hazards. Sustainable and adaptive strategies are essential for minimizing vulnerability and fostering long-term resilience.

Table 5.15 lists the number and percentages of critical facilities and infrastructure deemed potentially at risk to flooding. Critical facilities and infrastructure include airports, emergency operations centers, fire stations, hospitals, police stations and schools.

Table 5.15



Jurisdiction	Name	Type	Replacement Value
Kinney County	Kinney County Sheriff Department	Sheriff's Station	\$1,987,200
Brackettville	Brackettville City Hall	Chief Administrative Building	\$597,350
Brackettville	Brackettville City Annex	Conference Bldg	\$1,600,800
Brackett ISD	Brackett High School	School	\$5,242,900
Brackett ISD	Jones Elementary	School	\$5,850,000
Brackett ISD	Brackett Junior High	School	\$3,250,000
Brackett ISD	Brackett ISD - DAEP	School	\$960,000
Brackett ISD	Main Gymnasium	School - Critical Facility	\$3,900,000
Kinney County	Kinney County Detention Center	Prison	\$40,000,000
Kinney County	Kinney County Fire Department	Fire Station	\$2,880,000
Kinney County	Kinney County Community Building	Community Center	\$6,006,000
Fort Clark MUD	Fort Clark Municipal Utility District	Municipal Utility District	\$601,250
Spofford	City of Spofford City Hall	Chief Administrative Building	\$156,000
Fort Clark Springs	Fort Clark Springs Administrative Building & NCO Club	Chief Administrative Building & Critical Facility - NCO Club	\$3,698,175
Kinney County	Kinney County EMS Building	EMS HQ	\$435,000
Kinney County	Kinney County Nutrition Center	Nutrition HQ	\$959,320
Total			\$78,123,995

Table 5.15 Critical Facilities and Infrastructure Potentially Damaged by Flood



5.3.7 Potential impact

To estimate potential dollar losses to flood in Kinney County, the FEMA National Risk Index. **Table 5.16** shows the Expected Annual Loss Values to flood hazards for Kinney County.

Expected Annual Loss Values for Kinney County

Table 5.16

Hazard Type	Total	Building Value	Population Equivalence	Population	Ag Value
Flooding	\$39,075	\$12,016	\$12,635	0.00	\$14,425

Exposure Values for Infrastructure for Kinney County

Table 5.17

Hazard Type	Total	Building Value	Population Equivalence	Population	Ag Value
Flooding	\$201,754,907	\$9,066,356	\$191,955,389	16.55	\$733,162

5.3.8 Previous mitigation actions

Kinney County officials have taken several steps to mitigate the flood risk. Through their efforts, flood risks have been reduced. However, additional steps are needed to further and continue protecting the public. The City of Spofford and Brackett ISD are not at risk of flooding and will not require any flood-related mitigation actions.

Flood insurance studies and floodplain maps. At this time, there is a critical lack of data on the County's flood risk in a current and usable, digital form. The most current FEMA issued flood map for Kinney County was issued on October 1987 and for the City of Brackettville, data for Zones A, C and X was issued in 1950 but no Flood Insurance Rate Map was published. Flood maps are needed for residents and businesses to identify known flood risks and make informed decisions about flood insurance and flood protection. As mentioned previously the study of the City of Brackettville and Fort Clark Springs is underway.

Construction of Dams. A series of dams were constructed to provide flood protection for the County. The effect of the dams is reflected in the plan's risk analysis. The name and location of each dam are identified in Chapter 5, Section 5.9. A risk assessment of the potential for dam failure is also provided.

Participation in the National Flood insurance Program.

The Federal Emergency Management Agency historical flood risk and cost data contains data for Kinney County from 1996-2019. The data shows approximately 54 floods occurred in Kinney



County between 1996-2019, which has resulted in an average of \$54.2K in NFIP payments and \$7.3K in average IHP Payments (as shown below on Figure 5.8).

Figure 5.8 Historical Flood Impact

Historical Flood Impact

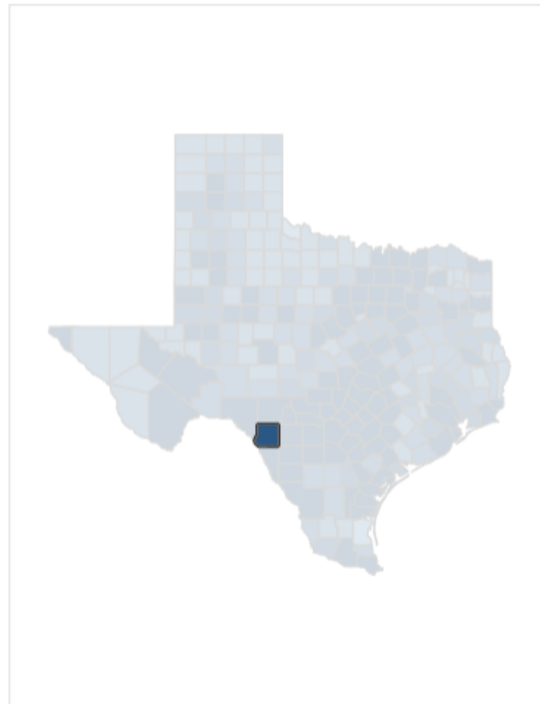
See how floods have impacted your state according to data from NOAA's Storm Events Database.

Choose a State

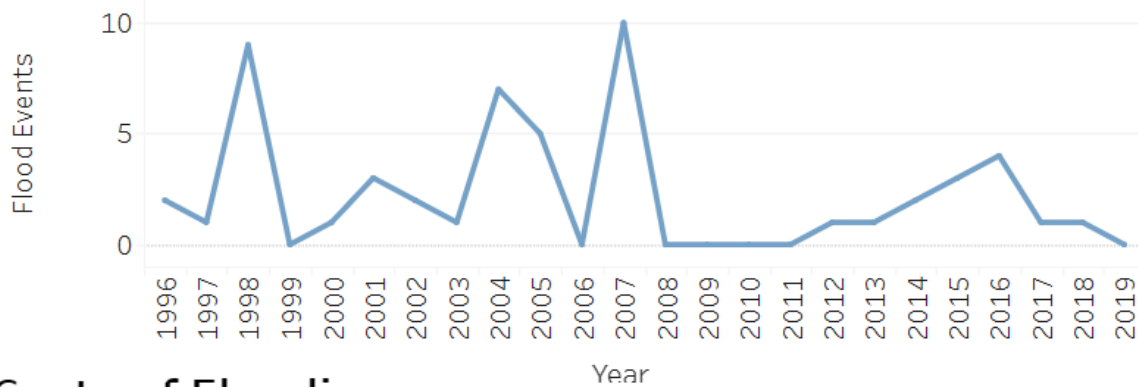
TEXAS ▼

Flood Events

- 1-10
- 11-20
- 21-30
- 31-40
- 41-50
- 50+



What is shown in this map/graph?



Source: FEMA Historical Flood Risks and Costs



County and City officials encourage residents to purchase flood insurance policies. However, the rate of flood insurance coverage is low. Kinney County will continue to advance the priorities of flood loss prevention through first; the continued awareness and education of its citizens on the dangers associated with flooding, completing a planned flood zone study, and an implementation of corrective actions recommended for issues that may be discovered by that study. Public awareness and education will be an ongoing item.

Increasing flood insurance coverage to provide greater financial protection to residents and businesses is a priority. Greater community awareness of the advantages of flood insurance is needed. People without the needed financial resources may not be able to make full repairs to their home and may move back into an unsafe or unsanitary structure, if at all. Neighborhoods deteriorate over time if homes are not brought up to standard, resulting in social problems and reductions in the tax base.

Businesses with the proper coverage can repair, reopen, and put their employees back to work faster, generating much-needed revenue and providing a sense of normalcy in the heart of the community which can be difficult to restore after a devastating flood. The Institute of Business and Home Safety (IBHS) reports that one of out every four businesses do not reopen after a disaster, as they are not properly financially prepared.

Most flood events never result in a Presidential disaster declaration. Without a Presidential disaster declaration, residents do not receive any disaster assistance to repair the damage caused by the flooding or provide temporary housing. Even if there is a declaration, most federal assistance is limited to loans, imposing further financial hardship on people who are struggling

The National Flood Insurance Program (NFIP) provides flood insurance to homeowners, renters, and business owners. FEMA’s Individuals and Households Program (IHP) can provide financial help and direct services after a disaster. The program assists with housing needs not covered by insurance or provided by any other source. See differences in NFIP claims paid to individuals from 1996 - 2019 and funding from IHP for flood-related damages from 2006 - 2016 for your state.

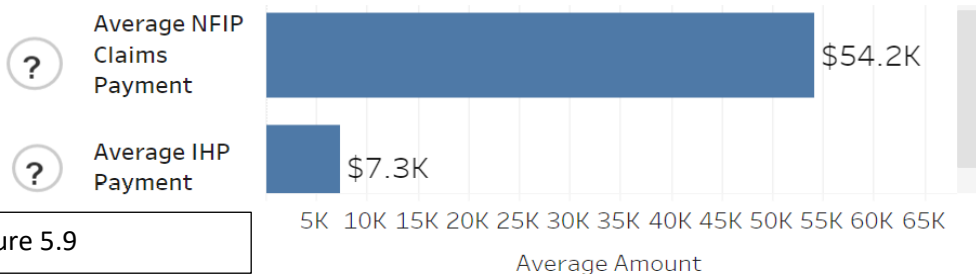


Figure 5.9

to recover. Residents and business owners with adequate flood insurance rebuild and recover faster and return to normal faster than people without. This means faster and more complete community recovery. Flood insurance is also available for community-owned buildings. Preparing for flooding and pursuing flood mitigation strategies are important, however it is equally critical to prepare for the financial burdens which will be placed on the community and



its residents and businesses when the next flood occurs. Flood insurance is the only guaranteed vehicle to assure a smooth and complete recovery for everyone affected.

Repetitive Loss Properties. According to FEMA records, since December 31, 2009, to current, neither Kinney County nor Brackettville have had any “repetitive loss” properties or “severe repetitive loss” properties under the National Flood Insurance Program. This may reflect the low rate of flood insurance coverage rather than the risk of damage. Repetitive loss properties are those that incurred two or more losses under the National Flood Insurance Program in any rolling 10-year period; severe repetitive loss properties are those that have incurred three or more losses. Data provided by the State Division of Emergency Management did not distinguish between residential and commercial properties.

5.4 WINTER WEATHER / ICE STORM / COLD WAVE

5.4.1 Description of the hazard

An ice storm, winter weather, and cold wave are weather phenomena associated with extremely cold temperatures, often occurring during the winter season. Each term describes different aspects of severe winter conditions:

- An ice storm occurs when freezing rain falls and coats surfaces, including roads, trees, and power lines, with a layer of ice. Freezing rain is rain that falls while surface temperatures are below freezing, causing the liquid rain to freeze upon contact with cold surfaces.
- "Winter weather" is a broad term that encompasses various weather conditions associated with the colder months. This can include snowfall, sleet, freezing rain, and cold temperatures.
- A cold wave is characterized by an extended period of unusually cold temperatures, often well below the seasonal average. Cold waves can be accompanied by harsh wind chill conditions, making it feel even colder than the actual air temperature.

5.4.2 Measurement

Meteorologists use various metrics and indices to measure and describe the severity of winter storms. These metrics help convey the potential impacts of a winter storm on a particular region. Here are some key factors and measurements used to assess the severity of severe winter storms:

- **Snowfall Measurement:** The amount of snowfall is one of the most direct measures of a winter storm's severity. Meteorologists often report snowfall amounts in inches or



centimeters. The National Weather Service, for example, issues snowfall reports based on measurements taken at specific locations. Snow Fall rates are measured at the rate at which snow falls per hour is. Rates are typically measured in inches or centimeters per hour.

- Ice Storm Measurement: the thickness of ice accumulation. Meteorologists may report ice thickness in inches or millimeters, and it is often expressed as "ice accretion
- Strong winds during a winter storm can exacerbate the impact of snow and ice. Wind speeds are measured in miles per hour (mph) or kilometers per hour (km/h)
- The wind chill factor takes into account the combined effect of air temperature and wind speed on the perception of cold. The National Weather Service calculates and reports wind chill values, indicating how cold it feels to exposed skin. Lower wind chill values indicate more severe conditions.
- Winter Weather Severity Index (WWSI) Measurement: The Winter Storm Severity Index is a tool used by meteorologists to quantify the severity of winter weather conditions. It considers factors such as snow and ice accumulation, wind speeds, and temperatures to provide a comprehensive assessment of the potential impacts of a winter storm.
- Duration of the Storm Measurement: Duration of a winter storm is also a crucial factor in determining its severity. A prolonged period of snowfall or freezing rain can lead to greater accumulations and increased impacts on infrastructure and daily life.



5.4.3 Previous occurrences

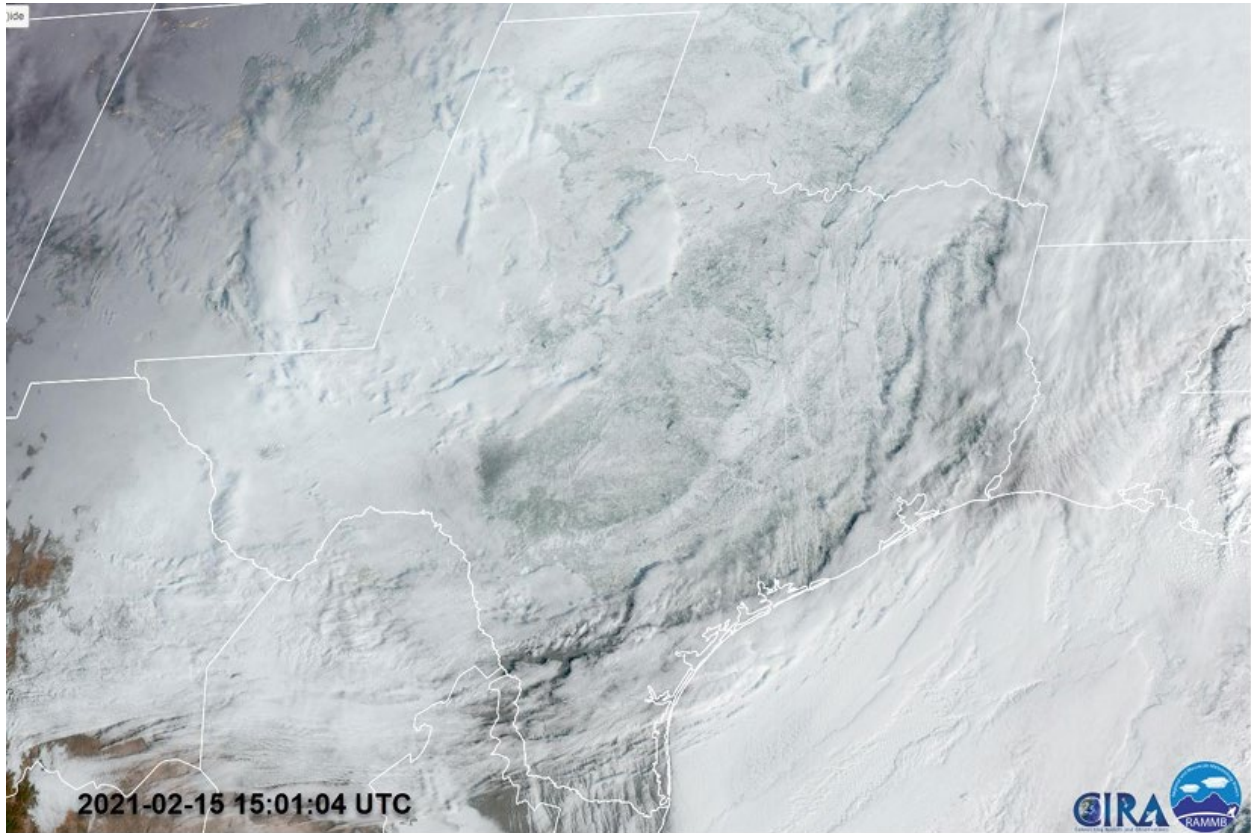


Figure 5.10

Kinney County has experienced several years of Severe Winter Weather.





Figure 5.11

Table 5.18 Severe Winter Weather Events in Kinney County:

Date	Max/Min Temp	Snow/Ice	# of Days
December 2022	40/20	Accumulation of Ice	6
February 2021	38/18	11.2 feet of snow	5
January 2018	41/34	Accumulation of Ice	4
December 2017	42/30	Trace of Snow	2
January 2014	42/32	Accumulation of Ice	5

Source: National Weather Service





5.4.4. Geographic areas affected

The City of Brackettville, The City of Spofford, and Fort Clark Springs, all in Kinney County have been affected by Severe Winter Storms.

5.4.5 Probability of future disasters

There are indications that an El Niño will be brewing in the latter half of 2023, lasting into the winter of 2024. Cold temperatures should prevail throughout Texas during January and February 2024 with a potential for ice and sleet.

With climate change and a trend of winter storms in Kinney County, the probability of future disasters from a winter storm or ice storm are rated at a 29.9%.

5.4.6 Vulnerability

The following factors are important to take into consideration when assessing the vulnerability of residents of Kinney County to a winter storm:

- Geographic location – residents in Kinney County are unaccustomed to severe winter weather which makes them vulnerable as they may lack the infrastructure and experience needed to cope with such conditions.
- Housing Conditions - Inadequate insulation and heating in homes expose residents to cold temperatures, increasing the risk of hypothermia and other cold-related illnesses. Poorly constructed or older homes may be more susceptible to damage from heavy snowfall, ice, or freezing rain.
- Socioeconomic Factor - Lower-income individuals or families face challenges in preparing for and recovering from winter storms, such as affording heating costs, purchasing winter clothing, or securing emergency supplies.
- Housing Affordability - Vulnerable populations may live in housing with less insulation, making it harder to maintain warmth during winter.



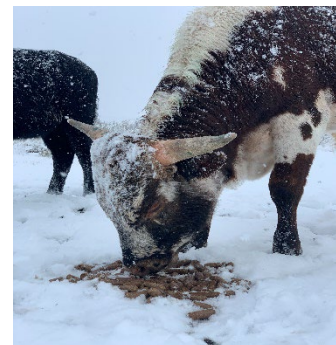
- Health Status - Individuals with pre-existing health conditions, especially those that are exacerbated by cold weather, are more vulnerable to the health impacts of winter storms.
- Access to Health Care - Limited access to healthcare services during severe weather events can worsen health outcomes
- Age - Older adults and young children are generally more vulnerable to extreme temperatures and may require additional assistance and care during winter storms
- Disabilities - Individuals with physical disabilities may face challenges in navigating icy or snow-covered terrain and accessing necessary resources.
- Transportation - Limited access to transportation can hinder mobility during winter storms, particularly for those without personal vehicles.
- Knowledge of Risks - Lack of awareness or understanding of the risks associated with winter storms can result in inadequate preparation.
- Agriculture – crops and animals are also vulnerable to the winter weather

Table 5.19. Potential Agricultural Exposure to Winter Weather in Kinney County

Jurisdiction	Number of Farms	Land in Farms (Acres)	Market Value of Crops Sold	Market Value of Livestock, Poultry, etc. Sold	Total Market value of Agricultural Products Sold
Kinney County	236	587,026	\$4,526,000	\$5,044,000	\$9,570,000

Source: https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/County_Profiles/index.php

Table 5.20 Factor	Kinney County
Population under 5 years of age	4.7%
Population over 65 years of age	25%
Persons with disabilities	29.5%
Persons with no health insurance	14.7%
Persons living in poverty	19%
Infrastructure Median Year Built	1978



5.4.7 Potential impact

Figure 5.12

EXHIBIT 3: PERCENTAGE OF TEXANS WITHOUT ELECTRICITY OR RUNNING WATER, FEB. 14-20

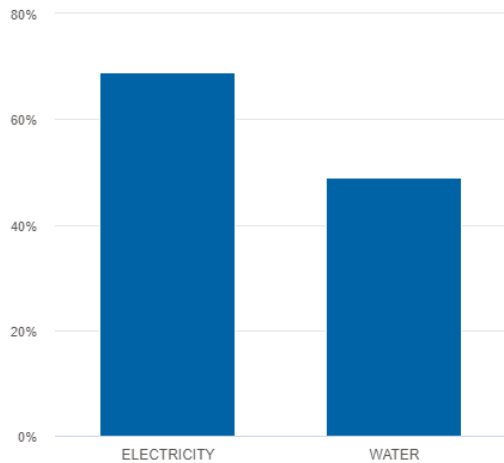
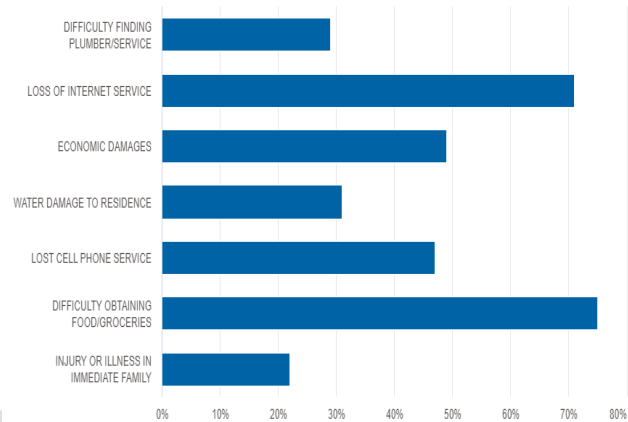


Figure 5.13

EXHIBIT 4: PERCENTAGE OF TEXANS EXPERIENCING OTHER NEGATIVE EFFECTS OF WINTER STORM URI



The above charts show percentages of people without electricity or running water and the negative effects from the 2021 Winter Storm based on a survey conducted by the University of Houston. These statements are true to Kinney County residents.

Annualized information on the loss of livestock, water lines, freezer items, stray animals, etc. is not available.

Although Winter Storm Uri's devastation continues to be tallied, early estimates of the storm's economic toll, as mentioned, range from \$80 billion to \$130 billion – the result of power loss, physical infrastructure damage and forgone economic opportunities. Due to the complexity of the Texas grid system and variety of consumer options, the exact impact on Texas energy customers is still difficult to discern. What we do know is that all major sources of energy in the state experienced failures, along with the power grid managed by ERCOT. Dr. Joshua Rhodes, University of Houston

5.5 WILDLAND FIRE

5.5.1 Description of the hazard

A wildland fire is any fire occurring on grassland, forest, or prairie, regardless of ignition source, damages, or benefits. According to the National Fire Plan, 2000, the wildland fire risk is now considered by authorities as “the most significant fire service problem of the Century.” Wildland fires can occur at any time of the year. Climatic conditions such as severe freezes and drought can significantly increase the intensity of wildland fires since these conditions kill vegetation,



creating a prime fuel source for these types of fires. The intensity of fires and the rate at which they spread are directly related to wind speed, temperature, and relative humidity.

5.5.2 Measurement

To map potential wildland fire hazard areas in Kinney County, a GIS-based data layer called the “Wildland Fire Susceptibility Index” (WFSI) was obtained from the Texas Forest Service (TFS). The WFSI is derived from the Southern Wildfire Risk Assessment (SWRA), a multi-year project to assess and quantify wildfire risk for the 13 Southern states. The Wildland Fire Susceptibility Index (WFSI) calculates the probability of an acre burning. It integrates the probability of an acre igniting and the expected final fire size based on the rate of spread into a single measure of wildland fire susceptibility. The index allows for comparison of areas of the county and region on the likelihood of an acre burning. The U.S. Forest Service Wildland Fire Assessment System rates the fire potential or danger as shown in **Table 5.21**.

Rating	Basic description	Detailed description
CLASS 1: Low Danger (L) COLOR CODE: Green	fires not easily started	Fuels do not ignite readily from small firebrands. Fires in open or cured grassland may burn freely a few hours after rain, but wood fires spread slowly by creeping or smoldering and burn in irregular fingers. There is little danger of spotting.
CLASS 2: Moderate Danger (M) COLOR CODE: Blue	fires start easily and spread at a moderate rate	Fires can start from most accidental causes. Fires in open cured grassland will burn briskly and spread rapidly on windy days. Woods fires spread slowly to moderately fast. The average fire is of moderate intensity, although heavy concentrations of fuel – especially draped fuel -- may burn hot. Short-distance spotting may occur, but is not persistent. Fires are not likely to become serious and control is relatively easy.
CLASS 3: High Danger (H) COLOR CODE: Yellow	fires start easily and spread at a rapid rate	All fine dead fuels ignite readily and fires start easily from most causes. Unattended brush and campfires are likely to escape. Fires spread rapidly and short-distance spotting is common. High intensity burning may develop on slopes or in concentrations of fine fuel. Fires may become serious and their control difficult, unless they are hit hard and fast while small.



Rating	Basic description	Detailed description
CLASS 4: Very High Danger (VH) COLOR CODE: Orange	fires start very easily and spread at a vary fast rate	Fires start easily from all causes and immediately after ignition, spread rapidly and increase quickly in intensity. Spot fires are a constant danger. Fires burning in light fuels may quickly develop high-intensity characteristics - such as long-distance spotting - and fire whirlwinds, when they burn into heavier fuels. Direct attack at the head of such fires is rarely possible after they have been burning more than a few minutes.
CLASS 5: Extreme (E) COLOR CODE: Red	fire situation is explosive and can result in extensive property damage	Fires under extreme conditions start quickly, spread furiously and burn intensely. All fires are potentially serious. Development into high-intensity burning will usually be faster and occur from smaller fires than in the Very High Danger class (4). Direct attack is rarely possible and may be dangerous, except immediately after ignition. Fires that develop headway in heavy slash or in conifer stands may be unmanageable while the extreme burning condition lasts. Under these conditions, the only effective and safe control action is on the flanks, until the weather changes or the fuel supply lessens.

source: <http://www.wfas.net/content/view/34/51/>

For purposes of the Plan, a Class 2 or above fire would constitute a disaster for the County.

5.5.3 Previous occurrences

Wildland fires threaten Kinney County. Below is a chart showing the number of wildfires over 100 acres in Kinney County over the past ten years. Causes include equipment use, migrants starting fires, burning during burn ban, and vehicles that have caught on fire on the side of the road. Other causes of the recorded wildfires include lightning and debris burning. None of these wildfires resulted in injuries or deaths but one home was lost.

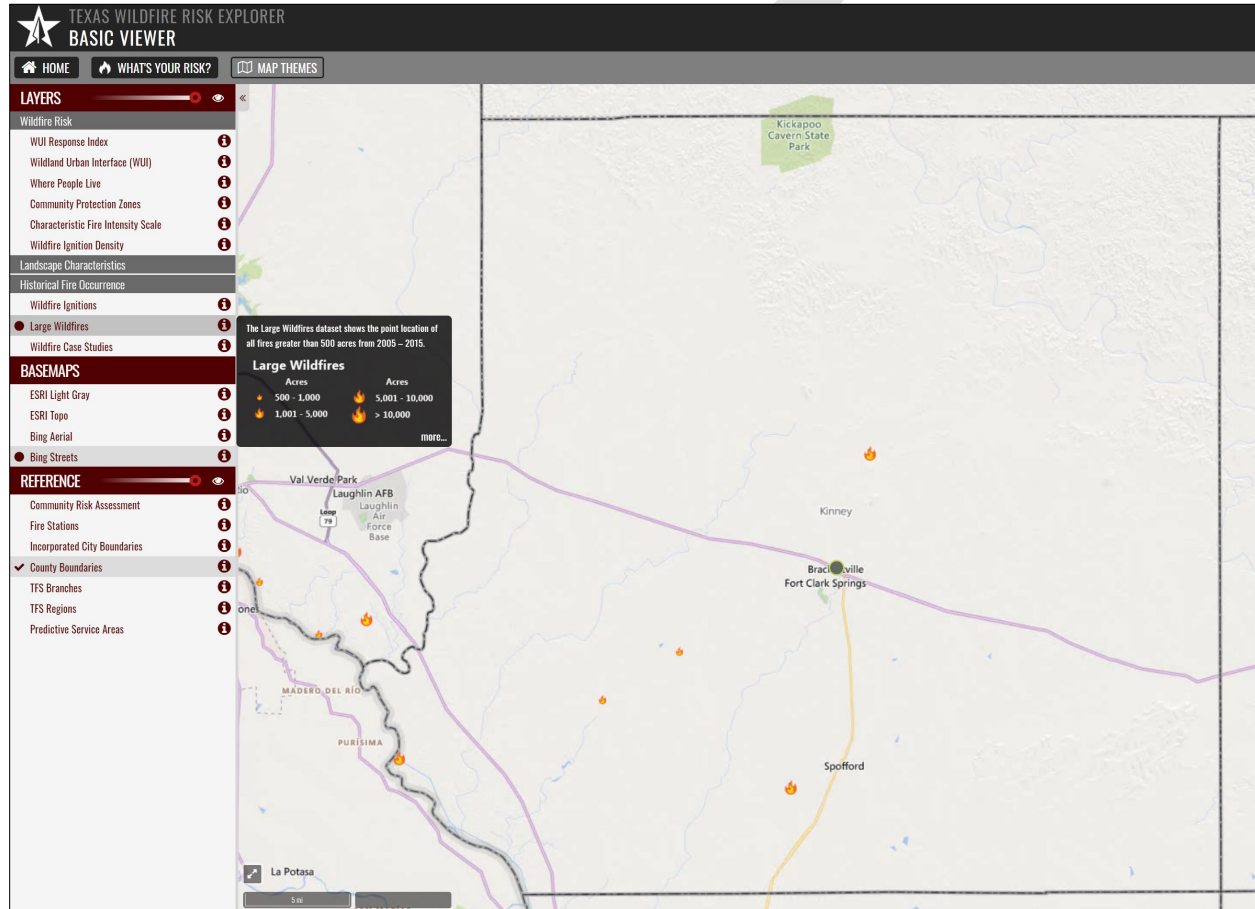
Location	Year	# of Acres Burned	Cause
Dutch Mountain	2013	2,000	Burning Brush Piles
PamandDan Ranch	2013	2,000	Burning Brush Piles
Spanish Gourd	2014	1,500	Lightning
Toft Ranch	2019	1,200	Lightning
Mariposa Ranch	2022	1,350	Burn Pit got away
Frerich Ranch	2021	600	Broken electrical line
Stadler Ranch	2020	3,000	Migrant camp fire
Earwood Ranch	2022	950	Tractor caught on fire
Myan Ranch	2021	2,200	Burning brush pile
Rancho Rio Grande	2022	550	Lightning
Borschig Ranch	2021	2,00	Burning brush pile
Tularosa - Griffin Ranch	2014	550	Lightning
Lloyd Davis Ranch	2013	550	Lightning
Anacacho Ranch	2013	1,500	Railroad
4100 Farm	2019	2,000	Burning brush pile



Burr Ranch	2021	3,200	Controlled burn out of control
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The following maps from the Texas A&M Forest Service illustrate the locations of the large wildfires within Kinney County, with the point of location of all fires greater than 500 acres and the second map showing the point location of all fires with equipment and debris burning as the main cause of the wildfire ignitions.

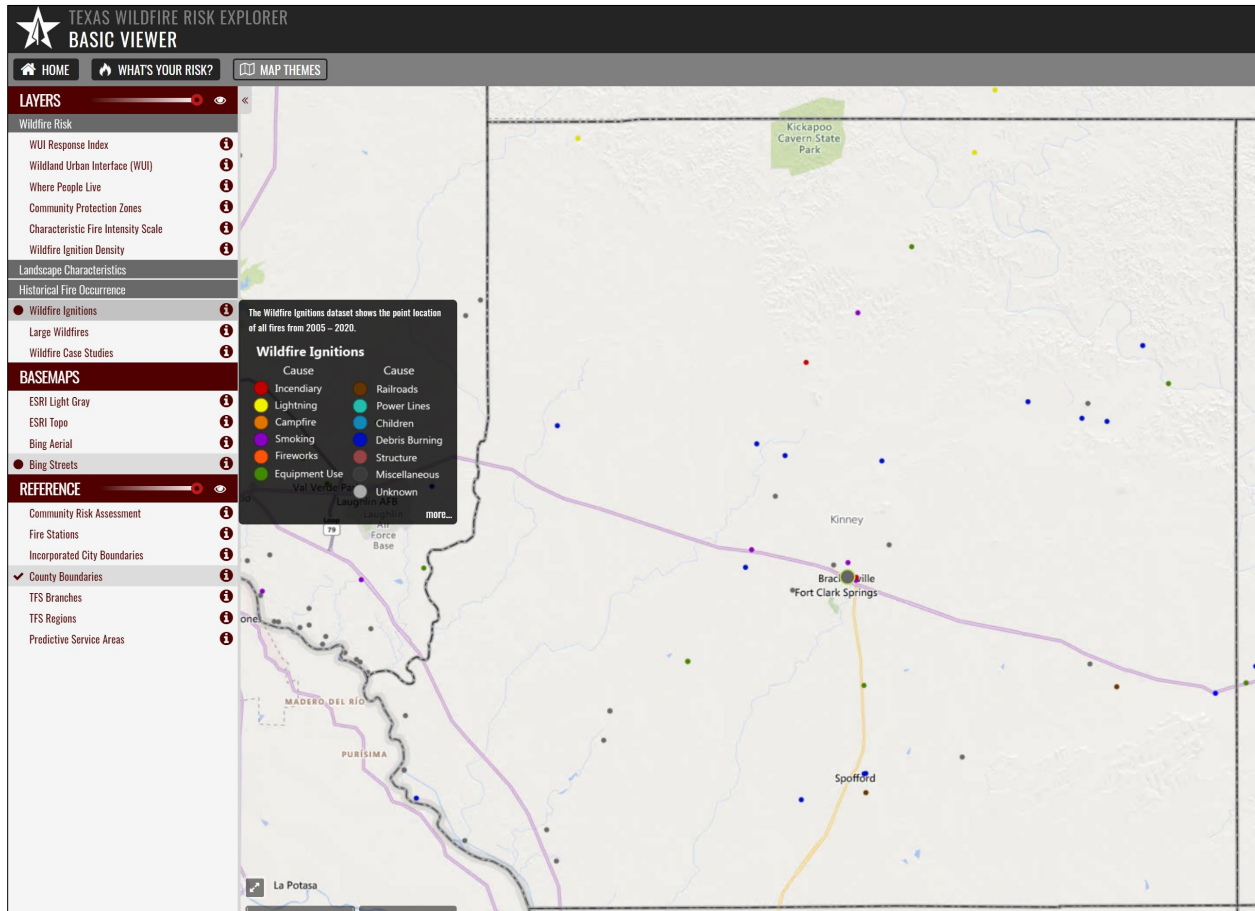
Figure 5.14



Source: Texas A&M Forest Service

Figure 5.15





Source: Texas A&M Forest Service

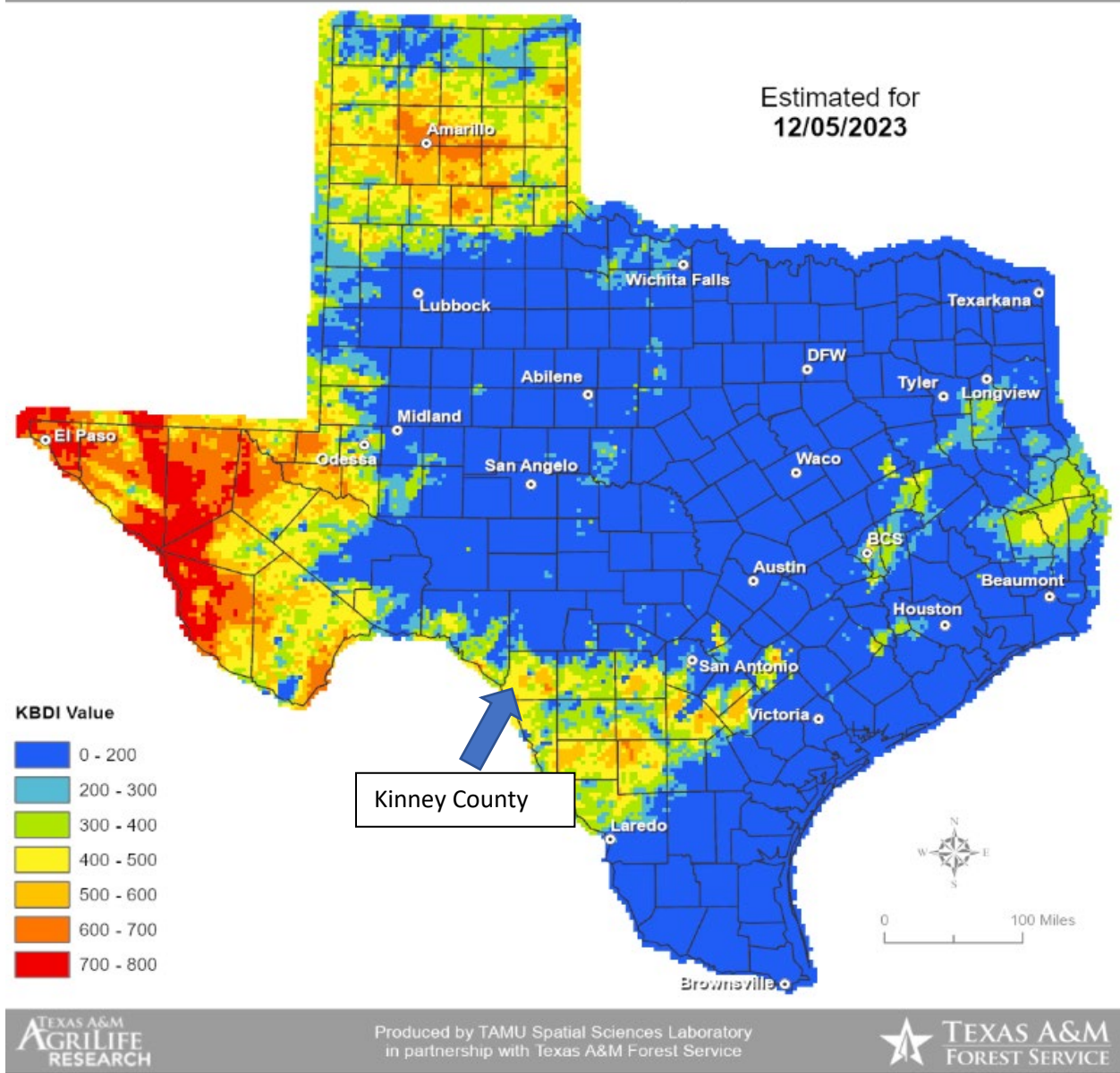
Texas A&M Forest Service (TFS) uses Keetch-Byram Drought Index (KBDI) for determination of drought conditions within the State of Texas. The KBDI is based on a daily water balance, where a drought factor is balanced with precipitation and soil moisture (assumed to have a maximum storage capacity of 8-inches)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

Figure 5.16



Keetch-Byram Drought Index

(4 km x 4 km resolution)



Source: Texas A&M Agrilife Research

Kinney County - 400 – 600: 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.



5.5.4. Geographic areas affected

Figures 5-7.a through 5-7.d illustrate the level of high and moderate wildland fire susceptibility based on the WFSI data provided by Texas Forest Service. Maps cover the areas in or near Kinney County, Brackettville and Spofford, respectively.

Figure 5-7.a. Wildfire Susceptibility in Kinney County

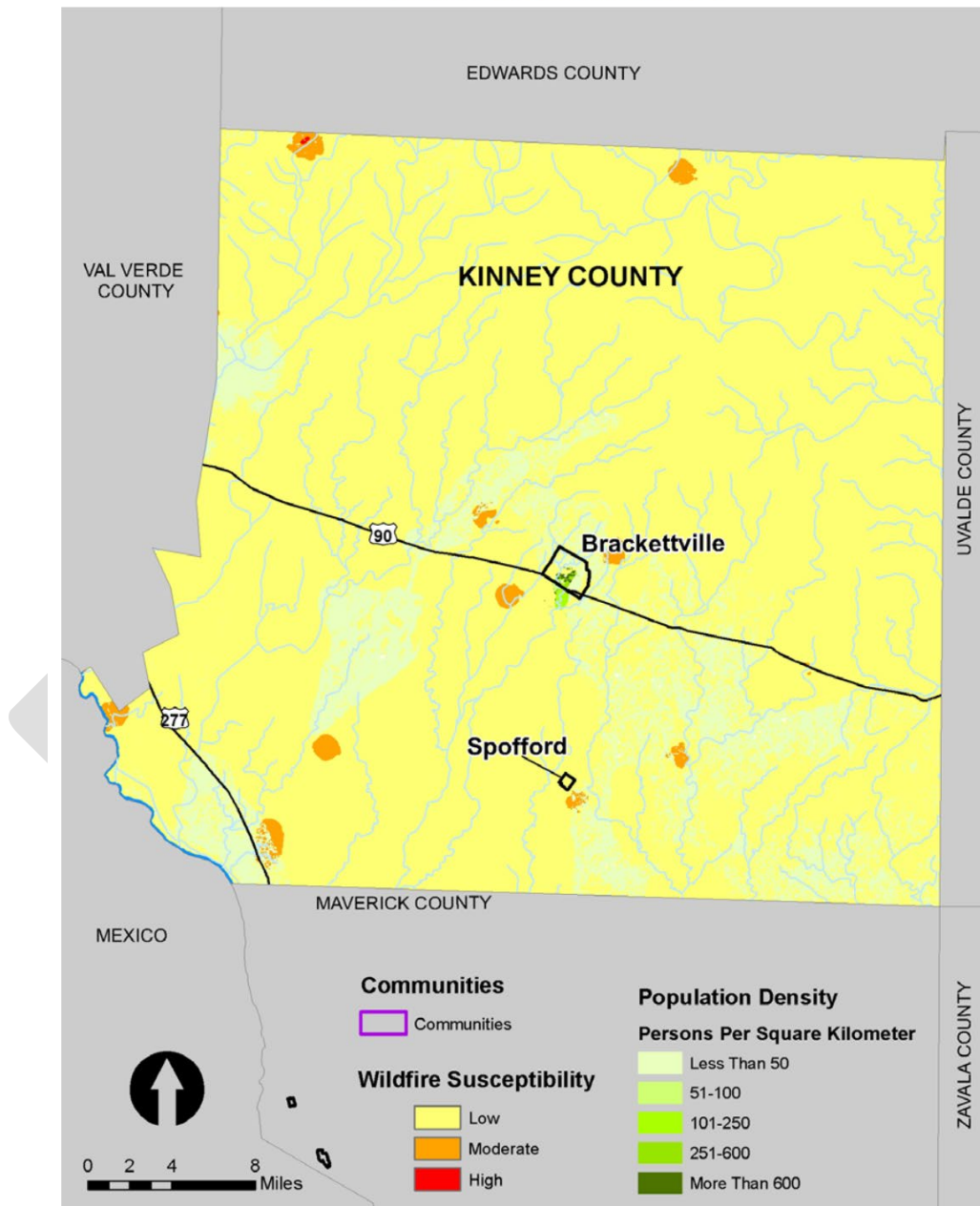


Figure 5-7.b. Wildfire Susceptibility near Brackettville

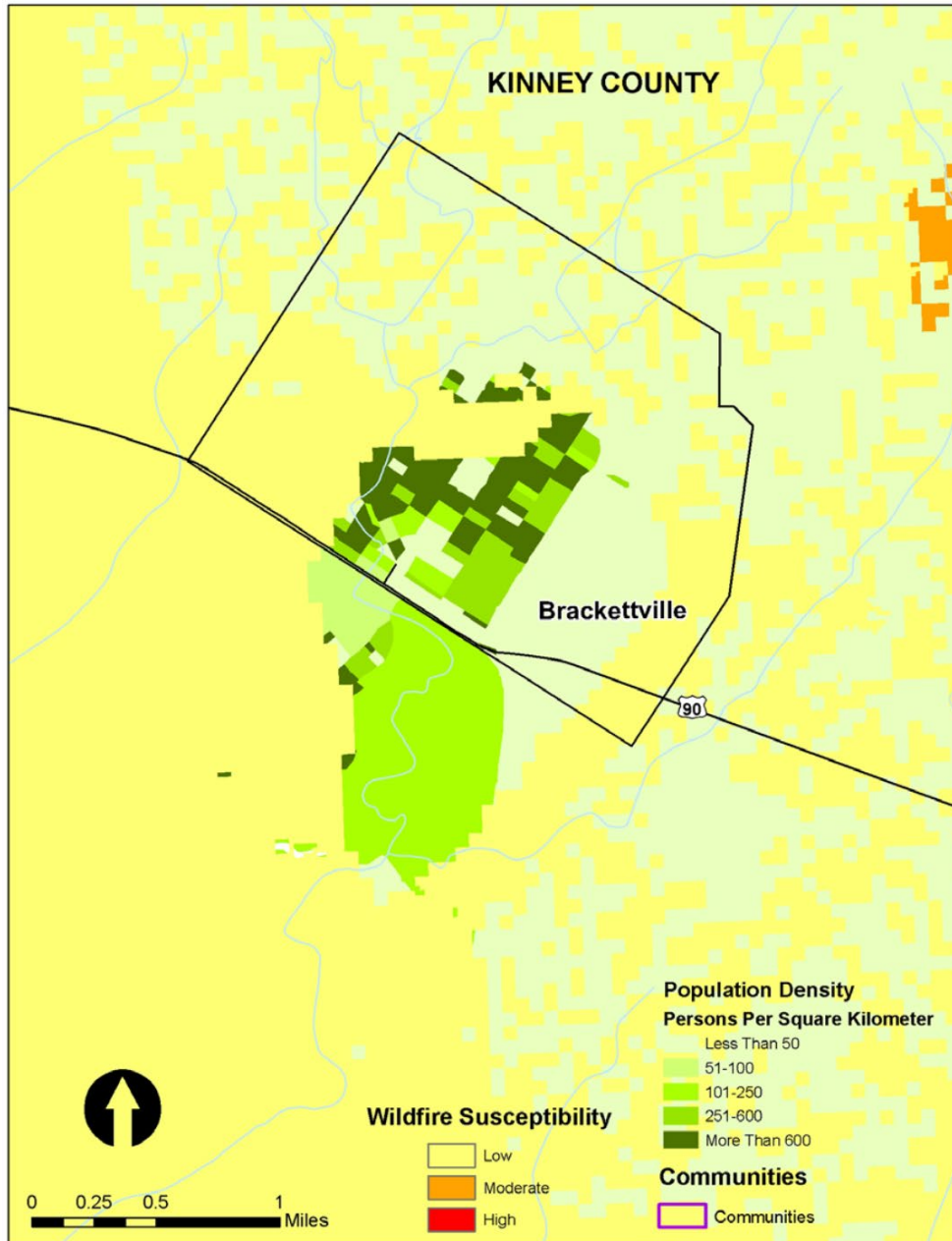
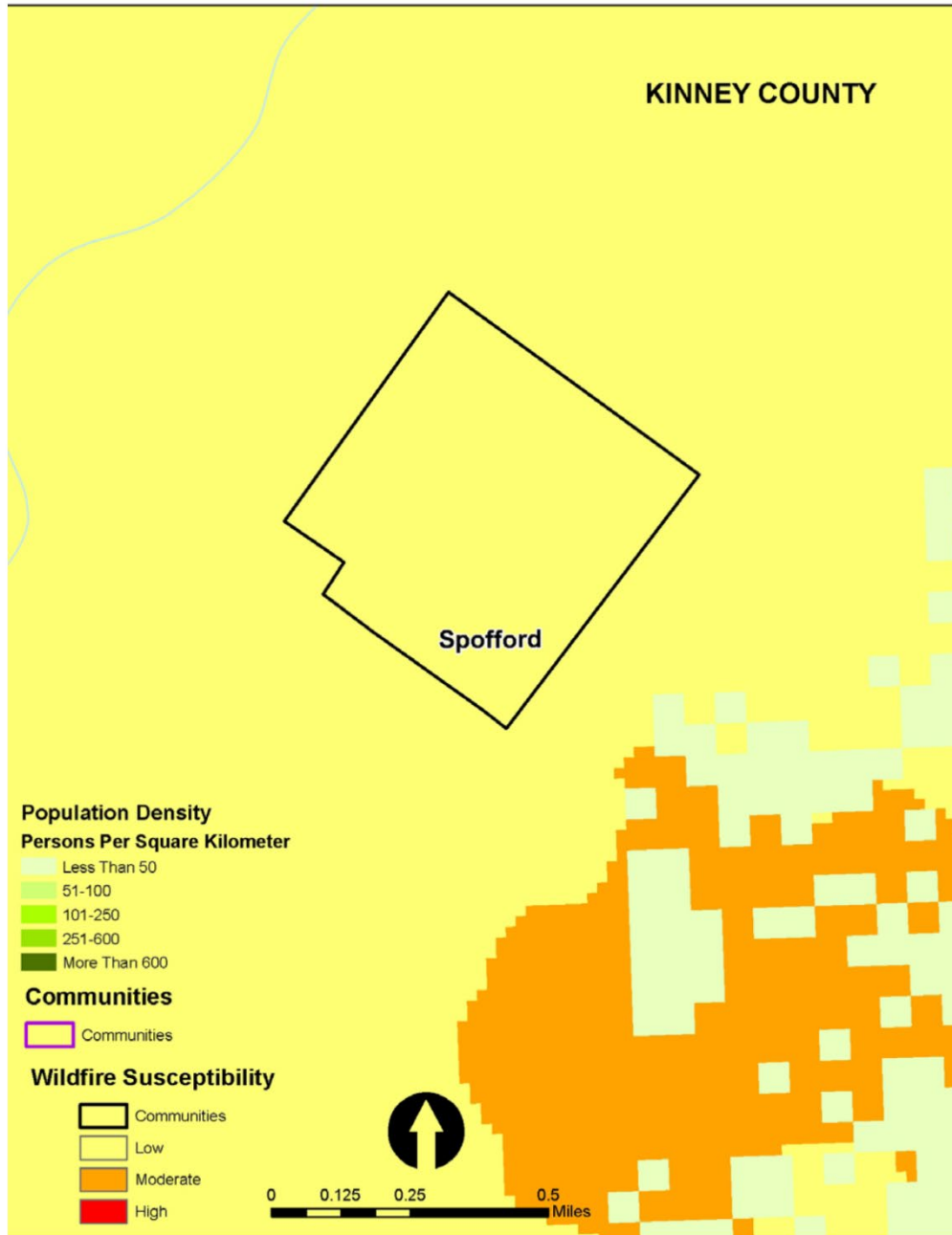


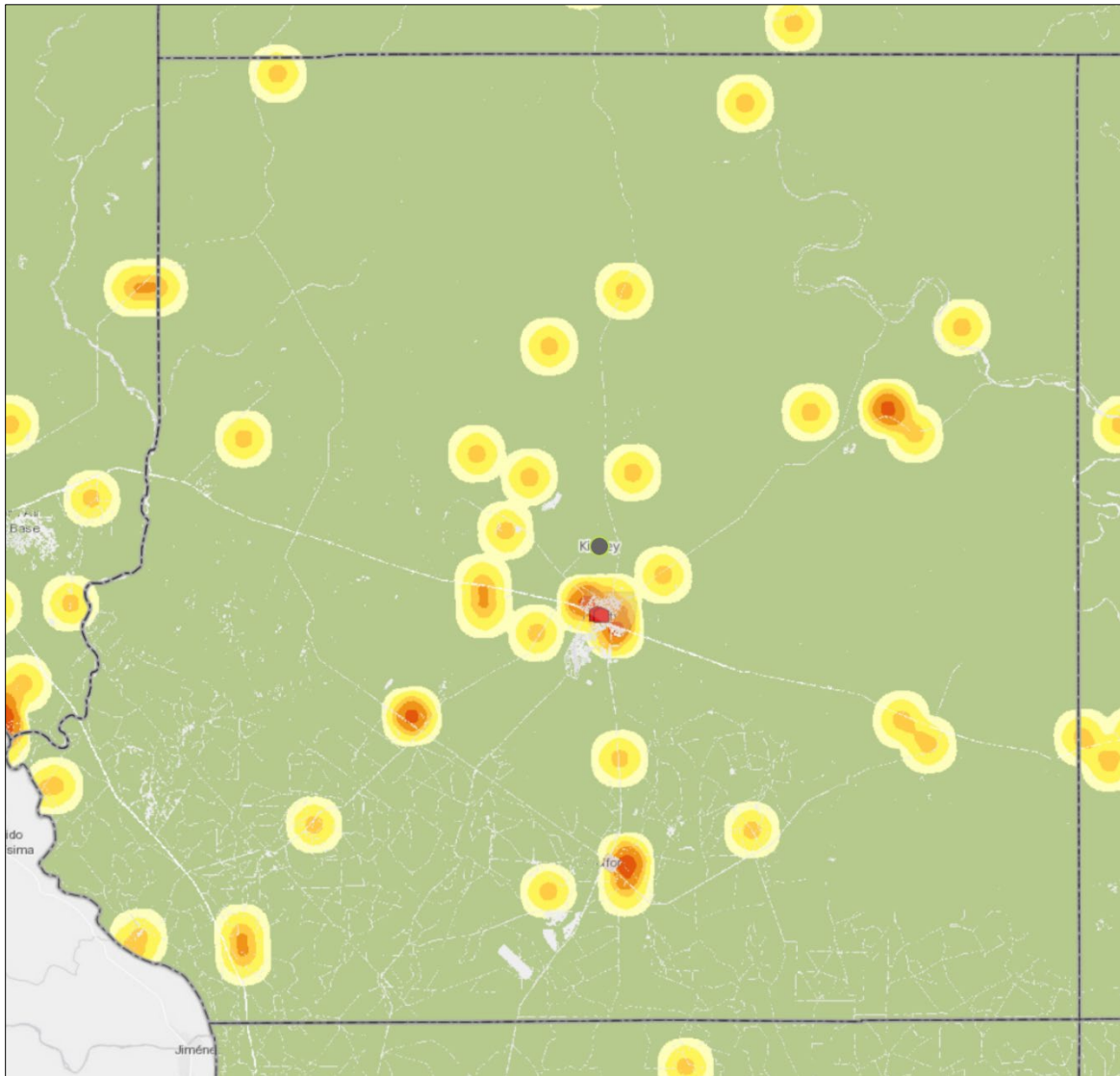
Figure 5-7.c. Wildfire Susceptibility near Spofford



5.5.5 Probability of future disasters

A class 2 or above wildland fire is a highly likely event probable within 2-3 years.

Figure 5-7.d Wildfire Ignition Density is the likelihood of a wildfire starting based on historical ignition patterns.



Source: Texas A&M Forest Service



5.5.6 Vulnerability

Table 5.24 shows the potential affected exposure of property and people to areas of moderate wildland fire susceptibility according to the WFSI data. There is a wildland fire risk in the unincorporated areas of the County. No property or people in Spofford and Brackettville are exposed to areas of high wildland fire susceptibility according to the WFSI data. However, resources from Spofford and Brackettville would be called upon for assistance should fire break out in the County.

Table 5.24. Potential Affected Exposure to Wildland Fire (Moderate Susceptibility)

Jurisdiction	Potential Residential Building Exposure at Risk		Potential Commercial Building Exposure at Risk		Number of People at Risk
	Number	Value	Number	Value	
Kinney County	72	\$2,280,000	5	\$1,550,000	52
Brackettville	0	\$0	0	\$0	0
Spofford	0	\$0	0	\$0	0

Source: Texas State Forest Service

5.5.7 Potential impact

The potential severity of impact of wildland fires in Kinney County is limited and would impact the unincorporated areas of the County directly. Wildland fires may result in minor injuries, temporary shutdown of facilities for a day to a week, and from 10 to 25 percent of property damaged or destroyed. Annualized loss information is not available.

5.6. DROUGHT

5.6.1. Description of the hazard

Kinney County has a significant history of drought. Although the most prevalent hazard, drought is the seventh most costly disaster for Kinney County, following flooding. Drought and the lack of water preservation, both in water quantity and quality, is a major concern. Brackettville and Fort Clark Springs both have spring-fed creeks which have occasionally dried up, as has the Nueces River which runs through the northern section of the County.

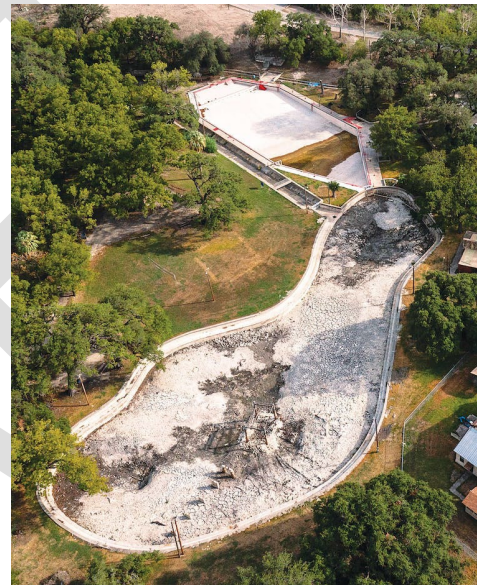
Drought is a normal part of virtually all climatic regimes, including areas with high and low average rainfall. Drought is a consequence of a natural reduction in the amount of precipitation expected over an extended period, usually a season or more in length. According to the Texas



Parks and Wildlife Department, “Drought is one of the most complex, and least understood, of all-natural hazards, affecting more people than do other natural hazards, but differing from them in important ways. Unlike earthquakes, hurricanes and tornadoes, drought unfolds at an almost imperceptible pace with beginning and ending times that are difficult to determine, and with effects that often are spread over vast regions....”⁴.

Over time, droughts can lead to loss of water for basic needs such as drinking and firefighting. It can also have very damaging effects on crops, municipal water supplies, recreation, and wildfire. If droughts extend over several years, the direct and indirect economic impact can be significant. Droughts can kill crops, grazing grasses, edible plants and, in severe cases, trees. Dying vegetation also serves as prime ignition source for wildland fires.

The Carrizo-Wilcox Aquifer underlies much of Kinney County and provides water for irrigation and public and industrial uses. The Carrizo-Wilcox Aquifer extends from the Rio Grande northeastward into Arkansas and Louisiana, providing water to all or parts of 66 counties. The loss of livestock due to lack of food and water can be devastating to local ranchers. Grassland and woodland fires are more frequent and much more difficult to control during drought conditions. The tourist industry suffers as well because of the lack of water in the rivers. Droughts can be classified as meteorological, hydrologic, agricultural, and socioeconomic. **Table 5.25** defines these different types of droughts.



'22-'23 Dry Spring at Ft. Clark Springs

Table 5.25. Drought Classification Definitions

Meteorological Drought	The degree of dryness or departure of actual precipitation from an expected average or normal amount based on monthly, seasonal, or annual time scales.
Hydrologic Drought	The effects of precipitation shortfalls on stream flows and reservoir, lake, and groundwater levels.
Agricultural Drought	Soil moisture deficiencies relative to water demands of plant life, usually crops.
Socioeconomic Drought	The effect of demands for water exceeding the supply as a result of a weather-related supply shortfall.

Source: FEMA, Multi-Hazard Identification and Risk Assessment: A Cornerstone of the National Mitigation Strategy

All sectors of Kinney County are affected by this hazard. The most obvious and devastating result prolonged drought could be an extended wildfire season with a reduced water supply to combat it. Effects on tourism to near by rivers and the Fort Clark Springs Summing Pool have been

⁴ July 2000, Todd H. Votteler, Ph.D, Texas Department of Parks and Wildlife.



recently noted. The pool has been closed to the public for two consecutive years due to drought conditions and the Spring drying up.

For the ranching industry, a drought means decreased natural feed for their livestock, increased feed prices at the retail level, insufficient water to keep livestock healthy, and could possibly mean reduction in the size of their herd to offset the decrease in feed and water. Every year, the county sees an outbreak of anthrax, which makes maintaining healthy livestock a priority. Higher retail meat prices because of fewer available slaughter animals could have an adverse effect on all citizens of Kinney County as well.

Effects on the hunting industry are much the same as for the ranching industry, but with the added impact of fewer hunters due to smaller herds of game animals and the added potential for fire hazards from careless campfires. A reduced number of hunters will impact the tourist income for the county as well. Brackettville and Fort Clark Springs both enjoy substantial tourist income during peak hunting season, and both would be adversely affected by a decrease in that revenue.

Although the farm industry in Kinney County is a smaller portion of our economy, it too is a crucial one to all citizens. An extended drought period would heavily impact the availability of produce, driving retail prices up and affecting many county and city services such as the Kinney County Aging Meals-On-Wheels program and the Brackett ISD cafeteria, local restaurants, as well as each individual family.

The impact of an extended drought on the average citizen in Kinney County is substantial, covering everything from higher retail prices on meat and produce to real estate issues such as loss of mature landscaping or foundation damage. The increased probability of wildfires escalates the potential for more serious damage to structure or even loss of life.

5.6.2 Measurement

The U.S. Drought Monitor depicts the location and intensity of drought across the country using 5 classifications: Abnormally Dry (D0), showing areas that may be going into or are coming out of drought, and four levels of drought (D1-D4). The following images indicate a high percentage of Kinney County to be in constant drought with very dry conditions.

The U.S. Drought Monitor is a joint effort of the National Drought Mitigation Center, U.S. Department of Agriculture, and National Oceanic and Atmospheric Administration.



Figure 5.18A

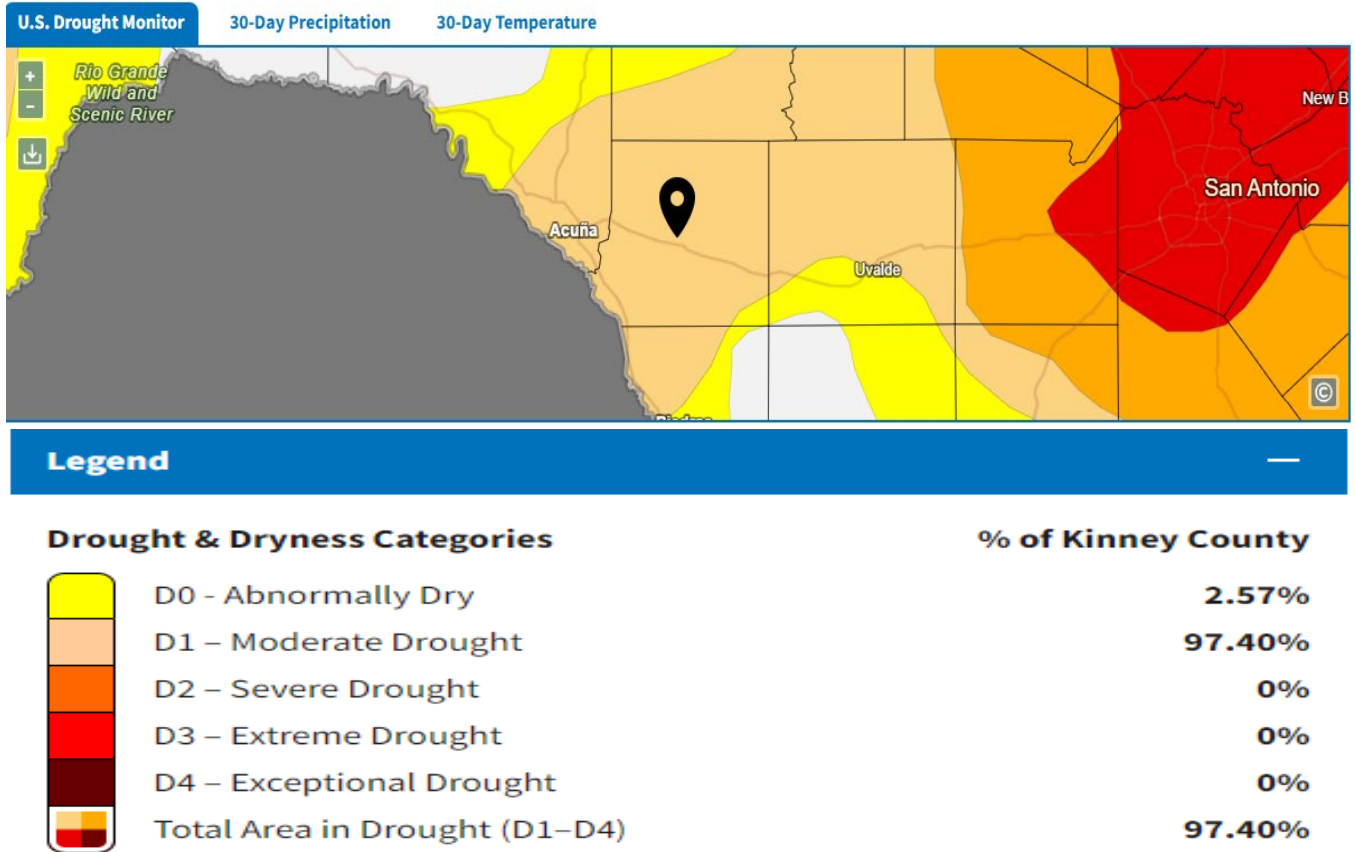
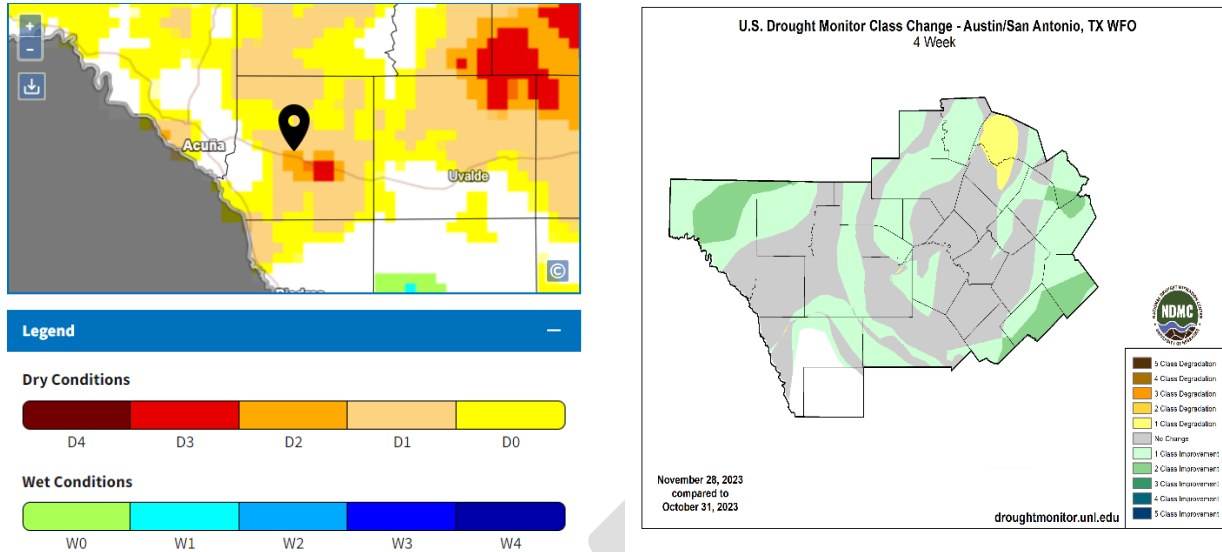


Figure 5.18B

Figure 5.18C





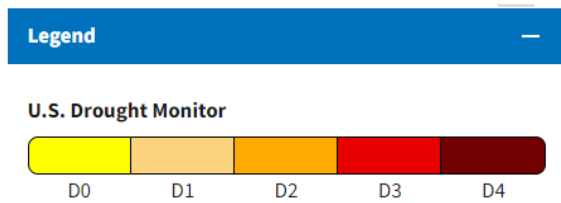
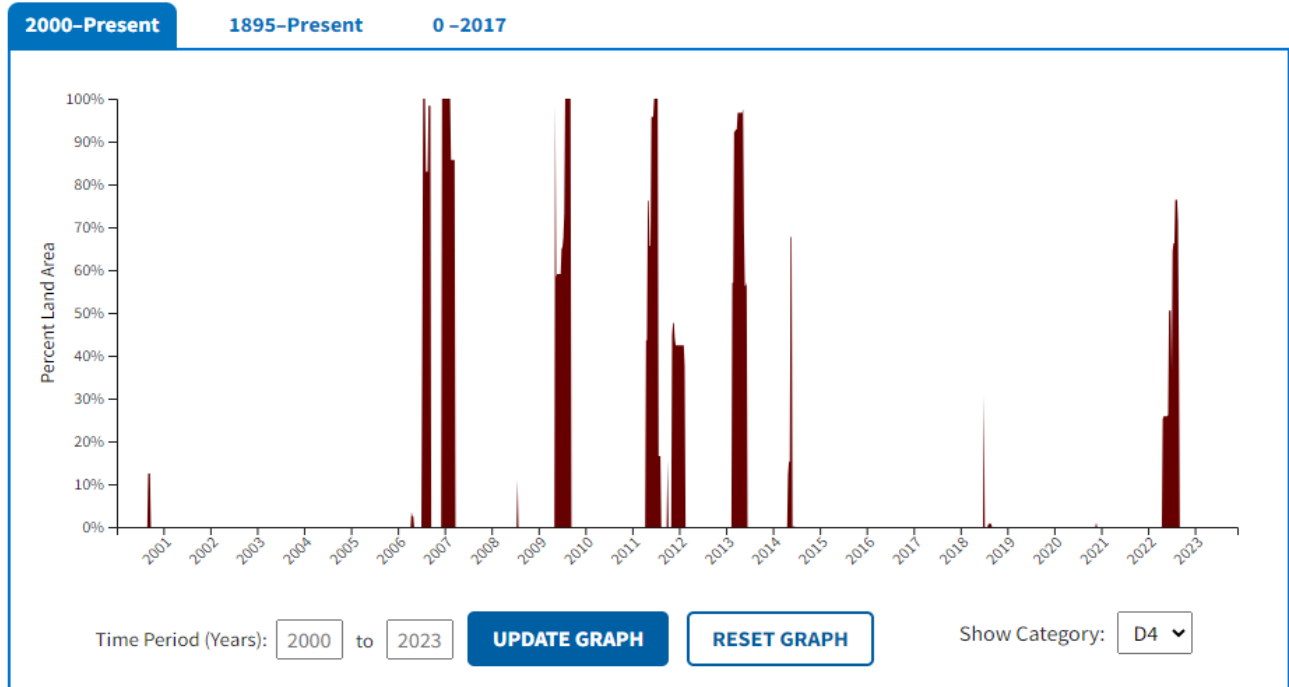
Source: <https://www.drought.gov/states/texas/county/Kinney>

5.6.3 Previous occurrences

Figure 5-19 illustrates historical periods of severe to extreme drought conditions in Kinney County based on data provided by the U.S. Drought Monitor. The U.S. Drought Monitor (2000–present) depicts the location and intensity of drought. Every Thursday, authors from NOAA, USDA, and the National Drought Mitigation Center produce a new map based on their assessments of the best available data and input from local observers. The map uses five categories: Abnormally Dry (D0), showing areas that may be going into or are coming out of drought, and four levels of drought (D1–D4).



Figure 5-19



The graphic above indicates Kinney County to be in a constant drought since 2022. These incidents caused millions in property and crop damage statewide, to all the affected counties in Texas.

5.6.4 Geographic area affected

There is not distinct geographic boundary to drought. Drought can occur in every area part of the County equally.

5.6.5 Probability of future disasters

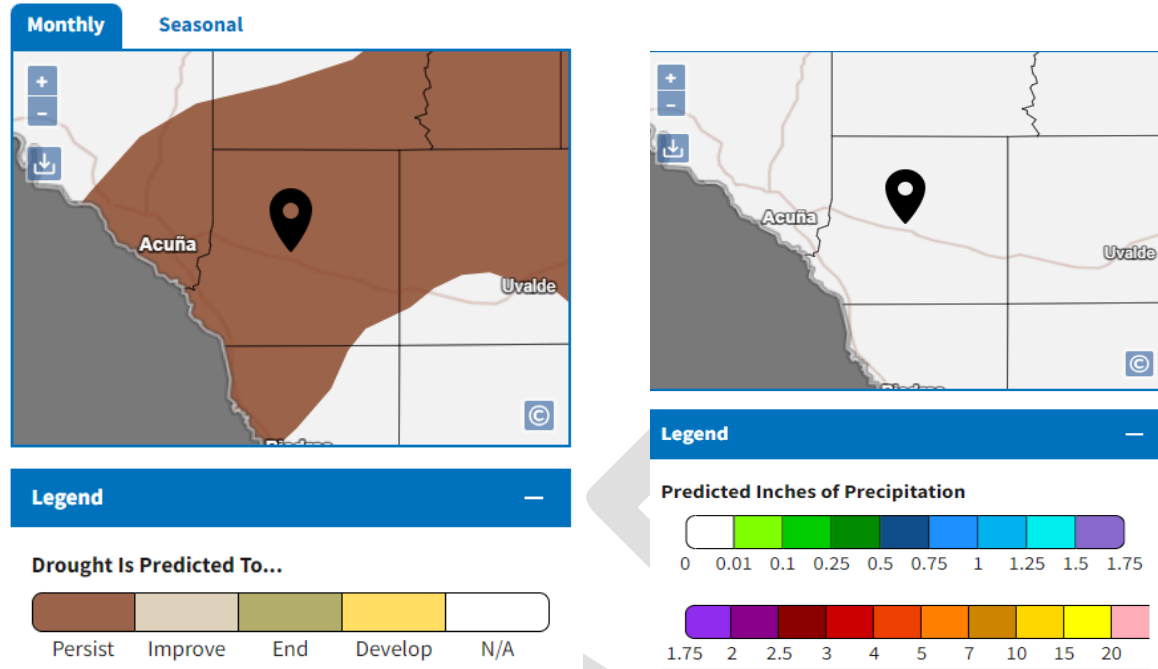
Based on historical experience and global warming trends, a severe drought event is highly likely to be an ongoing hazard for Kinney County with not much precipitation expected.

Figure 5.20A

Figure 5.20B



U.S. Drought Outlooks



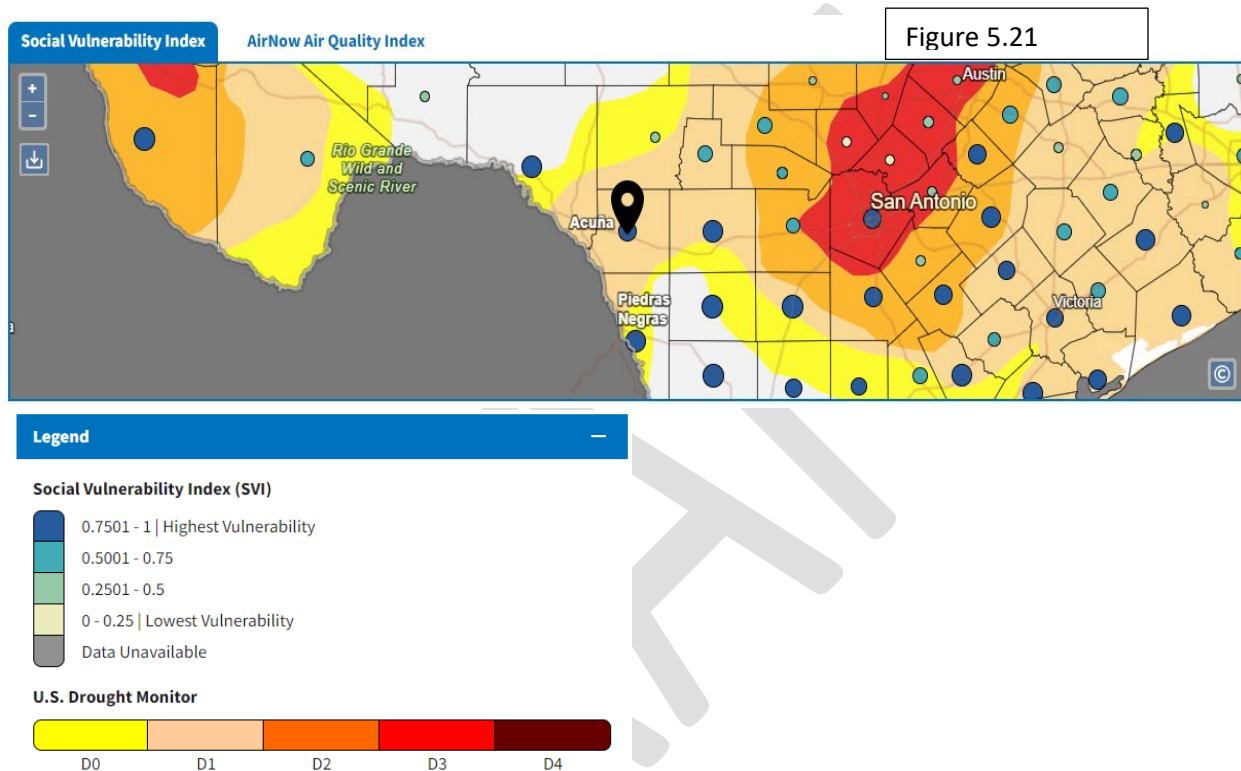
Source: U.S. Drought Monitor

DRAFT



5.6.6 Vulnerability

Drought can have a serious effect on community members. This map shows the Center for Disease Control and Prevention's (CDC's) Social Vulnerability Index alongside current U.S. Drought Monitor drought designations. CDC's Social Vulnerability Index uses 15 U.S. census variables at tract level (including poverty, lack of vehicle access, and crowded housing) to help local officials identify communities that may need support in preparing for or recovering from hazards, like drought.



Kinney County is at the Highest Vulnerability rating on the index. This means a drought will affect 97.4% of Kinney County residents.

There is a lack of quantifiable data on documented historic economic losses across various sectors caused by the effects of drought in Kinney County; this risk assessment study is limited to only a simple estimation of potential losses to the agricultural sector as it is often the most directly affected, and due to the fact that some local agricultural data is available as it relates to current exposure. **Table 5.26** provides information on the potential agricultural exposure to the drought hazard in Kinney County based on the 2017 Department of Agriculture Census.



Table 5.26. Potential Agricultural Exposure to Drought in Kinney County

Jurisdiction	Number of Farms	Land in Farms (Acres)	Market Value of Crops Sold	Market Value of Livestock, Poultry, etc. Sold	Total Market value of Agricultural Products Sold
Kinney County	236	587,026	\$4,526,000	\$5,044,000	\$9,570,000

Source: https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/County_Profiles/index.php

5.6.7 Potential impact

Droughts are slow-onset hazards, but over time can have very damaging effects to crops, municipal water supplies, recreational uses, and wildlife. If droughts extend over a number of years, the direct and indirect economic impact can be significant. Since Kinney County is in the recharge zone for the Carrizo-Wilcox Aquifer, extended dry periods in the county can impact areas over a large geographic region.

Many Kinney County residents use personal water supplies or are connected to private water systems. Droughts in the County can cause significant agricultural losses and increase the risk of wildland fire, with its open grasses and mesquite thickets which are more prone to burning. Droughts also increase the need for irrigating crops, further constraining supplies. During periods of drought, livestock feed requirements are increased, resulting in the need to sell off stock. The loss of livestock due to the lack of food and water can be devastating to local ranchers.

Drought effects include the need for increased pumping for drinking water supplies and watering of landscapes. It also results in increases in water bills for residents. Economic impacts of drought on the cities are not quantifiable due to the lack of data.

In order to generate a potential annualized dollar loss, estimate for drought to the agricultural sector in Kinney County, the following assumptions were made: (1) severe to extreme drought conditions will decrease countywide agricultural production by 20 percent; and (2) Kinney County experiences severe to extreme drought conditions 15 percent of the time.

According to the 2017 Census of Agriculture, the total market value of agricultural products sold (including crops, livestock, poultry and their products) in Kinney County was \$9.5 million, or about \$25,000 per farm. Using this data in combination with the assumptions listed above, total annualized losses due to severe and extreme drought conditions is estimated to be approximately \$434,012.



5.7 TORNADOES/ STRONG WINDS

5.7.1 Description of the hazard

Historical evidence demonstrates that Kinney County is vulnerable to tornadic activity, although tornadoes are relatively infrequent. This hazard can result from severe thunderstorm activity or may occur during a degraded tropical storm or hurricane. Since it cannot be predicted where a tornado may touch down, all buildings and facilities are considered to be uniformly exposed to this hazard and could potentially be impacted by future events.

5.7.2 Measurement

Tornadoes are the most unpredictable and most violent of all atmospheric storms. Winds in the strongest of these storms can exceed 250 mph. By definition, a tornado is often described as a violently rotating column of air, in contact with the ground, either pendant from a cumuliform cloud or underneath a cumuliform cloud, and often (but not always) visible as a condensation funnel cloud. Significant damage can occur even when the condensation funnel does not reach the ground. The Enhanced Fujita Scale or EF Scale, which became operational on February 1, 2007, is used to assign a tornado a 'rating' based on estimated wind speeds and related damage. When tornado-related damage is surveyed, it is compared to a list of Damage Indicators (DIs) and Degrees of Damage (DoD) which help estimate better the range of wind speeds the tornado likely produced. From that, a rating (from EF0 to EF5) is assigned. The EF Scale was revised from the [original Fujita Scale](#) to reflect better examinations of tornado damage surveys so as to align wind speeds more closely with associated storm damage. The new scale has to do with how most structures are designed. The intensity of these storms is rated using the Enhanced Fujita Scale of wind damage (**Table 5.27**). This scale is used as a basis for risk assessments.

Enhanced Fujita Category	Wind Speed (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; mobile homes overturned or badly damaged; loss of exterior doors; windows and other glass broken.
EF2	111-135	Considerable damage. Roofs torn off well-constructed houses; foundations of frame homes shifted; mobile homes completely destroyed; large trees snapped or uprooted; light-object missiles generated; 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 missiles generated.
EF5	>200	Incredible damage. Strong frame houses leveled off foundations and swept away; automobile-sized missiles fly through the air in excess of 100 m (109 yd); high-rise buildings have significant structural deformation; incredible phenomena will occur.

source: http://en.wikipedia.org/wiki/Enhanced_Fujita_Scale



For purposes of this Plan, the level of intensity that would create a tornado hazard for the County is an F2 tornado due to the potential damage to roofs, disruption of travel, and light-objective missiles that would be created.

5.7.3 Previous occurrences

Figure 5-9 illustrates the location and magnitude of historical tornado events in Kinney County since 1950. **Table 5.28** displays aggregated historical information by jurisdiction and **Table 5-29** shows their impact. It is important to note that only those tornadoes to be reported and officially confirmed have been factored into this risk assessment. However, in the past 60 years it is likely that a higher number of tornado events have occurred but were not reported or officially confirmed. According to the FEMA National Risk Index, Kinney County has experienced 8 tornadoes from 1950 to 2021.

Table 5.28. Historical Tornado Impact in Kinney County, 1950-2021

Jurisdiction	Number of Events	EF0	EF1	EF2	EF3	EF4	EF5	Maximum F Scale
Kinney County	8	4	2	0	1	1	0	EF4

Table 5.29 Impact of Kinney County Tornadoes

Location	Date	Deaths	Injuries	Property Damage
County	5/11/1982	0	0	\$250,000
County	5/16/1989	0	0	\$2,500,000
Total		0	0	\$2,750,000

5.7.4 Geographic areas affected

Figure 5-22 illustrates the location and magnitude of reported historical tornado events in Kinney County from 1950-2021. The tornado hazard does not have a distinct geographic boundary.



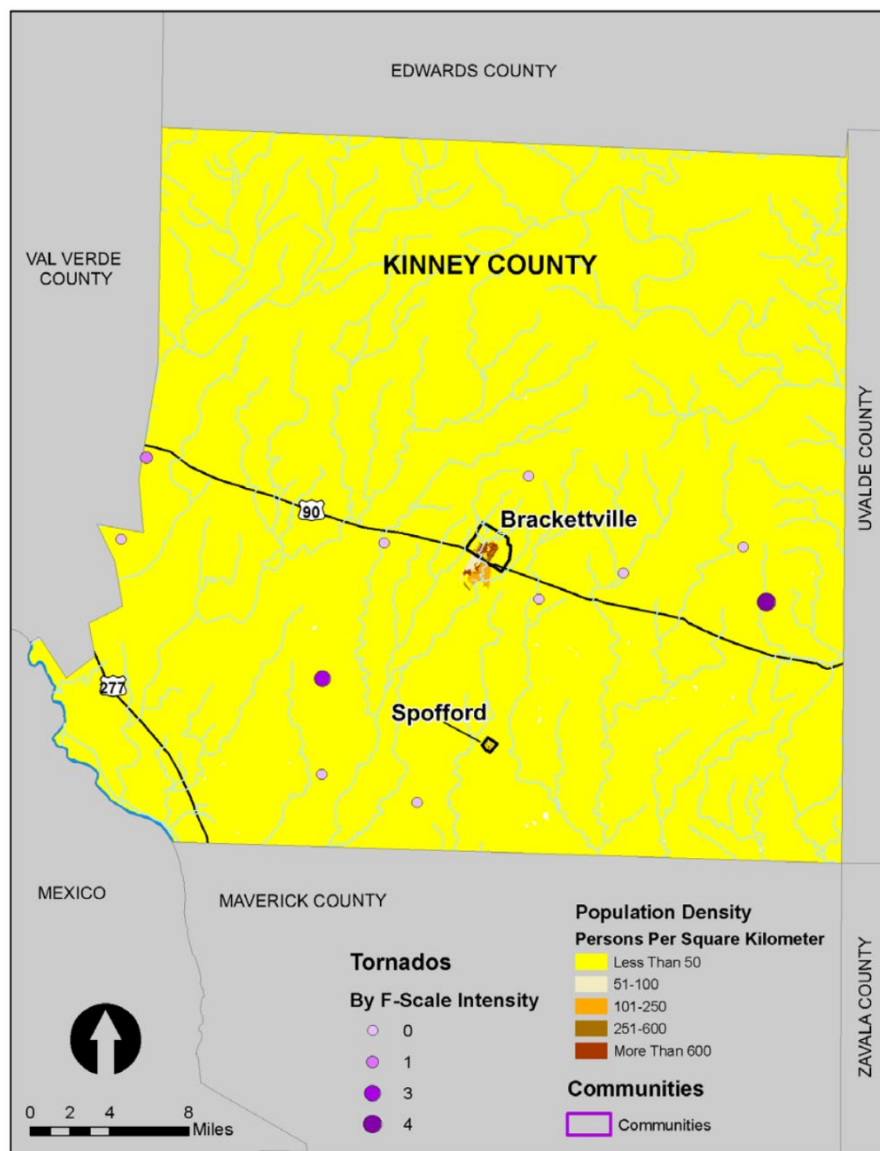
5.7.5 Probability of future disasters

EF2 or higher tornadoes are unlikely events in Kinney County with an event possible in the next ten years.

5.7.6 Vulnerability

Since it cannot be predicted where a tornado may touch down, all building and facilities (residential, commercial, and other buildings and critical facilities and infrastructure) are

Figure 5-9. Historical Reported Tornado Events in Kinney County (1950–2010)



uniformly exposed to this hazard and could potentially be impacted by future events as shown in **Table 5.30**.

Table 5.30. Potential Exposure Value

Hazard	Total	Building Value	Population Equivalency	Population	Agricultural Value
Tornado	\$36,805,765,713	\$538,379,415	\$36,261,600,000	\$3,126	\$5,786,298

5.7.7. Potential impact

An EF2 tornado would cause considerable damage. Roofs would be torn off well-constructed houses; foundations of frame homes shifted; mobile homes would be completely destroyed; large trees would be snapped or uprooted; light-object missiles would be generated; and cars lifted off ground. **Table 5.31** estimates the potential annualized economic losses to property.

Table 5.31. Potential Annualized Losses to Tornadoes

Jurisdiction	Total Exposure	Annualized Expected Property Losses	Annualized Loss Ratio
Kinney County	\$36,805,765,713	\$48,344	Very Low

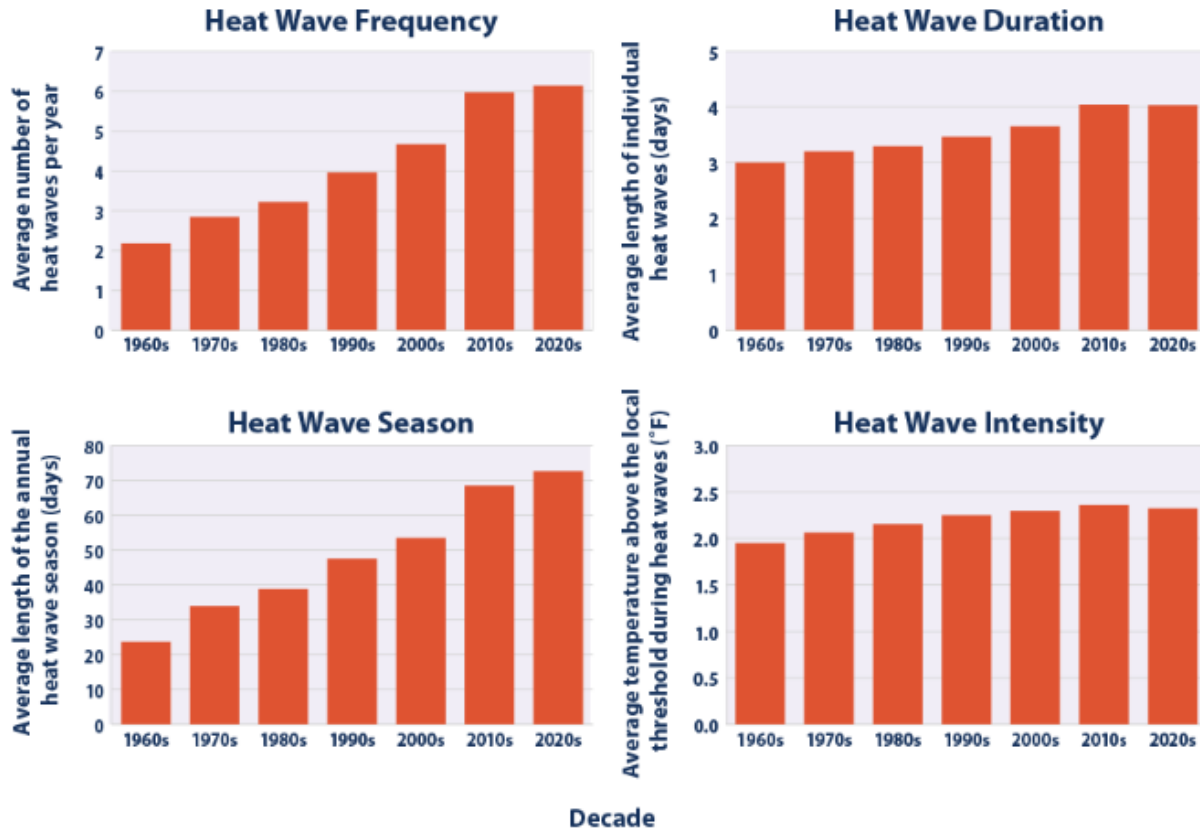
5.8 HEAT WAVE

5.8.1. Description of the hazard

Heat waves are characterized by prolonged periods of extremely high temperatures. Daytime temperatures can soar well above 90 or even 100 degrees Fahrenheit (32 to 38 degrees Celsius), and nighttime temperatures may not provide much relief, remaining elevated compared to typical lows. The following graphic illustration heat waves in the United States by frequency, duration, season and intensity during the last sixty years.

Figure 5.23





Source: United States Environmental Protection Agency

- Frequency: the number of distinct heat waves that occur every year.
- Duration: the length of each individual heat wave, in days. These data can be aggregated to find the average duration of individual heat waves over a time period such as a year or a decade.
- Season length: the number of days from the first day of the first heat wave of the year to the last day of the last heat wave, including the first and last days in the count.
- Intensity: how hot the temperature is during a heat wave, compared with the corresponding city-specific threshold. For example, if a city has an 85th-percentile threshold of 95°F, and the average of the daily minimum apparent temperatures during a three-day heat wave was 98°F, the intensity would be recorded as 3°F above the threshold.

Heat waves are occurring more often than they used to specially in Southwest Texas. Their frequency has increased steadily, from an average of two heat waves per year during the 1960s to six per year during the 2010s and 2020s. In recent years, the average heat wave has been about four days long. This is about a day longer than the average heat wave in the 1960s. The average heat wave season indicator is about 49 days longer now than it was in the 1960s. Timing can matter, as heat waves that occur earlier in the spring or later in the fall can catch people off-guard and increase exposure to the health risks associated with heat waves. Heat



waves have become more intense over time. During the 1960s, the average heat wave was 2.0°F above the local 85th percentile threshold. During the 2020s, the average heat wave has been 2.3°F above the local threshold.

5.8.2. Measurement

Measurement of a Heat Wave combines temperature with humidity. Including humidity is considered to be more directly relevant to human health than using air temperature alone, because humidity affects the body's ability to cool off through perspiration. Hence, health warnings about extreme heat are often based on NWS's Heat Index, which is similar to apparent temperature in that it combines temperature and humidity. This indicator specifically uses daily minimum temperature because studies show that mortality is more closely related to elevated daily minimum temperature than to daily maximum or daily mean temperature (Habeb et al., 2015; Sarofim et al., 2016), as warm nighttime temperatures prevent the body from cooling off after a hot day. For each MSA, NCEI calculated daily maximum and minimum apparent temperature for each day based on hourly temperature and humidity measurements. NCEI derived apparent temperature using the following equation:

$$A = -1.3 + 0.92T + 2.2e$$

where A is the apparent temperature (°C), T is ambient air temperature (°C), and e is water vapor pressure (kilopascals). This equation was established by Steadman (1984).

5.8.3 Previous occurrences

The picture below shows the number of days in Kinney County where the temperature was at or above 100 degrees Fahrenheit in 2023.



Figure 5.24A

Number of days per year in each temperature range:

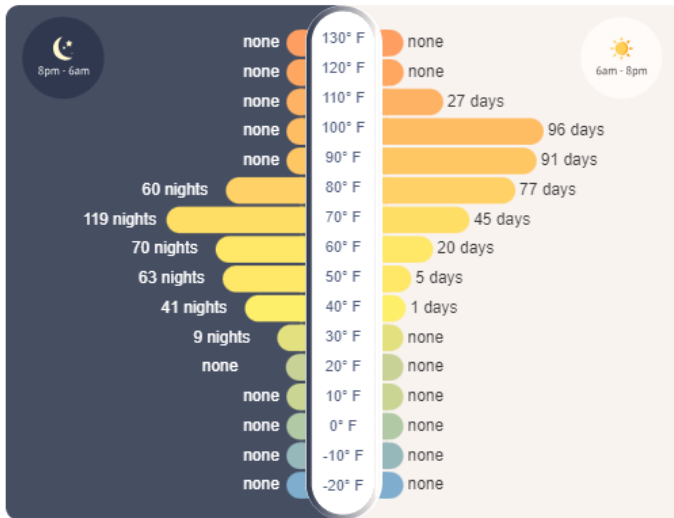


Figure 5.24B

Number of days per year in each humidity range:



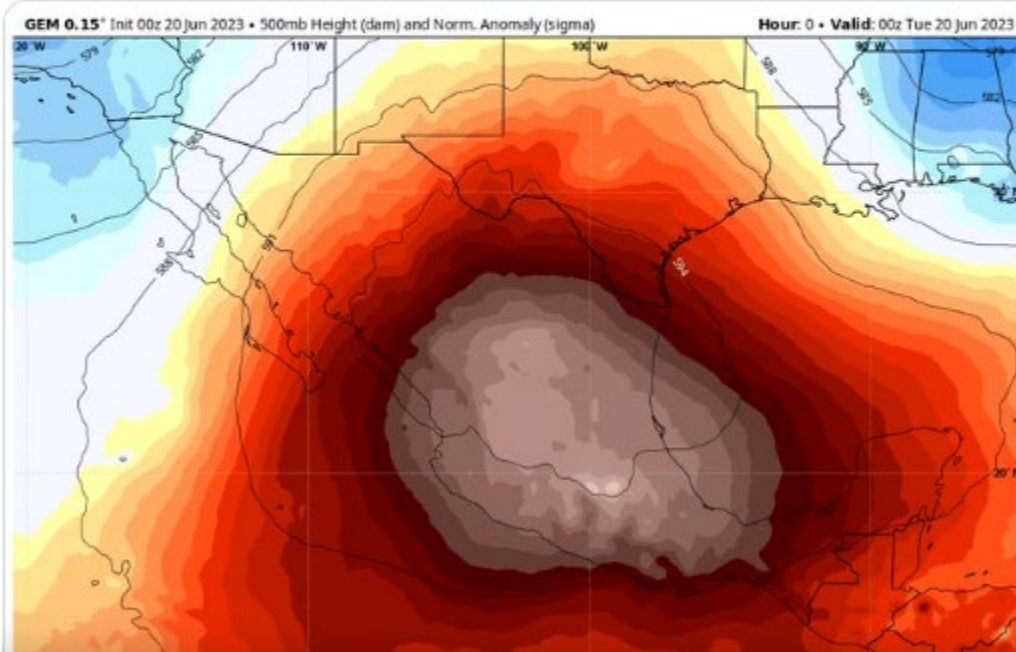
Source: <https://dwellics.com/state/texas/climate-in-bracketville>

DRAFT



The graphic below shows a heatwave moving into Kinney County with temperatures 110+ and with a heat index of 120+. This map shows the upper level ridge “Heat Dome” maxing out at a 4.5 sigma. This means that in a normal “historical” climate its basically impossible. But climate change makes the impossible very probable.

Figure 5.25



Extreme and extended heat waves like the one in Kinney County are often caused by heat domes such as the one pictured above. These large, sprawling zones of high pressure cause air to sink underneath them. The air warms as it sinks and the heat dome traps the hot air in place. The heat dome responsible for the ongoing heat wave experience in the Summer of 2023 is one of the strongest of all time.

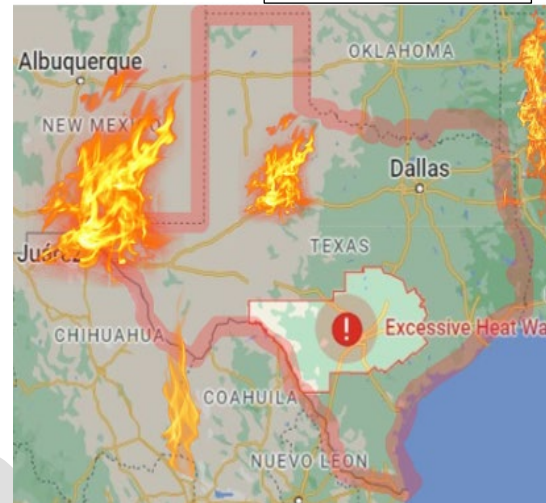
Source: WFLA-TV chief meteorologist



Figure 5.26

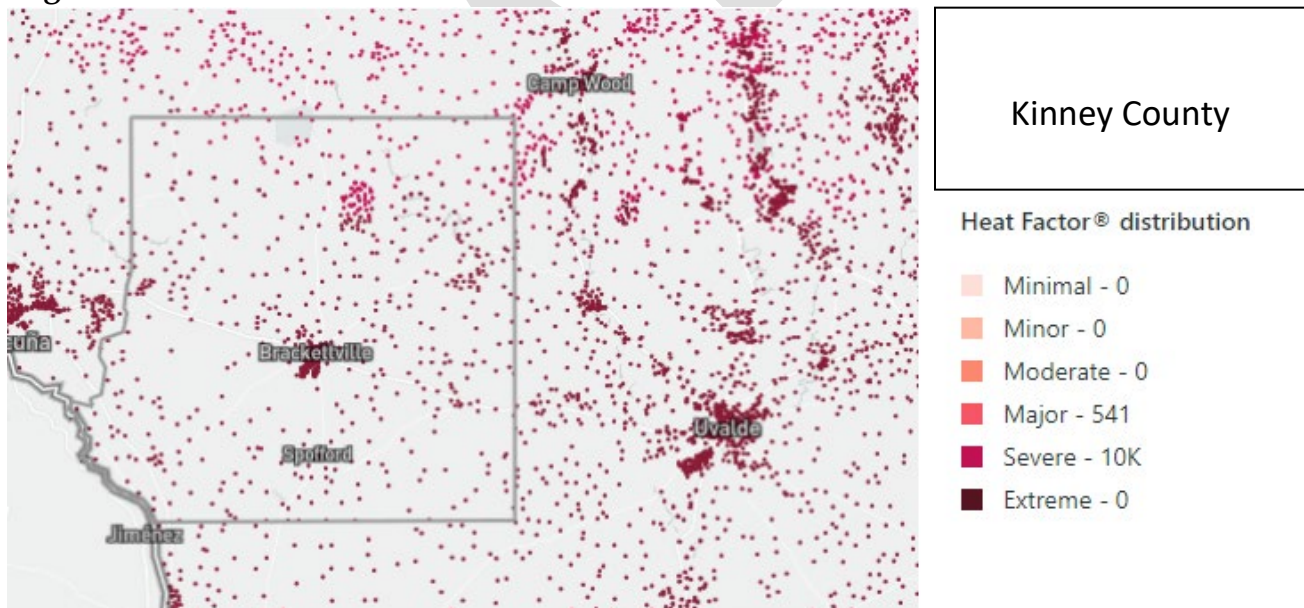
Record highs in Kinney County just in the month of August during the past seven years for a visual on the continued occurrences:

Table 5.32 YEAR	Temperature
2023	110
2022	104
2021	104
2020	107
2019	108
2018	100
2017	103



5.8.4 Geographic affected areas

Figure 5.27



Source: https://riskfactor.com/county/kinney-county-tx/48271_fsid/heat

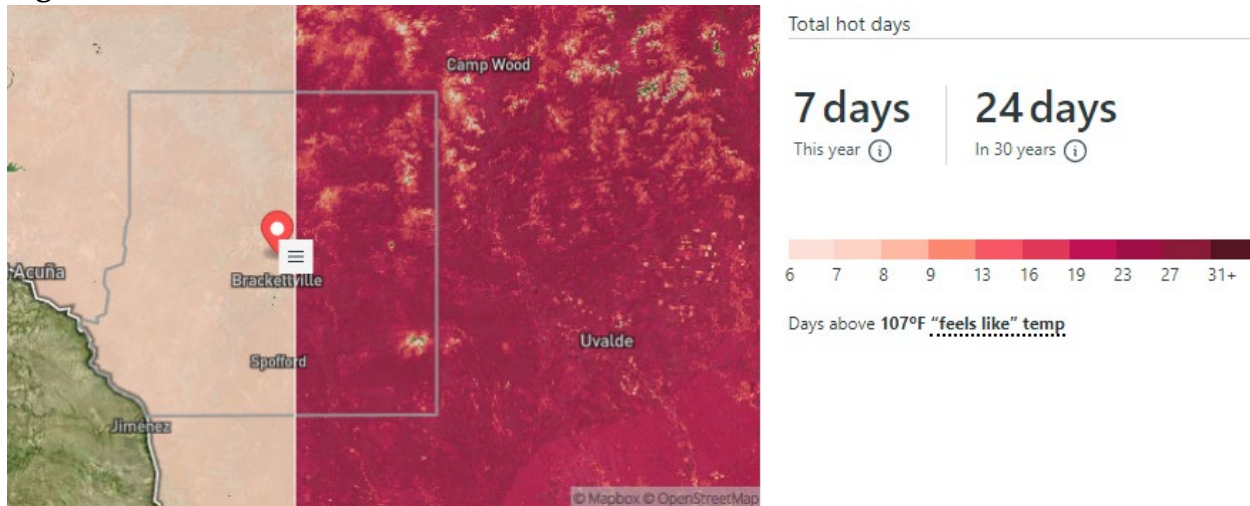
The entire Kinney County to include the Cities of Spofford and Bracketville were affected by the Heat Wave.



5.8.5 Probability of future disasters

Due to the changing climate, Kinney County is expected to continue to experience a continuum of heatwaves as indicated on this illustration. Climate change has increased the odds of seeing longer and more frequent intense heat waves.

Figure 5.28



Source: https://riskfactor.com/county/kinney-county-tx/48271_fsid/heat

5.8.6 Vulnerability

Kinney County is vulnerable to the effects of a heat wave based on the following factors:

- **Age** - The very young and the elderly are often more vulnerable to extreme heat. Infants and young children may have difficulty regulating their body temperature, while older adults may have underlying health conditions that make them more susceptible to heat-related illnesses.
- **Health Status** - Individuals with pre-existing medical conditions, such as cardiovascular diseases, respiratory diseases, diabetes, and mental health disorders, may be at higher risk during a heat wave. Medications that affect the body's ability to regulate temperature or increase sensitivity to heat can also contribute to vulnerability.
- **Socioeconomic Factors** - People with lower socioeconomic status may have limited access to resources that help mitigate the effects of heat, such as air conditioning, proper housing, and medical care. Vulnerable populations may also have jobs that require outdoor work, increasing their exposure to extreme temperatures.
- **Infrastructure and Housing Conditions** - Poorly constructed or inadequately insulated housing can exacerbate the impact of heat waves. Lack of air conditioning, inadequate ventilation, and limited access to cooling centers can increase the risk of heat-related illnesses.



- Influx of migrant population traversing Kinney County on foot with lack of human consumption resources.
- Access to Information - Awareness and access to information about heat waves, preventive measures, and available resources can influence vulnerability.

Table 5.33 Factor	Kinney County
Population under 5 years of age	4.7%
Population over 65 years of age	25%
Persons with disabilities	29.5%
Persons with no health insurance	14.7%
Persons living in poverty	19%
Infrastructure Median Year Built	1978

Source: 2020 Census Bureau



5.8.7. Potential impact

Heat waves can have a wide range of significant and often adverse impacts on both the environment and human society. Some of the key impacts for Kinney County include:

- Prolonged exposure to high temperatures leading to heat-related illnesses such as heat exhaustion and heatstroke. Vulnerable populations, such as Kinney County's high percentage of elderly, children, and individuals with pre-existing health conditions, and the increasing number of migrants traveling on foot are particularly at risk. The stress of extreme heat can worsen pre-existing health conditions, including cardiovascular and respiratory diseases resulting in higher healthcare costs.
- Energy Demand and Power Outages - High temperatures and energy demand have resulted in power outages and an increase in electricity bills thus an economic impact to community members. One of the resulting effects of heat is the increase in energy usage that occurs as homes and businesses make an effort to keep cool indoors in lacking infrastructure. Based on heat projections for this year in Kinney County it is estimated that the use of air conditioning would cause an increase in energy consumption on 286 days annually. This risk may become even more pronounced in 30 years, as the number of cooling days is expected to increase to 296 days per year. This increase in need for cooling is expected to increase Kinney County's electricity usage for cooling purposes by 8%.
- Drought Conditions - Heat waves coincide with drought conditions, leading to reduced water availability for agriculture, industry, and domestic use in Kinney County. This has impacted crop yields, water supplies, and ecosystems as addressed in the DROUGHT section of the HMP. Extreme heat events have disrupted ecosystems by affecting plant and animal species, migration patterns, and overall biodiversity. Heat stress has also negatively impacted livestock.



- Wildfires - Prolonged periods of heat and dry conditions create favorable environments for wildfires. Vegetation has become more susceptible to ignition, and the risk of uncontrolled fires spreading has heightened.
- Mortality rates – loss of lives of those traveling on foot through Kinney County; dying of heat exhaustion, dehydration, or heat strokes.
- Exhausting First Responder resources - an increase in emergency calls related to heat-related illnesses, wildfires, power outages, and other incidents exacerbated by high temperatures have caused Kinney County to exhaust first responder resources. This surge in demand has strained response resources and overwhelmed emergency medical services.

5.9 DAM FAILURE OPTIONAL NOT A NATURAL HAZARD

5.9.1. Description of the hazard

In 1998, when the County received over a foot of rain during a weekend, dams sponsored by the Soil Conservation Service served as a major deterrent to extensive flooding in Brackettville. The dams are now over 60 years old. Although the dams are still in excellent condition, should the retention capacity ever be exceeded, the erosion from the overflow would seriously affect their integrity. Continued clearing of brush, debris, and other obstructions from below the dams will also help prolong the life and capacity of the structures.

Dams are water storage, fire protection, control, or diversion barriers that impound water from upstream. Dams provide many benefits and are an important part of our public works infrastructure. They are built for a variety of reasons, including maintenance of lake levels, flood control, power production, and water supply. Although dams have many benefits, the risk that a dam could fail still exists. Dams can pose a risk to communities if not designed, operated, and maintained properly. Dam failure is a collapse or breach in the structure. While most dams have storage volumes small enough that failures have little or no repercussions, dams with large storage amounts can cause significant flooding downstream. Dam failures can result from any one or a combination of the following causes:

1. Prolonged periods of rainfall and flooding, which cause most failures.
2. Inadequate spillway capacity, resulting in excess overtopping flows.
3. Internal erosion caused by embankment or foundation leakage or piping.
4. Improper maintenance, including failure to remove trees, repairs internal seepage problems, and maintain gates, valves, and other operational components.
5. Improper design, such as use of improper construction materials.
6. Failure of upstream dams in the same drainage basin.
7. Landslides into reservoirs, which cause surges that result in overtopping; and,



8. High winds, which can cause significant wave action and result in substantial erosion.

The nation's infrastructure of dams is aging. Old age and neglect can intensify vulnerability to these same influences. Furthermore, the terrorist attacks of September 11, 2001, have brought increased focus on infrastructure protection nationwide, including the safety of dams. Dam failures may result in the quick release of all the water in reservoirs. In the event of a dam failure, the energy of the water stored behind the dam can cause rapid and unexpected flooding downstream, resulting in loss of life and great property damage downstream of the dam.

Table 5.34 lists the 11 major dams located in Kinney County, according to the United States Army Corps of Engineers National Inventory of Dams (NID) database. There are no reported levees in Kinney County according to the Federal Emergency Management databases. Of the eleven dams, two are classified as "high" hazard which indicates the potential for hazard to the downstream area resulting from failure or mis-operation of the dam causing probable loss of human life and impacts on economic, environmental, and lifeline interests. It is important to note that these hazard classifications are not related to the physical condition or structural integrity of the dam (nor the probability of its failure) but strictly to the potential for adverse downstream effects if the dam were to fail.

Table 5.34 - Dams in Kinney County

Dam Name	River/Stream	Year Constructed	State Regulated	Federally Regulated	EAP Prepared	Hazard Classification
Anacacho Lake Dam	Stricklin Creek	1974	No	No	No	Low
Cook Dam	Lindsey Creek	1961	No	No	No	Low
Emil Bayer Lake Dam	Tequesquite Creek	1943	No	No	No	Low
Frerich Lake No. 1 Dam	Cow Creek	1943	No	No	No	Low
Frerich Lake No. 2 Dam	Cow Creek	1943	No	No	No	Low
Hobbs Tank Dam	Lindsey Creek	1974	No	No	No	Low
L.S. Johnson Lake Dam	Salado Creek	1944	No	No	No	Low
Shahan Lake Dam	East Pinto Creek	1974	No	No	No	Low
Summers Lake Dam	Salado Creek	1944	No	No	No	Low
Upper Las Moras Creek Watershed Site Dam 1	Las Moras Creek	1964	Yes	No	Yes	High
Upper Las Moras Creek Watershed Site Dam 2	Las Moras Creek	1964	Yes	No	Yes	High



Figure 5.29

Figure 5-10. Potential Dam Failure Inundation Areas in Kinney County

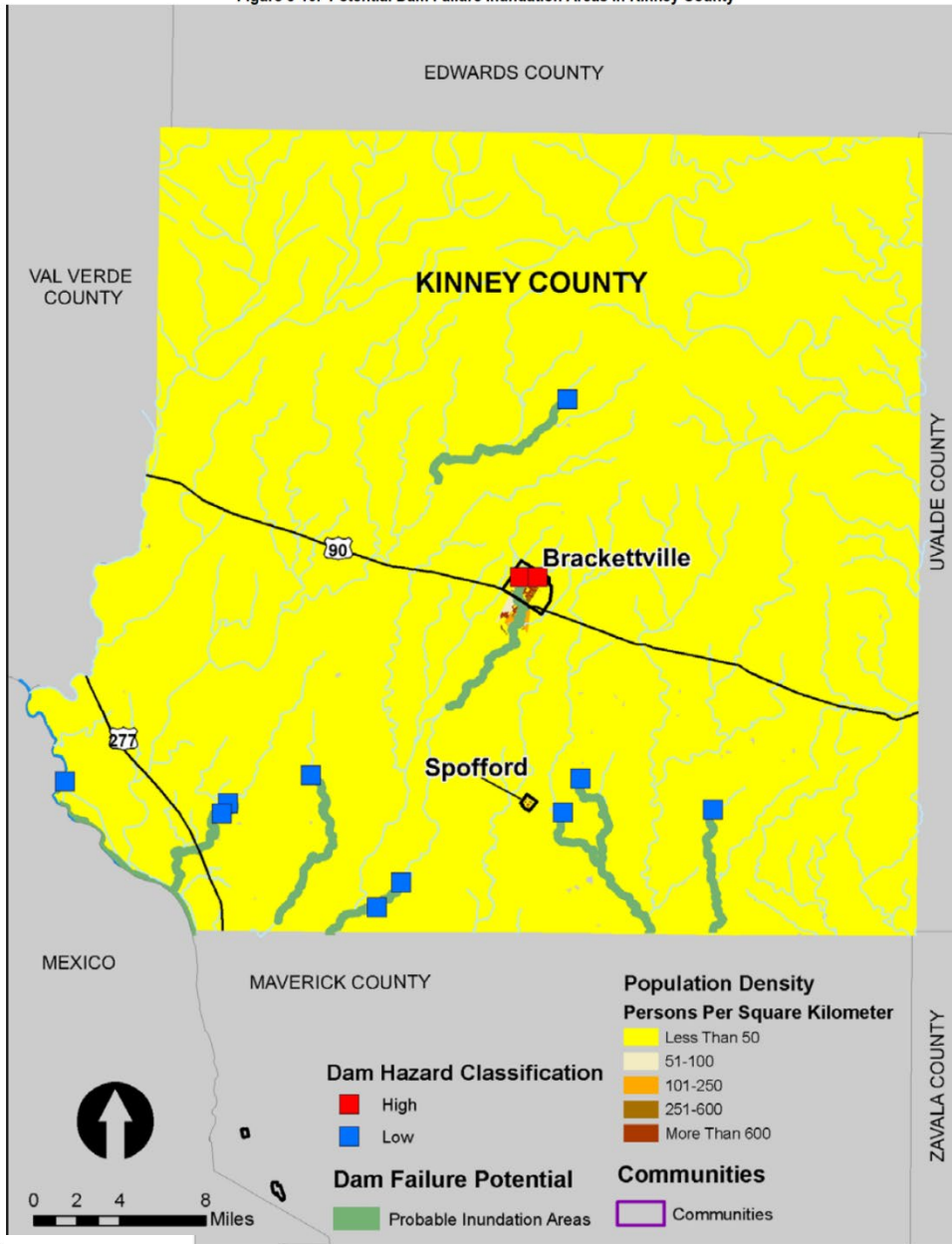


Figure: 5.10

5.9.2. Measurement

For the purpose of this risk assessment, dam safety was assessed using classifications of downstream effects by the Interagency Committee on Dam Safety. High-hazard-potential dams



are those at which failure or mis-operation would probably cause loss of human life. Intermediate-hazard-potential dams are those at which failure or mis-operation probably would not result in loss of human life but could cause economic loss, environmental damage, disruption of lifeline facilities, or other significant damage. Significant-hazard-potential dams often are in predominantly rural or agricultural areas but could be located in populated areas having significant infrastructure. Low-hazard-potential dams are those at which failure or mis-operation probably would not result in loss of human life and would cause limited economic and/or environmental losses. Losses would principally be limited to the owner's property.

5.9.3 Previous occurrences

There are no significant historical dam failure events reported for Kinney County and they are generally assumed to be low probability events, mainly due to periodic inspection and maintenance practices for those structures posing high hazards. However, it should be recognized that any dam failure could result in high consequences for people and property located within the downstream inundation areas.

5.9.4. Geographic areas affected

Table 5.34 lists the major dams located in Kinney County according to the Corps of Engineers National Inventory of Dams (NID) database of which two show to be high risk. The two major high-risk dams are located above the City of Brackettville on Las Moras Creek and are mapped in **Figure 5-30**, the location of the two major dams along with the estimated dam failure inundation areas the City of Brackettville continuing through Fort Clark Springs in **Figure 5-31**, where there is major potential for damage to property and loss of life. The Kinney County Commissioners Court is currently working to prepare for projects to mitigate flooding of Las Moras Creek. Their list of needed projects as prepared in collaboration with an engineer and hydrologist will help to reduce flooding, safeguard the community, preserve the ecosystems, ensure sustainable water resources, maintain water quality, and support various ecological, economic, and recreational functions that rivers and creeks provide. Also included in the projects will be the clean-up of the creek area and adding aesthetically pleasing attributes to encourage the public to utilize the beautified area as often as possible.

The maps (Figure 5-10 and 5-11) and data contained therein were created to show the current level of flooding (green line on maps) within the City of Brackettville and Fort Clark Springs. Construction of the proposed improvements from the study will result in 159.7 acres of developed area in the two communities being removed from the existing 100-year floodplain (red line on maps). The area of Brackettville that benefits the greatest from the improvements is the area just north of US Highway 90 where 72.7 acres of the developed area is removed from the 100-year floodplain.



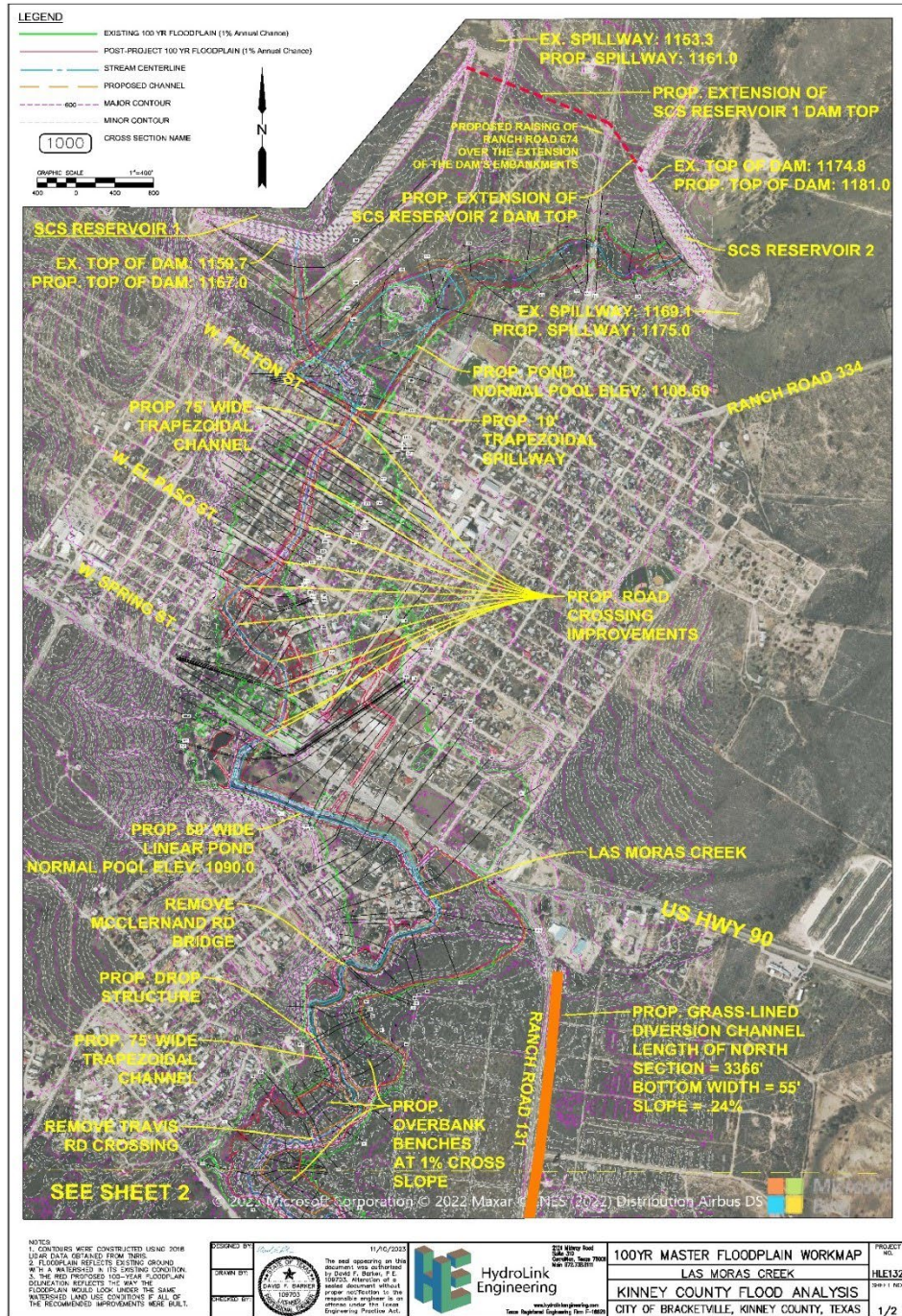


Figure 5.30



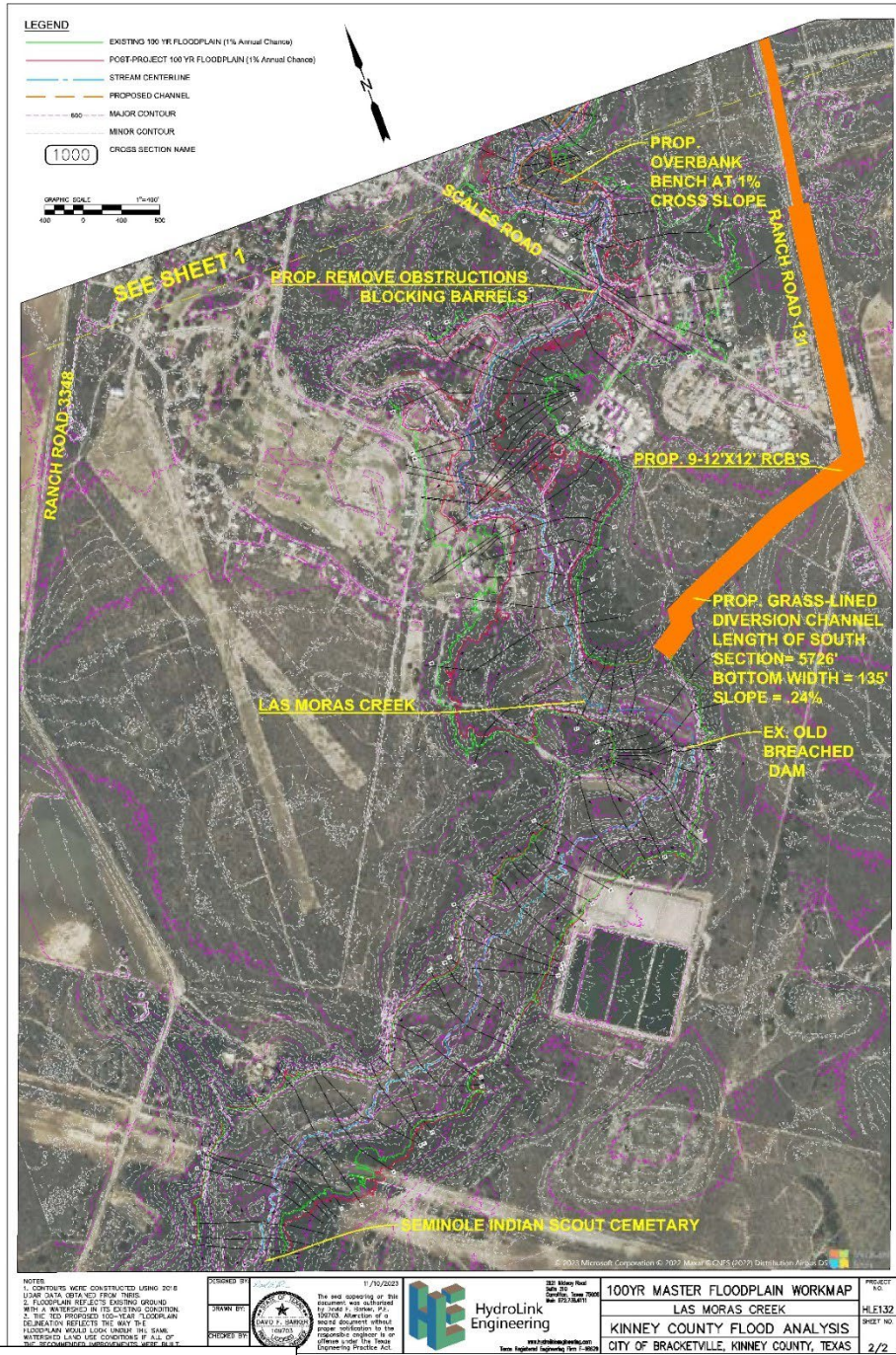


Figure 5.31



5.9.5. Probability of future disasters

Dam failure is a likely event. An event could be a great possibility within the next ten years. Dam failure is generally assumed to be a high probability event, even with the periodic inspection and maintenance practices for those structures posing high or significant hazards. However, it should be recognized that while dam failure is a high probability event, any failure would likely result in high consequences for people and property located within the downstream inundation areas.

5.9.6 Vulnerability

Table 5.35 shows the estimated buildings and the number of people that are at risk for dam failure by jurisdiction.

Table 5.35 Potential Affected Exposure to Dam Failure

Jurisdiction	Potential Residential Building Exposure at Risk		Potential Commercial Building Exposure at Risk		Number of People at Risk
	Number	Value	Number	Value	
Kinney County	6	\$961,286.93	24	\$9,184,500	150
Brackettville	632	\$101,266,558	20	\$7,653,750	1,106
Spofford	0	\$0	0	\$0	0
Ft Clark Springs	66	\$10,574,156	3	\$1,148,062	160
Ft Clark MUD	0	\$0	1	\$1,000,000	5

5.9.7. Potential impact

The potential impact of a dam failure on communities can be severe and wide-ranging, affecting both human and environmental aspects. Dam failures can lead to rapid and extensive flooding downstream. Communities situated in the path of the released water can experience flash floods, causing damage to homes, infrastructure, and agricultural land. The most immediate and tragic impact of a dam failure is the potential loss of lives. People downstream may not have sufficient time to evacuate, especially in the case of a sudden dam breach. Floodwater resulting from a dam failure can cause extensive damage to homes, businesses, roads, bridges, and other infrastructure in the affected areas.

The table above, **Table 5.35**, gives a potential dollar loss amount for dam failure. The table gives the effect on residential and commercial buildings' exposure for the entities that are in the path of the floodwaters if dam failure were to occur.



5.10. CONCLUSIONS

5.10.1. Summary of Social Vulnerability and Community Resiliency Impacts

Kinney County has a very low community resilience score and a very high Social Vulnerability rating on the National Risk Index FEMA.gov. Addressing social vulnerability and improving community resilience is crucial for mitigating economic impacts and fostering sustainable economic development. This involves implementing policies that focus on education, healthcare, social services, and infrastructure improvements to enhance a community's ability to withstand and recover from various challenges. Community Resiliency is the ability of a community to prepare for anticipated natural hazards, adapt to changing conditions, and withstand and recover rapidly from disruptions. The Community Resiliency score for Kinney County, census block, 48271950100, is .21 on a scale of 0 to 100. In the United States, 100% of the U.S. Census tracts have a higher Community Resiliency score than Kinney County. Social groups have a relatively high susceptibility to the adverse impacts of Social Vulnerability with a score of 75.26 meaning that 75% of census tracts in the United States have a lower Social Vulnerability score than Kinney County. Vulnerable communities may experience more significant disruptions to economic activities due to their limited capacity to bounce back from shocks. This can result in prolonged periods of downtime for businesses, leading to financial losses and increased unemployment. Communities with high social vulnerability and low resilience are more susceptible to natural disasters and other crises. Low community resilience often translates to weakened public services, healthcare systems, and educational institutions. This can contribute to a less productive and skilled workforce reducing overall economic output. High social vulnerability may be associated with income inequality and limited economic opportunities. This can widen the gap between different socioeconomic groups and hinder long-term economic growth. Investors and businesses may be hesitant to invest in areas with high social vulnerability and low community resilience due to the perceived risks. This lack of investment can impede economic development and perpetuate a cycle of poverty. The combination of these factors can lead to long-term economic stagnation, as communities find it challenging to break free from the cycle of vulnerability and limited resilience. Currently, Kinney County and its communities are experiencing the factors mentioned above leading to economic depression.

5.10.2 Analysis of the Research and Assessment

The results of this study are useful in at least three ways:

- Improving your understanding of the risks associated with the natural hazards in Kinney County through better understanding of the complexities and dynamics of risk, how levels of risk can be measured and compared, the myriad factors that influence risk. An understanding of these relationships is critical in making balanced and informed decisions on mitigating risks.
- Providing a baseline for policy development and comparison of mitigation alternatives. The data used for this analysis presents a current picture of risk in Kinney County. Updating this risk “snapshot” with future data will enable comparison of the changes in risk with time. Baselines of this type can support the objective analysis of policy and program options for risk reduction.



- Comparing the risk among the natural hazards addressed. The ability to quantify the risk to all these hazards relative to one another helps in a balanced, multi-hazard approach to risk management at each level of governing authority. This ranking provides a systematic framework to compare and prioritize the very disparate natural hazards that are present in Kinney County. This final step in the risk assessment provides the necessary information for the mitigation strategy to focus resources on only those hazards that pose the most threat to the study area.

Hazard risk ranking depends on the anticipated severity, area of impact, and probability of occurrence (return period) as determined and profiled in this risk assessment. **Table 5.36** provides the vulnerability ranking by jurisdiction for each hazard. For each jurisdiction, each hazard was given a rating of high (H), moderate (M), low (L), or very low (VL) based on how vulnerable they are to that hazard. The rating of VL was used if the potential exposure and loss was determined to be zero. Ratings are based on a combination of factors such as population and building exposure, historical occurrences and probability of future events, annualized loss and/or annualized loss ratios (if available), along with input from the mitigation planning committee. The hazard ranking below reflects not only local input, but data considered from the State of Texas Hazard Mitigation Plan - Appendix A, effective October 23, 2023, FEMA's National Risk Index data for Kinney County and Census Tract 48271950100, and also the results of the engineering analyses completed to date.

Table 5.36 Vulnerability to Hazards by Jurisdiction

Hazards	Kinney County	City of Brackettville	City of Spofford	Brackett ISD	Fort Clark Springs	Fort Clark MUD
Drought	H	M	M	L	H	H
Flooding	H	H	VL	M	H	H
Hail/Lightning	M	M	M	M	L	L
Winter Weather/Ice Storm/Cold Wave	M	H	H	H	M	H
Tornado/Strong Winds	M	M	M	H	M	M
Wildfire	H	L	H	L	H	M
Heat Wave	M	M	M	H	M	VL



**Table 5.37 Hazard Ranking by State of Texas Hazard Mitigation Plan, October 23, 2023
For Kinney County**

Hazards	Rank	Number of Events	Property Damage	Annual-ized Losses	Average Annual Frequency	Avg Annual Events 2000-2016	Probability
Drought	175	55	\$0	\$0	2.50	2.06	Highly Likely
Flooding	181	49	\$325,309	\$14,787	2.23	2.71	Highly Likely
Hail	144	44	\$221,890	\$13,046	2.0	1.5	Highly Likely
Winter Weather	227	7	\$0	\$0	.32	.18	Likely
Tornado	242	5	\$0	\$0	.23	.29	Likely
Wildfire	196	0	\$0	\$0	0	0	Unlikely
Heat Wave	154	0	\$0	\$0	0	0	Unlikely
Lightning	200	0	\$0	\$0	0	0	Unlikely
Hurricane	77	1	\$78,319	\$4,984	.05	.06	Unlikely

6. MITIGATION ACTIONS

Kinney County, the City of Brackettville, the City of Spofford, Fort Clark Springs, Fort Clark Spring Municipal Utility District and the Brackett Independent School identified mitigation actions to reduce the long-term risks from the hazards addressed in this Plan. The actions are presented below. Each action relates to one of the goals set forth in Chapter 2 of this Plan. Many of the actions in this chapter are directed at reducing the risk from a specific hazard, such as flooding, wildland fires, ice storms, drought, dam failure or tornadoes. Other actions in this chapter are directed at multiple or all hazards.

Mitigation action plans include the benefits and estimated costs of each action, organization responsible for implementation, implementation schedule, potential sources of funding and partners. An overall priority is assigned to each action based on its effect on overall risk to life and property, costs and benefits, ease of implementation, support, and potential funding. Implementation of all mitigation actions is dependent upon the availability of Federal, state, and local funding and staff to administer the project.

Detailed mitigation action plans are presented for Kinney County, the City of Brackettville, the City of Spofford, Fort Clark Municipal Utility District, and Brackett Independent School District.



6.1 Kinney County Actions Plans

		Jurisdiction(s) Kinney County	
		Action Number	1
Mitigation Action: Conduct a comprehensive public outreach and education campaign for all hazards.			
Hazard:	Flooding, tornadoes, strong winds, dam failure, wildland fire, drought, winter weather, cold wave, ice storm, heat wave, lightning, and hail.		
Background/Issue:	<p>A comprehensive and sustained awareness and educational campaign is needed to give the residents of Kinney County the knowledge and tools necessary to carry out their responsibilities to mitigate damage to their own lives and property before disaster strikes, better prepare for disasters, and know what to do in an emergency.</p> <p>The campaign will be conducted in collaboration with the mitigation plan team of partners. This will be a living initiative, providing educational opportunities to advance the communities' knowledge and skills. Materials will be provided in English and Spanish to help each all populations within the County.</p> <p>The Kinney County Emergency Management Coordinator will work actively to educate citizens of all age groups and make information available to school district officials, homeowners, civic and service organizations, church groups, and other interested parties.</p>		
Integration Ideas:	The integration and inclusion of public outreach and education of the public on all hazards will be included throughout the plans for each entity. Information will be shared via websites for all entities, at community events, push notifications from app, reminders on bills and any other documentation sent to residents, mailouts, school district dissemination through class accounts, public service announcements, email, and bumper stickers.		
Responsible Agency:	Kinney County, Emergency Management Coordinator in collaboration with all entities.		



Partners:	City of Brackettville, City of Spofford, Fort Clark Springs, Brackett ISD, and Fort Clark MUD
Potential Funding:	Funding sources will include Hazard Mitigation Program funds and General Revenues. Free resource materials and grant funds will be sought to reduce the cost.
Cost Estimate:	Minimal, mostly requiring staffing resources
Benefits: (Losses Avoided)	Although a detailed benefit/cost analysis is beyond the scope of this plan, this action's minimal cost is insignificant compared to the potential property damages that could be lessened and lives that could be saved through educating the public about proper preparation for and response to a wide range of emergencies.
Timeline:	Ongoing
Priority:	Medium
Completed by:	Kinney County Hazard Mitigation Team

Jurisdiction(s) Kinney County	
Action Number	2

Mitigation Action: Upgrade and improve the existing warning system; connect it to weather alert system to increase accuracy and timeliness of activation. Improve radio communications between cities and counties. Promote the use of NOAA "All Hazards" radios for early warning and post-event information. Purchase a web-based app for Kinney County that would include notifications on all hazards, law enforcement information, as well as contact with all departments located in Kinney County.	
Hazard:	Tornadoes, Flooding, Hail, Ice storm, Wildfire, lightning, and strong winds.
Background/Issue:	Warning system: The Kinney County Sheriff's Office, a critical facility, is located within a low-lying area prone to flooding. The Sheriff's office controls the warning system for Brackettville and would also be one of the obvious choices for a Command Center



during an emergency. One of the main generators to be used in an emergency is also located at the Sheriff's office; therefore, it is imperative that the warning system and its management be improved. Upgrading the current warning system and connecting it to a weather alert system would allow more lead time to relocate resources as necessary. Maintaining the generator on a mobile trailer is one option, not only for the Sheriff's office but also for the EMS building, which is also in a low-lying area of Brackettville. Converting these generators to propane is also a priority to make them self-sustaining in the event of a power outage during an emergency. Obtaining new generators from a government surplus source is an option being considered. Neither the Sheriff's Office nor the EMS station could be an adequate control center in the event of heavy flooding. Determining an alternate location or connection for the siren is also being considered to ensure that it remains a viable warning system at all times.

Radio Communications: Radio communications among existing cities, towns, the United States Air Force Base, and Kinney County need to be improved.

NOAA Weather Radio: NOAA Weather Radio (NWR) is a nationwide network of radio stations broadcasting continuous weather information direct from a nearby National Weather Service office. These stations broadcast National Weather Service warnings, as well as post-event information for all types of hazards, both natural and man-made. These Broadcasts are generated seven days a week, 24 hours a day.

The Kinney County Emergency Management Coordinator will work actively to educate citizens of all age groups and make information available to school district officials, homeowners, civic and service groups, church groups, and other interested parties.

The HMP survey completed by residents of Kinney County indicated by 49% of the respondents that social media would be the most effective way to receive information. Creating a platform that is available to rapidly push notifications out to residents would support a more efficient and effective warning system for the public. Statistics show that 95% of the U.S. population have some sort of cell phone and 81.6% of those are smart phones. These numbers are expected to continue to increase. Developing a mobile app for



	Kinney County is the best and most effective way to quickly and consistently reach their residents.
Integration Ideas:	Integration and inclusion of some or all suggestions for public warning would be included in some form in all local plans to support ways for improved communication with residents.
Responsible Agency:	Kinney County, Emergency Management Coordinator
Partners:	The City of Brackettville, City of Spofford, Brackett ISD, Fort Clark Springs, Fort Clark MUD
Potential Funding:	Funding sources include the Hazard Mitigation Grant Program Funds and general revenues. Free resource materials will be sought to reduce the cost.
Cost Estimate:	Minimal, mostly requiring staff time App for smart devices is estimated at \$80,000 during 2024
Benefits: (Losses Avoided)	This action will result in a more informed public, aware of the risks they face from various hazards and knowledgeable about how to protect their families, homes, workplaces, communities, and livelihoods from the impact of disasters. It will also result in lasting partnerships with those partners and community members who provide support. It will also assist in the recovery process since damage will be minimized and more residents will be self-sustaining for a longer period.
Timeline:	Ongoing to include necessary updates and the need for upgrades to the systems.
Priority:	High
Completed by:	Kinney County, Emergency Management Coordinator and Kinney County Hazard Mitigation Team



		Jurisdiction(s) Kinney County	
		Action Number	3
Mitigation Action: Equip critical facilities with back-up generators to provide auxiliary power.			
Hazard:	Thunderstorms, flooding, tornadoes, dam failure, wildland fire, heat waves, ice storms		
Background/Issue:	Critical facilities should be equipped with backup power units to allow for continuity of operations in the event of a disaster. The Kinney County Sheriff's Office, a critical facility, is located within a low-lying area. The Sheriff's office controls the warning system for Brackettville and would also be one of the obvious choices for a Command Center during an emergency. One of the main generators to be used in an emergency is located at the Sheriff's office; therefore, this hazard should be mitigated at the earliest possible time. Upgrading the current warning system and connecting it to a weather alert system would allow more lead time to relocate resources as necessary. Obtaining new generators for all Kinney County critical facilities is essential.		
Integration Ideas:	Integrate into the local Emergency Operating Plan		
Responsible Agency:	Emergency Management Coordinator in collaboration with critical facility department heads.		
Partners:	All jurisdictions in this Hazard Mitigation Plan		
Potential Funding:	Funding sources include FEMA Hazard Mitigation Grant Programs. Homeland Security grants funds and general revenue.		
Cost Estimate:	\$200,000 per generator to include all appurtenances		
Benefits: (Losses Avoided)	This action will provide for continuity of critical facilities and operations of government in the event of a power supply disruption. It will also provide for power needed for critical facilities to accommodate displaced citizens.		



Timeline:	Within the next 5 years – ongoing as the need for a generator is warranted.
Priority:	High Priority
Completed by:	Kinney County in collaboration with other jurisdictions.

Jurisdiction(s) Kinney County	
Action Number	4

Mitigation Action: Work with officials from surrounding counties to develop a coordinated regional evacuation plan.	
Hazard:	Flooding, tornadoes, dam failure, wildland fire
Background/Issue:	<p>Large-scale events caused by flooding, dam failure, or wildland fires can necessitate a large scale evacuation plan. Transboundary risks may also threaten lives, property and the natural environment across the border in either direction. In that case, the region may be a need to prepare for a large influx of evacuees from other counties. Kinney County may be called upon to assist such a large-scale event, for example transportation of assets.</p> <p>Regional planning among the potentially affected counties is needed to develop coordinated policies and procedures to ensure an orderly evacuation. Federal and State Officials will also play an important role in these discussions.</p>
Integration Ideas:	Integrate into the local Emergency Operating Plan and Middle Rio Grande Hazard Mitigation Plan
Responsible Agency:	Emergency Management Coordinator in collaboration with other county officials from neighboring cities



Partners:	All jurisdictions in this Hazard Mitigation Plan and the Middle Rio Grande Hazard Mitigation Plan
Potential Funding:	Funding sources include FEMA Hazard Mitigation Grant Programs. Homeland Security grants funds and general revenue.
Cost Estimate:	\$20,000 for supplies and materials needed for meetings
Benefits: (Losses Avoided)	Having in place adequate plans and capabilities to evacuate people can save lives in a potentially catastrophic event at a relatively small cost.
Timeline:	Discussions and planning will begin in year 1 of this hazard mitigation plan implementation and will be on-going with a annual review among all responsible parties.
Priority:	High Priority
Completed by:	Kinney County in collaboration with local jurisdictions

Jurisdiction(s) Kinney County	
Action Number	5

Mitigation Action: Install surge protectors on critical electronic equipment.	
Hazard:	Lightning, hail, tornadoes, heat waves, ice storms
Background/Issue:	Damage from severe thunderstorms, lightning, ice storms or heat waves is often underestimated. Surge protectors can prevent damage to electronics.
Integration Ideas:	Integrate into the local Emergency Operating Plan and the Kinney County Technology and Cybersecurity Plans



Responsible Agency:	IT Coordinator in collaboration with critical facility department heads.
Partners:	All jurisdictions in this Hazard Mitigation Plan
Potential Funding:	Funding sources include TEMA Hazard Mitigation Grant Programs. Homeland Security grants funds and general revenue.
Cost Estimate:	\$100,000 – to include installation of all surge protectors
Benefits: (Losses Avoided)	This action will protect equipment and documents that ensure the continuity of county services during and after a disaster.
Timeline:	Install within the first year of Hazard Mitigation Plan
Priority:	High Priority
Completed by:	Kinney County in collaboration with IT department and department heads.

Jurisdiction(s) Kinney County	
Action Number	6

Mitigation Action: Repair water systems to reduce water loss	
Hazard:	Drought
Background/Issue:	Many of the water systems in Kinney County are aged. This may lead to loss of water, a critical resource in the area for human needs as well as irrigation. The infrastructure is in need of an assessment to determine plan for replacement of lines.
Integration Ideas:	Integrate into the City of Brackettville’s Instructure plans.



Responsible Agency:	County Judge in collaboration with the City Mayors and the Ft. Clark Municipal Utility District President.
Partners:	City of Brackettville, City of Spofford, Ft. Clark Municipal Utility District. District Director of Public Works.
Potential Funding:	Funding sources include Texas Water Development Board, Natural Resources Conservation Service, and general funds.
Cost Estimate:	\$100,000 in grant matching funds to support the City of Brackettville, City of Spofford, and Ft. Clark Municipal Utility District.
Benefits: (Losses Avoided)	This action will help reduce leakage and therefore conserve scarce water resources needed for human consumption, farming, firefighting, and other needs.
Timeline:	Within the next 5 years 2024-2028
Priority:	Medium
Completed by:	Kinney County in collaboration with other local jurisdictions.

Jurisdiction(s) Kinney County	
Action Number	7

Mitigation Action: Develop a water conservation program, including public education and outreach to warn citizens about the risks to public health and negative effects to the environment caused by drought.	
Hazard:	Drought
Background/Issue:	Periods of time with little or no precipitation can pose risks that can be managed with conservation, preparation, and financial incentives. Citizens can be encouraged to take water-saving measures, especially when extra water is needed for irrigation and critical human needs.



	<p>A comprehensive water conservation program is needed, to include water-saving measures that citizens and the government can take. The program will include water storage, water use controls, drought contingency plans and improvements in delivery system.</p> <p>Public information and education is needed on the benefits of water conservation and the risks to public health caused by drought. Landscaping measures such as zeroscaping can be encouraged and financial incentives considered by adjusting water rates in drought conditions.</p>
Integration Ideas:	Integrate into the City of Brackettville, City of Spofford, Ft. Clark Municipal Utility District Water Conservation Program.
Responsible Agency:	County Judge in collaboration with the City Mayors and the Ft. Clark Municipal Utility District President.
Partners:	City of Brackettville, City of Spofford, Ft. Clark Municipal Utility District. District Director of Public Works, Brackett ISD, Texas A&M Agrilife Extension Agent.
Potential Funding:	Funding sources include Texas Water Development Board, Natural Resources Conservation Service, and general funds.
Cost Estimate:	\$50,000 for public outreach and awareness supplies and materials
Benefits: (Losses Avoided)	This action will help conserve scarce water resources needed for human consumption, farming, firefighting, and other needs.
Timeline:	Within the first year and then on-going annually as drought threat is assessed.
Priority:	Medium
Completed by:	Kinney County in collaboration with other local jurisdictions.



Mitigation Action: Build permanent low water crossing where roads flood and identify and map prone to flooding roads as a basis for evacuation planning.

Hazard:	Flooding
Background/Issue:	<p>Ninety percent of Kinney County is rangeland. Las Moras Creek, the Nueces River and multiple streams and creeks run throughout the county and all are overflow channels from excess water from the retention dams and other major rivers in the counties that lie North of us. The major hazard during peak rainfall seasons is the lack of low water crossings in rural areas of our county. Although there are not heavily populated areas affected, there are families at risk when these roads wash out. Should emergency vehicles be needed, they are unable to respond effectively as they can not locate where low water crossings are flooded. Several permanent low water crossings have been built in the past, but there is a need for more.</p> <p>People often underestimate the depth, force, and power of water. Many deaths can occur in automobiles as drivers are swept downstream. Many of these drownings are preventable, but too many people continue to drive around the barriers that warn the road is flooded.</p>
Integration Ideas:	Integrate into the local Emergency Operating Plan and the Kinney County Road and Bridge Report
Responsible Agency:	Emergency Management Coordinator in collaboration with the Kinney County Road and Bridge Supervisor.
Partners:	All jurisdictions in this Hazard Mitigation Plan
Potential Funding:	Funding sources include FEMA Hazard Mitigation Grant Programs, Texas Water Development Board, and local revenue funds.
Cost Estimate:	\$3,000,000 to build permanent low water crossings and assess roads with low water crossings.
Benefits: (Losses Avoided)	This action will avoid loss to lives and property when first responders are able to cross flooding roads during a disaster.
Timeline:	Within the next 5 years



Priority:	High Priority
Completed by:	Kinney County in collaboration with other local jurisdictions.

Jurisdiction(s) Kinney County	
Action Number	9

Mitigation Action: Conduct an annual evaluation of the National Flood Insurance Program’s “repetitive loss” list and pursue voluntary acquisitions when economically feasible and funds are available to convert property to open space.	
Hazard:	Flooding
Background/Issue:	Acquisition of flood damaged properties will remove structures from risk permanently. Unfortunately, many frequently flooded structures are not reflected in FEMA records.
Integration Ideas:	Integrate into the floodplain map assessment document and the Las Moras Creek plans.
Responsible Agency:	County Judge in collaboration with the City Mayor and the Ft. Clark Springs Board President.
Partners:	City of Brackettville, Ft. Clark Springs Board
Potential Funding:	Funding sources include any Pre-Disaster Mitigation Grant Programs, Community Development Block Grants, and general revenues.
Cost Estimate:	It is difficult to estimate the cost of acquisition as it is dependent on tax rolls, property values, etc.
Benefits: (Losses Avoided)	Avoided losses include lives and structures plus emergency response costs.
Timeline:	On-going as property owners decide to sell



Priority:	High
Completed by:	Kinney County in collaboration with other local jurisdictions.

Jurisdiction(s) Kinney County	
Action Number	10

Mitigation Action: Conduct studies to determine a method to retain and regulate run-off water from the 20% or more uncontrolled watershed areas. Clear debris and other obstructions, especially from the retention ponds below the dams. Pursue methods to capture excess water to use in drought situations.	
Hazard:	Drought, Flooding, Dam Failure, Wildland Fire
Background/Issue:	<p>It is estimated that 20% of low-lying areas are not protected. There is a need to identify these areas, develop flood reduction alternatives and recommend the best alternative for each stream based on an analysis of the costs and benefits of the various options.</p> <p>Clearing debris and other obstructions from channels, especially below the retention dams and along the Las Moras Creek is a priority. There is an excessive amount of plant growth that has clogged drainage canals, creeks, rivers and may create a wildfire hazard should it dry. Cleaning up this growth will also help conserve remaining water supplies and eliminate wildfire hazards.</p>
Integration Ideas:	Integrate into the Kinney County Emergency Operations Plans, Road and Bridge Report, Ft. Clark Springs EOP, City of Brackettville EOP, and City of Spofford EOP
Responsible Agency:	County Judge in collaboration with the City Mayors and the Ft. Clark Springs Board President.
Partners:	City of Brackettville, City of Spofford, Ft. Clark Springs
Potential Funding:	Funding sources include Texas Water Development Board, Natural Resources Conservation Service, FEMA Hazard Mitigation Grants, and general funds.



Cost Estimate:	Has not been determined and will be dependent of the assessment and plan of action
Benefits: (Losses Avoided)	This action will reduce flooding and reduce the danger to vehicle drivers and pedestrians who could be swept away as they try to cross flooded areas. It will also help reduce damage to buildings and the disruption of transportation systems and critical utilities.
Timeline:	Within the next 5 years 2024-2028
Priority:	High
Completed by:	Kinney County in collaboration with other local jurisdictions.

Jurisdiction(s) Kinney County	
Action Number	11

Mitigation Action: Increase awareness of flood insurance and its benefits and costs.	
Hazard:	Flooding
Background/Issue:	Kinney County has a very low rate of flood insurance. Flood insurance provides the best financial protection in the event of a flood disaster. Homeowner or business property insurance policies do not cover flood damage. Flood insurance enables property owners to recover quickly and more fully from a flooding event. Reliance on Federal disaster assistance leaves many without financial protection for those events that are not Federally declared disasters. Often, Federal disaster assistance is in the form of long-term loans that must be repaid.



	<p>Although a Federal Emergency Management Agency study is underway, the latest Flood Insurance Rate covering Kinney County dates to 1985. An updated map is desperately needed for communities and local residents to identify known flood risks and make informed decisions about flood insurance and flood protection.</p> <p>The awareness campaign will be aimed at local officials, property owners, and realtors. It will encourage residents and business owners to purchase flood insurance. It will make available free training and publications from the Federal Emergency Management Agency, the Texas Water Development Board, and the Texas Floodplain Management Association.</p>
Integration Ideas:	Include in the knowledge shared with residents, facts and information on Elevation Certificates and how they can possibly help lower flood insurance rates. Elevation Certificates are also used for floodplain management building requirements, which can affect eligibility for Community Rating System discounts.
Responsible Agency:	Kinney County
Partners:	Local officials from the City of Brackettville, Fort Clark Springs, and Fort Clark MUD
Potential Funding:	Training and publications are available at no cost through the Texas Water Development Board, the Texas Floodplain Management Association, and the National Flood Insurance Program.
Cost Estimate:	Minimal
Benefits: (Losses Avoided)	<p>Increased flood insurance coverage will provide greater financial protection for owners and renters. www.FloodSmart.gov Social Media FEMA.gov</p> <p>Although a detailed benefit/cost analysis is beyond the scope of this plan, the cost for implementation will be minimal to encourage residents to buy flood insurance compared to the financial protection flood insurance will bring. This action will minimize the costs for federal disaster assistance and County services.</p>
Timeline:	Complete the design of the program for implementation and initiate the roll out to the public, then ongoing program information will be shared with the public annually.



Priority:	High
Completed by:	Action will be completed under the guidance of the Kinney County Judge’s office in collaboration with the Emergency Management Coordinator

Jurisdiction(s) Kinney County	
Action Number	12

Mitigation Action: Continue to improve enforcement of the National Flood Insurance program requirements, including those related to the substantial damage/substantial improvement.	
Hazard:	Flooding (NFIP Action)
Background/Issue:	<p>When a building in a Special Flood Hazard Area is substantially improved or substantially damaged, it is to be rebuilt to standards contained in the floodplain management ordinance. This action calls for continuing to improve enforcement of this provision.</p> <p>“Substantial improvement” means any rehabilitation, addition, or other improvement of a building when the cost of the improvement equals or exceeds 50 percent of the market value of the building before start of construction of the improvement. The term includes buildings that have incurred “substantial damage.” “Substantial damage” means damage of any origin sustained by a building when the cost of restoring the building to its pre-damaged condition would equal or exceed 50 percent of the market value of the building before the damage occ</p>
Integration Ideas:	All entities that regulate building or rebuilding should adopt this rule as policy, ordinance, or code. This rule ensures that buildings are constructed or improved in a way that reduces the risk of damage from natural disasters and helps to protect the safety of the occupants.
Responsible Agency:	Kinney County
Partners:	Local officials from the City of Brackettville and Fort Clark Springs.



Potential Funding:	Local Revenue
Cost Estimate:	Minimal
Benefits: (Losses Avoided)	This action will ensure that substantially improved and damaged buildings in Special Flood Hazard Areas are rebuilt in ways to reduce flood risks. This action helps to remove properties over time from the floodplain through more vigorous enforcement of the adopted ordinances, at a minimal cost. It will reduce the long-term cost associated with properties located in the floodplain. It will also reduce costs for Federal disaster assistance and County Services.
Timeline:	Ordinances/policy/codes should be created and adopted during the 2025-2026 budget year.
Priority:	High
Completed by:	Action will be completed under the guidance of the Kinney County Judge’s office in collaboration with the Emergency Management Coordinator

Jurisdiction(s) Kinney County	
Action Number	13

Mitigation Action: Develop emergency response and evacuation plans for use in the event of a dam failure.	
Hazard:	Dam Failure
Background/Issue:	A dam breach or failure is an unlikely, high hazard event that is a life and property threatening event for those downstream. There are many dams in Kinney County, all but two are considered “low hazard.” The two that are considered “high hazard” are located on



	Las Moras Creek just above the town of Brackettville, Texas. These dams are considered high risk due to the fact that life and property would be at high risk if either of these dams were to breach.
Integration Ideas:	Include the emergency response and evacuation plans in the Kinney County Emergency Operation Plan and keep up-to-date as the plans are reviewed. The emergency response and evacuation plans should be shared with all partnering entities to include in their plans as well.
Responsible Agency:	Kinney County
Partners:	Local officials from the City of Brackettville, Fort Clark Springs, Fort Clark MUD, City of Spofford, and Brackett ISD. Our partners within the county for dam safety is the United States Department of Agriculture. Dam information for Kinney County can be found at National Inventory of Dams (army.mil) .
Potential Funding:	Local revenues
Cost Estimate:	Minimal
Benefits: (Losses Avoided)	This action will allow County officials to better prepare for any dam failure. Although it is unlikely that dam failure will occur, dam failure would potentially cause loss of life and property to many living downstream of the dams. The benefits of saving lives and property far outweigh the cost of planning.
Timeline:	Develop emergency response and evacuation plans to be included in the local plans and share with partner entities. Updating the information in the plans should be completed by the 2025-26 budget year.
Priority:	High
Completed by:	Action will be completed under the guidance of the Kinney County Judge's office in collaboration with the Emergency Management Coordinator



		Jurisdiction(s) Kinney County	
		Action Number	14
Mitigation Action: Work with the Texas Forest Service on the placement and construction of fire breaks.			
Hazard:	Wildland Fire		
Background/Issue:	Several areas of high and moderate wildland fire susceptibility have been identified in this plan for Kinney County. In light of the wildland fire risk, fuels management is needed to prevent or reduce the spread of fire.		
Integration Ideas:			
Responsible Agency:	Kinney County		
Partners:	Texas Forest Service, Kinney County Fire & Rescue,		
Potential Funding:	Local revenues; Texas Forest Service; Natural Resources Conservation Service Implementation of mitigation actions is dependent upon the availability of Federal, State, or Local funding and staff to administer the project.		
Cost Estimate:	Minimal		
Benefits: (Losses Avoided)	Creating firebreaks and other measures can slow or stop the spread of wildland fires by removing fuels for burning. The cost estimate is pending identification of locations for fire breaks. However, fuels management can go a long way towards preventing or reducing the spread of fires and reduce costs for emergency response and property damage.		
Timeline:	Budget year 2026-2027		
Priority:	High		



Completed by:	Action will be completed under the guidance of the Kinney County Fire Chief and collaboration with the Kinney County Emergency Management Coordinator.
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		Jurisdiction(s) Kinney County	
		Action Number	15
Mitigation Action: Review and update, as necessary, criteria for establishing burn bans; and procedures for conducting, tracking, and reporting controlled burns.			
Hazard:	Wildland Fire		
Background/Issue:	<p>Wildland fires can be hard to control as they threaten people and homes. Grassland and wildland fires are more frequent and cause more property damage than structure fires. Many wildland fires are caused by controlled burning that cannot be contained.</p> <p>The County and City governments issue burn bans at appropriate times of the year to control the number and size of outdoor fires. The criteria for establishing burn bans needs to be reviewed and updated, as well as the procedures for conducting, tracking, and reporting of controlled bans.</p>		
Integration Ideas:	Integrate into the Local Emergency Operations Plans		
Responsible Agency:	Kinney County; City of Brackettville; City of Spofford		
Partners:	Texas Forest Service, Kinney County Fire & Rescue, United States Department of Agriculture		
Potential Funding:	<p>Local revenues; Texas Forest Service; Natural Resources Conservation Service</p> <p>Implementation of mitigation actions is dependent upon the availability of Federal, State, or Local funding and staff to administer the project.</p>		
Cost Estimate:	Minimal		



Benefits: (Losses Avoided)	Costs for this action item will be minimal. Improved response resources will help prevent and control wildland fires early so that they do not require outside help from other jurisdictions or the state. With up to date and established criteria for assigning burn bans and controlled burns, prevention and management of wildfires will be greatly improved.
Timeline:	Budget year 2025-2026
Priority:	Medium
Completed by:	Action will be completed under the guidance of the Kinney County Kinney County Judge, Mayors of Brackettville and Spofford with support from the Kinney County Fire Chief.

Jurisdiction(s) Kinney County	
Action Number	16

Mitigation Action: Conduct studies to determine a method to retain and regulate run-off water from the 20% or more uncontrolled watershed areas. Clear debris and other obstructions from the Las Moras Creek.	
Hazard:	Drought, Flooding, Dam Failure, Wildland Fire
Background/Issue:	<p>It is estimated that 20% of low-lying areas are not protected. There is a need to identify these areas, develop flood reduction alternatives and recommend the best alternative for each stream based on an analysis of the costs and benefits of the various options.</p> <p>Clearing debris and other obstructions from channels, along the Las Moras Creek is a priority. There is an excessive amount of plant growth that has clogged drainage canals, creeks, rivers and may create a wildfire hazard should it dry. Cleaning up this growth will also help conserve remaining water supplies and eliminate wildfire hazards.</p>
Integration Ideas:	Integrate into the Kinney County Emergency Operations Plan



Responsible Agency:	Kinney County, City of Brackettville
Partners:	Kinney County, City of Brackettville< Fort Clark Springs
Potential Funding:	Funding sources include Texas Water Development Board, Texas Commission on Environmental Quality, Natural Resources Conservation Service, FEMA Hazard Mitigation Grants, and general funds.
Cost Estimate:	Has not been determined and will be dependent of the assessment and plan of action
Benefits: (Losses Avoided)	This action will reduce flooding and reduce the danger to vehicle drivers and pedestrians who could be swept away as they try to cross flooded areas. It will also help reduce damage to buildings and the disruption of transportation systems and critical utilities.
Timeline:	Within the next 5 years 2024-2028
Priority:	High
Completed by:	Kinney County Officials

6.2 City of Brackettville Action Plans

		Jurisdiction(s) Brackettville	
		Action Number	1
Mitigation Action: Conduct a comprehensive public outreach and education campaign for all hazards.			
Hazard:	Flooding, tornadoes, strong winds, dam failure, wildland fire, drought, winter weather, cold wave, ice storm, lightning, hail, and heatwave.		
Background/Issue:	A comprehensive and sustained awareness and educational campaign is needed to give the residents of Kinney County the knowledge and tolls necessary to carry out their responsibilities to		



	<p>mitigate damage to their own lives and property before disaster strikes, better prepare for disasters, and know what to do in an emergency.</p> <p>The campaign will be conducted in collaboration with the mitigation plan team of partners. This will be a living initiative, providing educational opportunities to advance the communities' knowledge and skills. Materials will be provided in English and Spanish to help each all populations within the County.</p> <p>The Kinney County Emergency Management Coordinator will work actively to educate citizens of all age groups and make information available to school district officials, homeowners, civic and service organizations, church groups, and other interested parties.</p>
Integration Ideas:	The integration and inclusion of public outreach and education of the public on all hazards will be included throughout the plans for each entity. Information will be shared via websites for all entities, at community events, push notifications from app, reminders on bills and any other documentation sent to residents, mailouts, school district dissemination through class accounts, public service announcements, email, and bumper stickers.
Responsible Agency:	The City of Brackettville Mayor and City Administrator
Partners:	Kinney County, City of Spofford, Fort Clark Springs, Brackett ISD, and Fort Clark MUD
Potential Funding:	Funding sources will include Hazard Mitigation Program funds and General Revenues. Free resource materials and grant funds will be sought to reduce the cost.
Cost Estimate:	Minimal, mostly requiring staffing resources
Benefits: (Losses Avoided)	Although a detailed benefit/cost analysis is beyond the scope of this plan, this action's minimal cost is insignificant compared to the potential property damages that could be lessened and lives that could be saved through educating the public about proper preparation for and response to a wide range of emergencies. This action will result in a more informed public, aware of the risks they face from various hazards and knowledgeable about how to protect their families, homes, workplaces, communities, and livelihoods from the impact of disasters. It will also result in lasting partnerships with community members who provide support. It will



	also assist in the recovery process since damage will be minimized and more residents will be self-sustaining for a longer period.
Timeline:	Ongoing
Priority:	Medium
Completed by:	The City of Brackettville Mayor and City Administrator

Jurisdiction(s) Brackettville	
Action Number	2

Mitigation Action: Upgrade and improve the existing warning system; connect it to weather alert system to increase accuracy and timeliness of activation. Improve radio communications between cities and counties. Promote the use of NOAA “All Hazards” radios for early warning and post-event information along with the many websites and social media pages available that include hazard planning and recovery information. Purchase a web-based app for Kinney County that would include notifications on all hazards, law enforcement information, as well as contact with all departments located in Kinney County.	
Hazard:	Tornadoes, Flooding, Hail, Ice storm, Winter Weather, Cold Wave, Wildfire, Lightning, and Strong Winds.
Background/Issue:	Warning system: The Kinney County Sheriff’s Office, a critical facility, is located within a low-lying area prone to flooding. The Sheriff’s office controls the warning system for Brackettville and would also be one of the obvious choices for a Command Center during an emergency. One of the main generators to be used in an emergency is also located at the Sheriff’s office; therefore, it is imperative that the warning system and its management be improved. Upgrading the current warning system and connecting it to a weather alert system would allow more lead time to relocate resources as necessary. Maintaining the generator on a mobile trailer is one option, not only for the Sheriff’s office but also for the



	<p>EMS building, which is also in a low-lying area of Brackettville. Converting these generators to propane is also a priority to make them self-sustaining in the event of a power outage during an emergency. Obtaining new generators from a government surplus source is an option being considered. Neither the Sheriff's Office nor the EMS station could be an adequate control center in the event of heavy flooding. Determining an alternate location or connection for the siren is also being considered to ensure that it remains a viable warning system at all times.</p> <p>Radio Communications: Radio communications among existing cities, towns, the United States Air Force Base, and Kinney County need to be improved.</p> <p>NOAA Weather Radio: NOAA Weather Radio (NWR) is a nationwide network of radio stations broadcasting continuous weather information direct from a nearby National Weather Service office. These stations broadcast National Weather Service warnings, as well as post-event information for all types of hazards, both natural and man-made. These Broadcasts are generated seven days a week, 24 hours a day.</p> <p>The Kinney County Emergency Management Coordinator will work actively to educate citizens of all age groups and make information available to school district officials, homeowners, civic and service groups, church groups, and other interested parties.</p> <p>The HMP survey completed by residents of Kinney County indicated that 49% of the respondents prefer social media as the most effective way to receive information. Creating a platform that is available to rapidly push notifications out to residents would support a more efficient and effective warning system for the public. Statistics show that 95% of the U.S. population have some sort of cell phone and 81.6% of those are smart phones. These numbers are expected to continue to increase. Developing a mobile app for Kinney County is the best and most effective way to consistently reach their residents.</p>
<p>Integration Ideas:</p>	<p>Integration of some or all suggestions for public warning should be included in some form in all local plans and any plans of entities within the county to support ways for improved communication with residents.</p>



Responsible Agency:	Kinney County, Emergency Management Coordinator
Partners:	The City of Brackettville, City of Spofford, Brackett ISD, Fort Clark Springs, Fort Clark MUD
Potential Funding:	Funding sources include the Hazard Mitigation Grant Program Funds and general revenues of entities. Free resource materials will be sought to reduce the cost.
Cost Estimate:	Minimal, mostly requiring staff time App for mobile devices is estimated to be \$80,000 in 2024
Benefits: (Losses Avoided)	This action will result in a more informed public, aware of the risks they face from various hazards and knowledgeable about how to protect their families, homes, workplaces, communities, and livelihoods from the impact of disasters. It will also result in lasting partnerships with those partners and community members who provide support. It will also assist in the recovery process since damage will be minimized and more residents will be self-sustaining for a longer period.
Timeline:	All plans of action should be completed by the 2026-2027 budget year. Ongoing costs to include necessary updates and the need for upgrades to the systems.
Priority:	High
Completed by:	Kinney County, Emergency Management Coordinator, Mayor of the City of Brackettville and City Manager

Jurisdiction(s) Brackettville	
Action Number	3

Mitigation Action: Equip critical facilities with back-up generators to provide auxiliary power.	
Hazard:	Flooding, tornado, strong winds, dam failure, wildland fire, drought, winter weather, cold wave, ice storm, lightning, hail, and heatwave.
Background/Issue:	Critical facilities should be equipped with backup power units to allow for continuity of operations in the event of a disaster.



	<p>Currently the City of Brackettville has two generators, one at the main lift station on Highway 90 and one at the water tower within the city. Generators are still needed at critical facilities that do not have a backup power supply, especially those where residents can come for warming or water/food.</p> <p>The Emergency Management Coordinator will update the critical facilities list annually to prioritize facilities to be equipped. The first priority for the City of Brackettville will be to obtain a generator for the lift station on Lackey Alley on the West Side of the City of Brackettville.</p>
Integration Ideas:	Integration is needed throughout all entity plans to include the need for backup power in times when hazards create unsafe situations for our most vulnerable populations.
Responsible Agency:	The City of Brackettville Mayor and City Administrator
Partners:	Kinney County, City of Spofford, Fort Clark Springs, Brackett ISD, and Fort Clark MUD
Potential Funding:	Funding sources will include Hazard Mitigation Program funds, grant funds from Covid 19 – TDEM Grant and General Revenues.
Cost Estimate:	\$255,000
Benefits: (Losses Avoided)	This action will provide for continuity of critical facilities and critical governmental operations in the event of a power supply disruption. Having facilities with warming capabilities as well as food supply and water will avoid the possible loss of life for some residents with greater need for care.
Timeline:	2029
Priority:	High
Completed by:	The City of Brackettville Mayor and City Administrator



		Jurisdiction(s) Brackettville	
		Action Number	4
Mitigation Action: Work with officials from surrounding counties to develop a coordinated regional evacuation plan.			
Hazard:	Thunderstorms, flooding, tornadoes, dam failure, wildland fire		
Background/Issue:	<p>Large-scale events caused by flooding, dam failure, or wildland fires can necessitate a large scale evacuation plan. Transboundary risks may also threaten lives, property and the natural environment across the border in either direction. In that case, the region may be a need to prepare for a large influx of evacuees from other counties. Kinney County may be called upon to assist such a large-scale event, for example transportation of assets.</p> <p>Regional planning among the potentially affected counties is needed to develop coordinated policies and procedures to ensure an orderly evacuation. Federal and State Officials will also play an important role in these discussions.</p>		
Integration Ideas:	Integrate into the local Emergency Operating Plan and Middle Rio Grande Hazard Mitigation Plan		
Responsible Agency:	Emergency Management Coordinator in collaboration with other county officials from neighboring cities		
Partners:	All jurisdictions in this Hazard Mitigation Plan and the Middle Rio Grande Hazard Mitigation Plan		
Potential Funding:	Funding sources include FEMA Hazard Mitigation Grant Programs. Homeland Security grants funds and general revenue.		
Cost Estimate:	\$20,000 for supplies and materials needed for meetings		
Benefits: (Losses Avoided)	Having in place adequate plans and capabilities to evacuate people can save lives in a potentially catastrophic event at a relatively small cost.		



Timeline:	Discussions and planning will begin in year 1 of this hazard mitigation plan implementation and will be on-going with a annual review among all responsible parties.
Priority:	High Priority
Completed by:	Kinney County in collaboration with local jurisdictions

Jurisdiction(s) Brackettville	
Action Number	5

Mitigation Action: Install surge protectors on critical electronic equipment.	
Hazard:	Flooding, tornado, strong winds, dam failure, wildland fire, drought, winter weather, cold wave, ice storm, lightning, hail, and heatwave.
Background/Issue:	<p>Damage from thunderstorms and lightning is often underestimated. Surge protectors can prevent lightning damage. This action would install surge protectors on the City’s critical electronic equipment.</p> <p>Many improvements have been made in surge protectors in recent years. Uninterruptible Power Supply (UPS): A UPS provides not only surge protection but also a battery backup. In the event of a power outage, a UPS allows connected devices to continue running for a short period, giving users enough time to save their work and shut down equipment properly. Smart Power Strips: These strips often include surge protection along with features like individual outlet control, energy monitoring, and sometimes USB charging ports. They can be remotely controlled or scheduled to help conserve energy. Advanced Surge Protectors: Some surge protectors come with additional features, such as diagnostic lights, USB charging ports, and the ability to disconnect power in the event of a catastrophic surge.</p>
Integration Ideas:	Integration throughout the plan partners by sharing this action information with all their constituents.



Responsible Agency:	The City of Brackettville Mayor and City Administrator
Partners:	Kinney County, City of Spofford, Fort Clark Springs, Brackett ISD, and Fort Clark MUD
Potential Funding:	Local Funds
Cost Estimate:	Minimal
Benefits: (Losses Avoided)	Purchasing low-cost surge protectors is highly cost beneficial. It protects very expensive electronic equipment at minimal cost from lightning strikes and ensures the continuity of city services during and after severe thunderstorms. Reducing the likelihood of damage to electronic equipment by using surge protectors will reduce replacement costs.
Timeline:	2029
Priority:	High
Completed by:	The City of Brackettville Mayor and City Administrator

		Jurisdiction(s) Brackettville	
		Action Number	6
Mitigation Action: Repair water systems to reduce water loss.			
Hazard:	Drought		
Background/Issue:	Water systems in the City of Brackettville are aging. This may lead to loss of water, a critical resource in the area for critical human needs as well as irrigation. These older water systems are in need of modernizing.		



Integration Ideas:	Integration, work to upgrade water system’s master plan, collaboration with the City of Spofford and Kinney County as projects are developed to keep all entities up to date on projects and plans.
Responsible Agency:	The City of Brackettville Mayor and City Administrator
Partners:	Kinney County, City of Spofford, Fort Clark Springs, Brackett ISD, and Fort Clark MUD
Potential Funding:	Local Funds/General Revenue, grant funds – Texas Water Development Board, Texas Department of Agriculture,
Cost Estimate:	Implementation of mitigation actions is dependent upon the availability of Federal, State, and Local funding and staff to administer the projects.
Benefits: (Losses Avoided)	This action will help reduce leakage and thereby conserve scarce water resources needed for human consumption, farming, firefighting, and other needs. Grant funding for this action could result in significant benefits to residents by reducing the loss of water and provided greater access to water to serve critical needs.
Timeline:	2029
Priority:	High
Completed by:	The City of Brackettville Mayor and City Administrator

Jurisdiction(s) Brackettville	
Action Number	7

Mitigation Action: Develop a water conservation program, including public education and outreach to warn citizens about the risks to public health caused by drought.	
Hazard:	Drought



Background/Issue:	<p>Periods of time with little or no precipitation can pose risks that can be managed with conservation, preparation, and financial incentives.</p> <p>Citizens can be encouraged to take water saving measures, especially when extra water is needed for irrigation and critical human needs.</p> <p>A comprehensive water conservation program is needed, to include water-saving measures that citizens and the government can implement, water storage, water use controls, drought contingency plans, and improvements in delivery systems.</p> <p>Public information and education are needed on the benefits of water conservation and the risks to public health caused by drought. Landscaping measures such as xeriscaping can be encouraged, and financial incentives pursued by adjusting water rates in drought conditions.</p>
Integration Ideas:	<p>The integration process will come from a collaboration of all entities. A multijurisdictional water conservation plan is essential for addressing varying times of water scarcity and promoting sustainable water use across multiple jurisdictions. Such a plan should be comprehensive and consider the unique needs, challenges, and characteristics of each jurisdiction involved.</p>
Responsible Agency:	<p>Kinney County, The City of Brackettville, The City of Spofford, Brackett ISD, Fort Clark Springs, Fort Clark MUD</p>
Partners:	<p>Kinney County, City of Spofford, Fort Clark Springs, Brackett ISD, Fort Clark MUD, and the Kinney County Groundwater District</p>
Potential Funding:	<p>Local Funds/General Revenue, grant funds – Texas Water Development Board, Texas Department of Agriculture, Natural Resources Conservation Service, Bureau of Reclamation, Environmental Protection Agency, Department of Interior, U.S. Department of Agriculture</p>
Cost Estimate:	<p>Implementation of mitigation actions is dependent upon the availability of Federal, State, and Local funding and staff to administer the projects.</p>
Benefits: (Losses Avoided)	<p>This action will help conserve scarce water resources needed not only for human consumption but also for farming, firefighting, and other needs. Significant benefits to residents who take the recommended steps for water conservation measures will be realized once the conservation plan is completed and adopted.</p>



Timeline:	2029
Priority:	High
Completed by:	The City of Brackettville Mayor and City Administrator, Kinney County Hazard Team

Jurisdiction(s) Brackettville	
Action Number	8

Mitigation Action: Identify and map low water crossings and roadways prone to flooding to serve as a basis for evacuation planning.	
Hazard:	Flooding
Background/Issue:	<p>Flooding and washouts at low water crossings during heavy rain events cause isolated populations to be cut off from receiving emergency services during these times. Should emergency vehicles be needed they are unable to respond effectively. Several permanent low water crossings have been built in the past, but there is a need for more.</p> <p>The are low water crossings and roadways prone to flooding. People often underestimate the depth, force, and power of water. Many deaths can occur in automobiles as drivers are swept downstream. Many of these drownings are preventable, but too many people continue to drive around barriers that warn about low area flooding.</p>
Integration Ideas:	The integration process will cover partner agencies and their need for support with low water crossing upgrades or newly built crossings. Currently the entities are working on streets through an interlocal agreement, the same could achieve successes for upgrading and building low water crossings within the county.
Responsible Agency:	Kinney County, The City of Brackettville, The City of Spofford, Brackett ISD, Fort Clark Springs



Partners:	Kinney County, City of Spofford, Fort Clark Springs, Brackett ISD, Fort Clark MUD, and the Department of Transportation
Potential Funding:	Local Funds/General Revenue, grant funds – Texas Water Development Board, Texas Department of Agriculture, Natural Resources Conservation Service, Bureau of Reclamation, Environmental Protection Agency, Department of Interior, U.S. Department of Agriculture, Department of Transportation
Cost Estimate:	Complete implementation of this mitigation will be dependent upon the availability of Federal, State, and Local funding and staff to administer the projects. Collective budgeting by entities can be implemented on a small scale to complete the mapping of all low water crossings and information on their condition and installation of a small number of crossings annually.
Benefits: (Losses Avoided)	This action will build additional low water crossings throughout Kinney County. It will also identify and map existing low water crossings and roadways prone to flooding. It will serve to educate the public, facilitate emergency protective actions and serve as the basis for future evacuation planning. Maintaining and adding permanent low water crossings could be considered a life-saving measure.
Timeline:	2029
Priority:	Medium
Completed by:	The City of Brackettville Mayor and City Administrator, Kinney County Hazard Team



		Jurisdiction(s) Brackettville	
		Action Number	9
Mitigation Action: Conduct an annual evaluation of the National Flood Insurance Program’s “repetitive loss” list and pursue voluntary acquisitions when economically feasible and funds are available to convert property to open space.			
Hazard:	Flooding		
Background/Issue:	Acquisition of flood damaged properties will remove structures from risk permanently. Unfortunately, many frequently flooded structures are not reflected in FEMA records.		
Integration Ideas:	Integrate into the floodplain map assessment document and the Las Moras Creek plans.		
Responsible Agency:	City Mayor in collaboration with the County Judge and the Ft. Clark Springs Board President.		
Partners:	Kinney County, Ft. Clark Springs Board		
Potential Funding:	Funding sources include any Pre-Disaster Mitigation Grant Programs, Community Development Block Grants, and general revenues.		
Cost Estimate:	It is difficult to estimate the cost of acquisition as it is dependent on tax rolls, property values, etc.		
Benefits: (Losses Avoided)	Avoided losses include lives and structures plus emergency response costs.		
Timeline:	On-going as property owners decide to sell		
Priority:	High		
Completed by:	City Officials with Kinney County officials		



		Jurisdiction(s) Brackettville	
		Action Number	10
Mitigation Action: Conduct studies to determine a method to retain and regulate run-off water from the 20% or more uncontrolled watershed areas. Clear debris and other obstructions, especially from the retention ponds below the dams. Pursue methods to capture excess water to use in drought situations.			
Hazard:	Drought, Flooding, Dam Failure, Wildland Fire		
Background/Issue:	<p>It is estimated that 20% of low-lying areas are not protected. There is a need to identify these areas, develop flood reduction alternatives and recommend the best alternative for each stream based on an analysis of the costs and benefits of the various options.</p> <p>Clearing debris and other obstructions from channels, especially below the retention dams and along the Las Moras Creek is a priority. There is an excessive amount of plant growth that has clogged drainage canals, creeks, rivers and may create a wildfire hazard should it dry. Cleaning up this growth will also help conserve remaining water supplies and eliminate wildfire hazards.</p>		
Integration Ideas:	Integrate into the City of Brackettville's Emergency Operations Plans,		
Responsible Agency:	City Mayor in collaboration with the County Judge and the Ft. Clark Springs Board President.		
Partners:	Kinney County, Ft. Clark Springs		
Potential Funding:	Funding sources include Texas Water Development Board, Natural Resources Conservation Service, FEMA Hazard Mitigation Grants, and general funds.		
Cost Estimate:	Has not been determined and will be dependent of the assessment and plan of action		
Benefits: (Losses Avoided)	This action will reduce flooding and reduce the danger to vehicle drivers and pedestrians who could be swept away as they try to cross flooded areas. It will also help reduce damage to buildings and the disruption of transportation systems and critical utilities.		



Timeline:	Within the next 5 years 2024-2028
Priority:	High
Completed by:	City Officials in collaboration with other local jurisdictions.

Jurisdiction(s) Brackettville	
Action Number	11

Mitigation Action: Increase awareness of flood insurance and its benefits and costs.	
Hazard:	Flooding
Background/Issue:	<p>The City of Brackettville has a very low rate of flood insurance. Flood insurance provides the best financial protection in the event of a flood disaster. Homeowner or business property insurance policies do not cover flood damage. Flood insurance enables property owners to recover quickly and more fully from a flooding event. Reliance on Federal disaster assistance leaves many without financial protection for those events that are not Federally declared disasters. Often, Federal disaster assistance is in the form of long-term loans that must be repaid.</p> <p>Although a Federal Emergency Management Agency study is underway, the latest Flood Insurance Rate covering Kinney County dates to 1985. An updated map is desperately needed for communities and local residents to identify known flood risks and make informed decisions about flood insurance and flood protection.</p> <p>The awareness campaign will be aimed at local officials, property owners, and realtors. It will encourage residents and business</p>



	owners to purchase flood insurance. It will make available free training and publications from the Federal Emergency Management Agency, the Texas Water Development Board, and the Texas Floodplain Management Association.
Integration Ideas:	Include in the knowledge shared with residents, facts and information on Elevation Certificates and how they can possibly help lower flood insurance rates. Elevation Certificates are also used for floodplain management building requirements, which can affect eligibility for Community Rating System discounts.
Responsible Agency:	City of Brackettville
Partners:	Local officials from the Kinney County, Fort Clark Springs, and Fort Clark MUD
Potential Funding:	Training and publications are available at no cost through the Texas Water Development Board, the Texas Floodplain Management Association, and the National Flood Insurance Program.
Cost Estimate:	Minimal
Benefits: (Losses Avoided)	Increased flood insurance coverage will provide greater financial protection for owners and renters. www.FloodSmart.gov Social Media FEMA.gov Although a detailed benefit/cost analysis is beyond the scope of this plan, the cost for implementation will be minimal to encourage residents to buy flood insurance compared to the financial protection flood insurance will bring. This action will minimize the costs for federal disaster assistance and City services.
Timeline:	Complete the design of the program for implementation and initiate the roll out to the public, then ongoing program information will be shared with the public annually.
Priority:	High
Completed by:	Action will be completed under the guidance of the City Mayor's office in collaboration with the Emergency Management Coordinator



		Jurisdiction(s) Brackettville	
		Action Number	12
Mitigation Action: Continue to improve enforcement of the National Flood Insurance program requirements, including those related to the substantial damage/substantial improvement.			
Hazard:	Flooding (NFIP Action)		
Background/Issue:	<p>When a building in a Special Flood Hazard Area is substantially improved or substantially damaged, it is to be rebuilt to standards contained in the floodplain management ordinance. This action calls for continuing to improve enforcement of this provision.</p> <p>“Substantial improvement” means any rehabilitation, addition, or other improvement of a building when the cost of the improvement equals or exceeds 50 percent of the market value of the building before start of construction of the improvement. The term includes buildings that have incurred “substantial damage.” “Substantial damage” means damage of any origin sustained by a building when the cost of restoring the building to its pre-damaged condition would equal or exceed 50 percent of the market value of the building before the damage occ</p>		
Integration Ideas:	All entities that regulate building or rebuilding should adopt this rule as policy, ordinance, or code. This rule ensures that buildings are constructed or improved in a way that reduces the risk of damage from natural disasters and helps to protect the safety of the occupants.		
Responsible Agency:	City of Brackettville		
Partners:	Local officials from Kinney County and Fort Clark Springs.		
Potential Funding:	Local Revenue		
Cost Estimate:	Minimal		



Benefits: (Losses Avoided)	This action will ensure that substantially improved and damaged buildings in Special Flood Hazard Areas are rebuilt in ways to reduce flood risks. This action helps to remove properties over time from the floodplain through more vigorous enforcement of the adopted ordinances, at a minimal cost. It will reduce the long-term cost associated with properties located in the floodplain. It will also reduce costs for Federal disaster assistance and City Services.
Timeline:	Ordinances/policy/codes should be created and adopted during the 2025-2026 budget year.
Priority:	High
Completed by:	Action will be completed under the guidance of City Mayor’s office in collaboration with the Emergency Management Coordinator

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Jurisdiction(s) Brackettville	
Action Number	13

Mitigation Action: Develop emergency response and evacuation plans for use in the event of a dam failure.	
Hazard:	Dam Failure
Background/Issue:	A dam breach or failure is an unlikely, high hazard event that is a life and property threatening event for those downstream. There are many dams in Kinney County, all but two are considered “low hazard.” The two that are considered “high hazard” are located on Las Moras Creek just above the town of Brackettville, Texas. These dams are considered high risk due to the fact that life and property would be at high risk if either of these dams were to breach.



Integration Ideas:	Include the emergency response and evacuation plans in the Kinney County Emergency Operation Plan and keep up-to-date as the plans are reviewed. The emergency response and evacuation plans should be shared with all partnering entities to include in their plans as well.
Responsible Agency:	City of Brackettville
Partners:	Local officials from Kinney County, Fort Clark Springs, Fort Clark MUD, City of Spofford, and Brackett ISD. Our partners within the county for dam safety is the United States Department of Agriculture. Dam information for Kinney County can be found at National Inventory of Dams (army.mil) .
Potential Funding:	Local revenues
Cost Estimate:	Minimal
Benefits: (Losses Avoided)	This action will allow City officials to better prepare for any dam failure. Although it is unlikely that dam failure will occur, dam failure would potentially cause loss of life and property to many living downstream of the dams. The benefits of saving lives and property far outweigh the cost of planning.
Timeline:	Develop emergency response and evacuation plans to be included in the local plans and share with partner entities. Updating the information in the plans should be completed by the 2025-26 budget year.
Priority:	High
Completed by:	Action will be completed under the guidance of the City Mayor's office in collaboration with the Emergency Management Coordinator



		Jurisdiction(s) Brackettville	
		Action Number	14
Mitigation Action: Review and update, as necessary, criteria for establishing burn bans; and procedures for conducting, tracking, and reporting controlled burns.			
Hazard:	Wildland Fire		
Background/Issue:	<p>Wildland fires can be hard to control as they threaten people and homes. Grassland and wildland fires are more frequent and cause more property damage than structure fires. Many wildland fires are caused by controlled burning that cannot be contained.</p> <p>The County and City governments issue burn bans at appropriate times of the year to control the number and size of outdoor fires. The criteria for establishing burn bans needs to be reviewed and updated, as well as the procedures for conducting, tracking, and reporting of controlled bans.</p>		
Integration Ideas:	Integrate into the Local Emergency Operations		
Responsible Agency:	Kinney County; City of Brackettville; City of Spofford		
Partners:	Texas Forest Service, Kinney County Fire & Rescue, United States Department of Agriculture		
Potential Funding:	<p>Local revenues; Texas Forest Service; Natural Resources Conservation Service</p> <p>Implementation of mitigation actions is dependent upon the availability of Federal, State, or Local funding and staff to administer the project.</p>		
Cost Estimate:	Minimal		
Benefits: (Losses Avoided)	<p>Costs for this action item will be minimal. Improved response resources will help prevent and control wildland fires early so that they do not require outside help from other jurisdictions or the state. With up to date and established criteria for assigning burn bans and controlled burns, prevention and management of wildfires will be greatly improved.</p>		



Timeline:	Budget year 2025-2026
Priority:	Medium
Completed by:	Action will be completed under the guidance of the Kinney County Kinney County Judge, Mayors of Brackettville and Spofford with support from the Kinney County Fire Chief.

6.3 Spofford Action Plan

		Jurisdiction(s) City of Spofford	
		Action Number	1
Mitigation Action: Conduct a comprehensive public outreach and education campaign for all hazards.			
Hazard:	Flooding, tornadoes, strong winds, dam failure, wildland fire, drought, winter weather, cold wave, ice storm, lightning, hail, and heatwave.		
Background/Issue:	<p>A comprehensive and sustained awareness and educational campaign is needed to give the residents of Spofford the knowledge and tools necessary to carry out their responsibilities to mitigate damage to their own lives and property before disaster strikes, better prepare for disasters, and know what to do in an emergency.</p> <p>The campaign will be conducted in collaboration with the mitigation plan team of partners. This will be a living initiative, providing educational opportunities to advance the communities' knowledge and skills. Materials will be provided in English and Spanish to help each all populations within the County.</p> <p>The Kinney County Emergency Management Coordinator will work actively to educate citizens of all age groups and make information available to school district officials, homeowners, civic and service organizations, church groups, and other interested parties.</p>		
Integration Ideas:	The integration and inclusion of public outreach and education of the public on all hazards will be included throughout the plans for each entity. Information will be shared via websites for all entities,		



	at community events, push notifications from app, reminders on bills and any other documentation sent to residents, mailouts, school district dissemination through class accounts, public service announcements, email, and bumper stickers.
Responsible Agency:	City of Spofford
Partners:	Kinney County, City of Brackettville, Fort Clark Springs, Brackett ISD, and Fort Clark MUD
Potential Funding:	Funding sources will include Hazard Mitigation Program funds and General Revenues. Free resource materials and grant funds will be sought to reduce the cost.
Cost Estimate:	Minimal, mostly requiring staffing resources
Benefits: (Losses Avoided)	Although a detailed benefit/cost analysis is beyond the scope of this plan, this action's minimal cost is insignificant compared to the potential property damages that could be lessened and lives that could be saved through educating the public about proper preparation for and response to a wide range of emergencies. This action will result in a more informed public, aware of the risks they face from various hazards and knowledgeable about how to protect their families, homes, workplaces, communities, and livelihoods from the impact of disasters. It will also result in lasting partnerships with community members who provide support. It will also assist in the recovery process since damage will be minimized and more residents will be self-sustaining for a longer period.
Timeline:	Ongoing
Priority:	Medium
Completed by:	The City of Spofford Mayor and County Officials



		Jurisdiction(s) City of Spofford	
		Action Number	2
Mitigation Action: Work with the County to upgrade and improve the existing warning system tower; connect it to weather alert system to increase accuracy and timeliness of activation. Improve radio communications between city and county. Promote the use of NOAA “All Hazards” radios for early warning and post-event information.			
Hazard:	Lightning, hail, tornadoes, wildland fire		
Background/Issue:	<p>The Kinney County Sheriff’s Office, a critical facility, is located within a low-lying area prone to flooding. The Sheriff’s office controls the warning system for Brackettville and would also be one of the obvious choices for a Command Center during an emergency. It is imperative that the warning system and its management be improved to include Spofford, Texas.</p> <p>Spofford has no radio communication ability with Kinney County or the City of Brackettville.</p>		
Integration Ideas:	Integrate into the Kinney County Emergency Operating Plans, Communications Plan, and the Laughlin Air Force Base		
Responsible Agency:	City Mayors, Kinney County Officials, Emergency Management Coordinator		
Partners:	Kinney County, City of Brackettville, Laughlin Air Force Base		
Potential Funding:	Funding sources include FEMA Hazard Mitigation and general funds.		
Cost Estimate:	Undetermined - dependent on the upgrades Kinney County will implement and how they involve the City of Spofford		
Benefits: (Losses Avoided)	This action will result in a more informed public, aware of the risks they face from various hazards and knowledgeable about how to protect their families, homes, workplace, communities and livelihoods from the impact of disasters. It will also result in lasting partnerships with those who provide support. It will also assist in the recovery process since damage will be minimized and more residents will be self-sustaining for a longer period.		



	<p>This mitigation action would provide early warning of dangerous conditions, allowing time for individuals to take appropriate action to protect lives and property.</p> <p>This action will primarily prevent loss of property and lives as residents are informed of hazards in a timely manner.</p>
Timeline:	In conjunction with the upgrades Kinney County will pursue
Priority:	High
Completed by:	City of Spofford Council, Kinney County local officials

Jurisdiction(s) City of Spofford	
Action Number	3

Mitigation Action: Equip critical facilities with back-up generators to provide auxiliary power.	
Hazard:	Lightning, hail, tornadoes, wildland fire, ice storm, heat wave, hail storms
Background/Issue:	Critical facilities such as the City Hall, lift-station, and water tank are currently not equipped with back up generators for continuity of services.
Integration Ideas:	Integrate into the City of Spofford’s Emergency Operating Plans as well as the Kinney County Emergency Operating Plan
Responsible Agency:	City Council, Emergency Management Coordinator
Partners:	Kinney County, Emergency Management Coordinator
Potential Funding:	Funding sources include FEMA Hazard Mitigation and general funds.



Cost Estimate:	\$300,000 for 2 generators, pads, installation, and appurtenances
Benefits: (Losses Avoided)	This action will ensure continuity of services at critical facilities for the City of Spofford. It could potentially save lives of those without power during an ice storm as the City Hall will be a warming station.
Timeline:	In conjunction with the upgrades Kinney County will pursue
Priority:	High
Completed by:	City of Spofford Council, Kinney County local officials

Jurisdiction(s) City of Spofford	
Action Number	4

Mitigation Action: Work with Kinney County to develop a water conservation program, including public education and outreach to warn citizens about the risks to public health and negative effects to the environment caused by drought.	
Hazard:	Drought
Background/Issue:	<p>Periods of time with little or no precipitation can pose risks that can be managed with conservation, preparation, and financial incentives.</p> <p>Citizens can be encouraged to take water-saving measures, especially when extra water is needed for irrigation and critical human needs.</p> <p>A comprehensive water conservation program is needed, to include water-saving measures that citizens and the government can take. The program will include water storage, water use controls, drought contingency plans and improvements in delivery system.</p> <p>Public information and education is needed on the benefits of water conservation and the risks to public health caused by drought.</p> <p>Landscaping measures such as zeroscaping can be encouraged and</p>



	financial incentives considered by adjusting water rates in drought conditions.
Integration Ideas:	Integrate into the City of Brackettville conservation program
Responsible Agency:	City of Spofford Council, City of Brackettville Council, Kinney County
Partners:	City of Brackettville, District Director of Public Works, Texas A&M Agrilife Extension Agent, Kinney County
Potential Funding:	Funding sources include Texas Water Development Board, Natural Resources Conservation Service, and general funds.
Cost Estimate:	\$20,000 for public outreach and awareness supplies and materials
Benefits: (Losses Avoided)	This action will help conserve scarce water resources needed for human consumption, farming, firefighting, and other needs.
Timeline:	Within the first year and then on-going annually as drought threat is assessed.
Priority:	Medium
Completed by:	City of Spofford Council and Kinney County local officials



		Jurisdiction(s) City of Spofford	
		Action Number	5
Mitigation Action: Work with Kinney County and the City of Brackettville to pursue methods to capture excess water to use in drought situations and retrofitting of a storage tank for water collection.			
Hazard:	Drought		
Background/Issue:	Water is necessitate during drought conditions. The City of Spofford lacks solutions for capturing excess water during rain events.		
Integration Ideas:	Integrate into the City of Spofford’s Emergency Operating Plans as well as the Kinney County Emergency Operating Plan		
Responsible Agency:	City Council, Emergency Management Coordinator		
Partners:	Kinney County, Emergency Management Coordinator, City of Brackettville		
Potential Funding:	Funding sources include FEMA Hazard Mitigation and general funds.		
Cost Estimate:	\$60,000 – implementation of storage tanks throughout the city.		
Benefits: (Losses Avoided)	This action will provide protection during drought.		
Timeline:	Development of a plan will be initiated during the first year of the Hazard Mitigation Plan with roll out in phases as funding becomes available.		
Priority:	Medium		
Completed by:	City of Spofford Council, Kinney County local officials		



		Jurisdiction(s) City of Spofford	
		Action Number	6
Mitigation Action: Review and update, as necessary, criteria for establishing burn bans; procedures for conducting and reporting of controlled burns.			
Hazard:	Wildland Fires		
Background/Issue:	<p>Wildland fires can be hard to control as they threaten people and homes. Grassland and wildland fires are more frequent and cause more property damage than structure fires. Many wildland fires are caused by controlled burning that cannot be contained.</p> <p>The County and City governments issue burn bans at appropriate times of the year to control the number and size of outdoor fires. The criteria for establishing burn bans may need to be reviewed and updated, as well as the procedures for conducting and reporting of controlled burns.</p> <p>Kinney County has had a significant number of wildland fire in the past 10 years that near the City of Spofford. This action is critical to mitigate loss of property and lives.</p>		
Integration Ideas:	Integrate into the City of Spofford’s Emergency Operating Plans as well as the Kinney County Emergency Operating Plan		
Responsible Agency:	City Council, Emergency Management Coordinator, Kinney County Fire Chief		
Partners:	Kinney County, Emergency Management Coordinator, Kinney County Volunteer Fire		
Potential Funding:	Funding sources include FEMA Hazard Mitigation and general funds.		
Cost Estimate:	Minimal		
Benefits: (Losses Avoided)	This action will reduce the number of uncontrolled fires and save damages to property and lives		



Timeline:	Ongoing
Priority:	High
Completed by:	City of Spofford Council, Kinney County local officials

Jurisdiction(s) City of Spofford	
Action Number	7

Mitigation Action: Assessment of Drainage System throughout the City of Spofford with plans to build culverts where needed for better run offs.	
Hazard:	Flooding
Background/Issue:	The City of Spofford has drainage problems throughout the city streets due to high streets and lack of culverts. Rain water causes flooding issues throughout the city.
Integration Ideas:	Integrate into the City of Spofford's long range plan for city improvements.
Responsible Agency:	City Council
Partners:	Kinney County, Emergency Management Coordinator
Potential Funding:	Funding sources include FEMA Hazard Mitigation, Texas Water Development Board and general funds.
Cost Estimate:	\$60,000 engineer cost for assessment of drainage system. Culvert project cost will depend on assessment results.
Benefits: (Losses Avoided)	This action will reduce flooding the city of Spofford and prevent damage to properties.



Timeline:	Assessment to be conducted during the first 2 years of the Hazard Mitigation Plan and culvert project phased out and dependent on availability of funding.
Priority:	High
Completed by:	City of Spofford Council, Kinney County local officials

Jurisdiction(s) City of Spofford	
Action Number	8

Mitigation Action: Retrofitting the Spofford City Hall to provide protection to the building, windows, and generator.	
Hazard:	Severe Thunderstorms, Ice Storm, Heat Wave
Background/Issue:	The City Hall in Spofford is not protected from lightning or hail. The windows need replacement, a grounding rod system installed, and the generator needs protection from the elements.
Integration Ideas:	Integrate into the City of Spofford's long range plan for city improvements.
Responsible Agency:	City Council
Partners:	Kinney County, Emergency Management Coordinator
Potential Funding:	Funding sources include FEMA Hazard Mitigation, and general funds.
Cost Estimate:	\$50,000 will cover the cost of the retrofitting of the City Hall.
Benefits: (Losses Avoided)	This action will enable the city to continue to provide services during a disaster.



Timeline:	As grant funding becomes available.
Priority:	Medium
Completed by:	City of Spofford Council, Kinney County local officials

Jurisdiction(s) City of Spofford	
Action Number	9

Mitigation Action: Build a Safe Room	
Hazard:	Tornado, Strong Winds, Ice Storm, Heat Wave
Background/Issue:	<p>The City of Spofford does not have a shelter for residents during an emergency. The nearest shelter is more than ten miles away.</p> <p>The City of Spofford has a large percentage of elderly, children, and individuals with disabilities who may not be able to travel far for to seek shelter.</p> <p>The City of Spofford also has a large population of Harbor Rail Company employees that will need to seek shelter in the event of a disaster during the work day.</p>
Integration Ideas:	This project will be integrated into the City of Spofford Emergency Operating Plan and the Kinney County Emergency Operating Plan
Responsible Agency:	City of Spofford Council
Partners:	Kinney County Emergency Management Coordinator, Harbor Rail
Potential Funding:	Funding sources include FEMA Hazard Mitigation Grants, and general funds.



Cost Estimate:	\$500,000
Benefits: (Losses Avoided)	This action will protect lives during an extreme weather event. The safe room can serve other purposes within the City of Spofford such as a warming center during an ice storm, public awareness sessions on natural hazards, and can serve as an emergency base during a disaster.
Timeline:	Within the next five years
Priority:	Medium
Completed by:	City of Spofford Officials and Kinney County Officials

Jurisdiction(s) City of Spofford	
Action Number	10

Mitigation Action: Assessment of water lines within the City of Spofford to accommodate for installation of fire hydrants.	
Hazard:	Wildland Fire
Background/Issue:	<p>The City of Spofford is not equipped with fire hydrants. Fire hydrants can not be installed because the water lines are not large enough to support the fire hydrant water pressure required. If a wildland fire broke out and reached Spofford, the nearest Volunteer Fire Department would travel at least 10 miles before reaching the incident.</p> <p>If the Volunteer Fire Department's Fire Truck runs out of water, the City of Spofford will not be able to supply them with additional water to continue the fire fighting efforts.</p>



	The City of Spofford is surrounded by open range land susceptible to wildland fires.
Integration Ideas:	Integrate into the City of Spofford's Long Range Plan.
Responsible Agency:	City Council, Kinney County Fire Chief
Partners:	Kinney County, Emergency Management Coordinator, Kinney County Fire Department
Potential Funding:	Funding sources include FEMA Hazard Mitigation, Texas Water Development Board and general funds.
Cost Estimate:	\$50,000 will cover the cost of the retrofitting of the City Hall.
Benefits: (Losses Avoided)	This action will enable the city to install fire hydrants and prevent loss of property and lives during a wildland fire.
Timeline:	As grant funding becomes available.
Priority:	High
Completed by:	City of Spofford Council, Kinney County local officials



6.4 Fort Clark Municipal Utility District Action Plans

		Jurisdiction Fort Clark Springs MUD	
		Action Number	1
Mitigation Action: Conduct a comprehensive public outreach and education campaign for all hazards.			
Hazard:	Flooding, tornadoes, strong winds, dam failure, wildland fire, drought, winter weather, cold wave, ice storm, lightning, hail, and heat wave.		
Background/Issue:	<p>A comprehensive and sustained awareness and educational campaign is needed to give the residents of Kinney County the knowledge and tools necessary to carry out their responsibilities to mitigate damage to their own lives and property before disaster strikes, better prepare for disasters, and know what to do in an emergency.</p> <p>The campaign will be conducted in collaboration with the mitigation plan team of partners. This will be a living initiative, providing educational opportunities to advance the communities' knowledge and skills. Materials will be provided in English and Spanish to help each all populations within the County.</p> <p>The Kinney County Emergency Management Coordinator will work actively to educate citizens of all age groups and make information available and make information available to school district officials, homeowners, civic and service organizations, church groups, and other interested parties.</p>		
Integration Ideas:	The integration and inclusion of public outreach and education of the public on all hazards will be included throughout the plans for each entity. Information will be shared via websites for all entities, at community events, push notifications from app, reminders on bills and any other documentation sent to residents, mailouts, school district dissemination through class accounts, public service announcements, email, and bumper stickers.		
Responsible Agency:	Kinney County		



Partners:	Kinney County, City of Spofford, Fort Clark Springs, Brackett ISD, and Fort Clark MUD
Potential Funding:	Funding sources will include Hazard Mitigation Program funds and General Revenues. Free resource materials and grant funds will be sought to reduce the cost.
Cost Estimate:	Minimal, mostly requiring staffing resources
Benefits: (Losses Avoided)	Although a detailed benefit/cost analysis is beyond the scope of this plan, this action's minimal cost is insignificant compared to the potential property damages that could be lessened and lives that could be saved through educating the public about proper preparation for and response to a wide range of emergencies. This action will result in a more informed public, aware of the risks they face from various hazards and knowledgeable about how to protect their families, homes, workplaces, communities, and livelihoods from the impact of disasters. It will also result in lasting partnerships with community members who provide support. It will also assist in the recovery process since damage will be minimized and more residents will be self-sustaining for a longer period.
Timeline:	Ongoing
Priority:	Medium
Completed by:	Kinney County Emergency Management Coordinator in collaboration with entities affected



		Jurisdiction Fort Clark Springs MUD	
		Action Number	2
Mitigation Action: Upgrade and improve the existing warning system; connect it to weather alert system to increase accuracy and timeliness of activation. Improve radio communications between cities, Fort Clark Springs, and county. Promote the use of NOAA “All Hazards” radios for early warning and post-event information. Purchase a web-based app for Kinney County that would include notifications on all hazards, law enforcement information, as well as contact with all departments located in Kinney County.			
Hazard:	Tornadoes, Flooding, Hail, Ice storm, Wildfire, lightning, and strong winds.		
Background/Issue:	<p>Warning system: The Kinney County Sheriff’s Office, a critical facility, is located within a low-lying area prone to flooding. The Sheriff’s office controls the warning system for Brackettville and would also be one of the obvious choices for a Command Center during an emergency. One of the main generators to be used in an emergency is also located at the Sheriff’s office; therefore, it is imperative that the warning system and its management be improved. Upgrading the current warning system and connecting it to a weather alert system would allow more lead time to relocate resources as necessary. Maintaining the generator on a mobile trailer is one option, not only for the Sheriff’s office but also for the EMS building, which is also in a low-lying area of Brackettville. Converting these generators to propane is also a priority to make them self- sustaining in the event of a power outage during an emergency. Obtaining new generators from a government surplus source is an option being considered. Neither the Sheriff’s Office nor the EMS station could be an adequate control center in the event of heavy flooding. Determining an alternate location or connection for the siren is also being considered to ensure that it remains a viable warning system at all times.</p> <p>Radio Communications: Radio communications among existing cities, Fort Clark Springs, the United States Air Force Base, and Kinney County need to be improved. Install additional radio tower on Fort Clark Springs to allow on duty Security officers to communicate with management and departments effectively 24 hours a day, 7 days a week. Communications during disasters will be improved with the installation of the tower as well.</p>		



	<p>NOAA Weather Radio: NOAA Weather Radio (NWR) is a nationwide network of radio stations broadcasting continuous weather information direct from a nearby National Weather Service office. These stations broadcast National Weather Service warnings, as well as post-event information for all types of hazards, both natural and man-made. These Broadcasts are generated seven days a week, 24 hours a day.</p> <p>The Kinney County Emergency Management Coordinator will work actively to educate citizens of all age groups and make information available to school district officials, homeowners, civic and service groups, church groups, and other interested parties.</p> <p>The HMP survey completed by residents of Kinney County indicated by 49% of the respondents that social media would be the most effective way to receive information. Creating a platform that is available to rapidly push notifications out to residents would support a more efficient and effective warning system for the public. Statistics show that 95% of the U.S. population have some sort of cell phone and 81.6% of those are smart phones. These numbers are expected to continue to increase. Developing a mobile app for Kinney County is the best and most effective way to consistently reach their residents.</p>
Integration Ideas:	The integration and inclusion of some or all suggestions for public warning would be included in some form in all local plans to support ways for improved communication with residents.
Responsible Agency:	Kinney County, Emergency Management Coordinator
Partners:	The City of Brackettville, City of Spofford, Brackett ISD, Fort Clark Springs, Fort Clark MUD
Potential Funding:	Funding sources include the Hazard Mitigation Grant Program Funds and general revenues. Free resource materials will be sought to reduce the cost.
Cost Estimate:	Minimal, mostly requiring staff time



Benefits: (Losses Avoided)	This action will result in a more informed public, aware of the risks they face from various hazards and knowledgeable about how to protect their families, homes, workplaces, communities, and livelihoods from the impact of disasters. It will also result in lasting partnerships with those partners and community members who provide support. It will also assist in the recovery process since damage will be minimized and more residents will be self-sustaining for a longer period.
Timeline:	All plans of action should be completed by the 2026-2027 budget year. Ongoing costs to include necessary updates and the need for upgrades to the systems.
Priority:	High
Completed by:	Kinney County, Emergency Management Coordinator

Jurisdiction(s) Fort Clark Springs MUD	
Action Number	3

Mitigation Action: Equip critical facilities with back-up generators to provide auxiliary power.	
Hazard:	Flooding, tornado, strong winds, dam failure, wildland fire, drought, winter weather, cold wave, ice storm, lightning, hail, and heatwave.
Background/Issue:	<p>Critical facilities should be equipped with backup power units to allow for continuity of operations in the event of a disaster. Generators are still needed at critical facilities that do not have a backup power supply, especially those where residents can come for warming or water/food.</p> <p>The Emergency Management Coordinator will update the critical facilities list annually to prioritize facilities to be equipped.</p>
Integration Ideas:	Integration is needed throughout all entity plans to include the need for backup power in times when hazards create unsafe situations for our most vulnerable populations.
Responsible Agency:	Fort Clark Springs MUD (Municipal Utility District)



Partners:	Kinney County, City of Brackettville
Potential Funding:	Funding sources will include Hazard Mitigation Program funds, grant funds from Covid 19 – TDEM Grant and General Revenues.
Cost Estimate:	\$255,000
Benefits: (Losses Avoided)	This action will provide for continuity of critical facilities and critical governmental operations in the event of a power supply disruption. Having facilities with warming capabilities as well as food supply and water will avoid the possible loss of life for some residents with greater need for care.
Timeline:	2029
Priority:	High
Completed by:	Fort Clark Springs MUD Officials in collaboration with Fort Clark Springs and Kinney County Officials

Jurisdiction(s) Fort Clark Springs MUD	
Action Number	4

Mitigation Action: Work with the Texas Forest Service on the placement and construction of fire breaks.	
Hazard:	Wildland Fire
Background/Issue:	Several areas of high and moderate wildland fire susceptibility have been identified in this plan for Kinney County. In light of the wildland fire risk, fuels management is needed to prevent or reduce the spread of fire.



	Fort Clark Springs would like to add fire breaks in the south and west sides of property where brush and dry grass are prevalent.
Integration Ideas:	The integration and inclusion of this action item will be in collaboration with Kinney County Fire Department, Texas Fire Service and Fort Clark Springs. Once an assessment of needed breaks is completed for each entity, work can be procured by each entity.
Responsible Agency:	Kinney County in collaboration with Fort Clark Springs MUD
Partners:	Texas Forest Service, Kinney County Fire & Rescue
Potential Funding:	Local revenues; Texas Forest Service; Natural Resources Conservation Service Implementation of mitigation actions is dependent upon the availability of Federal, State, or Local funding and staff to administer the project.
Cost Estimate:	Minimal
Benefits: (Losses Avoided)	Creating firebreaks and other measures can slow or stop the spread of wildland fires by removing fuels for burning. The cost estimate is pending identification of locations for fire breaks. However, fuels management can go a long way towards preventing or reducing the spread of fires and reduce costs for emergency response and property damage.
Timeline:	Budget year 2026-2027
Priority:	High
Completed by:	Action will be completed under the guidance of the Kinney County Fire Chief in collaboration with the Kinney County Emergency Management Coordinator and Fort Clark Springs officials.



		Jurisdiction(s) Fort Clark Springs MUD	
		Action Number	5
Mitigation Action: Repair water systems to reduce water loss.			
Hazard:	Drought		
Background/Issue:	Water systems in Fort Clark Springs are aging. This may lead to loss of water, a critical resource in the area for critical human needs as well as irrigation. These older water systems are in need of modernization.		
Integration Ideas:	Integration, work to upgrade water system's master plan, collaboration with the City of Brackettville and Kinney County as projects are developed to keep all entities up to date on projects and plans.		
Responsible Agency:	Fort Clark Municipal Utility District		
Partners:	Fort Clark Springs MUD would work collaboratively with Fort Clark Springs to assess the system and complete a study of miles of line that will need to be upgraded.		
Potential Funding:	Local Funds/General Revenue, grant funds – Texas Water Development Board, Texas Department of Agriculture,		
Cost Estimate:	Implementation of mitigation actions is dependent upon the availability of Federal, State, and Local funding and staff to administer the projects.		
Benefits: (Losses Avoided)	This action will help reduce leakage and thereby conserve scarce water resources needed for human consumption, farming, firefighting, and other needs. Grant funding for this action could result in significant benefits to residents by reducing the loss of water and providing greater access to water to serve critical needs.		
Timeline:	2029		



Priority:	Medium
Completed by:	Fort Clark Springs MUD and the Kinney County Hazard Mitigation Team

6.5 Brackett ISD Action Plans

		Jurisdiction Brackett ISD	
		Action Number	1
Mitigation Action: Conduct a comprehensive public outreach and education campaign for all hazards.			
Hazard:	Lightning / Hail, flooding, tornadoes, strong winds, dam failure, wildland fire, drought, winter weather, cold wave, and ice storm.		
Background/Issue:	<p>A comprehensive and sustained awareness and educational campaign is needed to give the residents of Kinney County the knowledge and tools necessary to carry out their responsibilities to mitigate damage to their own lives and property before disaster strikes, better prepare for disasters, and know what to do in an emergency.</p> <p>The campaign will be conducted in collaboration with the mitigation plan team of partners. This will be a living initiative, providing educational opportunities to advance the communities’ knowledge and skills. Materials will be provided in English and Spanish to help each all populations within the County.</p> <p>The Kinney County Emergency Management Coordinator will work actively to educate citizens of all age groups and make information available and make information available to school district officials, homeowners, civic and service organizations, church groups, and other interested parties.</p>		



Integration Ideas:	The integration and inclusion of public outreach and education of the public on all hazards will be included throughout the plans for each entity. Information will be shared via websites for all entities, at community events, push notifications from app, reminders on bills and any other documentation sent to residents, mailouts, school district dissemination through class accounts, public service announcements, email, and bumper stickers.
Responsible Agency:	Brackett ISD
Partners:	Kinney County, City of Spofford, Fort Clark Springs, and Fort Clark MUD
Potential Funding:	Funding sources will include Hazard Mitigation Program funds and General Revenues. Free resource materials and grant funds will be sought to reduce the cost.
Cost Estimate:	Minimal, mostly requiring staffing resources
Benefits: (Losses Avoided)	Although a detailed benefit/cost analysis is beyond the scope of this plan, this action's minimal cost is insignificant compared to the potential property damages that could be lessened and lives that could be saved through educating the public about proper preparation for and response to a wide range of emergencies. This action will result in a more informed public, aware of the risks they face from various hazards and knowledgeable about how to protect their families, homes, workplaces, communities, and livelihoods from the impact of disasters. It will also result in lasting partnerships with community members who provide support. It will also assist in the recovery process since damage will be minimized and more residents will be self-sustaining for a longer period.
Timeline:	Ongoing
Priority:	Medium
Completed by:	Brackett ISD Officials and Kinney County Hazard Plan Team



		Jurisdiction(s) Brackett ISD	
		Action Number	2
Mitigation Action: Conduct an assessment of the drainage system throughout the campus and implement projects based on the assessment.			
Hazard:	Flooding		
Background/Issue:	Brackett ISD has many low ground areas within the campus that flood easily with heavy rains. The flooding leads to property damage and students not being able to attend classes. Construction of buildings has been a factor contributing to the flooding along with lacking drainage.		
Integration Ideas:	The plan for assessment will be integrated into the Kinney County and City of Brackettville Flood Mitigation Plans.		
Responsible Agency:	Superintendent of Schools in collaboration with local officials.		
Partners:	City of Brackettville, Kinney County		
Potential Funding:	Funding sources include Texas Water Development Board, FEMA Hazard Mitigation Grants, and general funds.		
Cost Estimate:	\$80,000 – Assessment/Engineer The cost of the implementation of projects will be determined by the scope of each project		
Benefits: (Losses Avoided)	This action will reduce flooding and reduce the damage to property. It will also enable students to walk around campus from class to class during a heavy rain fall.		
Timeline:	The assessment should be completed within the first year of the hazard mitigation plan with implementation of flood mitigation projects throughout the five year period.		
Priority:	High		
Completed by:	Superintendent of Schools, BISD Safety Team, and Kinney County local officials.		



		Jurisdiction(s) Brackett ISD	
		Action Number	3
Mitigation Action: Mitigation reconstruction of roofing and windows to the High School, High School Annex, and Jones Elementary to include exterior lighting protection.			
Hazard:	Flooding, Hail Storms, Tornado, Strong Winds		
Background/Issue:	The average age of the Brackett ISD buildings is 50 years. They are in need of mitigation reconstruction to ensure the roofs do not leak and damage buildings. The windows need replacement to protect students during a severe storm whether hail, tornado, or strong winds. Structural retrofitting to install exterior light protection is also necessary.		
Integration Ideas:	The plan to reconstruct will be integrated into the BISD long range structural plans.		
Responsible Agency:	Superintendent of Schools		
Partners:	Kinney County Emergency Management Coordinator		
Potential Funding:	Funding sources include FEMA Hazard Mitigation Grants, and general funds.		
Cost Estimate:	\$1,000,000 to reconstruct roofs, replace windows, and retrofit exterior lighting.		
Benefits: (Losses Avoided)	This action will reduce loss of property during a flooding, hail storm, or tornado. This too will protect lives of those in the school buildings during severe storms.		
Timeline:	Dependent on availability of funding. Assessment of project needs and construction will occur in phases		
Priority:	High		
Completed by:	Superintendent of Schools and BISD Safety Team		



		Jurisdiction(s) Brackett ISD	
		Action Number	4
Mitigation Action: Build a Safe Room connected to Jones Elementary			
Hazard:	Tornado, Strong Winds		
Background/Issue:	Jones Elementary was built in the 1970s. Every classroom has an exterior wall framed around a series of windows. The roof in the hallway has sky lights. During hail storms, tornadoes, or strong winds, the faculty and students are exposed to the risk of objects/debris flying in through the windows or sky lights. During a tornado warning, students are placed in the hallway which has the skylights and vulnerable to breaking/shattering during the storms.		
Integration Ideas:	This project will be integrated into the BISD and Kinney County Emergency Operating Plans		
Responsible Agency:	Superintendent of Schools		
Partners:	Kinney County Emergency Management Coordinator		
Potential Funding:	Funding sources include FEMA Hazard Mitigation Grants, and general funds.		
Cost Estimate:	\$1,500,000 for construction of a safe room large enough to accommodate 100 students and their faculty and staff		
Benefits: (Losses Avoided)	This action will protect lives of those in the school buildings during severe storms.		
Timeline:	Planning stages will begin in 2024 with execution of project dependent on availability of funding.		
Priority:	High		
Completed by:	Superintendent of Schools, Safety Team, and local officials		



		Jurisdiction(s) Brackett ISD	
		Action Number	5
Mitigation Action: Retrofitting of buildings with new heating and air conditioning systems for efficient and healthy schools			
Hazard:	Ice Storm, Cold Wave, Winter Weather, Heat Wave		
Background/Issue:	Most of the buildings on the Brackett ISD campus have old natural gas heaters and window units in each classroom. In order to warm or cool the building, each heater or ac unit must be ignited individually and it takes a long time to get the building to the desired temperature. Safety with natural gas heaters is also of concern as they give off an odorless gas.		
Integration Ideas:	This plan will be integrated into the long range Brackett ISD plan.		
Responsible Agency:	Superintendent of Schools, Kinney County Emergency Management Coordinator		
Partners:	Emergency Management Coordinator, Fire Marshall		
Potential Funding:	Funding sources include FEMA Hazard Mitigation Grants, and general funds.		
Cost Estimate:	\$800,000 to retrofit five school buildings		
Benefits: (Losses Avoided)	This action will ensure warmth and cool for students and faculty during a severe storm and can prevent loss of life from exposure to natural gas.		
Timeline:	Within five years of the Hazard Mitigation Plan and dependent on funding.		
Priority:	Medium		
Completed by:	Superintendent of Schools, Bisd Safety Team, and Kinney County local officials.		



		Jurisdiction(s) Brackett ISD	
		Action Number	6
Mitigation Action: Installation of Generators			
Hazard:	Ice Storm, Cold Wave, Winter Weather, Heat Wave, Lightning, and Hail		
Background/Issue:	<p>During Severe Winter Storms, Thunderstorms, and Heat Waves, Kinney County loses power. Brackett ISD does not have back up generators and has canceled classes due to power outages. Brackett ISD has also lost refrigerated food items.</p> <p>During disasters, one of the Brackett ISD buildings is utilized to house community members. It is critical that this building have the necessary utilities to accommodate citizens.</p>		
Integration Ideas:	This plan will be integrated into the Kinney County Emergency Operating plan as BISD has a building that is designated as a critical facility.		
Responsible Agency:	Superintendent of Schools, Kinney County Emergency Management Coordinator		
Partners:	Emergency Management Coordinator		
Potential Funding:	Funding sources include FEMA Hazard Mitigation Grants, and general funds.		
Cost Estimate:	\$350,000		
Benefits: (Losses Avoided)	This action will ensure continuity of business during regular school hours, prevent loss of food items, and provide a shelter with appropriate utilities during a disaster.		
Timeline:	Within five years of the Hazard Mitigation Plan and dependent on funding.		
Priority:	High		



Completed by:	Superintendent of Schools, BISD Safety Team, and Kinney County local officials.
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Jurisdiction(s) Brackett ISD	
Action Number	7

Mitigation Action: Assessment and retrofitting of water and gas pipelines throughout the Brackett ISD Campus	
Hazard:	Ice Storm, Cold Wave, Winter Weather
Background/Issue:	<p>During the Ice Storm, Brackett ISD had issues with their gas and water pipelines. Lines were temporarily fixed for continued operation of the district.</p> <p>With projected continued winter storms, it is necessary for Brackett ISD to have an in-depth assessment of the water and gas pipes and exposure to elements.</p>
Integration Ideas:	This assessment will be integrated into the City of Brackettville’s infrastructure water and gas pipeline plan.
Responsible Agency:	Superintendent of Schools
Partners:	The City of Brackettville
Potential Funding:	Funding sources include FEMA Hazard Mitigation Grants, Texas Water Development Board Grants, and general funds.
Cost Estimate:	The assessment will cost approximately \$60,000 but implementation of project (replacement of lines) will be dependent on the assessment.
Benefits: (Losses Avoided)	This action will ensure continuity of business during a winter storm and prevent damage to school buildings caused by water leaks.
Timeline:	Within five years of the Hazard Mitigation Plan and dependent on funding.



Priority:	High
Completed by:	Superintendent of Schools, BISD Safety Team, and Kinney County local officials.

Jurisdiction(s) Brackett ISD	
Action Number	8

Mitigation Action: Assessment of insulation in older buildings and retrofitting of buildings with fire-retardant foam insulation.	
Hazard:	Ice Storm, Cold Wave, Winter Weather, Heat Wave
Background/Issue:	Brackett ISD has at least three educational buildings that have no insulation or insulation that has aged and no longer serving its purpose. With projected continued winter storms and heat waves, it is necessary for Brackett ISD to have an in-depth assessment of the buildings, their insulation properties, and begin replacing the insulation in phases.
Integration Ideas:	Integrate into the Kinney County Emergency Operating Plan and the Fire Safety Plans for Brackett ISD.
Responsible Agency:	Superintendent of Schools, Emergency Management Coordinator, Fire Marshall
Partners:	Emergency Management Coordinator, Fire Marshall
Potential Funding:	Funding sources include FEMA Hazard Mitigation Grants, and general funds.
Cost Estimate:	The assessment will cost approximately \$45,000 but implementation of project (replacement of insulation) will be dependent on the assessment.
Benefits: (Losses Avoided)	This action will ensure continuity of business during a winter storm and prevent/deter a fire from spreading throughout the campus which could cause loss of property and lives.



Timeline:	Within five years of the Hazard Mitigation Plan and dependent on funding.
Priority:	Medium
Completed by:	Superintendent of Schools, BISD Safety Team, and Kinney County local officials.

Jurisdiction(s) Brackett ISD	
Action Number	9

Mitigation Action: Retrofitting buildings with compliant school fire alarms, smoke detectors, and fire sprinkler systems.	
Hazard:	Fire
Background/Issue:	None of the Brackett ISD buildings have fire sprinkler systems nor are they compliant with fire codes. The School District does not have fire alarms.
Integration Ideas:	Integrate into the Kinney County Emergency Operating Plan and the Fire Safety Plans for Brackett ISD
Responsible Agency:	Superintendent of Schools, Emergency Management Coordinator, Fire Marshall
Partners:	Emergency Management Coordinator, Fire Marshall
Potential Funding:	Funding sources include FEMA Hazard Mitigation Grants, and general funds.
Cost Estimate:	\$750,000 for installation of fire sprinkler systems \$150,000 for installation of smoke detectors and fire alarms
Benefits: (Losses Avoided)	This action will prevent/deter a fire from spreading throughout the campus which could cause loss of property and lives.



Timeline:	Within five years of the Hazard Mitigation Plan and dependent on funding.
Priority:	Medium
Completed by:	Superintendent of Schools, BISD Safety Team, and Kinney County local officials.

Jurisdiction(s) Brackett ISD	
Action Number	10

Mitigation Action: Installation of a Lightning Equipment grounding rod system for all buildings to include the Information Technology specialized room.	
Hazard:	Lightning, Hail, Tornadoes, Strong Winds
Background/Issue:	Brackett ISD is equipment with some of the latest educational technology systems now trending. Unfortunately, the buildings are old and not appropriately grounded to withstand a lightning strike that could potentially damage servers and technology equipment or ignite a fire.
Integration Ideas:	Integrate into the Brackett ISD Information Technology long range plan.
Responsible Agency:	Superintendent of Schools, Information Technology Director
Partners:	Emergency Management Coordinator, Fire Marshall
Potential Funding:	Funding sources include FEMA Hazard Mitigation Grants, and general funds.
Cost Estimate:	\$750,000 for installation of fire sprinkler systems \$150,000 for installation of smoke detectors and fire alarms
Benefits: (Losses Avoided)	This action will prevent loss of technology equipment and prevent a fire which could result in loss of property and lives.



Timeline:	Within five years of the Hazard Mitigation Plan and dependent on funding.
Priority:	Medium
Completed by:	Superintendent of Schools, BISD Safety Team, and Kinney County local officials.

Jurisdiction(s) Brackett ISD	
Action Number	11

Mitigation Action: Replace all drinking water fountains with high-efficiency, ADA compliant, bottle-filling stations.	
Hazard:	Drought, Heat Wave
Background/Issue:	The water fountains currently in use at Brackett ISD are out dated, not energy efficient and students seem to waste water as reflected in the utility bills. The fountains are not equipped with low water nozzles or valves to reduce the amount of water dispensed.
Integration Ideas:	Integrate into the City of Brackettville Water Conservation Program.
Responsible Agency:	Superintendent of School, Maintenance Director, City Mayor
Partners:	City of Brackettville
Potential Funding:	Funding sources include Texas Water Development Board, Natural Resources Conservation Service, and general funds.
Cost Estimate:	\$350,000 for replace all drinking water fountains



Benefits: (Losses Avoided)	This action will help conserve scarce water resources needed for human consumption, farming, firefighting, and other needs.
Timeline:	Water fountains will be replaced in phases as funding allows.
Priority:	Medium
Completed by:	Superintendent of Schools, BISD Maintenance Director, and Kinney County local officials.

Jurisdiction(s) Brackett ISD	
Action Number	12

Mitigation Action: Purchase and install an ice machine.	
Hazard:	Drought, Heat Wave
Background/Issue:	<p>The Heat Wave that was experience during the Summer of 2023 posed threat to lives. Kinney County was extremely limited in ice, machines were not producing to demand, and Brackett ISD could not purchase to outside sources due to scarcity.</p> <p>The number of students attending Brackett ISD demands the need for an ice machine to keep students safe and hydrated during an event like the Heat Wave.</p>
Integration Ideas:	Integrate into the Brackett ISD Student Health Plan
Responsible Agency:	Superintendent of School, School Nurse
Partners:	Student Health Advisory Committee
Potential Funding:	Funding sources include FEMA Hazard Mitigation, Natural Resources Conservation Service, and general funds.



Cost Estimate:	\$10,000
Benefits: (Losses Avoided)	This action will help conserve scarce water resources needed for human consumption, farming, firefighting, and other needs.
Timeline:	Water fountains will be replaced in phases as funding allows.
Priority:	Medium
Completed by:	Superintendent of Schools, BISD Maintenance Director, and Kinney County local officials.

DRAFT



APPENDIX A

Kinney County Local Hazard Mitigation Planning Committee

Organization	Member	Position	Committee Position
Kinney County	Henry Garcia	Emergency Management Coordinator	Chairperson
Kinney County	Tim Ward	Commissioner	Vice Chairperson
City of Brackettville	Eric Martinez	Mayor	Member
City of Brackettville	Nora Rivas	City Administrator	Member
City of Spofford	Paul Resendez	Mayor	Member
City of Spofford	Chata Meza	Council Member	Member
Brackett ISD	Eliza Diaz	Superintendent	Member
Brackett ISD	Javier Solis	Facilities Director	Member
Public	Amanda Frerich	Plan Developer	Member
United Medical Clinic	Betty Guajardo	Site Coordinator	Member
United Medical Clinic	Betty Pacheco	Site Assistant	Member
Kinney County	Matt Benacci	Public Information Coordinator	Public Information
Rio Grande Electric Cooperative	Martin Flores	Area Supervisor	Member
Texas Department of Transportation	Brandon Baxter	Maintenance Section Supervisor	Member
Kinney County Sheriff's Office	Janine Rex	Representative	Member
Kinney County Sheriff	Brad Coe	Kinney County Sheriff	Member
Fort Clark Springs	Lisa Vale	Board President	Member
Fort Clark Springs	Patrick Criminger	Manager	Member
Public	Alma Gutierrez	Hazard Mitigation Plan Developer	Member
Public	Candy Hobbs	Hazard Mitigation Plan Developer	Member



APPENDIX B

Kinney County Local Hazard Mitigation Planning Committee Meetings

KINNEY COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

2023 Kick Off Meeting

June 20, 2023

I. Introductions

- a. Kinney County
- b. Brackett ISD
- c. City of Brackettville
- d. United Medical Center
- e. Fort Clark Springs
- f. City of Spofford
- g. Texas Department of Transportation

II. Review need for a hazard mitigation plan

- a. Expired Plan
- b. Submission to TDEM in December 2023
- c. Opportunities once FEMA approves the plan

III. Element A the Planning Process - REQUIRED

- a. Documentation of the planning process
- b. Jurisdictions must participate in the planning
- c. Documentation of opportunities given to public
- d. Existing plans, documents, reports, that might be analyzed

IV. Adjourn

Kinney County



Hazard Mitigation Planning Meeting

Element A - The Planning Process

Al-a - Documentation of the planning process and who was involved.

1. Finalize meeting dates and times
2. Announce in the newspapers & websites inviting the public to attend
3. One evening meeting to further accommodate

Al-b - Jurisdictions seeking approval of the Hazard Mitigation Plan

1. Jurisdictions must participate in the planning process
2. Drafts on websites for public comments

A2-a - Documentation of opportunities given to stakeholders to be involved in the planning process.

1. Local and regional agencies that could be invited to present and be involved in the planning process per hazard. Hazards include: Flooding, Drought, Hail, Heat Wave, Ice storm/Cold Wave/Winter Weather, Lightning, Riverine Flooding, Tornado, Wildfire
2. Agencies that have the authority to regulate development
3. Neighboring communities
4. Businesses/organizations that might sustain community lifelines
5. Non-profit organizations

A3-a - Documentation of opportunity given to the public to be involved in the planning process.

1. Open meetings, social media postings, surveys, etc.

A4-a - Review and incorporation of existing plans, studies, reports, and technical information.

1. Jurisdictional specific materials
2. Sources per jurisdiction


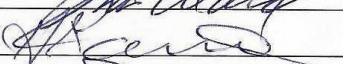
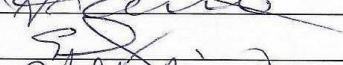



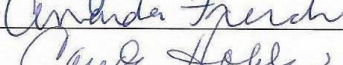
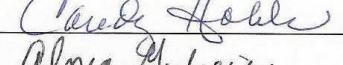


6-20-23 Hazard Mitigation Meeting

Kinney County	
HAZARD MITIGATION PLANNING SIGN IN SHEET	
Project: Hazard Mitigation Planning	Meeting Date: 06-20-2023
Facilitators: Kinney County	Place/Room: Fire House

DRAFT



Name	Signature
Tim Ward	
Henry Guerin	
Elizabeth	
Ylona Rivas	
Betty Guajardo	
Amanda French	
Candee Hobbs	
Alma Gutierrez	

KINNEY COUNTY MULTI-
 JURISDICTIONAL HAZARD
 MITIGATION PLAN

Meeting Agenda

July 3, 2023

- I. Welcome - attachment for agenda items included
- II. Discuss Element 8- REQUIRED - Risk Assessment Requirements
 - a. Natural Hazards
 - b. Location of Hazards
 - c. Extent of effects
 - d. Historical events
 - e. Probability of future events
 - f. Risk information for each jurisdiction
 - g. Vulnerability
 - h. Impacts
 - i. **NFIP**
- III. Discuss Element C -REQUIRED - Mitigation Strategies
 - a. Support for each mitigation strategy
 - b. Jurisdiction capabilities
 - c. Participation in NFIP
 - d. Goals to reduce the risks
 - e. Actions considered
 - f. Prioritizing the actions
 - g. Administration of actions and potential funding
- IV. Adjourn

Kinney County- Element B- Risk Assessment Requirements

81-a -The plan must include a description of all natural hazards that can affect the jurisdiction(s) in the planning area and their assets

B1-b -The plan must include information on location for each identified hazard.

B1-c-The plan must provide the extent of the hazards that can affect the planning area.

B1-d- The plan must include information on previous hazard events for each hazard that affects the planning area.

B1-e - The plan must include the probability of future events for the



Kinney County

HAZARD MITIGATION PLANNING SIGN IN SHEET

Project: HM Element 8 & C	Meeting Date: 07-03-23
Facilitators: Kinney County	Place/Room: Fire House

Name	Signature
identified hazards that can affect the planning area. B1-f- The plan must specify the unique and varied risk information for each applicable jurisdiction and their assets outside the planning area.	
B2-a- The plan must describe the vulnerability of each participant to the identified hazards.	
B2-b- The plan must describe the potential impacts on each participating jurisdiction and its identified assets.	
B2-c- The plan must address repetitively flooded NFIP insured structures by including the estimated numbers and types of repetitive/severe repetitive loss properties.	
Matt Ryan Kinney County - Element C - Mitigation Strategies	Matt Ryan
C1-a- The plan must describe how the existing authorities, policies, programs, funding and resources of each participant are available to support the mitigation strategy.	
C1-b - The plan must describe the ability of each participant to expand on and improve the capabilities described in the plan.	
C2-a - The plan must describe participation in the NFIP for each participant, as applicable, in accordance with NFIP regulatory requirements.	
C3-a - The plan must include goals to reduce the risk of the identified hazards.	
C4-a - The mitigation strategy must include an analysis of a comprehensive range of actions or projects that the participants considered to specifically address vulnerabilities identified in the risk assessment.	
C4-b - Each plan participant must identify one or more mitigation actions the participant(s) intends to implement for each hazard addressed in the risk assessment.	
CS-a - The plan must describe the criteria used for prioritizing the implementation of the actions.	
CS-b - The action plan must identify who is responsible for administering each action, along with the action's potential funding sources and expected time frames for completion.	
07-03-23 Hazard Mitigation Meeting	
Kinney County Hazard Mitigation Plan 2023	
	Kinney County Multijurisdictional Plan

**KINNEY COUNTY MULTI-
JURISDICTIONAL HAZARD
MITIGATION PLAN**

Meeting Agenda

July 17, 2023

- I. Welcome
- 11. Hazard to be evaluated/discussed: DROUGHT
 - a. What is it?
 - b. Where have we experienced it?
 - c. Extent of effects of this hazard?
 - d. History of this event?
 - e. Probability of future events
 - f. Allow members to share their information.
 - g. Vulnerability
 - h. What might it impact?
- 111. Discuss the Mitigation Action Implementation Worksheet
 - a. One per jurisdiction for each mitigation action
 - b. Review sample worksheet
 - c. Allow jurisdictions to go back to their entities for additional discuss, information
 - d. Worksheet due in 2 weeks
- IV. Set Date for next meeting
- V. Adjourn



Sample-

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Worksheet 6.2

Mitigation Action Implementation Worksheet

Complete a mitigation action implementation worksheet for each identified mitigation action.

Jurisdiction:	Kinney County
Mitigation Action/Project Title:	Landslides Emergency Response and Preparedness Training of First Responders
Background/Issue:	Kinney County will train first responders and all emergency personnel in response techniques. Planning for emergency response plans and evacuation routes. Include# of documented landslides ___ and the FEMA probability%
Ideas for Integration:	Integrate into the Kinney County Emergency Operations Plan; build community resilience through community organizations and mutual support networks.
Responsible Agency:	Kinney County
Partners:	Fort Clark Springs, Kinney County, City of Brackettville, City of Spofford, Brackett ISO
Potential Funding:	Local, state and federal funding
Cost Estimate:	\$5,000 over the <u>five year</u> period
Benefits: (Losses Avoided)	Reduce erosion, restrict construction in the most landslide prone areas. Preserve natural vegetation and open spaces. Sustainable land management practices that reduce soil erosion and maintain slope stability over time.
Timeline:	Over the next five years, first responders will be involved in initial training with follow up training to stay current annually. Update and maintain information on response in local plans annually to include any new information and adaptive strategies or procedures.
Priority:	LOW
Worksheet Completed by:	(Name/Department)

A-33



Multi-Jurisdictional Hazard Mitigation	
PLANNING SIGN IN SHEET	
Project: Planning for Drought	Meeting Date: 07-17-2023
Facilitator: Kinney County	Place/Room: Fire House

Print Name	Signature
Leticia Meza	Leticia Meza
Nora Rivas	Nora Rivas
Erick J. Marinarez	Erick J. Marinarez
Matt Benacci	Matt Benacci
Betty Guajardo	Betty Guajardo
Alma Gutierrez	Alma Gutierrez
Candy Hobbs	Candy Hobbs

**KINNEY COUNTY MULTI-JURISDICTIONAL
HAZARD MITIGATION PLAN**

Meeting Agenda

August 7, 2023

- I. Welcome
- II. Guest Speaker - Fernando Perez
- III. Hazard to be evaluated/discussed: FLOODING, RIVERINE, HURRICANE
 - a. What is it?
 - b. Where have we experienced it?
 - c. Extent of effects of this hazard?
 - d. History of this event?
 - e. Probability of future events
 - f. Allow members to share their information.
 - g. Vulnerability
 - h. What might it impact?
- IV. Mitigation Action Implementation Worksheet
 - a. Collect Mitigation Action Worksheet for Drought
 - b. Allow jurisdictions to go back to their entities for additional discuss, information
 - c. Worksheet due in 2 weeks
- V. Set Date for next meeting
- VI. Adjourn



Kinney County	
HAZARD MITIGATION PLANNING SIGN IN SHEET	
Project: Hurricanes, Riverine, Flooding	Meeting Date: 08-07-2023
Facilitators: Kinney County	Place/Room: Fire House

Name	Signature
Candy Hobbs	<i>Candy Hobbs</i> 830-563-5236
Steven Lowrance	<i>[Signature]</i> 7027619619
Martin Flores	<i>M. Flores</i> 830-563-5261
Philip Garcia	<i>Philip Garcia</i>
Betty Guigard	<i>Betty Guigard</i>
Yola Rivas	<i>Yola Rivas</i>
Eric J. Martinez	<i>[Signature]</i>
Janine Rex	<i>Janine Rex</i>
Javier Solis	<i>Javier Solis</i> 830-313-2851
Amanda Frerich	<i>Amanda Frerich</i>
Candy Hobbs	<i>Candy Hobbs</i>
<i>Guest Speaker</i>	<i>Fernando Perez - TDE</i>



**KINNEY COUNTY MULTI-JURISDICTIONAL
HAZARD MITIGATION PLAN**

Meeting Agenda

August 21, 2023

- I. Welcome
- II. Hazard to be evaluated/discussed: LIGHTNING/HAIL
 - a. What is it?
 - b. Where have we experienced it?
 - c. Extent of effects of this hazard?
 - d. History of this event?
 - e. Probability of future events
 - f. Allow members to share their information.
 - g. Vulnerability
 - h. What might it impact?
- III. Mitigation Action Implementation Worksheet
 - a. Collect Mitigation Action Worksheet for ~~Flooding Riverine Hurricane~~
 - b. Allow jurisdictions to go back to their entities for additional discuss, information
 - c. Worksheet due in 2 weeks
- IV. Set Date for next meeting
- V. Adjourn



Kinney County	
HAZARD MITIGATION PLANNING SIGN IN SHEET	
Project: Lightning/Hail	Meeting Date: 08-21-2023
Facilitators: Kinney County	Place/Room: Fire House

Name	Signature
H. N. Bittu	
Francesca Bittu	
Pablo Resendez	<i>[Signature]</i>
Brandon Baxter	<i>[Signature]</i>
Dennis Dodson	<i>[Signature]</i>
Leticia Meza	<i>[Signature]</i>
Nora Rivas	<i>[Signature]</i>
Eric J. Martinez	<i>[Signature]</i>
Matthew C. Beracci	<i>[Signature]</i>
Juan Gonner	<i>[Signature]</i>
Janine REX	<i>[Signature]</i>
Betty Rose Pacheco	<i>[Signature]</i>
Elizabeth DIAZ	<i>[Signature]</i>
Alma Gutierrez	<i>[Signature]</i>
Candy Hobbs	<i>[Signature]</i>



KINNEY COUNTY MULTI-JURISDICTIONAL
HAZARD MITIGATION PLAN

Meeting Agenda

September 5, 2023

- I. Welcome
- II. Hazard to be evaluated/discussed: WINTER WEATHER/COLD WAVE/ICE STORM
 - a. What is it?
 - b. Where have we experienced it?
 - c. Extent of effects of this hazard?
 - d. History of this event?
 - e. Probability of future events
 - f. Allow members to share their information.
 - g. Vulnerability
 - h. What might it impact?
- III. Mitigation Action Implementation Worksheet
 - a. Collect Mitigation Action Worksheet for Lightning/Hail
 - b. Allow jurisdictions to go back to their entities for additional discuss, information
 - c. Worksheet due in 2 weeks
- IV. Set Date for next meeting
- V. Adjourn



Kinney County Hazard Mitigation

Sign in Sheet

Winter Weather/ Cold Wave/ Ice Storm

September 5, 2023

Print Name	Signature
Brandon Baker	Brandon Baker
Janine Rex	Janine Rex
Miguel Flores	
Javier Solis	Javier Flores
Julian Gomez	JG
Amanda Frerich	Amanda Frerich
Eric Martinez	Eric Martinez
Alma Gutierrez	Alma Gutierrez
Candy Hobbs	Candy Hobbs



KINNEY COUNTY MULTI-JURISDICTIONAL
HAZARD MITIGATION PLAN

Meeting Agenda
September 18, 2023

- I. Welcome
- II. Guest Speaker - Texas Forest Fire Service
- III. Hazard to be evaluated/discussed: WILDLAND FIRE/ HEAT WAVE
 - a. What is it?
 - b. Where have we experienced it?
 - c. Extent of effects of this hazard?
 - d. History of this event?
 - e. Probability of future events
 - f. Allow members to share their information.
 - g. Vulnerability
 - h. What might it impact?
- IV. Mitigation Action Implementation Worksheet
 - a. Collect Mitigation Action Worksheet for Winter Weather/Cold Wave/Ice Storm
 - b. Allow jurisdictions to go back to their entities for additional discuss, information
 - c. Worksheet due in 2 weeks
- V. Set Date for next meeting
- VI. Adjourn



Multi-Jurisdictional Hazard Mitigation	
PLANNING SIGN IN SHEET	
Project: Wildfires, Heat Wave	Meeting Date: 09-18-23
Facilitator: Kinney County	Place/Room: Fire House

Print Name	Signature
Amanda Frerich	Amanda Frerich
Henny Garcia	Henny Garcia
Javier Solis	Javier Solis
Janine Rex	Janine Rex
Brandon Baxter	Brandon Baxter
Ylora Rivas	Ylora Rivas
Betty Guggis	Betty Guggis
Pablo Hernandez	Pablo Hernandez
Tim Ward	Tim Ward
Matt Benacci	Matt Benacci
Eric J. Martinez	Eric J. Martinez
Alma Gutierrez	Alma Gutierrez
Candy Hobbs	Candy Hobbs



**KINNEY COUNTY MULTI-JURISDICTIONAL
HAZARD MITIGATION PLAN**

Meeting Agenda

October 2, 2023

- I. Welcome
- II. Guest Speaker - ~~Tex Mesonet~~
- III. Hazard to be evaluated/discussed: TORNADOES/ STRONG WINDS
 - a. What is it?
 - b. Where have we experienced it?
 - c. Extent of effects of this hazard?
 - d. History of this event?
 - e. Probability of future events
 - f. Allow members to share their information.
 - g. Vulnerability
 - h. What might it impact?
- IV. Mitigation Action Implementation Worksheet
 - a. Collect Mitigation Action Worksheet for Wildland Fire/ Heat wave
 - b. Allow jurisdictions to go back to their entities for additional discuss, information
 - c. Worksheet due in 2 weeks
- V. Set Date for next meeting
- VI. Adjourn



Multi-Jurisdictional Hazard Mitigation

PLANNING SIGN IN SHEET

Project: Strong Winds, TORNADOS	Meeting Date: 10-02-23
Facilitator: Kinney County	Place/Room: Fire House

Print Name	Signature
Brandon Baxter	<i>Brandon Baxter</i>
JAVIER SOLIS	<i>Javier Solis</i>
Ernie J. Manbruet	<i>Ernie J. Manbruet</i>
Ylora Rivas	<i>Ylora Rivas</i>
Julian Gomez	<i>Julian Gomez</i>
Amanda Frerich	<i>Amanda Frerich</i>
Betty Rose Pacheco	<i>Betty Rose Pacheco</i>
Janine Rex	<i>Janine Rex</i>
Alma Gutierrez	<i>Alma Gutierrez</i>
Candy Hobbes	<i>Candy Hobbes</i>

KINNEY COUNTY MULTI-JURISDICTIONAL
HAZARD MITIGATION PLAN

Meeting Agenda

October 16, 2023

- I. Welcome
- II. Hazard to be evaluated/discussed: LAND SLIDES/ EARTH QUKES
 - a. What is it?
 - b. Where have we experienced it?
 - c. Extent of effects of this hazard?
 - d. History of this event?
 - e. Probability of future events
 - f. Allow members to share their information.
 - g. Vulnerability
 - h. What might it impact?
- III. Mitigation Action Implementation Worksheet
 - a. Collect Mitigation Action Worksheet for Tornadoes/ Strong Winds
 - b. Allow jurisdictions to go back to their entities for additional discuss, information
 - c. Worksheet due in 2 weeks
- IV. Set Date for next meeting
- V. Adjourn



Multi-Jurisdictional Hazard Mitigation	
PLANNING SIGN IN SHEET	
Project: Landslide/Earth Quake	Meeting Date: 10-16-23
Facilitator: Kinney County	Place/Room: Fire House

Print Name	Signature
Newly G.M.U.C.P.I	<i>[Signature]</i>
JAVIER FELIS	<i>[Signature]</i>
BILL HERMAN	<i>[Signature]</i>
SANDY HERMAN	<i>[Signature]</i>
ERIC J. MARTINEZ	<i>[Signature]</i>
Brandon Baxter	<i>[Signature]</i>
Yablo Resendez	<i>[Signature]</i>
Nora Rivas	<i>[Signature]</i>
Dennis Dodson	<i>[Signature]</i>
Matthew L. Saracci	<i>[Signature]</i>
Janine Rex	<i>[Signature]</i>
Alma Gutierrez	<i>[Signature]</i>
Candy Hobbs	<i>[Signature]</i>



**KINNEY COUNTY MULTI-JURISDICTIONAL
HAZARD MITIGATION PLAN
PUBLIC HEARING FOR ALL KINNEY COUNTY RESIDENTS
November 6, 2023**

- I. Welcome
- II. Review of Hazards identified for Kinney County
 - a. Data reviewed
 - b. Hazard prioritized by occurrences and losses
 - c. Some of the hazard mitigation projects identified by jurisdictions
- III. Allow for public to comment
- IV. Information on the public survey
 - a. Newspaper
 - b. School District will send out through dojo to families
 - c. Jurisdictions can share on their social media - website
 - d. Was offered at Hunter's Round up
- V. Adjourn



Multi-Jurisdictional Hazard Mitigation	
PLANNING SIGN IN SHEET	
Project: HMP Public Hearing	Meeting Date: 11-06-23
Facilitator: Kinney County	Place/Room: Fire House

Print Name	Signature
Brandon Baxter	<i>[Handwritten Signature]</i>
Betty Guipard	<i>[Handwritten Signature]</i>
Liliana Gurza	<i>[Handwritten Signature]</i>
Amanda Frerich	<i>[Handwritten Signature]</i>
Eric J. Mandrone	<i>[Handwritten Signature]</i>
Bill Herman	<i>[Handwritten Signature]</i>
GAROLD D. HUEY	<i>[Handwritten Signature]</i>
Becky Moore	<i>[Handwritten Signature]</i>
Matthew C. Baracci	<i>[Handwritten Signature]</i>
Henry Garcia	<i>[Handwritten Signature]</i>
Rolando Gutierrez	<i>[Handwritten Signature]</i>
Matt Coffman	<i>[Handwritten Signature]</i>
Alma Gutierrez	<i>[Handwritten Signature]</i>
Candy Hobbs	<i>[Handwritten Signature]</i>



KINNEY COUNTY MULTI-JURISDICTIONAL

HAZARD MITIGATION PLAN

Optional: High Hazard DAMS

November 20, 2023

- I. Welcome
- II. Review requirements if we decide to include Dams in the Hazard Mitigation Plan
 - a. Incorporation of existing plans/studies
 - b. Risk and Vulnerabilities
 - c. Goals to reduce the risk
 - d. Actions planned
- III. Require current data on all 11 Dams in Kinney County
 - a. Location
 - b. Hazard Potential Classification
 - c. Primary Purpose
 - d. Emergency Action Required?
- IV. Information on the public survey
 - a. Newspaper
 - b. School District will send out through dojo to families
 - c. Jurisdictions can share on their social media - website
 - d. Was available at Hunter's Round up
- V. Adjourn



Multi-Jurisdictional Hazard Mitigation

PLANNING SIGN IN SHEET

Project: High Hazard DAMS	Meeting Date: 11-20-23
Facilitator: Kinney County	Place/Room: Fire House

Print Name	Signature
Brandon Baxter	<i>Brandon Baxter</i>
Pablo Resendez	<i>Pablo Resendez</i>
Leticia V. Mora	<i>Leticia V. Mora</i>
Janine Rex	<i>Janine Rex</i>
Henny Gonzalez	<i>Henny Gonzalez</i>
Jr. Garcia	<i>Jr. Garcia</i>
Laura Waddell	<i>Laura Waddell</i>
Eric J. Martinez	<i>Eric J. Martinez</i>
Ylora Rivas	<i>Ylora Rivas</i>
Betty R. Pacheco	<i>Betty R. Pacheco</i>
BILL HERMAN	<i>Bill Herman</i>
SANDY HERMAN	<i>Sandy Herman</i>
Jean Towler	<i>Jean Towler</i>
Alma Gutierrez	<i>Alma Gutierrez</i>
Candy Hobbs	<i>Candy Hobbs</i>



KINNEY COUNTY MULTI-JURISDICTIONAL

HAZARD MITIGATION PLAN

Meeting Agenda

December 4, 2023

- I. Welcome
- II. Opportunity for additional input on Mitigation Actions
 - a. Allow jurisdictions opportunity to share some of their projects
 - b. Call for any additional data to be included in the plan
- III. Update on the responses from the public survey
 - a. Share information from each question on the survey
 - b. Announce additional public hearing opportunities at each jurisdiction
 - c. Still on track to submit the plan to TDEM on December 20, 2023
- IV. Adjourn



Multi-Jurisdictional Hazard Mitigation	
<u>PLANNING</u> SIGNIN SHEET	
Project: Hazard Mitigation Plan	Meeting Date: 12-04-23
Facilitator: Kinney County	Place/Room: Fire House

Print Name	Signature
Leticia Meza	Leticia Meza
Scott Hill	Scott Hill
Enalda Dominguez	Enalda Dominguez
Scott Stanley	Scott Stanley
Amanda Frerich	Amanda Frerich
Henry Gracia	Henry Gracia
Janine Rex	Janine Rex
Rubio Ascender	Rubio Ascender
Alma Gutierrez	Alma Gutierrez
Candy Hobbs	Candy Hobbs



**KINNEY COUNTY MULTIJURISDICTIONAL
HAZARD MITIGATION PLAN
PUBLIC HEARING
AGENDA
December 11, 2023**

- I. KINNEY COUNTY MULTIJURISDICTIONAL HAZARD MITIGATION PLAN
 - a. Review of Natural Hazards considered for Kinney County
 - Tornado
 - Heat Wave
 - Riverine Flooding
 - Lightning
 - Hurricane
 - Strong Wind
 - Drought
 - Winter Weather
 - Hail
 - Cold Wave
 - Wildfire
 - Landslide
 - Earthquake
 - Ice Storm
 - b. Examples of Action Items Entities could consider utilizing to mitigate natural hazards.
 - c. Action Items that have been included in workshops for your entity.
 - d. Entity buildings designated for shelters.
- II. Information on the LEPC - Local Emergency Planning Committee
 - a. Chemical Spills/Pipelines/Storage of fuel and chemicals
 - b. LEPC Plan - will be completed in 2024
- III. QUESTIONS/DISCUSSION
- IV. ADJOURN



Kinney County
Public Hearing
December 11, 2023
Sign In Sheet

Kevin Mootec
Donita Okafu
B. S.
Dany Serrano
A. Blanch
J. Edwards
Joe Montalvo
Mark J.
Pammy
Rebecca Flores
Nathan C. Zencel
Alma Gutierrez
Candy Hobbs



**KINNEY COUNTY MULTIJURISDICTIONAL
HAZARD MITIGATION PLAN
PUBLIC HEARING
AGENDA
December 11, 2023**

- I. KINNEY COUNTY MULTIJURISDICTIONAL HAZARD MITIGATION PLAN
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- IV. ADJOURN



Kinney County Multijurisdictional Hazard Mitigation Plan Public Hearing	
PLANNING SIGN IN SHEET	
Project: Hazard Mitigation Plan	Meeting Date: 12--11--23
Facilitator: Brackett ISD	Place/Room: <u>Brackett ISD Central Office</u>

Print Name	Signature
Avier S. L. ...	<i>[Handwritten Signature]</i>
Amalia Garza	<i>[Handwritten Signature]</i>
Veronica Ibanez	<i>[Handwritten Signature]</i>
Eliza Diaz	<i>[Handwritten Signature]</i>
Ricky Sandoval	<i>[Handwritten Signature]</i>
Jesse Tenorio	<i>[Handwritten Signature]</i>
Cecilia V. Rodriguez	<i>[Handwritten Signature]</i>
Whitney Messyill	<i>[Handwritten Signature]</i>
GA Guzman	<i>[Handwritten Signature]</i>
Sergio Jimenez	<i>[Handwritten Signature]</i>
Melissa Neuman	<i>[Handwritten Signature]</i>
Gary Griffin	<i>[Handwritten Signature]</i>
Alma Gutierrez	<i>[Handwritten Signature]</i>
Candy Hobbs	<i>[Handwritten Signature]</i>

KINNEY COUNTY MULTIJURISDICTIONAL
HAZARD MITIGATION PLAN
PUBLIC HEARING
AGENDA
December 11, 2023

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KINNEY COUNTY MULTIJURISDICTIONAL
HAZARD MITIGATION PLAN
PUBLIC HEARING
AGENDA
December 12, 2023

- I. KINNEY COUNTY MULTIJURISDICTIONAL HAZARD MITIGATION PLAN
 - a. Review of Natural Hazards considered for Kinney County
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 - Lightning
 - Hurricane
 - Strong Wind
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- III. QUESTIONS/DISCUSSION
- IV. ADJOURN

1
Kinney County Multijurisdictional Hazard Mitigation Plan Public Hearing,
City of Brackettville - December 12, 2023



City of Brackettville
 Regular City Council Meeting

Public Sign-In Sheet Hazard Mitigation

All citizens wishing to address the City Council during
 Citizens Comments & Recognitions will be allotted 3
 minutes to speak.

Your co-cooperation is appreciated.

Date: 12-12-23

Name	Topic
Claudia Pacheco	Public Hearings
Francisca Hernandez	
Yolanda Williams	
[Signature]	
Rogio Smith	
[Signature]	
Gary Lewis	
Alma Gutierrez	
J Schmidt	
Susan Hartung	
[Signature]	
Chudley Holler	



KINNEY COUNTY MULTIJURISDICTIONAL
HAZARD MITIGATION PLAN
PUBLIC HEARING
AGENDA
December 12, 2023

- I. KINNEY COUNTY MULTIJURISDICTIONAL HAZARD MITIGATION PLAN
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 - Hail
 - Cold Wave
 - Wildfire
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 - Earthquake
 - Ice Storm
 - b. Examples of Action Items Entities could consider utilizing to mitigate natural hazards.
 - c. Action Items that have been included in workshops for your entity.
 - d. Entity buildings designated for shelters.
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 - a. Chemical Spills/Pipelines/Storage of fuel and chemicals
 - b. LEPC Plan - will be completed in 2024
- III. QUESTIONS/DISCUSSION
- IV. ADJOURN

1

Kinney County Multijurisdictional Hazard Mitigation Plan Public Hearing,
Fort Clark MUD- December 20, 2023



Multi-Jurisdictional Hazard Mitigation

PLANNING SIGN IN SHEET

Project: Hazard Mitigation Meeting	Meeting Date: 03-18-2024
Facilitator: Kinney County	Place/Room: Fire House

DRAFT



Print Name	Signature
Candy Hobbs	Candy Hobbs
Eric J. Martinez	Eric J. Martinez
Janine Detayas	Janine Detayas
Betty Guajard	Betty Guajard
Brandon Baxter	Brandon Baxter
Mora Rivas	Mora Rivas
Alma Gutierrez	Alma Gutierrez



Hazard Mitigation Sign In Sheet - April 15, 2024

Print Name	Signature
Janine DeHoyos	Janine DeHoyos
Dennis Dodson	Dennis Dodson
Michael Ford	Michael Ford
Michael Villarrea	Michael Villarrea
Javier Solis	Javier Solis
	Alma
	Betty Dugard
	D. Solis
	Alma Gutierrez



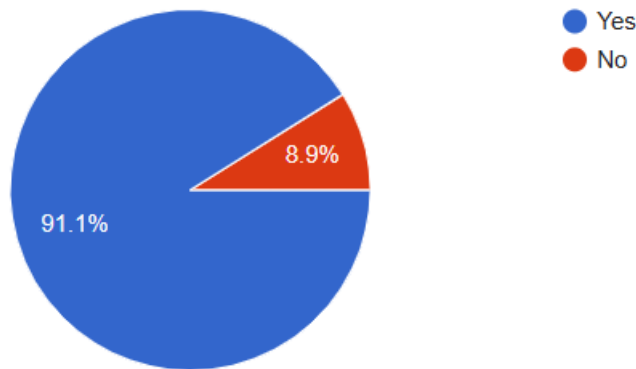
APPENDIX C

KINNEY COUNTY HAZARD MITIGATION SURVEY RESULTS

The Kinney County Judge and Commissioners along with local entities such as The City of Brackettville, The City of Spofford, Fort Clark Municipal Utility District, Fort Clark Springs, Brackett Independent School District, and United Medical Center are working to update the Kinney County Hazard Mitigation Plan to minimize the impact of disasters and protecting lives and property. By identifying natural disaster risks and vulnerabilities specific to our area, mitigation plans allow local governments to develop long-term strategies for risk reduction. These strategies help break the cycle of disaster damage. Please complete the survey below to assist our planning committee in understanding the risks our community are most concerned with.

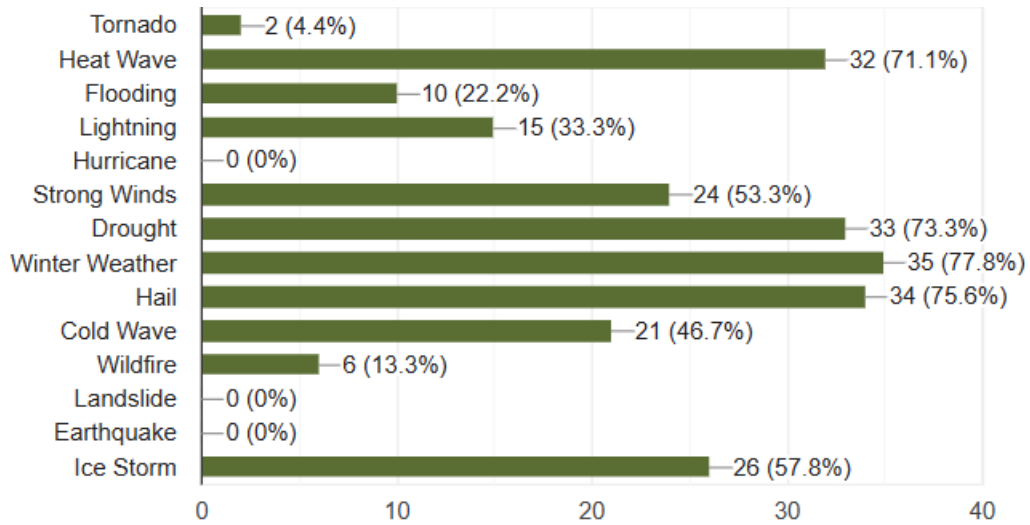
In the past five years, have you been adversely affected personally by any of the hazards listed below?

1.

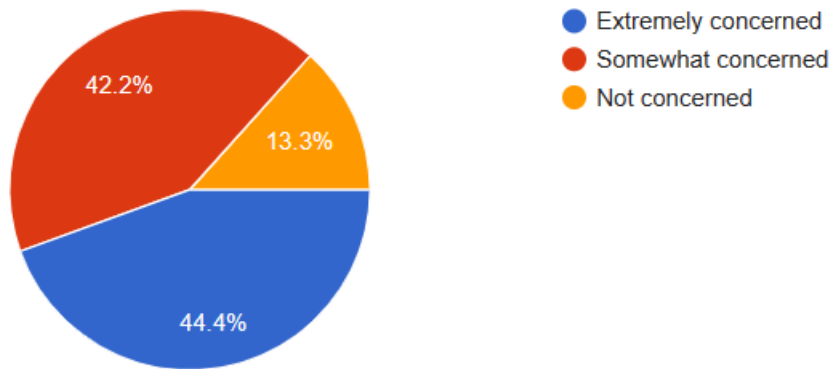


2. Please check those you have experienced in Kinney County.



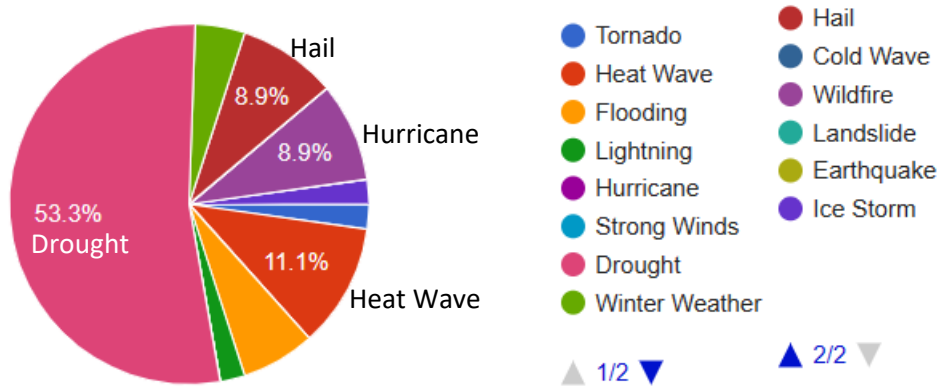


3. How concerned are you about the possibility of being adversely affected by these hazards?

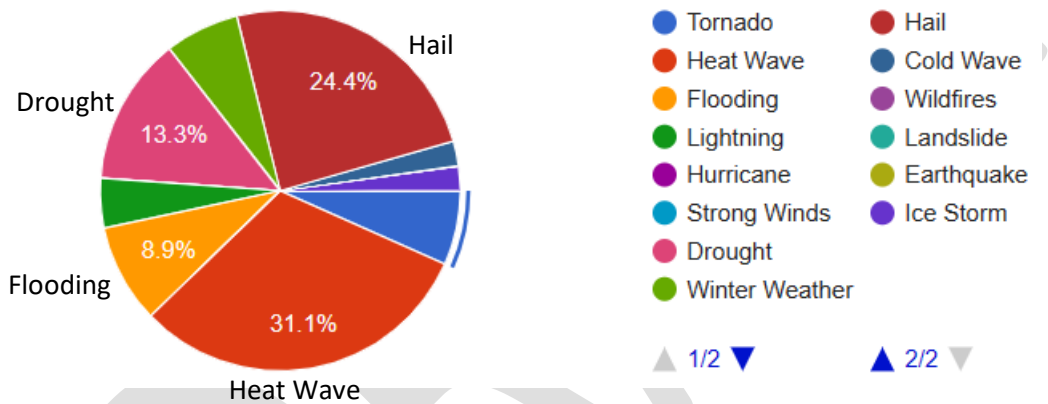


4. Please select the natural hazard you think is the highest threat to you and the communities in Kinney County.



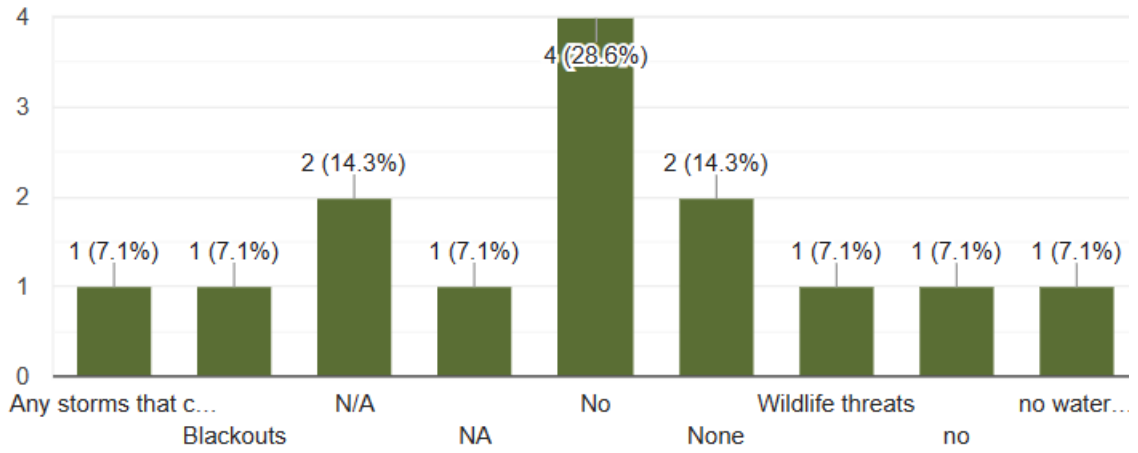


5. Please select the natural hazard you think is the second highest threat to you and the communities in Kinney County.

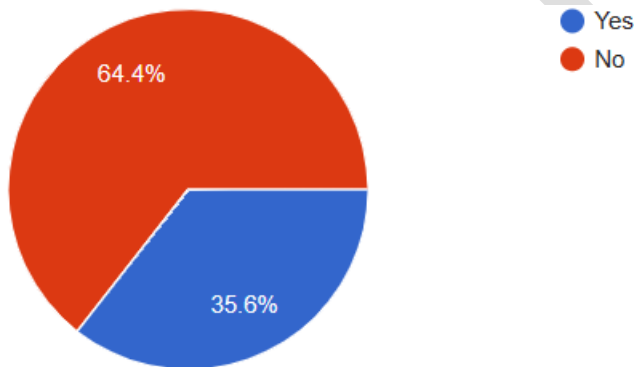


6. If there is another natural hazard not listed in this survey that you think is a wide-scale threat to you, your business, or your Kinney County community, please explain.





7. Have you taken any actions to make your home, business, or community more resistant to natural hazards?



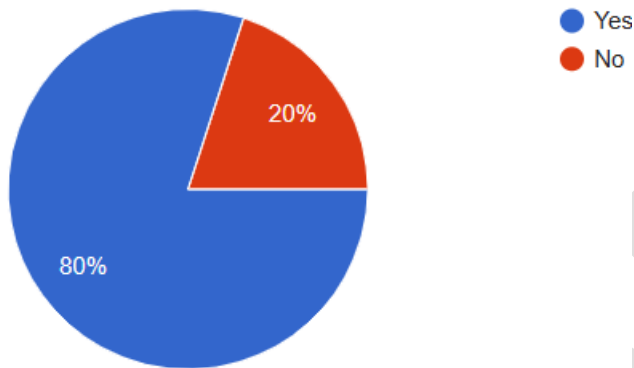
8. If "yes", please describe the action you have taken:

Purchased Generator
None
Purchase propane heaters
Basement
Metal roof
Carport installed, watering at night
Solar installation, fireplace improvements
Made windows durable to hail and wrapped water faucets so as not to freeze when it gets cold
We put a car port at my house for hail
Getting educated
Drought Contingency Plan; purchased personal generators



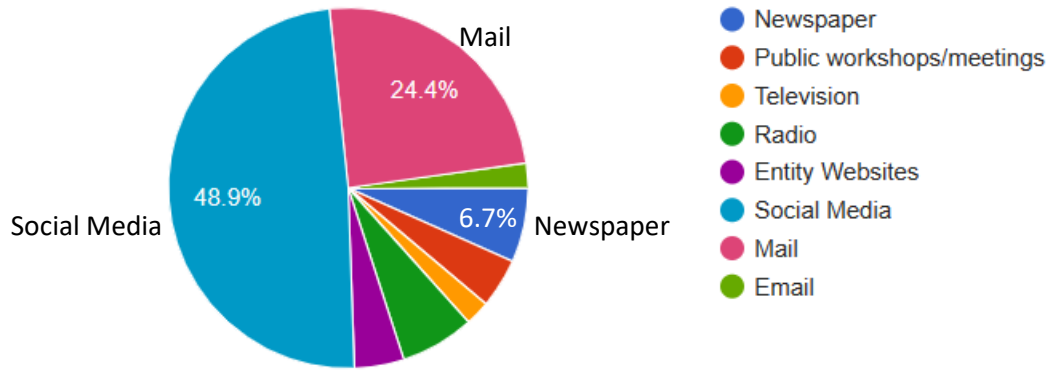
Backup generator; food storage; defensive means if needed
Solar panels: keep cars in garage to protect from hail
Metal roof; car port
Food and water supply; installed dual paned windows
Large generator to power house

9. Are you interested in making your home, business, or neighborhood more resistant to natural hazards?



10. What is the most effective way for you to receive information about how to make your home, business, or community more resistant to hazards?





11. In your opinion, what are some steps your local government could take to reduce or eliminate the risk of future damage from natural hazards in your neighborhood?

Secure the city and Fort Clark Springs from flooding
Develop a plan and implement it
Planning
Drought is a huge concern, unsure how this would be prevented
Proactive planning and meetings
Social media page
Set restrictions for water consumption in hotter months
Groundwater development implement a drought plan
Make sure our power grid can handle winter weather. Have a plan to help residents in these types of disasters.
Have an emergency backup water plan in case of a drought.
More closely monitor/regulate/restrict water use during drought conditions to ensure water/stream flow for everyone. If Las Moras Springs dies like the one in Fort Stockton, this town will die. It's our number one resource, number 1 factor in our property values. Right now, I think our water district ONLY cares about agribusiness and nothing else. Compare the needs of those few farmers and ranchers against tourism and the needs of the rest of the community. No one comes here and very few will stay without the Springs. That affects all the restaurants, hotel, Fort Clark businesses, gas station, and everyone.
Be more helpful and have more resources available.
Clean out drainage ditches.
Communication and being proactive.
Stop over population
Storm and disaster relief primary sites, posting of sire warnings in multiple locations, and community meeting to inform and mobilize plans within our town.
Monthly water usage especially during droughts
Have restrictions on water usage
If we don't take action to protect our water source, our property values will go down. People won't come here to visit for hunting, vacay, etc. And our businesses will suffer. No one wins.



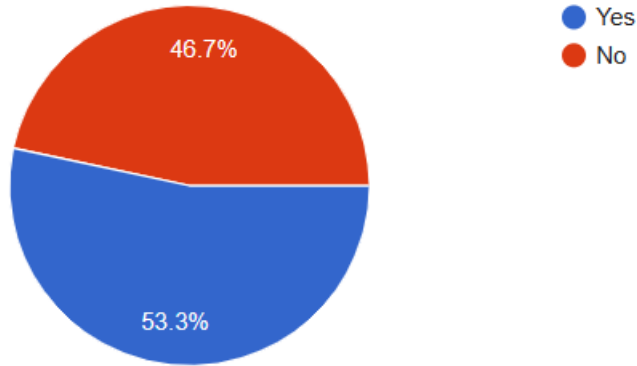
The city can clean up the ditches from all debris. Make a plan for the elderly when power goes out. There are no tornado or severe weather shelters for any citizens, no plans.
None, just southwest Texas life.
Build better facilities that could help people in case of a natural disaster. Have plans in place for what needs to be done in different scenarios in the event something goes wrong. We need a better communication process to go out to the community in case of a disaster or pending disasters for the most vulnerable to seek safety.
Require and enforce the removal, clean up, and rebuilding of dilapidated and abandoned structures, property, and debris. Keep pools filled. Ban irrigation for commercial farming.
Overall maintenance and upkeep of areas.

12. Are there any other issues regarding the reduction of risk and loss associated with natural hazards or disasters in the community that you think are important?

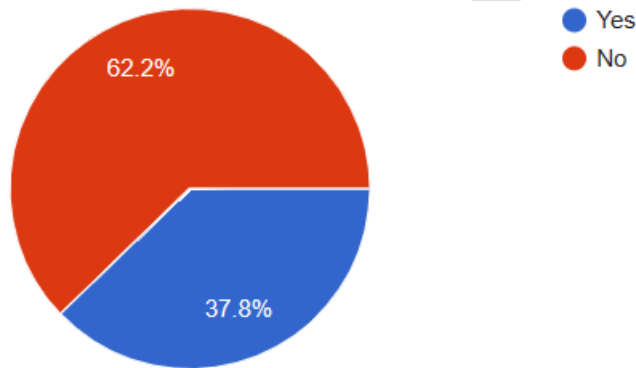
The city's streets are dangerous to all citizens and especially children as they travel to and from school. The wear on families' vehicles is real because of the disrepair of the streets.
Awareness
Awareness
Hailstorms
We need to continue to be ready to help and serve
Safety
We need to make our electrical grid more robust to outages associated with storm damages.
We must fend for ourselves and be prepared. Resources and help may take a while to get to our rural community, due to our location, and the number of casualties will be low. Major entities will not consider this to be a monumental loss, compared to metropolitan areas.
Be able to use electricity during extreme temps.
Yes - proper outlets that allow for good communication to be put out to the community.
Clean Las Moras Creek. Trim trees and remove debris in woods. Purchase large machinery to do the work. Replace streets with new asphalt. Rebuild (Ann & Spring) dilapidated historic structures. Create/enforce structural codes that require clean-up and removal.

13. Does your family have an emergency plan of action in place in the case of a natural disaster?





14. Does your family have an evacuation plan in place in case of a natural disaster?

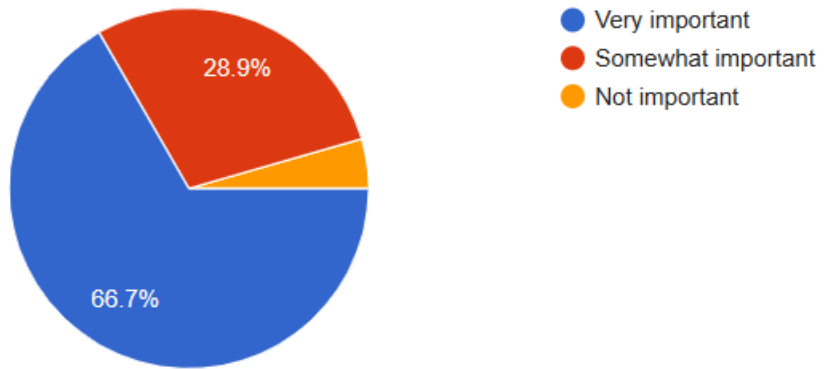


15. Several community-wide activities can reduce our risk from natural hazards. In general, these activities fall into one of the following broad categories. Please tell us how important each one is for your community to pursue.



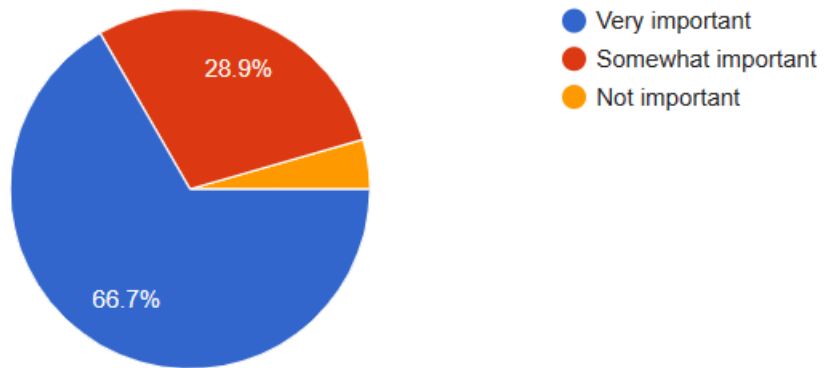
Prevention – long term solutions that reduce the impact of disasters

45 responses



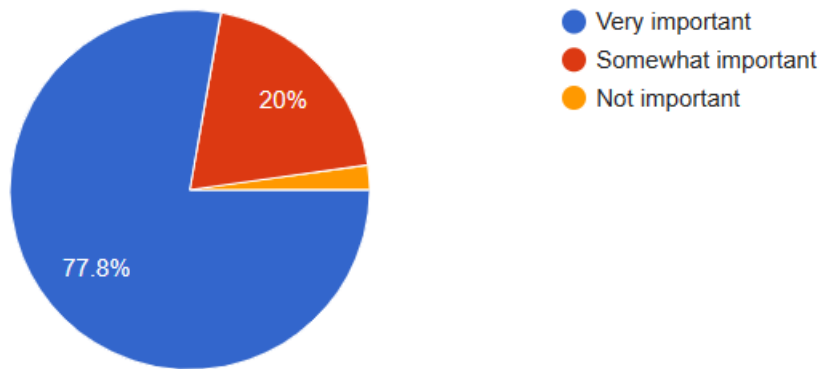
Property protection - actions taken to reduce or eliminate long-term risk to property

45 responses



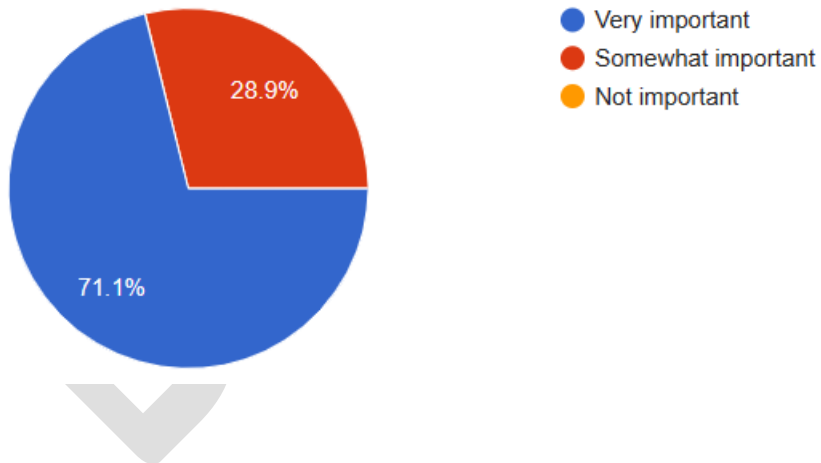
Emergency services – training and collaboration between entities and law enforcement

45 responses



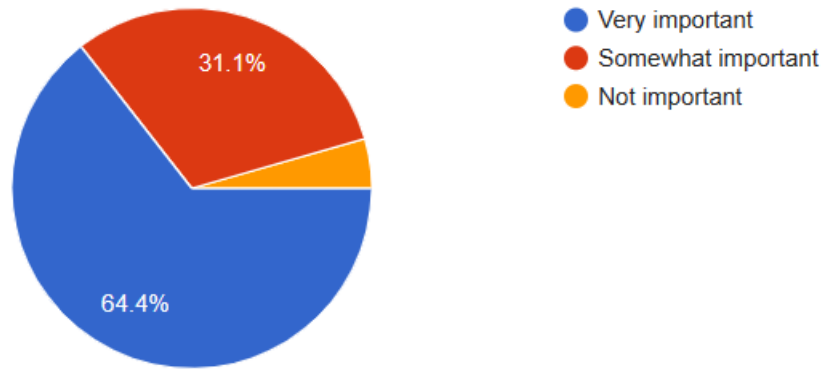
Natural resource protection – incorporating the protection of natural resources in the projects that will be completed for hazard mitigation.

45 responses



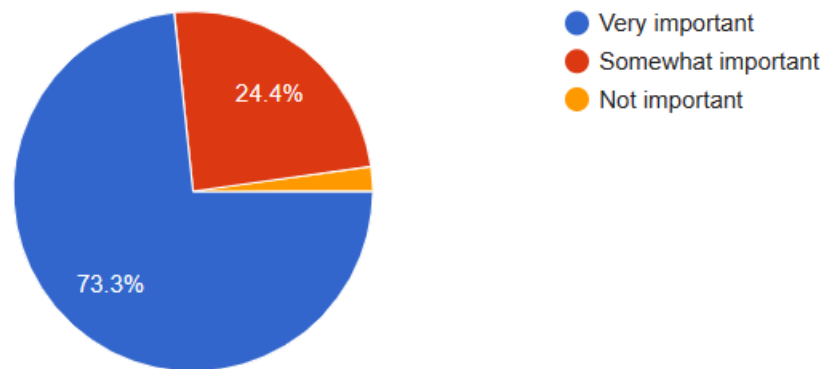
Structural projects - projects that will be completed to update or renew infrastructure.

45 responses



Public education and awareness – Educate to encourage safe practices in homes, schools, and workplaces.

45 responses



Appendix D – Resolutions

Kinney County Multijurisdictional Hazard Mitigation

RESOLUTION

WHEREAS, a range of hazards in Kinney County historically have caused significant disasters with possible losses of life and property and natural resources damage;

WHEREAS, The Federal Disaster Mitigation Act of 2000 and FEMA require communities to adopt a hazard mitigation action plan to be eligible for pre-disaster and post-disaster federal funding for mitigation purposes;

WHEREAS, Kinney County has put into place a framework for coordinated and focused hazard mitigation actions at the local level;

WHEREAS, Kinney County, along with the City of Brackettville, City of Spofford, Brackett Independent School District and Fort Clark Spring MUD have participated in the development of a plan covering each jurisdiction;

WHEREAS, Kinney County has been an active participant in the hazard mitigation planning process, and has conducted and documented its own community public involvement process;

WHEREAS, the Kinney County Multijurisdictional Hazard Mitigation Plan outlines mitigation goals and identifies risk reduction strategies for hazards that threaten the County of Kinney,

Section 1: The County of Kinney adopts the Kinney County Multijurisdictional Hazard Mitigation Plan, 2024 - 202a,

Section 2: Vests Kinney County Judge with the responsibility, authority, and the means to inform all parties of the action; develop an addendum as necessary; assure that the plan will be reviewed at least annually and that any needed adjustments will be developed and presented to the Kinney County Commissioners' Court as necessary; and agrees to take such other official actions as may be

reasonably necessary to carry out the objectives of the Kinney County Multijurisdictional Hazard Mitigation Plan,



Section 3: The County of Kinney will pursue available funding opportunities for implementation of the proposals designated there, and will, upon receipt of such funding or other necessary resources, seek to implement the actions contained in the mitigation strategies,

Section 4: The County of Kinney will continue to participate in the multijurisdictional hazard mitigation planning process, including reporting of progress as required by FEMA and the Texas Department of Emergency Management.

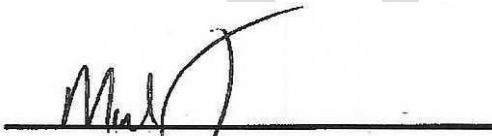
WHEREAS, The Kinney County Commissioners' Court designates the Kinney County Judge, as the grantee's authorized official.

NOW THEREFORE, BE IT RESOLVED THAT, The Kinney County Commissioners' Court approves the adoption of the Kinney County Multijurisdictional Hazard Mitigation Plan.

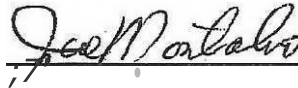
PASSED, ADOPTED, AND FILED on this the 25th day of March 2024.



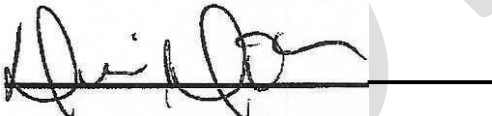
Honorable Judge John Paul Schuster



Honorable Mark Frerich, Pct. 1



Honorable Joe Montalvo, Pct. 2



Honorable Dennis Dodson, Pct. 3



Honorable Tim Ward, Pct. 4



**City of Brackettville
Kinney County Multijurisdictional Hazard
Mitigation Plan**

RESOLUTION

WHEREAS, a range of hazards in Kinney County historically have caused significant disasters with possible losses of life and property and natural resources damage;

WHEREAS, The Federal Disaster Mitigation Act of 2000 and FEMA require communities to adopt a hazard mitigation action plan to be eligible for pre-disaster and post-disaster federal funding for mitigation purposes;

WHEREAS, Kinney County has put into place a framework for coordinated and focused hazard mitigation actions at the local level;

WHEREAS, Kinney County, along with the City of Brackettville, City of Spofford, Brackett Independent School District, Fort Clark Springs, and Fort Clark Spring MUD have participated in the development of a plan covering each jurisdiction;

WHEREAS, The City of Brackettville has been an active participant in the hazard mitigation planning process, and has conducted and documented its own community public involvement process;

WHEREAS, the Kinney County Multijurisdictional Hazard Mitigation Plan outlines mitigation goals and identifies risk reduction strategies for hazards that threaten the County of Kinney,

Section 1: The City of Brackettville adopts the Kinney County Multijurisdictional Hazard Mitigation Plan, 2024- 2029,

Section 2: Vests the Mayor of the City of Brackettville with the responsibility, authority, and the means to inform all parties of the action; develop an addendum as necessary; assure that the plan will be reviewed at least annually and that any needed adjustments will be



developed and presented to the Kinney County Commissioners' Court as necessary; and agrees to take such other official actions as may be reasonably necessary to carry out the objectives of the Kinney County Multijurisdictional Hazard Mitigation Plan,

Section 3: The City of Brackettville will pursue available funding opportunities for implementation of the proposals designated there, and will, upon receipt of such funding or other necessary resources, seek to implement the actions contained in the mitigation strategies,

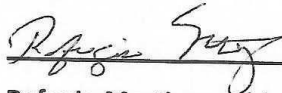
Section 4: The City of Brackettville will continue to participate in the multijurisdictional hazard mitigation planning process, including reporting of progress as required by FEMA and the Texas Department of Emergency Management.

WHEREAS, The City of Brackettville's Council Members designate the Mayor, as the grantee's authorized official.

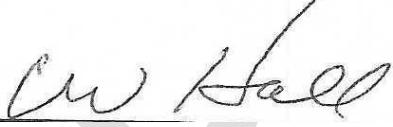
NOW THEREFORE, BE IT RESOLVED THAT, The City of Brackettville approves the adoption of the Kinney County Multijurisdictional Hazard Mitigation Plan.

PASSED, ADOPTED, AND FILED on this 9th day of April 2024.

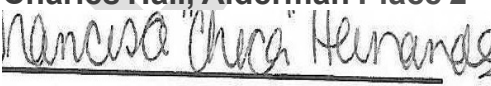
Eric Martinez, Mayor



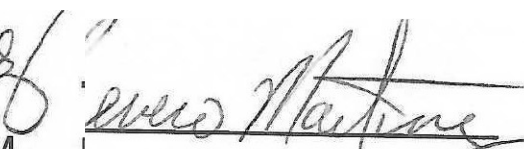
Refugio Martinez, Alderman Place 1



Charles Hall, Alderman Place 2



Nancasa 'Chica' Hernandez, Alderwoman Place 1



Severo Martinez, Alderman Place 3



Kinney County Multijurisdictional Hazard Mitigation Plan

City of Spofford

RESOLUTION

WHEREAS, a range of hazards in Kinney County historically have caused significant disasters with possible losses of life and property and natural resources damage;

WHEREAS, The Federal Disaster Mitigation Act of 2000 and FEMA require communities to adopt a hazard mitigation action plan to be eligible for pre- disaster and post-disaster federal funding for mitigation purposes;

WHEREAS, Kinney County has put into place a framework for coordinated and focused hazard mitigation actions at the local level;

WHEREAS, Kinney County, along with the City of Brackettville, City of Spofford, Brackett Independent School District, Fort Clark Springs, and Fort Clark Spring MUD have participated in the development of a plan covering each jurisdiction;

WHEREAS, The City of Spofford has been an active participant in the hazard mitigation planning process, and has conducted and documented its own community public involvement process;

WHEREAS, the Kinney County Multijurisdictional Hazard Mitigation Plan outlines mitigation goals and identifies risk reduction strategies for hazards that threaten the County of Kinney,

Section 1: The City of Spofford adopts the Kinney County Multijurisdictional Hazard Mitigation Plan, 2024- 2029,

Section 2: Vests the Mayor of the City of Spofford with the responsibility, authority, and the means to inform all parties of the action; develop an addendum as necessary; assure that the plan will be reviewed at least annually and that any needed adjustments will be developed and presented to the Kinney County Commissioners' Court as necessary; and agrees to take such other official actions as may be reasonably necessary to carry out the objectives of the



Kinney County Multijurisdictional Hazard Mitigation Plan,

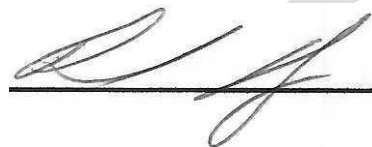
Section 3: The City of Spofford will pursue available funding opportunities for implementation of the proposals designated there, and will, upon receipt of such funding or other necessary resources, seek to implement the actions contained in the mitigation strategies,

Section 4: The City of Spofford will continue to participate in the multijurisdictional hazard mitigation planning process, including reporting of progress as required by FEMA and the Texas Department of Emergency Management.

WHEREAS, The City of Spofford's Council Members designate the Mayor, as the grantee's authorized official.

NOW THEREFORE, BE IT RESOLVED THAT, The City of Spofford approves the adoption of the Kinney County Multijurisdictional Hazard Mitigation Plan.

PASSED, ADOPTED, AND FILED on this the 8th day of April 2024.



Paul Resendez, Mayor

Brad Whitaker, Council Member



Lark Whitaker, Council Member



Antonia Pena



Ft. Clark Municipal District **RESOLUTION**

WHEREAS, a range of hazards in Kinney County historically have caused significant disasters with possible losses of life and property and natural resources damage;

WHEREAS, The Federal Disaster Mitigation Act of 2000 and FEMA requires communities to adopt and approve a hazard mitigation action plan to be eligible for pre-disaster and post-disaster federal funding for mitigation purposes;

WHEREAS, Kinney County has put into place a framework for coordinated and focused hazard mitigation actions at jurisdictional levels;

WHEREAS, Kinney County, along with the City of Brackettville, City of Spofford, Brackett Independent School District, Fort Clark Springs, and Fort Clark Spring MUD have participated in the development of a plan covering each jurisdiction;

WHEREAS, Fort Clark Municipal Utility District has been represented in the hazard mitigation planning process;

WHEREAS, the Kinney County Multi-jurisdictional Hazard Mitigation Plan outlines mitigation goals and identifies risk reduction strategies for hazards that threaten the County of Kinney,

NOW THEREFORE, BE IT RESOLVED THAT, The Fort Clark Spring Municipal Utility District approves the submission of the Kinney County Multi-jurisdictional Hazard Mitigation Plan to include Fort Clark MUD.

PASSED AND FILED on this the 21st day of February 2024.



Felix Cerna, President



Randy Castilla, General Manager

Brackett Independent



**School_District April 9,
2024**

**Kinney County Multijurisdictional Hazard
Mitigation Plan**

RESOLUTION

WHEREAS, a range of hazards in Kinney County historically have caused significant disasters with possible losses of life and property and natural resources damage;

WHEREAS, The Federal Disaster Mitigation Act of 2000 and FEMA require communities to adopt a hazard mitigation action plan to be eligible for pre-disaster and post-disaster federal funding for mitigation purposes;

WHEREAS, Kinney County has put into place a framework for coordinated and focused hazard mitigation actions at the local level;

WHEREAS, Kinney County, along with the City of Brackettville, City of Spofford, Brackett Independent School District, Fort Clark Springs, and Fort Clark Spring MUD have participated in the development of a plan covering each jurisdiction;

WHEREAS, Brackett Independent School District has been an active participant in the hazard mitigation planning process, and has conducted and documented its own community public involvement process;

WHEREAS, the Kinney County Multijurisdictional Hazard Mitigation Plan outlines mitigation goals and identifies risk reduction strategies for hazards that threaten the County of Kinney,

Section 1: The Brackett Independent School District adopts the Kinney County Multijurisdictional Hazard Mitigation Plan, 2024- 2029,

Section 2: Vests Brackett Independent School District Superintendent with the responsibility, authority, and the means to inform all parties of the action; develop an addendum as necessary; assure that the plan will be reviewed at least annually and that any needed adjustments will be developed and presented to the Kinney County Commissioners' Court as necessary; and agrees to take such other official actions as may be reasonably necessary to carry out the objectives of the Kinney County Multijurisdictional Hazard



Mitigation Plan,

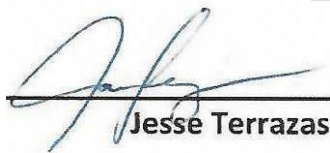
Section 3: The Brackett Independent School District will pursue available funding opportunities for implementation of the proposals designated there, and will, upon receipt of such funding or other necessary resources, seek to implement the actions contained in the mitigation strategies,

Section 4: The Brackett Independent School District will continue to participate in the multijurisdictional hazard mitigation planning process, including reporting of progress as required by FEMA and the Texas Department of Emergency Management.

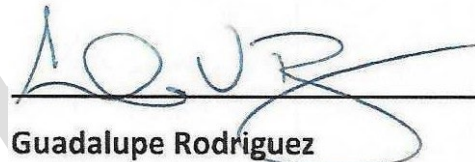
WHEREAS, The Brackett Independent School District's Board of Trustees designates the Superintendent, as the grantee's authorized official.

NOW THEREFORE, BE IT RESOLVED THAT, The Brackett Independent School District approves the adoption of the Kinney County Multijurisdictional Hazard Mitigation Plan.

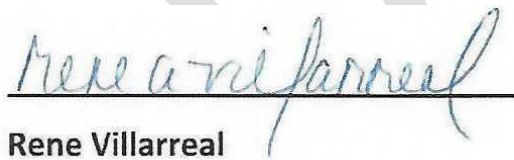
PASSED, ADOPTED, AND FILED on this the 9th day of April 2024.


Jesse Terrazas


Board of Trustees President


Guadalupe Rodriguez

Board of Trustees Vice-President


Rene Villarreal




Guillermo Guzman

Board of Trustees, Member



Tully Welch, Board of Trustees Member

Whitney Massingill

Board of Trustees Member



Ricky Sandoval
Board of Trustees Member





APPENDIX E
BRIC COMMITTEE MEETING
DATES AND MINUTES

Kinney County BRIC Meeting - October 19, 2022

Meeting Minutes

9:30AM

Present: Alan Peterson; Refugio Martinez; Tim Ward; Candy Hobbs; Alma Gutierrez;
Henry Garcia

Next meeting: Date to be determined; Spring 2023

Presentation: Ken Dirksen, Engineer - Uvalde, Texas

1. Announcements

Several of our committee members had conflicts with the meeting but encouraged that the meeting be held in their absence. Ken Dirksen was in attendance to give an update on the progress Las Moras Creek Survey/Hydrology Project.

Mr. Dirksen presented maps displaying the area included in the project to date for the committee to view for information and to follow during the presentation. The project will define a 100-year floodplain. Some of the points Mr. Dirksen shared with the committee are as follows:

The two large flood dams on the North side of Brackettville, east and west of Highway 674, were constructed by the Army Corp of Engineers back in the 1960's and are maintained by Kinney County. The NRCS inspects the dams annually and makes recommendations to the county for suggested maintenance projects. The area along Las Moras Creek has not been surveyed and mapped by the Federal Emergency Management Agency (FEMA) hindering citizens from the purchase of flood insurance. Once all data is collected and finalized including all information from the survey and hydrology study, Mr. Dirksen will contact FEMA to request that FEMA utilize the information that is being collected and include the data in the FEMA mapping system allowing citizens the opportunity to purchase flood insurance.

There are 3 bridges in the City of Brackettville (El Paso, Quintile, Spring) and several low water crossings. Also 3 bridges along highway 90 (two maintained), 1 at the creek bed itself and 2 on the east side of the entrance to Fort Clark Springs. On Fort Clark there is the main entrance bridge, Mr. Dirksen recommends work is not needed on the bridge itself, but the area along the creek below the bridge will need some maintenance work on the rock areas below the bridge. The bridge on Scales Road is in good condition although the flow of the creek has been partially blocked near the Scales bridge to maintain a pond upstream. Mr. Dirksen recommends this cement be removed; no permit is held for this retention area. Fort Clark Springs holds two permits only for retention of surface water, one for the Fort Clark Pool and the other for the Red Bridge Area. Coordination with the Army Corps of Engineers may be necessary since Las Moras Creek is a navigable stream.



Kinney County BRIC Meeting - October 19, 2022

Meeting Minutes, 9:30 AM

Page 2

Areas of the creek channel in North Brackettville are well defined. Further downstream there are areas that will need extensive work to help control flood waters and keep them within the walls of the channel. For the most part, big trees are not an impediment to water flow but brush and debris cause problems during times of flooding. Cleaning out the channel and defining areas will help with water flow. Most of the area in the defined flood plain are owned by private citizens. In the future, for work to complete the development of the creek channel and any beautification included in the project, there is the possibility that easements from owners will be required.

Mr. Dirksen recommends that the low water crossings in the City of Brackettville remain as such with improvements to strengthen each crossing. Removal of the wooden bridge on Travis Street in Fort Clark (built during the filming of a movie). The elevation of Highway 90 would need to be increased significantly from one end of the city to the other for Highway 90 to meet the requirements necessary for the 100-year flood plain plan.

2. Roundtable and Coordination of Planning for Next Steps

What's next??

1. Kinney County, the City of Brackettville, and Fort Clark Springs will be the entities included in the coordination of continued planning efforts.
2. Contact TxDot, Area Engineer, Vanesa Rosales, Del Rio, Texas - Apprise her of the project we are working on and request the assistance and support of TxDOT on the work to be done on the Spring Street and Highway 90 bridges located in the City of Brackettville. Mr. Henry Garcia gave an update on information about the Port to Plains project, 127. Highway 90 is considered a main distribution route for this project. Highway 90 will need to be improved as a main supply chain to handle increased traffic and the weight of vehicles that will be utilizing Highway 90. Appropriations for this project are currently in progress. As this project 127 develops, the needs Kinney County has for improvements to the roadways for flooding may be addressed or TxDOT may be able to support our efforts at the same time the roadways are updated.
3. Contact State Representative Eddie Morales, District 74, Austin Office, 512.463. 0566 share information on the work that is being completed and the work that will be completed in the future.
4. Continue to have the City of Brackettville acquire any land along Las Moras Creek from KCAD when available.
5. Priority of projects: Projects would not be dependent on each other.
 - a. Complete the work required in the area of Las Moras Creek from the Pedestrian Bridge on Fort Clark down to Scales Road bridge.



Kinney County BRIC Meeting - October 19, 2022
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- b. Complete the work required in the area of the Las Moras Creek from Wolf Alley to Spring Street in the City of Brackettville.
- c. Complete the work required in the area of Las Moras Creek starting at Scales Road bridge to the Red Bridge dam area on Fort Clark Springs.
- d. Coordinate with TxDOT to work on the bridges on Spring Street (Loop 166) and Highway 90.

As the projects are listed above will be the priority for completion. This information will be shared with the Engineering firm that will complete the Hydrology study. From this information, we will receive the cost for each of the projects.

The committee will contact the Army Corps of Engineers and any other federal agencies that will have jurisdiction or necessary consultation on any the planned projects.

3. Next Meeting

The committee agreed to meet in the Spring of 2023. Mr. Dirksen will have all the necessary documents completed and the hydrology report will include the costs for each of the identified projects. Mrs. Gutierrez and Mrs. Hobbs will share this information with the Commissioners' Court and the City of Brackettville's City Council and with the Fort Clark Springs Board of Directors if requested.

DR



Kinney County Las Moras Creek Survey Update

Meeting Minutes

April 13, 2023

Present: Nora Rivas, Ken Dirksen, Alan Peterson, Dennis Dodson, John Paul Schuster, Candy Hobbs, Alma Gutierrez

Next meeting: May 1, 2023, 10:00 AM, Kinney County District Courtroom

1. Announcements

Review of maps that show current 100-year flood plain and show the 100-year flood plain with all suggested projects in place. Prioritization of projects to have the most effect on the flooding within the City of Brackettville and Fort Clark Springs.

2. Discussion

Mr. Peterson asked about the overbank areas in Ft Clark, how will they affect the vegetation and trees? Mr. Dirksen explained that the proposed projects will be reviewed, and decisions made on the extent of what changes will be made.

This study sets the framework for finding information and supporting the update of the 100-year flood plain.

Priorities:

1. The first-priority project would be the diversion channel East of 131. The impact of this as far as property owners will be small, the effect on Fort Clarks properties will be extensive, in the City of Brackettville, properties along Highway 90 would be affected. Bridge on 131. Work to berms along Highway 674 moving water into the dams instead of along 674 into the creek, further up Highway 674.
2. Increase TxDOT bridges on Highway 90 and Spring Street.
3. Widen Las Moras Creek below the swimming pool to create a linear pond to 60 feet. Overbank projects, removing the bridges and restrictions to flow, and install a drop structure to include projects from Scales north, east side of Las Moras Creek.
4. Improve crossings in the City of Brackettville.
5. Work on channel of Las Moras Creek in the City of Brackettville to widen channel to 75'
6. Raising the reservoirs to height recommended and build the retention pond south of the west dam servicing the east dam overflow before it joins the creek.



Kinney County Las Moras Creek Survey Update

Meeting Minutes, April 13, 2023

Page 2

3. Roundtable

Explain why these projects are necessary and how they will alleviate flooding along the Las Moras Creek. Discussion included information and questions by all attendees. Mr. Dirksen explained the reasoning and shared information from the compiled report from

DRAFT



Kinney County/BRIC - Building Resilient Infrastructure Communities Committee

Meeting Minutes

May 1, 2023, 10:00 AM, Kinney County District Courtroom

Present: Nora Rivas, Eric Martinez, Alan Peterson, Dennis Dodson, Carolyn Conoly, Tim Ward, Alma Gutierrez, Candy Hobbs

Next meeting: June 5, 2023 - 10:00 AM Kinney County District Courtroom: City Cleanup discussion to remove debris from areas that flood and would end up in the Las Moras Creek channel; Survey results, listing of owners who would remain in the flood zone after mitigation efforts have been put in place; hydrologist - diversion channel does not seem feasible to the committee - could we look at smaller dams on the east side of the city to catch and hold water that would be released in slower increments instead of the large diversion channel; work together to build our talking points that will be shared with the community.

1. Announcements

- Welcome to all; review of the benefits gained by completing the Las Moras Creek Survey and hydrology study.
- Review of the necessity of dams on the east and west sides of Highway 674 north of the City of Brackettville, built in the 1960's by the Army Corp of Engineers - how they work to decrease the flooding potential along the creek channel as it flows through the City and Fort Clark Springs. Main utilization is to address issues for flooding in the communities and address flowage that moves down stream.
- Scenarios for future consideration may include acquisition of properties, if necessary, affordable flood insurance may become available; cooperative cleanup within the City of Brackettville to minimize debris in the creek channel; Public hearing on necessity of preparing for the 100-year flood; prepare for the BRIC grant - Kinney County should have all necessary documents ready by the Fall of 2024.
- Review of maps, drafts of proposed conditions, created by David Barker with ~~Hydrolink~~ Engineering. Reviewed and discussed the suggested mitigation work to be completed along the Las Moras Creek Channel in preparation for a 100-year flooding event. The work completed would begin with the dam areas above the City of Brackettville, through the city along the creek channel, and into Fort Clark Springs. Major projects in all areas of the plan will take many years to complete.
- Suggestions and questions from the committee include:



Kinney County/BRIC - Building Resilient Infrastructure Communities Committee
Meeting Minutes, May 1, 2023, 10:00 AM, Kinney County District Courtroom
Page 2

- o Reaching out to the hydrologist to request information on replacing the diversion channel along RR 131 with berms that are similar but much smaller than the dams above the city.
 - o Request a listing of properties that may be in consideration for acquisition.
 - o The possibility of adding a walking area along the creek within the City of Brackettville, something similar to the slough and Leona Creek areas in the City of Uvalde.
 - o Planning for the work to be done within the city on the gas, water, and sewer lines that run along the streets running east to west and where they cross the creek channel.
 - o Continue to plan on the city-wide cleanup to help with beautification and remove debris that could eventually end up in the creek channel causing problems during flooding events. Clean-up should start along the city blocks that run along the creek channel.
- Topics for next meeting:
 1. Update on city cleanup efforts
 2. Review list of property owners who live along the creek and could be impacted by the development.
 3. Review information from the hydrologist on berms vs. diversion channel
 - Adjourn

Request for any other subjects to discuss -

Meeting adjourned at 11:30 AM



Kinney County/BRIC - Building Resilient Infrastructure Communities Committee

Meeting Minutes

June 6, 2023, 10:00 AM, Kinney County District Courtroom

Present: Eric Martinez, Alan Peterson, Dennis Dodson, Carolyn Conoly, Tim Ward, Alma Gutierrez, Candy Hobbs, Henry Garcia

Absent: Nora Rivas, Alan Peterson

Next meeting: July 11, 2023, 10:00 AM - Kinney County District Courtroom (Moved from July 3, 2023 to after the commissioners have presentation from Barker & Dirksen on the 10th, and 4th of July may cause people to not be able to attend)

1. Agenda Items - Minutes included.

- Welcome to all; review of the benefits gained by completing the Las Moras Creek Survey and hydrology study.
 - o Welcome to all committee members from Mrs. Gutierrez and Mrs. Hobbs. Quick overview of the benefits of the Las Moras Creek Survey completed by Ken Dirksen, Engineer, and Hydrology Study completed ~~HydroLink's~~ David Barker. Mr. Dirksen is working on completing the information gained from the survey listing the landowners along Las Moras Creek. Mr. Barker has completed his hydrology study and created mapping to show the current effects of flooding and the projected area of flooding with ~~his~~ mitigation applied from his recommendations.
- Revisit the City of Brackettville cleanup project to help keep trash and debris from collecting in the Las Moras Creek channel.
 - o Mayor Eric Martinez shared with the committee the City's plan to collaborate with the Texas Workforce Commission through contact with the Middle Rio Grande Development Council. MRGDC will contact TWC to see if the City is eligible for funding, that would produce a list of unemployed as well as funding for wages, that may be interested in working on the clean up project. Mr. Martinez is projecting that the cleanup will require manpower as well as dump trucks and loader. The project timeframe is estimated to take 1- 2 months to complete. Mrs. Gutierrez suggested speaking with the Brackett ISD Athletic Director or Counselor for providing students with community service hours needed for school scholarships. Mr. Ward shared the Probation officer for the county comes from Del Rio, suggesting we may have folks that need to work to



Kinney County/BRIC - Building Resilient Infrastructure Communities Committee
 Meeting Minutes, June 6, 2023, 10:00 AM, Kinney County District Courtroom
 Page 2

serve community service hours that we could utilize during the project. Concerns were shared on clean up and having to repeat the process because some folks will continue to dump brush and garbage within the City that will end up in the Las Moras Creek channel during flooding events. Suggestions were made to follow city ordinances and to issue fines to anyone that is dumping within the City.

- o Please see below in discussion area of minutes about mass communications with the Public.
- Information from Mr. Ken Dirksen, Engineer on his survey of the ownership of the land along the Las Moras Creek channel to help with suggestions for future consideration that may include acquisition of properties, if necessary, affordable flood insurance may become available; cooperative cleanup within the City of Brackettville to minimize debris in the creek channel.
 - o The committee has not received this information from Mr. Dirksen as of yet - we may not get this until the information has been presented to the Kinney County Commissioners.
- Review the response email from David Barker, Hydrologist, discussion to follow.
 - o Committee members received a copy of the email received from Mr. Barker on the committee's questions about not using the diversion channel and having dams to divert the water that comes across highway 90 east of Brackettville. Mr. Barker's response was that the dams would not alleviate the flooding in Fort Clark due to the fact that the water would still drain into the same areas of Fort Clark causing flooding and the water not be diverted downstream from the Fort.
 - o Mrs. Hobbs and Mrs. Gutierrez will attempt to find a copy of the Easement received by Kinney County, the City of Brackettville, and Fort Clark Spring from Texas Railway Equipment.
 - o We need to take photos of the debris in Las Moras Creek in the City of Brackettville after the recent rains. These photos can also be utilized during applications for grant funding for the projects that relate to Las Moras Creek.
- Suggested prioritization of projects to submit to the Commissioners' Court.
 - o Request the final survey information and the hydrologist's report be presented to the County Commissioners on July 10, 2023.
 - o Pre-project Clean-up of the Las Moras Creek Channel within the City of Brackettville



Kinney County/BRIC - Building Resilient Infrastructure Communities Committee
 Meeting Minutes, June 6, 2023, 10:00 AM, Kinney County District Courtroom
 Page 3

- o Phase 1 - Downstream and Fort Clark channel clean out project (working from Highway 90 at the Springs to Fort Clark Springs property line to prepare for the amount of water that will flow once the channel project in the City of Brackettville is complete.
- o Phase 1A - Simultaneously, work on utilities preliminaries so that the channel is ready for upstream work on north side of Highway 90 to east and west dams on Hwy 674.
- o Phase 2 - Project to update Las Moras Creek channel in the City of Brackettville to east and west dams on Hwy 674.
- o Phase 3 - Review information from Mr. Barker to prioritize any other projects that may need to be included in funding.
- Review of highlights that have been shared from the Hydrologist and reviewed with the committee. We will share our notes from our meetings with the Commissioners' Court as they prepare to review the Hydrologist's and engineer's studies.
 - o Hydrologist, David Barker's information includes the main causes of flooding come from the effects of Lindsey Creek on the flood plain. Along with clean-up efforts and grading of the channel, his recommendations include:
 - o Dams and other drainage were working with artificially low rainfall data.
 - o Raising the dam tops
 - o Create a wet pond below the west dam
 - o Update the Spring Street Bridge
 - o Overbanked Edges with a linear pond on Fort Clark
 - o Drop structure -weir dam to maintain creek flow. Needed as a control structure designed to pass water.
 - o Remove Travis Street crossing - it has two culverts that cause a bottleneck.
 - o Grass lined channel along Highway 131
 - o Scales bridge - remove cement obstructions.
 - o Recommended not to complete and share information with FEMA until all projects are completed.
- List of talking points to utilize when sharing information with the community.
 - o Clean-up efforts



Kinney County/BRIC - Building Resilient Infrastructure Communities Committee
 Meeting Minutes, June 6, 2023, 10:00 AM, Kinney County District Courtroom
 Page 4

- o Property insurance amounts may decrease
- o Pleasing aesthetic look along the creek channel
- o Projects could include walking track along the top of the channel
- Any other requests, suggestions, and questions from the committee include:
 - o Las Moras Creek on Fort Clark should only have 3 areas that can be dammed and those are at the swim park, Red Bridge area, and at swim park
 - o Waiting on the determination of ownership from Mr. Dirksen
 - o Waiting on the final report from Mr. Barker, hydrologist
 - o TWDB, TCEQ, State Operations Center, BRIC, USDA, landowners, Army Corp of Engineers, TDEM, Texas State Historical Commission, Seminole Cemetery, International Boundary Commission, Maverick County Water commission
 - o Mr. Garcia shared with us that he was informed that the current dams on 674 are considered HIGH RISK.
 - o Begin work on an interlocal agreement between the 3 entities, Kinney County, Fort Clark Springs, and the City of Brackettville.
 - o Mass Communications discussion on Alert Sense - how will we communicate with our citizens??? What features or capabilities does the county purchase currently?? We have a need for non-emergency alerts. Alert Sense is not listed currently on the county website. Mr. Garcia uses GroupMe for some communications situations in emergency response. The City of Brackettville has a Facebook account and also a website but does not currently have mass communication available during emergency or non-emergency situations.
 - o
- Adjourn

Please review attached information if needed.

Meeting adjourned at 11.41 AM

